

Classified Training

Total Body

By Nick Nilsson

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WARNING!

Any exercise program contains an element of risk. Be aware that the exercises and training techniques in the book may not be familiar to you and, even though every attempt has been made to ensure safe instruction, how and if you decide to execute the exercises is ultimately your responsibility. Consult your physician before taking part in any exercise program. By reading the information in this book you hereby agree to the Terms and Conditions of use, found in this book.

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ABDOMINAL EXERCISES

Primary Movers: rectus abdominus, transverse abdominus, lateral obliques, transverse obliques, hip flexors, intercostals.

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THE EXERCISES

1. CRUNCHES

Lie down flat on your back with your knees bent and your feet on the floor. Hold your hands wherever you feel comfortable (on your chest, behind your head, beside your head - just don't pull on your head). Curl your chest and head up towards the ceiling pushing your lower back flat onto the floor. The idea is to shorten the distance between your ribcage and pelvis. Trying to crunch up towards the ceiling will increase the tension on the abs. Hold at the top of the movement for a second and squeeze hard. Do not lift up into a sit-up as this works the hip flexors and can strain your back.

Tricks:

1. Most people forget the negative part of the crunch. Fight the lowering to really get a burn.
2. Keep your head and neck in line with the spine. Don't let your chin touch your chest. This takes the focus off the abs and can strain your neck.
3. At the top of the movement, push against the floor with your feet to tilt the pelvis up slightly, lifting your tailbone off the floor a little. This increases lower ab involvement and increases the contraction by moving the pelvis closer to the ribcage.
4. To maximize the feeling on the abs, instead of even going straight up, try and reach back up over your head as you crunch.
5. At the top when you're squeezing, breathe in and out a few times and try to relax every other muscle except the abs. This will intensify the contraction. It will also help to tighten the abdominal area. While you are contracting the rectus abdominus continuously, the deeper fibers are relaxing and contracting while you breathe. Each time the deep fibers relax, your rectus abdominus will squeeze them in a little more, making your waist smaller. While this is temporary smallness, you are teaching the muscles of your abdominals to tighten up.
6. Try it with your feet up in the air and your knees bent like you're sitting. Crunch upward instead of towards your knees for a different way of hitting the muscle. Imagine as though you are trying to press your face onto the ceiling. You may even wish to reach up with your hands as though making palm prints on the ceiling. This will help you lead with your shoulders. This has a different feel than the typical crunch which focuses on simply bring the ribcage to the pelvis.
7. Some people like to put their feet up on a bench but this activates the hip flexors. Do it if it makes you feel better but be warned. If you do want to do these, keep your heels about six inches apart and touch your toes together. This will minimize hip flexor involvement. Also, push down with your heels to activate the glutes and hamstrings. These directly oppose hip flexion, being hip extensors. This can also be done with floor crunches.
8. Never anchor your feet (e.g. have someone hold them down or wedge them under something) when you're doing any kind of ab work. This automatically activates the hip flexors.
9. Having said that, here is a variation where you need to anchor your feet under something. Lie on your back and have your legs bent like a seated position. Anchor your toes under a bar and try push it up while crunching. While this does activate the hip flexors, it also

activates the lower abs isometrically. When you crunch up, you activate the upper abs and the lower abs to some degree. Add that activation to what you are getting from the isometric contraction and you get a greater total contraction.

10. Don't hold your breath all the time when doing ab work. The abdominals play an important role in breathing. By limiting breathing, you will be limiting the work on your abs.
11. You can support your head in a towel instead of having to hold it up.
12. To increase the difficulty of a regular crunch, place your feet on a low step (about 6 inches), point your toes and press your heels against the surface of the step as you crunch. This contracts your hamstrings which relaxes your hip flexors, forcing your abs to work harder.
13. To hit your side abs better on regular crunches tilt your pelvis that way in the frontal plane, e.g. to hit the left side, raise your left hip bone up and tilt your right one down, then crunch. It is a very subtle movement but effective. When your feet are on the floor, push with the heel of your left foot and pull with the heel of your right.
14. To make the crunch easier, keep your arms flat on the floor. This reduces the amount of weight you must move.
15. Interlocking your hands behind your head limits the range of motion of your abs by tying it to shoulder and lat flexibility. If you have tight shoulders and do this, you won't be able to stretch back as far. Keep your hands and forearms off your head.
16. You can get resistance in the crunch by pushing back on your forehead. This also gives you some isometric neck work.
17. Try doing crunches lying lengthwise on a bench. Slide yourself down to the end of the bench to that the upper part of your torso is hanging off. This will give you a greater range of motion. Don't go so far back that you fall off though.

Variations:

1. Side crunches - same position as regular crunches. As you come up, twist over to one side, squeezing that side hard and really concentrating on turning your shoulders in that direction. Take a breath at the top and let it out to intensify the contraction. Repeat to the other side. Ensure you lead with your shoulder, not with your elbow.
2. Weighted crunches - there are a few ways to do this. The easiest is to hold a plate on your chest and crunch up. The harder and more effective way is to hold a plate behind your head or at arms length behind your head. Keep your arms stiff and do not move at the shoulders. This will focus on the upper abs quite a bit.
3. Incline crunches - same execution but on a decline sit-up board with your feet at the bottom and your head at the top so you're almost sitting up. This is a very easy version that is good if you're weak or have blood pressure problems.
4. Decline crunches - same execution on a decline sit-up board or bench with your feet under the pads and your head at the bottom. These are often done as sit-ups. To minimize hip flexor work, do not go down past the point where your upper body is perpendicular to the bench.
5. Upside-down crunches or sit-ups - these can be done with special equipment (like inversion

boots with the hooks) or in an improvised setup. Basically you crunch up while hanging upside down. The Smith machine can often be used for this. Set the bar to the highest position. Raise your legs up on the side where the bar is closer to you than the top crossbar. Swing your legs over the bar so your knees are hooked over it then hook your toes over the top crossbar. This may not work on all machines. If you can't hook your toes, just get a partner to stand on the other side of you and hold your feet down so you don't slip out.

There is another easier option that can be done on a power rack. Set the safety racking pins at the highest point they will go. Put a bar up on top of them. You may wish to place a foam pad on the bar. Move the bar about 6 inches back from the frame. Swing your legs up and over the bar, hooking your knees over it and your toes under the frame of the rack.

There are several ways you can do the movement itself. Here is the sit-up version. Let your arms hang straight down at the start. Swing back a little to get a stretch then curl yourself up, leading up with your hands. Do a pullover type movement. Lead with your face, focusing on your abs. As your hands come up, before they touch your knees, bring them around outside your legs and hook them together under your lower back as a brace. This will allow you to squeeze a little more range of motion out of the movement, bringing your chest to your thighs. An alternative is to grasp behind your thighs and pull your body in tight. This is easier as you will be taking some of the tension in your arms but still gives a great contraction. The arm movement should almost look as though you are trying to swing yourself but should be slow enough that it doesn't add any momentum to the movement. What it does is change the weight distribution, allowing you to crunch all the way up. When the going gets tough you may want to actually use the swing with momentum to help. These can be done without the arms swing. Hold your hands beside your head and lead with your face. Try to focus on spinal flexion rather than hip flexion with this movement. Work the sides by crossing over as you come up, touching right elbow to left knee.

It is also possible to do negatives with this movement. Reach up or swing up and pull yourself into the contracted position. For the negative, release your arms and hold them overhead, increasing the resistance. You can also use a spotter to push you up to the top then pull back down on your arms like partner-resisted crunches. You can also have your spotter hand you weight.

The crunch version of this movement is just a simple crunch. Do not allow the hips to flex and curl your torso up towards your feet. Suck in your gut and crunch. This put more tension in the contracted position. You can also do a lower back extension with a small range of motion from this hanging position.

If you don't have access to any of the above setups there is another version that will get you more than a few strange looks. Go to the shoulder press station on the Universal. It is much easier on the legs if you place two pads over the connecting bars between the handles where they bend. Maneuver yourself over the pads by holding onto the frame or pull-up bar. Your knees will hook over the nearest one, and your shins will hook under the other one (make sure the stack is set with a lot of weight so the handle doesn't come up). Lower yourself down to vertical and crunch away.

Upside down hanging is great for your lower back as well. To really stretch it out, hold onto two dumbbells or plates and just hang, relaxing everything. You can also hold a plate over your chest while doing the upside down sit-ups or crunches for extra resistance.

6. Cross bench stretched crunches - a flat bench is used for this. Your body will be perpendicular to the bench during the movement. Lie down across the bench with your lower back completely supported. Your upper body will be hanging over the edge from the mid-

back up. Hold your arms so that your elbows are pointing forward over your face and your forearms are on the top of your head. Arch down backwards (not too far to start with - just get a good stretch) then crunch back up. These work the other half of the range of motion that floor crunches miss. You can hold weight in your hands once you get stronger but be careful with your back - make sure it is always supported. With any stretched crunch, don't cradle your hands behind your head. Your neck flexibility will then limit how much stretch you can put on your abs. Hold your hands over your head at arms length for the best stretch.

If you have access to a Swiss ball (a big rubber ball) you can do these stretched crunches on that. The execution is the same but it is much easier on your lower back and has the added bonus of making you stabilize yourself during the movement. Don't anchor your feet on these. You can roll the ball back for a bigger stretch, forward to make it easier, or to the sides to work the obliques. Practice rolling around a little while crunching to get a feel for how ball movement affects abdominal involvement.

Both of these variations can be done holding a weight plate or a dumbbell. Hold the weight close behind your head with your arms bent. This will minimize shoulder and lower back stress. Using a low pulley cable can be even better because you get tension you are moving horizontally, not just vertically. There is more tension at the fully contracted position with cables. Because of this, continue the movement all the way up until your upper body is almost vertical. Use a bar, rope, two handles, or grip on the sides of a single handle. Get a good stretch and suck in your gut. At the stretch, take a deep breath to expand your ribcage. Drop your hips down then crunch up and over the bench. At the top, only your lower back should be in contact with the bench. Squeeze hard at the top. Breathe in and out a few times to really get a burn going. A good way to spot yourself on this one is the body ratcheting technique. When you get to the sticking point, raise your legs off the ground like a leg raise, lock your arms and abs, then allow the momentum of your legs dropping to carry the weight to the next point. You can continue this all the way through the movement. The only limit here is how much your abs can take. This leg raise technique can also be used to do negatives. Do a leg raise up, lock your abs then throw your legs down, carrying your torso and the weight with it. Do a negative from there. You can also change the force curve of this exercise by moving the bench further away or closer to the stack.

You can spot yourself by holding a weight plate as well. Holding the weight will make it harder at the stretch but it will allow you to give yourself forced reps at the contraction by bringing the weight overhead in a pullover movement and hold it in front of you as a counterbalance letting gravity help you crunch up. Hold it back overhead when you go back down to the stretch position. Another, less conventional way to spot yourself is to allow the weight plate or dumbbell to stretch a bit away from your head at the bottom position. To start the movement, do an explosive pullover until the weight contacts the back of your head. Use that momentum to continue the crunch up.

A trick you can use with this one is to vary the position of your arms (straight overhead, bent, more tension on one side, etc.) to hit various areas of the abs. Another way to spot yourself is to do the movement with straight arms overhead. When you hit the sticking point, do a pullover movement until your upper arms are 90 degree at the shoulder. This pullover movement will help increase serratus involvement as well, making the exercise even more complete.

For the ultimate ab workout on this exercise, use a Swiss ball for a bench and attach a cable to a dumbbell. This will give you tension from bottom to top as well as an unstable environment to do it all in. You can spot yourself by rolling on the ball.

You can get an extra bit of contraction out of this one as well. When you come to top of the

movement, pivot from the edge of the bench and raise your upper body off the bench to about 25 degrees. At that point, bring your arm in front of your face like a boxer blocking a punch. Pivot from the bottom of the rib cage and crunch over.

Another variation of the stretch crunch can be done on a leg press backrest. Your feet will be on the floor, your lower back over the top edge of the seat and your upper body will run down the backrest. The decline makes the exercise a little harder than when done over a flat bench and will involve your lower abs to a much greater degree as you come up. It is similar to the towel-under-back crunch described in the next section. Another benefit is the angle of your hips. They are stretched far more rendering the hip flexors much less effective. Stay on your heels to reduce their involvement even further. Contracting your glutes (hip extensors) will overpower your hip flexors.

Be careful not to overstretch your abs with any stretched crunch or pullover movement. It is possible to pull your linea alba (the line of connective tissue down the center of your abs). Ease into this type of movement.

7. Cable crunches - there are several different versions of this. Stand in front of a high pulley and grip a bar with an underhand grip or use a rope. The bar should be held to the back of your head so your hands are close to your ears. These can be done standing, kneeling or sitting. Lean over slightly with a bit of an arch in your lower back. This will hit a greater range of motion like in the stretched crunches. Crunch your elbows downward, pivoting at approximately the bottom of the ribcage, not the waist. Your waist should not move much (waist movement indicates hip flexor involvement). Squeeze hard then rise up until your back is arched again. Imagine you have someone putting a forearm across the small of your back and you must wrap yourself around it. In the sitting version, face away from the weight stack and remember to arch your back slightly. It is a good idea to use a chair or bench with some back support (the preacher bench turned backwards is good - set it so that the pad hits you in the upper lower back. This version will also target the hyperextended range of motion. A bench called the Ab Bench is specifically designed like this and is the best abdominal machine on the market.

There are several tricks you can use with the cable that increase the effectiveness of the movement. To get a tighter squeeze, crunch down until your head is almost between your legs. This is best done kneeling on the end of a flat bench. Crunch down and in towards the bench until your head is below the level of the bench. Another trick is to suck in your gut before and during the crunch to target the extreme upper abs. The sucking in of the gut decreases the leverage of the rest of the rectus abdominus. To target the obliques, you can come across like in the floor version. Another way to hit the obliques is to face the stack but crunch down on one side at a time, i.e. pull more on the left side of the bar and crunch over to the left slightly. This is a very subtle movement that requires and will develop excellent muscle control. Suck in your gut so that the rectus abdominus has poor leverage and the obliques do most of the work (you don't need to suck in your gut if you have sufficient muscle control to relax your middle abs while doing side crunches - the gut sucking will help develop this mind-muscle connection). Squeeze hard then do the other side.

Cable crunches can also be done facing away from the stack. This puts more of a stretch on the abs and also hits lower on the abs due to the change in the pivot and direction of tension. Another way is to face perpendicular to the stack in order to hit side abs. Face both ways. For a complete burn, do these standing and take a step to the left or right after each rep. Go around the world with this style. Vary everything you can think of including the path of the bar, how far down you go, which attachment you use, rep speed, etc. To hit the serratus, inhale as you crunch forward.

8. Rock-up crunches - lie on your back on the floor. Clasp your hands together behind your knees with your knees pulled into your chest. Using momentum, roll your body up until only your butt is touching the floor. Your upper and thighs will be vertical. At this point contract your abs as hard as you possibly can then roll back down on your back (keep your hands behind your knees). Without losing momentum, rock back up again and squeeze at the top. Be sure not to roll too far. This position puts a peak contraction on the abs at the top. It is a great finishing exercise for the abs.
9. Roman chair sit-ups - these are done with your ankles hooked under pads and the back of your legs supported with your upper body hanging over the end. They are often done on the hyperextension machine. This is basically a hip flexor exercise and the abs are involved only isometrically.
10. Medicine ball crunches - have a partner bounce a medicine ball off your guts every time you come up or just stay in the contracted position and bounce repeatedly. This can also be done by yourself by lifting the ball up and dropping it on yourself. If you don't have a medicine ball, you can drop a plate or a dumbbell on your guts.
11. Leg raise crunches - do a crunch and at the same time lift your legs up to meet your head.
12. Bicycle crunches - crunch up to the contracted position with your legs held straight out. Pull one knee up and meet it with the opposing elbow. Continue with the other one then repeat smoothly in a cycling movement.
13. Standing crunches – using a table or a railing or anything about waist level that is solid. Stand sort of bent over at the waist with your hands on the bar. Do a crunch movement, resisting with your hands by pushing on the bar. Squeeze your abs hard. This allows you control over the movement's resistance. It eliminates blood pressure problems for people who can't raise themselves up from a crunch safely. It is also a good contracted position exercise. It does require some muscle control.
14. Partner resisted crunches – lie down in regular crunch position with your hands behind or beside your head and your elbow pointed up. Your partner will be standing so that they are straddling your head. Crunch up to the top position. At this point, your partner will pull back on your elbows while you resist the pull and try to stay crunched. This will give you a negative crunch movement. Your partner can also assist on the way up to get you to a higher crunched position.
15. Machine crunches – sit in the crunch machine with your chest on the pad. Adjust the seat according your height. The chest pad should be in a comfortable spot. Hook your arms underneath the chest lever or drape them over top. The difference between the two as far as the movement goes is negligible. Crunch down, bring your chest towards your knees. Squeeze at the bottom for a few seconds then let the bar up slowly. One of the drawbacks of this machine is the potential stress placed on your lumbar on the negative. If you feel back pain from this movement, don't do it. One way to avoid this back pain is to do the exercise backwards. Stand outside the machine, facing the seat. Place the backs of your upper arms on the chest pad. Crunch down, squatting down as you do so. Don't come all the way back up completely. There is no back stress on the negative on this version.

To hit your side abs in the crunch machine stand behind the seat and slightly sideways (about 10 to 20 degrees off). Brace your forearm against the chest pad with your arm bent completely. Push your body forward and squeeze your side hard.

If you do use the crunch machine the normal way (seated in the seat), try this. Instead of

hooking your toes under the pads (which increases hip flexor involvement), hook your heels over the front edge of the pads, point your toes and pull against the pads with your hamstrings as you crunch down. The contraction of the hamstrings relaxes the hip flexors.

16. Low pulley cable crunches – this version keeps the abs under tension for the full range of motion. Set a preacher bench in front of a low pulley with the seat closer to the stack, convex face out. Use a rope attachment or two handles on one hook. Grasp the rope then get into position with your lower back on the sloping face of the preacher bench. Your back will be to the pulley. Getting into position is easier if you have someone hand the rope to you but it can be done solo. Don't be afraid to go heavy on this one. Your arms should be bent and stretched back. Keep your feet on the bottom crossbeam of the preacher bench to keep it from tipping and keep your knees bent. Stretch back to get the hyperextended range of motion then crunch forward. When you get to the top of that, continue the movement by crunching down, pivoting at the waist to involve the lower abs. Your torso will come completely off the bench face. Curl all the way down until your head is between your knees. The cable will be running down your back. Squeeze hard then uncurl all the way back up to the stretch position.
17. Foot resisted crunches – when you are in the crunch position, raise your feet up and put them under something solid that you can push up against. As you crunch up, push back with your feet for resistance. It works against a wall as well. A weighted version of this can be done on the leg press. Add some weight, then press it up a little to just before lockout. Do a crunch from that position. Your lower abs are already fired to help stabilize the torso and crunching will activate them even further. The lower the incline of the backrest, the harder your abs will work. Try varying where in the range of motion of the leg press you hold. Be sure to keep your lower back pressed into the pad.

Another way to get resistance on the crunch without adding any weights is to use your legs and arms. As you come to the top of the crunch, bring your legs up towards your chest. Push down on your thighs with your elbows and resist with your legs. Squeeze hard to get the extra contraction. Push only on one side to hit the sides.

A third way to get extra resistance can be accomplished with one arm pushing on the elbow of the other arm while you are crunching. This will add a little more tension on the pushed side.

18. Declined body crunches – this variation hits the extreme upper abs. Start in a regular crunch position with your heels on the floor close to your butt. Push your hips up using your glutes. Only your upper back and feet should be on the floor. The body from the knees to the neck should be perfectly straight. Crunch up, keeping your upper back on the floor and your hips up. This angle is like a preacher bench for your abs. You will feel it right under the rib cage. Activating the hip extensors (glutes) also negates the hip flexors in this movement.

To hit your side abs right on the rib cage, do these resting on one leg only. For example, if you want to hit your right side, rest on your right foot only and lay your left leg down flat (just open your hips up with your leg bent, resting your left leg on the ground). Keep your body straight but tilted down to the left and hips up in the air. Put your right arm beside your head and put your left hand on your side abs to feel for how to get the best contraction. Crunch up. Do one side then switch to the other side. Rolling over onto your opposite shoulder as you come up puts more tension on. To add resistance, hold a cable or a dumbbell in the hand beside your head.

19. Round the world crunches – this hits lateral movements of the abs as well as the standard crunching movement. Start in the regular position. As you crunch, roll onto your right

shoulder blade and up then come around to the left and roll down on your left shoulder blade in a smooth circular motion. Repeat this the other way as well every rep or every couple of reps.

20. Sucked gut crunches – these are done like a regular crunch. Sucking in your gut at the start of the movement will hit your extreme upper abs. Hold your breath (sucked up) during the movement and exhale on the way down. At the bottom, push your butt off the floor a little by pushing with your glutes. This forces the lower back off the floor a bit and increases the sucking in. This technique can be useful in teaching yourself to keep your abs tight normally. Try to suck it in a little more each time you stretch back. Try to raise your rib cage up a little more each time too. Do these with your back arched for a better stretch. Allow your head to rest on the ground between reps to allow your abs to relax so that you can suck them in more with each rep.

These can also be done for your sides as well. Crunch up to the top position. Move to the left side in the frontal plane (parallel to the ground) and focus on sucking in your gut on the left side. Lift the left knee up and in to maximize the contraction from both ends. Squeeze hard, suck in and hold to tighten the abs.

21. Leg curl machine crunches – lie on your back on the leg curl bench with your feet by the stack and your head by the ankle pads (this will only work on a full length leg curl bench). Hold your arms overhead. Grasp the lever arm overhead (if that is uncomfortable loop a towel around the lever arm and hold onto the towel). Crunch up, pulling the ankle pads up with you for resistance. Set the resistance to the lowest to start with to get the feel for it. You can also rest your head on the lever arm while doing these. If you have a partner, you can do negative reps by having your partner lift the lever arm up to you in the top position. Lower slowly. To do negatives on your own, use a pullover movement. Crunch up to the top, do a quick pullover, then lower slowly.

2. ABDOMINAL SIT-UPS

This is a sit-up movement that works the abs instead of the hip flexors. It will work all the muscles in your midsection in one shot. Lie on your back on the floor. Roll up a towel or mat and slip it underneath your lower back, just above the waistband (the size of the towel affects your body position during this movement – use a fairly large towel). Your knees should be bent about 90 degrees. Keep your feet close together and knees wide apart. This prevents the hip flexors from having a direct line of pull, helping to minimize their involvement. Do not anchor your feet or have someone hold them down. This automatically activates the hip flexors. The difficulty of this exercise depends on where you hold your hands. The hardest position is above your head at arms-length, then beside your head, then across your chest, then straight down between your legs or at your sides. Start with the easiest first then progress to the other positions as you get stronger.

You are now ready to crunch. Keeping your torso straight and stiff, start the sit-up by tightening your lower abs. As you continue up, imagine trying to push your face up against the ceiling (think up, not around). When you reach about 25 to 30 degrees above horizontal, hold for a second and squeeze hard. Keep your back in contact with the towel at all times and always maintain tensions in the abs. Try breathing in and out a few times to intensify the contraction. Lower yourself down slowly and under control. Do not just drop.

Tricks:

1. When you get stronger at these, start with your hands over your head. When you fail with

that, continue with your hands beside your head. Then continue with hands across the chest, then hands at your sides or between your legs to finish. It is a merciless drop set.

2. For extra resistance, hold a weight plate in your hands. Start very light (e.g. 5 to 10 pounds) as balance can be a problem, especially when your feet are not anchored.
3. This extra resistance can also be used to spot yourself. Hold it in front of you instead of behind you. This will act as a counterbalance.
4. There is a technique that will give you an extra-hard contraction. Once you come up to about 25 degrees, bring your arms in so that your forearms are in front of your face (like a boxer covering up). Pivoting just below the ribcage using your upper abs only, crunch your elbows down towards your hips and squeeze hard, exhaling completely. Your lower abs will not move at all. This makes it look like a two-part movement – the sit-up then stop, then the crunch over. You can also give yourself a little spot during this part by grabbing onto your legs and pulling over.
5. To work the sides more during this movement, come up to 25 degrees then do a twisting crunch over to the side. Don't do it on the way up, just after you are up.
6. Another technique that can be used to work the sides is to hold the weight plate in only one hand. This will throw tension down the one side more. To vary the tension, try switching the weight back and forth and moving it around while you are coming up.
7. Full range abdominal work can also be done on the Ab Bench (see Equipment section).
8. You can make these really easy by doing them on a slant board. Put your feet at the bottom and your head at the top. Gravity will help you up.
9. These can be done with variable resistance by moving your arms. At the start, have your hands at your chest. As you come up, your abs are in a weaker position so extend your arms forward, reducing the resistance.
10. Try holding the contraction at the top and breathing in and out a few times. This will really force your abs to contract.
11. Lie lengthwise along a bench with the towel under your lower back. Your shoulders should be just off the end of the bench so you can stretch down a little. This will give you a greater range of motion. Execute the movement the same.

Variations:

1. Lower ab raises - instead of lifting your torso up over the towel, raise your legs and pelvis up and over. Keep your feet together and your knees apart to minimize hip flexor recruitment. Suck in your gut to help isolate the lower abs. Your butt should come right up off the floor when your pelvis rolls up and over the towel. When you suck up your gut, imagine you are trying to suck your legs up to your chest through vacuum power alone, then rolling your pelvis over the towel. You can alternate between the sit-up style and leg raise style to hit your abs from both directions in one set.
2. Lower ab raises - decline or incline board - same execution as above but lying on a decline or incline board. If your feet are higher than your head, it will be easier. The steeper the incline (feet lower), the harder it will be. It may be difficult to keep the towel from slipping down.

3. Incline ab sit-ups – this is a good starting variation. Set an incline board to a slight incline. If you don't have an incline board, you can use an adjustable incline bench, a decline bench, a Step platform with a riser under one of the ends or a flat bench with something under one end. The execution is exactly the same. The only difference is that the tension is much less due to the leverage, allowing even people who are relatively weak in the abs to do the exercise. It is also a very good way for advanced trainers to do high reps with this exercise.

3. HANGING LEG RAISES

This is a fairly advanced exercise; the beginner version (hanging knee raises) will be discussed in the variations. Hang from a chin-up bar with a palms-forward, shoulder-width grip. Keeping your legs straight and stiff, pull them up and around by bending at the waist. This works your lower abs. As your legs come up, tilt your pelvis up as well. This is very important because if you don't tilt the pelvis, you will primarily be working your hip flexors. Come up as far as you are able and lower slowly.

Tricks:

1. Do not swing the body to start the motion. Do swing, however, to cheat enough to get extra reps when it's impossible to get more reps with perfect form.
2. Try to touch the front of your ankles to the bar at the top. This requires great strength.
3. Use ankle weights to make it harder or hold a dumbbell between your feet (don't use a dumbbell if you lift your legs up past 90 degrees).
4. Point your toes and keep your legs as straight as possible throughout the movement. Try to transcribe the widest arc possible with your feet.
5. To really fire the lower abs, at the top of the movement, when your ankles are touching the bar, thrust your feet up as though trying to put footprints on the ceiling. Try burning out on the hanging leg thrusts. Don't let your feet come down from the top of the leg raise until you can't do any more leg thrusts. It will resemble a gymnastic exercise. You can do this as a solo exercise on the Smith machine bar set moderately low. This is good if your ceiling isn't high enough to execute on the chin-up bar.
6. If your grip stinks, use straps, get some upper arm harnesses or get two weight belts and use them as harnesses. Hook them around the bar, slip your arms through them so your upper arms are supported close to your armpits then lift away.
7. If you want to work your side abs as well, rotate your feet as you lift up so you lift with your sides.
8. To get a full range of motion, have a partner brace a forearm across your lower back just before you get to the bottom. Curl your lower back around the forearm. This is a similar concept to the towel sit-up. You can also use this forearm trick to keep yourself from swinging back as you raise your legs. Be sure to tilt your pelvis up and over the forearm.
9. A good way to get a full contraction in the upper abs as well is to bring your knees into your chest as you come to the top of the movement. Hold for a few seconds and squeeze hard. For an extra squeeze, hook your toes on the bar and continue to pull back, resisting with your feet.

10. To do hanging leg raises in an unstable environment, use a lat pulldown bar to hang from (load it with enough weight to prevent it from coming down). Another option is to put a bar on top of another bar. Make sure your hands are pressed up close in the middle to prevent it slipping around.

Variations:

1. Hanging knee raises - this is an easier version to use to build up to hanging leg raises. The execution is the same except that your knees are bent with your feet by your butt instead of straight out. Curl up, leading with your knees in an arc and be absolutely sure to tilt your pelvis up.
2. Hanging chair leg and knee raises - same execution as both versions above except you do them in the hanging chair-like apparatus. This is good if you have a lousy grip or if your grip gives out before your abs can get an effective workout. Be sure to tilt the pelvis up. You can strap a rolled-up towel to where your lower back will be for full range of motion.
3. Leg raises on slant board – using an abdominal board, grasp the handle at the top over your head. Do a leg raise. Adjust the angle according to strength (steeper equals harder). Try placing a rolled up towel under your lower back to get full range of motion. Rotate the pelvis over the towel. To make these really easy, reverse your position (head at the bottom).
4. Crossover alternating knee raises – these can be done hanging from the bar or in the leg raise chair. Do them one leg at a time, bring it up and across to the other side, e.g. left knee towards right shoulder. This hits your lower abs along the sides and hip flexors. Keep your upper body and shoulders perpendicular to the floor. Bring your knee to your chest if possible. Do not let your leg swing down – control it. Alternate legs. Exhale on the way up and inhale on the way down. The crossover action causes the pelvis to tilt anteriorly, activating the lower abs.

4. LYING LEG RAISE AND THRUST

Lie flat on your back with your hands palms-down underneath your glutes to cradle your pelvis during the movement. Keeping your legs stiff and straight, raise them up off the floor until vertical. Thrust your legs upward as though trying to put footprints on the ceiling. Your upper back, arms, and hands will be all that is in contact with the floor. To make it harder, try to crunch your chest up as well. Lower your legs until your lower back is back on the floor then lower your feet down almost to the floor (don't touch the floor to maintain tension in the abs). Keep your legs stiff and straight throughout the movement. These are much more effective than simple lying leg raises as the thrust up further works the lower abs.

Tricks:

1. To make the exercise harder, try to crunch your chest up as well as you thrust your legs up.
2. Try doing two thrusts up for each leg raise.

Variations:

1. Lying knee raises - lie flat on your back with your knees bent and your feet on the floor by your butt. Place your hands like above. Raise your knees up and over your chest. Lower and repeat but do not let your feet touch the floor. To make these much more effective, put a rolled-up towel under your lower back like in the sit-up version discussed above. Use same

leg position (feet together, knees wide) to reduce hip flexor involvement. Roll your pelvis up and over the towel. Try sucking in your gut as you do these to get a feel for the lower abs.

2. Seated knee raises - sit on the end of a bench, grab onto the sides. Straighten your legs out in front of you and lean back, then pull your knees up into your chest and crunch your chest forwards to meet them. Hold a dumbbell between your feet to increase resistance or hook yourself up to a low pulley cable.
3. Momentum resisted leg raises - have a partner stand over your head. Raise your legs up quickly as above. Your partner will forcefully whip them back down. Resist the downward momentum hard at the bottom and pull your legs back up quickly. Repeat. Do not let your feet hit the floor. Hang onto something if you have a tendency to shift around during the exercise.
4. Lying abdominal isometrics - lie down flat with your legs straight out. Lift them a few inches off the ground then hold them there for as long as possible. Try moving them around a little bit to vary the stress. This exercise can be hard on your lower back.
5. Lying leg raises – this is the classic lower ab exercise. It can be hard on your lower back, however. Lie flat on your back with your hands flat on the floor by your sides. Keeping your legs straight and your back on the floor, raise your legs up until they point straight up to the ceiling. Some people prefer to bring them up by your head but you lose tension doing that. Don't ever roll up on the back of your head and bring your feet directly over to floor by your head. This is potentially damaging to the neck.
6. Leg raises over a bench – lie over a bench with your lower back supported on the bench like when doing cross-bench stretch crunches. Hold onto something solid in the maximum stretch position (e.g. another bench or a dumbbell). Your legs will be down. Raise your legs up by flexing the spine. Don't move at the hip joint. Keep your legs slightly bent and tilt your pelvis at the top.

Leg raises can also be lengthwise on a bench. Start with your feet on the ground and your lower back in the edge of the bench, just above the waistband. This will force you to use spinal flexion rather than hip flexion. Grip the edges of the bench beside your head with your arms in an overhead, crunch-like position. Do a leg raise from there, focusing on rolling your hips up and over. These can be done as knee raises as an easier way to start. One trick you can do with these is to throw in a crunch between leg raises. When you come to the bottom of the leg raise, put your feet on the floor then immediately crunch up your upper body. Try to keep as much tension on your abs as possible, building it up until your release quickly and explode up. Go back down, hold on and go back into the leg raise. You can thrust at the top if you like.

7. Swiss ball leg raises – grasp something solid above your head (e.g. a Smith machine bar or dumbbell rack) as you lie with your back on the ball. Your body will be approximately horizontal. Keep your arms bent and ready to stabilize. These are best done with your knees bent. Take a deep breath and wrap your back around the ball, expanding the rib cage and getting a big stretch on the abs. Raise your legs up, by rolling up the spine. Your pelvis should tilt up and off the ball until only your lower back is on the ball and your legs are up in the air. Squeeze hard, lower and repeat. Do these fairly slowly. You can alter the resistance by rolling forward or backward on the ball. The more vertical your lower back is at the start of the movement (more on the front face of the ball), the harder it is, while the more horizontal your lower back (more on the top of the ball), the easier it is. You can also try ankle weights or bending your knees.

To further work your abs in an isometric hold, raise your legs up to straight and vertical and hold them there. Your hips should be off the ball with only your lower back on it. Hold on tight. Roll the ball over to the left, keeping your feet pointed up (your legs will be angled over to the right to keep balance). Roll over to the other side. This works the sides well. Keeping your knees bent will make this easier. You may also try doing leg thrusts from this position as well.

8. Leg lowering – this is beginners ab exercise. Lie flat on your back. Bring your knees up into your chest then extend them straight up to vertical. Lower them down only a few inches to start if you're weak. Keep your hands at your sides. Keep your lower back and your head flat on the floor. Lower more as you build strength.
9. Bench end leg raise/cable crunches – this exercise combines the lengthwise bench-end leg raise with the low pulley cable crunch (don't go cross-bench with a free bench as there is not enough surface area for you to maintain stability safely). Use a rope attachment or close grip row attachment on the low pulley for this one. Set yourself on the end of the bench with your glutes off. Reach back and grip the rope, holding the ends by your head. Use a moderate weight on the pulley. Crunch up a little so the weight is off the stack and you have tension in your abs. Now do the leg raise. Thrust up at the top of it (to hit the sides, rotate yourself around as you thrust up). Come down but don't let your feet touch the floor for maximum effectiveness. As your feet are getting close to the floor, do a cable crunch. Come down from that without letting the plates touch then do the leg raise again. Do this whole thing without letting your feet touch the ground or the plates touch each other. On the last rep, try holding the thrust at the top and doing a negative rep. You can spot yourself for more reps by using some of the momentum from the end of the negative of one phase and transferring it into momentum for the start of the next phase, e.g. when your legs come down, transfer that into the crunch. To do this, let your legs drop without trying to control the negative. Just before your legs hit, stop the movement with a muscle clench and transfer the momentum to your upper abs. For another extra hit, try crunching your upper body up at the top of the leg thrust segment. To increase the resistance, use ankle weights or attach your feet to a cable.
10. V-raises – these are done lying flat on the floor to start. Have your arms overhead. Raise your legs and your upper body up as though trying to form a V. Try to bring your legs and chest together if you can.
11. Round the world knee raises – start lying flat on the floor with your knees bent. Cradle hips by putting your hands under them, using the thumb and forefingers of your hands to cradle the glutes. Roll up on your left hip and up then across then roll down on your right hip. Keep your knees bent to minimize back stress. This can also be done with a rolled-up towel under your back. Change directions for balanced work. This movement can be done keeping your knees together or using a sort of bicycle movement where you lead with one knee and let the other one follow. For an even greater challenge, combine this round the world knee raise with round the world crunches. This requires practice as the coordination can be tricky. Your upper body and lower body should move in opposite directions.

5. CRUNCH ROLL-UPS

This is an intense peak contraction exercise for the abs (even better than cable crunches for getting a peak contraction). Lie on your back, bring your knees up to about a 90 degree angle. Lock your fingers together behind your knees. Rock up using momentum and pull in with your hands until your chest is up against your thighs. Your upper body and thighs should be vertical and touching, pulling in with your hands and contracting your abs as hard as you can. This is the absolute fullest contraction your abs are capable of. You will be balancing on your butt only. Roll

back down on your back then, using momentum, roll back up to vertical. By rolling up and pulling in, you get your abs to a point where they cannot go by strength alone. At the top, imagine you're trying to pop a balloon between your thighs and chest. It almost looks as though you're trying to roll up to a sitting position but can't quite make it. The movement should look as though it has two parts: your legs roll up then stop at vertical then your upper body follows and gets pulled up and in.

To hit your sides as well, hook your hands behind only one leg and roll up. Another way is to roll around unevenly. Throw your weight around to the sides so you move in a variety of directions. It will look as though you are break dancing.

6. SIDE LEG RAISES

Lie flat on your back with your hands splayed out to the sides to brace yourself. Your feet will be straight up in the air with your waist bent 90 degrees so you look like an "L". Roll your legs over to the left keeping them straight or, if you can't do that, bend your knees 90 degrees to a sitting position, until your feet touch the ground. Your upper back, arms and left side will be contacting the floor while your lower back and butt will be tilted over. Contracting only your side abs, pull your legs back up then repeat on the other side.

7. DUMBBELL SIDE RAISES

Do side raises only if you want to make your waist look thicker. Side bends will build the obliques up under the love handles (this is good if you want strong sides) but it will push the fat out further, making your waist look bigger. If you still want to do them, don't use two dumbbells. The other dumbbell will act as a counterbalance, reducing the effectiveness of the exercise. Just hold one dumbbell and lean straight over to the side with the dumbbell. Do not go past vertical at the top as this does accomplish anything except back strain.

Variations:

1. Hanging side bends - hang with your hands in a wide grip with your knees up in a sitting position. Bend your waist to the side so your lower body comes straight up to the side.
2. Floor side bends - lie down on your side with somebody holding down on your feet, with your feet wedged under something, or with your feet gripped firmly onto a wall. Pull your upper body up off the ground with your side abs so only your hip and leg are touching the floor.
3. Roman chair side bends - these can be done on a hyperextension station. Instead of facing down, lie on your side with your hip on the pad and one ankle under the ankle pad. Lower down then come back up again.
4. Upsidown side bends - hang upside down as described in upside down sit-ups. Bend up to the sides.

8. TWISTS

The traditional way of doing twists is basically useless. It can serve as a bit of a warm-up but does not work your sides. They can, however, be used to directly target the lateral obliques (love handle areas) without building them up. This will tighten them up and help reduce the size of your waist. Put a bar or stick across your shoulders with your hands over the top stretched out to

the sides. While you are twisting, keep your head facing straight forward. Look straight at yourself in the mirror and do not move your head while you twist your torso (for a little extra squeeze you may try to look as much as you can the opposite way). Try to squeeze the oblique area at the height of the twist.

Tricks:

1. It may help you feel it to come up on the toe of the leg on the same side you're twisting to - this will help increase the contraction. Bring your opposing knee up and around towards the bar by coming up on your toes on that leg and pointing it towards the opposing hand. This action should force your opposing hip forward. It is almost like you are trying to touch your opposing hand and knee, wringing yourself out in the middle.
2. If a free straight bar is unavailable, use the lat machine bar with no weight pinned on (if the bar is attached to the cable permanently) or remove the bar. Another variation is to use a fixed bar, such as is on the Smith machine and rotate your lower body around it doing reverse twists.
3. To really feel the contraction, suck in your gut as far as you can.
4. Tilt the bar down slightly towards the side you are crunching to.
5. Try varying how you sweep the bar, e.g. when you twist to the right, keep your left hand side high or low or change the angle while you are executing the rep.
6. If you lean back slightly as you twist, you will hit more in to the back area of the waist. Be sure to keep the tension on the oblique muscles and not on the lower back muscles.
7. Twists can also be done using the two high pulley of a crossover setup. Use a light weight and cross the cables behind your back (hold the right cable in your left and vice versa) with your arms fully extended. Where you stand between the cables will affect how you hit the obliques. Use the same tricks as explained above.

9. SERRATUS PULLDOWNS

The serratus anterior muscles are the little tooth-like ridges that sit between your side abs and your lats, beside your pecs. They will probably not be very visible until you have a fairly low level of body fat or if they are very large. They are a muscle group that gives your midsection a finished look and help to draw the eyes into the midsection.

Kneel on one leg in front of a high pulley, grasping a handle (you will be doing these one arm at a time). Move away from the pulley a little so you pull down at an angle inward (e.g. if you are using your right arm, move a little left). Put your other hand over your serratus muscle while doing the exercise to make sure it is being worked and to develop a feel for how doing the movement affects the muscle. This will help you work it more efficiently as this muscle is difficult to isolate. Pull your shoulder down as far you can without bending your arm, arching your back somewhat. The pull should come from the serratus muscle; you must concentrate to ensure that the lats are relaxed or they will take over the movement. As you get to the bottom of the shoulder-drop, rotate your pinky inward a little to fully activate the serratus. This movement is an external rotation at the shoulder. Your elbow will come in toward the midline of the body. Do not have a death-grip on the handle, as this will activate the lats. This exercise requires a lot of practice and experimentation to find the groove that works best for you. Always keep your other hand on the serratus muscle so you can feel what works best.

If you are doing serratus pulldowns on a pulldown machine that does not have a proper single-hand handle, drape a towel around the part where the bar connects to the cable. Grasp the towel near the top of one of the sides hanging down then wrap the other side around your forearm once and pinch it under your hand. This gives you a handle and also reduces grip fatigue. This towel wrap trick can be used with lat pulldowns or tricep pushdowns as well.

10. VACUUMS

This is an exercise that will reduce the size of your waist and teach you abdominal muscle control. It is basically sucking in your gut. Hold your elbow straight up over your head with your hands behind your head. Pull your abs up and in for a count of ten, striving to make your waist as tiny as possible. You can do these several times a day, when you're just lying around.

They can also be done during your regular ab workouts. At anytime during the workout, such as between sets, lie on your back in the bottom position and do vacuums. Vacuums can also be done in the contracted position of the crunch. Hold at the top then attempt to suck in your abs. Your rectus abdominus will stay contracted while your transverse (deep) abdominals will suck in. Try to suck in one side at a time as well.

11. PELVIC TILTS

Lie flat on your back on the floor with your knees bent and your feet planted. You should start with a slight arch in your lower back. Tilt your pelvis up by pushing your lower back flat onto the floor. This exercise is suitable only for extreme beginners or for rehabilitation purposes as a way to learn the movement pattern and abdominal muscle control.

12. WOODCHOPS

This is an exercise for the obliques. Stand sideways beside a high pulley using either a v-bar attachment or a single handle. Grab with both hands, palms facing. Keep your hands high and up. Pull down and around, rotating the body by pulling with the obliques. Keep your arms stiff and don't allow your hips to move. The motion looks like you're chopping wood. This is an excellent exercise for golfers.

13. SERRATUS / INTERCOSTAL CRUNCHES

This exercise utilizes the high pulley. Stand or kneel facing away from it. Grasp the handle over and behind your head with an underhand (your palm will be facing back in that position) grip. Your upper arm should be beside your head. This is where it should stay throughout the movement. Crunch down and in slightly about 4 to 6 inches only. Try to push your shoulder forward in the socket as you crunch. Come over and down in an arc. You may want to put your other hand on your serratus muscles as you experiment with the movement to feel what is working best. The serratus can be very hard to feel working otherwise. A couple of the keys to this are not to curl your entire upper body and don't bring your arm down. Most of the movement should occur at the lower armpit area.

14. AB CANNONBALLS

Use a high pulley (it can be done on a pulldown machine but it is not as effective as the seat will

stop your range of motion – don't remove the seat, it'll hurt even more). Set up with a bar as though doing cable crunches. Have the bar behind your head in an overhead curl grip. Place your feet slightly ahead of the bar position. Use very heavy weight for this one (start with about ½ your bodyweight – you can get up to using more than bodyweight). Holding the bar firmly to your head, drop down fast until your butt is on the floor and your knees are in your chest. Your abs should be contracting very hard. Hold for a few seconds then let it up slowly. When you get to using near your bodyweight, you may need to actually jump up in the air before you drop down to get enough momentum.

15. DUMBBELL ROLLS

This is a bodyweight movement that uses loose rolling dumbbells, a barbell (the e-z curl bar is more compact and easier to control) or a roller designed for this movement. Start on your knees to get the feel for the movement. Have the dumbbells/barbell/roller a few feet out in front of your body. Lean forward and put your hands on it. Roll forward, unbending at the waist. You should feel tension in the abs. Go as far forward as you can before you feel you can't make it back up then roll it backwards. Keep your upper body stiff and your abs tight. Be careful of your lower back on this one as a lot of the tension can go there if you don't keep your abs tight. When you pull back up you work your abs, back and triceps as well.

If you don't have access to any of the above equipment and a regular barbell is too big there is an adaptation that actually works better than all of them. Use a Standard (skinny) size e-z bar and an Olympic plate (a 25 pound plate should be perfect). The hole in the middle should be big enough to slide the e-z bar through so it's in the middle of the bar. Use the plate as a roller. If you have a Standard bar that doesn't have inner collars, you can use that with a Standard plate. The roller designed for this exercise has one wheel in the center and the handles on either side.

To make these harder, come up on your toes rather than resting on your knees. This will greatly increase the tension in your midsection. Putting your feet up will do more after that. For a real challenge, try using the unstable single wheel version with your feet up on a Swiss ball (start with the e-z bar with two plates like normal first to get a feel for the balance of it). To work the side abs, rest only on one knee/foot. All the tension will get transferred through that one side.

16. SERRATUS FRONT RAISES

Lie face down on a 45-degree incline bench. Do a front raise up with the dumbbells in a neutral position. Come up to slightly higher than parallel to the ground. Reach forward. Imagine trying to separate your shoulder blades.

17. ISOMETRIC AB SUPPORTS

This exercise relies on the abs as a bridge. Rest on your forearms and your toes and nothing more, keeping your body straight. Hold yourself in that position for as long as you can. If that is too hard, try it on your knees with your thigh at an angle. Keep your abs very tight or the pressure will go on your lower back. You can also focus on the sides by going to one forearm or one foot at a time.

ABDOMINAL TRAINING NOTES:

The abs are mostly fast twitch. For optimal development, they should be trained with lower reps

and progressive resistance just like other muscles.

Abs are the primary stabilizers of the spine. Use full range exercises such as Swiss Ball crunches for optimum development. When doing abs, you should balance the work by doing some for your lower back as well.

Deep abdominals – these are the muscles underneath the rectus abdominus. They form a sort of natural weight belt. They are used on vacuums to draw the abs inward. Weak deep abs are aggravated by weight belts because belts force the abs to push out in order to increase intra-abdominal pressure. This pushing out causes the distended abdomen look and can cause back pain. The deep abs can be active without the outer abs working. They are for naturally increasing intra-abdominal pressure, stabilizing the spine. Practice sucking in your gut before sets to get the feel for this. You will find that not using a belt and sucking in your gut before a set will really develop your back and tighten your stomach. This increases the effective force transmission increasing the weight you can use.

Here is an example of how to do this during squats or deadlifts. Prior to starting, take a deep diaphragm breath and hold it in. Draw your belly button towards your spine as far as possible. This activates the deep muscles. Don't flex your spine. Maintain a neutral alignment as you draw your abs in (slight forward curve in the lower back). Hold your breath during the eccentric phase. At the sticking point of the concentric phase, release air through pursed lips (this allows the abdominal wall to stay activated).

Serratus exercises: scapular rotations, serratus pulldowns, serratus crunches, locked arm dips, pullovers, bench press (somewhat).

Ab exercises that are hard on your lower back;

Lying straight leg raises

Lying bent leg raises

Static cross knee curl-up (like a twisting crunch)

Hanging bent leg raises (forearms supported)

Straight leg sit-ups

Bent leg sit-ups

The stronger your abs, the greater the intra-abdominal pressure you will get and the greater your spinal support will be.

Generally, you should hold your breath when doing ab exercises during the actual muscular contraction (unless you have cardiac problems). Breathing tends to destabilize the abdominal area and reduces the amount of effective muscle contraction you can get.

Roman chair sit-ups are more effective for hip flexor training and are bad for your lower back. The rotational version is even worse.

Abs can be worked in various rep ranges:

1 to 5 for strength

8 to 12 for size

30 plus for endurance

Working in the strength range will make for a smaller waist as it tightens, not builds. The 8 to 12 range will increase ab development by building the muscle.

To practice abdominal muscle control, hold the crunch at the top and try to manipulate individual

areas of your abs, e.g. suck them in, push them out, fire the lower abs, squeeze the upper abs, etc. This development of control will help you develop your abs.

Don't do too many arching ab exercises in one session. You can overstretch your lower back this way. Stick with one or two and do the rest flat.

BICEPS EXERCISES

Primary Movers: biceps, brachialis

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2. E-Z BAR CURLS

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THE EXERCISES

1. STRAIGHT BARBELL CURLS

Grasp a barbell with a palms-up, shoulder-width grip. Without swaying or lifting at the shoulders and keeping your arms at your sides, curl the barbell up in a wide arc from your thighs up to shoulder level. Lower and repeat.

Comments:

A narrow grip works the biceps harder, i.e. inside shoulder width, by reducing shoulder involvement.

This exercise can be hard on your wrists if you do it too much. If your wrists hurt, switch to dumbbell curls. The reason for this is that the biceps want to supinate the forearm but the bar prevents that movement so there is wrist stress.

Do not grip the bar too hard, as this will involve the forearms more - cradle, don't strangle.

All a very wide grip does is put stress on your joints - it doesn't work the outside of your biceps, contrary to popular belief.

Keep your chest high and your shoulders down and back.

Move your chin back from the neck so you don't curl in a vulture position.

It is very important that you keep your knees slightly bent in order to take stress off your lower back. This is especially important when doing cheat or hammer curls.

Tricks:

1. Cock the wrists back as you curl the bar up to keep the tension on the biceps. To use this trick to make a set harder, curl up without cocking, then lower the weight while cocking (makes the negative harder).
2. Stand with your back against the wall to prevent body motion. This is also good for people with sensitive necks as it eliminates any body momentum that could be transferred up through the neck area. Be sure to keep your knees bent and keep your head back against the wall as well.
3. Lean slightly forward at the top of the motion to get an extra squeeze.
4. At the top, hold the contraction for a second and try to push your elbows together hard. This is like forcing supination. It will intensify the contraction.
5. Back and forth partner curls. This is a good way to burn out on curls. You do a set to exhaustion then you pass the bar to your partner who is standing in front of you. He goes to exhaustion then passes the bar back to you. Go back and forth until neither of you can move the bar. This is one of the only exercises where you can do this kind of passing. It also helps to have a partner who has similar strength levels as you so one of doesn't tire out way before the other on the same weight.
6. If you find this exercise hurts your lower back, try doing them in a kneeling position. Having your feet as a support behind you will ease the pressure from the lower back.
7. Barbell curl shockwave cheating – the bar is resting on your thighs. Keep some tension in your biceps. Rise up on your toes then drop quickly, jarring your heels against the floor. The instant your heels hit, explode up with the biceps. The rebound energy of the shock of your heels hitting the floor will travel up your body and will give your biceps the extra bit of starting

kick. A bit of stretch reflex will also kick in to help as long as you have tension in the biceps. This technique works with other standing barbell movements as well (e.g. standing barbell shoulder press).

Variations:

1. Reverse grip - take a palms-down grip and curl. This grip will work the brachialis muscle underneath the biceps and the forearms. Keep your shoulders down and don't let your elbows flare out to the sides. If they have a tendency to do so, it means your brachialis muscle is weak.
2. Seated barbell curl - sit on a bench with the barbell in your lap. Curl up. This version only works the top half of the range. Rest the bar in your palms and grip with your fingertips.
3. 21's - a good way to burn out. Do 7 reps in the bottom half of the range of motion, do 7 more in the top half of the range of motion then do 7 full range reps.
4. Cheat curls - swing the barbell up with a little body momentum then hold the negative hard on the way down. Do not cheat excessively by using a lot of momentum. A little forward thrust of the hips and a little lean back should be all. One thing to remember with these is that even though the weight is greater, the tension on the muscle is not necessarily greater due to the momentum involved.
5. Body drag curls - start in the standard hang position. Raise your elbows up behind your back, dragging the bar up the front of your torso. Squeeze hard. This is a contracted position movement. To work the brachialis and the brachioradialis, do these reverse grip. These can also be done in the Universal bench machine by standing in between the handles, facing the stack, with a curl grip. Pull the handles up beside your body and lean forward, elbows behind. Use a neutral, thumbs forward grip to work the brachialis. A reverse grip may also be used. It is also possible to do body drag curls with dumbbells.
6. Top range partial curls – these are partial curls or holds in the very top, contracted position of barbell curls. Set the pins in the power rack so that they are a few inches below the top position. These can be done free in the middle of the rack or up against the supports. Pushing against the supports will allow you to use more weight while free standing will be more like curls. Bend your knees slightly and grasp the bar with your regular grip in the top range. Stand up, squeezing the biceps hard. If you are pushing against the supports, push up and forward as you stand up.

These can also be done on the Universal bench machine or a shoulder press machine. A Smith machine will work for this too. To do this on a Universal bench, kneel in front of it. Set the pin so that the handles are just below the top position. Grasp the handles, push forward and up. The same thing can be done on a shoulder press machine if the height is right. The Smith machine version is exactly like the barbell version where you push against the supports. The brachioradialis is strongly affected when these are done on the Universal bench machine due to the wide grip used. The angle of the arms hits that muscle hard.

7. Squatting curls – squat down to a rock bottom position with your hamstrings on your calves (be flat on your feet). The very low end of your triceps just above the elbow should be braced on your knees. Curl up. This position emphasizes the stretch position because of the pressure from your knees. You must move your body to counterbalance the weight, letting it sit back more as you lower the weight then bringing it up closer as you curl up. This exercise also allows you to use bodyweight to help get the weight up. You can use the body ratcheting technique by letting your weight fall backwards holding the weight isometrically to

move it up. Using your body position to adjust tension and to spot yourself makes this a useful exercise. This position can also be used with cables or dumbbells. If you are using dumbbells it can be done in a lunge position one arm at a time instead of squatting.

8. Scoop curls – these look like uppercut curls. As you curl up, pretend as though you are scooping up an armload of something. This movement looks like a front raise and a curl executed simultaneously. Finish with the bar up by your forehead and your elbows pointed directly forward. Concentrate on squeezing the biceps the entire way up. This will put more of a peak contraction on your biceps at the top of the movement.
9. Mixed grip curls – hold the bar with one hand regular grip and the other reverse grip. Alternate hands by set. This gives you a different feel to the exercise.
10. Machine curls – these are done in a curl machine. Curl like a barbell curl with your elbows on the pads. The grip you use will vary the stress on the biceps. To increase the contraction at the top, drop the seat down low and drop your head down to mimic overhead curls. You can also raise the seat for a preacher-curl type movement.
11. One arm barbell curls – curl while holding the barbell in only one hand. This version will force you to balance the load. This will work your forearms and grip as well due to the balancing involved.
12. Bent over curls – start in the bent-over position like a bent-over row. Instead of rowing the bar, curl it. It is very similar to a concentration curl or spider curl. You can also use dumbbells for this one.

2. E-Z BAR CURLS

These curls are exactly like barbell curls but using the cambered E-Z bar. The standard grip is to hold the bar so that your thumbs nestle into the two high points on the bar. Curl up like in straight barbell curls.

Comments:

This bar was originally designed to mimic barbell curls but be easier on the wrists. The standard grip is not as effective for biceps as straight bar curls but is easier on the wrists.

Tricks:

1. Change your grip - hold the bar so that the pinkies are higher instead of the usual grip where the thumbs are higher. Rather than grip on the outside high point, nestle your pinkies into the high points on either side of the straight middle part. The key is pinkies higher. This provides maximal supination of the hands all the way through the movement.

Variations:

1. Reverse grip - use a palms-down grip, same execution. A trick you may wish to try with this is to hold the bar in a thumb and forefinger cradle-loop grip at the inner bends. This means you don't want to grip the bar firmly but let it just rest on your thumb and fingers. Start the movement with your shoulders maximally inwardly rotated. As you curl up, externally rotate your shoulders and try to push your elbows together in front of you. This is the same idea as supination for the biceps in a regular grip curl but this is pronation for the brachialis. The reason you want a sort of feather grip on the bar is that in order for this to work the best, the

bar must remain in the same vertical orientation throughout with the inner bends pointing up to the ceiling. The bar should slide in your hands as you do this one.

2. Close grip - grip on the straight middle part, same execution.

3. DUMBBELL CURLS

Stand with two dumbbells hanging at your sides, palms facing in. Curl one up but as you curl it up, rotate your forearm (supinate) so that your pinky is higher than your thumb at the top of the curl. Lower and repeat with the other arm. These are alternating dumbbell curls.

Tricks:

1. Start with your palms facing back at the bottom so that you get more forearm rotation.
2. Do not reverse the supination of the wrist on the way down. This takes tension off the biceps. Keep the palm facing forward the entire way down. This is very important to get the most out of the negative of the movement. Turn the forearm at the bottom of the movement when there is no tension.
3. Cock the wrists back as you curl up. This increases the stretch on the biceps.
4. Grasp the dumbbells off-center with your thumbs and forefingers pressed against the inner face of the outer plates. This gives you more resistance on the supination. You can also try attaching Plate Mates (light magnetic weights) onto the inside plate.
5. The opposite of the above trick is to grasp the dumbbell with the pinky against the inside of the inner plate. This tips the dumbbell over to the outside, automatically supinating the forearm as much as is anatomically possible. Curl up with the dumbbell tilted over to the outside. This is a good teaching technique for showing the value of supination. It resembles an upsidown hammer curl.
6. This may sound strange but try push the dumbbell out as far forward in the upward arc by moving your upper arm forward a little as you curl up, i.e. your elbow will come away forward from your body. Cock the wrist back as you do it and cradle the dumbbell in your fingertips. You will feel this in the belly of the muscle. If you raise your upper arm up as well (using the anterior delt in a sort of front raise as you curl), you will get a greater contraction. Your upper arm will be about horizontal at the conclusion of the movement. The bicep muscle does cross the shoulder joint; therefore it is involved in raising the shoulder. That is why this works. Make sure you go slowly and do not use any momentum whatsoever as that defeats the purpose of raising the arm. The first quarter of the curl movement should occur at the shoulder to develop tension through there. This technique puts a better stretch on the biceps at the beginning of the movement.
7. Try reverse alternating curls: start with both dumbbells at the top of the curls. Hold one dumbbell at the top while lowering and curling the other one. Hold that one at the top while you curl the one that was at the top before. A trick you may want to try with the dumbbell you are holding at the top is to press the pinky side plate into your forehead. This will intensify the contraction at the top. It is also possible to do simultaneous alternating dumbbell curls where as you curl one up, you are bringing the other one down. This may throw off your balance, however. You will find your upper body rocking forward and back when doing this one.

8. As you curl up, when you reach 90 degrees of flexion, stop and bring your elbow back behind your body, bringing the dumbbell close into your body. This will give you an extra squeeze. Continue up from there.
9. Ratcheting – curl up a little until you stop. Hold the dumbbell there. Lean your upper body over forward. It is important to keep the dumbbell at the same point in space. By leaning forward, you will decrease the angle at your elbow without actually doing any work. Straighten back up with your arm locked, moving the dumbbell up with your body. Repeat.
10. To mimic close grip barbell curls (which affect the biceps stronger than wide grip), push your shoulder forward then brace your elbow on your midsection, keeping your arm as central as possible.
11. Here is a technique to maximize supination. Use the close grip technique above, pushing both shoulders forward and resting your elbows on your abs. Curl up. Rotate your hands as much as you can at the top, so your pinkies are closer to your face (supination). Hold the dumbbells at this point then force the dumbbells together. The near plates will touch, forcing your hands to rotate even more until the far plates touch as well. Your knuckles will be facing each other. Separate the dumbbells then lower and repeat.
12. Torso rotation cheating is good method of set extension. Hold the dumbbell behind you and down. Rotate your torso back around to the same side as the dumbbell. In a smooth motion, quickly rotate your torso the other way, transferring the momentum to the arm to curl the dumbbell up. This technique will help you get more reps without leaning back. Contract your biceps hard at the top. Use this technique to make the set harder, not easier.
13. If you want to do strict dumbbell curls, try them seated backward in a preacher bench. Press the backs of your arms against the pad of the bench and hold them there for the duration of the exercise.
14. Dumbbell curls can be done from a kneeling position as well. This is easier on the back. Sit back on your heels.
15. Try doing power dumbbell curls. Do them fast but powerfully, squeezing the biceps as hard as you can to make up for the use of some momentum. Lower with a controlled negative.
16. To self-spot on dumbbell curls for negatives, do a hammer curl up, catch it with the other hand, hold, then turn it and do a one arm negative curl with a regular grip.

Variations:

1. Double dumbbell curls - curl both dumbbells up at the same time. This is a stricter movement and will reduce the amount of weight you are able to handle.
2. One arm dumbbell curls - only hold one dumbbell and curl it. Don't hold anything in the other hand.
3. Seated dumbbell curls - sit on a bench and curl, alternating, one arm, or double. You may need to use less weight as you won't be able to use your legs to assist. If you sit backwards in the preacher bench, you can brace the backs of your arms against the pad. This also works with the Smith machine bar. Lean back against that and brace your arms.
4. Hammer curls - take a neutral, thumbs-up grip. Curl up. This works the brachialis muscle underneath the lower biceps, the lateral biceps head as well as the brachioradialis muscle in

the forearm. Don't let your wrists bend back. Hammer curls are good if you have wrist pain.

These are great for cheat curls as you can use a lot of weight with proper application of momentum. Start with the dumbbells hanging straight down at your sides. Swing your upper body forward a little to get the weight moving, applying power with the arm. As the dumbbell comes up to the sticking point just below the halfway mark, push down hard with the ball of the foot on the side you are curling on and jerk yourself backwards a little. This will help get it to the top. Try to resist the downward momentum as much as possible. This technique can work for building biceps as well. Since you can use more weight with hammer curls than regular curls, curl up as a hammer curl then rotate the dumbbell and lower as a regular curl.

5. Cross-body hammer curls - same execution as hammer curls but curl across your chest to the opposite shoulder. This works the peak area of the biceps. Push your shoulder out in front of your body at the start then curl up. These can be done keeping your upper arm vertical or by bring your elbow up slightly for a greater involvement of the shoulders and a little different type of contraction. Bringing your upper arm up to about 45 degrees will really hit the area of the biceps that produces the peak
6. Reverse dumbbell curls – hold the dumbbells at your sides. Your pinkies should be against the outer dumbbell plates. This is opposite to regular dumbbell curls. This will help keep the movement from becoming a hammer curl. Your palms will be facing down as you curl up. Rotate the forearm as you come up as well. On the way down, don't rotate your forearm back until the dumbbells are almost at the bottom, otherwise the tension will be taken off the brachialis muscle. Make sure the forearm rotation on the way up occurs in the bottom half of the curl, otherwise the tension gets shifted to the biceps. For a full range of motion, start with the dumbbell in a regular curl grip position and rotate the forearms completely around. Don't let your elbows flare to the sides on this movement as is the tendency, especially on the negative. Reverse curls can also be done cross body.
7. Zottman curls – curl up using the regular curl grip. At the top, rotate your hands around so that they are in reverse grip position. Lower and repeat. This allows you to work all the muscles in your arms in one movement. Also, since you can use more weight for regular curls, the brachialis gets worked negatively with more weight. If you have to go to a hammer style on the way down, you're using too much weight. These are not as effective if done reverse style, i.e. reverse grip up and regular grip down. This exercise is more easily done alternating style. There are few hand positioning tricks that will force this exercise to work better. When you curl up, hold the dumbbell so your thumb and forefinger are against the inner plate. This will help with supination. At the top, rotate your hand then slide it over so that the pinky side is against the outer plate. The counterbalance effect of this will force your hand into pronation. The slide at the top will entail a little jump of the weight in order to slide. Switch grips again at the bottom.
8. Incline dumbbell curls - sit back in an incline bench (set at about 30 degrees), letting the dumbbells hang straight down, palms forward (to get a better stretch at the bottom, do not rotate your forearms—keep them facing palms forward the whole time). Curl up, keeping your elbows pointed down and the dumbbells close to your body. Try to keep your elbows stationary for at least the first 90 degrees of the movement to limit shoulder recruitment. After 90 degrees, if the dumbbells are heavy, your elbows will tend to move forward. Keep your head on the bench. If your hands are not completely rotated at that point, supinate as much as possible and squeeze. These can also be done with the dumbbells flared out wide. Keep your upper arms as vertical as possible throughout the movement. Body position is very important on this exercise. Arch your back and puff your chest out, with your head back. Pinch your shoulder blades together to force your arms back behind you as much as possible. It is better to put your feet up on something, e.g. a dumbbell rack, to eliminate

unnecessary and stressful arching of the back. Having your feet on the ground forces your back to arch.

These can be done two arms at a time or one arm at a time. If you do one arm at a time, lean over to the other side to get a better stretch, e.g. if you are curling with your right arm, lean over to the left. The lower the angle of the bench, the greater the recruitment of the long head of the biceps.

If you don't have access to an incline bench or want to try something different, try incline curls against a wall. First, stand with your back against a wall. Now bend your knees so you drop down about a foot and a half. Keep your upper back and head against the wall and walk your feet out forward until your body is straight from your rib cage on down. Puff your chest out and keep your upper arms hanging straight down. This mimics the incline curl but without a bench. Keep your abs tight. You will actually be able to use more weight with this version because you can drive with your legs.

9. Incline hammer curls - same execution as above but use a hammer grip.
10. Flye curls - lie on a flat bench with your arms out wide in a flye position (full stretch position) holding dumbbells at arms length. Curl up without moving your upper arms (keep them out wide while the dumbbells come in). These can also be done on the Swiss Ball. The ball will actually support your upper arms and will ease any overstretching you would otherwise feel on your shoulders.
11. Griplless dumbbell curls - these are done with one dumbbell. With your palms on the upper inside surface of one dumbbell, cradle the dumbbell then curl up. To totally take the grip out of the equation, move the dumbbell down to your forearms.
12. Kneeling dumbbell curls – same execution using any of the variations of standing dumbbell curls. Doing them kneeling is better if you have lower back pain that flares up when you do the standing versions. Have your glutes right down on the backs of your ankles.
13. Dumbbell hammer body drag curls – hold the dumbbells hanging at your sides with your palms facing your body. Lift them vertically beside your body bringing your elbows behind your body. This is the contracted position for the brachialis. Regular grip or reverse grip body drag curls can also be done with dumbbells.
14. Lying dumbbell curls – lie flat on your back on a flat bench. Let your arms hang vertically down. Curl up from there. This is like an extreme version of incline curls. These can also be done on a decline bench (where there is enough clearance underneath) to get the absolute maximum stretch possible at the bottom on the biceps. Let your arms stretch back as far as you can when you do these.
15. Uppercut dumbbell curls – exactly like the name says, as you curl up, do an uppercut movement. Keep the dumbbell close to your body and do the uppercut explosively. Your elbow should be pointing forward at the top and the dumbbell should be up by your forehead. This increases the force of the contraction on the bicep and works the bicep-shoulder tie-in using the compound movement. Be sure to squeeze the bicep hard on the way up. You can also do these cross-body style. Internally rotate your shoulder and curl up across in front of your body.
16. Two on one hammer curls – grasp one dumbbell hammer style with both hands (either interlocking fingers or one high and one low). The high/low style will stress mostly the top hand arm with the other helping while the interlocking style will work both more equally. Curl

up in front of your body. The high/low style is good for doing two arms up, one arm down negative training. Keep the high hand on the dumbbell and lower. The bottom plates will go right into your crotch at the bottom providing a great incentive not to let the weight drop quickly. This style of grip can also be as a concentration curl. Sit with your elbows braced against the insides of your knees and curl up. It can also be done with a preacher bench.

17. Lateral curls – externally rotate your shoulders. Your hands will go directly out to the sides. Curl up from that position. This position puts a different kind of stress on the biceps. It is also possible to do hammer or reverse curls from here. To get a bigger stretch on your medial biceps, do these one arm at a time on a preacher bench. Just sit sideways on the seat with your arm out to the side. You can use the bench to get the most stretch by rotating yourself away as much as you can. It is also possible to go across your body with the lateral curl. This is better on the preacher bench as you have something to push against. If you are using your right hand sit sideways so your left shoulder is against the pad. Cross your right arm across your chest and curl from there.
18. Hide and seek curls – this variation of alternating curls ensures complete forearm rotation. Start with one dumbbell behind your back with your palm back (pronated). Curl the other one up like normal. As you bring it down (no pronation until you get to the bottom of the curl), rotate the hand around to a palms back orientation and hide it behind your back. As you are bringing that one behind your back, bring the other one around in front and curl it up with a complete supination. Holding the dumbbell behind the back will serve to counterbalance the one in front and prevent you from hunching forward, improving form as well as giving you complete rotation of the forearm from full pronation to full supination. These can also be done as a reverse curl. Simply reverse the wrist rotation pattern, e.g. start with a regular curl grip behind the back, pronate on the way, etc.
19. Sticky stretch curls – put an obstacle in front of the dumbbell in the stretch position. Push against the obstacle when the dumbbell is in the stretch position (a position where you usually get very little tension). When you get peak tension, back off the obstacle and curl up explosively. The Smith machine bar works well for this. The preacher bench top pad can also work. Try stepping forward, dragging your arm behind you to increase the stretch. Another option is to have a partner stand behind you and hold your arm back while you develop tension in the biceps in the bottom, behind the body stretch position.
20. One dumbbell curls – curl with only one dumbbell, leaving the other hand empty. This will give you even more focus on the one bicep. You can use any of the variations above in conjunction with it. Another variation you can try is leaning one dumbbell curls. Hold onto a pole with your empty hand and lean over to the side so your working arm hangs away from your body. This will give you a different angle, coming up across the body.
21. Ski jumper curls – hold one dumbbell behind your back to counterbalance. Lean forward like a ski jumper as you curl up. This increases the contraction component of the dumbbell curl.
22. Maximum forced supination curls – hold the dumbbell with your pinky up against the inside plate instead of in the middle or with the thumb against the plate. This will overbalance the hand down on the thumb side, forcing it to tip down, maximally supinating it. This forced supination movement can be done during the movement or from the beginning. The pinky will lead the curl up. Externally rotate your shoulder for the line of pull up.
23. Seated double arm one dumbbell curls – sit on the end of a bench with your knees apart. Hold a dumbbell with both hands – one high, one low like on baseball bat. The dumbbell should be positioned like you are going to do a hammer curl. Your forearms will be touching your inner thighs. Curl up, keeping your arms in contact with your legs as a brace. Curl into your upper

abs. Keep your back tight and lean slightly forward. Your elbows will be on your thighs at the top. This exercise is similar to a hammer concentration curl.

4. PREACHER CURLS

This exercise is done using the preacher bench (the slanted one with a seat). You can use a straight bar, E-Z bar, dumbbells or a cable for this exercise. Rest your upper arms on the slant of the bench. You can either have your elbows up at the top with most of your upper arm off and the top of the bench pushing into your lower chest or have the top of the bench wedged into your armpits and your entire upper arm resting on the bench or somewhere in between. Start with the bar at the bottom and curl up without using momentum. Lower slowly and go all the way down but do not hyperextend your elbow. Keep tension in the biceps at all times.

Tricks:

1. Cock the wrists back as you come to the top to keep tension on the biceps.
2. Use a standing preacher bench or remove the seat if you can. This allows you to use some body momentum to help cheat the weight up.
3. Use a bench with a convex face and high-density foam padding. The convex face puts a greater stretch on your biceps at the bottom of the movement. Be very careful not to allow the weight to drop down quickly or you risk hyperextending your elbows.
4. To get a peak contraction, bring the bar all the way up over your head. You'll have to duck your head down. Your armpit will have to be wedged into the top of the pad for this one.
5. Use the pinky higher version of the E-Z curl or use a narrow grip.
6. Use a little body momentum to help when nearing failure - swing your lower body underneath the pad where your arms are. This momentum will help move the bar.
7. Ideally, the rack where the bar is taken from should be adjustable as well. The less distance you have to go to pick up the weight the better. It is also better when you reach failure as you can drop the bar quicker.
8. Use the dumbbell / cable hybrid technique to get tension throughout the whole range of motion (see the Intensity Techniques section).
9. The body ratcheting technique works well with this exercise. Curl up to the sticking point then hold. Use your elbows as a fulcrum. Sit up and lean forward so upper arms come up off the bench. Quickly drop your body back down, transferring the momentum to the arms, moving the weight up a little.
10. The preacher curl works very well with partial movements. These can be done at the bottom in the stretch position or at the top. If you do them at the top, be sure to only go down a few inches. You don't want extremely heavy weight falling and breaking your arm. Use dumbbells for heavy partials so you can use the other hand to spot.
11. Unroll your fingers at the bottom of the preacher curl for a full contraction. Reroll then curl up.
12. At the bottom of the movement, for a little extra stretch, lift your upper arms up off the pad a

little and let the pivot move down from your elbows to the forearms just below the elbows (the point where the bottom edge of the pad is). Push your biceps forward at this point. Be sure to keep tension in the biceps and DO NOT do this quickly. If done quickly, you may hyperextend your elbow. Done slowly it will give you extra stretch.

Variations:

1. Reverse grip - palms down, straight bar, E-Z bar, dumbbells or cable. Your hands should grip the bar a few inches closer in than your elbows.
2. Hammer preachers - hammer grip dumbbell curls.
3. Cable preachers - use a low pulley in front of the preacher bench. Curl as usual. This works especially well with the behind the head preacher curl trick. It can be done with the rope attachment as well. One arm, two arm, reverse grip, etc.
4. Dumbbell preachers - keep your elbows close together and your hands out wide to force supination and get a greater contraction. These can be done with two dumbbells or one dumbbell at a time. Doing these one dumbbell at a time allows you to do negatives by using the other hand to assist by pulling up on the working hand (don't grab onto the dumbbell, grab over the hand). When you are approaching failure on the negatives be aware of the sudden loss of strength at the bottom half. Do not allow the weight to drop out of control. Be ready to catch it with your other hand if you have to.

These can also be done full rotation. At the bottom of the movement, have your hands completely pronated (palms down). As you come up, rotate to full supination. Lower with your hands fully supinated to keep the tension on the biceps. At the bottom, turn them to full pronation again and repeat. A good way to do these is alternating, keeping one dumbbell at the bottom while you curl the other one. This gives you a chance to concentrate on the arm rotation one arm at a time. It is also possible to use this technique with reverse preacher curls. Start with your hands supinated at the bottom then pronate as you curl up. Lower in the pronated position then turn your hands at the bottom.

5. Diagonal dumbbell preacher curls – do these one arm at a time. Rest your arm diagonally on the pad. There are two different ways to do this. If you are curling with your right arm, for example, move over to the right and go diagonal across your body to the left. This will affect your medial biceps head more. To work the lateral head more, move your body off the seat to the left so your right armpit is over the left side of the bench. Go diagonal away from your body to the right.

5. CABLE CURLS

There are many variations on the theme of a simple curl motion with the cables, employing the standard tricks of cocking the wrists back, turning up the pinkies, etc.

Low pulley variations:

1. Standing – facing the stack – these can be done one arm or two arms. Same execution as barbell curls but with a different force curve. The pulley version gives you more tension at the contracted position of the movement. You can change the force curve by changing the distance you stand from the pulley. These can be done with the straight bar, with the rope handles, with a single handle, regular grip, wide grip, reverse grip, etc.

Try standing far away from the stack (five to six feet) instead of close to it (one to two feet). Your arms will be out in front of your body at the start of the movement. Curl up. As you curl up, do a front raise with your shoulders so that your upper arms become vertical (elbows pointed high) and the handle or bar ends behind your head. This will give a stronger contraction at the top. Try to force your elbows together in front of your face at the top of the movement.

When doing one arm cable curls (any orientation), push your pinky up against the handle as far as possible. This will stress the supination aspect of the curl more. Do the opposite for the reverse curl.

2. Standing – facing away from the stack – these are more easily and less painfully done one arm at a time. If you are using your right hand, stand to the left of the stack to get a straight line of pull. These can be done normal grip, reverse grip or hammer grip (using a rope). There are several ways to do this that focus on different aspects of the movement.

The first way is to just curl up and down like a regular pulley curl with no special emphasis on anything in particular. This will still give you results if you work at it. Stand vertical and keep your upper arm pinned to your side.

The second way is to focus on the stretch position aspect of the movement. This version can be a better stretch-position movement than incline curls if done properly. Stand with the cable back behind you so your arm is angled back behind you. If you are using your right arm, rotate your body to the left in a smooth motion (similar to a slow golf swing), leaving your arm behind you. You should feel the stretch in your biceps and shoulder. When you come to the point where you can't stretch anymore and your arm is starting to come forward, start the curl not by curling but by bending back the wrist and pushing your arm forward almost like a front raise. Imagine as though you are trying to push a button with your bicep. This will intensify the stretch you are already getting. At the point where you can't push your bicep forward without raising your arm, start the curl with a powerful squeeze. Don't use momentum but squeeze your bicep as hard as you can through to the top of the curl. As you come to the top of the curl force your elbow in towards the midline of your body. Your hand will drift out a little to the side. Make sure your forearm is maximally supinated for a full contraction. At that point, you have the option of stopping there are going back down or letting the cable run down your forearm using your elbow as the new pivot point of the cable and continuing the curl up beside your head for a full range of motion. Now is it is time for the descent. As you lower down, force your elbow and shoulder forward as though curling over a ball. Allow your wrist to bend back. Do this all the way to the bottom. These can also be done with a reverse grip. Bend your wrist in at the bottom then sweep up doing a reverse wrist curl as you come to the top. Try to force your elbow in towards the midline of your body to maximize the contraction.

When you are using the trick with the cable running down the forearm, you can use another body position trick with that. The higher you raise your elbow, the more complete the contraction of the biceps. The further you lean back, the higher you can raise your elbow.

The third way is for peak contraction. Bend over at the waist with your head pointing directly away from the stack. Keep your upper arm horizontal. Stretch back then curl up and squeeze. This is like a standing cable concentration curl. You can also do these with your body perpendicular to the stack so that your are curling in across your body.

3. Standing – perpendicular to the stack – these are essentially cross-body cable curls. Keep your elbow pointing to the stack and come up in front of your body.

4. Kneeling – this position takes much of the body movement out of the exercise and can be better for your lower back by providing a greater base of support behind you.
5. Squatting – squat down facing the low pulley holding a straight or cambered bar. Your butt should be down to your heels and your elbows will be on top of your knees (if you find that painful, you can place a towel or a solid pad on top of your knees). Start the movement with your arms stretched as much as possible over your knees. Lean back and down. Curl up and into your chin or forehead, depending on how far down you've squatted. Squeeze hard at the top. A good way to cheat with this exercise is take advantage of bodyweight leverage. Hold the bar stationary with your arms locked. Rock your body forward a little then rock back, allowing your body momentum to transfer to the bar and curl it up a little more. Keep doing this like a sort of ratchet effect. You can also do partials with this exercise by moving yourself closer to the weight stack. You should be almost in the contracted position when there is no tension on the bar. Pull back from there. If you are going to do a static hold, you should move further back so you can get a full range negative after you fail on the static hold. To get the maximum stretch at the end of the rep, lower your shoulders and use your knees to push your elbows up.
6. Lunging – this is very similar in execution to the squatting cable curl except it is a one arm variation. Go down on one knee into a bottom lunge position. Your elbow should be on your thigh just above the knee (same leg up as arm you are working). Curl up, bracing your elbow on your knee. Curl to your forehead. If you are using this exercise as a static contraction hold, press your fist into your forehead for better tension. This is also good for one arm negative training. Use your other hand to pull the handle back up to the top position.
7. Full ROM spinning cable curls – this version hits the entire range of motion for biceps in one movement. Stand four to six feet away from the low pulley facing away from the stack. These are done one arm at a time. If you are curling with your right hand, have your left forward and your right foot back in a straight line split stance about a foot apart. Execute like the stretch-accentuated facing away cable curl as explained above. Hold at the top position. Here is the trick. Spin on the balls of your feet 180 degrees to the right so you are now facing the stack. Do not lose tension in the bicep. Your right foot is now forward. Continue curling up, bringing your upper arm up as high as you can, turning the movement into a behind the head curl. You may wish to use your other hand to push your elbow up higher overhead than you could with just arm power. Before you start the overhead curl phase you might want to also try lowering the handle slightly to get a bit more bicep action as you bring the handle up (it will resemble a bit of a dipping motion). Lower the handle down to the regular top position of a curl, spin around to the left so you are facing away again then lower slowly the rest of the way down. When you curl with the left hand, start with your right foot forward. These can also be done with a reverse grip though that can be a bit awkward.
8. Reverse grip behind the back curls – stand or kneel so that the low cable is directly to your side. Place yourself a little forward of it to get a better angle. Grasp the cable behind your back with a reverse grip. Your elbow will be slightly up and you shoulder inwardly rotated. Curl up directly to the side.
9. Close grip cable bicep rows – this is a compound exercise for the biceps. It is easiest to do these on a seated cable row machine. Using an underhand close grip, row the bar back but instead of pulling to the lower abdomen, pull as high as you can on the chest.

bent-over, facing the stack, facing away from the stack, standing beside the stack, lying down with your feet at the base of the stack, incline bench, preacher bench, rope, lying on your side, squatting, bent-over facing away from the stack – cable between legs, bent-over almost cross-

over style (touch knuckles but don't move upper arms), lying down, preacher bench, rope, standing between cross-over pulleys - curl up from the sides, kneeling one knee perpendicular with cable under knee and arm braced on leg.

10. Cross bench low cable curls - set the bench perpendicular to the low cable. Rest your upper arm across the bench so your elbow is just off the edge. Drop your body lower than your arm to get a full stretch then curl up and towards you. There are several different ways to position your body beside the bench. The first is facing the stack on your knees. Drop your head and body as low as you can, pushing your elbow as high above your head as you can. This will give you the absolute fullest peak contraction the biceps are capable of. The second position is body parallel to the bench so your arm is straight out to the side. Drop your body low. The third is sitting on the floor (vertical body position) facing the stack with your shoulder at approximately 90 degrees.
11. Decline low cable curls – set a decline bench in line with the pulley. Lie on the bench with your arms extended directly overhead. Your head will be at the bottom of the bench. Curl the bar up and behind your head. This works the peak contraction position of the biceps. It is almost like a lying pulldown movement. It will also work on a flat bench if you have your head hanging over the end. These can also be done with the decline bench facing the other way (with your feet closer to the pulley). Keep your upper arm horizontal and curl one arm at a time. This will give a contracted position movement with your arm behind your body. It is not as complete a contraction as facing the other way but it is different.
12. Mixed cable curls – this is done using a crossover setup. Curl facing the pulley with one arm and facing away with the other arm. Use any combination of techniques you wish. High and low pulleys can also be mixed in for variety. Switch after each set. You can also try spinning around after each rep to re-orient which hand curls from which direction. If you spin, only use the two low pulleys or you will dislocate your shoulder.
13. Seated cable/barbell curls – attach a bar to a cable. Sit down on the floor with your knees bent a lot. Rest your forearms just below the elbows on your knees. Get the stretch and curl it up. The pivot changes from forearm on knee to elbow on thigh as you come up. It is like doing a preacher curl and a concentration curl in one movement.

High pulley variations:

1. Overhead curl behind the head - kneel by a high pulley or sit in a lat machine. Take a curl grip, then, while keeping your upper arms vertical over your head, curl the bar down behind your head. You can also do these with one arm. Use your non-working arm to push your elbow back overhead as far as possible to maximize the contraction. When doing these with a bar in the lat machine, you can use body momentum to spot yourself. When you can't do anymore strictly, start the movement with a quick lean backwards, pulling the bar with you. Stop your body momentum and transfer that momentum into the bar, at the same time curling it back behind yourself as far as possible.
2. Lying overhead curl - lie down on a flat bench with your head by the weight stack. Grip the bar with your upper arms perpendicular to the ground. Curl the bar down to your face without moving your upper arms. This one can also be done one arm at a time for greater concentration. Brace the elbow with the non-working hand and use it to push your arm back more. This increases the contraction. This can also be done grippless using a closed handle. Hook it over your wrist (wedge one finger of the other hand below it to prevent the handle

from rolling up the forearm. This forces all the tension onto the biceps and removes grip as a factor. It is better for high reps and light weight.

3. Double biceps curl - position yourself between two high pulleys, arms straight and wide. Curl the handle into your head without moving your upper arms. When you start to fatigue doing both arms simultaneously, go to one arm at a time. If you wish to continue past that, hold the handle steady and move your body towards the pulley, keeping tension on the biceps. To get the maximum contraction from this exercise, step forward from the midline to force your elbows back. This will also slightly increase the stretch on the medial head of the biceps. You can also do these by stepping back a little. As you curl in, step back a little more, squeeze your elbows together then try to bring your upper arms to vertical. This will give a maximum biceps contraction. This exercise can be alternated with two arm pushdowns to the sides to work your triceps at the same time.
4. One arm or two arm biceps pulldowns - kneel by a high pulley or sit in a lat machine. Do a pulldown with a curl grip, keeping the bar or handle as close to your body as possible while keeping your body straight vertical. Concentrate on pulling with the biceps.
5. Standing cable curls to the face – stand a few feet away from the high pulley. Keep your upper arm horizontal and curl the bar or handle directly into your face, touching it to your forehead. To really get a peak contraction, hold the handle there then drop down on one knee, trying to force the handle back behind your head at the same time if possible.
6. Pull in cable curls – do these as a compound exercises, using your back to help. Pull the cable into your face, keeping your elbow low.

Low Pulley / High Pulley Combinations:

1. Get into position facing away from one stack and facing the other. If you are working your right arm, grab the low handle behind you with the right hand and hold the high pulley handle in your left hand. Start with the low pulley facing away single arm curl. At the top of the curl, use your left hand to transfer the high pulley handle onto the fingers of the right hand above the low handle (don't let go of the low handle). Raise your upper right arm to horizontal (with help from your left arm if necessary), opening it up to full extension. Do a standing curl to the face then drop down on one knee and finish it behind the head. Let the low handle's cable run directly down your forearm. This gives you the full stretch, the mid-range and the peak contraction in one movement.

6. CONCENTRATION CURLS

Sit on the end of a flat bench with your knees apart. Grasp a dumbbell in one hand with your arm hanging straight down between your legs. Brace the back of your upper arm just above the elbow against the inside of your leg. Do not rest your forearms on your leg. Curl up as high as you can, squeezing hard. Rotate your hand so your pinky is higher at the top. Don't lean back at the top of the movement, as this will take tension off the muscle.

Comments:

This exercise works great for self-spotting. Just help out with your other hand. Remember to supinate as much as possible at the top.

Variations:

1. Standing concentration curls - bend over at the waist and either support yourself with your hand on a bench or on your knee. Let your arm hang straight down then curl up without bracing your arm against your knee. Try to keep your upper arm vertical. This can also be done with a neutral grip, hammer style. They can also be done with a barbell in bent-over row position or with two dumbbells at the same time.
2. Cable concentration curls - same execution, use the low pulley.
3. Overhanging concentration curls - also known as spider curls. Same execution using a barbell or dumbbells. Hang over the top end of a preacher bench (so you're hanging over the seat) or other vertical surface so your arms hang down vertically. Curl up. Keeping your wrists back as you come will increase the tension on the biceps. When doing these with dumbbells, try pushing the dumbbells together as you come to the top. A Smith machine bar also works well to brace your elbow on (you can put a foam pad over the bar). The advantage of this is that you can easily change the orientation of the exercise as you fatigue. For instance, start in the vertical position. As you tire, lean back a little to a preacher-like angle. As you tire further you can be curling almost horizontally. The Smith bar also enables you to move your body under to give the weight a little better leverage if you need it.
4. Barbell concentration curls – these are essentially spider curls without the bench. Just bend over 90 degrees, keep your upper arms vertical and curl from there.
5. Outside leg concentration curls – instead of bracing your arm on the inside of your thigh, turn your upper body, keeping your legs tight together, and brace your opposing arm on the outside of the thigh (e.g. right arm on left leg). To develop tension on the stretch, lean back slightly so the upper arm is at an angle. For the contraction, lean over at the top. This variation of the concentration curl can give tension in both positions. When these are done with a low pulley, the contraction position is hit extremely hard.
6. Forearm brace concentration curls – using your left arm as an example, sit on the end of the bench with your right elbow on your right thigh and your right hand on your left thigh like a bridge between your legs. Place your left arm over this brace and curl from there.

Tricks:

1. A good way to get extra contraction on the biceps is to do a complete supination. Start with your knuckles forward then, as you curl up, supinate smoothly around. Unlike during standing dumbbell curls, the body will not get in the way of the supination movement.

7. LEG CURL MACHINE CURLS

This is a strange-looking but extremely effective exercise. Set the ankle pad as close possible. Put your elbow down where your knee usually goes (do these one arm at a time). Hold the ankle pad in your hand. Curl up. This works great for heavy negatives because it doesn't fatigue your grip, you have a large weight stack to work with, and you can use the other arm to help get to the contracted position.

Comments:

Fight the negative all the way down. It will be hardest to control at the bottom of the range. Change the effect of the exercise by leaning back or leaning forward during the up and down phases.

Tricks:

1. Place a pad underneath your elbow if you can't quite reach the ankle pad or sit on the end of the machine and place your elbows on your knees. If you sit on the machine, lean over at the waist like a concentration curl.
2. When doing negatives, try to pull in as well while you are fighting the weight on the way down.

Variations:

1. Reverse curls - to work the brachialis rest the pad on the back of your hand instead of in the palm then curl up. You may need to prop something underneath your elbow. A pad or your other hand will work. A hammer grip will work as well.
2. Overhead lying leg curl machine curls – lie facedown on the leg curl machine bench with your head closer to the ankle pads. Extend your arms directly overhead and place your hands underneath the pads. Adjust your body position on the bench if necessary. Keeping your body and head down, curl up over your head. You may have to lift your elbows off the bench to go through the full range of motion due to the solid lever of the machine.

8. CLOSE GRIP BEHIND THE NECK PULLUPS

Get into regular close grip pull up position, palms back, hands shoulder width apart or closer. Pull yourself up so that the bar goes behind your head. Squeeze hard, lower slowly.

Tricks:

1. Use a Smith machine bar and set it so that your feet can touch throughout the movement. Use your feet to push yourself forward (and up if you need it). This helps the biceps do most of the work.
2. Try to push your elbows together as much as possible to force supination and ensure a stronger contraction.
3. Use a thumbless grip when doing these with a reverse grip.
4. Raise your shoulder girdle and keep it up throughout the entire movement in order to minimize lat involvement. When your shoulders are up, your lats cannot contract effectively.
5. You can execute partials on the pull-up by setting the height of an adjustable Smith machine bar to where it is set at almost your contracted position. This also allows you to use weight.

Variations:

1. Close grip behind the neck pulldowns – same execution but using a pulldown machine. Try to push the bar behind your head as much as you can to get the maximum contraction. You may wish to do these one arm at a time so you can use your free hand to push your elbow back as far as it can go. This can be done on any high pulley setup.
2. Reverse close grip pulldowns/pull ups – same execution but with a reverse grip.
3. Biceps cable crunches – stand in front of a pulldown machine or high pulley. Take a shoulder width curl grip. Pull the bar down so that it is at forehead level. Keep your body straight.

Hold this position and squeeze your biceps. At this point bend over like a cable crunch and duck your head under the bar. Crunch forward and down, squeezing your biceps hard the whole way. This ensures a maximum contraction for the biceps. It is good for static contraction training.

9. LYING BAR PULLUPS

Lie down underneath a bar set just beyond arms length. Grasp the bar with a regular, close, curl grip. Pull yourself up, focusing on the biceps by keeping your body as straight as possible, not moving much at the shoulder, and concentrating on moving mostly at the elbow and pulling in to your face. Don't throw your head back. These can be done with one arm if you're strong enough. This exercise is similar to the inverse row. The difference is in pulling to the face with the biceps and not to the ribcage.

10. FLEXED ARM HANG

These are the same as reviewed in the back exercises. Hold at the top with the bar right up in your face. To focus on the biceps, keep your body vertical and straight. Hold it for as long as possible and fight it all the way down.

11. PEC DECK BICEP CURL-INS

Grasp the left pole or pad with the right hand. Your body should be 90 degrees to the machine. Pull hard in to the shoulder, squeezing hard. Repeat on the other side. Try to push inwards as you pull the hand back. This forces a harder contraction.

14. SANDBAG CURLS

Get an army surplus duffel bag and some sandbags (usually around 50 pounds). You can also make your own by cutting a section of an inner tube. Tie one end off, fill it full of sand then tie the other end off. Curl like you would curl a bar. The sticking point is different. The hardest point will be at the top. It will also give you a good grip and forearm workout.

15. CABLE / DUMBBELL / BARBELL HYBRIDS

This type of curl changes the resistance curve of the exercise, making it much more effective than either free weight or cable work. You are essentially affixing a cable to either a barbell or dumbbell and curling it.

Variations:

1. Barbell curls – loop the cable around the center of the bar. The cambered brachialis bar works well for this exercise as you can just hook into the loop without fear of slipping. If the cable has a tendency to slide on the barbell you are using, try putting a piece of cloth or one of the foam pads under it. This will give the cable something to dig into. Stand facing the low pulley and curl up from there. This variation gives you more resistance at the top of the curl than you get from free weight.
2. Preacher curls – this variation can be done with a barbell or with dumbbells. It gives you a full

stretch at the bottom and big contraction at the top. It doesn't allow any tension off the biceps at the top like free weight.

3. Dumbbell curls – can be done facing the stack or away from it. Attach the cable onto the pinky side of the dumbbell to give resistance on the supination. These can be done reverse or hammer style as well. When you do the hammer curl style, tie the cable onto the lower end of the dumbbell. As you come to the top, the cable will hit the dumbbell plate. This is good as it will actually give you a little extra kick of tension at the top.
4. Weighted handle curls – these are different from the previous barbell curls in that you don't attach the cable onto the barbell. You put weight directly onto the handle that hooks up to a low pulley. You need to get small standard size collars to do this. Put the weight on the handle then put the collars on the outside to prevent it from slipping. You can either use your hands as inside collars, add inside collars or let the weights slide into the middle next to the cable. Do barbell curls from there. This technique gives you the same advantages of above but with a different setup.

14. FOREARM BRACED CHINS

These are best done in a power rack. The easiest way is to use the two, bottom safety rails. Set one in the highest hold, set the other one at just above where your elbow would be if you were hanging from that top rail (use your forearm measure). Grip the top bar and brace your forearm against the bottom bar (you may want to use a pad for your forearms). Keeping your forearms against rail, curl yourself up. Keeping your forearms braced reduces the involvement of the lats at the shoulder and places most of the tension on the biceps. Squeeze hard at the top. This is an excellent compound movement for the biceps, working it at two joints rather than just one and with much heavier weight than is normally used.

Tricks:

1. These can be done weighted with a dumbbell between your feet. If you wish to do negatives with a dumbbell for extra weight, set the dumbbell on a bench, step up to the top position, pinch the dumbbell then move it off the bench and lower yourself down. This gives you good isometric ab work as well.
2. Doing these reverse grip will affect the brachialis. Your elbows will have a tendency to slide out so consciously force them in.
3. Try to push your body as far away from the bar as possible, making the widest arc possible.
4. Using a very close grip will increase biceps contraction even more.
5. Two Olympic bars in a power rack can also be used. Set on in the racks at the very top on the inside of the power rack cage. Set the lower bar on the outside of the cage. This will give you more of a stretch at the bottom, making the exercise resemble a preacher-type chin.
6. These can be done at home using a ladder. Grasp one of the rungs and brace your forearms against the next lower rung and curl up.
7. If you are really ambitious, try one arm. This can be done for 2 up, 1 down negatives. If you do these, you may wish to keep your other hand on the bar. Just remove your fingers so you don't grip. Simply brace your palm on the bar. This will keep your body from spinning and throw most of the tension onto the gripping side.

8. These can also be done in the Smith machine. Set a bar on top of the guard pieces at forearm length and use the actual Smith bar to hand onto.

BICEPS TRAINING NOTES

Larry Scott Biceps Tri-Set

1. Dumbbell preacher curls – 6 reps
 - don't let your armpits touch the bench
 - go completely down and uncurl wrists
 - do 4 to 6 half-rep burns (bottom range)
2. Barbell preacher curls – strict – 6 reps
 - wide grip – 4 inches wider than shoulders
 - nestle armpits and body into bench
 - do 4 half-rep burns
3. EZ Curl bar preacher curls – reverse grip – 6 reps
 - armpits shouldn't touch bench
 - do 4 half-rep burns

Do this entire tri-set three to five times.

Don't forget about training the brachialis muscle. When doing lactic acid training try 5 biceps, 3 brachialis, then 2 biceps again.

Good biceps workout

Partial top range curls

Then superset incline dumbbell curls and flexed arm hang behind the head with a close grip.

Full bicep contraction also involves shoulder extension.

Go slower when training your brachialis (about 15 to 20% slower than regular curls).

Here is a good range of exercises to do for a single, extended set:

Start with strict, full rotation dumbbell curls, then regular curls, then hammer curls, then cheating hammer curls.

When doing light arm cable work, try flexing the antagonist at the stretch position. This will force the muscle you are working to relax, e.g. at the bottom of the curl, flex your triceps.

With any cable version, to use a hammer grip with both arms, attach a single handle and grip on the sides of it rather than on the actual handle.

To create the illusion of fuller biceps, you need to fill in the gap near the elbow. This can be done using preacher curls and reverse curls (which work the brachialis muscle that runs near the elbow). Working the brachialis will also push the biceps up, creating greater peaking.

Good biceps combo – forearm braced chins to lean back dumbbell curls (incline curls), to spider curls/standing curls superset.

TRICEPS EXERCISES

Primary movers: triceps - long, short and lateral heads

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12. DOUBLE BENCH PUSHDOWN-UPS

THE EXERCISES

1. CLOSE GRIP BENCH PRESS

Lie down on a flat bench. Take a shoulder width grip. It is not necessary to go closer than that, as it can be hard on your shoulders and does not make the exercise any more effective. Lower the bar to the bottom of your pecs then press straight up with your triceps. Keep your elbows close into your sides throughout the movement.

Tricks:

1. When unracking the bar, do it with your elbows flared out wide. This is better for balance.

Variations:

1. Decline close grip bench - same execution but in a decline bench. More weight can be used this way, as the range of motion is smaller. The angle also improves leverage. A good trick you can use for a better contraction as you come to the top, move the barbell in a backwards arc. It will almost look like you are trying to rack it with each rep (don't though). The amount of weight you can use will be about the same as you can use for similar reps on the standard flat barbell bench.
2. Incline close grip bench - same execution - incline bench. Greater range of motion is possible but it can be hard on your elbows and shoulders. This is a good bench press assistance exercise.
3. E-Z bar close grip bench - same execution as flat, use an E-Z bar gripping on the straight inner part. It is harder to get into position with lots of weight. Have a partner hand you the barbell, set it up in the flat bench supports, or whip it up and back while you lie down.
4. Close grip machine press - on the vertical bench machine. Drop the seat to the bottom, grip the handles on the innermost part with a thumbs-up grip. Press, keeping your elbows tight beside your body.
5. Reverse grip benches - move your hands out wider and use a curl grip. It is a fairly awkward movement. This is often used as a bench press assistance exercise. It works the rear head of the triceps, adding to the top of the triceps under the rear delt. Try supersetting it with kickbacks.
6. Close grip push-ups - same execution as regular push-ups but set your hands so that the thumbs and forefingers of your hands form a triangle in front of your face at the bottom. To make these harder, put your feet up on a bench or the Smith bar (raise it higher to make it harder), or get someone to sit on your back. It is also possible to do these with your hands about shoulder width apart. Another variation that will hit the lower triceps more is to do them on your fists. You can also do these with your feet up on a wall. If you want a bit greater range of motion, put your hands on dumbbells. Make sure they are set up in a neutral grip though, otherwise they may roll out and away (if your feet are up higher).
7. One-arm push-ups - split your feet out wide and lean over so you're almost on your side. Place one arm where you can balance. Lower yourself down and push up.
8. Upright close grip benches - set up like you're doing shoulder presses but use a close, palms-forward grip. Lower the bar to the front and flare your elbows out wide. Press up with your

triceps. This hits the triceps by the elbows. Use the Smith machine if balance is a problem. Start with a light to moderate weight with this one.

9. One arm close grip bench on Universal bench press - move the bench underneath the handle on the side you are working. These are good for doing two-up, one-down negatives. Hook your forearm around the other handle to keep your body from rolling to that side. Try not to actually grab the other handle or you will inadvertently take some of the stress off the working side.
10. Tiger bends – this is a variation of the close grip push up. Place your feet on a low bench and place your hands in close grip push-up position. Lower yourself down until your forearms touch the ground then push up. This will hit the lower triceps hard.
11. Swiss ball push-ups – place your hands on the ball about 8 to 10 inches apart. They should be on the downward slants of the ball on either side. Spread your fingers wide for balance (this increases your surface area). Walk your feet out behind you. The further back you put your feet, the harder it is. The easiest position is from your knees. Do close grip push-ups on the ball. Keep your elbows in tight. You will be very shaky on these when you start doing them. Roll the ball towards you for more push-up. Roll it away from you to turn the exercise into more of an extension. It will also be more like an extension if you roll it towards you and keep your head down. Going away makes it easier (better leverage) while coming closer makes it harder. With this one, you can do it as a combo: go down as an extension then roll the ball back and go up as a push-up. To make this even harder, raise your feet up on a bench or a bar (the Smith machine bar works well for this purpose as it is adjustable in height and allows you to hook your feet over it). Put your hands on the ball first then put your feet up one leg at a time. Your knees should be bent so your lower leg is vertical. This also works your abs isometrically. To increase difficulty, increase the height of the bar. Try changing your orientation and hand position. Get ready to burn.
12. Small ball push-ups – do close-grip push-ups with your hands on two medium size balls (volleyballs work well for this – make sure they are well inflated and strong). Use something you can get a good hand-wrap around. The instability will maximally activate your muscle fibers. These can also be done extremely close-grip by only using one ball though the two ball version is more unstable and therefore somewhat more effective. Lower yourself down so the ball is hitting you in the center of the chest. Raise your feet up to make these harder.
13. Flared elbow close grip bench – this version is often done with an E-Z curl bar. Take a close grip and flare your elbows out wide during the movement. Lower the bar to your lower chest. This is a good flat bench press assistance exercise.
14. One arm barbell bench press – this version strongly works the balancing aspect as well (be sure to use a spotter). Grip the bar in the very center. Unrack then lower, keeping your elbow very close to your body. Don't let the bar hit your chest or it will bounce off and unbalance you. Go slowly with this one.
15. Leg press close grip press – this is a variation of close grip press done using the leg press machine. Start with no weight on the leg press until you get the hang of this one. Kneel on the backrest facing the foot plate with your toes hooked over the back edge of the pad. Put the heels of your hands on the top edge of the plate. Your face should be right over the top edge of the footplate. Keep your back and abs tight. Push the sled up like a close grip press, keeping your elbows in. You can vary the angle of push by varying the angle of your body. The motion is very similar to a close-grip shoulder press.

2. BODYWEIGHT TRICEPS EXTENSIONS

Set up the Smith machine bar about 1 to 2 feet off the ground or use the Universal bench handles. Stand in front of the bar. Place your hands about 6 inches apart with a thumbless (false) grip. Step back so that your body is almost horizontal. Lower your body forward so that your head goes under the bar. Keep your elbows tucked in the whole way. Extend back up. Keep your entire body tight and stiff. The only movement should occur at the elbows. This exercise can put a lot of stress on your elbows so don't do them if you have elbow problems or sore elbows. This exercise will build up the long head of the triceps.

Tricks:

1. To make it easier, move your feet closer to the bar or lower yourself down to your forehead instead of behind the head. You may also wish to do these on your knees. This is the easiest position.
2. To make it harder, come up on your toes as you press up. As well, you can move your feet back or place them on a bench to increase the angle.
3. These can be done one arm if you're very strong. You will have to spread your feet out further to maintain your balance. Using a higher bar may be necessary or you may have to go on your knees. Try them for negatives as well. Down on one arm, up with both or put your hand on the floor to push yourself back up. When you lower yourself with one arm, put your other fist on the floor to moderate the speed of your descent as you will most likely not be strong enough to do it free with one arm. Another way to moderate resistance is to put down only one knee, keeping the other one straight and back. This keeps more tension on than kneeling with both knees.
4. Keep your elbows in tight. Don't let them flare out. This is accomplished by externally rotating your shoulders (the inside of your elbows will be facing up) without moving your hands.
5. As you get stronger, stretch forward as far as you can at the bottom of the movement.
6. To increase the resistance, raise your feet up higher. A couple of ways to do this are benches, boxes or people. One of the best ways is the preacher bench. It is adjustable in height. The hardest way is to do a close-grip handstand push-up type extension. This puts your bodyweight on your triceps completely.
7. To use a neutral grip, loop a towel or rope around a low bar and grasp the ends of the towel or rope. You will also find it makes the exercise more unstable and gives you more freedom of movement. This makes it even harder. Another way to get a neutral grip is to use the legs of a chair. Put the chair up against something solid so it doesn't slip out and go from there. It doesn't even necessarily have to be a chair. Anything with vertical bars will work.
8. These can also be done on the small ball or balls. Hold them at arms length in front of you with your feet out back behind you and your body straight. These are easier if done from the knees or harder when feet are back or raised up on a bench or bar. Two balls will be more unstable. Lower yourself down until the ball hits your forehead then extend back up. If you do them with your feet on the floor, your range of motion will be less than if you do them with your feet raised.
9. Here are a few examples of things you can use to do this exercise on: bars, railings, chair legs, benches (duck your head under the bench and brace it), table edges, sinks, ladders,

etc. Anything that is reasonably low and has clearance underneath for your head will work. In the absence of a bar, you can try looping a towel around anything that is low and is solid. Hold onto the ends of the towel.

10. Raise your shoulder girdle up at the beginning of the rep to eliminate help from the lats. Raising the shoulder girdle will force the lats to relax, placing all the stress (including the stabilizing stress) on the triceps.
11. This exercise can be done as a drop set by utilizing the various body positions. Start with your feet elevated, then feet on the floor stretched out, then closer, then from your knees, then fall down.
12. Another way to vary the tension of this exercise is to support your body on the Swiss ball. Lie on your stomach on the ball and grip the bar. Roll forward then push back and roll backwards. The further back the ball is on your body, the harder the exercise will be. It gives a great stretch and provides instability.
13. If you don't have access to a bar that can spin freely, use a power rack and a regular Olympic bar. Set the pins where you want the bar then put the bar on the outside of the rack so you are pushing it into the frame as you go down.
14. Body extensions can also be done to the side (with one arm). Lean against something such as a bar or wall and extend back up using your triceps. These can be done kneeling as well.

3. PUSHDOWNNS

Stand facing a high pulley with a straight, cambered or V bar. Grip the bar with a palms-down, less than shoulder width grip. Start with the bar at about chin level and your upper arms angled slightly up. Begin the movement by bringing your elbows down in line with your body. This involves the long head of the triceps. When your elbows are pointing down, continue the movement by pushing down and around in a wide arc. Keep your elbows pinned tightly in to your sides and your wrists straight. Do not let your wrists bend back. Squeeze hard. Let the bar up. Let up your upper arms angle up again until the bar is at chin level. Repeat. Keep your lower back arched and your chest out.

According to MRI studies, the V bar (the bar that uses a close grip with your hands at an angle) is the one that maximally activates the triceps. The straight bar tends to take the medial head out of the mix somewhat.

Tricks:

1. When using heavier weight, lean forward with one foot forward and one foot back. This will give you a better base of support from which to work from.
2. Set your body in the best position before each rep. Drop your shoulders, expand your rib cage, keep your chest high and arch your back slightly.
3. You can use the slight upward elbow rise to your advantage on the way down to help move heavy weight or to keep the weight moving when you get tired. Don't do it until you have to, though.
4. To maximally affect the long head, do these in a kneeling position. Allow your arms to go up almost directly over your head instead of just to the chin. One of the functions of the long

head is to bring the arm down towards the body and this trick will target that function. Bring the bar or rope down until your elbows point down then push down as usual. At the bottom of the movement, lean your upper body back somewhat and finish the movement with your hands behind your back. This will hit almost the entire range of motion of the triceps in one movement.

5. Another method of hitting the long head is to start in the normal position at the top. Let your elbows drift up until they are up about 45 degrees rather than pointing straight down. Push down in a wide, round arc as far away from your body as possible. Your arms will still be angled away from your body. When you lockout in that position, continue in a stiff-arm pushdown movement to hit the arm adduction function of the long head.
6. Your body position affects the area of the triceps you hit with the pushdown. When you lean back, you hit more of the upper area of the triceps. When you are vertical, you hit the main belly. When you lean forward, the stress moves down to the lower area of the triceps.
7. Pushing with the blade of your hand will hit the lower outside horseshoe bit.
8. Instead of standing right under the high pulley, step back a few feet and do the pushdown. This places a different stress on the triceps. Moving forward underneath it will do the same thing as turning around and stepping away and is more doable if the pulley is right in the machine. Try going around the world as you do pushdowns. That is, keep stepping in a circle to the left or right with each rep to vary the tension placed on the muscles. This also applies to where you stand. Try moving forward, back and to the sides while you are executing. In short, change your orientation to the pulley.
9. Drop your shoulders down at the bottom as though trying to push your body up. This will increase the contraction.

Variations:

1. Rope pushdowns - use the rope attachment, pinkies at the bottom. Push down and around but do not let your upper arms drift up as above. This is a good exercise if you have sore elbows but still want to work your triceps. There is very little elbow strain. At the bottom of the movement, try to split your hands apart to fully contract the triceps. If you don't have a rope attachment, you can loop a towel through a handle attachment, around a bar or through the hook. You can tie knots in the end if you like. As you pushdown with a towel, push more with the thumb/forefinger bit.
2. Reverse grip - use the same bar as before but use a palms-up grip. Same execution except for the slight raise of the arm.
3. One arm pushdowns – see One Arm Cable Variations.
4. Flared elbow pushdowns - same position as above. Keep the bar close into your body and flare your elbows out to the side throughout the movement. The path of the bar should be straight up and down. Really get your torso over the bar on this one. The advantage of this version is that heavier weight can be used. This is the style powerlifters use because of the heavier weight. This version will build more mass than arced pushdowns, which are better for shape. Vary the side of the cable you put your head to keep it even. To get the cable down to the start position with a very heavy weight, do a whole body pushdown then jerk your body back up while keeping the bar down. Use a powerful momentum pushdown while you are forcefully dropping your entire body.

5. Almost dip pushdowns - these are a combination of one arm, flared elbow pushdowns. Use a fairly heavy weight and a palms-down grip like in regular pushdowns. Use your other hand to get the handle down to the starting position. Your elbow will be out to the side, bent less than 90 degrees, with the handle in close to your body. Press it down close to your body using your other hand to steady the handle. Concentrate on the negative.
6. Partial pushdowns – this variation is easiest done on a machine with adjustable height pulleys. Set it so that you only get the last few inches of the range of motion. This allows a great deal more weight to be used in the exercise. This can also be done on a non-adjustable machine by using a long chain or a series of hooks made into a chain to lower the bar down. Another option is to stand on a chair or bench. If you are using more than your bodyweight, place a heavy dumbbell on the floor and slide your foot under it. This will keep your body down. Before you start the push, raise your foot to get tension on the dumbbell, then push. You can also have someone push down on your shoulders to keep you down. This variation can be done with any of the grips of attachments. You will need to use much less weight when doing it with reverse grip as grip strength will limit you. The partial pushdown can also be done one arm at a time.
7. Bent-over pushdowns – stand back a few feet from the high pulley, facing it and bend over 90 degrees at the waist. Stretch your upper arms overhead. Your elbows will start bent 90 degrees. Push down only at the elbows, keeping your upper arms horizontal. This exercise will hit the little bit of tricep down by the elbow.
8. Behind the back rope pushdowns – these are done with both arms at the same time. Face away from the stack. Bring your arms up and back behind your body, grasp the rope with your pinkies down and your knuckles touching each other. Your hands will be together and your elbows wide. Push down, forcing your elbows in. Spread your hands out as you finish the movement. This exercise gives a great contraction as the contraction occurs behind your back. Be careful of your shoulders on this one. Use a moderate weight and do not jerk.
9. Mixed grip pushdowns – use a cambered bar and take a mixed grip (one overhand, one underhand). Same execution from there.
10. Preacher bench pushdowns – set the preacher bench under a low pulley. Rest your upper arms on the bench like normal but do a pushdown instead of curling, keeping your arms on the bench. Any variety of pushdown can be done. This eliminates any cheating you may unknowingly (or knowingly) be doing.
11. Side to side pushdowns – use two arms and the short bar attachment with this one. Push down to the side of your body instead of directly in front. Your right arm will finish on the outside of your left hip. Come up then push down to the other side. You can lean in the opposite direction you are pushing. This gives a different angle of pull and is especially good for athletes using rowing or paddling movements. Alternate sides with each rep.
12. Double one-arm pushdowns – use two single handles for this one. Attach one hook to the cable then attach 2 handles on with 2 more hooks to the one hook. This gives greater freedom of movement. You can execute a variety of one-arm pushdowns like this, alternating arms each time and keeping both hands on the handles at all times.
13. Split push away pushdowns – set up like double one-arm pushdowns. You will be pushing down with hands at the same time. Grip the handles with your knuckles facing each other and together at the start. Your shoulders will be internally rotated and your elbows flared out. As you come to the bottom try to push your hands away from each other directly out to the sides and squeeze hard. This hits the rear head. These can also be done with a reverse

grip. This technique is very similar to the type of split you can achieve with a rope.

14. Bent over pushdowns – this is essentially an upsidedown overhead cable extension. Stand facing the high pulley then take a step back. Crunch over so your head is down like the bottom of a cable crunch with the bar behind your head like the bottom of an overhead extension. Extend down over your head. This eliminates any back stress you may encounter from an normal overhead movement. It does, however, increase blood pressure in your head.

4. PARALLEL BAR DIPS

Set up in the parallel or V dip bars, palms facing in. Dip down keeping your elbows close into your sides. Keep your body straight up and down throughout the movement. It is only necessary to go down until your arms are about 90 degrees. Do not rebound at the bottom of the movement.

Tricks:

1. Try to lean back a bit as you come up. Look directly up at the ceiling and lean back when you lock out. Other lockout tricks include externally rotating your shoulders and thrusting your chest forward. This puts arms further back behind your body, increasing the contraction.
2. Do jump up negatives when you can't do any more reps. Simply jump up into the starting position and fight gravity all the way down. It is also possible to set up a bench or two and stand up on it each time, then lower yourself down. This is an excellent way to gain strength if you are not strong enough to do the positive phase of the dip.
3. To do pure negatives with dips, use a hip belt. Set up two benches beside the dip bars. Stand on them with the weight hanging between your legs. Remove your feet from the benches and lower yourself down. Instead of allowing your feet to go down to the ground, rest your toes on the benches (don't let them help, though). When you get to the bottom, stand up on the benches back to the starting position and repeat. You can allow your feet to go all the way to ground if you want, though. Simply climb back up onto the bench again. If you are doing dips for chest, that is how you're going to have to do it. Weighted dip negatives can be done with extremely heavy weight. It is also possible to do them as partials or as lockout holds. This technique is one of the best ways to gain mass and strength in the triceps, chest and shoulders very quickly.

Here are a few tips for setting up the weight. Lean the plates against one of the benches. Kneel behind them. Run the chain of the belt through holes. Clip it on then stand up on the benches. To stand on the benches, step up and pull yourself up with your hands, too.

4. Another way to do negatives without a hip belt is to use a dumbbell between the feet. Place a bench or box behind the dipping bars then place a heavy dumbbell on its end on top. Get your hands into position on the dipping bars then hook your ankles around the handle of the dumbbell. Swing it up and off into position then lower slowly. At the bottom, release the dumbbell, pick it up and put it back on the bench. Repeat.
5. Try dips without gripping the bar. Keep you fingers splayed out wide and push off with the heels of your hands (even if you must grip the bar, try to push mainly with the heel of the hand). This activates the rear head of the triceps more.

6. Use dips as an auxiliary exercise until you can do 20 non-weighted dips. At this point, you can use dips as a core exercise by adding weight in the form of a weight belt or dumbbell between the feet.
7. Try to push more with the heels of your hands to further activate the triceps.
8. Dips can be done with your hands on two unstable surfaces, e.g. rings.
9. Dips can be used to work the serratus anterior muscles as well. Hold yourself in the locked out position. Without bending your arms at all, lower your body down at the shoulders. Push yourself back up using shoulder action. This action is basically raising and lowering the scapula which is the function of the serratus muscle.
10. If you don't have access to dipping bars, you can also dip between the railing of a stair machine. Hold your legs straight out in front of you or crunched up in a cross-legged position to keep your feet from hitting the pedals.

Variations:

1. Machine dips - same execution, elbows in, straight up and down body position. When using these machines it is more productive to sit backward (facing away from the pivot point). This puts more stress on the heel of the hand at lockout, which in turn places more stress on the triceps. It is the same idea as leaning back at the top when doing regular bar dips.
2. Bench machine dips - same set-up as for chest. Set the handles as high as they'll go by lifting the handles high up then setting the pin. Do this if dipping bars are not available.
3. Dumbbell cable dips – these can only be done with a portable dip station (usually seen in combination with a hanging ab chair). Move the dip station in front of a low pulley. Tie the cable onto a dumbbell. Stand between the handles and place the dumbbell in between your feet as though doing dips with the dumbbell. The cable should be running over the top of the dumbbell. Get up into position then start dipping. This variation gives backwards resistance as you push up, which focuses on the triceps. It is also good when you don't have access to heavy dumbbells or a hip belt to increase dip weight with.

5. BENCH DIPS

Set up two benches parallel about three feet apart. Rest your feet on one. Place your hands fingers forward, with your back to the bench on the other one. You should be able to touch your thumbs behind your back (you can go wider though, if it hurts your shoulders). Dip down flaring your elbows out to the sides if your hands are in close or straight back if they are farther out. Push up.

Tricks:

1. To make these more effective, put your feet up higher than your hands.
2. To add resistance, get a partner to push down on your shoulders or pile weight plates on your legs. You can also pick up a dumbbell between your legs. Using a partner is the best solution as a partner supplies interactive resistance. Your partner should stand on a bench or chair behind you to get better leverage and lean down on your shoulders. They can add resistance on the negative and let up on the positive. You can tell your partner to ease up when you need it and bear down when you need it. You can't do that with a dumbbell. Using a partner

push also places the resistance directly over the triceps where you want it rather in your lap where you must add a lot of extra weight to make it effective. This can mean a pile of loose 45-pound plates in your lap sliding around.

3. Another way to add resistance is to use a low pulley. Hook a cambered bar onto the low pulley. Set the bench where your hands will be as close to the pulley as you can. Your feet will be pointing directly away from the stack. Hook the bar over the top of your thighs with the cable between your legs. Push up.
4. The easiest position for this exercise is with your body in a sitting position with your feet on the floor in front of you (knees bent 90 degrees). As you get stronger, move your feet further and further out until your legs are straight. After that, put your feet on a bench.
5. These can also be done with your hands on the front edges of two benches. This eliminates the possibility of your back contacting the bench.
6. Try doing bench dips on your fists with knuckles pointing forward to increase wrist strength and tricep activation.
7. Lift your fingers straight and try to push with the heels of your hands.
8. To do a bench dip drop set, use varying positions of decreasing resistance. Start with your feet up high, then even, then on the floor stretched, then close in.

Variations:

1. Reverse grip - same execution, hands out wider, fingers pointing backwards.
2. Smith machine bar dips - Use the Smith machine bar set low instead of a bench to set your hands on. This is a good way to use the reverse grip (palms forward) with as forearm flexibility will not limit you. This is because your fingers are able to wrap down and around the bar instead of having to lie flat. When doing reverse grip, you should place your hands a few inches outside of shoulder width instead of trying to keep them in close. This will ease the pressure on your shoulders and make it a more natural movement. As with any dipping exercise, try to push more with the heels of your hands.

Another variation possible with the Smith machine bar is to have your fingers pointing directly out to the sides. The bar should be between your second and third fingers.

3. One arm bench dips - rest one hand on a bench behind you and space your feet out wide on the other bench to keep your balance. Dip with the one arm. These can also be done with your feet on the floor. To keep your balance, reach across your thighs with your other hand to keep your center of gravity in the middle. This will reduce the torque on the elbows due to uneven force application. This is a very advanced exercise.
4. Swiss ball dips – sit on the ball. Place your hands in the same position as for a regular bench dip. Make sure you spread your fingers wide for control. Dip down. Keep strict control so you don't overextend your shoulders. Raise your feet up to make them harder.
5. Manta Ray bench dips – the set-up is exactly the same as with regular bench dips. The only difference is you will have the Smith machine bar on your back using the Manta Ray device to keep the bar from rolling off. This is a technique that allows you to use extra weight without putting plates or dumbbells in your lap and without requiring a partner. The front edge

of the bench your hands are on should be directly underneath the bar.

6. LYING TRICEPS EXTENSIONS

These are also known as skullcrushers, nosebreakers, or French curls. Lie on your back on a flat bench. Take an E-Z curl bar or straight bar with a shoulder-width, palms down grip and hold it straight above you. Bending only at the elbows, lower the bar to your forehead then extend back up. Keep your elbows in.

Tricks:

1. Angle your upper arms back towards your head and keep them there to keep tension on the triceps at the top of the movement. If you keep your upper arms vertical, you will lose tension at lockout.
2. Alternate these with close-grip benches, i.e. 1 extension, 1 bench, 1 extension, 1 bench, etc. then burn out with benches when you can't do any more extensions.
3. Doing these to the throat will help with bench press lockout power.
4. When doing strict extensions and you need to spot yourself, do a short pullover movement to help get some momentum while keeping tension on the triceps.
5. Try doing these with your feet squeezing onto the bench post. Squeeze your abs hard at the instant you change direction to send a shot of force up to the triceps. If your feet are on the ground or on the bench, you will not be able to do this effectively, as your feet will shoot up.

Variations:

1. Behind the head extensions – bring the bar down behind the head. You can let your shoulders go so far back as to have your upper arms horizontal. This will cause you to start the movement as a pullover, which affects the long head of the triceps. These can be done with dumbbells and cables.
2. Incline triceps extensions - sit on an incline bench and bring the bar behind your head. These can also be with dumbbells and cables. Instead of using an incline bench, these can also be with your upper back supported on the angled face of a preacher bench. This will give you a little more stretch in the shoulders as well. This works if the incline bench you have is too long in the backrest and the dumbbells or barbell hit it at the bottom.
3. Decline extensions - same execution, bring the bar to your forehead again. These can also be done with dumbbells and cables. This is one of the best exercises for developing your entire triceps. When doing these with dumbbells you have the option of which grip you wish to use. A pronated grip will mimic the barbell version. You can also use a neutral or reverse grip. When using the pronated grip, try to press the inner dumbbell heads together to minimize unnecessary movement. When using a neutral grip, bring the dumbbells down right beside your head as though scratching your ears with them. This will make you keep your elbows in because if you don't you will get a dumbbell in the face.
4. Flared elbow extensions – do these on a flat bench. Instead of bringing the bar down in an arc towards your head with your elbows in, flare your elbows wide and bring the bar in a straight line down over your upper chest. At the bottom, your forearms should be in contact with your biceps. Your elbows should be just short of lockout at the top. This movement is

almost like a close-grip press/extension combo. Many powerlifters do this kind of movement. Another version of this is called the Paul Dicks press or the California Press. It is like a close grip press to the upper chest with your elbows close to your sides. It is 75% extension, 25% bench press. It is a good assistance exercise for the bench press. A good starting weight for this exercise is halfway between your extension weight and your close grip bench weight.

5. Cross bench flat extensions – set up two benches in a T. Put your head where the benches meet. Put your arm overhead with a dumbbell in it. Your upper arm will be supported by the bench, though it is not necessary to keep your upper arm on the bench at all times. Lower down then extend up, keeping your upper arm resting on the bench. This will work the rear head. Another version of this can be done with a bar. The execution is the same but using a bar.
6. Lying dumbbell extensions – same execution but using one or two dumbbells. Angle your upper arms slightly back to keep the tension on the triceps all the way up to the lockout position. Keep your elbows close together or you may hit yourself in the face with the dumbbells (it may be useful to have a spotter hold them together when you first start doing this exercise. Lower the dumbbells to either side of your head then extend back up. Inhale at the bottom then exhale forcefully at the point where you change direction to give yourself a little kick-start.

One of the advantages of dumbbells is that you can vary the grip. The neutral grip (hands facing each other) will work the lateral head of the triceps more. You can also do reverse grip or prone (regular) grip. A good trick you can use with this movement is to go down using the reverse grip then rotate your hands and come up using the neutral grip. This will allow the use of more weight. The prone grip will closely simulate the grip used with a barbell but will allow more freedom of movement in the shoulders and arms.

A variation of this is the pronating dumbbell tricep extension. Use a neutral (palms-facing) grip at the start. Keep your elbows stationary and lower until your forearm touch your shoulders. Lift up by extending your arms and pronating your hands, turning your palms towards your feet while straightening your arms. This recruits the small triangular muscles near the elbows.

7. Cable barbell extensions – attach a low pulley cable to a barbell (the bent brachialis bar works well). Lie down on the floor with your head closest to the barbell. Move yourself away so that you can just reach the bar when you reach overhead. Grasp the bar with a neutral grip (if you're using the brachialis bar) or a pronated grip (if you're using a regular bar) then wiggle away a little more to ensure the weight plates don't touch at the bottom. Execute a lying barbell extension. Use a little pullover movement at the start to increase the involvement of the long head. This variation keeps tension on the triceps even at the top of the movement where usually there is none. It works very well alternating reps with a close grip bench (or go to exhaustion on the extensions then finish with the press). Instead of getting no tension at the top of the close grip press, you will actually get a lot. These can also be done with a dumbbell attached instead of a barbell. This will allow you greater freedom of movement. It will also allow you to start in a neutral grip and pronate your hand against resistance at the top of the movement to increase the stress on the tricep.

You may also choose to use different variations of this exercise. Doing it on an incline bench will increase the stretch component. Doing it on a decline bench will increase the contraction component. Doing it on a flat bench and using an exaggerated pullover movement will stress the long head of the triceps more.

There is a very good way to use your bodyweight to cheat out a few more reps when doing the floor version of this exercise. Hold the barbell at the stretch position. Raise your legs up

into the air then drive them down forcefully. Transfer this downward momentum by contracting your abs and sending the energy into your triceps. This will throw the bar up. The higher you kick your legs up, the more momentum you will be able to transfer.

7. OVERHEAD DUMBBELL EXTENSIONS

Stand, sit on the end of a bench or backwards in a preacher bench (this is the easiest on your back). Hold one dumbbell over your head with your pinky against the inside of the top plates. Keeping your upper arm vertical, bend at the elbow so the dumbbell is lowered behind your head. Extend up.

Comments:

The single arm version can cause more elbow pain than the two-arm version because you are able to get a greater stretch at the bottom of the movement.

The long head is stretched at the shoulder and elbow at the bottom of this one. Let the dumbbell bend your arm back and stretch greatly as though trying reach a spot down your back and scratch it with the dumbbell.

Tricks:

1. In order to prevent your elbow from swinging out to the side when doing the one arm version, hold it in place with the other hand.
2. You can lower the dumbbell directly behind your back or alternatively, back behind your head in a frontal plane instead of a sagittal plane.
3. When you start using heavier weight, you can lock yourself onto the bench (preventing excessive torque on the back) by gripping under the edge of the bench with your other hand.
4. This exercise can be done using a pronated (palms-forward) grip. It will resemble a dumbbell version of the barbell version. A reverse grip can also be used though it can be difficult to hold onto the dumbbell. Hang on tight so it doesn't slip.

Variations:

1. Two dumbbells at a time - same execution. It is possible to do these with the dumbbells pressed together to stabilize them somewhat or kept apart to destabilize them.
2. Two hands, one dumbbell - same execution, hold the dumbbell around the bottom of the top plates with the handle between your thumbs and forefingers. Keep your elbows in.
3. Barbell extensions - same execution, hold a barbell with a shoulder width grip and lower it behind your head. The E-Z bar works well for this. Try reverse grip as well, though be careful of your grip as it much weaker in that position.
4. Cable overhead extensions - on the low pulley or high pulley, face away from the stack and execute like you're doing barbell extensions. Extend arms overhead. You will be leaning over at an angle in a lunge position (almost horizontal) when you're doing the high pulley version. The rope or towel can also be used. When doing these with the high pulley, allow your upper arms to stretch back and up before bringing them down to horizontal and extending forward. This will maximize the effect on the long head of the triceps. Another alternative is to stand straight upright (use a lighter weight), keeping your upper arms vertical,

and extend the bar up to directly overhead.

Cable overhead extensions can also be done one arm at a time. When doing this cable version, cradle the bar or handle in your fingers (between second and third knuckles) and not in the palm of your hand to get more tension in the triceps. Don't do this with heavy weight, though, where a solid grip is important. Using the bar or single handle attachment will allow you to use a supinated or a reverse grip. Using the rope attachment will allow a neutral grip.

With cable extensions, your palms should be facing in towards your head at the bottom. As you come up, pronate your hands to get full activation of the triceps. This means turning your hand so that your palm faces forward. This is only possible with the single handle or with the rope. To do this both at the same time, you can attach two handles onto one hook. Vary the distance you stand from the stack and the angle you lean to vary the stress on the triceps.

Cable extensions can be done with your elbows supported on a bench, e.g. a flat bench when doing low cable extension or a jacked-up preacher bench when doing high-pulley extensions. This prevents cheating due to arm or body movement. You may also wish to try bracing your arms on a Swiss ball to add the element of stabilization to the mix.

It is possible to do the low-pulley version kneeling. To get the bar into position by yourself, face sideways to the stack, reverse curl the weight up then, in a smooth motion without slowing down, sweep it up and around allowing one arm to whisk over your head. Go directly into the bottom position and face away from the stack. The execution is a little simpler with one arm. Start in a curl position with your arm already partially bent. Moving only at the shoulder, front raise the handle up then, halfway up, pronate your forearm and go directly to the bottom position. Do the opposite of these movements when bring the bar or handle down from the exercise position.

Getting the stretch reflex can be done using bar movement or by using body movement. To use bar movement, simply move the bar. To use body movement, jerk your body forward a little when you are down in the stretch position, then start the movement.

5. Behind the head cable extensions - stand in between two high pulleys and grab opposite handles (left with right hand, right with left hand) and cross the cables behind your head with your hands in by your head, palms facing in. Start with your upper arms angled up a little. Extend your arms simultaneously out to the sides bringing your upper arms horizontal and squeezing hard at the end. Keep your upper arms horizontal until the near the end of the rep. Bring your upper arm down near full extension in order to engage the long head more. It is also possible to do these with a pronated grip, i.e. regular grip. These can also be done one arm at a time behind the head and/or with the rope. If you don't have a rope you can use a towel as explained in rope pushdowns.
6. Partial one arm dumbbell overhead extensions – do these standing. Keep your feet fairly wide and your knees bent. Swing a heavy dumbbell up with both arms up to the top position. Lower only to the point where you feel you can lift it back up. Repeat. On the last rep, do a negative, lowering the dumbbell to rest on your shoulder, then bring it down to the floor and repeat with the other arm. This type of movement can be done as negative reps by using the other arm to help move the dumbbell up to the top position after you drop it onto your shoulder.
7. Leg press extensions - start with no weight on the leg press until you get the hang of this one. Kneel on the backrest facing the foot plate with your toes hooked over the back edge of the pad. Put the heels of your hands on the top edge of the plate. Close grip press the sled up overhead. Lean your body forward under the sled. Keeping your upper arms directly overhead, lower the sled in an overhead extension movement, bending only at the elbows.

Lower the sled until the footplate contacts your forearms then extend back up. Pivot forward on your knees as you extend up. This hits the lower triceps strongly. Keeping your body further back on the backrest is harder due to the angle of push. To hit the lateral heads of the triceps, make fists and turn your hands to a neutral position. Come down on the sides of your fists. Your hands will tend to rotate to pronation as you come up. This works the extreme lateral and lower aspects of the triceps.

8. KICKBACKS

Bend over at the waist with one hand and one knee (of the same side) on a bench so that your upper body is horizontal. Hold a dumbbell in the other hand with a neutral grip (thumbs forward). Your upper arm will be just higher than level with your body. Your forearm will be hanging straight down so your elbow is bent about 90 degrees. Extend your forearm up until your arm is straight and squeeze. Do not move the upper arm at all. Keep it pinned to your side. Lower and repeat.

Tricks:

1. Rotate your hand so that your palm ends up facing up in the air as you get to the top.
2. A good way to do all variations of the kickback is to do a set that rotates through every variation during the set. Do one rep of each variation and continue through the cycle until failure. This will hit the muscle from every angle.
3. If you have a tendency to swing your arm or your shoulder tires before your triceps do, try this: prop your upper arm on a bench. The top of the incline bench or preacher bench works well for this – if you are using the preacher bench, you can put your arm on the angled face to change the focus of the exercise and use heavier weight. Drop your upper body slightly below that point and squeeze hard with each rep.
4. On kickback variations that include supination or pronation, hold the dumbbell off center to increase the resistance of the rotation component, e.g. if you are going from palms-forward to palms-back, hold the dumbbell with your pinky against the plate. If you are going the other direction, hold your thumb and forefinger against the plate.
5. To use a heavy weight when doing kickbacks, stand up and lean forward slightly, decreasing the range of motion of the exercises. Your upper should be about 20 degrees off vertical. This shortened range of motion and improved leverage combine to allow much more weight to be used. Squeeze hard at the contraction as that is the only value of doing this variation.

Variations:

1. Reverse grip - kick back so that your palm faces down with your knuckles up at the top of the movement.
2. Forward grip – kick back so that your palm is facing up at the top of the movement. Try to push more with your forefinger to maximize the contraction.
3. Side kickbacks - same execution, hold your upper arm straight out to the side throughout the movement.
4. Cable kickbacks - same execution, various grips and side kickbacks. See One Arm Cable Variations.

5. Vertical kickbacks – put your knee on a bench (same side as working arm), put your other hand on the floor then put your forehead on the bench. This crunches your upper body over. Set your upper arm vertical then kickback from there (your elbow should be pointing at the ceiling). This changes the point of tension. Use any variety of grip and rotation.
6. Elbow forward kickbacks – internally rotate your shoulder and point your elbow forward as much as possible. This is a fairly awkward movement.

9. LYING DUMBBELL CROSS BODY EXTENSIONS

Lie flat on a bench, holding a dumbbell above you arms length. Keeping your upper arm vertical, lower the dumbbell down to your opposing shoulder by bending at the elbow then extend up.

Variations:

1. Lower to beside your head instead of over your chest (use two dumbbells). This will resemble a lying barbell tricep extension but using dumbbells. The range of motion is greater as you won't brain yourself with the bar. Try it on a decline bench as well.

10. REVERSE PEC DECK LOCKOUTS

This is an incredible peak contraction exercise for triceps. Sit facing backwards in the pec deck machine. The set should be set low or even removed completely. Put your arms out to the sides. The pads of the pec deck should be on the back of your forearm (don't let your upper arm touch the pads or this will change the focus of the exercise). Start with your arms slightly bent. Push back using the strength of your back muscles at the start, then extend your arms forcefully, locking them out and squeezing hard. The range of motion is not great but the contraction is. These can be done static contraction style or partial style. This exercise only works on machines that use pads, not handles. Change the angle of your arms (higher or lower on the pads) to change the effect on the muscle. Try rotating your arms at the shoulders to hit different areas of the triceps (internally or externally).

Tricks:

1. A good trick for moving more weight on this exercise is the drop. In the instant you start the push backwards, drop your upper body. It is like taking a run at it. The momentum of the drop should transfer into backwards momentum, moving the weight.
2. At the peak contraction, try to force your shoulders forward while pivoting your forearms around the far edge of the pad. This brings your arms back further behind your body and gives you an extra hard contraction.
3. To hit the lateral head of your triceps, externally rotate your arms maximally at the shoulder so your palms face forward. This rotation puts direct tension on the lateral head, working directly on the horseshoe of the triceps.
4. If the weight stack you are working with is too light, kneel with one leg on the seat. Reach around with the other leg and put your foot on the stack. Lean on the stack to increase the resistance. If you have a partner, have them lean on the stack.

Variations:

1. Pec deck triceps extensions – sit sideways in the pec deck. Put your arm up 90 degrees out at the shoulder. Bend it and place the pad on your forearm. Your upper arm will be pointing straight forward from your body. Keep your upper arm stationary. Extend your arm back.

11. ONE ARM CABLE TRICEP VARIATIONS

Tricks:

1. Squeeze hard at the bottom and try to drop your shoulder down to get an extra squeeze especially on the reverse grip. Try it standing sideways as well.
2. A trick you can do when using the single handle is to try and push more with the outside blade of your hand (pinky side). This is best done with an overhand grip. Keep your pinky side pushed up against the handle sides. This will hit the lateral head more, building your horseshoe. Use a light weight for higher reps to do properly and feel the tension on target. If possible, take your fingers completely off the handle and push only with the outside palm knuckle of your hand. To increase this tension even more, externally (outwardly) rotate your shoulder as you come down to lockout. Your palm will be facing your leg at the bottom
3. Try doing these kneeling and leaning your upper body back 10 to 15 degrees (hold onto something if you have to for balance). At the bottom your arm will be down and behind your body. This improves the tension especially in the long head as its range of motion is much greater. This position is also the triceps fully contracted position. Use the arm rotation to the outside to hit the lateral head. Drop your shoulder down as low as possible and lean down over to that side for an absolute peak contraction. When these are done with a reverse grip, they will hit the belly of the triceps right in the upper back part where the split between the long and lateral heads is. This can help with muscle separation in that area.
4. A good way to get a pre-stretch without leaning back is to bring your elbow behind your body so your arm forms a triangle behind your back.
5. Try pushing away as far forward as you can as though reaching for something. Bring them back and down, squeezing hard. This hits the triceps a little differently.
6. With cable kickbacks, change the pivot point by bracing the cable with your other hand and bring the handle around your back more. This will give you a stronger contraction.

Variations:

1. Regular grip pushdowns – palms down grip. Using one handle at a time allows for more freedom of movement as well as rotation of the forearm. For a change in path, try pushing down to your opposite hip rather than the same side hip.
2. Reverse grip pushdowns - palms up grip. This grip will hit the horseshoe of the triceps. These can be done from a variety of positions, e.g. standing facing the stack, standing perpendicular and pushing down across the body. They can also be done with both arms simultaneously by crossing the cable in front of you. You can alternate or pushdown at the same time.
3. Neutral grip pushdowns – thumbs up grip using a rope attachment. Same execution.
4. Rotational pushdowns – start with one grip then as you push down, rotate to the other. This

is same concept of supinating for the biceps as applied to the triceps. Go from reverse to regular or vice versa.

5. Hugging one arm pushdown/extensions – stand perpendicular to the pulley with your right side to the stack. Reach across your body with your left hand. Grasp the handle with a reverse grip. Turn your body to the left so that you now face away from the stack. Your upper arm should be across your chest. Keeping your upper arm close, extend your tricep out and down in a diagonal line. This puts a different kind of stretch on the triceps. This movement can be done reverse grip or regular pronated grip.

These can also be done both arms simultaneously. This is called a crucifix kickback. Keep your elbows about chin level and step a few feet back from between the stacks. Bring your elbows back and to the sides, kick back wide and back, throwing your head back, puffing your chest out, arching your back and trying to squeeze your shoulder blades together. It should look as though someone is jamming a pole into your back. These can be done standing or kneeling. This version can also be done lying on a bench on your back using the two high pulleys. It is the same execution only you are lying down. This lying on your back version can also be done one arm at a time. At the top of each rep, let your arm straighten and stretch forward and up at the shoulder. Sweep it back and down first using the back muscles allowing the elbow to bend then straighten the elbow as part of a fluid motion when the elbow won't go down and further. This will enhance the rear-delt / tricep tie-in area. Another way to do these is with the same body position but using the low pulley and extending up instead of pushing back down. Keep your upper arms vertical throughout the movement and use a reverse grip.

You may also wish to try this variation with your forearms vertical (hands pointing to the floor) like a reverse grip one arm pushdown but with both arms at the same time or alternating.

6. Side-standing one arm pushdown - if you are using your right hand, stand so that your right hand is closest to the stack and you are facing 90 degrees from the stack (sideways). Pushdown using any grip you choose (normal, reverse, rope, etc.). Keep your elbow pointing directly to the side when doing this one. This will hit the long head of the triceps. These can be done both arms simultaneously in a crossover setup. Lean back and arch your back for a full contraction.
7. Low pulley forward kickbacks – bend over, facing away from the stack. If you are using your left arm, reach under and grasp the pulley so the cable is coming from your right side. Internally rotate your shoulder so your elbow is pointing forward as much as possible. Keep your upper arm close to your chest and kickback forward.
8. Overhead extensions to kickbacks – do these standing. This will make the transition smoother. Start with an overhead tricep extension. On the way down, spin 180 degrees (rotating towards the arm that is working). Drop down immediately into kickback position and do a kickback. Lower down then spin around, raise the handle to do another overhead extension. This combination hits the peak stretch position and the peak contracted position in one movement.
9. Side lying extensions – lie on your side on a bench perpendicular to the stack, facing it. Point your elbow directly up to the ceiling at 90 degrees from your body. Your forearm will be bent. Extend up from there. This is the low pulley version. When using the high pulley, keep your upper arm at your side at push down and back behind you.
10. Side cable kickbacks – do these bent over with your body perpendicular to the stack. Hold your elbow out to the side the whole time. A variation of this is to do the same execution of

wide to the side but have your head pointing to the stack. This places more stress on the rear areas of the tricep as you pushing back as well as out to the side.

11. Behind the back pushdowns – stand facing the stack. Grasp a handle on the high pulley using the right hand as an example. Spin 270 degrees around to the left. This will result in the cable and handle being behind your back. It will look as though you are trying to break your own arm. Internally rotate your shoulder as you spin. The most comfortable way of doing this is with a reverse grip though the pronated grip can be used as well. To execute, push your hips forward, bend your knees and lean back a little to give the cable a little clearance behind you. Extend your arm down and to the side behind your back. This will hit the long and lateral heads of the tricep well. Do not use momentum on this one at all. If you have a crossover setup, this can be done with both arms at the same time or alternating arms. It can be tricky to get into and out of position, though, and it is probably better to stick with one arm at a time behind your back.
12. Simultaneous front and behind the back pushdowns – do regular in-front-of-body reverse grip pushdowns at the same you do behind the back pushdowns for the other arm. You will have one cable in front and one cable behind so they won't get in each other's way.
13. One arm negative pushdowns – push the handle down with both arms, but do the negative with only one arm. This can be done with all varieties of grips and styles (reverse, normal, flared elbow, etc.). Do not put your helping hand on top of the working hand.
14. Upside down kickbacks – your head will be away from the stack or near to the stack (both versions work well) and your body bent completely in half. Your upper arm should be vertical with your elbow pointed up towards the ceiling. Kick up and back.
15. Over knee kickbacks – go down on one knee (working side leg up away and opposite from pulley) with your body perpendicular to the pulley. The cable should go under your far leg. Rest your upper arm on your thigh to support it for side kickbacks.
16. Simultaneous extensions and kickbacks – these are done in a crossover setup. Face away from one pulley and set it up as a one arm over head extension from the high pulley. With your other arm, do a cable kickback from the opposing low pulley. Going down on one knee (on the same side as the extension) will help with support. These can be executed at the same time or alternating.

12. DOUBLE BENCH PUSHDOWN-UPS

This is a bodyweight triceps exercise that can be extremely challenging. Set two flat benches parallel (they should be the same height), shoulder-width apart. Start in a bench dip position with your feet on the floor and your hands on the ends of the benches. Your body will be in between the benches. Lower your body back and down between them, bending only at the elbows. Lower until your bodyweight is resting completely on your forearms. Push yourself back up to the start position using only tricep power in a sort of pushdown movement.

Tricks:

1. You can alter the stress by leaning forward or back. You can also help by using your shoulders if you need to, turning the exercise into more of a dip.
2. To include the long head of the triceps, lower yourself down one more notch so your upper

arms are on the bench as well. Use your triceps to pull back up onto your elbows then up the rest of the way. This extra movement is especially good for swimming and skiing training (double poling).

TRICEPS TRAINING NOTES

Locking out on triceps exercises activates the rear head more.

If your triceps tendons hurt, use movements where your arms stay at your sides. This position puts less stress on the tendons.

Always keep your wrists in a neutral position when doing triceps. This will prevent wrist injury. In other words, don't allow your wrist to bend back when training your triceps. This causes a pulling stress on the wrist flexors and can lead to inflammation and pain in the inner elbow area. This condition was previously called medial epicondylitis but is now called flexor tendinosis.

Most tricep/elbow pain is from the forearm flexors. This is aggravated by fast, whip-like movements to get momentum on the last few reps.

Exercises for the long head:

Lying, decline, overweight and body extensions, pullover and press, close-grip bench, weighted dips.

Lateral head:

Seated EZ bar extensions, overhead cable extensions, pushdowns, kneeling rope extensions (twist the handle out), one arm pushdowns, bent-over rope extensions, dumbbell extensions – parallel grip. A good superset for the lateral head is neutral grip body extensions and one arm tricep extensions rotating the arm to the outside at the bottom.

Medial head:

Close grip push-ups (fists), bench dips, parallel dips, one arm extensions.

The lateral and medial heads are worked in pressing movements while the long head is not as much. Don't forget to include exercises to work the long head.

Triceps full range double combo – overhead extensions on low pulley then pushdowns, leaning back and bringing arms behind body.

Supersetting one arm partial overhead dumbbell extension and preacher bench top partials are good because you can use the same dumbbell.

The greatest activation of the lateral head of the triceps is seen with the reverse narrow grip bench press. The pullover and press is good too.

FOREARM EXERCISES

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THE EXERCISES

1. WRIST CURLS

These can be done with a barbell, dumbbells or cables. Straddle a flat bench holding a barbell in your hands with an underhand grip, keeping your thumbs on the same side of the bar as your fingers. Place them a comfortable distance apart (3 to 4 inches is best). Hang your hands over the edge. Your elbows should be between your knees with your forearms on the bench and your knees around the bench. If this exercise gives you wrist pain, force your elbows in very close so your forearms almost touch (by the elbows). Your hands should still be apart, though. Start with your hands bent down at 90 degrees. Do not roll the bar down your fingers as this will prematurely fatigue the fingers and limit forearm flexor work. Do finger rolls separately at the end of your forearm workout. Curl up and back.

Variations:

1. Cross bench wrist curls - squat down beside a bench so that only your forearms across the width of the bench. Same execution. This version allow you to keep your body mass below the bar, which in turn allows you to use body momentum to move heavier weight. Simply drop down as you curl up the bar, transferring your downward momentum into the bar's upward momentum like a lever. For maximum forearm strength, use this technique and only do a partial range of motion (middle 3/5 or so - don't go all the way down or up) and use a lot more weight.
2. Upside-down cable wrist curls - use a high pulley with handle. Hold the handle out in front of you like you're at the halfway point of a pushdown. Use an overhand grip. Cock your wrist up and back. Curl down from the wrist without moving your upper arm or forearm. This version is easier on the wrists.
3. Behind the back wrist curls - grasp a bar behind your back with a shoulder-width, overhand grip. Keep your arms vertical and unmoving. Curl up at the wrists. You can use some momentum as the forearms fatigue by giving a little thrust up with your legs. These are easy on the wrists because at the bottom position the wrists are straight and the compression of the wrist joint is reduced.
4. Wrist curl partials – when doing these, just do the middle 3/5 of the range of motion. Try and keep your hips lower than your forearms in order to get leverage. Superset these with light full range wrist curls.
5. Concentration forearm curls – these are done sitting on a bench. Anchor your elbow in the upper/inner part of your thigh, just to the right of your crotch with your legs wide. The tip of your elbow should be just below your hip bone. Let your forearm dangle down at about 45 degrees with your hand pointing diagonally to your other knee. Bend over at the waist. Stabilize your forearm by gripping your right bicep with your left hand just in the crook of the elbow. Do a wrist curl from there. This will hit the belly of the muscle. When you fail with this technique, switch to the regular supported style. Alternate arms with no rest for three to five sets. Move around a little to find the groove of the exercise.
6. One arm barbell wrist curls – do these gripping the barbell with one hand in the middle. Balancing the bar in your hand will greatly increase the forearm work done by involving many more stabilizing muscles.

2. REVERSE WRIST CURLS

Sit on the end of a flat bench. Take an overhand grip about 6 inches apart. Let your hands hang over at 90 degrees. Your forearms should be resting on your thighs or knees. Curl up and back. This can also be done with a barbell, dumbbell or cable.

Variations:

1. Cross bench reverse wrist curls - same execution and set-up as the variation of regular wrist curls except with an overhand grip.
2. Upside-down cable reverse curls - same execution as above. Use an underhand grip and extend down.
3. Reverse wrist curls partials – use the middle 3/5 of the range of motion then superset with full range of motion.
4. Concentration reverse wrist curls – sit on the end of a bench with your legs wide. Place your right elbow on right thigh 4 to 5 inches above the knee. The palm of your right hand and underside of your right forearm should be towards your left knee. Lower your forearm until it is parallel to the floor. Your right arm should be bent at 90 degrees at the elbow like an upside-down L. Your forearm should be free. Do reverse wrist curls in that position. These can be supersets with concentration wrist curls as explained above for a full forearm set. To really fatigue the forearms after that, do some hammer and reverse curls. Your biceps strength will push the forearm to greater overload.

3. REVERSE ARM CURLS FOR THE FOREARMS

Do these after the other wrist curls to ensure the forearms fatigue before the brachialis muscles. Use an overhand, shoulder-width grip. Curl up like usual, gripping the bar hard. Flip the wrists back and contract your forearm muscles strongly as you reach the top to get a peak contraction.

4. ROTATIONS

These can be done with a dumbbell or with a special bar. For the dumbbell version, hold a dumbbell in your hand with a hammer grip, sitting on a bench with your forearm resting on your thigh. Your pinky should be pressed down against the bottom plate of the dumbbell and the hand should be off the edge of the knee. Use your other hand to cradle your working side's elbow to prevent slippage. Rotate the dumbbell down and over to the right then back and over to the left, etc. Switch arms. The bar designed for this simply has a weight plate only at one end. The execution is the same. Any adjustable dumbbell will accomplish the same thing. Just load a plate on one end only.

5. PINKY AND FOREFINGER LIFTS

Do these either with a dumbbell or the same bar as above (one loaded end). To do a pinky lift, hold the dumbbell at your side, palms in, with your thumb and forefinger pressed up against the plate. Lift the other end of the dumbbell up and back with pressure from your pinky. To do a forefinger lift, press your pinky back against the plate and lift up with pressure from your forefinger. If you are using a single-end-loaded bar, for the pinky lift, have the weight to the rear and for the forefinger lift, have the weight to the front.

Finger curls on a cable can also be used for strengthening fingers one at a time. Use either a single handle or hook your finger directly into the cable hook itself. Do a bicep curl from there. If you are using the handle, you can hook several fingers at a time. This will increase finger and forearm strength. The same idea can also be applied to pushdowns.

6. GRIPPING EXERCISES

To work your grip, simply hang onto heavy things for as long as possible, e.g. dumbbells, barbells, hanging from a bar, etc. Lifting heavy weights without straps, especially during back work, will help build grip strength. A method that powerlifters use to strengthen their grip is to do power rack holds. Set the pins so that they are just below arms length. Stand sideways beside a loaded barbell. Hold the barbell squarely in the middle with one hand, palm in. Hold for as long as possible. This will develop the stabilizing forearm muscles as well because you will have to balance to load while holding. Another method is called pinch gripping. Hold a plate with a pinch grip (thumb and forefinger only) for as long as possible. Work your way up the plate denominations. Try holding the plates up and out to the side as well.

One good grip exercise is the farmers walk. To do this simply walk around carrying two heavy dumbbells. The slight up and down bounce with each step will make it harder than simply holding two dumbbells.

Thick bar power holds are a good grip strengthener. Use a bar that is 2 to 2½ inches thick and an overhand grip. Set the pins to where your top range deadlift height is. Hold it with your hands slightly wider than your thighs so they don't jam against your thighs for assistance. Lift the bar and hold it for as long as possible till it drop out of your hands. If you don't have a thick bar, try holding the outer plate section of an Olympic bar for a static hold (one arm at a time – stand outside the rack or set one end of the barbell on the floor and hold from a seated position).

You can make your own thick handled dumbbells by wrapping tape around the handle then slide two inch steel pipe around it.

7. GRIP STRENGTHENERS

There is a wide variety of gripping devices, ranging from squeeze balls to hand springs. Each has their advantages and disadvantages.

Squeeze balls - convenient but one size fits all. Unfortunately, there is no way to increase or decrease resistance without getting another ball. You can even use a tennis ball if you want to go low budget.

Hand springs - convenient but have the same resistance problems as a ball: there is no variation without using another gripper.

Super gripper - this is probably the best grip device on the market. It is fairly convenient, can be adjusted for hand size depending on where you grip, and has moveable springs for varying the resistance. You can do light tension, high rep work, high tension, low-rep work, you can do two-hands in, one hand hold negatives, you can do static contraction holds (this exactly mimics the action you use when lifting weights which therefore makes it the most functional variation).

A good way to use this is by doing one static hold for each hand every night before you go to sleep. Try to increase the time of your hold every time. When it gets too easy, increase the tension and keep going. If you are also doing a lot of heavy barbell work, reduce the frequency to

every other day to prevent excessive forearm strain. If you find your hold time decreasing, take a day off it. You will come back stronger the next time.

Another trick you may wish to try in order to develop the weaker, pinky side is to hold the gripper upsidedown and try to put more pressure on the pinky side while easing off on the forefinger side.

Try using a sand bucket to work the extensors on the back of your hands and forearms. Fill a bucket up with sand. Work your fist into the bucket then open your hand against the resistance of the sand for reps.

8. FOREARM ROLLER

The forearm roller is a device easily made at home. All it is a bar with a rope nailed onto the middle. Tie a barbell plate onto the other end of the rope and wind it around the bar, raising the plate off the ground and up. This is a simple and effective grip strengthener that works all the way up to the top of the forearm. It can be rolled overhand or underhand to work different aspects of the forearm. The overhand will work more of the top of the forearm while the underhand will work more of the underside of the forearm.

9. BARBELL ROTATIONS

These are done on a barbell or freely spinning dumbbell handle. They are easiest to do on your knees to start. Put your hands on the bar as though doing push-ups on it. Rotate the bar away from you, letting the wrist bend forward. Rotate your wrist back using your bodyweight as resistance. Rotate back the other way then up again. Go back and forth. To increase the resistance, lift your knees off so you are in push-up position. The hardest is in handstand position (where you will be using most of your bodyweight as resistance).

FOREARM NOTES

Static holds in a neutral wrist position of the regular wrist curl and reverse curl can be used to rehabilitate wrist weakness in cases where it is painful to move them and they are weak. Hold in the static contraction until strength starts to give out then remove the weight.

Forearms, along with calves, should be trained with higher rep ranges as they have a higher percentage of type 1 endurance muscle fibers.

There are four basic aspects of grip strength:

1. Crushing
2. Pinch grip
3. Vise grip
4. Wrist strength

BACK EXERCISES

Primary Movers: latissimus dorsi, rhomboids, teres major and minor, trapezius, and spinal erectors.

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THE EXERCISES

1. CHIN-UPS

Take a shoulder-width, palms-up grip on a bar that allows you to hang free and straight. Start with everything relaxed and stretched. Initiate the movement by first raising the ribcage up and dropping your shoulders (keeping your arms perfectly straight). This action is only at the shoulder. When your ribcage is up, proceed to pull up to the bar while simultaneously arching your lower back and leaning backwards. This maximally activates the lats. You will be pulling up to the bottom of your ribcage. The traditional pull to the chin does not isolate the lats, making the biceps do more of the work. Lower yourself down slowly, drop your ribcage at the shoulders, feeling the stretch, then keep going.

Comments:

The close-grip versions are more effective for lat development and are easier on the shoulders than wide-grip versions.

Use chalk or straps to aid grip.

Do not drop into the relaxed position heavily or let the tension out of your shoulders when relaxed to prevent injury and instability.

Imagine your hands as hooks and try to pull from the elbows – the more you grip with your fingers, the more you activate the biceps.

Using a thumbless grip will take the biceps out of the exercise more.

To spot this exercise, have your training partner push up on your lower back, not on your feet. This helps with the correct motion of the exercise.

At the bottom of all chin and pulldown movements start with the scapulae elevated (shoulders up), depress them (shoulders down) then pull.

In all chin-up, pull-up and pulldown movements, when you allow the shoulder girdle to elevate, don't relax your shoulder in the joint. Just relax at the scapulae. This prevents overstretching.

Tricks:

1. Weighted chins - set a dumbbell on the floor or on the end of a bench. Grasp the bar then hook your ankles around the dumbbell so that the plates are behind and in front of them. Pull up as before. A hip belt with the weight hanging between your legs can also be used. Alternatively, you can have a training partner pulls down on your legs.
2. To really burn out on chins, do not drop your ribcage after each rep and do not completely straighten your arms. Rep out as fast as you can in the shortened range of motion, reversing direction hard at about the usual halfway point and coming back up. You will get a lot more reps. Do not worry about the negative portion of the reps. This is a good way to start a chin-up workout while you are fresh. It will get a lot of blood into the lats.
3. If you're not strong enough to do chins, use a stool or chair or partner to put your feet up on to help raise yourself than take your feet off the chair to lower yourself. Resist the lowering as much as possible (negative contraction). This can also be used by more advanced lifters to extend a set.
4. Jump-up negatives. Jump up to the bar so that you are in the top position with almost no muscular effort. Lower slowly. This method is good for one-arm chins. Jump up and lower with one arm.

Another way to do negatives is to set a dumbbell on top of a block or bench, get into the top position, pick up the dumbbell in between your ankles, then lower. Let go of the bar, reset the dumbbell on the box then go again. If you have a partner, get your partner to reset the dumbbell.

5. Flexed arm hang. Hold yourself in the top (contracted) position of the chin-up for as long as possible, resisting all the way down until you are at a dead hang. This works best at the end of a back workout to finish off your back. It works biceps and grip well also. This is a version of static contraction training. It can also be done with extra weight.
6. A good quality doorway chin-up bar can be purchased from Kamak Enterprises at 717-629-5357.
7. If you don't have a good chin-up bar where you work out, you can solve this by taking a regular straight bar and rest it over top of something high and level. If you have a power rack without a chin-up bar, simply rest the bar over top of the rack. There are a lot of things you can use if you use your imagination.
8. To prevent your hips from flexing, try hooking a Swiss ball between the back of your legs.
9. For a chin-up burnout set, start with the weakest grip (wide grip) then, when you can't do anymore with that grip, move to the next strongest grip (palms facing, close grip) then the next (parallel grip).
10. Once you reach failure with the chin-up movement, prop your feet on something (bar, upright, wall, stool, partner, etc.). Continue the movement as a body row.
11. To remove leg power from the pulldown movement, lift your feet up off the floor and only have pressure from the hip pad holding you down. Legs can be used to help drive the weight. This forces you to use only back power.

Variations:

1. Wide-grip pull-ups to the front - take a wider-than-shoulder, palms forward grip. Initiate the movement by first lifting your ribcage without bending your arms. As you pull up, arch your lower back and lean slightly backwards. Pull up until the bar touches high on your chest or as close as you can get to that. Lower slowly.

These can also be done with an ultra-wide grip with the aim of widening your shoulders. Take a grip as wide as physically possible and do pull-ups. Hang at the bottom and feel the stretch in your scapulae. Do not lose tension in the shoulder joints themselves as this places a dislocating stress on the connective tissue. The aim here is to spread the scapulae, not destabilize the shoulder joint. The range of motion on this exercise is extremely short (only about six inches or so). There is debate on whether or not this type of exercise can actually widen the shoulders. If you are not strong enough to do these, superset wide-grip pulldowns with ultra-wide grip hangs.

Wide-grip pull-up to the front can also be done with a supinated (palms back) grip. Don't grip extremely wide, though, just a few inches outside of shoulder width is enough. Execute the same as above. Don't straighten the elbows completely. Only stretch at the shoulder by dropping the shoulder girdle. The elbow must remain bent in order to get the forearm rotation without undue shoulder stress.

2. Wide-grip pull-ups to the rear - same starting position and movement initiation as to the front.

Pull up with your head in front of the bar. This movement works less the lats than the smaller teres, rhomboids, and middle/lower trapezius muscles. They can cause shoulder pain if your shoulders are not very flexible because of the extreme external rotation of the shoulder joint. Do not hunch your head forward during execution in order to do these. If you are not flexible enough to do them safely, do not do them at all. A good alternative to this exercise that works the same muscles is to pull up to the top of your head. Pull straight up and down in that plane, not moving your body in front of the bar but keeping it directly over the midline of your body.

3. Reverse-grip chins - same as regular chins, but use a close, palms-forward grip.
4. Swinging chins - place a V-grip handle over the chinning bar or grasp the bar with your hands almost together (body 90 degrees to normal orientation), both palms facing in. Starting at the top with your body on one side of the bar, drop yourself down quickly then pull up to the other side. The trick is to pull very hard at the exact moment of reversal of momentum. Your body's momentum will add resistance to the exercise and make the lats work harder. It is a difficult one to master.
5. 1-arm chins - a very advanced exercise. Grip the bar with one hand then chin. Good luck. To make it possible to do, try grasping the forearm of your gripping arm with your other arm. By the wrist is easier - the lower you grab on your forearm, the harder it is as you progressively decrease the leverage of the non-working arm. This is a good exercise to do 1 arm negatives with. Another way to do this is to grip the bar like in swinging chins, but don't swing and concentrate on pulling hard with only one lat as you use the other hand to steady or help if necessary. This idea can also be applied to regular grip chins. Simply relax your grip on one hand on the way down. This will throw most of the tension to the other side. You can adjust how much you put on the arm by how hard you grip with the other hand. Lean over to the working side.

An easier variation of one arm chins you can do is to leave your feet on the ground. Hold the bar with one hand. Stretch your feet out diagonal away from that hand to the front. Stretch back the pull up and in. Your legs being on the ground will take up a lot of your bodyweight.

6. Mixed-grip chins - grip the bar with one hand palms-forward, one hand palms back. It is a fairly awkward grip.
7. Push-away chins - grasp the bar as though you were doing wide-grip pulls-ups to the front. Execute the pull up to the front as usual. While you are at the top of the movement, push your body away from the bar and lower slowly. This will really work the subscapularis muscle.
8. Neutral grip chins - this can be done only if you have access to a bar that can be used with a neutral grip (palms facing in). Another way would be to grip the bar like in swinging chins or with a V-bar handle that can be put over top of the bar. This is the strongest grip for chinning.
9. Unstable bar chin-ups – these are done with a straight bar resting on top of a chin-up bar. The straight bar should be placed perpendicular on top of the chin-up bar. Grip the straight bar with your hands right up close and pinching in on the chin-up. This will prevent the bar from sliding around. The instability will increase the neuromuscular activity of the exercise. You may pull up to either side of the bar (alternate if you do). This will focus on one side at a time. You may also pull up right up the middle so that you must lean back as you come up. Touch your nose to the chin-up bar on each rep. This technique will actually force you to use proper form (leaning back at the top).

10. Towel chin-ups – loop a towel around a high bar or other high thing and do chins holding onto the towel. This comes in particularly handy when you don't have access to a bar but you can loop a towel around a hook or other solid fixture.
11. Partial chin-ups – there are several ways of doing this. You may start at the top and do only the top few inches of the movement with extra weight. You may want to do the bottom range. The easiest way to do top range only partials with weight is to set the Smith machine bar to a height around forehead level when standing. Stand in front of the bar and grip it. Attach the weight then chin-up from that standing position. When executing, engage the chin-up muscles before lifting off. You may dip down a bit when using heavy weight but squeeze hard up. Throw your head back and arch your back just before lift-off. If you are using a hip belt, you can do a negative from there by bending your legs. The bottom range only partial is easier to do. Just set the bar normally and only come up a few inches. If you don't have access to an adjustable bar, you can just stand on top of a bench or box under a regular fixed bar.
12. Forehead-banging chin-ups – use a moderately wide grip. You will be pulling up to the front. Pull yourself up but keep your body about six inches away from the bar. When your forehead is level with the bar, stop, squeeze, then move your body in horizontally and touch the bar with your forehead then push back out six inches without dropping down at all. Lower from there. It is executed like an upsidedown “L” pattern. This will hit the teres major hard. As you come forward, try to force your elbows as far back behind you as you can. This will maximize the effects. To make these even harder, when your forehead touches the bar, try to force your body forward but resist with your neck muscles. Force your elbows back and puff out your chest.
13. Pulldown bar chin-ups – this is form of unstable chin-up. It can be done with any grip using any bar. Set the weight on the pulldown machine to something heavier than your bodyweight and do chin-ups on it. Be aware of where the seat and hip pads are so you don't bang into them on the way down. You may have to do a bit of a split with your legs to come down around the seat. The swinging and the uneven pulling will increase neuromuscular activity. The wider the grip you take, the more unstable it will be. You may find that you corkscrew around on this one. Go with it as the more unstable it is, the better. You may choose to reorient yourself between reps or not. You can also move around on purpose to increase the instability.

There is a good forced rep trick you can use with this variation. Use a weight only slightly greater than your bodyweight. When you come to a sticking point, give a strong downward yank and try to pull yourself up a little. The stack will lift up a little, the bar will drop a little and you will be up higher.

14. Hanging pulldown bar chin/rows – set the pulldown weight to something over your bodyweight. Hang from the bar and brace your feet against the stack or an upright. Your knees will be bent. Start by doing a stiff-arm pulldown type movement then pull up and back like a chin-up, bringing your body up and allowing your legs to extend (don't push with them until you have to). Complete the range of motion with a row type movement. This reduces the amount of weight you must do in a chin-up. It also increases the effective range of motion of the exercise. This technique can be used for biceps if you use a close grip and pull to behind your head. Try doing one arm as well. If you are using a wide grip, keep your legs bent a little to pull higher up on your chest, hitting the upper back more.
15. Foot drag chins – set the Smith machine bar so that it is just out of reach when you are on your knees. Start with your arms straight, feet back on your toes as though stretching your abs. Feel the stretch in your lats. Swing forward, dragging your toes on the floor. Start the

chin-up when your body is directly under the bar. Do a full chin-up from there. This technique works the stretch position (from foot friction) and contraction hard. Any grip can be used.

16. Mixed grip to one side chins – grip the bar with a mixed grip. Pull to the side that has the regular curl grip. Face forward at the start. Rotate your body around as you pull up so you pull to the regular grip side more, using the other hand more as a guide. If your right hand is using the regular grip, keep your head on the left side of the bar. Raise your legs up slightly on that side of the bar like a sort of side crunch as you come up to hit the lower lat on that side. Make sure on the reverse grip side that the thumb is wrapped around the bar (no false grip). Switch hands on subsequent sets.
17. Mixed space grip chins – grip the bar with one hand close (pronated or supinated) and one hand wide (pronated only). This will force the close hand side to work harder (try to pull more with the close grip hand as well). Change hands.
18. Cannonball chins – bring your knees up like a knee raise and hold them there while you chin. Try to touch your knees to the bar at the top. This will also give you a good ab workout. You may even wish to try them with your legs straight out in front of you.
19. Forearm supported chins – these can be done using a power rack or a Smith machine though power rack will work better. Use two bars. Set the bottom bar at a position just under your elbows during a chin-up movement. Use this bar to support your forearms (use a pad if you like). Use your lats and try to push down with your elbows. This will help to relax the biceps during the movement.

2. ONE ARM DUMBBELL ROWS

Put one knee up on the end of a flat bench then place the hand of the same side on the bench. Your other leg will be on the ground (knee slightly bent), not directly beside the bench but about a foot out to the side. This completes the triangular base of support. Grasp a dumbbell in the other hand. Stretch your shoulder down and forward to get a complete stretch then pull the dumbbell back and up towards your waist/lower abdomen in an arc, not a straight up and down movement. The dumbbell will come up the inside of your thigh. This is contrary to what you may see elsewhere but it is a more comfortable and healthier position for your lower back as the resistance is within the base of support rather than outside it. Your upper body should be parallel to the ground. It is also very important that your lower back be arched throughout the movement to maximally activate the lats. Bring the elbow back and up as far as you can go. The range will depend on the amount of weight being used, though try to keep the range as great as possible even when using heavy weight. Lower slowly, down and forward, rotating the torso in that direction to get a fuller stretch.

Comments:

Look straight forward while doing these. The lumbar vertebrae will mimic what the cervical vertebrae do. A round neck will result in a round back.

Tricks:

1. To get a better grip, hold the dumbbell so that your thumb and forefinger are pressed right up against the inside of the forward dumbbell plates. This trick can be used with all grip-limited dumbbell exercises to prolong your grip without using straps.

2. When very heavy weight is used, widen your base of support by moving your support leg out a little more and lifting inside your leg. When using lighter weights, the dumbbell can come up on the outside of the thigh, though you will probably still find it better coming up the inside.
3. At the bottom of the stretch, to get even more stretch, angle the dumbbell so your pinky finger side is higher.
4. If you have a tendency to twist and jerk the weight, look to your non-working shoulder during the movement. This will help counteract that tendency by forcing you to keep your shoulders square.
5. To ensure you are not hunched over for this movement, move your hand further forward on the bench. This will force you to stretch out and will automatically flatten your back.
6. If your dumbbells don't go heavy enough in weight, try making a homemade dumbbell. This will work if your gym has the empty handle, free weights and collars that can be used to make one. There are other options as well, which will be discussed.
7. Hold at the top and squeeze then breathe in and out a few times.
8. Here is technique for squeezing out that last rep. Use breath ratcheting. Lift the dumbbell up a little, breathe out, take a deep breath, hold it, then lift up a little more. Hold the weight, breathe out then in and hold, etc. until you are at the top. The higher air pressure in your lungs will give you better leverage to lift up.
9. Another technique is with body ratcheting. Lift up a little, hold the dumbbell stationary in space then rotate you body down on that side. Rotate back up a little. Hold the dumbbell there then rotate down again, etc.
10. If you find that you can't keep your back tight during this movement, try doing it without your knee on the bench. Keep both feet on floor. Strive to maintain a horizontal upper body position. Keeping your knee off the bench will tighten your back on the non-working side during the movement.
11. When you use very heavy weight you will find obliques will get sore as well. This is from the one-sided nature of the work. The oblique must contract to stabilize everything. The bigger the weight, the harder they contract.
12. Try doing within-set heavy/light rows. Set two dumbbells by the bench, one heavy, one light. Alternate every 3 reps or so with the dumbbells concentrating on strict form with the light one and power with the heavy one.

Variations:

1. Pronated grip - hold the dumbbell so that your knuckles are pointing forward. Lift the dumbbell and out to the side. This works the middle back, teres major, posterior delts area more. Grip the dumbbell with your pinky against the plate and hold your arm back at a slight angle so the posterior delts aren't working by themselves.
2. Reverse grip - hold the dumbbell so your knuckles are pointing back. Row up and back. This hits the lower lats. To prevent the plates from hitting you, hold the dumbbell with your pinky against the plates.
3. One arm barbell rows – these are done with the same basic form as dumbbell rows but

grasping a barbell in the middle. Use small plates for this one. This forces you to balance a bar in your hand as well. It is also possible to use a similar set-up to the barbell T-bar row and have your hand near the plates with the bar pivoting from the floor at the back. This variation gives you a different line of pull than with the dumbbells. To fix the line of pull, swing the barbell around so it pivots in front of you. This creates the problem of where to grip. Gripping on the thick outer plate bar is an option that will help increase grip strength but limit the amount of weight you can use. Using a standard (thin) bar will eliminate this problem.

4. Pivoting one arm barbell rows – instead of balancing the bar in your hand, move your hand up to the collar where the weight rests and row from there. Make sure to counterbalance the other end to prevent it from lifting. This variation is useful when you start getting into really heavy weights and your dumbbells aren't heavy enough.
5. E-Z bar one arm barbell rows – this is best done with the greatly curved E-Z bar used for brachialis work though a regular E-Z bar will work too. The brachialis bar has an exaggerated U shape in the center. Hold the barbell in the bend of the U shape and row from there. This allows the use of very heavy weights when the dumbbells don't go high enough in weight.
6. Cable / dumbbell one arm rows – these are done using the low pulley. Hook the cable onto the dumbbell by looping it around the handle then clipping it onto itself. You can hold the dumbbell so that the cable is on your pinky (rear) end or on your thumb (forward) end. Each position will feel different. Try both to find which one you prefer. Your head will be towards the stack. This movement really hits the lower lats as you get more posterior resistance than is possible with just a dumbbell. Row back and up with the standard form. If you wish to hit your center back more, set up perpendicular to the stack (e.g. using right arm, have the pulley on your right). This will give you resistance as you rotate your torso around at the top.

3. BENT OVER ROWS

This exercise is done with a straight barbell. There are several variations but the most effective version for the lats is the reverse-grip row. Bend your knees and bend over at the waist, keeping an arch in your lower back and looking forward. It is important not to round your lower back in this exercise. Take a shoulder-width, palms-up grip on the barbell. Your knees will be inside your arms during the movement. Keeping your knees bent (the angle will be somewhat greater than 90 degrees) and back arched and without lifting with your lower back, pull the barbell back and up into your lower abdomen. Fight the tendency to stand up to help cheat the weight up, which can strain your lower back.

Tricks:

1. Imagine your body as a plane coming in for a landing. This will help with your body positioning. Always look forward when doing this exercise. Looking down will automatically cause your back to round over.
2. If you have trouble keeping in the correct position, do this exercise with your butt pressed against the wall. By keeping it firmly in one spot, you will eliminate the tendency to stand up.
3. Pause at the top of the movement and squeeze your elbows in. This trick is hard to do with heavy weight, though.
4. This is a good exercise to do static contractions with as the greatest amount of tension is at the contracted position.

5. Weight belts are not necessary for this exercise if you are using proper form.
6. Bent-over rows can also be done with an E-Z bar. The wrist angle allows you to tuck your elbows in to the sides better than a straight bar.
7. If you are using a wide grip, try placing your thumb on the bar (as though making a thumbprint) to take the biceps out of the movement.

Variations:

1. Pronated grip - take a palms-down, wider than shoulder-width grip on the bar. Execute similar to reverse grip but pull to higher on the ribcage. This works the middle back muscles more than the lats.
2. Dumbbell rows - same execution but with two dumbbells instead of a barbell. It can also be done with the upper body supported on an incline bench (chest on bench, butt in seat) or decline bench (chest on bench, feet on floor at low end). When executing, try to raise your chest off the bench like a sphinx as you row the dumbbells up. This will arch the lower back and ensure a strong contraction. Vary the incline to hit various areas on your back. This can also be done with the low pulley. You may need someone to hand you the rope or handles, however (if you use a bar, it may hit the bench before you get a full range of motion). Don't sit so low on the bench that your crotch is in the seat. Your knees will get in the way of the dumbbells. Have your chin over the top edge of the bench and put your feet on the support feet behind you to keep your legs out of the way and off the floor. If your feet are on the floor, you may have a tendency to push yourself forward and tip the bench over.
3. Decline dumbbell rows - exactly like above except done on an incline bench. In this case, the high end of the bench will be into the abdomen and you will lean over and down the bench. Row up and into the sphinx position again. This version puts no strain on the lower back. It does require an adjustable incline bench. It can also be done on a decline bench if the ankle pads are removable.
4. Incline dumbbell rows – using an incline bench, lie on your stomach and row from there. Put your feet on the bench feet rather than the floor so the bench doesn't get pushed forward when you push with your feet.
5. Flat bench barbell rows - lie face down on a flat bench with the barbell underneath the bench. Pick a grip and row as above. Excellent for those with lower back problems. The range of motion is limited by the floor and the bench. You can raise the bench to increase the range but you can't lower the floor.
6. Flat bench dumbbell rows - same execution as barbell rows.
7. Universal bench bent over rows - get in position in between the bars, standing on the bench. Select a grip (wide, close, palms forward, palms back or neutral). Use the standard body position and row up and back. This exercise eliminates the bar banging into the knees on the way up and is useful for teaching proper form thanks to the arc of the bench machine. When rowing up, apply forward or backward pressure to stress the muscles differently. This is a very good exercise for static contraction training as you can lean into it and it doesn't require as much balance.

Another version is the one arm Universal bench bent over row. With this exercise, set up the

bench right underneath one of the handles (same orientation as usual). Stand on the bench, straddling the handle. Grasp the handle with one hand. Brace the other hand on your knee, brace your forearm or just leave it free. Get into bent over row position (knees bent, back arched, etc.). Row up with one arm. This is a good version to do partials and negatives with. For negatives, lift up with both arms and lower with one. For partials just lift up the bar then set the pin to where you want it. Use your legs to help get into the top position and try doing a partial negative. This exercise will work the mid-back and really hit the area right behind your armpit hard (teres major).

8. Bent-over row partials – this is a contracted position partial movement. Set the pins in the power rack just below the contracted position for the movement. The Smith machine bar or the Universal bench stack can also be used for this exercise. Set up in bent-over row position. You should be a little lower than usual with your knees bent a lot. Contract the lats strongly. Make absolutely sure your lower back is arched and tight the entire time. Suck in your abs and keep your arms bent and locked. Stand up slightly, keeping your back contracted. Squeeze hard. The weight should be heavy enough that it will start to drop almost as soon as you stand up with it. At the start and for the first little bit of the movement, the bar will rest on your thighs. The movement will resemble a partial bent-over deadlift with the arms bent.
9. Cable / barbell bent over rows – attach a cable onto a barbell (the cambered bar works well). Use the same form. This version translates into backward tension and stretch at the start of the movement and increased tension in the proper line of motion as you contract towards the finish. All the various grips can be used with this technique. The close grip will hit the extreme lower lats hard. The wide grip will work more upper and mid back. To attach the cable to the barbell, simply loop it around the barbell and hook it onto itself. If it slips around, slide some cloth or foam under it. If you have an ankle harness, you may choose to attach that around the bar. It will not slide like a solid cable as it does have padding in it.
10. Vertical bench machine rows – these can be done one arm at a time or with both arms. Stand up outside the machine facing the seat. Place a foot flat on the backrest so your knee is bent up near your chest. This is your support. Grasp the handles and row back. You can vary the grip and the angle of your body.
11. One side bent over rows – these are done one arm at a time using either an underhand or overhand grip, depending on where in your back you want to hit. Load the barbell like normal. When executing, step over to one side, grasp the barbell near the collar with your outside hand. Row up. Brace your non-working arm on your thigh. This variation gives you back support in the bent-over position as well as a different pivot point for rowing. You end up rowing up and in, hitting the middle traps more.

4. LAT LEVERS

These are also called stiff-arm pushdowns. Using a high pulley, take a shoulder-width, palms down grip. Start with your arms straight up or at a slight angle if the machine is not high enough. Keeping your elbows slightly bent and your arms stiff, press down like a tricep pressdown but without bending your elbows. At the end of the movement, squeeze the lats hard. This exercise will also fatigue the long head of the triceps. It is a finishing movement, for use at the end of the movement. It is also good as a stretch movement or as a pre-exhaust movement for the lats before using a compound exercise.

Tricks:

1. Arch your lower back as you come to the end of the movement.
2. Try bringing your arms down wider to the side.
3. Rotate your shoulders slight outward so that you are pushing more with the blade of the hand.
4. At the stretch position, externally rotate your shoulder for a maximum stretch. It is like spreading your wings. At that stretch point, internally rotate with a slight twitch and continue the movement (make sure there is still tension in the muscle and do not overstretch the shoulders). When you internally rotate, it should feel as though you are trying to touch the lats together in front of you.
5. You can vary the area of the back you hit by changing the verticality of your body.
6. To go further past the burn where you can't move the weight with your lats anymore (only on high-rep light weight sets), start doing straight arm cable crunches. This will keep tension on the lats and will still move the tension up and down the lat muscles without actually contracting the lats. It is passive tension.
7. To do burns with this exercise, just hold the stretch position and lean your body down into the movement repeatedly.
8. Another way to force more reps out of yourself is use momentum to your advantage. Drop your body quickly to get the stretch reflex then push down quickly using momentum. This can prolong a set or allow more weight to be used. It looks very similar to a double-pole movement in cross-country skiing.

Variations:

1. Rope stiff arm pulldowns – same execution but with a rope as a handle. This changes the movement a little.
2. One arm at a time with a handle - when you use this variation, try coming down further back behind your body for a full contraction. The single handle allows for a greater range of motion as there is no bar to hit your midsection. The one arm pulldown can be done to a negative lat lever. Do this standing, with a reverse grip. Do a quick pulldown then a tricep extension to get the weight down. Straighten your arm, keeping it slightly bent but stiff. Let the weight down slowly with your arm straight. Keep your shoulder down and focus on the lat.
3. One arm behind the back - stand sideways to the machine and execute like a stiff-arm cable crossover behind the back. Stand a little forward of the direct line, lean back to give the cable a clear path, drop your shoulder then squeeze down. Use a light weight for this movement. This can be done with both arms simultaneously as well.
4. Reverse grip – this will look similar to a pulldown type movement. Maintain a constant bend in the elbows, though. Relax your biceps to ensure you aren't pulling.
5. Facing away from the stack – this has the same execution only you are facing away from the stack. Stand as close to the stack as possible without touching it to minimize the cable hitting you in the head. This is best done on a lat pulldown cable where it is set forward from the stack rather than a high pulley that is directly over top of the stack.

6. Angled to the sides – these are good for focusing on one lat at a time. Angle your body 45 degrees to the right if you are working your left arm or 45 degrees left if you are working your right. Push down and behind your back as much as possible. Crunch your upper body down back to that side as much as possible. This will really hit the extreme lower lat area. Try to push more with the pinky side of your hand. Puff your chest out and arch your back.
7. No grip lat levers – use a cambered pushdown bar on a high pulley. Place the back of your upper arms near the elbows on the down curves of the bar. Clap your hands back around the cable like a praying mantis and do a lat lever from there. This eliminates hand fatigue and elbow strain. It works better for high reps but you get a smaller range of motion. You may need to lower the bar to a height where you can get your arms on it by adding chain links, standing on something or setting the pin in the stack after lowering the bar.

5. DEADLIFTS

Step up to a loaded barbell. Place your feet slightly less than shoulder-width apart and crouch down with the bar touching your shins. Grasp the bar with either a palms-down grip or a mixed grip (one hand palm-up, the other palm down) just outside your legs. At this point, your legs should be bent at 90 degrees or less, your back should be straight (do not hunch over), your head should be vertical and your eyes should be looking straight or slightly up. Begin the movement by straightening your legs (standing up). As the bar clears your knees, straighten your back until you are standing vertical with the weight. You should essentially be dragging the bar up your shins and legs in order to keep the weight as close to your body as possible. This minimizes torque on your lower back. Lower the weight and repeat.

Comments:

The deadlift uses more active muscle mass than any other exercise, including squats.

It is important not to round your back as you lift though once the bar has cleared the knees it is normal for the back to round a little if the weight is sufficient.

Keep looking straight forward as you lift. It is not necessary to look way up nor is it a good idea to look down.

Use a lifting belt when you go heavy. This is optional.

The mixed grip is better for a stronger grip but alternate which hand grips which way to prevent strength and muscle imbalances.

Be sure you grip evenly if you do use a mixed grip. If you find the weight swinging to one side excessively, adjust your grip spacing accordingly. The side it is rotating to is closer to the center of the bar—usually. This could also depend on which way you are gripping. The bar usually has a tendency to rotate towards the hand that has a pronated grip (palms back).

Only do straight sets with deadlifts to protect your back.

Warm your lower back up thoroughly.

Do not lean back at the top of the movement. This could relax the erector spinae and make the spine take the whole load. This could lead to injury

Using chalk will improve your grip.

Wear pants or pull your socks up so you don't scrape up your shins while lifting.

Don't hold your breath during the movement, as that will increase blood pressure to dangerous levels.

Don't forget the negative portion of this movement. Don't just drop the weight. Lower it slowly.

If you are warming for low rep sets, do low rep warm-ups, e.g. 3 reps at 135 pounds, 2 reps at 225, 1 rep at 315, 1 rep at 405. This will ensure you don't pre-fatigue your lower back for the work sets.

Consciously lead with your head and shoulders to maintain a flat back.

Let your arms hang straight down like hooks.

Keep off your toes.

Squeeze the bar off the floor - don't snatch at it.

Keep the do-or-die rep in you to prevent injury.

When first starting deadlifts, take a few light weeks to acclimatize.

Make sure the bar comes up evenly, not one side higher.

Tricks:

1. Just before you start to lift the barbell, let your center of gravity fall backwards as though you were going to fall over backwards. As you fall backwards, start to lift. The momentum of your mass moving backwards will help get the weight started. Sit your butt down as far as you can as well.
2. Using a power rack, set the pins so that they are just above knee level. Do partial deadlift lockouts to improve lockout power or just to use more weight, which can also help work on your grip.
3. Don't be afraid to scream.
4. In order to improve power off the start, deadlift off a block. Another way is to train with smaller plates, e.g. instead of always using 45's, use 35's or even 25's.
5. If you are just starting out with the deadlift and need to use smaller plates, try setting the bar in the rack or on the bench so you don't have to lean over excessively.
6. If you have trouble keeping the bar close to your shins, stretch out your calves thoroughly.
7. If you find your grip slipping if you use a pronated grip and you don't wish to use an over-under grip because of the torque on the body, try using two single cable handles. Slide them onto the bar before you put the weight on. This will allow you to use a neutral grip. Put padding under the handles so they don't slide on the bar and make very sure they are even.

Variations:

1. Sumo style - feet are placed wide (just inside the plates on either side) with the toes pointing somewhat out. The grip is inside shoulder-width (about 1 foot or less between hands). Same execution as above. This style reduces the amount of leaning over and is a good alternative if you just can't seem to do conventional style properly due to biomechanical difficulties. Most people can use more weight with this version due to the more upright posture.
2. Reverse style - instead of starting with the weight on the floor, start with it on pins on the power rack. Lift it off, then lower and lift without letting the weight rest at the bottom.
3. Continuous style - do not allow the weight to touch the floor in between reps.
4. Dumbbell deadlifts - same execution, but with dumbbells. Allows for a greater range of motion and includes the possibility using weights lighter than the weight of the bar. It also removes the necessity of holding the bar in front of your body. Dumbbells allow you to keep the weight more in line with center of your weight. One dumbbell deadlifts can also be done using any of the variations explained in the next exercise. Another option is to lift two weight plates standing on end. This is a good option for people who are still fairly weak but can't the range of motion to use dumbbells.

5. One arm deadlifts – this is the same general execution as with two arm deadlifts. It will develop a vise grip, work the lats harder and will build up tremendous stabilizing strength. When doing these, you will be able to work up to handling well over 50% of your 2 arm max. Always do singles on one-arm deadlifts. A good strategy is to go back and forth between arms for sets of singles. There are three variations of the one arm deadlifts: bar in front, straddle and suitcase style. Barbells are used for these variations, although you can use dumbbells if you so desire. Dumbbells will make the gripping easier but will force you to start the movement from a lower point. If this is what you want, go for it.

The bar in front style has the bar placed like in a regular deadlift, directly in front of your legs. Set your feet in a shoulder-width stance or slightly wider. Grip the bar in the middle (your thumb and index finger grip should be about a centimeter from the start of the center grip surface—this will prevent the bar being lifted unevenly). Lock your lower back, grip and lats. Brace your non-lifting hand on your knee. Drive with your heels, pulling with your lifting hand and push on your knee with the other. Pull to just above your knees. Any higher and your thighs straighten and you have nothing to support your non-lifting hand. Injury to your lower back is possible if you lose tension. This version has more rotation of the bar because of the off-center lifting.

With the straddle version, stand with your legs on either side of the bar, body over the middle of the bar. Grip the bar in middle. Brace your non-lifting hand on your knee and deadlift up. Do single reps and change hands each time. This version has less torque on the back because the weight is directly under your center of gravity. Only come up to just above your knees. This is the easiest version.

The last version is the suitcase style. With this version, the barbell will be directly beside you. Squat down and grab it in the middle. Stand up all the way erect with it, keeping it as close to your body as you can. This style will really work your abdominal area due to the uneven load. This will tighten your midsection incredibly well and is great for sports that require abdominal tightness (anything that requires twisting of the upper body: baseball swings, golf swings, hockey shots, tennis shots). This is the hardest version.

6. Two person deadlifts – This is a rarely done exercise. Using a regular Olympic bar, stand side by side with a partner. You will be able to load the bar with a lot more weight than usual because it is a two-person effort. Both people grip the bar using the conventional stance. Communication is very important in this lift. You must both pull up at the same time. It also helps to be similar in height and strength for obvious reasons. The advantage of this lift is that you are able to use much more weight. It can also be a time-saver if you are working with a partner since you both get the work at the same time.
7. Lunge deadlifts – position yourself as though you were about to pick up a pair of dumbbells for lunges, e.g. legs split, upper body leaning over slightly. Your back knee should be off the floor so you are at about the midpoint of a lunge. Pick up the dumbbells and straighten your upper body. Lean forward and repeat. To maximize the functional effect of this exercises let the dumbbells rest completely on the floor between reps so there is no tension on the muscles. For greater range of motion, put your lead foot on a block or step (keep the dumbbells on the floor though). This movement is all lower back and it is not in a vulnerable position. Be sure to keep your lower back arched. Switch legs around on alternating sets. For strictly low back work, keep your back knee on the floor and don't stand up. The lunge deadlift is great for building power off the start of a regular deadlift. This movement can also be done with a barbell. Use small plates, e.g. 25's.
8. One legged deadlifts – this is almost exactly the same movement as the one legged squat except you start with the weight on the ground. Use the same form. You can put the weights

on the floor between reps. Use a light weight for this to start as you will have to use your shoulders to force the bar out in front of your shin on the way up and down.

9. Partial deadlifts without a rack – deadlift the weight off the ground fully. When you come back down, instead of bringing the weight in front of your knees, rest the bar on your thighs. Rise back up. You will only get tension at the point where you have to lift the bar off your thighs. This is a good technique if you have trouble locking out. Alternate this style of rep with full reps to get more reps at the lockout phase.
10. Trap bar deadlifts – these are done with the Gerard Trap Bar. Instead of a straight bar, it has two bars that bend around and form an oval around the lifter. It allows you to keep the weight closer to your center of gravity. It can greatly reduce torque on your lower back. Use the regular style, narrow stance deadlifts in this bar.
11. Deadlift negatives – this is great way to build total-body strength. Use a power rack for this one. Set the rack collars on the outside of the cage at a fairly low point (a few inches below where the bar would be on a completed deadlift). Put the bar on it and load it up. Take your stance. Move the bar as far back towards you on the racks as it will go. Have your feet right under the bar. Lift the bar up and back to get it off the racks. Lower slowly. When you lift the bar up and back off the racks, push hard with your calves and forefoot because that is where all the tension will go.

Now comes the fun part: getting the bar back on the racks without killing yourself and without unloading it between reps. You can't go all the way back up one side at a time because the bar isn't long enough. If you have enough low pins on the rack, walk them up those, going from one side to the other. If you don't, try this. Move one end of the barbell out then slide a stack of 4 Reebok step platform lifts to where the plates were. Lift that end of the barbell onto the squares. Go back and lift the other end into the rack. Move and back and lift the elevated end the rest of the way up. Move the step platforms and repeat.

12. T-bar deadlifts – trainers always preach that you shouldn't stand up when doing T-bar rows or you'll turn it into a deadlift. So turn it into a deadlift. Stand up with the loaded T-bar, deadlift style. This movement uses a lot of lower back. It is completely safe for your back as long as you keep it in a proper tight, arched position. This exercise can also be done with the T-bar barbell variation (see T-bar rows for setup information). This setup can also be used with the suitcase style and straddle style one arm deadlifts. You will have to take a small step back about halfway up in order to keep the path of the bar correct. Using the T-bar for deadlifts allows you to really sit back into it, keeping a better body position than regular deadlifts. It also reduces the need for balance. Doing one arm straddle style deadlifts allows you to do two arms up, one arm down deadlift negatives. When you come up with two arms, don't interlock your fingers – have one hand up as high as possible and the other hand just below it. Lower with the high hand.

6. PULLDOWNS

Sit in the pulldown machine with your hips right up under the pads (they are hip pads, not knee pads). Take a slightly less than shoulder-width, underhand grip on the bar or use a V-bar. Start with the body vertical, arms straight over your head. Begin the movement by arching your lower back slightly, sticking your chest out and dropping your shoulders. The arms should not bend in this part of the movement. After dropping the shoulders, pull the bar down to your lower pecs, leaning slightly and smoothly backwards as you pull to hit all the fibers in the lats. The lat is a fan-shaped muscle and the lean back spreads the load over the whole fan. Puff your chest up to meet the bar and really arch your lower back.

Comments:

Do not swing the weight with the lower back.

Always puff the chest out and arch the lower back.

Imagine the hands as hooks and try to pull with the elbows. Leaving the thumb off the bar when possible will minimize biceps involvement, but can affect your grip when using heavy weight.

Don't totally relax the shoulders after each rep. That can damage your shoulders.

Don't jerk at the top of the rep.

The close-grip versions are more effective and less traumatic to the shoulders.

Tricks:

1. Using a slight swing with the lower back can help get heavier weight started. Just don't use too much swing.
2. Drop sets work great with pin-adjusted machines.
3. Do scapular rotations at the end of a set to extend it. This is the dropping of the shoulders without bending the arms. Drop and rotate to finish off the lats when the biceps are fatigued. This can also be used to pre-exhaust the lats (more on pre-exhaust later).
4. The shoulder drop technique should be used at the start of every rep. To practice this, do scapular rotations. Drop the shoulder girdle without bending the arms. Once you have that down, keep going all the way down with the pulldown. This one trick forces the lats into activation.
5. When doing pulldowns with a thumbless grip, try placing the thumb so that the thumb-print area is pushing on the underside of the bar. This will help take the biceps out of the movement.
6. Rows can be done on the pulldown machine by leaning all the way back and staying in that position.
7. A good way to learn the proper technique is to have somebody put his or her knee in your mid-back on your spinal column. This will force you to wrap your back around it, arching the back. Focus on trying to squeeze the knee with the shoulder blades to feel the movement. This will also work with a Swiss ball to learn the arch though the squeeze will not.
8. Not using enough weight can be just as bad as using too much weight. Not using enough weight will not allow you to lean back sufficiently to use proper form as there is nothing to exert tension on to keep your torso from falling over backwards. If you can pull the bar down to your hips or if you find you must keep your torso vertical or you fall over, you are probably not using enough weight.
9. If you have trouble getting into and out of the seat with the weight in your hands, you have several options: have someone bring the weight down and give it to you, use another cable or chain to extend the handle down to a point where you can reach it from a seated position, loop a towel around the handle and pull down holding onto the towel, or start the weight at a pre-lowered position (this is done by first bringing the bar down to where you want to start then putting the pin in – there will be empty spaces on the weight stack so this can only be done with lighter weights).
10. When puffing the chest out, roll it like you're trying to wipe off the inside of a bowl with your it.

This will make it puff out even more.

11. As you pull down to your chest, allow your butt to come up off the seat a little. This will increase lat activation and reduce bicep activation slightly.
12. If you are using a weight that is heavier than your body then you have several choices: extend the chain down until the handle is at a point where you can reach it, hold the handle then have someone push you down (on the shoulders), or hang on then jump up in the air then dive bomb down into the seat and under the pads (this momentum will increase your bodyweight momentarily and allow you get into position – it looks like you're taking a run at it).
13. If you want to do two down, one up negatives, use the V-handle. Pulldown with both then let go or lighten your grip on one side and fight it up. Two single handles on one hook will also work well. If you are using a single handle, don't put your helping hand on top of the working hand when you bring it down. When you remove it, your working hand will weaken more noticeably than if you pushed on the actual handle itself.
14. It is a little known but important trick that you should breathe backwards when doing pulldowns and chins (especially pulldowns). Here is the sequence. At the top, inhale deeply, hold it and pull down. Exhale as you let the bar up. The reason for this is that the chest should be puffed up when you are pulling down to maximize tension on the lats. When you exhale, you collapse your chest, caving it in and increasing the work on the biceps. This is the opposite of what you want to do. By holding a deep breath, you puff the chest more and arch your back more, greatly increasing the effect of the exercise.
15. When using the close grip, flare your elbows wide then squeeze them in as you near full contraction. You can also try pulling higher or lower on your chest.
16. To force your back into the proper arched position and to eliminate jerking the weight down using your lower back, try sitting facing away from the stack so the hip pads force your back to arch and block you from leaning back too far. Look up while you are doing these. Naturally, you will not be able to use more than your bodyweight with this trick, as you aren't secured under anything.
17. Another positioning trick is to do the pulldown sidesaddle. Instead of facing the stack, sit sideways to it. This will put more emphasis on the nearer side. It will do a good job of hitting the extreme lower lat area on that side. Do these both ways to keep it even.

Variations:

1. Wide-grip pulldowns to the front - same execution (back arched, chest puffed out) but with a palms-forward, wider than shoulder-width grip. For maximum stimulation of the lats, use a straight bar or, for total isolation, use a cambered bar upside down, i.e., the angled handles pointed towards the ceiling. The pinkies will be higher than the thumbs, with the index fingers on the bend of the bar. When doing this one, keep the elbows bent a little at the top to maintain tension in the lats. Raise your entire shoulder girdle as though touching your shoulders to your ears, in order to stretch the lats (the lats can be stretched effectively with bent arms). This will reduce shoulder stress.
2. Wide-grip pulldowns to the rear – this is a popular exercise that is very likely to cause shoulder trauma. It is NOT recommended to do this exercise. Take a wide-palms forward grip. Pull down behind the head. Imagine trying to touch your elbows behind your back. Keep the lower back arched and do not bring the bar lower than the point at the back of your head. The safest way to do this exercise is to do it with your upper vertical and only bring the

bar down to the top of your head.

This exercise can be potentially harmful to the shoulders due to the biomechanics of the shoulder joint and the stress of the movement. Be careful not to use too much weight and NEVER jerk it down. Your shoulders and chest must be flexible enough to allow the bar to travel behind your back without hunching forward. Another common technique fault is often seen in women who use almost no weight. The bar is brought down behind the back all the way down to the waist. This is not only ineffective at training the back but potentially more dangerous.

The upside down bar, pinky up trick can be used here, too. Another trick to help isolate the back muscles and minimize bicep involvement is to not hook your legs under the pads. Press your hips up to the pad but put your feet back behind you so that your things are vertical and only your toes touch the floor. You will look as though you are kneeling. Use your feet to push your upper body forward to allow the bar to travel behind you without having to hunch you neck.

3. Reverse-grip pulldowns - same as regular close-grip pulldowns but with a close overhand grip. This will slightly change the fiber recruitment pattern of the exercise and affect the brachialis muscle more strongly than the biceps muscle. You will generally be somewhat weaker with this version.
8. One arm pulldowns - same execution as regular pulldowns but with one arm at a time. Doing them one arm at a time allows you to focus on that one side and allows for a greater stretch at the top. It also allows you to rotate your hands during the movement to affect the muscle differently, e.g. start with a pronated (palms-forward) grip and rotate to a supinated (palms-back) grip. One arm pulldowns work well for negatives. Help pull with the other arm and lower the weight with the one. Don't grip on your working hand; grip on the handle when you help it down. Gripping over your working hand can weaken your grip. You must use a V-bar or single handle for this as it is impossible to hold onto a regular straight bar with only one hand. At the stretch, rotate your body to increase the stretch. Don't allow your shoulder to relax too much.

A good variation of the one-arm pulldown is the high pulley pulldown. Go down on one knee in front of a high pulley using a single handle. Let your arm stretch at the top then pull around and down, squeezing your elbow behind you at the bottom. This type of one arm pulldown allows for a greater degree of body rotation as well. At the top, rotate in towards the pulley. As you pulldown, rotate away from it.

4. Neutral grip - same as wide-grip but with a palms-facing grip. A special bar is required for this or it can be done one arm at a time with a single handle.
5. Full range pulldowns – these can be done with any of the grips mentioned above (reverse, pronated, neutral, wide). To execute, do a pulldown to the bottom position. Hold the weight at that point in space and lean your upper body back and down until it is horizontal. Continue the pulldown movement as a rowing movement and squeeze hard at the bottom. The key is not to release the tension in the back as you lean back and to hold the bar motionless in space. Come back up in one smooth motion. At the top you can push yourself forward to get a bit of a stretch on the back before you start your next rep. This gives your back constant tension throughout its entire range of motion. Use a much lighter weight (50 – 70%) than you would ordinarily use for pulldowns and focus on continuous tension.

There are several variations of this movement that you can use to hit the different areas of your back. To involve the lower back, pull the weight down (any grip), lock the arms then do

a lower-back pulldown. Finish with whatever range of motion is left in the row. With this version, you may want to let the bar go back up when you are horizontal then pull back down to get a better back workout. Using a pronated grip (palms forward) will hit the lower lats hard. Pull to the bottom of the ribcage and try to push the bar forward, away from your face as you finish the rowing part. When using a wide grip, you can do the rowing part to the upper chest to hit the upper back or pull to the bottom of the ribcage to hit the lower outer lats (try to push your elbows forward, away from your head). These can also be done one arm at a time. This has the benefits of greater range of motion and the ability to rotate your shoulder during the movement.

During the movement itself, try varying the angles you pull down to, where you leave the bar hanging in space, where you row down to on your body, how far you lean back, etc. This will cover basically the entire back. One trick you can use at the start of this movement to get a better stretch is to come up until your body is straight then push yourself forward, leaving your arms behind. When you feel the maximum stretch, activate your lats and begin the pulldown movement.

6. High pulley pulldowns – if you don't have access to a pulldown machine but do have access to a high pulley, you can do pulldown using that. The execution is basically the same. Your body position, however, will have to be different. High pulley pulldowns are best done in the kneeling position, as the seated position will cause you to be too vertical in your body position. You should be down on one knee for balance. All varieties of pulldowns can be done

When doing high pulley pulldowns with greater than your bodyweight, you several options. You can start doing chin-ups, you can have somebody hold you down by pushing on your shoulders or you can brace yourself on the weight stack and support bars. When bracing yourself, try the following steps. Drop down heavily with the weight to a seated position, then quickly brace one foot on the support pole and one on the weight stack. Having your feet in the air will solve the body position problems associated with seated pulldowns. Lean fairly far back and pulldown from there. Don't let the weight up too quickly on the negative or you will be carried up no matter how well you are braced. This technique works well with weights that are over but reasonably close to your own bodyweight.

7. Wide cable pulldowns – this is done using the cable crossover setup with two single handles. In a kneeling or standing position a few feet back from being directly in between the pulleys, grasp the two handles with your arms out wide to the side. Pull down and in using your back muscles, not your biceps. Because of the angle and the relative freedom of the cables, you will have to concentrate to feel your back working and to take your biceps out of the action. Don't hook your thumbs around and visualize your hands as hooks. Arch your lower back and puff out your chest, trying to squeeze your shoulder blades together behind your back. You can rotate your hands to use different grips to hit the back a variety of ways.

You can use your bodyweight to your advantage with this exercise. Use a weight that balances your bodyweight so you can keep the handles at the same spot and pull your body up using them as your support. To spot yourself, drop your body down quickly till you hit your butt on the ground. When your butt hits the ground, transfer your body momentum into your arms and pull down the handles. You can adjust the angle of your body to vary what part of the back you hit. This also applies to grips.

8. Partial pulldowns – using a weight that is much heavier than normal, just pull down as far as you can go. These are also good as a one arm pulldown from a high pulley (down on one knee).

9. Lying cable cobras – lie on your side on a bench with your head towards the high pulley you will be using. This is a one arm exercise. Start at arms length overhead. Pull your elbow into your side until your hand touches your shoulder. Pull your upper arm down and back. Use a moderate weight.

7. SEATED CABLE ROWS

Sit facing the weight stack with a grip on what will probably be a V-bar. Keep your knees bent throughout the movement. With the upper body vertical and lower back straight and tight, allow the shoulders to stretch forward. Begin the motion by first drawing the shoulders back without bending the arms. As you continue the motion, concentrate on pulling from your elbows. As you pull back, arch your lower back and puff your chest out. Pull into your lower abdomen. Lower the weight slowly, allowing the shoulders to stretch forward but without losing tension in the back. Do not lean forward. Stretch forward with the upper body remaining vertical.

Comments:

The lower back should only act as a stabilizer in this movement.
Don't lose tension in your shoulders when stretching.
Don't heave the weight with your lower back.
Some machines have a chest support to take pressure of your lower back.

Tricks:

1. To take the biceps out of the exercise more, instead of wrapping your thumbs around the handle or bar, keep them on top, pushing down with your thumbprint.
2. When repping out with very heavy weight, use your legs to help get the weight moving. The motion will resemble that used in a rowing machine. Do not excessively involve the lower back.
3. For an extra burn, hold the contraction at the top of then try to squeeze your shoulder blades together strongly (try to touch your elbows behind your back).
4. For a better grip when using a V-bar, hold the handle with your thumbs forefingers are pressed against the tops of the handle.
5. Try rowing in a circular motion, i.e. pulling down as you pull in and coming up in an over arc circular fashion as you lower the weight (down and in then up and over).
6. Try to force your shoulders down as much as possible to activate the lowest portions of the lats.
7. Lifting your elbows up as you pull in will allow you to get a better roundabout action on the shoulder blades as you squeeze them together at the contracted position of the movement.

Variations:

1. Underhand straight bar rows - same execution but take an underhand, shoulder-width grip. Pull to the abdomen. This grip hits the lower lats better.
2. Wide grip rows - same execution but with a wide, overhand or neutral grip. Pull to the chest. This will hit the upper, mid-back area.

3. One arm rows - using a handle or holding only one of the grips of the V-bar. Allow the upper body to rotate when stretching to get a longer stretch. The first part of the movement is bringing your shoulder back followed by bring the hand back. Hand position can be varied from neutral to overhand to underhand. Try to bring your elbow back around behind your body at the top of the movement to get a peak contraction. The easiest way to do alternating one arm rows is to attach two handles onto one clip then clip it onto the cable. Keep both hands on the handles at all times. As you pull back with one, keep the other one forward to keep the tension off that side. Repeat on the other side. You may also wish to do a both-arm rep in between each rep of one arm (e.g. left – both – right – both – left – both, etc.). A good technique to use with this is to go for very strict form on the both-arm reps and go for power on the one-arm reps. If the two-arm weight is a little light for you, squeeze your back at the top for a 5 count. It is also possible to do one arm cable rows from a standing position. Stand in a lunge position for better stability.

To hit your lower lats hard with the one arm version, try these tips. Use an underhand grip, push your pinky against the bottom of the handle. Try to lead with your pinky when you pull back. Keep squeezing into the midline of your body as your row. Expand your ribcage with a deep breath and hold it. Pull down and in behind you, crunching your torso over to that side somewhat.

4. Mixed grip rows – these are done using a straight bar or with two separate handles. One hand will have an overhand grip and one will have an underhand grip. If you are using a straight bar, alternate sets with each grip. If you are using two freely-moving handles, you have the option of alternating with each rep instead of each set. This provides a different feel to the exercise. The handles should be attached on a hook each then the hooks should be attached to another hook. This will give you a little more freedom of movement.
5. Rows to the neck – use a straight bar with an overhand grip, hands 8 to 12 inches apart. Pull the bar to the lower portion of the neck with your elbows out to the sides. At the finish squeeze the shoulder blades together. Keep your head in line with the torso. This hits the upper traps and the rhomboids.

8. INVERSE ROWS

Lie down on your back under a low bar (the Smith Machine bar set low works well) set up about three feet off the ground. Grasp the bar with a shoulder-width, underhand grip. Pull your upper-body up to meet the bar. Arch your back and stick your chest out as you pull up. Throw your head back as well. To vary the angle, rest your feet on a bench. To make easier, bend your knees and place your feet flat on the floor closer to the bar. This exercise works great for those who can't normally row because of lower back problems. For extra resistance, put a plate on your chest. You can vary the grip on this one like you would on any other type of row (e.g. wide grip, reverse grip, mixed grip, etc.)

Variations:

1. Inverse towel rows – this is a good exercise you can use when you are travelling that requires only your bodyweight, a towel and something to wrap it around. Stand with your feet in front of a vertical pole. Loop a towel around it at about shoulder height and hold onto the ends. Keep your entire body straight and stiff. Straighten your arms out and lean back. Row back up like an inverse row. Various grips can be used with this one. This has the same basic execution as above but you are working against much less of your bodyweight. This makes it a very good exercise for beginners. It can also be done one arm at a time to make it harder.

The longer the towel (or the lower you grip on it), the greater your range of motion and the harder it will be. You may even wish to put your foot up against the pole to resist.

2. Double bench rows – set two flat benches parallel to each other. Sit down between the two benches. Put your elbows or forearms on the benches. Straighten your body out so that only your heels are on the floor. Drop your body down between the benches (supported on the benches by your arms) then push your arms back and together, bringing your body back up squeezing your back as you do so. This can be done between two motel beds or between two chairs anywhere.

9. T-BAR ROWS

The T-bar row is usually done in a T-bar row machine. It consists of a foot platform, a long bar with one end fixed on a pivot, and handles on the freely moving end. Straddle the bar, facing away from the pivot point. With your knees bent about 90 degrees and your back arched, grasp the handles of the machine. Pull up into your abdomen, puffing your chest out and arching your back. Do not stand up to cheat as you can injure your lower back. This is not a machine deadlift as some people seem to think. Look straight ahead. Many T-bar row machines have two sets of handles: one set in neutral position and one set pointing out to the sides. The neutral position will work the lower and outer back while the wider grip will tend to focus on the middle back more. T-bar rows are well suited to the two arms up, one arm down negative technique. Some T-bar rows also have a chest pad to take pressure off your lower back.

Tricks:

1. These can be done two arms up, one arm down for negatives very effectively. If you are using the machine, just release one side. If you are using the barbell version, don't use the interlocking-finger grip. Have the target hand up higher by the plates and the helping hand just below. Alternate with each rep. Leaning back as you are doing these increases the involvement of the lower lats. Brace your non-working arm on your thigh. This is a good following exercise to deadlifts. Leave the weight on both ends and brace one end with small plates to keep it from rolling. You may need to alter the weight you are actually lifting but the setup time is less than going from scratch.
2. Get a deep stretch. T-bar rows are good for getting a good back stretch because they give you something to push back against (the pivot point of the bar) and lean back against to support yourself while getting the stretch. Bent-over rows with a barbell don't do this and can feel awkward if you are trying to get a stretch with them.
3. T-bar rows work well using a heavy/light principle. Do with 2 arms for high rep sets, then, without changing the weight, you can also do heavy 1 arm T-bar rows on the next set.

Variations:

1. Barbell T-bar rows - set one end of an Olympic bar into a corner and load the other end with plates. Wrap your hands around the bar by the weighted end with an interlocking-finger grip. Execute like above. With this version you should counterbalance the other end to prevent the barbell from flipping up when you first start to lift it off the ground or make sure it is wedged under something that will not move. This can also be done one arm at a time or with the rope attachment around the bar. As well, some variations of the E-Z curl bar have an exaggerated bend in the middle that can be hooked around the bar.

The barbell T-bar row can also be used for shrugs for the middle traps. Load the bar with 45

pound plates. This will prevent you from bending your arms (though you should have them slightly bent to maintain tension in the elbow joint) as the plates will hit your body before you can. Use the same body position as explained above. Let your shoulders stretch forward then bring your shoulders back as though trying to touch your shoulder blades together.

2. One arm T-bar rows – these can be done with the machine or with the barbell set-up as explained above. Brace your non-working hand on your knee with your arm slightly bent. This will give your back a better base of support and reduce torque. Your knees should be bent like the bottom of a squat position with your back tight and arched. Suck in your abs and hold them in. Your upper body should only rotate to get more of a stretch. It should not dip up and down during this exercise. Rotate back and up as you row up to get a greater contraction. Try to keep the bar as close to the mid-line of your body as possible to reduce uneven stress to your back. If you are doing these very heavy, try switching back and forth between arms with each rep. This will allow you to get more reps.
3. Double barbell T-bar rows – use two bars set parallel to one another. Stand between the two and row up like a bent over row.

10. PEC DECK ONE ARM ROWS

Stand facing the pec deck, just in front of it. Grasp the left arm on the bar or pad or whatever you can get a good grip on (you may have to improvise - tie a towel around or something). Brace yourself with your right hand on the top of the backrest. Rotate your body about 90 degrees to the left. Pull the left pad back in a rowing motion, sweeping a wide arc with your elbow, pushing it out for a stretch while you pull. Do a set with the other arm.

This exercise provides a great stretch for the back. Allow the weight to pull your arm forward. Begin the motion by rotating your torso slightly away from the handle. It will feel as though you are pulling with your body before pulling with your arm. This exercise also gives you a good peak contraction at the top. Squeeze hard and lower slowly. If done properly, you will feel like the muscle is about to rip off the bone. That's how good the stretch should feel.

Tricks:

1. To really hit the lower lat, stand up high and pull into your lower abdomen. Exert downward pressure on the grip but without letting the hand slide down. Try to meet the handle with your rib cage and squeeze hard and down. Arch your lower back and get a good stretch at the bottom of the movement.

11. ONE ARM UNIVERSAL BENCH ROWS

Set up the bench right underneath the left handle (perpendicular to the stack - experiment with how far under the handle you put the bench) so you almost straddle the handle. Squat down and grasp the handle with your left hand. Maintain an arch in your lower back. Brace your hand or forearm on your right knee. Row the handle up. Your body position is like a plane landing. Repeat on the other side. You can try moving the bench to the other handle to take advantage of the arc of the bench machine. It will provide something different than linear resistance.

This exercise lends itself to heavy self-negatives. Lift up with both arms then lower the weight with one. It does tend to put torque on your lower back. When you do this exercise, keep the handle close to the midline of your body to minimize this torque. This exercise is great for hitting the teres major right at the armpit. This will improve the width of your upper back and improve

your taper.

12. PEC DECK PULL-INS

Stand facing the machine. Grasp both poles or pads, arms out wide. Brace one foot against the back pad. The best way to get in position is to grab one side then swing over and grab the other. Squeeze your shoulder blades together as you pull the handles in towards you. Visualize trying to touch your elbows behind your back. This hits the middle-center back with a peak contraction. To enhance the feeling more, try to push your elbows out and away as you pull in.

13. HYPEREXTENSIONS

With your feet hooked under the foot pads and your thighs supported on the pads, bend at the waist, as your upper body is vertical upside down. Your hands can be held on your chest or behind your head or neck. In a smooth arc, bending at the lower back, rise up until parallel with the ground. Contrary to popular belief, it is not harmful to go above parallel (about 15 degrees is sufficient). In fact, it is far more beneficial. Going above parallel involves actual spinal extension, which is what you are looking for with this exercise. Even though it is popularly thought that this compresses the disks in the lumbar area, it does not. Keep your lower back arched throughout the movement. Weight can be held across the chest or across the back (when using a bar) for extra resistance. Don't use weight until you can do 15 to 20 reps without weight. Do not rotate while doing this exercise as the spine is in a vulnerable position.

Comments:

This exercise uses primarily the hamstrings and the glutes. The reason people feel it in the lower is that it is usually the weak link in the chain. The lower back is worked primarily isometrically like sit-ups for the abs. There is little spinal flexion, only hip flexion resistance when the body is at that angle.

Using more momentum decreases lower back involvement.

Tricks:

1. If your hyperextension bench is flat put a rolled up towel or pad under your hips to increase the range of motion and provide a better movement.

Variations:

1. Improvised hyperextensions - if you don't have access to a hyperextension bench, there are a few ways to get around it. Set up a flat bench close to a machine or other solid surface, parallel to the edge. Rest your hips on the bench and hook your heels underneath the solid thing's edge. Execute as above. You can also get a partner to hold your ankles down instead of wedging them under something. If you have an angled leg curl bench with the body bench bent in the middle, set the weight heavy, wedge your legs under the pad and do short-range hyperextensions.
2. Floor hyperextensions - lie flat on your stomach on the floor with your hands behind your back. Extend your upper body up and back as though doing the top range of a hyperextension.
3. Hyper crunches – this variation is actually for more effective for training the spinal erectors directly than the regular hyperextension. It is better to have a rounded pad for this version

but if you don't, fold a mat up and put it over top of the thigh pads. Instead of resting your thighs on the pads, rest your midsection on the pads. The edge of the pad should be just under your ribcage rather than at the hips. Suck in your gut for comfort. This is especially important on the way down. If you have a potbelly, this exercise may be uncomfortable. Crunch over the edge of the pad, rounding your back until your head is down. You can hold your hand crossed in front of your chest if you like. Crunch back up using only the spinal erectors. This exercise uses only spinal flexion and extension, not hip flexion and extension, removing the glutes as a prime mover and using them only isometrically. Squeeze hard at the top and repeat. The downside to this movement is that it can feel uncomfortable on the abdomen and should not be done by those with large bellies (e.g. pregnant women or overweight people with large, protruding abdomens). To ease pressure on the abdomen, inhale and exhale only at the top of the movement and suck in your gut during the movement.

4. Ab machine hyperextensions – use the seated crunch machine backwards. Face the other way and put your upper back across the pad instead of your chest. Put your hands on the backrest of the seat. Keep your lower back arched. Extend your spine back and down like your rolling over a barrel. Keep your abs tight and don't let the weight touch at the top.

14. REVERSE HYPEREXTENSIONS

This movement is the reverse of a regular hyperextension. In it you raise your legs with your upper body fixed rather than vice versa.

Variations:

1. Hyperextension bench reverse hypers - support your upper body on the hip pads of the hyperextension bench. Your legs will be where your upper body usually is. Bending at the waist, allow your legs to go down to vertical. Raise them up by contracting your lower back. Your legs will probably be bent for most of the movement unless you have very short legs. For extra resistance, use ankle weights or hold a dumbbell between your feet. As an alternative you can move the bench in front of a low pulley, wear an ankle harness and use that for resistance. Try using a rolled up towel or pad on the hip pads to increase the range of motion.
2. Reverse hyper machine - there is an actual reverse hyper machine that can be found in some gyms. It is higher up off the ground than a hyperextension unit and two sets of bands for your legs. This machine is specifically designed for this motion and is excellent for lower back rehab, hamstring work, and gaining deadlift strength. The same basic execution is followed but it allows you to keep your legs straight. It is also much easier to add weight to as you don't have to hold it between your feet.
3. Power rack improvisation – this is useful if you don't have access to a reverse hyper machine and the hyperextension bench way is not good for you. Set the safety rails in the power rack to just above waist height. If you have a long bench (the decline ab bench works nicely if it's removable), place that across the rails. Your midsection will be across the bench. Your hips should be wedged into the edge of the bench. Use a dumbbell between the feet for resistance. If you don't have a long bench, try this. Lay two or three bars across the rails (three is better if you can find them). Put either the round foam pads on the middle of them or fold up a mat and lay it across them. This will support your upper body. This only works in an uncrowded gym. To stabilize yourself, wedge your elbows underneath the bars (or the bench if that's what you're using). Again, use the dumbbell for resistance and wedge your hips into the first bar (that's the best bar to have the most padding on).

4. Leg extension machine reverse hyperextensions – this is best done on a leg extension machine that has a single padded bar for the shins rather than the type that has the foam ankle pads on either side of the center bar. It also helps if the backrest is removable. The first step is to remove the backrest (pull the pin and see how far it slides). Move the ankle pad up to the highest position. Stand in front of the machine so that you are facing the seat. Step in between the ankle pad and the edge of the seat so that the back of your legs is against the ankle pad and the front of your thighs is against the edge of the seat. Squat down inside there until your hip bones are on the edge of the seat and your hamstrings just above the knee are against the ankle pad (your knees will be bent 90 degrees). Your upper body should be resting on the seat (you may want to put a folded towel on the edge of the seat where your hipbones are for some extra padding). Hang onto the backrest post. Now extend your hips bring your legs back and up. You can straighten your legs as you do so or keep them bent. Lower and repeat. This is an excellent variation and is almost as effective as the reverse hyper machine.

If you don't have access to that type of machine, you can do these one leg at a time on the other type of leg extension machine. You must have an adjustable ankle pad for it to work though as most non-adjustable machines have the pad set too low to work. If you are going to work your right side, move to the left half of the bench so the left half of your body is off. Hang on tight. Don't leave your left foot on the ground though. Either hold your leg straight behind you in the air or keep it glued to the right and go through the motion with it. You may think it looks stupid to do that but you already look stupid anyway.

5. Swiss ball reverse hyperextensions – place the Swiss ball on top of two flat benches placed side by side (this is the easier starting version). Set the ball near the end. Lean forward and place your hips against the ball. Roll up on top of the ball and grasp the edges of the benches. Hold on tight. You may cradle the ball with your forearms for balance. Your hips should be near the back and top of the ball with your legs hanging straight down behind you. Extend up to horizontal. The ball will give you padding as well as a round surface to sequentially activate the erector muscles. Hold and lower then repeat. The higher the ball is on your chest, the harder this exercise is, as you must support more of your bodyweight. This also works the spinal extensor muscles higher up on your back than conventional reverse hyperextensions. By rolling the ball almost to your chin, you can work all the way up to your neck. This requires great strength. This high up will also work your lats isometrically. A good way to work into this is to start lower down on the chest then lift your legs up and hold, then roll yourself backwards, rolling the ball up your chest. This will isometrically work many of the muscles of the back as you must grip hard and the stress rolls up your back. Once you have the balance down, try it one only one bench. It is harder to balance and more effective.

15. LOWER BACK PULLDOWNS

Sit in a lat pulldown machine taking a palms forward, shoulder-width grip. Keeping a constant arch in your lower back and without bending the arms at all, pull your body (and the bar) down and back until your upper body is horizontal. Bend only at the waist in a wide arc backwards. Do not use explosive power or any momentum. Feel the tension throughout the movement and do not twist. Come all the way back to a full stretch. Allow the weight to stretch and unload your lower back as much as possible at the top.

You will want to pretend as though you are wrapping your back over a large ball (you can actually use a Swiss ball to practice this). Relax your hamstrings and glutes to take them out of the movement.

This exercise is useful if you can't put much pressure on your back, e.g. rehab, or have a weak back. Do not do this exercise if you have herniated disks or if compress from spinal extension hurts in any way. This exercise is a good way to pump blood into the area with light weight and full range of motion. This version is an improvement over regular hyperextensions in that it does not cause a significant increase in blood pressure due to body position. It is also easier to add weight on a pulldown machine than it is to hold plates on your chest during hyperextensions.

16. GOOD MORNINGS

This is a lower back exercise that gives excellent results but can be tricky to do. Hold a barbell across your back like a yoke. Start with just the bar. Set your feet about shoulder-width apart and bend your knees to about 120 degrees. Keeping your back flat throughout the movement, lean over until your upper body is horizontal. You should be looking straight ahead the whole way down and up. Straighten up. Be very careful not to round your back at all during the movement. Add weight slowly, always use perfect form and do not go to failure.

Comments:

One of the disadvantages of this exercise is the lessening of the resistance as you come to the top of the movement.

Contrary to popular belief, this exercise will not hurt your back if it is done properly. Eventually, you can work up to using about half of your squat weight.

Variations:

1. Universal Bench Machine Good Mornings - Set the bench in normal position. Use a light to moderate weight to start. Stand on the bench facing away from the stack right in between the handlebars. Squat down and grab the bars as close together as possible. You should be leaning over so your upper body is horizontal, knees bent 90 degrees, lower back arched.

Straighten your body back and up at the waist. Keep your lower back arched throughout the movement. Do not come up all the way to vertical. This keeps tension on the muscles. Keep your legs bent in the same position. Look straight forward and a little up throughout the movement to keep your back in position.

This version doesn't put as much torque on the spine at the bottom of the movement as barbell good mornings. The backward arc of the bench machine allows for tension all the way through to the top as well.

2. Seated good mornings – sit on the end of a bench holding two dumbbells. Lean forward, letting your arms dangle straight down. Keep your back in proper arched position. This can also be done using the low pulley. The pulley will give you more tension near the top while the dumbbell give you more at the bottom.

17. PULLOVERS

Sit in a Nautilus pullover machine. Brace your triceps against the pads and pull over. It can also be done lying across a bench but the range of effectiveness is limited and is a better used for the chest.

Variations:

1. High pulley - grasp a bar like in the lat lever exercise but with a reverse grip and elbows bent. Keep a constant bend in the elbows and pull down and back. Keep your lower back arched and body leaning slightly forward.
2. Weight belt pullover/down - hook a weight belt onto high pulley in a loop (hook it on the buckle), slip your arms in to the back of the triceps by the elbows then push down with the elbows. Arm slings that are used for hanging legs raises will also work. Put your hands around the hooks to keep your elbows from slipping out. Starting in the stretch position, come down like a pushdown until you hit the peak contraction position. This takes the biceps completely out of the pulldown motion and removes any grip strength factors. This can be done one arm at a time. This may actually be better if the belt squeezes your shoulders together too much. In this case, you can use the other arm to help do forced reps and negatives.
3. Barbell pullovers – cup your hands to hold the bar almost entirely in your palms. Don't allow your wrists to roll over. Use various grips. This is best done as a pre-exhaust movement for your lats. Go for high reps.

18. POWER CLEANS

This is a total body exercise that will really hit the back and legs. It is the first portion of the Olympic clean and jerk. Take a medium width grip on a barbell. Set your feet about shoulder width apart. The bar should be right by your shins. The start of the motion is essentially an explosive deadlift. Pull the bar up to your thighs. Once the bar reaches knee level, raise your heels off the ground in an explosive calf raise. Shrug your shoulders as high as you can. These movements serve to get the bar as high as possible. Without stopping the motion, thrust your pelvis forward to start the bar swinging forward and up. As you swing the bar up to rest on your clavicles, drop your torso down so the bar does not have as far to go. Flip your wrists back as you get to the top.

A good way to practice this is to just practice the clean portion (the portion of the movement from hips to shoulders) until you get the timing of the drop and flip. Use just the bar and practice the hip thrust, the swing, the drop and wrist flip. When you are proficient at that, try it in two separate stages. Deadlift the bar, pause, then clean it to your shoulders. After a little of that, try it without the pause. It's a matter of timing the hip swing to coincide with the bar reaching it's highest point on your thighs and before it loses any upward momentum from the lift from the floor. It is a tricky exercise that should definitely be seen in practice before attempting.

This exercise relies greatly on technique and should be restricted to sets of 6 reps or less. After that point, fatigue will hamper motor skills and you will be practicing bad form.

This can also be done with dumbbells or with one hand on a barbell. The one hand on the barbell will develop great hand and arm strength. Switch between arms. This can also go into a press to involve the shoulder as well.

19. HIGH PULLS

This exercise looks like a power clean without the clean. The basic form is as follows. Start with the weight on the floor in front of you. Take a medium width grip (you can vary the grip). Pull the weight explosive up from the floor and accelerate it as high as possible, aiming for you chin even though you will probably just get it to your lower chest/upper abs. Raise your elbows as high as possible and keep the bar close to your body. It resembles an upright row from the floor. Be

careful with your shoulders on this one. You can start the weight from a variety of positions: from the floor, from your knees, from a hang, etc.

20. FLOOR SUPERMANS

This is an excellent exercise for you lower back. Lie face down flat on the floor with your arms extended directly straight overhead. Lift your left leg and right arm off the ground at the same time, keeping them both straight. Lower then repeat with the right leg and left arm.

21. ERECTOR CRUNCHES

Use a strap or belt or towel attached to a support (e.g. rail or Smith machine bar) with the belt wrapped around your hips. Face away from the support in a kneeling position. Bend forward at the waist so your upper body is 90 degrees to your thighs and parallel to the floor. Crunch your abs, bringing your ribcage down towards your pelvis like an upsidedown abdominal crunch. Bend at the lower back. Do not move your hips at all. That is the start position. Using your lower back muscles, do a back extension with a smooth motion. Do not swing your use your head. Image somebody has their forearm in your lower back and you are wrapping your back around it as you come up. Your pivot point is the bottom of the ribcage, not the hips. This is what makes this exercise different and far more effective than hyperextensions. The top position is a fully arched back with your body up looking like a plane coming in for a landing. Keep your hips 90 degrees at the top of the movement in order to keep tension on the muscles.

Tricks:

1. This exercise can be done with a pole and a towel quite easily. Put your butt right up against the pole in a kneeling position. Loop the towel around your waist and around the back of the pole and to the front again if it's a long towel. Hold onto the towel ends. If it is not a long towel, have the middle of the towel around the back of the pole and hang on to the two ends in the front. It can also be done using a towel and a Smith machine bar. Set the bar to about a foot and half to two feet off the ground depending on your height. Put your butt against it. Loop the towel so the middle of it is in the front of your waist, duck the towel ends under the bar then loop them over the bar so they come out to the front. Hang onto these to do the exercise.
2. As an alternative to the above, you can also do these by just holding onto the bar with your hands. Reach back behind you and try to pull your butt into the bar firmly. It's not as effective as the towel but does work.
3. If you wish to use extra weight, you will need to do a hands-free variation where you are supported without using your hands. Otherwise you will need someone to either put a plate on your back or apply manual resistance by leaning on you.
4. Having a spotter hold a forearm under the abdomen to crunch helps teach form.

Variations:

1. Seated erector crunches – this is the same basic execution except instead of supporting yourself with a belt, you are seated on a chair or bench. If you wish to have resistance in this position, the best way is to have somebody push on your back as you raise up.
2. Seated erector cable crunches - sit on a bench facing a low pulley. Hold the handle into your

chest. Lean down then contract up and back maintaining an arch in your lower back the entire time. This exercise allows you to work the back like a hyperextension without the blood pressure issues and with much less weight if needed.

3. Reverse ab machine erector crunches – sit backwards in a seated ab machine. Lean backwards instead of crunching inwards.

22. CABLE UNCROSSOVERS

These are done using the cable crossover setup with the two high pulleys. Stand in between with your arms crossed in front of you and straight. Stand back a few feet for a better contraction. Uncross down and back, squeezing your lats hard. This is a detail exercise, not a mass builder. These can be done standing or kneeling. Arch back strongly at the contracted part of the exercise for the greatest tension. Hold it for a few seconds and squeeze hard then lower and repeat. This also works the rear delts and the rotator cuff muscles to some degree. You work the back more when you come down and back rather than higher up and back.

23. CENTER BACK PEC DECK CRUNCHES

This exercise works the upper center back from the middle to the back of the neck at the absolute peak contraction point anatomically possible for those muscles. Stand up in the pec deck machine with your butt and back against the back pad. Reach back, gripping the pads, handles or bars with your thumbs pointing down. This internal rotation is very important in getting the full contraction. If your thumbs are up, your triceps and lats will get in the way of the movement. From that position, bend over at the waist until you start to feel the tension. That is the starting point. Keeping your arms straight throughout the movement, bend forward and down, squeezing your shoulder blades together as you do so. The track of the machine will force your hands together as you come down, forcing the contraction. Go down as far as you can and try to get your hands as close together as possible. Keep your butt against the pad at all times. Squeeze hard then come back up.

Tricks:

1. Keep your feet behind your body if the machine allows it. This will help with distributing your bodyweight forward so you can crunch down.
2. Pull down with your abs and use your bodyweight to come down.
3. As you come down, externally rotate your shoulders. This will force more contraction.
4. Arching your lower back and puffing the chest out will increase the squeeze. Keep your head up and looking forward.
5. This extreme contraction exercise can be supersetted with a stretch exercise for great results.

Variations:

1. Pulldown bar back crunches – use a straight bar. Stand on the seat. Reach back and grasp the bar overhand arms behind back. Step down off the seat. Drop your torso down and squeeze the scapulae together. This variation can be a little awkward but also provides a good chest stretch. It is not as good as the pec deck version because the pec deck version

brings your arms together behind your back for you.

24. POWER SNATCHES

This is an Olympic-style lift that will improve your explosive power. It is a high-skill exercise that needs to be practiced repeatedly before using a lot of weight on. Stand in front of a loaded barbell with your feet about shoulder-width apart. Take a wide grip on the bar. Keep the bar close to your body. Explode up, pulling the bar up as high as possible. Just before the point where the weight starts to slow down, throw the bar overhead and drop down into a deep squat underneath it. Raise your elbows as high as possible before throwing the bar overhead. The technique on this exercise is very challenging. Practice with an unloaded bar before attempting it with weight.

Here is a detailed explanation of how to do the power snatch by Bill Starr from Ironman Magazine (p 98-99, September, 1999):

“Assume your basic foot stance. If you aren’t sure what that should be, try this approach. Stand on the lifting platform, shut your eyes and place your feet as if you’re about to do a standing broad jump. That’s the right foot spacing, for it will give you the most thrust. Your grip should be very wide. Using an Olympic bar, place your ring finger on the outside of the score on each side. If you don’t have the benefit of an Olympic bar or your bar isn’t scored, experiment. Wider is better than to close, but if your grip is too wide, the lift may irritate your shoulders. Try some different grips until you find the one that serves you best.

When pulling with the wider grip, many people have a tendency to round their backs. Before you break the bar off the floor, concentrate on getting your back very flat. You can accomplish that by pulling your shoulder blades tightly together, which will flatten your upper back. What that area is tight and flat, the rest will follow.

Perhaps the most important point to remember when doing power snatches is to keep the bar close to your body throughout the movement—an in ridiculously close. The bar must travel right up to your shins, be close enough in the middle to hit your belt—which you shouldn’t be wearing ,by the way—and tucked in tightly at the top, so tightly that it brushes your chest on the way up. In other words, it can never be too close.

It’s a good idea during the learning phase to start the bar off the floor rather deliberately, as opposed to quickly. When people try to hurry the bar off the floor, they usually bend their arms in the process. That’s another key point: your arms must stay straight until the bar has passed your midsection. If your elbows bend too soon, you won’t have any snap at the finish, where you need it most. That’s one of the hardest things to learn. Feel your traps shrug before you bend your arms. The traps will elevate the bar, and then you can use your arms and shoulders to drive it overhead. Most people worry too much about getting the bar in proper position overhead. Don’t be overly concerned at first. Just get it overhead, lock out your arms firmly, lower the bar and do the next rep. Eventually, you’ll become more exact. When the bar is fixed overhead, it should be slightly back. If you could draw a line from the back of your head upward, that’s where the bar should be. It’s the strongest overhead position, for it places the bar directly over your spine and hips.

Be cautious when lowering the bar back to the floor. Beginners almost always round their backs far too much. First lower the bar back to your hips, cradling it in your lap momentarily before placing it on the floor. Don’t bounce the plates off the floor on the reps. Stop at the bottom and reset your back so that you do each rep as correctly as possible.

Try to think of this exercise as a whip. It starts slowly then picks up speed until at the very conclusion the bar is a blur. You're trying to throw the bar upward. Once it's locked out, hold it momentarily, and you'll feel it working your back in a way nothing else does. Stay with a light weight until you get the form down. Your form doesn't have to be perfect, just functional. Then you can run the poundages up and on the heavier sets press out the weights. Some days you may want to stay light and do snappy movements for all your sets. I usually recommend two sets of five as warmups, then four or more sets of three, working up to a max poundage. Many trainees like to take the same top-end weight for three to five sets. When they can handle that easily, they move the numbers up the next time they do power snatches."

If you can't snap the weight all the way up and you are forced to press it the rest of the way, that is quite all right. You're still working the same muscles. Stick with sets of three reps with a high skill exercise like this one. Any more and you start breaking form.

25. SPINAL SPINS

This exercise works the rotator muscles (the little ones around your spine) of the back. Use rubber bands with this one for progressive, continuous resistance. Attach a band to a squat rack upright or other pole at chest level and hold the other end at chest height. Twist your torso away from the rubber band. Be sure the band remains at chest level. This causes the little muscles around the vertebra to contract like a domino effect starting with the lowest. Ensure there is no momentum in the movement.

BACK TRAINING NOTES:

The four function of the lower back:

1. Stabilize the pelvis and the spine.
2. Assist hamstrings and glutes in rotating the pelvis while bringing the trunk into an upright position (extended) from a bent-over position.
3. Extend the spine.
4. Rotate the spine.

Lower Back Pain – can be caused by tight hamstrings. They restrain normal pelvic movement. The solution is to stretch. Tight hip flexors can cause your pelvis to tilt forward as well. This is compounded by weak abdominals. Strengthen abs and lower back. Stretch hip flexors. They are the number one cause of muscle imbalance. This is caused by prolonged sitting, overuse, no stretching, and/or poor abdominal technique. Do the lunge stretch for hip flexors.

To tell if your lower back is excessively tight, try a lower back rotation. Normal range is to lie flat on your back with your shoulder down and your knees bent. Rotate your knees down to one side. The side of your thigh should touch the floor while your shoulders stay down.

A sort of stretch for lower is the McKenzie Press-up. It is almost like a Sphinx position. Push up with your palms with your arms straight.

The lumbar curve. Do not lose this during big squats, rows or deadlifts. Never round your back because a herniated disk is possible. Be careful especially when racking the weight in squats. Don't lean over too far or extend yourself too much to do it. When you are exhausted is when you have the greatest chance for injury.

If you have a hard time maintaining the lumbar curve during exercise, try this trick. Tape your back with athletic tape with two strips from the sacrum to the top of the lumbar curve while

standing in a neutral position (use athletic tape directly on the skin). If you lose the curve, you will feel the skin being pulled from the tape. This is instant feedback.

Never straight-leg bend over and lift with a rounded back if the weight is greater than 60% of 1 RM (20+ reps). With lighter weights it is reasonably okay, as long as you are careful and don't do sudden movements. This can actually stretch the back in a beneficial way and build up the back so it can take loads in that position. Underworking in that position is also not good.

The spine is not meant to be a weight bearing structure. It is like the rim of a bike wheel. The spokes bear the weight while the rim is only there to anchor them.

The erector spinae muscle group includes the longissimus dorsi, the iliocostalis dorsi and lumborum, and the multifidus muscles. They stabilize the pelvic area and extend the spine.

Seated lower back machines do not have a full range of motion and tend to have people push with the legs too much.

Lower lat targeted superset:

Alternate – 1 arm angled stiff-arm pushdowns and 1 arm pec deck rows.

If you have a weak lower back, start with erector crunches to build it up before going on to deadlifts. This will help prevent injury.

When doing static holds for back (e.g. chins, rows, pulldowns, etc.), breathe in and out deeply trying to expand your rib cage as much as possible. This fires the lats strongly.

Stay away from twisting exercises for your lower back.

Back traction – this is a good way to unload the spine. There are two good ways to do this. Use the dip handles and hold yourself in the top position (don't relax your shoulders completely). Unlock and loosen your back, abs all your supporting lumbar muscles. Suck in your abs a little and swing your legs loosely around. The weight of your legs will get traction on the spine and pull everything down. The other way to do these is by resting on your forearms with your hands crossed in front of your chest in the hanging ab chair.

Try using the chest expander cables for rowing. You can bring your elbows further behind yourself.

A good way to feel if the back is working is to try and squeeze a finger between your shoulder blades.

CALF EXERCISES

Primary movers: gastrocnemius, soleus, tibialis anterior.

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THE EXERCISES

1. STANDING CALF RAISES

Stand in a standing calf machine on the balls of your feet at a comfortable separation with your shoulders under the pads and your toes pointing forward. Start with your heels down as far as possible in a good stretch. Keep your knees straight and stiff but not locked. Rise up onto the balls of your feet and squeeze, moving only at the ankles.

Tricks:

1. To work the inside of your calves, set your feet farther apart and rise up on the inside balls of your feet. To work the outside, set your feet in close and rise up on the outside. Do not turn your toes in or out as this puts unnatural stress on the knees.
2. To work the soleus muscle, bend your knees then rise up. Keep your knees locked tight when you do this or you will involve the quads and glutes.
3. Hold the stretch at the bottom and try to lift your toes up (don't slip) to totally stretch the muscle and work the tibialis anterior at the same time.
4. Do negatives by coming up on two feet and lowering on one. When going onto the one at the top, increase the tension on it gradually, contracting the muscle hard, until the one calf carries the whole load.
5. Try using a two-step lift. Come up about halfway, pause, then finish up to the top. There is a sort of realignment of the ankle joint partway up. It will help you get past the sticking point.
6. Hold at the top of the contraction for a count of ten and shift the pressure on your feet to the inside and outside of the foot. This hits all the calf fibers.
7. When doing one-legged calf raises, stand on a dumbbell handle (one with round plates so it rolls). This will make you work to stabilize. It will also allow you to roll over the top giving you full extension of the calf at the top. As you come up, roll the dumbbell backward. Roll it forward as you come down. It is also possible to do these on the actual dumbbell plates (make sure your are hanging on with both hands if you do this version as it is extremely unstable). Use a larger dumbbell, e.g. 85 pounder, if you can, though a smaller one will work.
8. On one leg calf raises, hold your other leg in front of your working leg. Use it to push back on the knee to force it straight if you have a tendency to bend your knee when trying to target the gastrocnemius.
9. To hit the inner calves, stand with your feet about a foot apart then, as you rise up, try to force your heels together. Do not let your toes or balls of your feet move. Your toes should stay pointed straight forward. Squeeze hard at the top. This is essentially attempted external rotation at the hip joint with the stress going to your calves. Try to put more pressure on the big toe sides of the feet as you come up and squeeze together.
10. To hit the outer calves, stand with your feet about 2 inches apart. Keep your toes nailed to the floor as explained above. Try to push your heels away from each other as you rise up. Come up onto the little toe side more as well.
11. A good way to spot yourself on one-legged exercises is to put the toes of your other foot

under your heel and pull up. This doesn't take any tension off and you are still moving the same weight. You just get a little help.

12. Try doing add-set calf raises. This works especially well with high-volume training. Add 2½ pounds to each side after every set for the whole workout.
13. Instead of using a calf block, try doing calf raises on the slanted foot block of seated row machine. It provides a great stretch and allows no rest at any point of the movement.

Variations:

1. One leg at a time in the machine - same execution, cross your free leg over in front of your working leg's shin. Try the two legs up, one leg down negative technique to increase intensity.
2. One leg dumbbell calf raises - same execution, hold a dumbbell in the hand on the same side as your working leg. You can vary the stress by holding the dumbbell in the other hand. If the dumbbell don't go heavy enough, you can do two dumbbell, one legged raises by holding two dumbbells and balancing yourself against the opposing shoulder pad of a standing calf machine with no weight on it. Another way is to hold one dumbbell and add a little weight onto the standing calf machine and execute the same. Alternatively, lean against a wall and push up sideways. You may also wish to just do it on the floor with a reduced range of motion. Another alternative is to use a low pulley with a single handle attachment. This is especially useful if you have progressed beyond the heaviest dumbbells in your gym.
3. Swinging dumbbell calf raises - execute like regular one dumbbell calf raises, only swing a moderate dumbbell in front, behind, to the sides, forward and back while you are doing the exercise. The idea is to place irregular stress on the muscle to force it adapt. It is like the pump you get from running in the sand. The muscle has to constantly react to where the load is coming from. Alternate hands and keep the dumbbell moving constantly. Hold the dumbbell in the same hand as the working leg or in the opposing hand. It will just change the stress on the muscle. For the most irregular stress, do these standing on the handle of a rolling dumbbell (or the plates themselves – be sure to hold on tight to something solid with your other hand, though).
4. Swinging body calf raises - this is the same idea as the dumbbell version. Hold onto something with both hands. As you rise up and down, reorient your body position constantly so you are never pushing straight up and down. Lean to the left, right, forward, back, slowly, quickly, roundhouse, etc. Just constantly move yourself around.
5. Partial calf raises – these can be done as top range partials or bottom range partials. The easiest way to do top range partials is to have your feet flat on the floor. This is easily done in the Smith machine but can also be done on a regular calf machine by stepping back off the block and doing them on the floor. The partial calf raise will allow you to use a lot more weight than full range. When done without weight, the floor calf raise is a very good place for beginners to start with calf training as it does not place as much stress on the Achilles tendon as regular calf raises. The bottom range partial is usually done as a burn at the end of a set. Be careful about using heavy weight on this so you don't strain your Achilles tendon. Always keep tension in the muscles.
6. Smith machine calf raises - place a block of wood or other calf block just in front of the path of the bar. Rest the bar across your shoulders like a yoke. Rise up. This exercise puts the resistance behind you instead on in front of you and works much better than most standing calf machines. If the bar hurts your neck too much, you can also just hang onto the bar as if

you're doing shrugs (in front or behind) but don't shrug, just rise up on your toes.

A good trick to use with that is (if the calf machine is bolted down solidly) to place your feet back about a foot back (no block) and push forward and up. You will look like a ski jumper. It will also increase the tension in the stretch position and work the calves at a different angle. Start from the regular top position then just step back. This technique is good for any sport requiring explosive forward movement as the body position employed here mimics that movement exactly. Make sure your shoes have good grip and you are not on a slippery surface.

There is a very good technique for hitting the inner and outer calves using the Smith machine variation. Instead of using a calf block, place two 25 pound plates beside each other on the floor under the bar. If you want to work the whole calf evenly, stand with your forefoot in the middle of each plate and do a calf raise. If you want to work the inner calves, use only one 25 pound plate. Put it directly in the center. Stand so that only the front inner quarters of your feet are on the plates. The sides of your feet will be half off so your ankles slope down and away. When you execute the calf raise, raise the sides of your feet and come up onto your big toe sides of your feet. Try to force your heels in together as well. This type of movement will build great ankle strength as well. Roll back down and out. To work the outer calves, use two plates with about six inches of separation between them. Place the outer front quarters of your feet on the sides of the plates. Your feet will be tilted down and in. Roll up and do a calf raise then return to the start position. Make sure you hit both positions in order to keep the ankles balanced.

7. Leg press calf raises - sit back in a leg press machine with your heels off the bottom of the footplate. Lower the sled, feel the stretch then press back up. Really try to push the weight as far away as possible, even extending up a little with the hip if possible (when doing one leg at a time). These can be done one leg at a time or in the two legs up, one leg negative fashion. The same idea can be followed in the Universal leg press machine or in a vertical leg press machine. The leg press calf raise is more similar in body position to the donkey calf raise.

You can also work the inversion/eversion muscles of your calf (the stabilizers) on the leg press. Use this technique when doing high reps with light weight. To work the inner calf (using the left leg as an example), put your left foot on the left outside edge of the foot plate so the big toe ball is on the edge. Your foot should be angle 45 degrees and you should be lying on your right hip in order to keep your leg tracking straight. Extend your calf up, rotating your ankle down at the bottom and coming up onto your big toe joint at the top. To work the outside, you must reverse this position. Put your left foot on the outside of the right edge of the foot plate and lie on your left hip. Push up on the pinky side of your foot.

8. Universal bench standing calf raises - Peak Contraction - hold the handles standing in between them, facing the stack. Bend your knees slightly and lean back. Come up on the balls of your feet and squeeze hard. Lower down but don't let the plates touch. There is no stretch in this movement but the contracted position is hit hard. When you come down, relax for a split second then contract hard to the top. To add more weight, put plates on the handles. This is a good exercise to do negatives on. Use two feet to go to the top position. Hold it there and gradually raise one foot off the ground. As you do this gradually focus on squeezing the working calf harder and harder, increasing the tension all the way. Lower slowly. Another technique is to come up to the top of the calf movement without lifting up the stack. When you are getting the biggest contraction you can at the top without weight, shrug the stack up. This works well because you will be able to get to a higher position without the weight, then, when you are at that higher position, you add the weight and get a much stronger contraction. This can be done one leg at a time or both at the same time.

9. Half seated calf raises – this involves using a special machine that is like a seat on a hack slide. There are handles on either side and the back pad is only a few inches wide. Execute like regular calf raises. This version puts a bit more stretch on the calves due to the body position. To maximize the stretch on the calves, at the bottom of the movement, bend over completely, folding your body in half. Keep your knees very straight and press up. When you have finished pressing up in that position, unfold yourself so that your torso is upright. Continue the motion up to full contraction.
10. Plyometric calf raises - this will be similar to Strength Shoe work. Drop down quickly and explode up off the stretch. Ensure you keep muscle tension and don't allow the tendons to take all the force. That would be dangerous. This is an advanced technique and should not be attempted by beginners. These can be done with a dumbbell or in a machine too.
11. Ball calf raises – do these standing on a small ball. It is even more unstable than a rolling dumbbell if it is well inflated. Hold onto something for balance and try with a dumbbell in your hand as well.
12. Jumping calf raises – these are very similar to plyometric calf raises. Do not use weight with these. Simply use a calf block and move as though you are skipping. These can be done with one or two feet. Your feet should come right up off the block with each rep so you are airborne. Come down then explode back up. To work the stabilizing muscles of the calves, shift your position around on the block as you jump going from side to side. You should hold onto something with your hands to control the movement of your body through space. Do not allow your tendons to take the brunt of the force at the bottom. Be sure to keep tension in the muscle especially on the way down.
13. Walking calf raises – hold 2 dumbbells in your hands (if you want to work grip strength as well) or a barbell across your back. Walk around, coming up on your toes like a calf raise every time. Push up forcefully. Go backwards, sideways, criss-cross, etc to work the stabilizing muscles of the ankles. You may also want to place blocks or plates on the floor to step on to increase the range of motion. You can go up and down on one foot before you place the other one down or go up then place the other foot on the floor. You may find dumbbells easier to balance with this exercise.
14. Free standing calf raises – these are best done in a power rack with a barbell but can be done with dumbbells. Stand inside the rack. Set the safety rails to just under shoulder height. This is where you will set the barbell. Load the barbell. Set it up on your back exactly like you would do for a squat. Stand up with it. Come up onto the balls of your feet and squeeze at the top. You can do these off the floor or off a block. You will have to balance yourself and the barbell while you are doing these. This is a very functional exercise for the calves. When you start using heavy weight you will need to shift your weight and the barbell's weight forward a little in order to get the movement started. You will notice when you use very heavy weight, you will have a tendency to roll to the outside of your feet. This is the path of least resistance. Try to roll to the inside for maximum calf work. For a little extra squeeze and balance work, stop the motion at the top and hold it work a few seconds. This can be very difficult. For a little extra calf work, come up with your knees bent, hold at the top then straighten your legs.
15. Foot lever calf raises – these are done on the foot levers of a machine that is used for something else, e.g. a vertical bench press machine. These machines have levers that you press with your feet to start the weight in an easier position. Use that lever to do calf raises. If you are using a bench machine, move yourself up on the backrest so you are not sitting in the seat but are held in place by the pushing of your feet. If you do these bent-legged, don't

turn it into a leg press. Keep your knees bent at the same angle the whole time.

16. Stair stepper calf raises - there is a good use for those terrible little stair-steppers that consist of two pedals and hydraulics. Use this instead of using a block for calf raises. This is best done on the Smith machine but can be done with free weight as well. As you come up, do quick up-and-down little burns with your calves, coming up a little higher each time as though you're trying to inflate yourself. This is like doing a series of partial movements for calves, activating many more fibers. You don't need very heavy weight for this to be effective. This technique gives you vertical instability. By preceding this exercise with donkey calf-raises you hit the full stretch and contracted positions of the calves. A superset is even more effective.

This type of calf raise doesn't necessarily have to be done with a stair stepper, though. You can mimic the movement on a solid block with doing the little foot-pumping movements.

Another variation you can try with the stepper is to place it perpendicular to the movement so you are doing calf raises on an angled surface (this can also be done with a calf block by putting something under one end). Doing this increases the recruitment of the lateral and medial aspects of the calves as well as the stabilizers. You can do both legs at the same time by bending one knee slightly or one leg at a time. Be sure to switch directions of incline to balance the work done. If you do one leg at a time, do both legs without moving the stepper, hitting the outer aspect of one leg (the leg that's higher up) and the inner aspect of the other (the lower one). Switch the stepper around and repeat.

17. Wall calf raises – this is very similar to the push against the wall calf stretch. In fact, that's exactly the position you start in. Instead of just stretching, however, actually do a calf raise using resistance from arms as the weight.

2. SEATED CALF RAISES

Sit in the seated calf raise machine with the pads against the top of your thighs just above the knees. Place your feet wherever comfortable, toes pointing directly forward. Start in the stretch position at the bottom and rise up on the balls of your feet.

Tricks:

1. Rise up on the inside and outside of the foot to hit the inside and outside of the soleus.
2. If the seat of the machine moves up and down with the weight, lean forward as you lift it.
3. Try to lift your toes up during the movement and especially during the stretch.
4. To do top range partials with this, just don't move the support lever and go from there.
5. To get a feel for the calves working, at the bottom stretch position, completely relax the calves. Before moving the weight, contract the calves (without moving the weight) then move the weight. This will give a good feel for activating the muscle belly of the calf, improving the efficiency of the movement by improving your mind-muscle connection.
6. Imagine pawing with your feet as you do the calf raise. This is like the motion made by a bull right before it is about to charge.
7. When doing any variation of bent-leg calf raises, pull your toes up and try to push with just

the balls of your feet to help preferentially activate the soleus muscle.

Variations:

1. Plate raises - Sit on the end of a flat bench and place either plates, a barbell or a dumbbell stood on end on top of your thigh(s) near the knee. Put your feet on a block of wood or other raised surface. If you can use a round surface such as pipe, it will work better. Rise up. In place of plates or dumbbells, you can have someone sit or even stand on your knees for resistance. Tilting the plates to the inside or outside and how you roll up on your feet will affect where on the calf you hit (inside hits inner calves, outside hits outer calves). These can be done one leg at a time or two at a time. Lean forward as you come up to increase the contraction. You can actually lean on the plates to increase the resistance as well. Imagine trying to push the balls of your feet backwards as though "pawing" the ground. Try leaving the plates on your legs and your feet in the stretch position during your rest periods. Hold the stretch for as long as you can (you may wish to rest completely for the last 20 seconds or so). This type of movement works very well with stutter reps (short little up and downs – see Intensity Techniques).
2. Universal bench machine raises - lie down in a sphinx position with the balls of your feet underneath the handle of a bench machine. You can get a spotter to move the handle up into position or do it yourself by setting the pin so about 4 notches are showing. Put your feet in position then weasel yourself under the bar. Move your knees close to the stack. It will look as though you are walking backwards on your knees while bouncing the stack up and down. Press the weight up with your feet. This position allows the lactic acid to be flushed automatically by gravity from your calves. This allows the calves to fail because of muscular failure, not lactic acid build-up. This exercise is good for two legs up, one leg down negative training. Try supersetting these with Universal bench standing calf raises – Peak contraction style.

There are a few tricks you can use to make this exercise even more effective. The stretch is a passive stretch. At the end of the set, just let the weight stretch your calves until you can't take it any more. To increase the stretch, contract your tibialis anterior muscles on the front of your shins. This will force the calves to relax and will increase the stretch. To hit the contracted position harder, try this technique. When you are in the contracted position, grasp the bench with both your hands by your chest. Push yourself up off the bench like a push-up. Try to force your hamstrings towards your calves as close as they will go. The greater the amount of flexion in your knee, the stronger the contraction will be in the soleus muscle. Hold that contraction for a second then lower your body down and lower the weight down. Repeat on the next rep.

Use an incline bench.

This exercise can also be done on the Smith machine by setting the bar on the safety stops instead of on the hooks. This allows you get under the bar and execute without having to hook and unhook the bar. Be careful of the bar spinning, though.

3. Universal bench bent-knee calf raises – set the pin 6 to 8 inches up. Slide the bench as close beside the stack as possible, parallel to the handles. Put a folded up towel over one knee, put your foot on the bench with just the balls of your foot on the edge. Lift the handles up and place your knee under the main middle lever arm so the arm is on top of the thigh by the knee. Rise up on your toes like a seated calf raise. To increase the contraction, drop your body down and bend your knee as much as possible. You can spot yourself with your hands on this one, making it good for negative work. This exercise can also be done by resting a dumbbell on top of your knee instead of the Universal bench bar. You may also wish

to try it with your foot on top of a Swiss ball instead of a bench. This will allow you to roll the ball backwards as you come up, increasing the amount of flexion therefore increasing the contraction. It is also unstable, which assists calf development.

When doing the universal bench version, you can hit the inner calf head by shifting your right leg off to the right (if you are using your right leg) and rolling up on your big toe side. To hit the outer more, shift off-line to the left and roll up on the pinky toe side. You can also get more stretch by pushing down on the handles.

4. Pulldown machine calf raises – this is a good way to improvise a seated calf machine. Use the knee pads of a pulldown machine as a calf raise machine. This is good if you don't want to put plates or dumbbells on your knees. Set the pin to the midpoint of the calf raise position. Pile the weight on. Raise it up a little then pull the pin out and do calf raises. This works well with somebody standing on the knee pads as well. If you are really nuts, get the person to jump up and down on the top the pads (only if it is safe to do so – don't do this on pads that spin) with your feet in any position. This will activate the stretch reflex of the calves a lot. You can also use it do to calf isometrics throughout the entire range of motion. Set the pin of the pads to the desired height then push against it as hard as you can and squeeze.
5. Leaning body calf raises – start in the bottom of the lunge position with the toes of your forward foot on a raised surface. Lean your torso forward until you are resting your torso on the front thigh. Do a bent-leg calf raise from there, using your bodyweight as resistance. The easier version of this is with your back knee on the floor. To make it harder, keep the back knee off the floor. This way you will be taking more of bodyweight as resistance.
6. Dumbbell on knee calf raises – this is a standing bent-leg calf raise on a bench edge with a dumbbell on top of the knee. Put your foot up on a bench then hoist a dumbbell up onto your knee. You can drop your upper body down to increase the amount of flexion at the knee, increasing the tension on the calf muscle. You can also increase the tension by leaning on the dumbbell. This variation can be done on the floor with your foot raised on a weight plate or a block, down on one knee (for balance, angle your back leg a little, increasing your base of support). It also works well on the floor with your foot on a rolling dumbbell handle. As you come up, use your free hand to roll the dumbbell back towards you. At the same time, imagine you are pawing the dumbbell back like a charging bull. This will increase knee flexion, increasing calf contraction. Roll it away on the way down. To increase the instability of the exercise, wiggle the dumbbell around on your knee. This will constantly vary where the tension is coming from. You can also try it with your feet on the rolling dumbbell plates instead of the handle. You can also try this while sitting on a Swiss ball. This will give your body instability as well. It will also allow you to roll your body forward on the ball to increase the contraction by decreasing the angle at the knee.

3. DONKEY CALF RAISES

These can be done either freestanding or in a machine. If you have a machine, set up so the pad is resting on your lower back/pelvis area and you are bent over at 90 degrees. Make sure the weight is directly over your legs, not your lower back. Place your feet as usual, keeping your knees straight and stiff, and rise up onto the balls of your feet. These can be done one leg at a time, as well. The focus of this exercise is the stretch position.

Tricks:

1. These can be done on any block of wood or raised surface as long as you are bent over and are doing a calf raise.

2. If you wish to do these at home, a staircase works well. Just rest your hands on one of the higher steps.
3. As with straight leg calf raises, these can be done on a dumbbell handle (either rolling or non-rolling). It is also possible to do them on the rolling dumbbell plates themselves. Roll the dumbbell backwards as you come up.
4. Try doing this exercise as a two-part movement. Get a good stretch, come up partway then stop. Shift your ankles around a little then continue up. You will find the best way to shift your ankles in order to realign them with practice. If you go straight up in one movement, you will not get as much of a range of motion.

Variations:

1. Bronco version - set up a block of wood, position yourself like in the machine version, grab onto something and rise up. To add resistance, get someone to sit on your back (like riding a horse) down by your hips.
2. Hip belt version - same set up as 1. Hang some plates from the belt, positioning the belt as far back on your hips as you can. Same execution. Do one legged as well. The hip belt can also be attached to the seat row cable. Face down, bent at a 90 degree angle with the cable running back between your legs and your feet on the foot supports.
3. Smith machine version – lie on your back on the floor underneath the bar. This is the same start position as a vertical leg press. Use the safety rails, not the hook for this variation. Place the balls of your feet on the bar. Extend up and down. Keep your arms overhead with your fists under your head to keep your back arched and your hips down. These can be done one leg at a time as well. Keep your non-working leg on the floor to keep your hips down. You may wish to brace your knees with your hands to prevent them from bending too much.

There are a few techniques you can use to make this more effective. Instead of having your hips directly under the bar and your legs vertical, slide forward so your legs are angled back (bar over chest). This puts a much greater stretch on the calf. Don't slide too far forward - make sure you keep your lower back on the floor to avoid low back stress. Keep your knees as straight as possible. To increase the stretch even more, crunch your upper body up and hold behind your thighs. This will increase hip flexion therefore increasing the stretch. It also works to keep your lower back down.

For a major explosive twitch stretch, when you are at full stretch reach up with both hands and pull down on the bar hard. Feel the stretch fully then release the bar and explode up with your calves. This also works your abs when you reach up.

4. Squat machine with shoulder pads - Instead of putting your shoulders in the pads, put the back of your hips in the pads, bent over with your hands supported on a stool or something.
5. Universal bench donkeys – lie flat on your back underneath a Universal bench press handle. Do these one leg at a time. Place the balls of one of your feet on the bottom of one of the handles. Execute like a donkey calf raise. Keep your knee straight and locked. For more of a stretch, crunch your upper body up.
6. Dumbbell donkey calf raises – start in the same position as a free standing donkey calf raise. Hold one dumbbell in the same side hand as you are working (do these one leg at a time).

Hold the dumbbell close to your leg. Keep your entire body tight (especially your back) as you do these. An alternative is to have a partner put a dumbbell on your back (on end if the ends are smooth) and hold it there while you do your set. The dumbbell should rest just above your tailbone.

4. FULL RANGE CALF RAISES

This is a bodyweight exercise that takes the calf muscle through its absolute full range of motion. Do these one leg at a time. Set up with the balls of your foot on a raised block (any raised surface will work). Keeping your leg as straight as possible (push on your knee if you have to), bend over as though touching your toes. Hold onto something for balance. Stretch your heel down as far as possible and stretch your upper body down as far as possible without straightening your legs. This is the maximal stretch position for the calves. Rise up as far as you can while still bent over. At full extension and without releasing the tension in the calves, straighten up at the waist so you are now in one legged calf raise position. Come up to full contraction and squeeze hard.

Tricks:

1. At the bottom of the donkey movement, you may need to put your hand down to spot yourself.
2. Straighten your knees as much as possible on the stretch part. Use your hand to push your knee back if you have to.
3. If you need a little extra spot on the second phase and you don't have anything to push yourself up with, try pushing up under the working heel with the toes of the other foot.

Variations:

1. If your gym has a machine that has a seat with handles on the side that goes up at an angle, you can do this on there. At the bottom, bend over completely as though trying to jam your head between your knees (keep your knees straight and locked), come up as high as you can in that position then straighten up, lean back and come up to complete extension.

5. ANTERIOR TIBIALIS PULLBACKS

This exercise works the front of your shins. There are several variations of it, depending on available equipment. Strengthening this muscle can prevent many training injuries (especially shin splints in runners). The posterior calf muscles tend to overpower the anterior one and the constant pulling can aggravate it.

1. No equipment - sitting on a flat bench, rest one heel on the end of the bench. Pushing on the top of your foot with the other hand, try to pull your toes back towards your shins. Resist on the way up and down.
2. Low pulley - place your foot in either a handle or an ankle harness so that only your toes are hooked in. With your heel on the floor, pull your toes back towards your shin. Use your other hand to make sure the handle or harness doesn't slip off.
3. D.A.R.D. - Dynamic Axial Resistance Device - this simple but effective device has one bar underneath your heel and one over the top of your toe knuckles with the weight on the end,

above your toes. To use, pull your toes back towards your shins.

4. Surgical tubing tied to something is also good for resistance.
5. Set a weight plate on top of your foot. Raise it up. You can put your heel on another plate to increase the range of motion.
6. One of the best ways is using a dumbbell. Slide your toes under a dumbbell handle at about a fifteen-degree angle off the line of the handle. This will mimic the toe knuckles for a more comfortable position. Curl your toes up to cradle it. You can put your heel up on something like a block or a plate for this one. Pull back and up, balancing the dumbbell on your foot. This introduces the element of instability, making it more effective. To make more unstable, move your foot from side to side a little to enhance the balancing effect.

This variation lends itself to static contraction training. Start with your leg vertical and position the dumbbell with foot already in the contracted position. Lean back with your ankle locked, carrying the dumbbell back with you (you can help with your hand in order to use a very heavy weight). Hold for as long as you can. This technique allows you to use much heavier weight.

To get a good stretch at the bottom of this movement, lean yourself back (bend your other knee and lower yourself down keeping your working leg straight) so your ankle is plantar flexed maximally (toes pointed position). As you pull back and up with your toes, bring your body up to a vertical position and lean over slightly. This will get a maximum contraction. Is almost like an accordion-type movement with your ankle as the focus.

This is a good exercise to do in between sets for your calves. Doing it between sets eliminates any potential excuses of not having the time to do it.

6. EXERCISES FOR MEDIAL AND LATERAL ANKLE STABILITY

These exercises increase ankle stability, but, like the rotator cuff exercises, should not be done the day before you will be doing something requiring ankle stability as the muscles will be temporarily weakened.

1. Lateral rotations - sit on a flat bench with your right heel placed on the end. Grab the outside of your right foot with your right hand. The elbow of your right hand will be on the inside of the right knee. Without moving your shin, rotate your foot outward, pivoting from the ankle and resisting with your hand. This can also be done with the low pulley or ankle harness or surgical tubing with the same execution (pivoting outward from the ankle). Reverse everything for the left leg.
2. Medial rotations - sit on a flat bench, right heel on the end. Grab the inside of your right foot with your right hand. Your right elbow will be on the outside of your right knee this time. Rotate inward, pivoting at the ankle, resisting with the hand. This can also be done with the low pulley or tubing. Repeat with the other leg, hand positions reversed.

7. BALANCING

This is one of the simplest and most effective ways to build ankle stability and strength and to prevent sports injuries to the ankle. This type of training should be a part of the training program of any athlete who uses their feet a lot. It is not just a matter of training your equilibrium but of building your strength in the sides of the lower legs, which are responsible for balancing. The stronger your stabilizing muscles are, the better you will be able to maintain balance in a very

unstable situation. Bodybuilders will find that this type of training will really bring out great detail in the lower legs and has the added bonus of developing the very hard to reach extreme outer and inner aspects of the gastrocnemius muscles.

Variations:

1. One foot freestanding – simply balance on one foot for as long as you can. Just by simply trying to maintain your balance, you will notice that all the small supporting muscles of the ankle are firing continuously in order to keep you upright. Move your arms around and try bending your knee at various degrees as well to vary it. Bending the knee more will also help work on hip and knee stability. This unweighted variation is good for ankle rehabilitation after injury. For a challenge, try it with your eyes closed.
2. One foot with dumbbell – same execution as above but holding a dumbbell or dumbbells in your hands. If you just use one, vary the side you hold it on. You will find you will have to lean more to one side in order to find the balancing point. Don't be afraid to work your way up to extremely heavy dumbbells. This is where you really build ankle strength. For extra work, swing the dumbbells around as well to vary the stress even more.
3. One foot with barbell – same execution but with a barbell across your shoulders. The best place to do this is in a power rack with the pins set just below the point where you are working. You can work up to incredibly heavy weights with this one. This will develop the sides of the calves better than any exercise.
4. One foot on a dumbbell – this can be done with or without dumbbells in your hand. Use a non-rolling dumbbell to start with then work up to a round plated one. Stand on the dumbbell handle on one foot on the balls of that foot. Balance on there for as long as you can, however you can. You may find it easier to hold two light dumbbells (like a tightrope walker holding the heavy pole) to help with balance. The rolling dumbbell introduces a forward and backward element as well and is very challenging. The lighter the rolling dumbbell you use, the more it will move. Conversely, a heavy dumbbell will move less and should be used first.
5. One foot between cable crossovers – this is exactly what the name says. This version will allow you to lean more to the sides before falling over.

Tricks:

1. Try doing these at the top position of a calf raise – on the floor or on a block.
2. Bending your knee will help you balance. Your hip stabilizers will be able to help as well.

8. CALF ROCK-UPS

Squat down with your legs completely bent so your hamstrings are touching your calves. Rise up on your toes and squeeze your calves hard. This is the peak-contracted position for the soleus muscle. These can be done with your back against a wall, holding onto something in front or to the side for balance.

Tricks:

1. To increase the range of motion and include a stretch component, do these with your toes on a raised surface.

2. To increase resistance, hold a plate on your knees. Another way to add resistance is put your forearms on your knees then hold your hands under something solid, using hand pressure as resistance.
3. Hold onto towel ends wrapped around something else to include a little instability into the movement. Come up in an arc then pull yourself in towards the towel.

Variations:

1. Smith machine calf rock ups - lower the bar to about a foot and a half. Use a foamy pad if you have one. Place your feet slightly behind the bar then tuck your knees under the bar so that the foamy pad is on the top of the thighs just above the knees. You will be down in an extreme squatting position with your heels slightly off the ground. Rise up onto the balls of your feet, squeezing hard. Keep tension in your thighs to prevent knee stress. Hang onto the bar to allow you to reset it at a moment's notice. These can be done one leg at a time as well. Unweighted calf rock-ups can also be done squatting down with your butt by your heels and coming up onto the balls of your feet. Hang onto something for balance.
2. Shoot-the-duck calf rock-ups – this is a one-legged version where the other leg is held straight out in front of you. Hold onto something for support. If you wish to do these in an unstable environment to increase their effectiveness, use your hands to move your body around as you execute. This is easiest to do in between the handles of a Universal bench press station. Face the stack when you do these.

9. HIGH INCLINE WALKING

This can be done on any treadmill where the incline is adjustable. Set the incline to its highest level and set the machine to a fairly slow speed. You aren't trying to work cardio here, you're trying to force blood into the calves. Walk for five to ten minutes, focussing on pushing up with the calves every time you step. This is an excellent way to enhance blood circulation in the calves. Stretch your calves hard once they are fully pumped to expand the fascia.

10. CALF PUSH-UPS

These can be done kneeling or standing. Put one leg straight out in front of you with your forefoot resting on a bench or something else solid. Your toes will be flexed up at the start. Rest a dumbbell on your thigh just above your knee (but not on it). Push down with your foot like you are stepping on a gas pedal. This pushes the leg up, hitting the calf differently by forcing it to contract in an unfamiliar plane. When you do this exercise on one knee, you will look like a hurdler. The range of motion is not great, just try to get as much contraction as you possibly can.

GENERAL CALF TRAINING NOTES

To really hit the calves, do them just before doing partial squats. This will work as a sort of pre-exhaust for the calves. Partial squats hit calves somewhat and since they are already fatigued, they will be affected even more. It is also a good warm-up for partial squats.

As a general rule, do calf exercises that require stabilization before doing calf exercises that are locked in, e.g. do swinging dumbbell calf raises before machine calf raises. Supersetting in this fashion can be incredibly effective. Try this superset: swinging dumbbell or body one leg calf raises immediately followed by full range calf raises as seen above. You will feel like someone is driving a nail into your calves and the pump is incredible.

In keeping with this rule, do swinging dumbbell raises then Smith machine calf raises with bent, locked knees with extremely heavy weight. It'll work.

The soleus muscle is comprised primarily of slow-twitch muscle fibers. This means they should be trained with higher reps with at least 40 seconds under tension.

Try using a rounded surface for calf raises. The roundness allows for a better roll and transfer of tension in the muscle. The handle of a dumbbell works great to this effect. For an even better effect, stand on the plates (hold onto something for support when using a rolling dumbbell).

When doing 2 up 1 down negatives for any calf exercise, the transfer of force from two legs to one is very important. Contract both at the top. Slowly transfer more and more of your weight over to the negative foot while at the same time contracting it harder and harder until you are only on that one foot. It should be a gradual increase in tension. If you go all at once, you will probably just drop with the weight immediately. Squeeze hard until the weight pulls you down. Do the same with the other leg.

To hit outer calves, force heels away from each other as you rise up. To hit inner calves, try to jam your heels together.

For full calf contraction, they must be contracted with tension across the knee joint as well because the calf muscle crosses the knee joint.

Here is a good calf combo cycle for volume training:

- 1 – move around 1 leg calf raises
- 2 – springing calf raises
- 3 – strict calf raises
- 4 - full range calf raises
- 5 – top range partial calf raises

Just keep going back and forth on each leg and then to the next exercise.

You will severely limit your calf development by only using machines that operate two dimensionally (up and down). Your calves and the muscles around your ankles are among the most dynamic in the body. Every time you balance yourself (e.g. standing up), you use those muscles.

If you have trouble growing your calves, try stretching them before and after every workout for five minutes. Use the calf machine to get some resistance. Alternate feet every 10 seconds.

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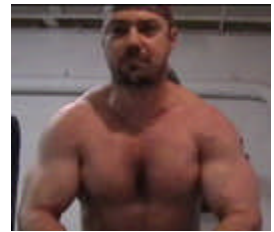
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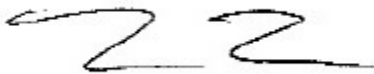
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Nick Nilsson

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If you have questions about any of the techniques, my secret contact drop box is betteru@fitstep.com



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CHEST EXERCISES

Primary Movers: pectoralis major and minor

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THE EXERCISES

1. FLAT BARBELL BENCH PRESS

Lie down on a flat bench. For best shoulder health, space your hands so that at the bottom of the movement, your forearms are perpendicular to the ground. Take the bar off the rack. Lower it slowly to the nipple line then press up in a backward arc so that the bar finishes approximately over your face.

Comments:

Keep a natural but not excessive arch in your back during the movement.

Pressing to the neck is potentially dangerous and can damage your shoulders with repeated use. Do not bounce the bar off your chest or allow the weight to drop quickly out of control. This has the potential to cause sternal or rib damage.

Do not abuse your spotter by letting him/her do all the work.

Try to keep the bar level throughout the movement - if the bar tips to one side you will put excessive stress on your shoulders.

Use collars if the weights slide.

Don't use collars if you are benching alone and there is no one around. Without collars you can tip the barbell and slide the weight off instead of letting it slowly crush you.

A wider grip will work the pecs more and a narrower grip will work the triceps and shoulders more. Don't go too wide, though, as that can damage the shoulders. As well, those who use a very wide grip tend to be more prone to bridging and rebounding.

If you do bench alone, respect your limits and keep the do or die rep in you because if you don't, you might die.

Do not lift your butt off the bench.

Inhale on the way down, exhale on the way up.

Exhale forcefully on the instant of direction change.

Plant your feet and legs parallel to the bench not at an angle.

Keep your elbows tucked in during the descent.

Keep your feet on the ground. Putting them on the bench not only destabilizes you, you lose the power of the leg push.

The path of the bar is actually like an "S". It should go towards your feet a little as you come up then back towards the head like a stretched "S". It is a small movement—only an inch or two forward and back.

Beginners do far too much bench press.

When you specialize too much in bench press, the problem usually starts in the crown of the shoulder at the tie-in of the delts and traps. This indicates not enough rear work (e.g. back and rear delts) to balance the strength of the chest.

Another problem area is the pec tie-in with the biceps and front delt. This is a result of too much work and poor form, e.g. the bar hitting the chest, rebounding, bridging excessively.

Behind the neck pulldowns and presses can aggravate rotator cuff problems from the bench press. Don't do behind the neck exercises.

Don't move your feet when struggling at the end of a set. This breaks your power base. As soon as you do that, you're done for. Focus on the muscles that are working and locking yourself solidly onto the bench.

Don't overtrain the movement pattern. Take a break from barbell bench for awhile. 99% of people take no break from it.

A good explosive, light warm-up for the bench press is the rest on your knees on the end of the bench. Fall forward, catching yourself on the bar in the bench press position then throwing yourself back up to vertical and letting your hands leave the bar. This is light and it helps remove

deceleration inhibitions (see below).
Flat bench also works the outer head of the triceps.
Think of the pecs as pulling your arm in rather than pushing up.

Where to bring the bar:

On the flat bench, you should bring the bar to the point where the breastbone ends (for most people). A bit higher is okay but don't go lower as this makes it difficult to keep your elbows under your wrists.

Breathing during bench press:

When you are using heavy weights for low reps, don't breathe during the rep. You will have more power if you hold your breath during exertion. The reason for this is that when you breathe in or out, the rib cage is forced to relax. This keeps you from maintaining a solid foundation. Take a deep breath before you start the rep and hold from start to finish. This is only when you are doing heavy weight for low reps. For regular training (four or more reps), you should breathe so you can actually do the reps.

All Pressing Movements:

Always keep your elbows directly under the wrists. If they are inside or outside you give away power laterally, pushing out instead of up. This is seen most often in wide-grip bench. It aggravates the shoulders and can cause stretch marks. For most, your hands should be placed where if you extend your thumbs on an Olympic bar, they can touch the smooth rings. This is just a guideline.

Keep your wrists straight. Don't cock them or allow them to twist during the exercise. This causes undue stress on the wrist and reduces power in your shoulders, chest and arms.

Grip the bar firmly. A false grip can be potentially dangerous if the bar rolls.

Deceleration:

One of the limiting factors in the bench press is that part of the force from the muscles is used to decelerate the bar to keep it from throwing your shoulders out of the socket. Your body does this by firing the back muscles. At 81% of your max, 52% of the range of motion is used to decelerate the weight. At the max, it is 23%. This can be a cause of sticking points. Your nervous system is thinking about slowing the weight down during the movement, limiting your pushing power. The lighter the load, the greater the deceleration needed. This limits your explosiveness. It is also one of the reasons predicted 1 RM's are very inaccurate.

You can overcome nervous system holdback with plyometric training like medicine ball throws (they aren't heavy enough, though). Some alternatives include drop push-ups with your feet elevated (start upright then fall down and push up explosively off the floor). If you do explosive bench press, just concentrate on exploding out of the bottom. Another option is the throw and catch bench press. This is best done on the vertical bench press machine but can be done on the Smith machine with two spotters. On the vertical bench simply throw the weight right off your hands. It's not going anywhere and it is perfectly safe as you aren't under a bar. You can catch the weight and do another explosive rep (this is the best way) or catch it with the foot lever then do another explosive rep from the bottom. The Smith machine version entails having your two spotters catch the weight after it leaves your hands and when it's upward velocity reaches zero just before it drops back down. Set the safety racks at the bottom and have two spotters you can

trust. Use 40 to 50% of your max.

Another technique for overcoming deceleration is to attach chains to the bar. The increasing weight of the chains as the bar goes up help to decelerate the weight without requiring muscular involvement.

Tricks:

1. Grip - to make sure the pecs are doing as much work as possible, use a feather grip. This means rest the bar on the heels of your hands but do not wrap your fingers around the bar. Rest only your fingertips on the bar and press on the underside of the bar with your thumbprints. This is not a false grip where your thumbs are on the same side of the bar as your fingers. The bar may roll if you do that. The thumb on the bar will give you control. Another trick is to slightly rotate or angle your hands so that your pinkies are slightly pointed back towards your head. This position forces the tension onto the pecs and will not allow you to lock your elbows out completely. Do attempt to lockout, however, as this will force the pecs to contract hard. Be extremely careful with this technique and only use it if you are very comfortable with the exercise. Use it with light weights only.
2. Foot placement - there are three common ways to place your feet: on the floor, on the bench, or wrapped around the bench support. Wrapping your feet around the bench support will anchor you to the bench and will prevent you from lifting your butt off the bench.
3. Try to imagine forcing your elbows around something big and round as you press up to focus the contraction on the pecs.
4. If you're trying to overcome a sticking point in your bench there is a simple way to do it. On your last rep, when you hit the sticking point, hold the weight there for as long as possible in an isometric contraction (no helping from your spotter until the weight starts to drop). The isometric contraction will strengthen the muscle at the exact sticking point.
5. Before you do any bench press, bring your shoulder blades together underneath you to further isolate the chest. Work them as far down and back as you can, as if you are trying to touch them behind your back, making your shoulders as narrow as possible. This will help to reduce deltoid involvement in the pressing action. This has the added action of reducing the range of motion slightly because your torso is now thicker than when your shoulders are flat.
6. As you push up, thrust your rib cage and sternum up while pushing your rear delts down.
7. Driving with your legs is a part of the bench press few people understand. Your feet should be on the floor, feet and legs parallel to the bench. Your knees should be bent at about 80 degrees with your heels dug into the floor. Squeeze your glutes to raise your butt up. At the moment you begin to push the bar up, drive with your feet. In essence, try to use your heels to slide your body up the bench. The weight will keep you from sliding but that push backwards will translate into upward push on the bar. That is why your lower legs should be angled back—so they can push. Practice using your feet to slide yourself up the bench with just the bar to get the feel for the action.
8. Try to imagine pushing yourself down through the bench, away from the bar rather than pushing the bar up. This will give you a little more power.
9. Assistance exercises: doing these can help you overcome any weak points in your bench press. Some of these include: rack lockouts, seated half presses in the rack (for shoulders),

close-grip steep incline presses (for triceps), floor presses.

10. If you tend to lift one foot up off the floor when you bench when it gets difficult try putting a 2½-pound weight on your foot. Try not to let it move when you are benching. The weight won't keep your foot down, you must strive not to move it.
11. When you get under the bar, a trick you can use to stabilize and tighten your shoulder girdle is to rotate the bar. Here it is in detail. Lie down and grip the bar a little higher around towards the back than usual. Rotate your hands down without releasing the bar. The bar will spin down towards your feet. Your elbows will move towards your feet and your shoulders will tighten up (you should feel as though your shoulder girdle is moving down). This movement activates the serratus anterior muscles and the lats, which help anchor your shoulders during the movement. This slight movement will instantly increase your strength and stability. Combine this with keeping your shoulder blades pinched behind your back and puffing your chest out.
12. If you wish to develop explosiveness in your bench, try partner-assisted bench. Instead of spotting you, your partner should lean on the bar in order to add weight to it (enough so you can't move it). Your partner removes their weight suddenly at the point where you have a lot of tension built up so you explode the bar up. This type of training will engage a lot of motor units in order to try and move the resistance, then force them to explode all at once at the release. It's like revving an engine with the brakes on then releasing them and peeling out.
13. If you don't have a partner but wish to try the above technique, use a bench machine. Use a weight you can't move with one arm but can with two. Push as hard as you can with one arm then slam the other one and explode up. Repeat with the other arm. Another way is to use the spot pins on a bench press set up. Push the bar underneath them, developing tension against those, then slide the bar out from underneath them and explode up.
14. Try Complex Sets – precede explosive sets with a heavy set of doubles or triples. Rest 3 to 5 minutes then perform an explosive set with 60% or 1 RM for 3 to 5 reps. This uses type 2A fibers. It tricks your motor units into thinking you're using heavy weight with high velocity, increasing the number of motor units activated.

Variations:

1. Incline barbell bench - lie back on an incline bench (the inclines may vary from bench to bench - some are adjustable). Take a medium grip, a little narrower than on the flat bench. Lower the bar slowly to your upper chest (where your breastbone meets your clavicles). Do not set the bar too low as this will limit the amount of weight you will be able to lift. Press up. The same tricks apply. This exercise works the upper pecs. Some people with shoulder problems may find this exercise painful due to the larger range of motion. Be sure not to allow your butt to come out of the seat otherwise you will turn it into a flat bench. Puffing your chest out as you bring the bar down will give your pecs a little extra stretch.

One major thing you will notice with the incline is that you cannot move as much weight as on flat bench. This is due to the angle and leverage of the incline. Some benches allow you to change the incline. It is a good idea to do this.

Be careful about your grip. Too wide a grip on the incline barbell press will stress your shoulders too much. Experienced, strong trainers can handle this but beginners should not use a wide grip. High bar placement can also stress your shoulders. Also, beware of one arm higher benching.

The incline barbell bench has a different line of travel than the flat bench. The bar should touch very high on your chest where the breastbone meets the clavicles. The bar should travel in a perfectly vertical straight line, unlike the slight backward arc of the flat bench. This requires you to keep your elbows down and close to the body so they can stay under the wrists throughout the lift. The bar will travel very close to your face. At the start, you should nearly touch your chin. Most people do not do this exercise correctly and can increase the weight they use simply by using proper technique.

2. Decline barbell bench - lie down on a decline bench and take a medium grip. Lower the bar to your lower pecs then press up. Same tricks. Do not lift your head up and do not bridge or arch. This exercise works the lower pecs. You will be able to use more weight because the leverage is better due to the biomechanics of the movement. For some people, the barbell doesn't go below their usual sticking point. The greater the decline angle, the more weight you'll be able to use (to a point) due to the decreasing range of motion. Decline bench is a good way to condition your body to using heavier weight. If you really wish to get used to heavier weight, do partial bench press with the decline bench. This is where you will be able to use a great deal of weight and condition your connective tissue.
3. Smith Machine bench - set of a bench (flat, incline or decline) in a Smith machine and press like normal. The machine will limit your freedom of movement, allowing you to concentrate on the muscle and just pushing. The downside is, you will not develop your stabilizing muscles, hampering your strength and coordination in the long-term. This is not a good movement to base a program around due to this problem. It can also be stressful on your joints, pushing at an angle against a (somewhat) fixed bar.
4. Universal Machine presses - same execution as flat benches. Make sure the handles are in line with your middle to lower pecs at the bottom of the movement. Don't allow the weight stack to touch between reps. If possible, move the bench so you can hook your knees over the edge. This will keep you from sliding back towards the stack as you may have a tendency to do on a smooth bench. This happens because your arms push down towards your feet during the movement. Since the bar is anchored and your body is not, your body will move. The knee hook will prevent this.

The Universal bench is an effective machine for doing two-arms up, one-arm down negatives. When doing these, the arm that is not lowering should be hooked around the other side by bracing the forearm against the outside of the inner perpendicular bar. Pull in for even better stabilization. This keeps you from rolling over and keeps the other hand from helping too much. Be quick when you go from gripping with two hands to bracing the forearm. Your foot placement will be askew from normal because of the unbalanced forces involved.

The Universal bench can also be used for partials by lifting the handles then setting the pin with the handles raised up. If there isn't enough weight in that position, do them one armed. You may also want to try using the Universal at an incline for these. If you try using an incline bench, though, you will have to set the pin in the stack so high that the weight will be too light. To get around this, brace your back with something, e.g. pull the seat off the pec deck machine, set it under the handles, sit on the floor and go from there.

5. Seated bench machine - Same execution as flat benches. The selectorized stack is great for drop sets as the pin is right beside you. Unfortunately, most seated bench machines have a pivot point opposite to what is best. When the pivot point is below you, the arc is downward, not upward like what is desirable in a flat bench. This can be uncomfortable on the shoulders. Ideally, the pivot point should be overhead. Hammer Strength machines are built like this but use plate-loading, not weight stacks.

6. Floor bench press – This is an easy way to do partials without a power rack. Place a loaded barbell on the floor (45-pound plates will work best for this). Smaller plates will give you too much range of motion and your elbows will hit the floor before the weight does. Slide underneath it then press up from there. This is a good exercise if you don't have access to a good bench. To take this concept to the next level, try resting the plates on two platforms such as wooden blocks, other plates, etc. This will allow you to start the weight at an even higher position. It is also good if you have long arms and even 45-pound plates are not enough to prevent your elbows from hitting the floor. When executing, lie flat on your back with your knees bent or with your legs straight out. An advantage of lifting with your legs straight out is actually caused by a mechanical disadvantage. Your feet are off the floor, taking your legs completely out of the bench press movement. This forces your upper body to handle the entire load, unlike in a regular bench press. Not only that, it will also take away the balance and support your feet give you, forcing you to use your shoulders, arms and abdominals to keep from tipping over. This instability, combined with heavy loads, makes this exercise a great assistance exercise to the bench press.
7. Bench press to the neck – with this variation of the bench press, you lower the bar to the neck or upper sternum area. This is targeted to work the upper chest. This exercise can be stressful to your shoulders, however, so if you do have shoulder problems, avoid it. Use it sparingly otherwise. To increase the effect on the chest, turn your hands in so that your fingers are pointing towards each other and the bar runs through your index and third fingers. If you do that, use the Smith machine to prevent balance problems. Be very careful when doing this exercise. It's hard to train when you're dead.
8. One arm barbell bench – This is similar to regular bench press in that you are using the same bar on the same bench. The difference is that you will be using only one arm. Grip the bar in the very center. Balance is a big part of this exercise. It will build the stabilizing muscles of the forearms, shoulders and chest. Keep the center of the bar over the middle of your body as much as possible. The motion will be more similar to a close grip bench press. You may need to hold onto something with your free hand to keep from rolling over.

Here is another variation of the one arm barbell bench. Lie flat on the floor. Load a barbell equally on both sides. Push up on only one side at a time while holding the other side down with other hand. How close you place your hand to the moving side determines relative weight and range of motion due to leverage factors (the closer to the plates your hands are, the stronger you will be). The advantage of this type of press is the way the barbell moves. Instead of going straight up and down, the weight will move in arc over your chest, more closely simulating the action of the pectoralis muscle (pulling across). This is a major advantage.

The only reason you need to load the barbell equally is if you want to alternate hands. If you want, load the other side with smaller plates for greater range of motion. Switch your body around to work the other side.

Taking this one step further, it is possible to do two arm, one arm bench. Simply set up two barbells in the fashion described above and do both arms at the same time.

Another trick you can do with this is heavy partials. Simply set the end you're using on a platform or step to reduce the range of motion. This is ideal if you don't have a power rack but do have barbells. You can also do heavy negatives like this. Lift the weight slightly off the platform, lower it, slide out from under, deadlift the end back onto the platform and go again.

9. Partial bench press in the rack – these can be done anywhere in the range of motion of the

bench press to build specific strength in that range of motion. Doing them at the top with very heavy weight will build lockout power. Doing them off the bottom from a dead stop with no elastic tension in the muscle will build power off the bottom. They can also be done right at the sticking point in a static hold.

When doing these bottom start, set the pins to the lowest possible spot you can where the bar is just off your chest (with an expanded rib cage – this makes a few inches difference and is the position you should be in at the start of the push). To make these very hard, develop a little tension in the pecs, feel for the stretch then explode up. This will fire more muscle fibers by engaging the stretch reflex.

When you do presses at the top range, use extremely heavy weight. This is a perfect opportunity to build up the connective tissue. You can do these continuous or put the weight down after each rep. When doing bottom starts, use about $\frac{3}{4}$ of your max. Start with a powerful push, go up to the sticking point, hold for a few seconds, then lower back down. Do an isometric push on the last one when you can't even budge the bar.

2. FLAT DUMBBELL BENCH

Take two dumbbells and lie down on a flat bench. The dumbbells should be at the bottom position similar to that of a barbell bench. Press the dumbbells up in an arc (start out wide with a good stretch then finish at the top with the dumbbells together). The dumbbells should start around your lower or middle pecs and finish over top of your face. This path of motion can be varied to hit different parts of the muscle, i.e. finish with the dumbbells over your lower chest or start higher up on your chest - go with what feels best to you.

Comments:

Do not bang the dumbbells together. This takes the tension off the muscle and puts it all on the shoulder joints.

Dumbbells are good if you're training alone and don't have access to a spotter, that way you can just drop them if you get in trouble.

Do not arch your back or bridge with your neck.

Dumbbells allow for a greater pec stretch than barbells but be careful not to overdo it.

Dumbbells improve coordination and stabilizer muscles.

Make sure you keep your forearms vertical throughout the movement.

Tricks:

1. Use a feather grip (explained in barbell press) when going for feel.
2. Keep the pinky side of your hand higher as you press the dumbbells up to keep the tension on the pecs.
3. The easiest way to get the dumbbells into position is to pick them up, hold them on end on your upper thighs, then lie down, pulling the dumbbells back and into the bottom position as you do so. You may want a spotter to give you some help to get them to the top position right after that. When you are using heavy dumbbells, squat down and pick up the dumbbells. Stand up with them, holding them on the front of your upper thighs. Sit down and rest them from there. Light dumbbells can be picked right up off the floor straight from the seated position. Don't neglect posture and body position when picking up dumbbells. Just because you haven't started the exercise yet doesn't mean you can't hurt yourself.

4. Another way to get the dumbbells into position is to position one yourself as above then get a spotter to hand you the other one at the top.
5. In order to get full rib cage expansion on the stretch, try doing these with only your upper back resting on the bench. Your hips will down and your lower torso will be angled down while your upper torso will be flat. To get into position, sit on the bench with the dumbbells on your upper thighs. Move your butt forward of the bench, dropping into a squat, and allow your back to rest on the bench. Thrust your hips up and throw your upper body back on to the bench, kicking the dumbbells into the bottom position of a dumbbell bench press then press up to the top position. If you are not completely in position with your entire lower back off the bench (the bottom of your rib cage should be in line with the end of the bench), weasel yourself down somewhat. Do the press from there and really try to expand the chest in the stretch position. When it gets hard, fight the urge to lift your hips up. Consciously force them down. This is good practice for keeping your butt down on the bench press.
6. At the bottom of the movement, turn your palms inward so they are facing each other and tuck your elbows in beside your body to get a bigger stretch and to hit the pecs differently.
7. Grasp the dumbbells unevenly, i.e. pinky touching the inner face of the outside plate. This keeps the tension on even better but can be difficult to balance.
8. If you're using moderate weight, try letting the dumbbells tip down so they are practically vertical. Your wrists will be cocked sideways (don't try this with heavy weights). As you press up to the top, push up with your thumb side. This will further activate the inner pecs.
9. Spotting under the elbows can cause accidents by tipping the dumbbells in. The wrists can be safer but more difficult to do. Try using lifting straps. The lifter will have the straps around their wrists with the tongue of the straps facing the inside of the forearm. The spotter should hold the straps lightly until failure, putting not tension on the straps. When the lifter hits failure, then start to lightly pull on the straps. This is a good technique for doing negatives with dumbbells. Lift hard on the way up then release the tension completely on the way down.
10. This is a technique that will activate the stretch reflex during a bench press set. Bring the dumbbells down in the normal style, going as far down as you can possible stretch. Your forearms should be vertical at this point. Let the dumbbells fall out to the sides as though bailing out on the exercise. Let them fall for only a few inches then contract the pecs hard and press up quickly. At the stretch, the dumbbells will be tilted down and away. As you come up, tilt them down and in with your pinkies higher. Squeeze your pecs hard at the top and repeat. Use a moderately heavy weight for this technique, as you want to be able to press them up from a very deep stretch. This will fire up your pecs like crazy. This technique can be used for dumbbell shoulder press as well.
11. When you reach a sticking point in the dumbbell press where you can't move the weight up anymore, try focusing on moving just one up a little bit while holding the other one in place. You may have to use your whole body to accomplish this by apply force with your legs and abs. When you've moved the one, focus on the other and move it up a little while holding the first one. Repeat this until you get past the sticking point. This works because you no longer have to divide the neural impulse between two limbs. You can add a little bit more to one side at a time to get past the sticking point. This usually works only on the last rep of a set (it will usually be your last rep after doing that trick). It is also a good way to gut out a last rep where previously you may not have been able to. This is called ratcheting.
12. When you start using really large dumbbells (over 100 pounds each) you may find that you can't bring them close enough together at the top of the movement because the end plates

hit each other. To get around this, simply rotate the dumbbells as you come to the top so your thumbs are towards your head. This does make it more difficult to keep tension on the pecs, however, so try to consciously maintain as much tension as possible.

Variations:

1. Incline dumbbell bench - same execution but using an incline bench. Lower the dumbbells to the upper chest then press up, keeping the pinkies higher. To maximally hit the upper pecs, set the incline bench to a steep incline (around 50 to 60 degrees). Face your palms together at the bottom position to get a better stretch. A trick to try is to angle your hands so that your pinkies are slightly back, almost as though you are trying to touch the backs of your hands together.

To get the dumbbells into position, you can balance them on your knees, then kick them up one at a time. You can also get someone to hand you one or if they're light, just pick them up and swing them up into position. Another technique that works well is very similar to the one explained for seated dumbbell shoulder press. Consult that exercise section for a detailed explanation. The only difference is the angle of your body and the distance it travels back.

Something you may want to try when doing these is to do them with your head and shoulders over the top edge of the bench. This will open up the chest and create a forced arch in your back. This will help with chest isolation. In order to do this, stand instead of sitting on the incline bench.

If you are able to adjust the incline on the bench you are using, a good trick you can use is to start your first set on a high incline. With each progressive set, lower the incline a notch. This will allow you to use the same weight for about the same number of reps due to improving leverage. It also has the advantage of hitting more aspects of the pec fan. This works well in conjunction with higher volume training such as lactic acid training. Instead of decreasing weight, decrease the incline.

2. Decline dumbbell bench - use a decline bench. Lower the dumbbells to the lower chest then press up.
3. Swiss Ball dumbbell bench – dumbbell bench on a Swiss Ball. See Swiss Ball Training section for more information.
4. Alternating dumbbell bench – this variation basically utilize the same technique, the only difference being that you do one arm at a time. The arm that is not lifting can be held at the bottom in the stretch position (regular) or at the top (reverse alternating). This variation allows to you focus on one side of the body at a time. It also allows you to use more body English to help get the dumbbell up. You can go as far as rolling your body over to the side and pushing at angles with your feet. This version works well with the Swiss Ball.
5. One arm dumbbell bench – this is done on the incline or flat bench with only one dumbbell at a time. Don't go too heavy or you'll tip over. Plant your feet wider than normal. As you lower the dumbbell down, rotate your upper body in the opposite direction to counterbalance the weight. Press up. This uneven torque will greatly work your oblique muscles as well. As you press up rotate your upper body towards the dumbbell (roll over to meet it). This gives you greater tension at the top. Rotate the dumbbell at the top from pronated to neutral grip (palm facing in) for an extra squeeze. This variation works very well on the incline bench. This exercise works very well on the Swiss ball. You can roll over on the ball to help balance the off-center weight.

3. FLAT DUMBBELL FLYES

Lie down on a flat bench with two dumbbells. With a slight bend in your elbow, arms stiff and hands facing each other, lower the dumbbells wide out to the sides as if welcoming a hug. Puff your chest out to stretch the pecs. Go for a big stretch, but don't overextend to where it's uncomfortable for your shoulders. Squeeze back up to the starting position in a wide arc. Imagine yourself hugging a tree on the way up to fully activate the pecs. Maintain a constant bend in your elbows.

Comments:

Always lower the dumbbells slowly, as the shoulders are in a sensitive position in this exercise. Do not bounce heavily at the bottom. Do not bang the dumbbells together at the top.

Tricks:

1. At the top of the movement, rotate the dumbbells so that the pinkies turn inside towards the head, i.e. almost touch the bottom plates of the dumbbells together while moving the top plates apart.
2. At the bottom of the stretch, reverse the momentum with a twitch to activate the stretch reflex. The 1 1/4 rep works great like this. Lower the dumbbells, twitch at the bottom, bringing the dumbbells up only a quarter of the way. Lower, twitch then do a full rep up. Repeat, alternating 1/4 reps with full reps.
3. If this grip hurts your shoulders, try using a grip where your palms are facing your feet. Your thumbs will be coming together at the top. The shoulder is more stable in this position.
4. The end-of-bench trick (where only your back and shoulders are on the end of the bench) as explained in dumbbell press works very well for flyes as well.
5. The dumbbells should move back towards your ears as you are bringing them down. This provides a diagonal pull muscle, affecting more fibers.
6. A good way to teach the feel of this movement is to place a Swiss Ball on the person's chest and have them wrap their arms around it.
7. These can be done with a cradle grip using only your thumb and forefinger in a wide almost u-shaped loop. Keep the rest of your fingers off the handle. This can be useful on very high rep sets where your hands start to hurt and may limit your reps instead of your pecs.
8. These can also be done round-the-world style where you bring them down at about shoulder level then sweep the dumbbells down and around then bring them up by your lower abdomen almost like a scoop flye. This can also be done in the opposite direction as well. Be careful of your shoulders on this variation.
9. Flyes can be done alternating (hold one in the top position then lower and raise the other one) or reverse alternating (hold one in the stretch position then raise and lower the other one).
10. One of the faults of this exercise is the loss of resistance as you come to the top. If you have a partner, have them place their forearms on the inside your wrists as you come to the top.

They should resist your inward pressure by exerting outward pressure. This will keep resistance at the top. This same technique can be applied to other exercises where you lose tension at a certain spot, e.g. shoulder press, barbell curls, etc.

11. Instead of letting the dumbbells be cradled at an angle in your palms (as is the most natural position), hold them across the bottom knuckles of your palm, especially over the bottom pinky knuckle. This creates extra tension on the pecs. Try to think about exerting more pressure from the pinky side of the hand.

Variations:

1. Incline flyes - same execution on an incline bench. This can be done on any angle. One of the most effective ways is to set the bench to about 60 degrees. Instead of having your palms facing each other, keep your palms facing forward (like in dumbbell bench) and bring them down and to the sides in a flye motion. While lowering the dumbbells, try to force the elbows to the back. Go for a maximal stretch, puffing the chest out as you go down.

Incline flyes can also be done standing in order to get better rib cage expansion and therefore a greater effect on the upper chest. Use the same bench as you would use for seated flyes only stand up so that your shoulder blades are across the top of the backrest. Arch your back over to open up your rib cage. This technique should be reserved for lighter weights, otherwise you may not be able to counterbalance the weight. You may wish to have a partner brace the bench so it doesn't slide back or you can place a weight on the front feet of the bench.

2. Decline flyes - same execution as flat flyes but on a decline bench.
3. Cable flyes - place a bench (flat, incline or decline) in between two low pulleys (cross-over machine). Use two handles and execute the same motion. This version places tension on the pecs at the top of the motion as well as the stretch position. A good way to hit the upper chest while doing the flat bench version is, when you are at the contracted position, hold the contraction and raise your arms up over your face as if doing a front raise with the handles. Feel for the tension sweeping up your chest.
4. One arm cable flyes - place a bench 90 degrees to a low pulley. Come up and across the chest with the handle. Make sure the bench is stable and you are stable on it. This version allow for a greater range of motion as you can go all the way across your body for a peak contraction of the pec. Any low pulley (even a seated row setup) can be used for this exercise. Experiment with angles of pull and lines of force to hit different areas of the chest. Starting low and coming up over your face will hit the upper chest while starting higher and pulling down across the abdomen will work lower chest. Another option is to use a palm-facing-in grip and push straight up to the ceiling like a one-arm bench press instead of coming across. A good technique you can use to hit the entire pec muscle is to hold the contraction at the top, then raise the cable up over your face to sweep the pec. Cradle the handle in your hand when using light weight to further isolate the pecs.

The one arm cable is a good way to do negative training. Do these cross bench. Hold the cable with your arm completely flexed, lying on your side in the contracted position. There is no tension on the muscle yet. Hold on with both hands then roll over to the other side, taking the cable with you. Hold on to the bench with your other hand to keep from rolling and do the negative from there.

5. Swiss ball flyes – flyes done on a Swiss ball. See Swiss Ball Training section for a more in depth description.

4. CABLE CROSSOVERS

Stand between two high pulleys, gripping two handles. Your arms should be out and up like you're being crucified. Keeping a constant bend in the elbow (be careful not to bend them too much – about 10 to 20 degrees is plenty), bring your hands together in front of you, squeezing the pecs hard. Pretend like you are trying to hug a tree on the way down then try to cross your hands in front of you. Control the weight on the way back to the starting position. It is not necessary to go back to the original, straight arm starting position, but you can if you want. If not, then just allow your arms to go back without unlocking your elbows. Going back the starting position necessitates a shoulder socket roll while the shoulders are in a vulnerable position. If you have bad shoulders or don't want bad shoulders, don't do it.

Tricks:

1. To work the pecs differently, cross over higher or lower in front of you, i.e. by your thighs or out in front of your face, etc.
2. When using heavy weight, pull one side down (help with the other hand) and in and hold it in front of you close to your body. Keep that hand pinned to your body then go over to the other handle and get the other one into place. Start with your weak side on this trick so you can use your other hand to help. This trick is especially useful when doing static contraction training or partial reps.
3. If you tend to use excessive body movement when doing this exercise, lie face down on an incline bench and execute from there.
4. Cable crossovers can be used to hit the stretch position of the pec as well using a stretch-twitch movement. When your arms are at the top position, drop your upper body down quickly, leaving your arms back. Get a quick stretch then twitch your arms down, contracting hard.
5. To isolate your pecs, drop your shoulder girdle down and forward.
6. To vary the effects of cable crossovers, use varying body position and tracking, try reverse alternating or alternating, you may even try turning your body one way to get an uneven pull (be sure to balance it by turning back the other way as well).
7. Try moving your body around in relation to the pulleys, e.g. step forward, step back, to the sides, etc. to vary the resistance on your pecs and keep them guessing. This can be done with every rep. It will look as though you are walking around while doing the exercise (which you are).

Variations:

1. Upper chest crossovers - to work the upper pecs, use a low pulley and cross over up to the shoulder level, almost like a front delt raise but concentrating on the pec, standing or kneeling between the stack. Keep your arms stiff the entire time. This can also be done one arm at a time. Ensure that the arm does not bend. Up and across is the key to this movement.
2. High pulley upper chest crossovers – do these standing, bent over at the waist 90 degrees. Your shoulders should be in direct line between the pulleys. As you do the crossover movement, bring your hands way out in front a little under the level of your head and away

from your body. Keep your back arched and your chest puffed out and come around and forward. Internally rotate your shoulders so your knuckles are coming together at the point of contact. This one requires practice to develop a feel for. When using lighter weight, let the cable handle rest only in crotch of your hand (between the thumb and forefinger). These can be very effective when done alternating. Hold one in the contracted position then bring the other one out a little then around in front of the other like that hand game where you put one hand on top of the other and slide the bottom one out. Use a very short range of motion to keep the tension high.

3. One-arm crossovers - same execution as regular crossovers but do one arm at a time. This allows for greater tension on one pec and the range of motion is greater.
4. Ring crossovers - using parallel rings like gymnast's use, start with your hands together. Lower your upper body and flare your hands out wide like in flyes. Squeeze back up to the starting position. This is an unorthodox movement and very few gyms will have the equipment for it. See what you can improvise.
5. Low pulley kneeling upper chest crossovers – kneel down between two low pulleys. Lean back somewhat (not too far, though). With your palms facing in and your back arched, bring your hands together high over your chin. Puff your chest out and squeeze. You can cross your hands over at the top. This is very similar to the motion done on the incline bench but allows you more freedom of movement. This hits the extreme upper chest cleavage. There is no tension at the start but a lot at the contraction.
6. Low pulley kneeling lower chest crossovers – this has the same set-up as the previous exercise, the only difference being you cross over low in and in front of your body rather than overhead. You may also wish to move a little forward from between the pulleys to get more stretch. If the pulley height is adjustable on your machine, you can set the pulleys to shoulder level and come out in front like a flat bench crossover.
7. Facedown bench crossovers – these can be done facedown on a flat bench or an incline bench. This will eliminate any excessive body movement you may use. The execution is the same.
8. Crossover pushups – set a flat bench between the two pulleys perpendicular to them. Use a lot of weight (not more than you can get down into the bottom position though). Your knees should be just off the end of the bench. Bring down both handles then rest on your fists on the bench end. Drop down so your chest is on the bench and your hands are directly underneath. Let the handles raise up to about the stretch position of a bench press. As you bring the handles down again, if the weight is right, your upper body and thighs should rise up off the bench (try to push up with the chest). Keep your body stiff and straight you bring the handles down. As you push your body up, you will come to a point where your body will drop back down. Repeat. This will give you a major contraction in your pecs. You can make these harder by either increasing the weight and/or pivoting from lower on your legs.

This exercise is very similar to ring push-ups but you are not moving your entire bodyweight. It also works well as a static contraction hold. All the factors of instability and moving your body add up to an intense pec exercise. Even if you get stuck and can't bring the cables together at the bottom, you can rise up in a push-up then drop down and allow your bodyweight to finish the rep.

9. Scoop crossovers – use the low pulleys for this. It can be done standing, kneeling or leaning forward on an incline bench. Use an underhandish grip. Start low and wide, then scoop your hands up and in like your scooping an armload of something. Your pinkies should touch just

below chin level. Step forward a little from between the pulleys to get more of a stretch at the start.

10. Crossovers to pulldowns – do these on your knees. Lean forward and do a crossover then lean back and do a pulldown. Vary your grips on both. You can do a one to one ratio, two to two, or whatever.
11. Lower chest behind the back crossovers – start in the normal upright position, directly in between the cables. Lean over as though bringing the cables down in front of you. This time, lean over more than usual and bring the cables down behind your back. Do these for high reps with light weight. They will work the extreme lower pec line as well as a little biceps and back. Do these at the end of a chest workout.

5. DIPS

Set up in parallel or V-dipping bars, gripping so that your palms are facing each other. Lower yourself down slowly, flaring your elbows out to the sides and hunching your upper body over so that you form a half-moon. Squeeze up.

Comments:

If you've ever separated your shoulder, this exercise can be painful in the lockout position. If so, don't do dips or don't lockout.

Never drop yourself quickly when doing dips. This can put excessive strain on your shoulders. You should always employ a controlled descent.

Tricks:

1. Turn your hands around so that your knuckles are facing each other. Your pinkies will be forward and your thumbs will be back. It is not the most comfortable of positions and not very natural for your shoulders but is effective for the pecs. If that hurts too much, try only turning your hands halfway, so that your fingers are pointed forward and the bars are between the second and third fingers of your hands.
2. For extra resistance, use a dumbbell between the feet or a hip belt.
3. To work your abs as well, raise your feet up so they are parallel to the ground and hold them there while dipping.
4. Try to pull your hands together rather than pushing up, as this is the function of the pecs.

Variations:

1. Machine dips - same execution (hunch over, flare elbows out).
2. Bench machine handlebar dips - if you don't have access to a regular dipping station, set the handles on a bench machine as high as they will go by pulling it up as high as possible with no pin in then sticking the pin in the second plate hole. Dip in between the handles, same execution. If you are just starting and can't do many dips there is a good trick you can use with the bench machine handlebar dips. Put your feet on a bench a few feet in front of you. Keep your legs straight, hunch over, elbows wide. Not only will this make them easier, it will force your body into the dipping position where the pecs are being worked more.

6. PULLOVERS

These can be done lying across a bench (perpendicular), or along a bench, with a barbell or with a dumbbell. Holding the barbell or dumbbell above your face at arms length, lower it back behind your head, keeping your arms slightly bent but stiff. Stretch but not so much that you overstretch the shoulder capsule. Bring the barbell or dumbbell back up to the starting position.

Comments:

This exercise is potentially damaging to the shoulders if you allow the shoulder to stretch too much at the bottom of the movement.

This exercise is not the best exercise for pecs, though they can be useful for defining the lower pec line.

Pullover is often recommended for rib cage expansion. Though there is much anecdotal evidence to support this use, there is no scientific evidence that this can be done.

Variations:

1. Dumbbell pullovers – these are better done cross-bench style because of the better stretch you can put on the rib cage without overstretching your shoulders, though they can also be done lengthwise along a bench or on a Swiss Ball. Don't grip the dumbbell, support it with your palms. If you are using very heavy weight, you can have a partner push down on your thighs to hold you down. Keep your shoulders square with the outside edge of the bench. Keep your feet flat and your arms slightly bent but stiff to take pressure off the elbows. Expand your rib cage at the stretch position, taking a very deep breath. Keep your hips below the level of the bench. Use your lats and serratus to brace against the resistance.

To increase the stretch on this exercise, drop your hips as low as possible when the dumbbell reaches the furthest point of the stretch. Bring your hips back up a split second before bringing it back up.

These can be done with two dumbbells, with one held in both hands or with only one held in one hand and done one arm at a time. Be careful not to hit yourself in the back of the head with the dumbbell.

2. Barbell pullovers – these should be executed with your arms bent to take the pressure off the elbows. You can try an overhand or underhand grip. See which you feel more comfortable with and which one is best for your grip.
3. Cable pullovers – do these cross bench style. Set the bench in front of a low pulley. Use a single handle. The execution is the same as the dumbbell or barbell pullover. The major difference is that you still get tension on the chest all the way through the top of the movement. These are best done one arm at a time using the handle for a full range of motion. If you use the bar attachment, you will find that the cable hits you in the head halfway through the movement. Bring the cable straight down the middle but tilt your head to one side as it comes down. Switch the way you tilt your head with each rep to balance the effect. Vary the angles of pull to change how the exercise hits your chest. Try to push with the blade edge of your hand (pinky side) more. Hunch your shoulders forward as you pullover to involve the pectoralis minor muscle and get a bit more pec major contraction. Try to push the weight in as high an arc as possible. This brings the shoulders forward and forces the pecs to contract because it places the lats (which can also help with this movement) in an ineffectual stretch position.

Here are few more hints for this exercise. In the stretch position, increase the bend in your elbows to help spare your shoulders, then as you come up, straighten your elbows. This will also help increase the involvement of the long head of the triceps. When you are doing these one arm at a time you can angle your body to hit different aspects of the lower pecs. If you are using your right hand, angle your body so your feet are pointing to the left. Bring the handle over away from the body straight out to the right. This hits the outer / lower aspect of the pecs. To hit the inner / lower area, angle your body to right. Pull the handle in over your abdomen almost like a crossover.

This exercise can also be very effective using the rope attachment. When you are in the stretch position, spread your hands out wide, making an L with your arm. As you pull up and over squeeze your hands together. This will increase pec activation as the major function of the pecs is to bring your arms across the chest.

The easiest way to get into position on this exercise is as follows. Stand between the bench and the stack facing away from the stack. Grasp the handle with a curl grip. Step over the bench. Sit on the bench then rest on elbows then lie down on it and bring your arms into the pullover position. The alternatives are to get set then have someone hand the cable to you or to stretch back yourself and grasp the bar, rope or handle.

7. PEC-DECK MACHINE

Sit in the machine. There are several ways to position your arms. You can have them bent 90 degrees so that the inside of your forearms are on the pads or you can keep your arms straight and only contact the pads on the inside of your elbow. If you keep your forearms on the pads, remember to push with your elbow, not your hands. To execute, simply squeeze the pads together in front of you. This exercise places the most tension in the contracted position and is a reasonable finishing exercise.

Comments:

Do not hunch the shoulders forward as you execute as this can damage your shoulders. Keep them back throughout the movement.

The extreme externally rotated position of your shoulders when you use the machines with the vertical pads can harm your shoulders. If you have bad shoulders, do the straight arm version that looks like a flye movement.

If the extreme stretch position of this movement hurts your shoulders, only do the top half or quarter rep. That is where the good part of the exercise is anyway. It is actually never good to go for the stretch part of this exercise.

Tricks:

1. To hit the upper pecs hard, drop the seat to the bottom and angle your arms upward in a Y formation. To make it even better, use the straight arm technique in the Y formation, but rotate your shoulders around inwardly so that your pinkies are up and your thumbs are pointing down. Concentrate on the upper pecs when squeezing.
2. To hit the lower pecs, raise the seat high and angle your arms downward.
3. To get a greater range of motion, i.e. coming across further, do these one arm at a time. Brace the other arm on the other pad so you don't pull yourself out of the machine.
4. To do one arm negatives on the pec deck, use the non-working arm to help yank the working

one around and into the top position. Make sure your body is anchored into the machine as only having one arm on puts a lot of rotational force on your body.

Variations:

1. Inverse pec-deck flyes - stand outside the machine, facing in. Grasp the outer edges of the pads with your hands. Pull them back towards you and squeeze them in and together. Move your body back as you do so. This straightens your arms and increases the contraction. These are good for static holds as well. To get into position, pull one side in to the halfway point, put your foot on the seat and brace the outside of the pad with your leg. Reach over and grab the other pad and pull it in. Grasp them both then proceed with the static hold. To work the mid-chest, stand with your upper body vertical. To work the upper chest more, step back a few feet and lean forward. To work the lower chest, step in closer and lean back. These can also be done for shoulders by bending over at 90 degrees and trying to push your upper body down as you squeeze.
2. Scoop style – set the seat as high as possible. Put your hands under the bottom ends of the pads with a reverse grip like the middle position of a barbell curl. Push in and around. Use a light weight for this one. Try to squeeze your shoulder blades together behind yourself at the start and keep your shoulders back during the movement. Attempt to scoop up with upward pressure during the movement to activate upper chest fibers.

8. PUSH-UPS

Lie face down on the floor. Put your hands out to the sides, elbows bent 90 degrees, fingers forward. Push up.

Comments:

This is a classic exercise that everyone knows how to do. It is a good place to start for beginners and is easy to learn.

There is no need to balance a bar.

Using your own bodyweight and moving your body actually produces more functional strength and muscle activation than bench press even though the movement is basically the same.

Variations:

1. Have someone sit on your back or put weight on it (e.g. weight plates).
2. Do them between benches for a greater range of motion. As well, there are stands you can buy for this purpose. The cheap way is to just use two dumbbells and push up on the handles. You have the option of using hexagonal ones that don't roll or using the standard round plate ones that do, forcing you to use more strength to keep them in place. If all you have are round ones, you can brace them with something (e.g. smaller plates like 5's or 10's) wedged against them.
3. Face your fingers slightly inward.
4. If you can't do push-ups on the floor, do them standing at an angle against a wall, or with your knees down. If you do them against a wall, you can make them harder by moving your feet away from the wall. These can also be done on tables, chairs, railings, etc. If you do them with your knees down, use your knees as a fulcrum or pivot point, i.e. your knees are locked and your feet come up as your torso goes down. It is also possible to keep your feet

on the floor and bend at the knees during the movement. To make these even easier, you can also bend at the waist.

5. Put your feet up on a bench to do incline push-ups. If it's too hard with your feet on the bench, try first with your thighs on the bench. As you get stronger, move yourself forward so the bench contacts lower on your legs. It is also possible to cross your legs and only have one foot or leg on the bench. This will decrease your stability and force you to work a little harder.
6. Do them on your fists for a greater range of motion and to isolate the pecs more. If you do these, try rotating your fist internally somewhat so that your knuckles are pointing towards each other. This will isolate your chest more.
7. To increase finger strength, do them on your fingertips. Work to doing them on your thumbs if you are really nuts.
8. To improve explosive strength, try clapping your hands together in between reps. This is a plyometric push up. Another plyometric variation is the drop push up. Start on your knees, fall down into the push up position then explode up. These can also be done standing as you become more advanced.
9. To use extra resistance, try using the Smith machine. You will be putting your body underneath the bar and pushing up against it. Use padding if you like, preferably the type that rolls. Set the guards so that the bar hits at the lowest point of the push-up. The foam padding around it will help the bar roll across your back as you push up as it is not a linear movement. This can be done on the floor or between two benches. If you do it on the floor, be sure to allow yourself room to get out from underneath it. To do negatives, have someone stand over you, lift up the bar, you do a push-up, have them put the bar on your back then you lower down. This can also be done with a vertical leg press machine.
10. To hit the total fan of the pecs, try doing them as though trying to squirm under a fence. It is a wavelike movement. These are much harder. At the start your butt is up in the air, your arms straight. Keep this position as you come down, then, as your push up, drop your butt down and lead up with your head, arching your back as much as you can. This movement hits the entire pectoral fan. These can also be done on your fists for a greater range of motion.
11. As you come up, try to force your hands together as though clapping. This will increase the inward tension your pecs are trying to exert.
12. Try these with your feet on a Swiss ball. You will have to work harder to control your position. For even more instability, instead of placing your hands on the ground, set them on rolling dumbbells (if the plates are loose it will work even better). Another option is to use two balls such as volleyballs. This will build great hand strength as well.

9. ROLL-OUTS

Set up two Olympic bars or dumbbells side by side so that they are pointing forward/backward. Grip them right in the middle. Allow the bars to roll out to the sides. Squeeze up and roll the bars back together. These can be hard on your shoulders.

10. WIDE BETWEEN BENCH FLYE TWITCHES

Set two benches to the same height. The space between the benches should be slightly less than your wingspan. Place your hands flat on the benches with your body in between. Lower your upper body below the level of the benches, feel the stretch then come up with a forceful pec contraction. Keep your arms bent a lot. The range of motion is not large. Your feet can be on the floor or on a raised surface such as a bench, machine, dumbbell rack, chair, etc. Keeping your feet on the floor will hit more lower chest while feet at the same level will work the middle and feet higher will work more upper chest. To make these easier, you can do them on your knees. Do these deliberately with no momentum. The closer the benches, the more like push-ups these become. The wider the benches, the bigger the stretch. This is a good bodyweight stretch position movement and especially useful if you don't have access to dumbbells in order to work the pecs in the stretch position.

11. ONE ARM LEANING CROSS-BODY DUMBBELL RAISES

This is a unique exercise that gives you a peak contraction for the upper chest and front delt tie-in area. Hold a dumbbell in your right hand down by your side. Grab a vertical support with your left hand. Move your feet under your left hand so your body is leaning to the right at an angle. With your right arm slightly bent but stiff, raise it up, in front of, and across your body like a standing flye combined with a front raise. Squeeze hard at the top. This is a similar feel to the upper chest cable raise and is good if you don't have access to a cable set-up. Internally rotate at the shoulder as you bring the dumbbell up to really hit the very top, inner fibers of the pec. Vary the angle of your lean to see which works the best for you. Focus hard on the pec doing most of the work, feeling your upper chest cramp up instead of raising with your front delts.

12. SIDE LYING DUMBBELL FLYES

This is a peak contraction exercise for the entire pec. Lie on your side on a flat bench with the top half of your upper body hanging off the end of the bench. The end of the bench should be right up in your armpit so you don't fall off. If you are lying on right side hold a dumbbell in your right hand and let it hang down (it's fine if its touching the ground – the benefit of the exercise is at the top of the movement). Keeping your arm slightly bent and stiff, raise the dumbbell in a flye type motion in front, around and up until your upper arm is pressed right up against your chest and the dumbbell is straight up in the air. Squeeze hard at the top. This exercise will really hit the inner pec area. This is a great alternative if you don't have any cables to work with and you want to have a peak contraction movement.

13. PRESS-FLYE DUMBBELL/CABLE HYBRIDS

With this exercise you will be doing a dumbbell press and a cable flye movement at the same time. Set up a flat bench as you would for cable flyes (halfway in between two low pulleys). Use fairly light weights for this exercise to start with until you get the hang of it. The set up of the dumbbells is very important in this exercise. For each dumbbell, use a cable with a hook on the end. Loop the cable around the handle and hook it onto itself. This fastens the cable to the handle without having to grasp both. When holding the dumbbells, grab them so the cable is on the pinky side.

Reach over and pick up the dumbbells one at a time. Sit on the bench and rest the dumbbells on your thighs. Lay back and maneuver the dumbbells into position. Do a flye / press. Try varying the way your palms face (down, each other, transition from one to the other, etc.) to see what works best for you. This combo gives you resistance in the stretch position, midrange and contracted position all at once. You get tension on the chest down and pulling out. Experiment with how

much weight you want to use in the dumbbells and how much you want on the cables. For example, heavy dumbbells and light cables will focus more on the midrange movement with some resistance in the stretch and contracted position, while heavier cables and light dumbbells will focus on the stretch and contracted positions with some midrange. Mix and match to see what works for you.

Tricks:

1. To blowtorch your pecs, force your ribcage into the proper arched, expanded position by doing these off the end of a bench. Only your upper back will be in contact with the bench. Your hips will be down and your back arched. This will work the upper chest quite well. Getting the weight into position can be tricky, though. Start by sitting on the end of the bench. Pick up the dumbbells one at a time and rest them on end on your upper thighs. Squat down in front of the bench so your back is in contact with the edge of the bench. At this point, throw your weight back quickly to lie down on the edge of the bench and thrust your hips up, shooting the dumbbells up into position. Position yourself comfortably by wiggling around.
2. To really focus on the upper chest, do the bench-end trick. Move the bench back two feet so that when you push up, you are pulling back as well. Press to over your chin. If you find this irritates your shoulders, move the bench back in line.
3. To really work the lower pecs, do the opposite of the bench end trick and hang your upper body over the end of the bench (head down) with your legs wrapped around the bench to keep you on it (or have someone hold your legs down). Hook your feet together underneath and hold on tight. The end of the bench should be right in your mid-back and your back should be arched to open your chest with your torso hanging down and over. Use lighter weights for this version. This is a very advanced exercise and you should be careful of your back and blood pressure.
4. A safer version to work the lower pecs is to simply move the bench forward out of the midline of the pulleys. You will lie flat on the bench and lift down and towards your feet. The angle of the cables will give down resistance to work the lower chest.
5. Instead of tying the cable directly onto the dumbbell, you can also grasp both a dumbbell and a cable handle. This allows you to drop the cable to do a drop set. Lean over and grab the handles one at a time. Hold the handles in your fingers. Lean over and grab the dumbbells in your palms and lift them up, setting them on your thighs. Adjust the handles and dumbbells to where they are comfortable.
6. If the handles are too big to fit in between the dumbbell plates, turn the handle diagonally and hold it the dumbbell handles with your thumb. The pinky side of the cable handle will be on the outside of the plate.
7. If you don't have access to a cable crossover setup, you can do these one arm at a time on a low pulley. You may wish to counterbalance yourself by holding another dumbbell in the other hand. This trick can be done with the shoulder press version as well.
8. Start the movement with the flye movement then, when you die on that, switch to the press movement.
9. These can be done alternating or reverse alternating style depending on where in the resistance you want to focus. If you want more stretch, hold one at the bottom while you press the other one. If you want more contraction, hold one at the top. This technique

applies to the shoulder press version as well.

10. Body rotation and stop motion can be used on this exercise on the last rep to finish it off. The resistance of the cables will help you hold one in place. It is like a stair-stepping movement. If you want to move the right one, hold the left one still, then roll your body forcefully to the left, forcing the right dumbbell up with it. Hold the right one there then roll to the right taking the left dumbbell up a little. Repeat until you get to the top. It is brutality.

14. CHEST AND BACK CABLE PUSH/PULL

This exercise is done between two low pulleys. Face one and have your back to the other one. Do a one arm cable row with the cable you are facing and a one arm bench press with cable you have your back to. Do these at the same time. This will also work your abs because of the torque on your midsection. The reason for doing these is that they are antagonist muscle groups. Activating one at the same time as the contralateral produces an increase in neuromuscular drive. It can also serve as a transition exercise between chest and back bodypart workouts by warming up whichever one you're doing next.

15. ARM BRACED FLYES

This is very similar in concept to the forearm braced chins for biceps. The idea is to fix your arm to something then rotate your body around it. Set this up exactly like for that exercise (see Biceps section) only lower down. Put your feet on a bench or keep them on the floor, depending on the angle you want to hit. On the floor will hit the upper chest area more. You will be on your side at the start, hanging down by one arm. Moving only at the shoulder, rotate your body up and in. For extra resistance, hold a dumbbell or a plate in your other hand.

CHEST TRAINING NOTES

A note on rib cage expansion:

There is controversy over whether one can enlarge the rib cage through exercise. Many trainers swear they have done this and there is compelling evidence. The consensus is that this type of training is best done before the age of 25 when the rib cage is still somewhat pliable. Here are a few methods you may want to try.

Do a set of pullovers before every workout.

After doing a set of heavy squats, do a light set of stiff-arm dumbbell pullovers. These can be deep-breathing squats (20 reps, 3 deep breaths between each rep).

For stiff-arm pullovers, use a light dumbbell for 12-15 reps.

For bent-arm pullovers, use a barbell with your elbows bent 90 degrees.

Decline dumbbell pullovers/flyes combination sets.

Removing fat from the lower chest area:

Superset dumbbell pullovers with wide grip dips – 12 to 15 reps, 3 to 5 supersets. You may wish to go even higher on the reps.

Placing a rolled up towel under your lower back in a bench press or flye exercise will keep your back arched, keeping the rib cage expanded and preventing your back from flattening.

If you find your arms and shoulders always take over on the bench press and you can't get pec development, drop benches, presses and dips (any chest exercise that uses the triceps and shoulders) and focus on heavy isolation training for awhile.

With any chest exercise, it is beneficial to have your head against the bench so you can push back against it. The neck flexion help to activate the chest muscles. Using a bench that doesn't have anything for head support will reduce the amount of weight you can use. Lifting the head off the bench is a common error in beginners as well. They tend to lift it up as they lower the weight.



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SHOULDER EXERCISES

Primary movers: anterior, lateral and posterior deltoids

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THE EXERCISES

1. BARBELL MILITARY PRESS

Sit in a bench designed for this exercise, if possible (it will resemble a chair). Grip the bar with a medium grip. Your wrists should be locked with your elbows under your wrists. Lower the bar in front of your face so it nearly touches your chin and bring it down to your clavicles. Don't look up. Look directly forward. Lower slowly and power it back up. On the press up, once the bar passes your head, guide it back a bit so it sits over the back of your skull at lockout. This exercise can also be done standing.

Tricks:

1. Use a feather grip (see flat barbell bench).
2. Try to keep your shoulders down during the movement to take the traps out of it.
3. If you're doing them standing, take a breath at the bottom just before you start pressing the bar and another one when it is locked out overhead. If you're doing them seated for low reps, hold your breath to stabilize the rib cage. This only applies to low reps and heavy weight.
4. To improve your shoulder power, pause at the bottom with the bar on your chest. This prevents rebounding.
5. One mistake people make is placing one foot behind the other. This takes away from the power base and can put your back in a stressful position. Your feet should be on a line, shoulder-width apart.
6. If you are doing two arms up, one arm down negatives for shoulder press, do not have your other palm underneath the handle. You will help yourself too much. Instead, place it vertical against the handle to serve only as a balance point. As you lower the bar down, consciously force your elbow as far back behind you as you can to increase the involvement of the rear delts.
7. If you want to include a little more trap work, when your arms are completely locked out overhead, shrug your shoulders up. This also increases the tension on the delts a little more, making them contract a little harder with trapezius assistance.
8. With any standing variation of the barbell shoulder press, check to make sure your ceiling is high enough that the plates don't hit. Even with a fairly low ceiling you may be able to get away with using small plates, e.g. 10's. Clearance is important for safety and damage control.

Variations:

1. Behind the neck press - same execution but bring the bar down behind your head. This exercise can be hard on your shoulders if you are not flexible in the shoulders. Do not hunch your neck forward, keep your elbows back as much as possible. Sit upright. Work on pec and shoulder flexibility if you can't use proper form and have to hunch your neck forward.
2. Combination presses - bring the bar down in front, press up until the bar will just clear your head then bring it behind your head and press up. Alternate in front and behind without locking out. This keeps the tension on the delts as well as involving the rear delt more as you

bring the bar back and over. The continuous tension will really fry your delts. Use a light weight and do high reps. These are also known as Bradford presses.

3. Smith machine presses - same execution. These can be done to the front and the back. The Smith machine removes the need for stabilization of the bar. This can be a good thing or a bad thing depending on your goals and/or coordination. It is not recommended to do behind-the-neck presses on the Smith machine. It constricts shoulder freedom too much and can be even more damaging than the barbell version.

The fact that the bar is stabilized makes the Smith machine good for two arms up, one arm down negatives. Press up with both hands. On the way down, you can either remove one hand or keep the hand on but release the tension and push only with one hand. The second is the better choice so you can sport yourself through the dropping point. Keep the palm of your non-working hand flat against the bar to be there but to prevent excessive help. You should take a narrower grip with this one than usual, making sure your forearm is vertical on the working arm the whole time. With this one, it is easier just to set the guards at the bottom, rather than working with the hooks.

4. Universal machine presses - same execution. Some versions have independent stacks for each hand while use a single handle. A good trick to burn out your side delts with this is as follows. Take a false grip (thumbless) on the handles. Press up only until your upper arms are parallel with the ground. As you press up, force your elbows back as far as you can in a circular motion. Do a drop set of 6 sets of 6 reps. When you are using this type of machine, face away from the stack. By facing the other way, you will be pushing in a backward arc, which will better work your shoulders. As you push up, try to force your elbows back. Lean and push your torso forward as you push up as well. Don't go to full lockout, as that will take tension off the delts.

The Universal machine is good for doing 2 up, 1 down negatives on because balancing the bar is not an issue. Press up with both, then release the tension on one and lower with the other one. Keep your fingers on the other handle though (hand held vertically so as not to be able to push), so that you don't put too much torque on your lower back as well as to maintain balance. Keeping your other hand close will also help you catch the weight if you lose control of it. It will be there, ready to start the next rep, too. Don't pause at the bottom.

The Universal bench press machine can also be used for shoulder presses if you don't have access to an actual shoulder press station. There are two ways you can do this. The first way is to kneel in front of the stack, facing the stack. Set the pin so that the handles are set at the bottom of your pressing range of motion. You may also want to try sitting on a flat bench in between the handles and pressing like that. Remember to lift the handles up then set the pins.

The shoulder press machine can also be used to do stretch position accentuated bottom partials. Use extremely heavy weight for this (pretty much all of it). Your range of motion will be minimal. Focus on a powerful reversal of direction at the bottom. This will allow you to use very heavy weight for the shoulders in their weakest position. For the most effective use of this type of exercise, do it as a drop set. Do as many partial reps as you can with the stack, reduce the weight a few notches and do another set. Drop and do another, increasing the range of motion as much as you can each time you drop the weight. Continue until you get to a weight light enough to do full reps. This systematically trains the entire range of motion. Do a few reps there, shake out your shoulders a little then put the pin back to the heaviest weight. Do a static hold in the bottom position for as long as you can. This is a complete burnout set. This technique can be used with pretty much any machine, e.g. bench machine, etc.

5. Vertical bench press shoulder press - this is a goofy looking exercise but effective. Set the seat up as high as it will go. Bench press the handles out to arms length (close grip is easier to work with this). Stand up so your butt is against the backrest where your head usually goes and your upper body is horizontal. Commence shoulder pressing. To hit the rear delts, you can lean downward as you press to lockout. You can also help yourself cheat a little by letting your upper body drift up at the beginning of the rep as if you're almost taking a run at it. Try rotating your hands slightly inward (thumbs down) to get more tension in the delts.
6. Clean and press - grip a barbell with a medium grip (about the same as your bench press grip). Start in a standing position with your arms hanging down. Your feet should be just wider than shoulder width. Swing the weight up to your clavicles by either using muscular force (light weight only) or with momentum (heavier weight - thrust your pelvis forward to start the movement). Flip your wrists back as you get to the top of the movement. Press up from your clavicles and overhead like a military press. When heavier weight is used or when you begin to tire, you can drop down (bend your knees) as you clean the bar up then use leg drive to help press the bar up. The motion almost resembles bouncing the bar off your chest. This exercise also works your upper back quite well. This is a good exercise to practice cleans for power cleans. There is a way to rest in between reps with this exercise without putting the bar down. Simply squat down and rest the bar high on your thighs. This gives you a bit of a breather between reps to rest your grip.

The clean and press can also be done with dumbbells. If you are using fairly light dumbbells, you can do the exercise without a great deal of body movement. If you are using heavy dumbbells, use a hammer grip for the clean. This will provide you better control and power. Rotate your hands as you press the dumbbells up or keep them in a neutral position.

7. Push press – there are done standing. Use your legs to help get past the sticking point by bending them and pushing up with the legs to add extra upward force to the movement. Don't neglect the explosive calf push. Use every bit that you need to get the weight up.
8. Partial push press – these are done in a power rack. Set the pins at just below the bottom point of a standing press. Do bottom range partials from a dead stop. Be sure not to jar your shoulders excessively when doing these. The push comes in when you start using heavy weight. Drop your body down a little then explode up with your legs, catching the weight as you do, increasing tension in your shoulders (like a spring absorbing elastic energy) then transferring all your body momentum into the bar. Don't be afraid to contact the bar with your upper chest, though tension in the shoulders is preferable. This technique will allow you to use extremely heavy weight on shoulder press. When you come down to the bottom, try holding the bar there under tension for a few seconds before rerecking it. These can also be done with a Smith machine. Do not use the hooks on the Smith machine bar, just set the safety guards to the bottom position. Using the Smith machine will eliminate and extraneous motion of the bar and allow you to use maximal weight. Be sure to push directly up to minimize joint stress.
9. Top range partial press – set the pins in a power rack at the point a few inches below the lockout point of a standing shoulder press (or seated press). Do top range partials from there. Hold the lockout for a few seconds and balance it. This is good practice for Olympic lifting and for anyone who needs to build shoulder strength. These can be done on the Smith machine as well. If your Smith machine isn't tall enough to do these standing, do them seated. Make sure your shoulders are directly underneath the bar to minimize forward or backward torque. Use the reverse preacher bench. Push straight up and lean a little forward if you can. Dig your heels into the ground and drive with your legs too.

10. Military press negatives in rack – this is a set-up technique that will allow you to do negative training without a partner with shoulder presses. Set the pins at the bottom point of the shoulder press. Set the two racking collars about six inches higher on the inside of the back uprights of the rack. Place the bar on the two high racking collars. Squat down underneath the bar, lock your arms overhead then stand up with the bar and step forward a little so the bar doesn't hit the collars on the way down. Hold for a second then lower the bar in a negative to the bottom point pins. To get the weight back up to the collars, go around and lift one side of the bar up to them then go do the other side. The reason you should use the higher collars is that it will allow you to use more weight than if you had to stand up the bar overhead from the lower pins (though that is actually a good leg exercise). One side note: when you are lifting one side, pull the barbell towards that side as much as possible. This allows the bar to get in the racking collar rather than the bar collar. It is absolutely essential to use collars when executing this technique.
11. Standing press – this is a behind-the-neck press or a military press done in a standing position. It allows you to take some of the stress that would go on the lower back in a seated press and absorb it in the hips and legs. Standing presses require more control and balance.

2. DUMBBELL PRESSES

These can be done in the same bench as the barbell presses or using the seat of a preacher bench with your back against the pad. Using two dumbbells, palms forward grip, starting with the dumbbells at shoulder level, press them up overhead in an arc with your pinkies higher throughout the movement. Do not bang them together and do not lock your elbows out to keep tension on the delts. Lower slowly and repeat.

Tricks:

1. Use a feather grip, cradling the dumbbells in your palm rather than gripping them hard (which activates the triceps).
2. There are a few ways to get the dumbbells into position. When the weights are light, simply curl them up then move them into position. When they get too heavy to do that, try this: place the dumbbells on the floor between your feet. Lean over and grasp them. Keep your lower back tight. Whip them up and back using lower back and leg power in an explosive movement (if your lower back is weak or hurt, don't do this). As your upper back hits the backrest, your upper body will stop but the dumbbells will keep going. Use this momentum to get them into position. You will almost be bouncing them off your shoulders and up. Practice this with light dumbbells before trying it with heavier ones. If you have a person helping you, have them give a quick powerful push under the elbows at the point where you start to push them up. This is where you will need the most help. Alternatively, kick one up yourself, then get someone to lift the other one into position. It can be an unbalanced situation holding one dumbbell overhead so be careful. One problem with having a hand-over is that you may not be able to get your hand on the dumbbell grip in the proper position before your spotter gives you the weight. The other problem is finding someone willing to lift a dumbbell up to you especially when you start going very heavy.
3. Try doing seated dumbbell press with your feet elevated about one foot over hip height. Use another bench or a dumbbell rack or even a Smith machine bar set at the appropriate height. Use dumbbells that you can swing up yourself or get someone to hand them to you. Hold them dumbbells down beside you, put your feet up, then swing the dumbbells up. Push back with your feet to keep your hips from moving forward. Ensure your back is arched.

4. Keep your elbows back as far as possible during the movement.
5. Hold the dumbbells off-center with your pinkies against the plates. This will keep the tension on.
6. Push your hips forward as you push up and back. Don't arch excessively.
7. Getting heavy weights into position by yourself. Place the dumbbells on the floor together between your feet while sitting down. Lean over, keeping your back arched and tight and your arms bent but solid. Grasp the dumbbells strongly. Sit up off the seat somewhat. Explosively push up and back with your legs keeping your arms locked, carrying the dumbbells up and back with you as you transfer the momentum. It should look as though you are trying to slam your back against the bench. Sit down and slam your back against the pad forcefully, letting the dumbbells continue to move up and back. When the dumbbells are up and back far enough to hit your shoulders, transfer this backward momentum into upward momentum by snapping them off your shoulders. Push up forcefully. It is also possible to have someone give you an extra push at that point.
8. If you are using a flat backed bench, slide a rolled up towel behind your lower back to maintain a proper arched position. This will take a lot of the stress off your lower back. This can be done with any seated movement where the back is against a flat bench.
9. Keeping the hands tilted down can be tricky to remember but it keeps tension on your delts much better. Imagine as though you are pouring water on your head each time you come to the top. This will help you do it.
10. The Swiss ball can be used as a backrest for presses. Put it up against a wall and sit on the floor. The ball will help arch your back into the proper position.
11. Dumbbells are useful in getting around shoulder injuries or tenderness. Simply shift the arc of pressing around until you find a track that doesn't hurt. If it all hurts then you should rest your shoulders.
12. Try using the preacher bench the right way when doing shoulder press. Instead of putting your back against the pad, put your lower chest into the pad. This will force you to lean slightly forward instead of back. This will help decrease the front-delt pressing, backwards-leaning habit that many people get into. Use lighter weights and keep your elbows back. You will either have to get someone to hand you the dumbbells or kick them up onto your shoulders first before sitting down.
13. A better option than the above is to use the Swiss ball. Place it against the wall at about stomach level and lean into it as your press. Keep your knees bent and do not overarch your back. Fight the tendency to lean back. Use a lighter weight and lean forward as you press up to increase the contraction.
14. If you don't have access to a preacher bench and want a backrest, try using the Smith machine bar or a bar set in the power rack. Set a flat bench under it and set the bar to about mid-back level. Lean against this (you can use a foam pad). The uncomfortable bar in your back will encourage you to stay upright. Another option is to use the knee pads on the lat pulldown machine to brace against.
15. Try doing only the middle 3/5 of the movement to keep more continuous tension on the delts. Below and above that in the range of motion affects the triceps strongly.

Variations:

1. Arnold presses - start with your palms facing as though you just finished a biceps curl. Swing your elbows around out backwards and out wide as you begin to press the dumbbells up. As you press up and your elbows go back, your palms will face forwards.
2. Front delt presses - same start as 1. Keep your palms facing back throughout the movement as you press up.
3. Side delt presses - turn your hands so that your palms are facing each other and your elbows are straight out to the sides. Press up, around and overhead keeping your hands facing inwards. Come up until the dumbbells touch at the top. This is great for delt tension. These are also called W-presses for the shape you look like when you are holding the dumbbells in the bottom position. This movement should look more like an overhead flye than a press.
4. Alternating presses - press the dumbbells one at a time with any of the above variations.
5. Reverse alternating presses - start with both dumbbells at the top. While you keep one up, lower then press the other one. Keep that one at the top then lower and press the other one. Repeat. This keeps continuous tension on the delts. It also reduces the tendency to shrug the shoulders up during the movement.
6. One arm presses - use only one dumbbell at a time. These can be done strictly or as a sort of push press. If you do them as a push press, do them standing but be careful of the torque on your lower back as you will dropping down slightly to one side then forcefully pushing overhead and leaning to the other side in order to involve the oblique muscles.
7. Bottom start dumbbell press – these are done one arm at a time to build power out of the bottom the movement. Rest your elbow on top of a preacher bench at the bottom to take the tension out of the shoulder. Build some tension then press up. It is also possible to sit on the floor with your elbow on a flat bench and press from there. Do not drop heavily onto your elbow.

3. LATERAL RAISES

Holding two dumbbells together out in front of you, lean forward somewhat at the waist. Bend your elbows slightly. Your palms will be facing down throughout most of the movement. Raise the dumbbells up and out to the side in a wide arc up to shoulder level. Squeeze hard at the top and lower slowly. Do not tip your hands as if pouring water. This may work the side delts a little more but it has the potential to screw up your shoulders. Do not shrug your shoulders up during the exercise. Keep them down.

Tricks:

1. In order to use heavier weight and still get a full-range of motion, employ a little drop, i.e. as you come to the point where you can't raise the dumbbells higher, drop your upper body somewhat to carry the dumbbells past the sticking point. It's almost like a chicken pecking for food.
2. Down the rack sets work good with this exercise - go to failure with a set of dumbbells, rack them then pick up the next lightest and do them. Continue down the rack. For an extra kick, throw in a set of dumbbell presses with moderate weight immediately after that torture. Your triceps will not be fatigued and will help you push your shoulders even harder. This trick can

be applied to flyes and bench pressing, too.

3. You can do these and any variations of these seated (using the chair bench if you're doing cable laterals and string the cable behind the chair).
4. If you find your shoulders hurting during this exercise, do them thumbs up, palms forward. This is much easier on the shoulders.
5. Hold the dumbbells off center with your pinkies up against the back plates of the dumbbells. This puts more of the resistance forward. It mimics the pouring water trick (which is often recommended to put extra tension on the side delt – it works but it can damage the shoulder joint) but without the harmful shoulder stress. The reason it works is that you must exert backward rotational force to keep the dumbbell from tipping down, adding the tension that tipping down will give you.
6. Instead of grasping the dumbbells with thumbs around, press thumbs against handle. This helps to reduce the tendency to involve the traps at the start of the movement.
7. These can also be done with a hammer grip, e.g. thumbs up.
8. This trick works for all forms of raises (front, lateral and bent-over). At the bottom of the movement, drop your shoulders down as far as you can. Try to force the dumbbells to stay as low as possible during the movement in order to transcribe as wide an arc as possible. It's like trying to push the dumbbells away from you as you lift them. It is also good to imagine as though you have a ball pushing on the back of your arms. Keep your shoulders pushed the entire time. Another good tip is at the bottom of the movement, do a reverse wrist curl with the dumbbells. When done in combination with the shoulder drop, you virtually eliminate shoulder joint stress and put all the tension directly onto the delts.
9. Try to make your shoulders as wide as possible during the movement. Flaring your lats out accomplishes this. It also gives the lateral delt a bit of a stretch at the bottom of the movement. Come down in front and inwardly rotate at the shoulder a bit as you come across in front.
10. If you find your grip giving out during higher rep sets and you have access to an enclosed handle or an ankle harness (the harness is better), run your wrist through then do the exercise without gripping. The handle will slide down your forearm while the harness will stay put if tight enough. Attaching the harness above the elbow for this exercise will allow you to do the exercise without any elbow stress. It also provides greater leverage and will allow you to use more weight since the weight is now positioned closer to the force arm. If you don't have an ankle harness, try tying a towel through an enclosed handle and around your arm.
11. If you want to do partner-assisted negative, sit on the end of a bench with your partner sitting behind you. Use only 10 lbs. Lateral up on your own and have your partner push down on your arms on the negative while you resist (but not so much that your arms stop). After 8 to 10 of these, do 8 to 10 reps on your own.
12. To do a full fatigue set start with 2 arms simultaneously until fatigue, then start doing one arm at a time, then cheat with 2, then cheat with one.

Variations:

1. One arm at a time - same execution, use one dumbbell. This can be done several ways. The first is to do one arm at a time holding onto one dumbbell. Another way is to hold two

dumbbells and alternate back and forth between the two. This is a good technique to do once you get tired doing both arm laterals. You'll find you will be able to get more reps when you switch over to one at a time due to the neural drive only going to one place instead of being split between two. It also gives a little longer rest between reps. The other way is to do reverse alternating style where you hold one at the top while you bring the other one down then up again. This is the most demanding style as your delts never get a rest. When doing one arm regular alternating, try leaning over a little to the side that you are working in order to get a bit more range of motion.

2. Leaning laterals – this the same basic execution as a one arm, one dumbbell lateral raise with a different body position. Stand beside a pole with your feet right next to the bottom of it. Hang onto the pole with your non-working arm. Extend your arm so that you are now leaning at an angle. This reduces the involvement of the supraspinatus muscle, which is primarily involved in the first 20 degrees of the upright lateral movement. It is also a more intense contraction at the top for the delts. It is also possible to lean over the other way so that your arm comes across your body at the bottom. This will increase the stretch component of the movement.
3. Incline laterals – these are done one arm at a time leaning on your side on an incline bench. Your arm will hang down directly in front of your body while your body is at an angle. This emphasizes the stretch position of the lateral delt. These can also be done on a decline bench (same body position, though) or leaning against a pole or wall braced by your arm against the wall.
4. Cable laterals - kneel or stand beside a low pulley (the seated row machine cable will work) with your working arm directly away from the machine. These can be done one arm at a time or two if you have access to a crossover set up. Same execution. Do not jerk the weight at the start to protect your shoulders. Lift smoothly. The one arm version lends itself to self-forced reps and negatives by using the other to pull on the cable. A good trick for this exercise is at the top of the movement, when your arm is straight out to the side, release your grip so that the handle is held only in the crook of your thumb and forefinger - no fingers and no thumb. It will intensify the contraction. Grip when lowering and raising, though.

There are several other ways to orient oneself that will change the feel of the exercise. You might want to try doing this exercise with the arm that is closest to the pulley instead of running the cable across your body. This will decrease the range of motion of the tension but will increase the amount of tension at the point of contraction. Stand or kneel close to the pulley so the cable runs straight up and down at the peak. You will need to bend your arm a little more to do this one comfortably. If you are doing these on a seated row pulley, you may be able to stand so that you are closer to the stack than the pulley wheel is, lifting backwards or so it will look. This will increase the effective range of motion and will increase the tension even more. Try bending your elbow about 80 to 90 degrees so that your are almost coming up in a press. Keep the bend in your elbow constant, however. This will work the side delt through a great range of motion. You can also lean away from or towards the stack to change the angle of pull. Hold onto the frame of the machine for support.

Another way is face the stack and lift up, to the side and back. This will work the lateral as well as rear delt heads. Start with the cable slightly across your body and lateral up and back like you are welcoming someone with open arms. Puff your chest out at the top and keep your shoulder down. The final way is facing directly away from the stack. Start with the cable slightly behind your back. Come up and out to the side. This will work the lateral and frontal delts more. If you have access to a dual low pulley, you can do these both arms at the same time. You can also try facing directly away from the stack as well. Start with your shoulder internally rotated as though starting a reverse curl. As you come up, externally rotate your

shoulder, keeping your shoulder down the whole time. Your hand will end up higher than your elbow. Another way to include the rear delts is to move your body back a few feet from being directly in between the pulleys. This will create rear delt tension as you must also pull back. Another way to hit the rear delt as well as increase the tension on the side delt is at the top of the movement, rotate your torso back and around. The cable will run across the front of your body, keeping the tension on.

When doing cable laterals, for an extra stretch, internally rotate your shoulder somewhat, as though wrapping your arm around your chest. Lean slightly in the direction you're pulling as well as forward a little (i.e. if you're using the right arm, lean to the right). Keep your lower back arched as well. You can increase the stretch effect at the bottom of the movement by doing the following. As you start the movement, leave the cable at the same spot then lean your body to the working side. At the point where you feel the stretch of this movement, start the movement with a twitch to activate the stretch reflex.

Another trick you can use to intensify the contraction is, at the bottom of the movement, curl your wrist in like the finish of a wrist curl (flexed). As you raise the weight, do a reverse wrist curl until, at the top of the movement, your wrist is in bent back like the top position of a reverse wrist curl. This wrist curl should be done at the exact same tempo as the lateral movement. This works because, when the top forearm muscles are not completely contracted, they can absorb some of the tension generated by the weight. When they are completely contracted, they can't absorb as much of that tension and it gets transferred directly up to the shoulder.

When doing this exercise with two cables, try doing them reverse alternating style. Do the movement one arm at a time but instead of relaxing at the bottom when not moving, hold at the top in the contracted position. Lower and raise then hold. This will increase the time under tension in the target muscle.

A trick you can use to get more reps when doing the alternating style is to get into a rhythmic swing, using the momentum of the negative of one side to help kick start the positive raise of the other side. It will almost look as though you're swinging your arms and rocking your body from side to side. As you come down from one side, lean your upper body in the opposite direction and try to transfer that momentum through your body. These can be done kneeling or standing.

You can also use body momentum side-stepping to assist yourself. At the stretch position of the movement, lean over to the cable side, putting your weight over to that side. Fall the other way, throwing your bodyweight the other way, transferring that body momentum into shoulder movement.

5. Behind the back cable laterals - same execution as above but the cable will run behind your back. These may be a little awkward but are effective. A trick you can use with this one to also hit the front delt is to bring the cable up to the contracted position then bring the cable around to the front and across your body. The cable will run against your back, keeping the tension on. Swing back out to the side then lower back down.
6. Lying cable side laterals – do these lying on your side on a flat bench with your head closest to the stack. Lower your arm down in front till it's about vertical (don't dislocate your shoulder). Raise up to just over horizontal. This can also be done with a dumbbell. The cable variation can be done with your feet closer to the pulley as well. Keep your arm in direct line with your body and lateral straight up into the air. This can be executed lying on the floor or a bench. It is also possible lying flat on your back and bring the cable out to side like a snow angel.

7. Leg extension machine laterals – sit on the floor with your back to the machine. Your elbow should be braced against the ankle pad of the machine. Lateral up.
8. Lateral to overhead press – this exercise can be done with cables or dumbbells. For the dumbbell version, do the lateral. At the peak of the movement, rotate the dumbbell from an overhand to an underhand grip. Continue the movement up as a W press. Bring the weight down to the bottom of the press, rotate back to an overhand grip and continue all the way down like lateral. When doing the cable variation, come to the top, pin the cable with your other hand by holding it into your body or just keeping it down. Rotate the hand to an underhand grip and continue pushing up and around against the new pivot point provided by your hand pinning the cable. The dumbbell version can be done both arms simultaneously but the cable version must be done one arm at a time or alternating arms. One thing you will notice is that as you tire and your lateral ROM decreases, your press ROM will increase. This is good and will really force the delts to work because of the increased help from the triceps in the pressing action.
9. Overhead cable laterals – this movement is similar to the top phase of the previous movement. It is like an overhead press with no triceps extension. Stand beside a low pulley. Use a reverse grip. Do not cross the cable over your body. Bring your fist right overhead, keeping your elbow stiff.
10. Cable dumbbell laterals – loop a cable around the handle of a dumbbell. Go light for this one as the resistance adds up quickly. Do a lateral raise from there, combining the tricks for each one. Hold the dumbbell with the cable on the thumb end and have your pinky against the back plate. This will give you the most tension. A good way to do negatives with this exercise is to grab the cable, slack the line, raise the dumbbell up, then release the slack on the cable, instantly increasing the weight.

4. REAR DELT LATERALS

These are also called bent-over laterals. Either sitting on the end of a bench or standing, bend over at the waist holding a pair of dumbbells, palms facing each other. Keeping your shoulders hunched down as much as possible, raise the dumbbells up and out to the sides. Keep your arms stiff and a constant slight bend in your elbows. The dumbbells should be brought slightly forward as you raise them, ending up about level with your head. Squeeze hard then lower slowly and under control.

Tricks:

1. At the start of the movement when the dumbbells are hanging straight down, drop your shoulders down, pushing them forward in the socket. Flex your wrists back as though doing reverse wrist curls. Now flex up, moving your shoulders back up towards the ceiling. Try to move the dumbbells in the widest arc you possibly can. Imagine you are trying to wrap the backs of your arms around a large tree trunk. This is just the opposite of what you do with dumbbell flies. At the top try to imagine you are carrying a big ball on your back. This is a good way to teach the movement. Put a Swiss Ball on the person's back and have them wrap the backs of their arms around it. The reason the dropping of the shoulders works better is that by dropping them, you stretch and relax your back muscles. With your back relaxed, your delts must do the work. By keeping them down, you prevent the back from working as much.
2. Hold the dumbbells with the pinkies against the plates. This will work to keep the tension off the back and on the delts.

3. As you come up to the top, rotate your upper arm so that the thumbs are pointing up towards the ceiling. This is the opposite of the usual way. One of the functions of the posterior delt is external rotation. The thumb action is external rotation.
4. It is possible to do this exercise one arm at a time.
5. Rest your chest right on your thighs. This eases tension on the lower back. Be sure to still keep it tight, though.

Variations:

1. Bench laterals - lie face down on a bench (flat, incline or decline). Same execution. This version takes all the stress of your lower back. These can also be done on the Swiss ball though the range of motion is less.
2. Cable bent-over laterals - same execution. Use low pulley(s).
3. Seated incline bench rear-delt crossovers - sit in an incline bench in the crossover pulleys. Grab the left handle with your right hand and the right handle with your left hand. Using as wide an arc as possible and keeping your shoulder hunched forward, press the handles out and down towards the floor. The cables will cross over over your head. These can also be done standing one arm at a time by grabbing a high pulley handle, leaning back slightly and bringing the handle down and behind you in a wide arc.
4. Standing rope pullbacks - stand facing a high pulley. Use a double handle or rope attachment. Grasp the rope so that your thumbs and forefingers are on the bottom. You will probably need to brace your foot up against either the seat if using the lat machine or the bottom of the weight stack if using the plain pulley (that is when you start using relatively heavy weights only). Start with your arms straight out in front of you, thumbs towards you. Pull back with your rear delts by drawing your elbows as far back as you can while externally rotating your shoulders so that you form "L" shapes with a 90 degrees bend in your elbows at the peak of the movement. You will almost look like you're doing a double biceps pose. It is imperative you keep your elbows as high as possible or you will turn the exercise into a biceps exercise. To fully activate the rear delts, try to pull the two ends of the rope as far apart as possible as though trying to rip it in two (the longer the rope you are able to get a hold of the better – a two foot rope is perfect). Hunch your shoulders forward at the start then force them back as you pull back

Usually rear delt exercises require strict attention to form in order to isolate the muscles. This one doesn't. As long as you keep your elbows high and try to pull the rope apart, you can get away with fast, pumping reps. Pulling the rope apart activates the rear delts automatically. Using fast, high reps (a technique that usually wouldn't work with rear delts) is great for developing blood flow to the normally hard-to-reach rear delts and can lead to much greater rear delt development than is possible with traditional rear-delt exercises.

5. Reverse pec deck - sit backwards in a pec deck machine and brace the back of your arms against the back of the pads. Attempt to push your elbows back as far as possible. Some machines can be adjusted for this purpose to give you the full range of motion. These usually use handles. Always remember to hunch your shoulders forward and force your hands in as wide a circle as possible. Keep your elbows high (up at head level).
6. Lying cable rear flies - lie flat on your back by a low pulley. Grasp the handle with your opposite arm so your arm is crossed flat over your chest. Pull over, around and out to the

side in a wide arc. Use light weight and be careful of your shoulder, as this is a huge range of motion and a sensitive position. No jerking at the start.

7. One arm alternating rear flyes – get on your hands and knees. Your hands will be resting on top of the dumbbells, which will be on the floor. Execute a rear flye one arm at a time, resting your bodyweight on the non-working dumbbell. This version puts no pressure on your lower back from leaning over.

5. FRONT RAISES

Start with two dumbbells held palms back against your legs. Keeping your arms stiff, elbows slightly bent, raise the dumbbells up in front of you to shoulder level one at a time or simultaneously. Lower and repeat.

Comments:

Front delt work is often unnecessary as this muscle gets plenty of work with all pressing movements and can easily be overtrained, especially in beginners. Front delt work can, however, give you extra definition in the pec-delt tie-in area and should not be completely ignored.

Tricks:

1. Turn your hands around so that the palms face forward and up. This greatly reduces the stress on the elbow.
2. Sit back in an incline bench for a set, then lie face down on it for a set to get a greater range of motion. You can also lie back on it to get the entire range of motion.
3. Use a hammer grip or an underhand grip. If you use an underhand grip, keep a constant 20 to 30 degree bend in your elbow.
4. Drop your shoulder down then push the dumbbell forward and away so your shoulder comes forward. This puts the usually-assisting trap muscles in a less effective stretched position. To maximize this push, do them one arm at a time and rotate your body towards the arm you are using, stretching your body forward on that side. Turning your body into the movement will work it differently.
5. These can be done round-the-world style where you bring them up to the front, directly overhead, then down to the sides. This gives a different feel to the exercise but can be a bit harsh on the shoulders. Use light weights if you want to try this.
6. Come across the midline of the body to increase the tension on the pec-delt tie-in area. If you do both arms at the same time, alternate which one goes over which. You may even wish to do the entire rep with the arms crossed over for a different feel.
7. When doing alternating, try this intensity technique: bring one up and hold it in mid-body, bring the other one up and place your wrist over top of the other wrist that's already up. Now raise both up overhead. You will cross the dumbbells over and raise. Bring them back down to shoulder level, uncross your arms then lower and repeat with the other arm on top. The bottom arm will get more work while the top arm will get a spot.

Variations:

1. One arm at a time - same execution.
2. Incline front raises – these can be done sitting back in an incline bench or lying face down on it for a set to work the muscles over a different range of motion.
3. Barbell front raises - same execution but hold a barbell instead of two dumbbells. These can be done standing, sitting on an incline bench or face down on an incline bench as well as with an underhand or overhand grip. Keep the elbows slightly bent.
4. Cable front raises - same execution using low pulley. You can face the pulley or away from it and use an incline bench like above if you want. If you are facing away, try this trick. Hold the cable out in front of you for a second at the top then bring it across your body and around to about a 45 degree angle (e.g. using your right arm, swing it over to the left) to other side. The cable will run diagonally across the front of your body.
5. Plate front raises – grasp a barbell plate with both hands and do a front raise.
6. Behind the back and around front raises – start with the dumbbells behind your back. These are best done one arm at a time. Use whichever grip you feel comfortable with. Lean back a little and over to the side you are working. Bring the dumbbell wide and up and around and in until it comes across the mid-line of your body. It is an arc movement using the entire front delt range of motion. Lower the dumbbell straight down in front then do the other arm. This movement will strongly affect the pec-delt tie-in area. This variation works great with one arm using the cable. The cable gives you tension while your arm is behind your back, increasing the effective range of motion. With this one, you can use some body momentum when the going gets tough to prolong the set. The momentum will actually make it harder and more effective. It will also allow you to use more weight if done properly. Consciously squeeze the muscle and do not lose tension or you will work the traps instead.
7. Lying cable front raises – lie flat on your back with your feet by the cable. Do a front raise with the bar attachment from there. If you bend your elbows about 45 degrees, you will involve the side delts more.
8. 45 degree dumbbell front raise – this type of front raise actually hits the side delts. Lie face up on a bench with a light dumbbell in each hand and your arms hanging straight down. Use a pronated grip and keep your elbows pointing to the sides. Allow no deviation or the stress will go to the front delts. Raise both arms forward and upward until they are at a 45 degree angle to the floor. Hold for a full second. Lower until slightly below parallel the floor and repeat. Avoid the natural tendency to elevate your shoulder blades. Experiment with bench angles and go for feel.

Exhale as you raise. This will naturally force your shoulders down. Push the dumbbells forward towards your knees as you raise them to get more shoulder depression. Tilt the dumbbells so your thumbs are higher (this is also more comfortable on the wrists). Doing a reverse wrist curl action as you raise up will force more tension on the delts.

6. HANDSTAND PUSH-UPS

Do a handstand beside a wall so that your feet are in contact with it. Your hands will be wider than shoulder width. Lower yourself until your head touches the ground then push up. This is a very advanced exercise and it is also one of the most effective for building shoulder strength and balance as you must move your body as the resistance.

The Kick Up:

Place your hands about 3 inches away from the wall. Your starting position will be similar to a sprinter's at the start of the race. The leg you will push up with is the one that is furthest back. Bounce down a little then explode your legs up until your heels hit the wall behind you. It requires practice to be able to do efficiently. Ensure you keep your elbows locked out or very close to it, and your elbows are stiff. This will prevent you from crashing down on your head, especially the more sets you do (even more so with negative reps). Practice with both feet to see which feels more comfortable. If you get more comfortable with one, it is still not a bad idea to practice with the other one as well.

Tricks:

1. To focus on the delts more, turn your hands inward somewhat so that your fingers are pointing at each other a little (not too much).
2. A spotter can be used to hold your body upright and to help pull you up if you need it. If you want to add resistance, get a spotter to push down on your legs.
3. A great way to improve your pushing power is to do them with a bottom-stop. At the bottom of each rep, let your body weight rest mostly on your head, releasing much of the tension off your shoulders. This will eliminate any elastic force you may have in your muscles. This has the added effect of building up your neck muscles. At that point, develop tension in the delts then push up explosively.
4. To get more of a range of motion, use push-up handles or two dumbbells (ones that don't roll for stability or round ones if you want to work on your balance and strength – this will make you work much harder) or between two benches or two step boxes. If you only have round dumbbells but want them stable, place 10 or 25 pound plates between the wall and the dumbbells. This will space them and brace them. Try angling them in slightly, meaning turn them so that the closer plates are lower. This will turn your knuckles slightly in, increasing shoulder tension. Placing rolling dumbbells parallel to each so that you are in a W-press style is much harder. You will have to apply more inward tension to keep the dumbbells from rolling out. Again, you can brace the outsides with plates if you like. Another bracing technique is to slide a 2½ lb plate under each of the outside dumbbell plates, tilting them up slightly. This will mimic the pinky-higher position recommended for dumbbell pressing to keep tension on the delts. Be sure the dumbbells are braced and won't slide out, dropping you on your head. Using handles will force you utilize rotational force in the forearms to maintain your balance. This will help increase forearm strength.
5. Splay your fingers out as wide as possible. This will help with controlling your motion. It will also improve hand strength. Don't have your fingers flat on the floor, however. Keep them bent so that you can exert force. It will make your hands resemble a claw.
6. To really maximize the effects of this exercise, try doing them freestanding as much as possible. This means without having your feet contacting the wall. This will really work the stabilizing muscles of your shoulders and improve your balance. They are difficult to control, though. Start by doing only the push-up part free. Lower yourself with your feet on the wall. Eventually, you will come to point where you can do these free for at least part of the movement. Practice holding your balance at the top of the movement, free of the wall. This is like a lockout hold. It is very important to splay your fingers with this version. For even better balance, hook your fingers as well so that your fingertips are pushing straight down into the floor. This will allow you to exert more balancing pressure through the fingers. It is this

balancing pressure that really activates the shoulder muscles.

7. Try doing small-ball push-ups. Use two medium sized balls (e.g. volleyballs). Wrap your hands around them then kick up into a handstand and go from there. Make sure the balls are able to hold your weight solidly before you try doing a handstand on them. To accomplish this without killing yourself, simply stand on one and bounce up and down a little. If one can take that treatment, then two balls will definitely hold you.
8. If you don't have a partner and wish to spot yourself, try this trick. Set a Smith machine bar to about upper chest level. Set your hands a few inches in front of the bar. Kick up into the handstand then bring your feet back to the bar (they will bang into it the first few times until you get used to where the bar is). Hook your feet over the bar, hooking the bar over the tongue of your shoes (these make great little hooks). Use your legs to help pull yourself back up when you need the help by doing a leg curl motion. This is a great way to do negatives. Help on the way up, then release the pressure on the way down to accentuate the negative. The amount you help yourself will adjust the amount of tension on the negative. This technique works well with using dumbbells to increase the range of motion. Move the bar up to eye level if you do these on dumbbell handles. When the bar is set lower than that, it increases the knee bend, reducing the amount of bodyweight you must support and increasing your ability to help with your legs. Be careful not to set it too low, however. If you don't have a Smith machine you use a power rack with the bar set appropriately.
9. Handstand push-ups can be done almost one arm by changing where your body is centered. To do this, while you are in the handstand position, walk your body over so that it is more directly over one arm. Straighten the other arm. Push-up with the arm your body is over. This is most easily done in concert with the Smith machine, self-spotting trick. It allows you to help yourself as well as have better control over where your body is in space. This makes it ideal for one-arm accentuated negatives (don't take both hands off, just take the pressure off one). This is a very advanced version. Start with an extremely limited range of motion (a couple of inches) with this variation and gradually increase the range over a number of sessions as you become stronger with it.
10. Another way to add resistance is to do these underneath a calf raise machine or a Smith machine bar. This is a bit tricky and may require somebody to help you if you can't do it alone. Do a handstand under the calf raise pads, placing the soles of your feet flush on the bottom of the pads. Keep your knees locked and push up. This technique can be used for effective negatives. When you push up, bend your knees so the weight doesn't move. Hold at the top and straighten your legs, lifting the weight up. Lower your body with the weight. The same principle is followed with the Smith machine bar, though your feet may slip off easier (set the bar on the safety racks, not the hooks). A better way to do these on the Smith machine bar is with inversion boots. The trick here is to wear the inversion boots upside down so that when you are upside down the hooks of the boots cradle under the bar instead of hooking over it. This removes the foot-slippage problem.
11. To develop shoulder lockout strength, try doing one arm static handstands. First practice these two arm by just doing a handstand against a wall. Gradually progress to shifting your weight from one side to the other. This is easily done by walking your feet along the wall over to one side then the other. You may get to the point where you can remove your other hand from the floor and just hold. This is a very advanced step where your entire bodyweight is supported on one hand. Be ready to kick down or spot yourself if you start to drop as you don't want to break your neck.
12. Another variation is the handstand push up on your fists. This requires and builds tremendous wrist strength as you are supporting your entire bodyweight on them. It is easier

to put padding down. Fold a towel into a strip and use that to put your fists on. This will cushion and prevent slippage. Doing these on your fists will also increase the range of motion and decrease the stability. It also increases shoulder tension. Do not tuck your thumbs inside your fingers when doing this. Leave them free and press them against the floor as though making a thumbprint to assist with balancing pressure. If you find your wrists hurt near lockout, only do half reps at the bottom. This where the real benefits of the exercise lie anyway. This variation is perfect for sports that require wrist strength and shoulder power, e.g. boxing, martial arts, wrestling, etc.

13. A good way to develop lockout strength is to try and hold your bodyweight on one hand. Just do a static hold at the top and try to shift your weight over one arm. You may not be able to lift the other hand initially but you can work your way into it.

7. UPRIGHT ROWS

This is a good exercise to screw up your shoulders. The raising combined with the extreme internal rotation impinges the tendon, leading to degenerative damage. Don't do these. Just so you recognize them, they are the exercise where you hold a barbell in front of you with an overhand grip, raise your elbows up like chicken wings, then pull the bar up, leading with the elbows. They are sometimes done with dumbbells or cables

8. ROTATOR CUFF EXERCISES

The rotator cuff is a group of small muscles in the shoulder responsible for maintaining its stability. They are responsible for external rotation of the shoulder (rotation where, if your arm is straight out to the side, is the opposite of pouring water) and are often neglected. The internal rotator muscles like the pecs tend to overpower them and cause instability and weakness. These exercises should be done with fairly light weight and approaching, but never to, failure. Do not do these exercises before a day where you will be doing other exercises that require shoulder stability as fatigue to the rotator cuff muscles may decrease the stability of the shoulder. Ideally, they should be done before an off day or a leg day. People often find that shoulder-based exercise performance increases with an increase in rotator cuff strength. It is often recommended that you don't exceed 20 pounds when doing rotator cuff exercises but there is no problem going heavier if you work up to it. The payoff will be greater stabilizing strength.

LYING SIDE RAISES

Lie on your left side on a flat bench with your left arm hanging over the end. Your armpit will be wedged over the edge of the bench. Grasp a dumbbell in your right hand with a neutral grip (thumbs up). Your right arm will be hanging across your chest. Keeping your arm stiff with a slight bend in your elbow, raise the dumbbell up and around in an arc until it is perpendicular to the ground. Lower and repeat for 8 to 12 reps. Repeat with the left arm.

Tricks:

1. Try to push the dumbbell away from your body as you bring it up. This will increase the involvement of the small muscles and decrease the involvement of the larger back and rear delt muscles. This pushing forward of the humerus in the shoulder socket works for all the other movements as well.
2. If you are doing these on the floor, put the opposite foot flat on the ground with your knee

bent so that you can push a little bit in order to exert a little more force. This is best done with the cable variation.

3. You can do these bent over and tilted sideways as well. Brace your elbow on your knee for support.

Variations:

1. Lying low pulley cable side raises – lie flat on your back on the floor on a bench perpendicular to a low pulley. Grasp the handle on the right side with your left arm so it is crossed over your chest. Keeping it stiff and straight, bring the cable wide up and around and down. This can also be done both arms simultaneously or alternating.
2. High pulley side raises – these are not really a raise so much as a pushdown without bending your arm. Stand perpendicular to the pulley grasping the handle with your arm across your chest. Sweep it out wide in front of you and down. You may wish to lean over away from the pulley in order to get a straighter line of pull. Just before you get to the point where your arm is straight out to the side and the cable is almost in your face, put your hand up in front of your face so that it catches the cable. At that point, continue moving your arm back behind your body as far as possible to get the extra contraction. Your palm will become the new pivot point of the cable, allowing you to get that extra resistance on the movement. These can also be done standing upright by swinging the arm wide to side and back behind yourself. Block the cable with your other hand and rotate your upper body away as well to increase the tension.
3. Bent over cable rotator cuff laterals – these look almost identical to rear delt flies. Use a lighter weight, let the cable stretch your arm across your body as much as possible. Drop your shoulder then transcribe a wide arc all the way up and around. Rotate your body towards the pulley at the top and raise the cable as high and around as much as possible.

SITTING L RAISE

Sit beside the end of a flat bench. Rest your right upper arm on the very end of the bench. Your elbow should be bent 90 degrees. Hold a dumbbell in that hand. Now, while maintaining the 90 degree bend in your elbow, rotate the shoulder inward, lowering the dumbbell until it's level with the bench. Raise it up to the starting position by externally rotating the shoulder. Maintain the 90-degree elbow bend throughout the movement. Repeat with the other arm. This exercise can also be done standing or kneeling if you have a surface that is high enough to allow it. An adjustable incline bench works well for this. An alternative is sit on the flat bench and bend your leg so your foot is on the bench. Rest your elbow on your knee.

Variations:

1. Free standing – these are done without resting your arm on anything. Just make sure you keep your upper arm horizontal. You may also choose to add in a shoulder press movement after you have the dumbbell up.
2. Low pulley L raises – done seated or standing with your arm resting or free standing. Face the pulley and do an L raise. This gives you more resistance at the top of the movement.
3. High pulley L raises – stand facing a high pulley. These are best done free standing. Hold your upper arm stationary and pull back in a L raise movement. You may wish to lean back during the movement for a better line of pull.

LYING L RAISE

Lie down on your side on the bench like in the first exercise. Keep your upper arm in line with your body and bend your elbow 90 degrees. Start with your forearm parallel to the ground. Externally rotate your shoulder so the dumbbell comes up and around in an arc until it is over your body. Maintain the 90-degree bend in your elbow. Repeat both sides

Variations:

1. High or low pulley low elbow L raise – keep your upper arm pinned to your side standing perpendicular to the stack. Start with forearm across your body then do an L raise movement keeping your upper arm at your side. Try leaning over away from the stack to get a better angle of pull if you are doing the high pulley version.

THREE IN ONE ROTATOR CUFF RAISES

This exercise combines aspects of all three of the above movements. Start in a standing position with your upper arm vertical and your forearm crossed in front, shoulder internally rotated like the start of a lying L raise. Externally rotate and abduct your shoulder (raise your upper arm up and to the side). The first half of the movement resembles a lying L raise movement. While you raise your upper arm, perform a stand L raise movement. The act of raising your upper arm mimics the lying side raise movement. This should be a smooth motion. It is a much more time-efficient method of working the rotator cuff as you hit all three basic types of movements in one. This movement can be done with the cable as well.

Tricks:

1. Lean over slightly to the opposite side you're doing. This puts a bit of a stretch on the muscles at the start.
2. You can work your way up to using heavy weights with this exercise. Use a more powerful movement, similar to a clean. This should only be done if you have a healthy rotator cuff. This will help build it up even stronger.
3. Internally rotate and push your humerus forward in the socket at the bottom. Rotate out and push back as you come up. This is part of the function of the rotator cuff muscles: to keep the humerus in the socket.

Comments:

These exercises can also be done with surgical tubing or with cables. These are known primarily as rehab exercises but are great for strengthening the shoulder. Do them for reps of 8 to 12 without resting in between sets or exercises, i.e. do a set for one arm, then the other arm, then a set of the next exercise with the first, etc. with no rest. Do only one set when first starting these and don't work them excessively. This exercise is a great time saver as it hits all the major planes of motion all in one movement.

CUBAN PRESS

These are also known as muscle snatches. Start with a very light weight until you get the hang of it. Hold a barbell outside of shoulder width across your thighs in a standing position. Upright row the barbell to the point where your upper arms are horizontal. Do an external rotation using only

muscle power, bring the bar around and to your forehead. Continue up into a press. Lower down to your forehead, rotate back down then lower to your thighs.

9. SHOULDER PRESS DUMBBELL / CABLE HYBRIDS

Set up a chair-type bench (or a preacher bench used backwards as a chair) in the middle of the crossover machine. You will be using the low pulleys for this one as well as two dumbbells. This is very similar to the press / flye hybrid for chest. Hook the cables onto the dumbbells by looping them around the handles and clipping them onto themselves. Lean over and grab the dumbbells one at a time. When you grip them, your pinkies should be closest to the cables with cables attaching on the outside of the dumbbells. Bring them up into position. Do a shoulder press movement (any variation). By using cables, you will get resistance at the top of the movement when you bring the dumbbells together over your head. You never get much resistance in that range of motion with any other exercise. Experiment with hand positions and weights until you get what you want. These can be done one arm at a time as well if you don't have access to a crossover set-up.

Tricks:

1. When getting the dumbbells into position, if they are round, they may roll away from you. After you've picked up one, brace it on the inside of your foot like a doorstop then reach over and grab the other one.
2. Start with your palms facing forward. As you come up to the top of the movement, turn your hands in so that your palms are facing each other. This gives a little extra resistance and will work the lateral heads harder.
3. When you start using heavy weight with this one, it can get very difficult to get the dumbbells into position by yourself. It should not be tried by kicking up from your knees. It is possible off the floor with enough momentum. The best way is to get some help with this one.
4. When using light dumbbells and heavy cables, be aware that the cable will pull the dumbbell straight into the pulley extremely quickly if let go. This version will work mostly the overhead pull-in part of the range of motion.
5. When using lighter weights, it may be easier to swing them up like a double hammer curl rather than starting them from the floor in front of you.
6. Set the seat back two feet from the centerline of the cables. This will put backwards stress on the shoulders increasing side and rear delt activation while reducing front delt activation. Leaning back will only improve the effect, not diminish it.

Variations:

1. Reverse alternating – these are done essentially the same as the regular version. Since you get more tension at the top, come across the top of your head more with the dumbbell. Your upper arm should be vertical with your arm bent about 15 degrees. This will mean the dumbbell is directly above your head. Tip the dumbbell over slightly (pinky higher).
2. Reverse cables – instead of holding the left cable with your left hand, try bring the right cable across your body and holding it in your left hand (vice versa for the right hand). Use a moderate to light weight. Sit the bench a little back from the centerline between the cables. You can have the cable wrap between your pinkies and the dumbbells plates or between your

forefingers and the dumbbell plates (outside and inside). The inside way is harder as the cable will tilt the dumbbells down to the inside (pinkies higher) as you press up. This increases the concentration on the delts. Try to push your thumb side up level to increase the contraction even more.

This cross-over style works the shoulders by forcing the shoulders to push outward to keep the dumbbells from caving in. It has a very different feel to it than the standard method explained above.

10. OVERHEAD SANDBAG PRESSES

This is a form of awkward object lift. The sandbags will tend to shift around while you are trying to lift them, applying a variable stress to your shoulders. This is a good thing and you will develop tremendous functional strength from doing these.

11. FULL ROM LATERAL TO PRESS

This is a cable exercise done using a single hand and a low pulley. Start with a standing side cable lateral movement as outlined above. This is an example using the right arm. You should be standing with your feet shoulder width apart and your left foot about two feet from the bottom pulley. Execute a lateral movement up until your arm is parallel to the ground. Shift your weight to your right foot then spin 180 degrees around backwards then continue up overhead with your palm facing in to your head. As you spin, rotate your grip from overhand to underhand. This is best done in a smooth motion but can be done with a quick stop motion during the pivot.. Though the overhead movement looks like a press, you should try to visualize pulling up and in with the delts rather than pushing up. This will minimize tricep use and focus on the shoulder. Lower back to parallel, spin back around forward pivoting on the right foot, rotating your grip from underhand to overhand, lower in a lateral negative then repeat. This movement requires some practice but it does provide resistance through the side delts entire range of motion. Make sure you keep tension on the shoulder during the pivot.

Tricks:

1. Go past and over your head at the top for a full contraction. Try shrugging that shoulder up as well.

12. DELT FLYES

This movement looks like a shoulder press without bending the elbows. Start at the top with two fairly light dumbbells. Keep a slight bend in your elbows and don't change it throughout the movement. Bring the dumbbells out wide to the side like a pec flye until your upper arm is about horizontal (or as far down as you feel comfortable). Flye back up using only the delts to move the weight. Do not bend your elbow. These can be done one arm at a time as well or with cables. Keep your elbow back and your torso vertical to minimize upper chest involvement.

13. HORIZONTAL PUSH-UPS

Kneel in front of a bench or low bar. Place your hands on the edge of the bench or bar at a little wider than shoulder width. Staying on your knees, let your body move forward horizontally. Push back up using your shoulders. This is an easy body-weight exercise for shoulders.

14. INTERNAL ROTATIONS

These are done to balance the external rotators. The action you are looking for is exactly the opposite of the external rotators. These exercises work best using cables. Specific internal rotator work should be kept light as your large internal rotator muscles, i.e. the pecs, already get a lot of heavy work.

Variations:

1. Standing L internal rotations – stand beside a low pulley with your arm bent 90 degrees and opened out wide to the side. Holding the cable handle, bring your hand in across your body. Keep your upper arm at your side.
2. Pulldown L internal rotations – stand in front of a high pulley with your arm bent 90 at the elbow and held up so you're also 90 degrees at the shoulder. Keeping your upper arm horizontal, push down the cable handle. If you stand perpendicular to the pulley, the exercise will resemble an arm wrestle. This makes it a good sports-specific exercise for arm wrestling. You may be able to brace your arm on the frame of the pulley itself to prevent extraneous movement.

15. TRIPLE ACTION SHOULDER PRESS

This exercise is actually a combination of three different exercises that work three different bodyparts. It is done with dumbbells. It starts with a biceps curl, then goes to an overhead press then directly into an overhead dumbbell extension. It allows you to work three of the smaller muscle groups at the same time. These can be done seated or standing. This type of exercise can help tie in muscle groups to improve the flow between them as well as being a timesaver and a volume increaser.

Tricks:

1. Usually you will find one of the muscle groups limiting the work your other muscles do. To overcome this, do double reps on the other muscles. For example, if you find your triceps giving out first, do two bicep curl / press movements before doing the extension. Another alternative is to do weaker variations of the other two muscles and a strong variation of the weak muscle, e.g. reverse curls and W-presses then neutral grip dumbbell extensions.
2. Mix in variations of each exercise for variety. Each exercise has a number of variations that lead smoothly into a variation of the next exercise. For example, reverse curls to standard shoulder press to pronated grip dumbbell extensions. With that one you never rotate your forearms. These variations can be done differently on each set or on each rep of a set. Here are a few more examples: straight dumbbell curl to Arnold press to pronated extension, hammer curl to W-press to regular extension.
3. It is best to start doing these one arm at a time until you get the coordination right. They can be like walking and chewing gum when you first do them.
4. Once you get really advanced, you can start messing with the coordination. For a real test try doing the tricep extension and the curl at the same time, lowering one dumbbell and raising the other at the same time, then lowering the curl and lowering the tricep extension at the same time. This provides direct contralateral innervation training, increasing your strength

about 10% in the biceps and triceps during their respective movements. Get the triceps extension into position first before adding in the other arm.

5. You can also do heavy/light simultaneous sets (see Intensity Techniques chapter) using one heavy dumbbell and one light dumbbell. Hold the heavy dumbbell on your thigh to prevent grip fatigue while you do the light reps.

16. THE JERK

The jerk is essentially a dynamic, explosive barbell shoulder press. It is part of the clean and jerk Olympic lift. It is very good for building explosiveness in the shoulder girdle. This is a higher skill exercise than just a simple barbell press, however. It is also a good exercise for developing foot quickness (useful for all athletes)

Here is an explanation on how to perform the Jerk correctly by Bill Starr from Ironman Magazine (p100-101, September, 1999):

"I've found that the jerk comes naturally for most people. Once they've been taught the correct form, they do it rather easily. If you can clean a weight without the movement's bothering your elbows or shoulders, start out doing that. Eventually, though, you should move to the rack to do the heavier jerks, for that will enable you to concentrate on your form.

The first step is to spend a bit of time stretching your shoulder girdle. Very few people have the necessary flexibility to rack a barbell on their shoulder right away. That's often discouraging, but it shouldn't be, for in a matter of a few weeks almost everyone can acquire the needed flexibility. It's simply a matter of spending some time stretching out your shoulders, which you can do at home. Lift your elbows upward while pressing down on your hand, guiding it gently back toward your shoulder. Prior to doing any jerks, set a bar inside a power rack and stretch out your elbows and shoulders. A training mate can assist you with that.

I also allow beginners and anyone who doesn't plan on entering an Olympic meet to place a towel around their necks when learning to perform the jerk. That provides a helpful cushion, but once you achieve adequate flexibility, you have to lose the towel.

With the bar locked tightly to your front deltoids, take it off the rack. You should learn to elevate your shoulder girdle slightly so the bar rests on your front delts, not on your collarbones. Your elbows should be set in the same position they'd be in if you were planning on overhead pressing the weight. Some trainees like to put them a bit higher.

Once the bar is firmly in place, take a short dip, less than a quarter squat. Don't go too low, for that will carry you out of position, but a short dip will give you a powerful upward thrust. Drive the bar upward, very close to your face. It should nearly touch your chin. While the bar is flying upward, you move your feet. It's just a quick split, with one foot moving in front. Which foot you shift to the front is up to you. One side will feel much more natural than the other, like being right-handed or left-handed.

At this point the time factor becomes important. The instant the bar hits the lockout position, your feet slam into the floor. Any deviation will adversely affect the success of the lift, especially when you use heavy weights.

As for the all-important foot position, you begin the jerk with your feet in the same strong thrusting position you use for the power snatch, which is typically a bit narrower than shoulder width. When you drive the bar upward, you rise high on your toes. That serves two purposes: it helps

elevate the bar higher, and it enables you to move faster. You can split more readily when you're on your toes than when you're flat-footed. Your front foot travels about a foot, while your rear foot goes much farther. With light weights the rear foot may only reach back about a yard, for that's all the split you need, but when the weights get heavy, the rear foot will have to go far back so that the final split resembles a lunge. It's not a deep lunge, however, for too deep a split isn't recommended. As in a lunge, your rear foot should be on its toes.

The real success with the jerk is to get a strong upward thrust, for without that nothing else matters. If you drive the bar upward with enough force, a small split will be enough to make the lift. Once the bar is fixed overhead, bring your feet back to parallel, keeping the bar locked out all the while. Reset and do the next rep. When the bar is overhead, it should be in the same powerful position I mentioned for the finish of the power snatch, slightly back, forming an invisible straight line from your ankles, up your hips and back through your shoulders directly into the bar overhead.

Lower the bar back to your shoulders deliberately; don't let it crash. Use the same set-and-rep formula as listed for the power snatches (see the Back Exercises chapter for the power snatch): two sets of five, followed by as many sets of three as you can manage."

GENERAL SHOULDER TRAINING TIPS

Arching the back on shoulder pressing movement shows anterior delt dominance. Try doing seated presses with no backrest. This will keep you honest. Try to stay as vertical as possible. Any leaning back will hit the front delts more.

At the top of dumbbell press or military press, try shrugging your shoulders up. This will give you that little extra bit of contraction at the top. The traps will be helping you out. This is also a reasonable way to work traps and the delt-trap tie-in.

Machines generally aren't good for your shoulders as they lock you in too much.

Any exercise where you abduct (e.g. lateral raise) or flex (e.g. dumbbell front raise) the shoulders hits the middle delts as long as the elbows are pointing sideways.

You don't want your shoulders to be too flexible. The shoulder is the most unstable joint in the body. Excessive flexibility will make it loose and predisposed to injury.

Some front delt training is necessary to define the pec-delt tie-in. Be careful not to do so much that you overtrain the area, though.

THIGH EXERCISES

Primary Movers: quadriceps (vastus lateralis, medialis and intermedius, rectus femoris), hamstrings (biceps femoris, semitendinosus, semimembranosus), gluteus maximus, medius and minimus, and adductors.

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THE EXERCISES

1. SQUATS

Set up the pins in a squat rack at a position a few inches below shoulder level. This allows you to get the bar on and off without catching. Set the safety pins just slightly lower than the lowest you go down in case you fail. Rest the bar across the back of your shoulders like a yoke so it is supported across the trapezius muscle. It should be across the ridges of your scapulae, resting just below your seventh cervical vertebra. Find your own groove for this. Step back from the pins. Hold the bar with a medium grip (not too close in but not so far apart that you compromise control of the bar).

Foot placement can vary according to the goal of the exercise. Keeping your feet shoulder width, toes pointed ahead is thought to be better for overall thigh development and is the squat style employed by most bodybuilders. The wide stance (feet about two or more feet apart), toes pointed out allows you to maintain a more vertical upper body, reducing the torque on your lower back. Trainers usually find they can use more weight with the wide stance. Be very careful that your knees do not bow in when you do this version. Try both to see which you prefer or simply do both, varying your foot position on different sets or different training days.

Your feet are placed and you're ready to squat. Bend your knees and squat down, keeping your back fairly straight, with an arch in your lower back. You will have to lean over somewhat during the movement as you come to the bottom, but don't worry, that's good form. Look straight forward or a little up in order to keep your upper body more vertical. Go down until the tops of your thighs are parallel to the ground. You can go lower if you want but be sure not to bounce at the bottom. Push up from your heels until you are standing straight then go down for another rep. Be sure your knees are tracking straight up and down and that you are not bowing or splaying out during the movement.

Comments:

Do not lean way over at the bottom of the movement.

Do not squat over a bench - if you sit on it and take the tension out of the quads, all the stress will go to the lower back and compact your spine.

Feel free to scream in pain.

The wider stance can help with the problem of calf flexibility as it allows a more upright position.

Do not bounce at the bottom of the squat.

A towel wrapped around the bar or a foamy pad can help ease the pain of the bar but be aware that these things can slip or roll.

For many, the lower back is a weak link in squatting. Don't neglect lower back exercises.

Knee wraps are generally not necessary. They will give you more spring out of the bottom but they will not help build ligament or tendon strength in the long run.

If you have long legs and a short trunk, you are better suited for deadlifts.

Tall and thin people are better suited for deadlifts.

Squatting on a board tends to throw your knees over your feet.

Do heavy squats only once a week. If you are working your legs between that, break it up by doing other leg exercises.

Leg work gives you the best whole-body carryover for your money and the squat is the best leg exercise.

Dig in with your heels.

The wider stance will hit the hamstrings more as there isn't as much knee but more hip extension.

One of the major functions of the hamstrings is hip extension. You must go down deep, though.

Tricks:

1. Try squatting without a belt. This will force you to use perfect form when squatting. Suck in your abs and hold it tight. You will find your form will improve if you work at it.
2. If you are free-squatting (not in a power rack) and you have to ditch the bar, quickly push it back and let it roll off your back, while stepping forward quickly. This is a last-ditch maneuver. Use a spotter if you doing free-squats with maximal weights.
3. Some people squat with their heels raised. Try the opposite, squatting with your toes raised. You will need to thoroughly stretch your calves out for that one but it will force you to push only with your heels, maximizing hamstring and glute involvement as well as the lower quads. Start this with high rep, full range of motion to increase blood flow to the lower quads. Be sure not to raise them up excessively (a thin plate will do it).
4. Try wearing solid-heeled work boots when squatting. They give a natural heel elevation and allow the power from your legs to be transferred better than when wearing soft-heeled running shoes. You can lose power at the bottom when wearing soft shoes because the sole will squish in when you push. If you don't have work boots, try squatting bare foot. You will not lose any power at the bottom that way. Going bare foot will also eliminate any heel elevation you may get from footwear. It will also force you to push with your heels. When you squat barefoot, set the racking collars a little lower to make up for the lack of soles. If neither is an option, use court shoes. They have the most solid sole of any type of shoe.
5. A plastic molded device called the Manta Ray is an excellent tool for squatting. There is no pain from the bar.
6. If you find yourself leaning over too far, calf flexibility may be a problem. Work on that before each squat session and stretch when working calves.
7. Hold your hands on the bar fairly close in to your shoulders and keep your elbows pointed down the entire time. If you hold the bar too wide, this will force your shoulders to rotate internally. Your elbows will start to point back which will cause the bar to rotate forward as you come down which will cause you to lean over excessively, increasing the pressure on L4 and L5 of the lumbar area. Keeping your elbows pointed down activates your external rotators which will keep the bar from rolling forward.
8. If you feel yourself leaning over and pushing from the forefoot too much, use your hands to rotate the bar backwards. This will force the weight back over your heels, improving your balance and posture while working the thighs better and preventing injury.
9. If you feel you are about to get stuck at the bottom, try this trick: yank down hard on the bar as though trying to snap it in half. It may sound counterproductive but if you do this while you are straining against the bar, it will cause an emergency stretch reflex in your quads and give you an extra little kick out of the bottom.
10. To help get the proper position at the bottom of the squat, try to squeeze your elbows together behind your back, arch and look up slightly. This will force your back into the proper position as well as giving your rear delts and back a good workout.
11. To fire the lower quads during squats, as you descend, come up on your toes in a calf raise. Stay upright and sit back. Only go to parallel on this trick. Do not lose tension in the quads

and only do this with a very light weight. It can be tricky to balance with this one. Don't let your knees drift forward too much and don't lean over. This will also give a great contraction in your calves.

12. Squatting for high reps (e.g. 20+) will induce hypoxia (lack of oxygen). Your body responds by increasing blood volume and metabolism, allowing the body to supply more nutrients. This also applies to high rep deadlifts.
13. To increase quad involvement, pull your toes up to touch the top of the insides of your shoes. This will tend to throw the point of push back to the heels.
14. Do not use a belt. At the start, suck in your gut, activating the transverse abdominus, giving you a natural weight belt. This will increase intra-abdominal pressure. A weight belt causes dysfunction of the transverse abdominus and can lead to injury. The belt inhibits the body's ability to fire the muscle when needed.
15. Hold a tight lordotic (lower back) curve on descent. The knees bend first, followed closely by the trunk. Most people descend with glutes leading, followed by the knees. This emphasizes the back and glutes rather than the thighs.
16. Look slightly up and forward. If you look down, your head will go forward. Your lumbar area mimics your cervical area. If your neck is flexed (as when looking down), your lumbar will try to flex (it should be extended in an arched position).

Variations:

1. Smith machine squats - same execution. With this version you can place your feet farther forward and squat with your upper body vertical. This exercise places a great deal of stress on your knees and is not recommended. Pushing against the bar at an angle and up is not a natural movement for your knees. Stick with the free weight version.
2. Front squats - same basic execution. This is a good alternative to back squats if those hurt your back. The mechanics of the front squat allows you to maintain a more upright body position. Hold the bar across your clavicles in the groove of your front delts with crossed arms held straight out in front of you and your hands on the bar. Another way to hold the bar is to hold it almost as though you just finished a reverse curl. Your elbows will be pointed straight forward with your arms bent all the way back, upper arms parallel to the floor; the bar will be across your clavicles. This grip can put a lot of stress on the elbows if your biceps are large but is a more stable grip. You may need to stretch your shoulder girdle if you don't have the flexibility to do this. You may wish to try, instead of actually gripping the bar with your hands, jamming your fists against it instead.

Front squats focus on the quads more than back squats and allow you to maintain a more upright position. Don't do front squats for more than 6 reps as the rhomboids will give out before the legs. You may want to try a device called a StingRay. It is two solid rubber pads that go over your shoulders with slots to lock the bar in. Front squats are a good way to get used to going down lower in your squats. They are actually hard if you don't go all the way down. They will improve your flexibility. They are especially useful if you do any Olympic lifts such as the clean and jerk and the snatch.

Focus on learning the movement first, then worry about building strength in it. You may wish to use a 1 to 1½ inch block under your heels to keep tension on the quads and off the lower back, though you should work towards doing it without the block. Employ a controlled descent, going down until your hamstrings almost touch your calves

3. One-legged squats - squat on one leg. Hold a dumbbell or two dumbbells for extra resistance. You may need to hold onto something stable when first starting out. This exercise is a lot more complicated than it sounds.

Do these freestanding for greater balance work or hang onto something to work the muscle harder. When first starting the freestanding version, work your way into it by starting freestanding and holding on when you need to. If you are using only one dumbbell, it is better for your balance to hold it on the same side as the working leg as a counterbalance to your bodyweight. Two dumbbells are easier to keep your balance with. If you have trouble with balance, but want to use extra weight, hold a dumbbell in one hand and hold onto something stable with the other. Using two equal dumbbells will hit your vastus medialis (inner quad) hard because of the way you lean to balance. To work the vastus lateralis (outer quad) hold a heavier dumbbell on the inside of the working leg. This will force you to lean to the outside to counterbalance the weight. This also works with one dumbbell held to the outside.

As you squat down, your other leg should bend 90 degrees and swing around behind your body in order to maintain balance. You will have to lean over a lot on this exercise. Keep your abs tight and your back tight and arched as much as possible. Your calves will get a lot of stabilization work with this one. Go down until your other knee or dumbbell comes close to the floor. Keep looking forward and don't hunch over. Feel the stretch in your glutes, hamstrings and quads. Go slowly to keep your balance. A trick you can use to maintain a better body position is to bring the dumbbells out and up in front of you like a front raise as you squat down. This will help counterbalance you, allowing you to stay more upright. Bring them together in front of you for better holding power. Try to sit back somewhat and not let your knees drift forward over your toes.

This is a very functional exercise for any sport that uses the legs and requires dynamic leg stability. The thicker the sole of your shoes, the more stabilizing work your calves are going to have to do. Doing these barefoot provides the most control and the best feel for the balance.

This exercise can also be done with your back leg resting on a bench to provide a little more stability. To go for more instability, put your back foot on a Swiss ball (for more information on this version, see the Swiss Ball training chapter). It will roll around a lot more. To build power out of the bottom, try them bottom start by squatting down without weight then picking up the dumbbells at the bottom and standing back up.

One-legged squats can also be done on top of a bench or block in order to increase the range of motion. As you become more advanced, you will find your knee hitting the ground before you get a full stretch. Stand on one foot on top of a bench and execute the same, only dropping down lower. Use two dumbbells bringing them forward and up as you descend to counterbalance yourself, allowing you to sit down more. This is an extremely advanced version of the exercise and should only be attempted freestanding if you have mastered the regular freestanding version on the floor. An even more advanced version of this is to place your foot only halfway on the bench so that only the balls of your feet and toes are on it and heels are hanging off the back. This is very unstable. To increase the instability even more, use a wobbly or well-padded bench. Hold the dumbbells for forward in front of you and sit further back to hit the upper hamstrings more (with your heel on the bench). Hold the dumbbells closer in to hit the quads more (with your heel off the edge of the bench). The easier version of the bench squat involves looping a towel around a vertical pole. Move the bench up beside it. Hold onto the ends of the towel as you squat down for support and balance. This exercise works the glutes extremely hard. It also allows you to sit back more.

There is one more variation that tops all the others in difficulty. You should work up to this one. They are one-legged squats on a round dumbbell. The first step is to practice balancing on one foot on the handle of a round dumbbell. This will build up ankle strength and balancing ability. Once you can do that for long periods of time without falling, do it holding two dumbbells. You should be progressing with the one-legged squat variations as well. When you are comfortable with bench squats and balancing, try these. Balance on one foot on top of the handle of a dumbbell (use a heavy one to start so it doesn't roll around as much) holding the two light dumbbells slightly in front of you. Lower yourself down slowly. Put your back foot down as necessary just enough to regain your balance (e.g. tap). Go all the way down until your chest touches your thigh. For an extra leg kick, try balancing in that bottom position for a few seconds before coming back up. This is a very difficult exercise to master but it is possible to do a full set without putting your other foot or hands down once you do master it. Do low rep sets for this exercise as once your stabilizing muscles start to tire, your balance will be shot and you increase the risk of falling or injury. You'll two to four reps on each leg plenty with this one. Once you've mastered this, it's time to join the circus.

There is a spot near the bottom where you feel, due to tension in the ankle, that you can't go any lower. At that point try to relax your tibialis anterior muscle. You should be able to drop lower. This trick works on all leg exercises that require ankle flexibility.

This is a good exercise to do two legs up, one leg down negatives. This is self-explanatory. Lower yourself down on one leg until the dumbbells actually hit the ground. Stand up, deadlifting the dumbbells back up with both legs. Repeat with the other leg. Use a much heavier weight than usual. Hold the dumbbells slightly in front of yourself to counterbalance you. As you get close to the bottom, put down your back foot to slow down the crash because there will be a crash if you're using heavy enough weight.

If you have mastered the other versions and are looking for something different, try shoot-the-duck one-legged squats. Balance a light (10–15 pounds) dumbbell on your non-working foot. Do a one-legged squat, keeping the weighted leg straight and bringing it out in front of you. The dumbbell will act as a counterbalance. Yes, it is possible. Press your thighs together as you come down to act as a brace, increasing your stability slightly. You may also wish to try hooking your toes under a bar, e.g. Smith machine bar, and leaning back more (don't balance a dumbbell on your foot for this one. These variations will build dynamic, strong balance.

4. Dumbbell squats - hang onto 1 or 2 dumbbells between your legs with a wide stance or outside your thighs with a narrow stance.
5. Hack squats -barbell version - start with a barbell on the floor behind your calves. Grasp with an overhand grip. Stand up, keeping the bar close to the back of your legs. This will stress the lower quads by the knees. It will work the rectus femoris strongly. You must lean over a lot if your arms are short and your legs are long. Lack of ankle and calf flexibility can also be a problem.
6. Hack squats - machine version - set up in the hack squat machine with your feet comfortably placed. Keep your feet forward on the platform, not under your body. The machine will be leaning you back at an angle. Squat down. To hit your hamstrings, put your feet up to the top of the footplate so that only your heels are on it. Push from the heels, keeping your toes up. Don't lockout at the top to maintain tension on the quads. These can also be done facing backward for a different sort of stress. Be careful of your back on this one and stay with fairly light weights.

To hit your lower quads, keep your heels together and let your knees drop out to the sides as you lower down. Don't lock out. Ensure your knees track straight.

Many hack squat machines have short back pads. It is better to use one with a long pad but if you only have access to one with a short pad, be absolutely sure that you don't arch excessively. This will cause the weight bearing to move from the body of vertebrae in the spine to the facets. The facets are much weaker and you will be more prone to injury.

7. Hip belt squats - stand on two benches with the plates hanging between your legs and the benches. Squat down, keeping your upper body as vertical as possible, then push up. Spot yourself with your hands if you need it. This is a good one if regular squats hurt your back. Use the thinnest plates you can find (this applies to all hip belt exercises, e.g. weighted dips and chins).
8. Machine squats - same execution as regular squats but in a machine. Don't bang the plates on the bottom. Keep the tension on the legs.
9. Wall sit - this is a good way to strengthen your thighs isometrically. Go into a sitting position with your back against a wall and just hold it for as long as you can. This is excellent training for downhill skiing. It also helps your power in the bottom of the squat.
10. Partial squats – there are a number of versions of the partial squat. The first is the bottom position partial. Basically, you set the pins in a power rack so that you start the movement at the bottom instead of the top. This is a bottom-start partial. Come up only part of the way. This helps with power at the bottom of the movement, especially if you rest the bar on the pins at the bottom, completely eliminating the elastic force in the muscle. You can set the pins anywhere in the movement. Top range partials allow you to use much more weight. How much more depends on how far down you go. These can be done in bottom-start fashion with the weight beginning in the low position or top-start by stepping out of the rack, lowering the weight until it grazes the pins, then coming back up in a continuous fashion.

Doing bottom-start partial squats on your toes like the top of a calf raise will increase the tension on the lower quads. This version should be done either on the Smith machine (place your toes right under the bar and push straight up) or in the squat rack with bar push back against the frame for balance. Get under the bar, come up on your toes like a calf raise. Do not explode up from this position as your knees may be compromised. Gradually build up tension in your quads then push hard until the bar moves. Come up only a few inches then drop back down. Don't do continuous tension reps with this one.

11. Lockout partial squats - the granddaddy of the partial squat is the lockout partial squat. Set the rack so that it is just below shoulder level. Set the pins in the notch just below that for safety. Load the bar with about one and a half times what you full squat. The range of motion should be just a couple of inches. Place your feet just outside shoulder width apart, toes pointing slightly out. At the start, your knees should be only slightly bent. Hang on tight and stand up. Keep the bar pushed forward against the supports of the rack to ensure it doesn't fall backwards. Put the weight back down, take a breath then go again.

This version is incredible for building power and density as well as connective tissue strength. It teaches you how to apply maximum power with your legs. It also helps eliminate fear of heavy weight. Gradually increase the weight you use. It is possible to get up to using over a thousand pounds on this exercise. These are best done on a day when you have the next day off (for obvious reasons). Here is a helpful hint: use the thinnest plates you can find so you can fit more of them on the bar. If you do lockout squats with enormous weights, make sure the bar you use is rated to 1000 pounds and is thick. Thinner bars may acquire a permanent bend if used in this fashion. If all you have are thinner bars, be sure to rotate the bar after each set. Mark the up side with chalk for the first set, then rotate the bar so that the

chalk is on the bottom for the next set, and so on. Lockouts can also be done on the Smith machine if you are worried about balancing the bar. Don't use the spinning hooks, though. Just set the stop-guards to where you want them and go from there. Doing these freestanding is possible but does make injury more likely if the bar slips a little. Use a Manta Ray for comfort. Do not use a towel or foam pad as they may slip.

Lockout partials can also be done with one leg at a time. This makes them harder to balance. It is also good as a continuation of the two-leg lockout partial when you can't fit any more weight on the bar. Start in the Smith machine so you don't have to balance yourself. Set your foot in the very middle (your leg will be at a bit of an angle under you). You can keep your non-working leg behind, in front or beside your working leg. You may also choose to do these free-standing in a power-rack. When using light weight, you can stand free in the middle. When you start getting into really heavy weight, move back against the rear uprights and push back against them as you come up. This will control the weight in one dimension so you only have to control two. Otherwise you will limit the amount of weight you are able to use with this variation. Hold on tight to the bar.

12. Safety Squats – these are done using a special Safety Squat bar. This type of squat keeps your hands free, allowing you to hold onto the frame for support and to keep your body in a more upright position. They are also easier on your back.
13. Bulgarian split squats – this is very similar to a lunge but is called a one-legged squat. The trick is to elevate your back leg on a bench or block. Go up and down like a lunge. This puts a greater stretch and activation on the rectus femoris. This exercise can also be done with the back foot elevated on the Swiss ball for the most challenge to balance. The top of your foot should be on the ball. Use dumbbells for this version as if you lose your balance you can always drop the dumbbells. You can't ditch the bar safely on this exercise. When first starting this, try it holding onto a bar or railing. Progress to one hand on the bar holding one dumbbell then holding two dumbbells.
14. Bar squats – hold onto a bar or railing at about waist level. Squat down as normal. Holding onto a bar will allow you to maintain a more upright body position as well as allowing you to help with your arms and back to do the movement. It is a good starting exercise for beginners to work the legs. Follow sound squatting principles. It can also be a very useful exercise for advanced trainers. A very high-rep set of rock-bottom bar squats using your arms to spot yourself so you can push for more reps will leave you lying on the floor gasping for air and with a huge pump in your legs and glutes. Go all the way down as far as anatomically possible but do not bounce at the bottom. It is a good way to burn out on legs, especially if you have a hard time growing your legs as it will force a lot of blood into the area.
15. Overhead squats – lockout a barbell in the overhead press position. Squat down, keep the bar locked out to arms length. This is a good exercise to develop total body stability and balance. It is very functional for Olympic lifters who must balance a barbell overhead.
16. Bottom start squats – this is done in a power rack. Set the pins for where the bar would be at the low point of your squat. This is where you will be starting the movement from. This will build power out of the bottom. Do not bounce into it. Set yourself up under the bar then gradually build up tension in your legs and body, then explode up. If you are going all the way up, do these free weight.
17. Bottom start partials on toes – the setup is the essentially the same for this exercise (place the pins a little higher), the only difference being the position. Instead of squatting flat-footed, come up on your toes before you even start to squat. Build tension in your quads then explode up a few inches then drop back down. This is a high-resistance stretch position

movement for your quads. Make sure you have tension in your quads, hams and calves before you come up to prevent knee injury. This exercise will help with quad power off the bottom of the squat. Bottom start partials can also be done flat-footed with good effect. The Smith machine can actually be useful with this exercise. It eliminates balance issues and the range of motion isn't great enough to cause knee stress.

18. Balance squats – these look like teeter-totter squats. They are squats done on a balance board, i.e. a thick board with a fulcrum in the middle. Balance with your feet equally spaced on the board. It can be very tough to squat on so just try to balance with the bar at first. Then go down to about a half-squat position and balance. This gives a great quad burn. The further your feet are apart, the easier it will be to balance. If you don't have a balance board you can improvise one with a Step platform and an empty barbell. Lay the barbell perpendicular underneath the Step in the middle of the rack. It is better to do these in a rack due to the extreme instability involved.

Typical Squat Problems and Solutions

1. Heels rise – keep your eyes up, chest up, lean back slightly.
2. Rounded back – strengthen your lower back, arch your lower back more, lift your toes up in your shoes while you squat, grip the bar closer to your shoulders.
3. Lack of depth – open your stance, turn your toes out up to 30degrees (remember to keep your knees tracking straight over your toes).
4. Knees buckle in – wrap a weight belt around your thighs and press out against the belt as you come up.
5. Excessive leaning over – stretch your calves thoroughly, squat with your heels raised (use a wooden wedge or ten-pound plates). It is better to stretch, though, as squatting on blocks is not the best way to squat. Hold the stretches for 3 to five sets of 15 seconds using the standing calf raise or seated calf machines or any other good calf stretch. Work on improving your calf flexibility in the long-term as well, stretching them a lot when you work calves.

Squat Myths:

1. They don't widen your hips.
2. They are not bad for your knees (as long as you don't bounce or allow them to shift in or out). Squats are less stressful to your knees than either jogging or running.
3. There is no need to squat till you puke.
4. The Smith machine is not better. It is hard on the patellar tendon due to the shearing forces involved. It is also bad for the ACL (anterior cruciate ligament). It also takes out the hamstrings and stabilizing muscles from the movement.
5. They are not hard on your back as long as proper form is used.
6. They won't make you slower.
7. They won't damage your heart or your blood pressure.

2. LEG PRESS

Sit in a leg press machine with your lower back against the pad. Leg press machines vary in their degrees of incline and sled weight so do not expect to do the same weight on every machine. Place your feet on the middle of the sled a little outside of shoulder width apart with the toes pointed out slightly (they can also be placed wide, narrow, toes straight or pointed out). Lower the sled until your knees are about 90 degrees. You can go lower, i.e. until your knees hit your chest, but be careful not to allow your pelvis to tilt up as this puts the entire weight of the press on your lower back at an awkward angle. Keep an arch in your lower back. Press up but do not lock out your knees at the top of the movement. This keeps the tension on the muscles and not on

the joints.

Tricks:

1. Placing your feet so that only your heels are on the top of the footplate hits the hamstrings hard. This activates the hamstrings through hip extension. Start with your feet flat. As you come up pull your toes back as though you are trying to dig into something with your heel as your pull back (like a Fred Flintstone stop). It is almost like a rotational type of movement. Another way to imagine it is to push as though you are trying to make an impression with your hamstrings in concrete.
2. Doing this exercise one leg at a time allows you to increase the range of motion safely by moving your body to one side. Pushing in the center of the plate will work your outer quads.
3. The two legs up, one leg down technique works good on leg press, just be careful that you can handle the weight and keep the other leg ready to place back onto the footplate. You don't want to get crushed.
4. This exercise lends itself to very high rep leg training, as it does not require stabilization from the lower back, which may fatigue before your legs do. When you are going for the huge burn, you can gradually decrease the range in order to keep the set going. Keep going until all you can get are little partial top range burns. Make sure the guard rack is set at that point as your legs may give out without warning.
5. The fact that the leg press doesn't work the lower back and stabilizing muscles means that the exercise has very little carryover to sport.
6. In order to maintain the arch in your lower back, try putting a rolled up towel under it when doing leg presses. If your butt comes off the seat, you will immediately feel it in your lower back and you will be able to correct yourself sooner. Another way to maintain the arch is to raise your arms overhead and grip the top of the backrest. This pushes the lower ribcage up which in turn arches the back and keeps the hips down. If you are using very heavy weight for low reps this may not be advisable, as you need to hold the handgrips for those.
7. Keep your stomach sucked in especially at the bottom of the movement to prevent yourself from helping yourself out of the bottom by pushing out with your abs onto your thighs. This often happens when people who are used to using a belt don't use a belt and go deep. A belt gives you something to push against. Do not use a belt and don't push out with your abs.
8. To increase intensity and work all major leg muscles start out pressing with only the balls of your feet on the plates (this will focus on the quads) then move to flat foot then to heels only.
9. Pressing with only the upper part of your feet on the plate will stress the lower quads, primarily the medial quads. Do not go heavy with this kind of press, though.
10. To hit calves as well, when you come to the top of the leg press, do a calf raise movement. This can be with knees locked out or not.

Variations:

1. Vertical leg press - same execution. The footplate is directly overhead. This version is not the greatest as the potential for lower back injury is greater because of the natural tendency to tilt your pelvis up to get a full range of motion. Make sure your pelvis does not tilt up if you do these.

2. Universal leg press - same execution but you will be in a normal seated position.
3. Universal bench vertical leg press - lie on your back under the handles. Put your feet up against where the handles bend. Push up. Do not allow your lower back to come up off the floor. Keep an arch in your lower back and keep your gut sucked in to prevent your abs from pushing up on your thighs at the bottom of the movement.

To make it harder, do these one leg at a time, with plates on the handles, or with someone standing on the rack or handles. To increase the range of motion, slide a Step platform under your back. To decrease the range of motion, raise the handles up a few notches with no weight then pin the weight in. To focus on the quads, put your whole foot on the handle where it bends or use the balls of your feet. To hit the hamstrings more, use only your heel and curl your toes back. When doing one leg at a time (using the left leg as an example), to hit the inner quads, lie on your back under the inner left side of the handles. Position your foot so that it is slightly off-center with the handle somewhat on the inside of your foot. To hit the outer quads, lie on the outside of the right handle and place your foot so that it is somewhat off-center on the outside of your foot. Make sure your knees track straight when you do these. The ability to position your feet differently on the handles and the angles of push are two factors that make this version better than an actual vertical leg press machine.

Another advantage of this leg-press set-up over a regular leg-press machine is the fact that you can't be crushed by the weight falling down. The weight stack will stop before it even comes close. This allows you to push to exhaustion, especially on one-leg down, two-leg up negatives. When you are doing a regular leg press, you must always keep the other leg ready to catch the weight at the bottom. On the U-bench, you can just let it drop without fear.

4. Smith machine vertical leg press – this is essentially the same idea as a regular vertical leg press or U-bench vertical leg press only you are lying underneath the Smith machine bar to do it. Set the racks to the bottom position so you don't need to worry about dropping the bar on yourself. The body position for this is same as in the U-bench version. Rest the bar across the balls of your feet. One of the major differences is that this bar has a tendency to roll more and may catch the hooks on the side-knobs. To remedy this, when you do the first rep, hold it at the top then log roll it a little (with a small walking movement) until the hooks hit the roll stops. Press from there.

This variation can also be done with the bar lengthwise along your feet. Instead of lying perpendicular to the bar, position your body so that it is lengthwise under the bar. Do this version on leg at a time. By letting the bar rest on the inner side of the foot it hits the inner quad. The bar slightly on the outside will affect the outer quad more. If you are working the out left side, move your body over to the right so your leg is vertical. Always position your leg vertical by moving your body under the bar to prevent knee stress.

5. Foot lever leg press – this is done on any machine that has a foot lever to get the weight into position (usually a vertical bench machine or flye machine). It is not the best variation but it will work if that is all the equipment you have available. It is also very easy on the lower back. Use quite a bit of weight. Put your feet on the foot lever (on the balls of your feet to hit the quads more or the heels to hit the glutes and hamstrings more) and push forward. The range of motion is short but it is a continuous tension movement. It is also easy to get into position and convenient to use because of the selectorized weight stack.

3. LUNGES

The dumbbell version is the easiest to start with. Hold two dumbbells in your hands by your sides. Step forward with one leg and lower your upper body down, bending your leg (don't step out too far). You should have about two to two and a half feet between your feet. Do not allow your knee to go forward beyond your toes as you come down, keeping your front shin perpendicular to the ground. Push up and back and repeat with the other leg or do all the reps with one leg then switch. The farther forward you step, the more the glutes and hamstrings you will use (closer works the quads more, just don't go too close). It is very important to keep your upper body vertical. Go down until your bottom knee almost touches the ground. Think about sitting back when doing these. Lunges will affect the glutes, hamstrings and quads as well as working the adductor magnus and brevis but not longus. The adductor longus is worked with squats or leg press.

Comments:

It is best to do this exercise all on one leg without standing up each time. Stepping forward can overstress your knee, especially if you step down forcefully (which happens as you tire).

Tricks:

1. When using heavy weight, start with your leg forward and in position, lean down, then pick up the dumbbells. Be sure to keep your back tight and arched when doing this. It will look like a split deadlift.
2. Don't have both your legs in a straight line. Keep them horizontally separated by about six inches to keep your balance. Doing this increases your base of support and makes your body more stable.
3. Pushing with your heels more will increase the stress to the upper hamstrings and glutes. To maximize this effect, raise your toes up off the ground when you push so you are only on your heel. Be careful with your balance with this one. You can also put your heel up on a raised surface such as the foot of a machine that is bolted down.
4. Put your lead foot on a box or step for a greater range of motion. Make sure the box doesn't move.
5. To really work the hips, hamstrings and adductors, do these deep split style. Your training leg will be almost straight.
6. If you have a problem with your upper body drifting too far forward during the movement, use a bar or table. Put your front foot heel directly under the bar or table edge. This will prevent you from leaning forward by blocking your body.
7. If you find yourself leaning forward too much, your hip flexors may be too tight. Stretch them out before lunging.
8. When first starting lunges, hang onto something solid to help your balance. Use no weight. Gradually work your way to only holding on with one hand then hold a dumbbell then do free-standing. If you use one dumbbell, alternate the side you hold it onto to stress the muscles differently.
9. Wear flat-soled shoes when doing lunges (such as tennis or other court shoes). This will help with your balance. With running shoes, you have half an inch or more of cushioning upon which to destabilize yourself.

10. There are several ways to change the focus of the lunge. If you wish to focus on the quads, use a closer stance (about a foot and a half apart). Your knees will be very bent. To focus more on the hamstrings and glutes, do almost a split lunge. Increase the separation of your feet as much as you can.

Here are a few other ideas. If you wish to focus more on the quads, use a block or other raised surface (stable surface) to put your foot on. Only rest the balls of your foot on the block to lunge. This will focus on the lower quads. You can also do this off the floor by coming up into a calf raise position (heel off) as you push up. This will help involve the calves as well. To accentuate the glutes and hamstrings, put your heel on the edge of the block and push only with the heel. Your toes should be consciously raised up the entire time and imagine trying to dig your heel in. The rule of thumb is front of foot, front of leg, back of foot, back of leg. This technique also works well on a dumbbell handle as you will only be able to push on one section of your foot. Make sure you use a hexagonal dumbbell or brace a round dumbbell with a 45 pound plate in front to keep it from rolling away. The instability of the round handle will also help build your hip stabilizers. The raised surface will also increase your range of motion. The version on the balls of your foot is good for sports training as the ready position for most sports entails resting lightly on the balls of your feet. Strength from that position is useful.

11. To vary the work on your lower body, try using dumbbells of different weights at the same time. This will force you to readjust your balance and will work the muscles differently. It is good for sports training as you seldom find a totally balanced force in any sport.
12. Try using the support feet of benches or machines to raise your toes up when doing lunges for glutes and hamstrings.
13. If you are going to do a triple drop set of lunges, do one leg at a time and rest between legs otherwise you will probably fall over. The leg you just worked acts as a stabilizer for the movement. If it is fatigued, you will be far more unstable. If you can, don't rest on your back knee when switching dumbbells to keep the tension on.

Variations:

1. Barbell lunges - same execution but with a barbell across your back like in squats. Don't go to failure with a barbell as it is much harder to ditch than two dumbbells if you are not in a rack. It can be hard to balance as well.
2. Walking lunges - same execution but walk forward, doing a lunge with every step forward. Explode up with the back leg to push up into the standing position. For variation, change the distance stepped or the angles to the sides. This will involve different muscle fibers and increase the functionality of the exercise. A variation of this you may wish to try is the backwards walking lunge. The forward walking version hits the glutes strongly while the backwards version hits the quads harder. Balance can be more of a problem with this one. Another variation is the cross-over walking lunge. This involves stepping over to the right with your left foot and over to the left with your right foot. This will work the smaller stabilizing muscles of the thigh.
3. Side lunges - stand with a barbell across your shoulders. Step out wide to one side and squat down on that leg, keeping the other one straight out so that your weight is over the bent leg. You can let your anchor foot roll medially onto its side (not keeping the sole of your foot down) or you can keep it flat on the floor, whichever you find more comfortable or effective. Push off explosively and stand up then step to the other side. You can do all one leg then all on the other as well. This exercise can also be done without pushing up to a standing

position. Squat down in a very wide stance then shift your weight from one side to the other, raising your center of gravity up and down as you move from side to side. This is a very good exercise for skaters (figure, hockey, speed, etc.) Be sure not to lean forward too much. Another thing to be aware of is that when you are using heavy weight, don't lunge quickly to side as the movement creates a great deal of momentum that can be hard to stop. The knee doesn't bend to the side. As long as you control the momentum, you will have no problems with this exercise.

Side lunges can also be done with dumbbells. Hold one dumbbell behind your back (the one of the opposite side you are lunging to) so it doesn't bang into your thigh as you execute. Use one leg as an anchor and step directly to the side. Your trunk should stay upright and don't look down. The foot of your lunging leg should contact the ground at least 18 inches wider than your shoulder.

4. Bench lunges - put your foot onto a bench instead of onto the floor then lunge forward. This will increase the range of motion of the exercise. The steps used for step aerobics work well for adjusting the height of the lunge.
5. Step-ups - step up onto a bench with one leg then the other. Options include using weight (barbell on your back or holding a dumbbell), using one leg for the desired number of reps then doing the other leg. You may also wish to try over-bench step-ups where you step up and then step down on the other side, turn around and repeat on the other leg.

The height onto which you step can also be varied using aerobic step platforms for example. You may wish to try power step-ups. Do these in a power rack for safety. Use a 4 to 6 inch raised surface that is very solid. Load the bar with the same weight you would use for a 1 RM in a squat. Step onto the platform. This will overload one leg at a time. It will also help with your balance when you step out of the rack when doing a 1 RM squat. You will get used to moving with a great deal of weight on your back. When you step to the top you may balance on the one leg momentarily then step back down without putting the other foot down or put the other foot down at the top. If you wish to use more weight, push hard with the calf of your bottom leg as well. Your stepping leg will work harder if you don't push with the calf. Make sure you step down slowly so you don't jar yourself or lose your balance. Do heavy step ups in a alternating fashion. Stepping up will work the glutes and the medial quads heavily due to the balancing involved. Lowering yourself very slowly will allow you to get a negative (push with the calf on the way up – go free on the way down).

6. Universal bench machine lunges – this is a good alternative if you don't have access to barbells or dumbbells or if you wish to be guided in the movement. Stand on top of the bench with your lead foot just under the main support bar and your back foot back. Grasp the U-bars that are running parallel (not the handles – they're too wide). Push up then lower back down.
7. Smith machine lunges – there are a couple of popular versions of this exercise. Be warned, however, that they can be damaging to your knees due to the torque of the angle of push. Stand up with the bar on your back and release it from the hooks. Put one leg forward and one back then lower down and push back up. The other variation is to actually raise your back leg off the ground and kick it forward as you come up. This version is far more stressful to your front knee.
8. Lunge machines – these machines will have pads for your shoulders like a calf machine and the track of the machine will follow an arc like a lunge. If you use a lunge machine, make sure it is adjustable and feels comfortable. Machines remove the instability of the exercise, which is part of its value.

9. Diagonal lunges – step out at a 45 degree angle to the side to change how you affect the stabilizing and major muscles.
10. Step back lunges – stand up at the top. Instead of stepping forward with your lead leg, step back with your back leg. This is less stressful on your knees than the step-forwards variation.
11. Double barbell lunges – load two barbells at one end (use 25 pound plates for their small size). Set the bars parallel to each other on the floor. Counterbalance the other ends with smaller plates (e.g. 5's or 10's). Stand in the middle facing in the direction the weighted ends point and grasp each barbell near the collar. Do a lunge. By having a pivot point at the back you will get a resistance curve that mimics the natural path of the exercise (backwards). This technique is very effective if you don't have heavy enough dumbbells or if you can't or don't want to do barbell lunges with the bar across your shoulders. This setup allows for greater weight used with the convenience of being able to go until you fall down without having to worry about getting killed.
12. Hack lunges – hold the barbell between your legs instead of on your shoulders. To get into position for this one, simply step over a loaded barbell and get yourself into the usual lunge position. The barbell will be directly under your body. Grasp with an overhand grip. Stand up with the barbell, keeping it against your back thigh as much as possible, bringing the barbell up until gets squeezed by your thighs and you can't go up any further. Try to lean back somewhat as well. This variation targets the glutes. Using small plates will increase the effective range of motion. If you use a very heavy weight, go to the mixed grip.
13. Dumbbell cable lunges – tie cables onto two dumbbells. Pick up one dumbbell then go over and pick up the other. You should start from a standing position. Step back from the midline a few feet to provide backwards resistance from the cables. Go down into the lunge position. The dumbbells will be pulled forward and wide by the cables (don't be afraid to go heavy). Push back and up. This variation gives tension on the backwards push rather than just the up.
14. Front lunges – hold the barbell across the front of your shoulders like a front squat and lunge like that. This places the resistance at a different spot, affecting your quads more.

4. LEG EXTENSIONS

Sit in a leg extension machine with the pads over the top of your ankles, your back against the back pad, your upper calves about half an inch from the seat pad and your knees even with the pivoting cam of the machine. Extend your legs up (straightening them), and squeeze at the top. As you bring the weight back down, do not allow your knees to go past 90 degrees. This will minimize knee stress

Comments:

This exercise can be hard on your knees. Warm up thoroughly. To ease the pressure on the knees if it hurts, try this trick. Lift your thighs (only by the knee; use your grip to pull your butt firmly down into the seat) up very slightly off the pad, i.e. raise your knees slightly just as you start the motion. This technique eases the tension on the knee joint by moving some of the stress to the hip joint. It also increases the involvement of the rectus femoris muscle, which also acts as a hip flexor

If possible, do leg extensions on a machine that allows you to lean back. This is usually possible

only on machines that double as leg curl units. By lying back, you increase the stretch on the quadriceps at the beginning of the movement, which will increase the contraction at the top of the movement. Lean back far enough so that you are resting on your elbows, with your forearms flat on the bench.

You should limit your use of leg extensions. They are not a very functional exercise, especially for rehabilitation. The ACL is the only stabilizing force in this movement and it does not recruit the stabilizing muscles of the leg. For rehab, step-ups or squats are better.

Tricks:

1. To hit the outer quads (vastus lateralis), lean back, turn your toes out slightly and point them. As you come up, exert outward pressure. Try to rotate your legs outward at the hip joint. Don't turn your feet excessively. Only turn them about half the range of motion they will go.
2. To hit the teardrop or inner quads (vastus medialis), lean over forward, curl your toes back and turn them slightly in. Exert inward pressure as you come up, making an attempt to inwardly rotate your legs at the hip joint. Keeping your legs straight will give you activation of all the quad muscles.
3. Two legs up, one leg down for negatives works well with this movement.
4. If you are doing static contractions, start with your toes hooked back then move to toes pointed when you begin to fail. The reason for doing this is that you are weaker with your toes hooked back and stronger with them pointed.
5. Shift your bodyweight over to the side of the part of the quad you are working to get a bit more contraction out of it. This is only done one leg at a time. For example, when working the left medial quad, shift to the right. When working your left lateral quad, shift to the left.
6. Some machines have a post on the front of the ankle pads where you can place plates to increase the weight. Putting weights out in front also changes the force curve mechanics of the exercise, improving the tension on the quads. This post is great for self-spotted drop sets. Rather than having to lean back and change the pin, simply pull plates off while keeping tension in the quads.
7. The maximum contracted position for the quads is at maximum hip flexion (body bent forward at the waist). You will get a stronger contraction by leaning forward as you extend up. For peak quad stretch, you must lay flat on your back at maximum hip extension.
8. To reduce knee stress, try doing these standing. Put your right leg on the left side and stand beside the seat rather than sitting on it. Just do the top range contraction of the exercise.
9. You can use your own bodyweight to spot yourself on the leg extension machine. Lift your body higher while the weight is down. Lock your legs then sit down heavily with your bodyweight, raising the weight by using your legs as a straight lever. This only works with lighter weight.
10. If you are using a leg extension/leg curl unit that allows you to lie down, this feature can be used to great effect on drop sets (especially if you don't have a partner). Simply lean back, reach overhead and change the weight without taking tension off your quads. This is much better than having to get up and change then sit back down. It is much harder.
11. There is a technique you use to prevent yourself from going back too far at the bottom. Take

the pin out of the rack then raise the ankle pads up to where you want to set them (just in front of the leading edge of the seat is about right). Hold it there then put the pin into the weight stack where you want to set the weight. This will effectively stop the weight at that point, preventing knee stress.

Variations:

1. Bench leg extensions - If you don't have access to a leg extension machine or want to try something different, sit on the end of a bench and hold a dumbbell in between your feet. Extend your legs up. You may have to raise the bench up to get a full range of motion. The best situation would be to use a decline bench with removable ankle pads. Take the pads off, set the dumbbell, then lie back completely and execute.
2. Low cable lying leg extensions – hook an ankle harness on. Lie on your back. Raise your thigh to vertical, letting your calf bend. Extend your foot up in the air until your leg is straight.
3. Low cable standing leg extensions – hook an ankle harness on. Stand facing away from the low pulley. Bring your thigh forward like a kick with your leg bent then extend your leg. This activates the hip flexion function of the quads as well. Let the cable stretch your thigh back behind you at the end of each rep to stretch your hip flexors then extend back up. You will have to lean forward to execute this one as the weight pulling back may throw you off balance. This is a very good sports-specific variation for any sport that utilizes kicking (e.g. soccer, martial arts, etc.). Vary the speed, power and angle you kick out at, e.g. across your body, to the side, fast, slow, strong. The hip flexion movement is very good very sprinters as well. Do the hip flexion with lots of weight and fast, powerful movements for sports specific training.
4. Off seat leg extensions – this variation is done on the leg extension machine. Use a moderate weight. Position yourself so that your butt and hamstrings are completely off the seat. The only thing touching the edge of the seat should be the back of your knees. It is like balancing yourself with the weight. It has the advantage of increasing the contraction in your quads by contracting them from two directions (from the weight and from holding you up), introducing a small element of instability and taking some of the stress off the knees. Your butt should remain off the bench the entire time. To spot yourself on this, lock your legs then drop your body down onto the seat. Your legs will pivot on the edge of the seat like a first class lever, lifting the weight without any leg movement. Keep your hands behind your back and keep your torso vertical.
5. Dumbbell leg extensions – do these standing. Balance a dumbbell on the top of your foot (start light to get a feel for the balance). Angle the handle about 15 degrees to your foot. Raise the foot off the ground with your leg straight. When your leg is about 20 degrees off the ground, bend your knee, lowering the dumbbell then extend back up. Squeeze hard. Hold onto something stable for balance when you first start doing these. This works the quads at the hip (the rectus femoris is a hip flexor) and at the knee for a greater contraction. It is less stressful to the knee and allows you to work the quads in isolation without damage and with less weight. You may wish to hold a dumbbell behind you with one hand to counterbalance the weight in front of you. You can also hold onto something if your balance isn't the greatest. These can also be done to the sides.
6. Bodyweight leg extensions – put your feet on a bench or handle on the instep or toes. You will be facedown. Support your body on your forearms. Start with your knees bent 90 degrees, your lower legs vertical. Extend your quads, straightening your body. Move forward at the shoulders to accommodate the movement. Start on the instep and come up on the toes as you do the movement. Squeeze hard at the top. It is also possible to put just the

instep on a padded bar (putting the foam back pad on the Smith machine bar works well – this will help with the rotational aspect as well). The higher your upper body is, the more work the quads will get, forearms on the floor being the easiest position. You can put forearms on a bench or a Swiss ball for a greater control over the roll of the movement. A note of caution: if your upper body is higher than your feet, hang on with your hands or you may slide down the bar once your legs are extended. Another good way to work this one is with your feet over a preacher bench pad and your upper body hanging over the Smith machine bar.

7. Side lying leg extensions – this variation works the medial quad. Using your leg as an example, hook it under the right ankle pad. Swing your right leg out to the right to open up the hip joint. Your body is now facing off to the right. Lie on your right hip. Making sure your knee tracks straight, extend your leg up. Use light weight with this. This exercise has a different feel with your hip open and trains the muscle in a different plane of motion. Switch position for the right leg.
8. Reverse leg extensions – these are best done in a leg extension/leg curl machine. Set the weight to the full stack. Set your feet in like normal then lie back. Keeping your body straight and stiff, extend your thighs, bringing your body up off the bench to vertical. This is a demanding variation. The starter version is done from the seated position (this can be done on a regular machine) up to full extension.

5. SISSY SQUATS

This movement looks a lot like a limbo. Set your feet about six inches apart, pointing straight forward. Hold onto something stable for support. Bending only at the knees, lean back and let your knees come forward. Keep your abs tight. Bend your knees until your hamstrings touch your calves (hold on for balance), feeling the stretch in your quads and keeping your center of gravity over your feet. You will come up on the balls of your feet as you lean down. Come back up, squeezing your quads hard. You can use your hand to help pull you up if you're weak or as you tire. This exercise can be hard on the knees.

Tricks:

1. To add resistance, hold a weight plate or dumbbell against your chest with your free hand.
2. Holding on with one hand is good while holding with two will give you better balance and more help. If you are very advanced, try it without holding on at all. This is a good test of balance. You will not be able to go down as far and be very careful about your knees.
3. Don't let your back arch too much during this exercise. Keep your abs tight and crunched in somewhat to prevent this from happening.

Variations:

1. One legged sissy squats - hold onto something for balance, stand on one leg with the non-working foot tucked behind your ankle. Same execution as above. This version works the outer quad hard. If you don't tuck your other foot in behind, this exercise is much harder as you don't get any of the elastic rebound from the stretch in the quad of your non-working leg.
2. Smith Machine sissy squats - Hold the bar across the front of your shoulders like in front squats. Place your feet about two feet in front of the bar. Bending only at the knees, lean back like a limbo dancer then come up. You will not be able to use much, if any, weight.

3. Sissy squat ankle braces - this apparatus has a pad in front of the ankles and a pad behind the calves. Insert yourself then bend back only at the knees, keeping the rest of your body straight. Come up as above.
4. Kneeling sissy squats – instead of standing up and doing sissy squats, do them on your knees with your feet back behind you. These are much easier than regular sissy squats. Keeping your body stiff, lean back from the knees. Be careful not to go too far back to protect your knees.
5. Towel sissy squats – loop a towel around something about waist-level. Put your feet right under it or up close to it. Bending only at the knees, lean back, then come back up like a sissy squat. Keep your shins vertical. You will be able to use your arms to help yourself back up on this one by pulling on the towel.
6. Kneeling cable sissy squats – kneel on a towel facing away from a low pulley. Place a bar across the support feet of the pulley. This will give you a place to brace your toes on. Grasp a handle with an overhand grip with both hands behind your back. Brace the balls of your feet on the bar. Keep your torso and hips straight. Lean back at the knees and feel the stretch. Using your quads, extend back up to vertical. This hits the lower quads.

6. LEG CURLS

Lie face down on a leg curl machine, chest flat on it and hands gripping on the handgrips. The back of your ankles should be against the pads and your knees should be in line with the cam of the machine. Begin the motion by first (keeping your legs perfectly stiff and straight) lifting your thighs slightly off the bench solely with the glutes, extending at the hip. This action will force your pelvis against the bench and will prevent your butt from coming up off the bench, which reduces tension on the hamstrings. Curl your legs up, keeping your hips down against the bench. Keep your toes pointed straight throughout the movement to further isolate the hamstrings (when you allow your toes to hook up, this allows the calves to assist with the movement). A good leg curl machine will not have a flat bench but will be bent slightly. You can accomplish this on a flat-benched machine by placing a towel under your hips.

Tricks:

1. Turning your feet in or out affects different areas of the hamstrings. Turning your toes out will hit the outer area (semitendinosus and semimembranosus) while angling your toes in will hit the inner area (biceps femoris and adductors). You can tell which you need to work on by noticing which way your toes tend to point as you go to failure on leg curls. If your toes tend to point in, your inner hamstrings are stronger and you should work on your outer hams. If your toes tend to point out, your outers are stronger you need to work on your inner hams. This will ensure hamstring balance.
2. The turning of your feet as explained previously can be done a few ways. It can be done at the start of the rep and held, it can be done during the positive phase of the rep or during the negative phase of the rep, or both. This is like supinating your feet (like your forearms in dumbbell curls) to get an extra contraction. To hit inner hamstrings, start with your toes splayed out wide (your toes will be hooked back, not pointed). As you curl up, internally rotate at the hip joint so your toes point inward at the top. Do the opposite motion (start pointing in and finish pointing out) to hit the outer hamstrings hard at the top. These movements can be alternated with each rep. Do one rep for inner hams starting with toes wide then turn them in, lower the weight toes in, then do a rep for outer hams (your toes are

already in the toes-in start position), lower the weight with toes wide, repeat.

3. Start in the sphinx position with your chest off the bench and your lower back arched for a different stress. Grip the end of the pad by your head with your forearms flat on the bench pad.
4. The hamstrings are primarily fast twitch muscles and respond better to low reps and heavy weight. High rep, burn sets are not the best way to build hams (if you don't believe it, check out the hamstrings on top sprinters).
5. When you're using very heavy weight or want to get a few more reps, you can use momentum and leverage to your advantage by lifting your upper body up slightly then powering it down, locking your lower back and knees at the same time. Your upper body's downward momentum will be transferred into upward momentum in your legs, with your thighs as the fulcrum. You become a first class lever, just like a teeter-totter in a playground. This will help get the weight moving to finish the reps. Lower slowly and under control to take advantage of the negative. It's almost like taking a run at it. This is called a momentum dive. At the end of a set, use this trick until you can't hold the level together anymore.
6. Spot yourself (if the stack is within your reach while you're doing the movement) by pushing up on the stack with one hand.
7. To really feel the movement, try to push your feet up towards the ceiling as your curl up. This will maximally extend your hips and eliminate any remaining gluteal involvement, putting all the tension on the hamstrings.
8. Since doing leg curls with your toes pointed affects the hamstrings more and reduces the weight you are able to use, try curling up with toes hooked to get assistance from your calves, then lower with your toes pointed. You may also do this during the movement by starting the curl with your toes pointed then, when you can't go higher that way, hooking your toes and continuing up. Another trick to use is to do as many reps as possible with your toes pointed, then continue with your toes hooked. You may also wish to try doing mixed reps where one foot is pointed and the other is hooked.
9. The lateral hamstrings (biceps femoris) are also involved in lateral rotation of the leg when the knee is flexed. In order to concentrate on this muscle, use the standing leg curl machine. As you flex the knee, halfway up begin rotating your thigh and leg so your heel turns laterally away from the mid-line of the body. Your toe will be turned in toward the mid-line. Rotate at the hip and the knee with a smooth twist to accomplish this. The medial hamstrings can be worked by doing the opposite movement. Start with toe pointing in and rotate out as you curl up.
10. To really hit the peak contraction phase of the movement, do a push-up as you curl up. It is also possible to do the push-up and stay there throughout the movement. This is like concentration curls for the hamstrings. Your hips will be off the bench with only the front of your lower thighs (just above the knees) on it and your arms locked out in the push-up position. This holding in a push-up position style is especially useful when using a bench that is angle at the hips. It functions as a preacher bench for the hamstrings. If you have a problem with sciatica and regular leg curls aggravate it, this variation hits lower on the hamstrings and will not aggravate it. You can keep your hips bent somewhat if keeping them straight hurts your back. The effect is the same. The only trade-off with this version is decreased range of motion.
11. Try combining momentum dives with the push-up technique. Dive down to get the weight up

then quickly go into a push-up position to get the contraction with more weight.

12. If you are doing single leg curls on a dual bench (one that also can be used for leg extensions), you can give yourself a little extra resistance at the contraction by using your other leg to push down on the lower pad a little. This can be combined with the self-spotting trick with the other leg on the way up.
13. To keep your hips from coming up at the top, contract your abs as you curl.
14. To really get a full contraction, start the movement with the bottom two thirds of your quads off the pad. Stop about 30 degrees before your legs are straight at the bottom.
15. If you are doing these as a static contraction set, try starting with your toes pointed, then, when that starts to slip, hook your toes back. This will help you last a little longer. If this sort of technique is taken to the max, try this: start in the push-up position with toes pointed, then lie flat toes pointed, then hook toes to involve the calves, then raise your butt up to involve the glutes.
16. To really hit the contraction of the leg curl, go up with two legs. At the top, switch to one leg and do three partial reps with a very small range of motion (a few inches) then switch to the other leg. Go back and forth until you are about to lose it, then do a static hold with both legs until failure.
17. Some leg curl machines have a post on them where you can add weight plates. This will change the mechanics of the exercise, increasing the contraction on the hamstrings.
18. Instead of gripping the machine on the handles below the bench with your arms bent, extend your arms straight overhead in front and grip onto whatever is there (if there is anything to grab – some machines end at the bench). Having your arms straight removes your biceps as the limiting link in the exercise by transferring the force through your back instead. You can be about 10% stronger instantly.
19. If you always find no matter what you try that your hips always come up, have a partner down on them to keep them from rising.
20. At the top of the movement, hook your heels on the pad and try to pull yourself forward. This only works with lighter weight and will increase the contraction.

Variations:

1. One leg at a time on the leg curl machine - this can be done lying on the bench like in the regular two leg version, obviously curling up only with one leg, or, for example, with the left leg hanging off the left side of the bench and the right leg placed under the left pad. The two legs up, one leg negative technique is very good with this exercise (the first version). When doing negatives, try to push that side's hipbone into the pad.

To accentuate the stretch position of this movement, raise your upper body up off the bench by standing on the other leg and bending your torso over, flexing the hip, thus increasing the stretch on the hamstring. For the maximum stretch, your head can go below the level of the bench. Your hips should be about six inches above the bench. Only the front of your thigh a few inches above the knee should be touching the bench. Curl up with emphasis on the stretch. This can be done on the two leg version by holding yourself up with your arms, not your other leg. Try rotating your upper body away from the leg that is being worked in order to get a greater stretch on the one leg stretch movement. As you come up to the top of the

curl, straighten your body to accentuate the contraction by extending the hip.

There is another technique to accentuate the stretch reflex of the single-leg curl. Curl up with one leg. On the way down, start curling up forcefully with the other leg. Bang it into the pad forcefully and continue the curl up. Repeat with the other leg. The sudden addition of weight onto the hamstring will cause an emergency stretch reflex in the muscle and increase motor unit activation.

2. One leg standing leg curls - this is done in a standing leg curl unit (duh). Your knee will be braced with a pad in front of it. Curl your leg up. Initiate the movement with hip extension again, contracting your glute and extending your upper leg as far back behind you as possible. Even though this will lift your knee from the pad, this is what you want. Ideally, it should be the hip that is braced, not your knee. A fully contracted glute will isolate the hamstring more by removing gluteal assistance as what happens when the butt sticks out or comes up. Try leaning over the machine by bending at the hip at the top of the movement. After you've leaned over, extend the hip up and back again and squeeze hard. This will increase the tension even more at the top of movement. This trick can also be done at the start in order to pre-stretch the muscle. The more you lean over, the greater the stretch on the muscle.
3. Low pulley leg curl – there are a few different variations of this. The first is an improvised version of the standing leg curl. Hook an ankle harness to a low pulley or if you don't have an ankle harness, tie a towel around a single handle and your ankle. Another alternative is to loop the cable directly around your ankle (stuff a towel in there for padding if you like). Face the stack with your ankle in the harness then execute the same as above (hip extension back then curl up). These can be done free standing. Another way is to cross your other leg over in front and use it to brace your working leg. If you need something to brace your knee against, try standing a moveable flat bench on end and bracing it against the framework of the machine. You may also want to try standing on a block with your supporting leg so your working leg doesn't touch the ground when it swings back. Try the same lean-over trick at the top as in the machine version. The beauty of this variation is that it is very easy to spot yourself due to the location of the weight stack. Every low pulley will have the weight in front of you at the top. To spot yourself, simply lift the stack with your hand. Doing these with a pulley also introduces an element of instability—your leg can move to the sides as easily as it can forward and back. This will increase the number of fibers used, as the leg must be stabilized as well.

Low pulley leg curls can also be done facing away from the stack (no bench), lying facedown on your stomach facing away from the stack, or leg braced on an incline bench. To hit the hamstrings in an absolute peak contraction do them on your hands and knees facing away. Attach the ankle harness to one leg. The chain should hook on in front of your shin. Your working leg is straight back behind you. Curl up. As you come up, extend your hip, i.e. lift your leg up with your glute, as though trying to push your foot up to the ceiling. Curl all the way. The hip extension ensures complete contraction with no back stress. It can be a very painful contraction if done correctly.

4. Lying dumbbell leg curls - lie face down on a flat or decline bench (armpits wedged over the top in the decline version - arms hanging over and gripping the base of the bench in the flat version). Have a spotter place a dumbbell between your feet vertically (the inside of the top plates should be settled on the soles of your feet)--this should be done at the top of the movement, or, if you're feeling adventurous, dip your legs down and pick it up with your feet yourself--this will be done at the bottom of the movement. When you curl your legs up, squeeze your feet together to prevent slippage. Keep the dumbbell vertical at the top by pulling your toes towards your shins. When you come down, point your toes to keep the

dumbbell vertical. This exercise is great for the inner hamstrings and adductors as you must squeeze your legs together very hard isometrically to keep the dumbbell from falling out. The different benches provide different strength curves for the hams. The decline bench is like a preacher bench for the legs.

5. Cross bench lying dumbbell leg curls - same general execution as above except for the positioning on the bench--only your quads will be touching the bench (just above the knees). Your upper body will be below the level of the bench supported by your forearms. This version provides an excellent stretch at the bottom of the movement. This can also be done with the low pulley leg curl. Using a dumbbell will give your adductors a good workout, squeezing hard in order to keep the dumbbell held. Bend in half as much as possible for the most stretch possible. As you come up, push your upper body back up as high as possible to increase the contraction by maximizing hip extension (you can use another bench or chair or dumbbell to accomplish this). To change the angle of your legs somewhat, place plates under the feet on one side of the bench (not one end, one side). Having it sloping down will increase the stretch, while having it slope up will increase the contraction. Try both.
6. Hanging dumbbell leg curls - hold a dumbbell horizontally between your ankles while hang at arms length (the front plates will be on the top of your feet). Curl the dumbbell up behind you. To prevent forward motion of your knees, have a spotter brace your thighs so you don't swing forward during the movement. This also serves to keep the hip extended throughout the movement, increasing the contraction. If you don't have a partner, use the power rack. Set another bar at thigh level in the rack so you can use that to brace against. Another way of doing this is to almost do a hanging knee raise so your knees do come up in front somewhat as your pull the dumbbell straight up, not in an arc like above. This version involves your hip flexors but concentrate on pulling the dumbbell straight up to your butt. The hip flexor assistance and improved leverage will allow you to use much heavier weight. If you can't or prefer not hang, try it in the armchair abdominal leg raise setup that support your forearms and back. You may have to place the dumbbell on a chair or bench in front of you to get into position. This version eliminates grip strength as a factor. The other version, though, can help you improve your grip by hanging with weight.
7. Whole body leg curls - This is a very advanced exercise. There are many ways to set this one up. The first way is kneel at the top of a decline sit-up board, facing the bottom, with the backs of your ankles hooked under the pads. Clasp your hands behind your back then slowly lower your upper body down, bending only at the knees. Curl up with the hamstrings. Another way to set it up is in the lat pulldown machine. Face away from the weight stack. Set your shins on the seat with your knees over the edge and hook the backs of your ankles under the hip pads. Bend forward and curl up. Alternatively, you can set this up in the seated calf machine. Put some weight on the machine so it doesn't come up as you execute. Kneel on the seat facing away from the weight with your ankles hooked under the kneepads (set the pads as low as they'll go). Some hyperextensions machine have a hip pads and ankle pads that move forward and back. Set these close together so your shins are on the top of the pad (this is best with a rounded pad). The zero equipment version of this exercise entails having a partner hold your ankles down (put a towel or pad under your knees). If you don't have a partner, just hook your ankles under something solid. You can also set a moveable flat bench just in front of another machine's bench, e.g. leg curl unit. Rest your shins on the flat bench and wedge your heels under the edge of the machine (make sure it's solid). If it is uncomfortable on your knees, try putting a folded towel under them.

Some tips for this exercise: the lower you go, the harder it gets--don't go too far down when starting out with this one. Don't allow your knees to hyperextend if you fail. Just put your hands down to stop the fall. You may wish to place a bench or stool in front of you to spot yourself. Bending at the waist will make the exercise easier as you come up. If you don't

have the strength to pull yourself back up with proper form, simply keep your upper body horizontal and pull your butt back towards your ankles. Straighten up at the top. This technique works great for doing negatives and extending a set. To add resistance, hold a plate or dumbbell across your chest. If you wish to do negatives with weight, simply hold it on the way down, push yourself back up by holding onto something, pick the weight back up then do it again. This exercise is not for the faint or heart or those with high blood pressure.

8. Swiss Ball leg curls – lie on your back with a straight body, heels on top of the ball. Roll the ball towards you, flexing the knees. Keep your upper back on the floor. The rest of your body will lift up.
9. Seated leg curl machine – this machine looks like a leg extension machine with your heels going on the other side of the pad. You sit down and curl in underneath yourself, starting with your legs extended up in front of you. This is a great peak contraction movement and is easier on your back than most leg curl machines. Lean over forward to increase the stretch at the top of the movement and lean back at the contracted position to maximize the contraction.
10. Seated cable leg curls – sit on the edge of a bench facing a low pulley. You can either use an ankle harness to do these single leg or a cambered bar to do both. Hook your ankles on the bar just over the top edge of the back of your shoe in the bent part of the bar. Your thighs are horizontal. Sit on the bench with your glutes just off the far edge. Don't stretch forward all the way. Curl your feet back and underneath the bench, trying to force them down to get maximum hip extension and therefore maximum hamstring contraction. This exercise gives you a big contraction but no stretch. To feel the contraction even more, lean back so your upper body is horizontal as well. This maximizes hip extension, making the exercise harder and more painful. You will need to have another bench about two feet behind the one you are sitting on. This lean can be done after you have curled the weight under you. Hold it there then lean back. This is a good exercise to superset with body leg curls (combining maximum stretch with maximum contraction).

7. STIFF-LEGGED DEADLIFTS

Stand in front of a barbell or pair of dumbbells. Bend over at the waist and grip the barbell with an overhand (pronated) grip. Your knees should be slightly bent but not locked, feet hip to shoulder width apart. Use very light weight to start to ease your back into it and try to feel your hamstrings working. Lift your upper body, contracting your hamstrings, keeping the bar close to your legs and your knees stiff but slightly bent. Keep your head up and looking forward, shoulders back, chest out. It is important not to let the bar move away from your legs, especially at the bottom as this increases the pressure on your lower back. Your lower back should maintain an arch throughout the entire exercise. There is a temptation at the stretch position to round the back to increase the stretch. This does increase the stretch slightly but puts your lower back into a rounded position. Keeping your lower back arched will focus on the hams and glutes while rounding your back slightly will work your lower back. If you do round your back slightly, do not use heavy weight, as this is a vulnerable position for the back. Rise up until your upper body is just above horizontal then lower back down. Inhale on the way down, hold at the bottom, then exhale on the way up, after you pass the most difficult portion of the up phase. You should actually hold your breath during the down and first part of the up phase in order to maintain proper spinal position. Getting the feel for this exercise requires some practice. You can work up to using 75% of your 8 rep max for squats.

Tricks:

1. Standing on the edge of a flat bench or other raised block allows a greater range of motion but it is not recommended. It can result in excessive rounding of the back and balance problems. In fact, in order to get the extra stretch from being on the bench, you must round the back. This is a dangerous position for the back to be in, especially with weight. It is not necessary. Getting a greater range of motion is more easily accomplished by using smaller plates.
2. This technique increases the stretch on the hamstrings without increasing the range of motion and does not put your back into a compromised position. Place two 25 pound plates (Olympic size) on the ground in front of you so they are touching. Set your feet on the plates so that your heels are on the ground, your toes are in the air, and the edges of the plates are in the middle of your feet. The plates are there to dorsiflex your feet (raise toes). What this does is increase the stretch in the hamstrings by stretching the calves. If you have trouble feeling your hamstrings work on stiff-legged deadlifts, this trick will do it. If the 25 pound plates are too big, try 10's.
3. As you come down, stick your butt back and try to raise your toes up. Put more pressure on your heels as well. You should feel as though you are trying to form an equilateral triangle with your arms, legs and torso at the bottom stretch position of this movement. Your arms will be vertical, your torso almost horizontal and your legs back at an angle. This is different than the conventional technique but is more effective. Let your bodyweight fall backwards, counterbalancing it with the weight you have in your hands. Never lose the arch in your back and keep your abs sucked in and tight.
4. At the bottom stretch, raise your toes up. This is best done with your feet on the plates. You can hold there to feel the stretch or reverse direction quickly to get the stretch reflex.
5. These can also be done using a low cable though the cable will tend to increase the pull in your lower back rather than in the hamstrings as the resistance is coming through at an angle rather than vertically. Lean back more if you use the cable.
6. Don't fix on one spot with your vision. This will make your head and neck move. Look straight ahead.
7. To increase glute involvement in this exercise, tighten your glutes at the bottom of the exercise.
8. As you return down to the stretch position, imagine "pawing" the ground with your feet (like a bull getting ready to charge). This will give you a better connection to your hamstrings.
9. At the end of a set, just hold the bottom stretch position and feel the stretch for as long as you can hold it. This will really fire up the hamstrings.

Variations:

1. Romanian deadlift – this is essentially the same execution, the only difference being as you come down, shift your weight back to your heels and stick your glutes out. Hold your lower back in an isometric contraction, slightly arched and keep your knees slightly bent.
2. Dumbbell stiff legged deadlifts – same execution as with the barbell but dumbbells allow you to keep the weights more in line with your body, reducing back strain. This is because there is no bar to get in the way.

8. GLUTE-HAM DEVELOPER

This machine looks similar to a hyperextension machine for your lower back except that it has pads under your ankles as well as over. The pad is rounded as well. The execution is similar to a hyperextension, the first part of the movement actually being a hyperextension. Your hipbones should be at the crest of the pad. At the top of the hyperextension, bend at your knees, pushing down on the bottom ankle pads and raising your upper body up.

9. ADDUCTOR / ABDUCTOR MACHINES

Sit in the machine. The adductor machine will have pads on the inside of your thighs. Simply squeeze your legs together. This will work the adductor magnus muscle of your inner thighs. The abductor machine has pads on the outside of your thighs. Just force your legs apart. This machine does not work the outer thigh, however, as many people think. It only works the gluteus minimus muscle on the side of the buttocks. The only muscles on the outside of the thigh are the hamstring and vastus lateralis muscles (side quad) and they are not involved in abduction.

Comments:

These are the most used machines by women in the hopes that it will reduce the size of their thighs. They will tighten the muscles and give the illusion that they can reduce the size of female problem areas.

These can be useful exercises for serious lifters who want to build up their squat and deadlifting poundages, as these small muscles are often the weak links.

Variations:

1. Ankle harness cable adductions and abductions - to work the inner thigh with the low pulley and ankle hardness, stand with one side to the pulley and harness the leg that is closest. Balance on the other leg. Squeeze it in and up. To abduct, hook up the leg that is furthest and lift up and away.
2. Ankle weights lying on your side - rise up your top leg to work abductors, raise your bottom leg to work adductors. When working adductors, you may want to lie on a bench so your leg is hanging off the end. This will give you a greater range of motion.
3. Standing abductions - stand straight up and hold onto something for balance. Lift your leg straight up to the side. This is just like the cable version but without any weight.
4. Door adductions and abductions – using a heavy door as resistance (preferably a hydraulic, self-closing one). Push it open using an abduction or adduction leg sweep. You can hold the door to increase resistance.

10. BUTT BLASTERS

This exercise can be done several ways depending on equipment availability. The first way is with the machine designed for it, i.e. the butt blaster machine. Your upper body is supported on your forearms and one knee s down. The foot of the working leg is placed on the footpad. Extend your leg up, pushing up towards the ceiling. If that machine is not available, these can be done on a Universal Bench Press machine. Lie face down on the bench (placed normally) with your head away from the stack. Your non-working leg will be bent and pointing straight up. If you are starting with your right side, most of the right half of your body will be off the bench. Put your

right heel under the handle where it curves. Extend your right leg up, pushing with the heel. Grasp the base of the bench with your hands for support. Repeat with the other side. Your knees should be about in line with the handles at the bottom of the movement. If neither of these options is available, this exercise can be done with dumbbell. Get on your hands and knees. Place a dumbbell in the crook of your knee and extend up.

To do these on the leg press machine, start with your knees where your butt usually is, hands on the top of the back rest. Keep your back flat. Put one foot of one leg on the foot plate (start with just the empty sled). Extend your hip back and up, pushing with your heel.

11. GLUTE CABLE EXTENSIONS

This exercise requires a low pulley and an ankle harness. Face the stack and harness in one ankle. Keeping your knee stiff, extend your leg back and up in an arc. To ensure your foot doesn't contact the ground on the return, stand on a block. Repeat with the other leg.

12. TOTAL HIP MACHINE

This machine utilizes a circular motion and adjustable pad settings to allow for adduction, abduction, hip flexion, and hip extension.

Adduction - set the pad to the four o'clock position and stand facing the wheel. Throw a leg over so the pad is on your inner thigh, then, using muscular force, bring the pad down and in.

Abduction - set the pad to the six or seven o'clock position and stand facing the wheel. Put the pad on the outside of your thigh and push up and out.

Hip flexion - to do your right side, stand 90 degrees to the wheel with your right side closest. Set the pad to the six o'clock position then raise your knee up. This works the hip flexors. Turn around 180 degrees to work the left side.

Hip extension - same set up for orientation as flexion. Set the pad to the nine o'clock position. Throw your right leg over so that it is over the pad. The pad should be in the crook of your knee. Extend down and back. To work the left side, turn around and set the pad to the three o'clock position.

19. LYING CABLE LEG CROSSES

This exercise works the sartorius muscle (the long straplike medial thigh muscle). Use an ankle harness and a low pulley. Lie flat on your back on a flat bench with your non-working leg on the floor to stabilize. Raise your leg and hold your knee at 90 degrees. Bring your ankle up and in across the other leg. Keep your thigh vertical and rotate the hip medially. Pull your knee straight towards you to flex the knee and hip. When your thigh is at 90 degrees, turn your knee outward from the midline of your body but continue to pull to the chest. This means your knee goes out while your foot comes up the middle. Stay about 8 inches from the side of your chest. Rotate your leg until your ankle is over but not touching your other thigh. Hold for a four count. Keep your lower back flat against the bench. Do for sets of 12 to 15 reps – light weight and good form. If you go too heavy, your hips will get sore.

20. CABLE KNEE-UPS

This exercise develops your hip flexors. Using an ankle harness hooked up to a low pulley, stand facing away from it. Allow it to stretch your leg back behind you, keeping your knee bent. Flex the hip, bring the knee up and forward. Lower and repeat. This exercise can also be done with a single handle by hooking the handle over your toes. This will also provide your tibialis anterior muscle with a workout. This is a good exercise for sprinters or martial artists.

21. GLUTE PUSH-UPS

Lie flat on your back on the floor with your knees bent 90 degrees. Pushing with your heels, lift your glutes off the floor, keeping only your shoulder girdle in contact with the floor. It will feel as though you are trying to push your hips into the ceiling. For extra resistance, hold a plate over your lower abs or hips.

22. SARTORIUS LEG EXTENSIONS

The sartorius is the long strap-like muscle running up your inner thigh from the knee. It is the longest muscle in the body and is only visible on individuals with low bodyfat. This is a finishing movement for it to bring it out. The exercise is done on the leg extension machine. Do these one leg at a time. Set the machine to the lightest possible weight and set yourself up like the start position of a typical leg extension. As you extend up, externally rotate your thigh at the hip so your knee moves to point out to the side. The ankle pad will roll over the instep of your foot. Raise your thigh off the bench an inch or two as you come to activate the hip flexion function of the sartorius, leaning forward a little to facilitate the contraction from the other end. When you do these, put one hand on the sartorius muscle so you can feel it to make sure it is working.

23. POSTERIOR CHAIN PULLDOWNS

Use the lat pulldown machine with the straight bar. Set the knee pads a little higher than usual so you have to come up on your toes to get pressure. Grasp the bar with an overhand grip at shoulder-width. Slide your knees under the pads and press up on your toes as though doing a seated calf raise. This presses your knees into the pads. Do not sit down. Now, bending only at the knees (do not bend at the waist or hips - keep your abs and back tight), pull back and down on the bar like a leg curl that moves your body instead of your lower legs. Try to consciously use your hamstrings and squeeze your glutes hard. Imagine "pawing" the ground with your toes like a bull about to charge as you come down. This will help activate your hamstrings. Come down until your glutes hit the seat but don't relax the tension. At the end position, your body will be horizontal with only your knees bent. Let it back up and go again. You will need to use a moderately heavy weight to counterbalance your bodyweight (try about 120 pounds or so to start). It should be heavy enough so that you don't fall back without effort but light enough to be able to actually move. This hits every muscle group in the posterior chain on the entire back half of your body. Your lower back is worked isometrically and the tension from the weight stack will go through it as well.

24. CROSSOVER WALKING ON THE TREADMILL

These are done on any regular treadmill. Set the treadmill slow to start with. Walk sideways, crossing your foot over as you step (if you are facing to the right, your left leg is closer to the front - cross your right foot over in front). Hold onto the rail in front of you as well as the top of the machine. Be sure to go both ways. This exercise stretches the outer hip area and builds up the

inner thigh muscles. It is a great exercise for skaters. Set the treadmill on an incline for resistance.

25. BACKWARDS WALKING ON THE TREADMILL

The treadmill can be used to build leg strength and size very effectively. This is essentially high volume lactic acid training for the quads. Hold onto both rails and walk backwards on the treadmill, squeezing your legs hard. Use the incline to increase the resistance. Go for as much of a burn as you can and use your arms to support your bodyweight as you go past it. When you can't take it anymore, rest a little, increase the incline and do it again.

GENERAL LEG TRAINING NOTES

For proper muscle balance, the front thigh should be about 1/3 stronger than the back.

If your hamstrings are extremely lacking in development and/or strength, work them first or devote an entire day to them.

Side lunges hit the adductor muscles well – pectineus, gracilis, adductor longus, adductor brevis, and adductor magnus. Adductor work is useful for hockey, rollerblading, skating, skiing, tennis, squash, handball, soccer, etc.

Combine 1 leg curls with a low pulley attached with an ankle harness with a one leg-stiff legged deadlift. This gives a stretch followed immediately by a contraction exercise.

Another good one for hamstrings: on leg press, press with your heel to start for a rep (or rep out) then place heel on top of foot plate and leg curl your body up.

For quads – a one leg sissy squat then to a standing dumbbell leg extension. Have the dumbbell already in position on your foot when doing the sissy squat.

If you only have access to light dumbbells for leg training, try this superset:
1 leg sissy squats, 1 leg squats, 1 leg dumbbell leg extensions.

If you've torn your ACL, don't do leg extensions. It's from the ACL being stretched too far in the forward direction.

Big butt – too large glutes

1. Stop doing glute training exercises, e.g. deep squats, leg presses, lunges.
2. Emphasize hamstrings – do them separate from quads.
3. Use the stair machine. This overtrains the glutes, reducing their size.
4. Keep your bodyfat low.

Glutes flex and extend the hips. Hip extension is very important for glute training. This function is also worked with hamstrings and lower back.

If your quads overpower your hamstrings, you need to prioritize your hamstrings. There are several ways you can go about this. You can ignore your quads for awhile and concentrate your leg training on hamstrings only. You can do hamstrings on a separate day. You can do them before quads on the same day. You can do them with another bodypart on another day.

When working legs, jumping between exercises that affect the hamstrings and exercises that

affect the quads with normal rest periods between will give double rest for the muscles.

TRAPEZIUS EXERCISES

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2. NECK EXERCISES

THE EXERCISES

1. SHRUGS

There are many variations of the shrug, but to execute all of them, simply shrug your shoulders up as though trying to touch your ears with your shoulders. There is no need to rotate your shoulders forward or back like some do. Shrugs can be done in a smooth motion but work better if done explosively. Let your shoulders down then, as explosively and powerfully as possible, raise them up. This will work the traps all the way up the back of your neck.

Variations:

1. Dumbbell shrugs - grasp two dumbbells (or one dumbbell if want to do one side at a time like a suitcase-style shrug) and let them hang beside you, in front of you or behind you. Shrug. Dumbbells give you a greater range of motion. They can be shrugged up together, in an alternating fashion (raising one side up and down, then the other) or in a reverse alternating fashion (start with both sides up, lower and raise one side, then the other – this keeps continuous tension on the muscle). Dumbbell shrugs can be done standing up or seated. If done seated, you can change the area of the traps hit by leaning forward, or by leaning back in an incline bench. The dumbbells can be picked up off the floor like a dumbbell deadlift, off a dumbbell rack or sitting on a bench or box. Dumbbell shrugs done with a reverse grip (palms forward) is a good exercise for your lower traps.

When you hold the dumbbells for neutral grip shrugs you can hold in the middle of the handle, with your thumbs by the plates for a better grip, or with your pinkies back by the plates to build a better grip. When doing pronated shrugs, hold them with your thumbs near the plates and be sure to try to keep them level. This will work the pinky side of your grip (the weaker side). This is also a better position when using large dumbbells. The pronated style can be done with the dumbbells in front of you or banging against your sides. When using a reverse grip, have your pinkies by the plates so your arm stay closer to your sides. Whenever you are doing a pulling exercise with a dumbbell and you keep your thumb up near the plate, try to grip hard with your pinky too. This will help build strength in that area.

2. Barbell shrugs - grip the barbell with an overhand, underhand or mixed grip at shoulder width, narrower or wider. Shrug. Set up the bar in supports or in a power rack so you don't have to pick it up from the floor. If you don't have a power rack, try using the supports of a bench press. Otherwise, you may have to deadlift the bar off the floor. Try doing these one arm at a time, suitcase style so you are standing beside the bar. This will build the stabilizing muscles of the waist and the grip as well as the traps. Try to consciously push more with the pinky side as this is often the weak link in a grip and this will help build strength in that area.
3. Rear barbell shrugs - grip the barbell behind your back with an overhand grip.
4. Hack machine shrugs - stand in a hack squat machine. Shrug instead of squatting. This method has the advantage of taking the grip out of it if the grip is weak. The standing calf machine can also be used. This is especially useful if you've separated your shoulder or have A/C joint separation.
5. Cable shrugs - 1 arm, 2 arm, low pulley or between two high pulley crossover machine shrugs. The crossover version hits the middle traps more, especially if you stand back a few feet so you must pull back as well.
6. Universal bench machine shrugs - stand in between the handles of the bench machine and

shrug. Plates can be loaded onto the handles for extra resistance. If the range of motion is not great enough, try kneeling on a bench or chair or sitting on a stool. If you don't have access to this, try doing them using a shoulder press machine and standing on the seat or bench.

7. Prone shrugs - lie face down on a bench (flat, incline or decline) and shrug dumbbells, barbells or cables. This will hit more of the middle traps.
8. Incline shrugs - sit normally in an incline bench with the dumbbells hanging straight down. Shrug the dumbbells.
9. Universal bench machine shrugs / calf raise combos – do a shrug and a calf raise at the same time.
10. Overhead shrugs – using dumbbells, a barbell, a shoulder press machine, Smith machine or cable, hold them at arms length over head. Shrug up, keeping your arms locked overhead, raising your shoulder girdle. This is the maximum peak contraction position for traps. Dumbbells will give you more freedom of movement and will force you to work for stability as well. They are a pain to get into position, however. Barbells in a rack will be easier and still work stability. The Smith machine or shoulder press machine will be easiest because they are completely stabilized. You can also preset the height on those. This extra overhead shrug can be used at the end of any shoulder press movement as well. This is a great way to work traps on a limited time budget.
11. Reverse grip shrugs – can be done with barbell, cable or dumbbells. Use a palms forward grip (like a curl grip). This will really hit the lower traps well, especially the dumbbell version. Hold the dumbbells at your sides. Try them behind the back as well for maximum contraction of middle traps.
12. Half deadlifts and shrugs – these are best done in a rack. Do a half-range deadlift then shrug at the top. Keep your shoulder blades together throughout the lift to minimize rounding of the back. This exercise will activate more of the middle trap fibers in addition to the upper fibers.
13. Shoulder press machine shrugs – same execution. Stand on the seat to start with. This is a good alternative if you don't have any other means of doing shrugs with reasonably heavy weight.
14. Concentration shrugs – sit on the edge of a bench with your knees wide apart. Set the dumbbell in between your knees. Brace your non-working hand on the knee. Reach down and shrug the dumbbell up between your legs, with your upper body angled over like a concentration curl. This is similar to an incline shrug but without an incline bench. Make sure you keep your lower back arched and tight at all times. This can also be done standing.
15. Lying low pulley shrugs – lie flat on your back in front of a low pulley (the seated row works well) with your feet near the pulley. Hold the bar or handles with the cable running down between your legs. If you are using the handles, bend your knees. If you are using the bar, minimize knee bend. Shrug in this position. It hits higher on your neck and causes no back stress compared to many other shrug variations.
16. Crossover hug shrugs – stand in the middle of a cable crossover setup. Grasp the right handle with your left hand and the left handle with your right hand so your arms are crossed over in front of you. Shrug up and out, expanding your shoulders as much as possible.
17. Smith machine shrug variations – the Smith is very versatile for shrugs. Shrugs are also one

of the few exercises that can be done on the Smith machine without damaging your joints as it is a two-dimensional exercise. The version you can do include front, behind the back, standing to the side with one arm, one arm in front, reverse grip, etc. Use your imagination. Do not use the hooks on the bar, rather set the bar on the safety rails that you can slide into place. This will eliminate the need to rotate the bar. When using a pronated grip, stand facing into the machine. This causes the bar to roll towards you as your grip fails, keeping it from hooking. When using a curl grip, stand in the machine and face out. As your grip slips, the bar rolls out and won't hook accidentally.

18. Kneeling shrugs – many of these variations can be done from a kneeling position. This will remove any help you might get from your legs. This is also true of sitting shrugs but kneeling shrugs allow you to use a barbell; seated shrugs don't.
19. Seated row shrugs – sit on the machine in the same position as if you were doing a row. Instead of pulling with your arms, pull back with your shoulder blades, trying to squeeze them together behind you. Do not bend your arms. This will work the middle traps.
20. Pulldown shrugs – this is done using an overhead pulley (the lat pulldown machine is best). Have your arms outside shoulder-width apart (this gives your scapulae and angle to pull in at rather than just straight down – it also prevents large shoulders from cutting off the circulation in the neck when the shoulder girdle is). Keep them stretched straight overhead (or slightly bent but stiff). Keep your torso upright and pulldown only at the shoulders. Keep your arms straight. Only your shoulder girdle should move. Try to feel the pulldown in your lower traps, just above your lower back. The reverse grip will give you the best feel in this exercise. You should keep your torso vertical and your back straight. You may also want to lean forward slightly. Don't arch your back as this will involve the lats.
21. Pivoting barbell shrugs – set a bar beside a bench and load up both ends. Reach down and grip the barbell, shrugging up and back with one arm. You can shrug back because there is resistance in the backward plane in this version. Go to the other end of the bench and work the other side. You can also use two barbells and do both simultaneously.
22. Back shrugs – have the weight on your back like you are doing a squat and shrug from there. This works well using the Manta Ray squat device.
23. Cable dumbbell shrugs – attach cables in a crossover setup to two heavy dumbbells. These can be done seated or standing. By shrugging like this you allow the middle trap fibers that pull the shoulder blades together to work as well. Place yourself a few feet back to get the best effect. This gives you two trap functions worked in one exercise. Make sure you consciously try to squeeze the shoulder blades together behind your back.
24. Ski jump shrugs – these can be done on the Universal bench press station or the Smith machine. Using a regular or reverse grip, stand with the bar behind your back. Lift it up off the racks. Step your feet back underneath the bar and lean your entire body forward 10 to 15 degrees. Hold on tight. Shrug up. Try to raise up high and try to squeeze your shoulder blades together behind your back to hit the middle trap fibers. This works well as your arms are forced behind your back already. This exercise also hits the upper back fibers of the traps and neck.

Comments:

With any shrug, keep your shoulders back and your chest out.

Many back and shoulder exercises hit the traps directly or indirectly, e.g. rows, pulldowns, shoulder presses, clean and press, power cleans, etc. Shrugs target mostly the upper traps. Do not neglect trap development but at the same time realize that the higher your traps go, the narrower your shoulders will look. This is not an excuse to let your traps shrivel up. Trap work is important to stabilize the shoulder girdle.

To get a greater range of motion with shrugs, keep your head slightly forward. If you have forward head tilt, don't do this.

Shrugs can be done explosively, using your whole body. Explode up with your legs and calves.

Traps can be worked with a two-up, one-down negative style using the Universal bench press or a calf machine or hack squat machine. Shrug up with both and lower with one side, alternating sides.

The higher you elevate the bar, the more the traps are worked. Don't be afraid to bend the arms. This will also help with upper arm growth.

The traps have three functions. The lowermost fibers depress the scapulae (lower). The middle fibers adduct the scapulae. The uppermost fibers elevate the scapulae. Rotating your shoulder in a shrug will not hit all three aspects, as there is no resistance on the backward movement.

To work middle traps use shoulder pull-ins on a low row pulley. Don't bend your arms and try to pull in your scapulae behind your back. Facedown lying shrugs will also work. To work the lower traps, hanging pulldowns with straight arms. Shrug your shoulders down and together with your upper body vertical.

2. NECK EXERCISES

Neck strength is often overlooked. It is extremely important, especially for contact sports. It is also useful in endurance sports such as cycling where you must keep your head up. The neck harness is one of the best ways to exercise the neck. Simply hook it over your head, lie down on a bench on your front, back and sides (not all at once), lower the weight by bending the neck down then flex up. Do not go heavy or to failure. You can mimic these exercises by wrapping a towel around your head, holding the ends, bending your neck in that direction and resisting with the towel held in the hands. Isometric (non-moving) exercise also works well. Simply hold a hand against your head and push against it with your neck muscles.

There are machines that are designed specifically for neck work (flexion, extension, lateral flexion and extension, and rotation). With any neck exercise, do not allow your head to return to the start position too quickly. Do not allow hyperextension on return. Do not use excessively heavy weight.

You can also work your neck directly while doing shrugs. When doing dumbbell shrugs, brace your forehead against a wall and step back slightly. Your body will be at an angle while you shrug, supported by your neck in an isometric contraction. Ease into position carefully with this one. This will build up the back of the neck much like a wrestler's bridge but without the potentially damaging positioning. You don't necessarily even need to do shrugs with it. Simply holding the dumbbells and leaning against the wall will work. You can work the sides of your neck by lean on that side (only hold one dumbbell for that). Lean only at a slight angle and use a towel or a pad on your head if necessary. Another way is to turn your head to the left or to the right before you shrug to increase the effect on the lateral neck muscles. Don't turn the head during

the shrug though.

Another way to work on neck strength is to do a handstand against a wall. Lower yourself down until the top of your head touches the floor. Gradually ease up on your hands and put more pressure on your head. Eventually work up to just having your two index fingers on the floor for balance (you don't want to lose your balance on this one). Don't go to failure on any neck exercise.

A trick you can use when doing these or the against the wall one is to press your tongue against the roof of your mouth just behind your front teeth. This will automatically stabilize the neck by activating the stabilizing muscles of the neck.