THE CrossFit JOURNAL

Girls Ride Horses, Too

Do women require a different approach to strength training? Bill Starr doesn't think so but offers a few tips for coaching female lifters.

By Bill Starr **March 2011**

Staff/CrossFit Journal

I realize the origin of the idea that females are the weaker sex, but even at a young age, I knew it was false.

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Women often come into lifting with stronger lower bodies and weaker upper bodies, but a good training program can correct any imbalances.

Damn the Double Standard

I grew up in a farming community and observed that women did a great deal more work than the men and often helped with the milking, plowing, haying or any other task that needed to be done on the farm. I also knew that when the wagon trains headed west, the women walked while the men rode horses or drove the wagons. In addition, the women took care of the children, fixed the meals, cleaned up and washed clothes. They were never idle.

But the notion that females aren't physically equipped to do manual labor or participate in grueling sports prevailed. Looking back, it seems rather absurd now, but that's how things were until recent changes came about.

For example, the International Olympic Committee ruled that women could not compete in races that were longer than 10,000 meters simply because running longer distances would be harmful to them. That precept was quickly shot down in 1984, when women were allowed to run in marathons—something a great many had already been doing quite successfully for years.

And look how long it took for women to be able to play by the same rules as men in basketball. When I was in high school, the women's game was tame—so tame that it was boring. The offensive players couldn't cross over the mid-court line, and the defensive players had to stay on their side of the court as well. There are very few sports left that have separate rules for men and women. The only one that comes to mind is women's lacrosse, and I would like to see that changed as well.

Women compete in triathlon, soccer and softball; they have their own tackle football leagues; and female pole vaulters are soaring over the bar at heights that would have won the male version of the event in the '60s. In 2004, they even went to the mats in Olympic wrestling. And they rank higher in Olympic weightlifting worldwide than their male counterparts. Yet females had to scratch and claw to break through the male barrier in weightlifting.

> I treated men and women alike and pushed them both equally hard, and they never grumbled or complained.

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The administrators, naturally, were all men, up until when Mable Rader, wife of Peary Rader, who published *Iron Man Magazine* and *Lifting News*, got her card to judge meets. That opened the door a tad, and it wasn't long before the ladies wanted to take part in that hallowed sport. Powerlifting, being a newer sport, adopted the fairer sex more readily than Olympic lifting, but the barriers finally fell, and more and more females took to the sport enthusiastically—and many with great success.

Women have always been more figure conscious than men, and they in fact supported the health-club business for many years. But they didn't train at gyms. They went to the spa while the men did their lifting at the local YMCA or a black-iron facility in someone's garage. Rarely did a place allow men and women to train together. If a fitness facility did cater to both sexes, it was usually on an every-other-day basis and never at the same time.

In keeping with the concept that women can't handle extreme physical stress, the programs for women were always less demanding and usually built around very light weights and higher reps. Toning and shaping were the goals, and heavy weights weren't needed for that. Plus, who wants to look at a female with muscles? Obviously, as it turns out, a lot of people.

When I started training female athletes at the University of Hawaii in 1973, there was no information available on how to put together workouts for them. The routine that Tommy Suggs and I had devised and called the Big Three was created with males in mind. Yet I could not find a single reason why females shouldn't do that same program. The weight room at UH was small, with one pulling and squatting station, an incline bench, and two flat benches. So if an athlete wanted to join a group at, say, the squat station, she had to take her turn just like everyone else. I showed no favoritism one way of the other. I treated men and women alike and pushed them both equally hard, and they never grumbled or complained.

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Muscles will respond to a good training program, and female lifters don't need very many special considerations.

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It took a while for women to be allowed onto Olympic platforms, and now that they are, females actually rank higher than male lifters in the sport.

Differences—But Small Ones

I was well aware many authorities at that time believed very strongly that because the two sexes are physically different, there should be two different approaches to strength training. I couldn't see the logic in that way of thinking. Male and female muscles, tendons and ligaments work exactly the same. Lung and heart action is the same, as are the rest of the ways in which the body functions in regards to getting stronger. If a certain exercise makes the legs stronger in a man, it will do the same for a woman.

There are, however, a few differences between the two groups at the beginning stage of training. The female is considerably weaker in her upper body than a male, but on the flip side, she is usually stronger than a male, relatively speaking, in her lower body. Yet that's no reason to alter a training program other than to spend more effort on the weaker area—which is the case for anyone just starting out. One area of the body is always going to be lagging behind somewhat.

I've also had sports coaches tell me that their athletes have special needs and should be doing a program specifically designed for that sport. They don't fully understand the concept of strength training. The first step in the process for any athlete is to make her total structure stronger and not worry about specific exercises for a certain sport. For until strength of the hips/legs, back and shoulder girdle has improved considerably, those specific movements will I have little value. I've coached female athletes who participated in soccer, lacrosse, field hockey, swimming, fencing, volleyball, softball, basketball, and track-and-field events. Everyone did the basics until the foundation was solid, and then I added in some specific exercises that were pertinent to her chosen sport. To begin with, movements geared for a certain sport are much less effective.

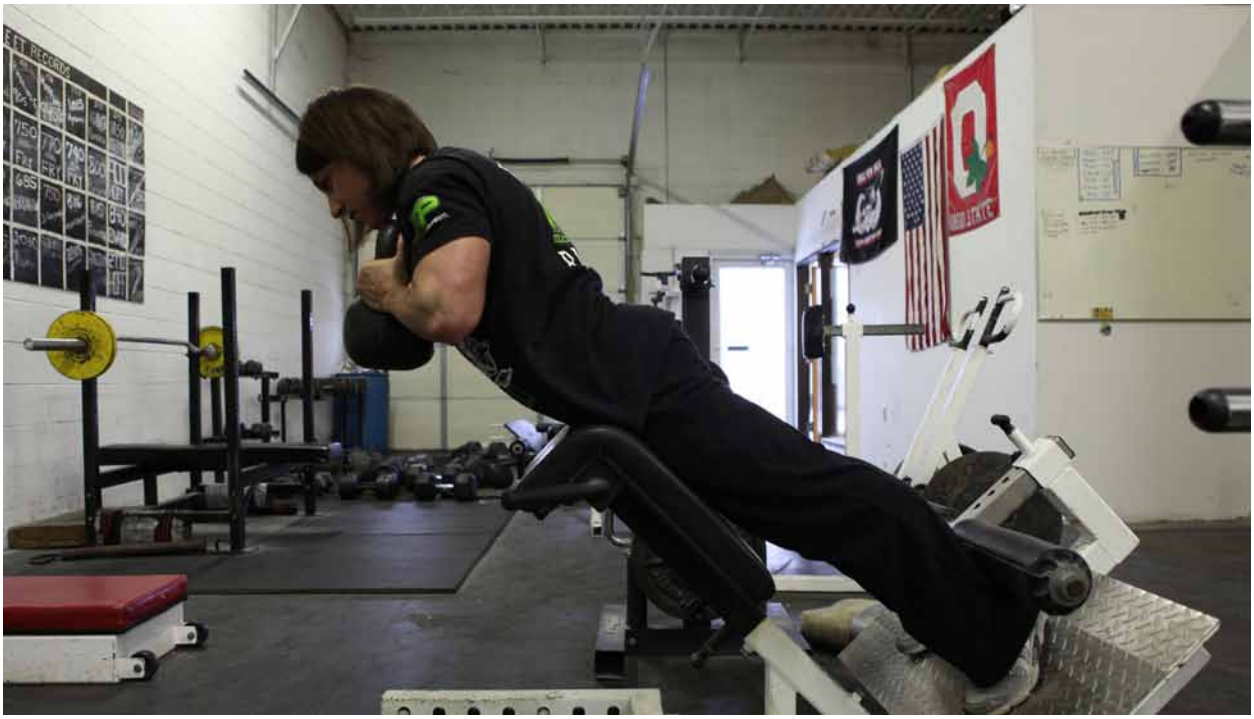
Given a choice, I would much rather train a female athlete than a male. There are several reasons. None of the ladies I started on a routine had ever lifted weights before. Nearly every male had and brought with him his own ideas of

how a program should be assembled. The ladies followed my instructions to the letter and never entered into a debate over other exercises or sets and reps and so forth. Female athletes are much more flexible than the men, so they can learn the movements that require a high degree of adaptability—such as the power clean and even the two Olympic lifts, the snatch and clean and jerk—much more readily than men. I've also found that females have better foot speed and are more highly coordinated than men and, for the most part, are more intelligent, which enables them to make faster gains at the beginning of a strength program. And they smell a lot better, too.

While my female athletes never argued with me, they did have some concerns about lifting heavy weights, relatively speaking. The most common worry is that weight training will cause them to add body weight, and they don't want that. I tell them that lifting weight has little to do with how much a person weighs. That's a factor of diet. If a female athlete greatly increases her caloric intake, she will gain weight whether she's lifting or not. In fact, the exertions in the weight room are one of the best ways to maintain a certain body weight.

What will occur, however, is that a female will gain muscle and, because muscle is heavier than fat, there may be a slight increase in body weight. But because that new muscle is distributed evenly, all that happens is the female ends up with a more athletic, pleasing physique to go along with her new strength. I suggest to them that they pay more attention to their body image in the mirror than what the scale indicates.

Many have voiced their apprehensions about doing heavy squats, saying, "I don't want to I end up with a big butt like those football players." My reply: "The only way you're going to get glutes like those guys is to eat like they do. And even if you weren't squatting, you would lay down lots of fatty tissue in your glutes. Just look at all the obese women waddling around the supermarket searching for more useless calories. They didn't get those huge dumpers from squatting but from overeating. What you will end up with if you watch what you eat is a firm, shapely derriere, which will greatly enhance your overall figure." End of discussion.



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Training may result in a small increase in body weight for women, but the new muscle is usually distributed evenly, resulting in an athletic build.

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Whether you're dealing with men or women, start light and work on proper technique.

The other concern is that they may injure their shoulders, back or legs by lifting heavy weights. Heavy, of course, is a relative term, and I explain that they will not start out with more weight than they can handle rather comfortably on all the exercises. Only after they learn the proper technique will they be allowed to add weight to the various movements in the program. And the set and rep sequence will further ensure that they are not overdoing it if they're unable to make the required number of reps on any exercise. They will stay with that same weight until they're successful. This slow but steady approach to getting stronger will ensure all the muscles of the body are improving at the same rate.

Weight training is one of the safest forms of exercising there is—when it's done correctly. There's certainly much less of a risk in squatting a weight than in driving to the basket for a layup with two or more defenders determined not to let you get the shot off.

Even Olympic lifting, which places the athlete in many precarious positions, is a safe sport, just so long as the lifts are done correctly. Faulty form in any athletic activity is dangerous, so learning the proper technique on all the lifts is a must.

Keep in mind that females have been lifting heavy objects throughout history. It is no more dangerous for a female to exert herself fully than it is for a male. If she has done the necessary work to prepare her body for the maximum effort and uses good form, she may not make that lift, but she will be fine. Keep in mind that the barbell doesn't know which sex is trying to lift it. Good form will be rewarded and sloppy technique will be penalized in a democratic fashion.

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Getting Women Started With Weights

Now for the beginning program for the ladies. It consists of just three core movements, along with additional work for the abs and lumbars in the form of warm-ups. The three exercises I refer to as the Big Three are the power clean, back squat and bench press. For those participating in sports that require a great deal of vertical action for the arms, such as basketball and volleyball, I substitute the incline press for the flat version. However, so many of the athletes insist on doing flat benches because they believe that exercise will help them increase their bust size, so I allow them to make the final decision. I do encourage them to do both of those upper-body movements, stating that the two slightly different angles of those lifts will help develop the pecs more fully than just one.

Three sessions a week in the weight room are sufficient in the beginning, and maybe for a long, long time. Those days off will allow your body to recover from the new form of stress and, after the first few weeks, should be spent improving the aerobic base, enhancing flexibility and practicing the skills needed to be more proficient in a chosen sport.

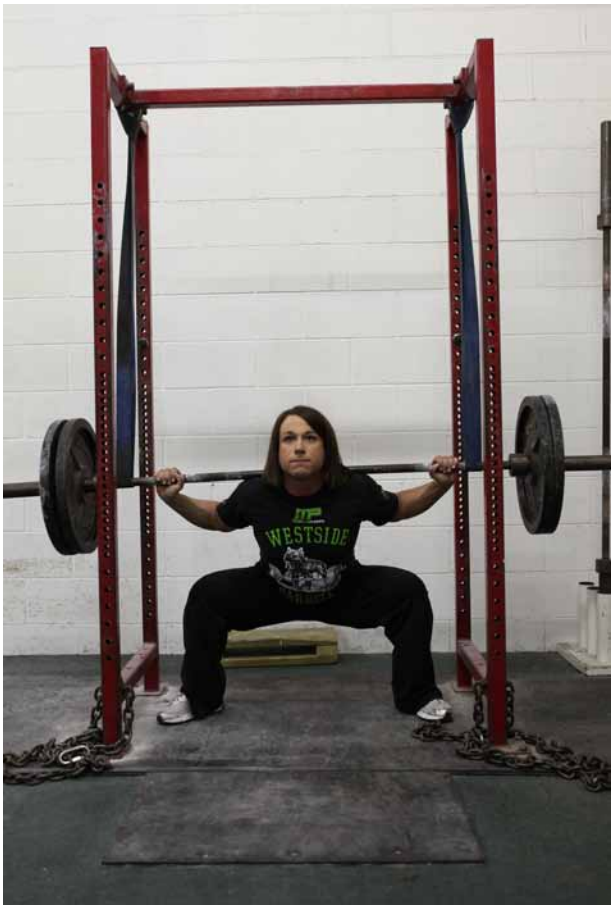
The three exercises are aimed at improving strength in your three major muscle groups: hips/legs, back and shoulder girdle (or upper body). Until you learn the form and have started to establish a solid strength base, you will only do those three movements, plus some ab and lower-back work prior to lifting. But once you feel as if you're recovering from the load in the weight room, you should start adding in a few auxiliary movements for the smaller groups: calves, biceps, triceps and deltoids.

There are different set and rep formulas for the primary and secondary exercises. The primary, or core, movements will be done for 5 reps of 5. Research has established that the very best formula for developing strength for beginners is 4-6 sets of 4-6 reps. I stay with 5 times 5 because it makes the math much easier to do and I often had as many as 40 athletes to deal with at one time. But should you prefer 4 sets of 6 or 6 sets of 4, fine. You'll still get the desired results.

For the ancillary movements for the smaller muscle groups, I basically use the 40-rep rule using higher reps, which translates to 2 sets of 20 or 3 sets of 15 on exercises such as frontal and lateral raises with dumbbells, curls, straight-arm pullovers or triceps pushdowns. I realize 3 sets of 15 adds up to more than 40, but it's close enough. The only exception to this rule is for the calves. In order for them to respond, they have to be brutalized: 3 sets of 30, and the final dozen reps should make your eyes water. Do no more than two auxiliary exercises a session even after you believe you are moving close to the intermediate level. Use your energy to improve the core exercises. As they get stronger, the smaller groups improve as well.

The Squat

I'll begin with the most important exercise in this routine: the full squat. All strength development originates at the center of your body where the hips, glutes, lumbars and legs join forces. So in the beginning you should prioritize the back squat by doing it first at every workout. But before I get into the form for this lift, I need to address the never-ending debate about the effect of full squats on the knees. I've been going over this since I first started training athletes in the '60s.



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If you think women can't get brutally strong, Google "Laura Phelps-Sweatt."

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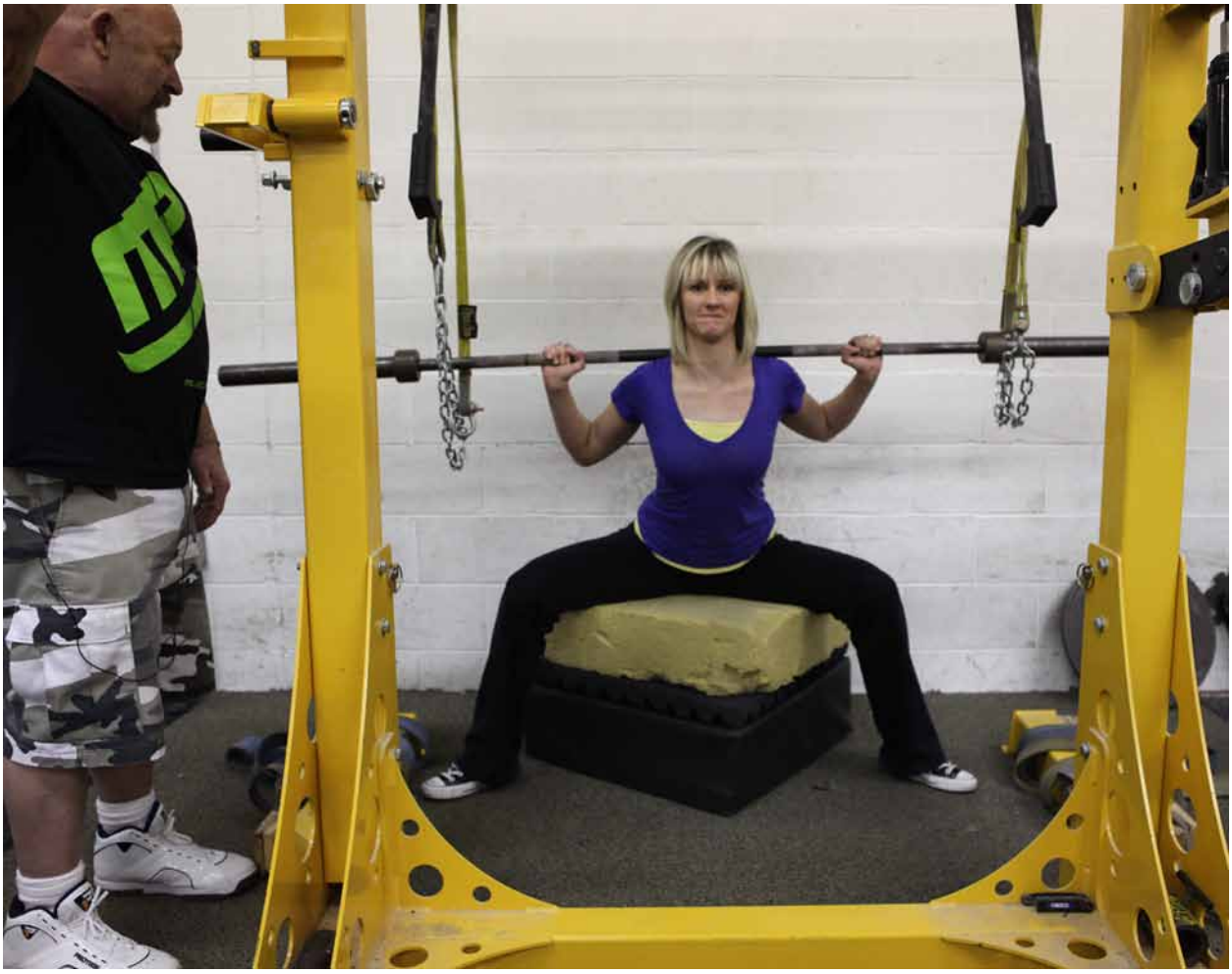
When an athlete does a full squat—and by "full" I mean she goes way below parallel so that she is sitting in the deep bottom position—she is working her lower back, hips, glutes, hamstrings, quads, adductors and abductors so that they are all receiving equal attention. This creates a balanced strength. However, when an athlete cuts off the squat so that she is only going to parallel or even higher than that, she is neglecting many of the groups I just mentioned, especially the adductors and hamstrings. In a partial squat, the quads do the bulk of the work, which means they get considerably stronger than the other groups that make up the hip girdle. This will eventually lead to a weakness in those neglected muscles and end up halting progress in the hips and legs.

Now for the knees. When partial squats are done, the burden of halting the downward stroke falls on the knees. However, once the thighs break the parallel position during the squat, the task of halting the descending bar is now transferred from the knees to the much larger and more powerful hips, glutes, hamstrings and adductors, along with the quads and abductors. Thus, the knees are relieved of the stress and there are no problems. If you want to see how a proper squat should be performed, watch an infant. Young children do perfect squats over and over, and they go very, very low. That's how they build up their leg strength so they can walk.



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Yes, squatting is OK for men and women.

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Powerlifters use box squats to a variety of heights, and Bill Starr recommends you go very low when you squat to involve more muscles and take the strain off the knees.

Full squats result in a more equal development of the power pack and are much less risky to the knee joints. In fact, when squats are done right, they greatly strengthen the knees, so going low is really a no-brainer.

Nearly all the female athletes I trained have been small or have had slight builds, which means they didn't have a lot of muscle in their traps. The first thing to learn is how to position the bar firmly on your traps. This can be irritating, and many want to used some type of padding around the bar to diminish the discomfort. Not a good idea. Eventually, that towel or rubber matting will twist or roll up and will hurt much more than the bare bar. You need to get used to having the cold steel against your skin from the get-go, and it doesn't have to be painful.

When squats are done right, they greatly strengthen the knees, so going low is really a no-brainer.

While you may not have much in the way of traps, use what you have. Lift your traps, lock them into a contraction and hold them that way until you complete your set. After a short while, you will not even notice the bar on your back.

Be sure to lock the bar tightly into your traps. If you merely lay it on the contracted muscle, it will move during the execution of the lift. This can be most disconcerting and can also affect the exercise because you may become more interested in what's happening with the bar than the movement itself. With the bar snug against your contracted traps, back out of the rack and set your feet at shoulder width with your toes pointed slightly outward. You may find that you can maintain your positioning better if your feet are a bit closer or wider, so do some trial and error until

you discover the foot placement that suits your individual needs. Your eyes should be looking straight ahead, and every muscle in your body needs to be taut. Push your feet down into the floor. This will help you to tighten the rest of your body, from your toes to your neck.

With your back very flat and your chest up, lower yourself as low as you possibly can, but do so in a controlled manner. In other words, don't drop in to the bottom. Stay extremely tight as you descend, and when you are at the low point, hesitate for a 1-second count, then recover. That slight pause at the bottom is to keep you from getting in the habit of rebounding out of the hole. Constant rebounding, even with light weights is risky to your knees, so never do it. Rebounding also causes you to move out of the ideal positioning when coming up out of the squat.

While learning the form for the squat, do each rep as perfectly as you can and don't hurry through the set. At the finish, take a moment to make certain everything is as it should be before commencing the next rep. The two biggest mistakes beginners make is rebounding from the bottom and allowing their backs to round. Some rounding is OK, but if it becomes excessive, take some weight off the bar and practice better technique. Constant rounding of the back will eventually cause problems in your middle and lower back. It also means that your lower and middle back are relatively weak and need more direct attention. At this stage of training, back hypers and reverse back hypers will be enough to remedy the weakness. Do one of these prior to lifting and another at the end.

Take a deep breath and hold it during the squat. Whenever you breathe during the execution of a lift, your diaphragm is forced to relax, and this diminishes your power base. There's no risk of blacking out because the up and down move only takes a few seconds. The very first time you squat, only do 3 sets of 5. It doesn't sound like much, but I guarantee you'll get sore. At your second workout, add a set, and at the final one for the week, do 5 sets of 5.

Stay with light to moderate weights while learning the squat, but once you feel confident that you're doing them right, don't be afraid to put more weight on the bar. The worst thing that can happen is you fail and—trust me—if you stay with the discipline for any length of time, you will learn that failure is necessary and a vital part of strength training.

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Elite lifter Laura Phelps-Sweatt demonstrates an ultra-wide stance for squatting. Most athletes will be comfortable with a stance of about shoulder width.

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The power clean is one of the three main exercises Bill Starr recommends for women starting a lifting program.

The Power Clean

My exercise of choice for the back is the power clean because this is aimed at female athletes. The power clean is known as the "athlete's exercise" because it requires that the lifter utilize a great many attributes which are beneficial in any sports activity: coordination, timing, flexibility, quickness, balance and, of course, strength.

There are two pieces of equipment that are invaluable when teaching females this exercise: a short Olympic bar, which weighs 30 lb., and training plates. There are several types of training plates, but the ones I prefer have a steel center and a bonded rubber edge. These are of the same diameter as the 45-lb. metal plates and allow the lifter to get in the correct starting position for any pulling exercise. They come in 5 and 10 pounders. With the shorter bar and five pounders, a beginner can learn how to power clean with as little as 40 lb.

However, before I teach a female how to do this high-skill movement, I first have her deadlift for two reasons. The deadlift mimics the start of the power clean, and I also believe it's important for everyone, male of female, to know how to lift a heavy object off the floor. This is an act every person will do countless times throughout his or her life, and knowing how to do it correctly can save a great deal of suffering.

Your feet should be at shoulder width or slightly more narrow. Grip the bar just outside your legs, flatten your back, lower your hips, and with your eyes directly ahead, think about pushing your feet down through the floor. The bar will glide up your body. The key points for the deadlift are keeping your back rigidly tight and making sure the bar stays very close to your body from start to finish.

Learning the correct technique for the deadlift can usually be accomplished with 2 or 3 sets, then the athlete can move right to the power clean. Same foot placement, same grip, same starting posture of the body—but now the bar is going to be moved from the floor all the way to your shoulders, where you will end up securing it across your frontal deltoids.

Just before you start the power clean, check two things: your frontal deltoids need to be out in front of the bar. Not much, just a bit. And the bar has to be against your shins. If it's even an inch away, that will adversely affect the finish of the lift.

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With your arms straight, pull the bar off the floor. Do not jerk it upward, for that will cause your arms to bend and your back to round. When the bar reaches mid-thigh, drive your hips forward, contract your traps, bend your arms, and climb high on your toes. This final sequence is critical to moving heavy weight in this lift. If you bend your arms before bringing your traps into play, you will not have a strong finish. The combination of traps, arms and calves will make the bar jump, and that's when you dip under it and rack it across your shoulders.

A power clean should resemble a whip: slow off the floor, picking up speed in the middle, and a blur at the top.

Try not to let it crash on your collarbones. Your triceps should be parallel to the floor when you rack the weight. Lower the bar in two stages: first to your waist, then on to the floor. If you lower it in one motion, more often than not, you will end up rounding your back, and you can sustain a ding if you do this often. Reset to make sure your starting position is correct, then proceed to the next rep.

The keys to keep in mind when power cleaning are pulling the bar very close to your body from start to finish, waiting till you have shrugged your traps before bending your arms, driving your elbows up and out rather than back when you do involve your arms, and keeping your torso erect when you rack the weight. Leaning back during the rack can also be troublesome to your lower back.

A power clean should resemble a whip: slow off the floor, picking up speed in the middle, and a blur at the top. This is a high-skill lift, so it takes time to perfect the form.

As with the squats, do 5 sets of 5 and stay with light to moderate weights until you get the rhythm of the movement. The great thing about this exercise is once you master the technique, you will not only become stronger, but you will also greatly enhance many other athletic attributes. Typically, females are the weakest in their upper bodies, so as soon as they have learned correct form on the three primary lifts, I quickly insert several auxiliary movements for the shoulder girdle, which includes the arms.

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A strong shoulder girdle is essential for any athlete.

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At the beginning, Bill Starr recommends keeping auxiliary exercises to a minimum so athletes can focus on the core lifts.

Flat or Incline Press

The core exercise that you decide to use for your shoulder girdle can be either flat or incline bench presses. Or, you can alternate those two lifts, Most want to flat bench because that is the current gauge for strength in the athletic community. Here are some guidelines that apply to both forms of bench pressing:

Make the bench a part of your body. Squeeze down into it and plant your feet solidly on the floor. These two things will help you create a firm base for when the bar hesitates through the sticking point. Grip the bar so your forearms are always vertical, and make sure you use a secure grip, one that has your thumbs around the bar.

Use a spotter. While this may seem like a tame exercise, it's really the most dangerous in all of strength training for the simple reason that the bar is directly over your face. Have the spotter assist you in taking the bar off the racks, take a moment to steady the weight, then take a deep breath and lower the bar in a controlled manner to that point where your breastbone ends. Pause the bar on your chest for a 1-second count, then press it to lockout. As you're learning the form, the upward thrust doesn't have to be fast, but once you feel confident in your technique, explode upward. Do all your breathing while the bar is at the locked-out position.

The main difference between the flat bench and the incline is the incline will touch much higher, right where your collarbones meet your breastbone. If it touches lower than this, it will run forward and there's really no way for you to bring it back into the proper line. Two things not to do on either form of benching are rebounding the bar off the chest and bridging to bring it through the sticking point. One of the reasons I like the incline over the flat bench is that it's much harder to bridge or rebound the bar on that version of the press. Learn to do both lifts cleanly from the very beginning and you'll maintain that form all your life.

> I've found that female athletes are just as enamored with their biceps as their male counterparts.

The primary movements will once again be done for 5 sets of 5, and the same rules apply as with the power cleans and squats. Stay with light weights until you have the form down pat, then start running the numbers up. After a couple of weeks, add in one or two auxiliary exercises for your upper body. There are several to select from, and you can alternate them every few weeks. The ones I like are dumbbell presses, either seated or standing; incline dumbbell presses; straight-arm pullovers; and lateral and frontal raises. I don't encourage strength athletes to do curls because their biceps are getting plenty of work with the power cleans, but if you want to do curls, that's OK too. I've found that female athletes are just as enamored with their biceps as their male counterparts.

Start Slow, Get Strong

Use this basic routine for two or three months, which is usually the time a sports team spends in off-season training. It will serve as a good foundation for future weight work. Then the next time you do a strength cycle, you will be able to add in other exercises, such as good mornings, deadlifts, lunges and perhaps even one of more of the Olympic lifts.

But the very first step is to get started. There is no doubt that a stronger athlete has a great advantage in any sport, if for no other reason than that it allows her to practice longer and harder and to recover faster.

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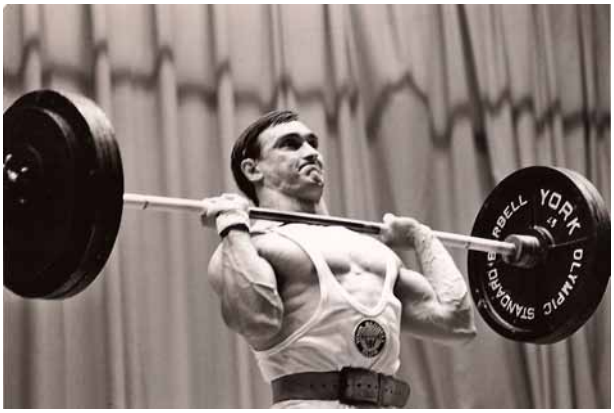

Courtesy of Jody Forster

About the Author

Bill Starr coached at the 1968 Olympics in Mexico City, the 1970 Olympic Weightlifting World Championship in Columbus, Ohio, and the 1975 World Powerlifting Championships in Birmingham, England. He was selected as head coach of the 1969 team that competed in the Tournament of Americas in Mayaguez, Puerto Rico, where the United States won the team title, making him the first active lifter to be head coach of an international Olympic weightlifting team. Starr is the author of the books ***The Strongest Shall Survive: Strength Training for Football*** *and* ***Defying Gravity****, which can be found at The Aasgaard Company Bookstore.*

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