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Mastering the Jerk

The jerk is the preferred method of getting big weight overhead with power. Legendary weightlifting coach Bill Starr breaks it down from drive to lockout.

Bill Starr

In the early '70s, as the sport of powerlifting grew and the military press was dropped from Olympic lifting competitions, the bench press replaced the overhead press as the standard for upper-body strength in the United States. As a result, Olympic lifters were, for the most part, the only group of strength athletes who continued to do any sort of overhead lifting. Although only a few continued to do military presses, they all did a lot of jerks.

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In recent years overhead lifts have experienced a revival in strength routines, and they're also a big part of CrossFit. Of course, with my background in Olympic lifting, I've always encouraged my athletes to do presses and jerks—even my female athletes.

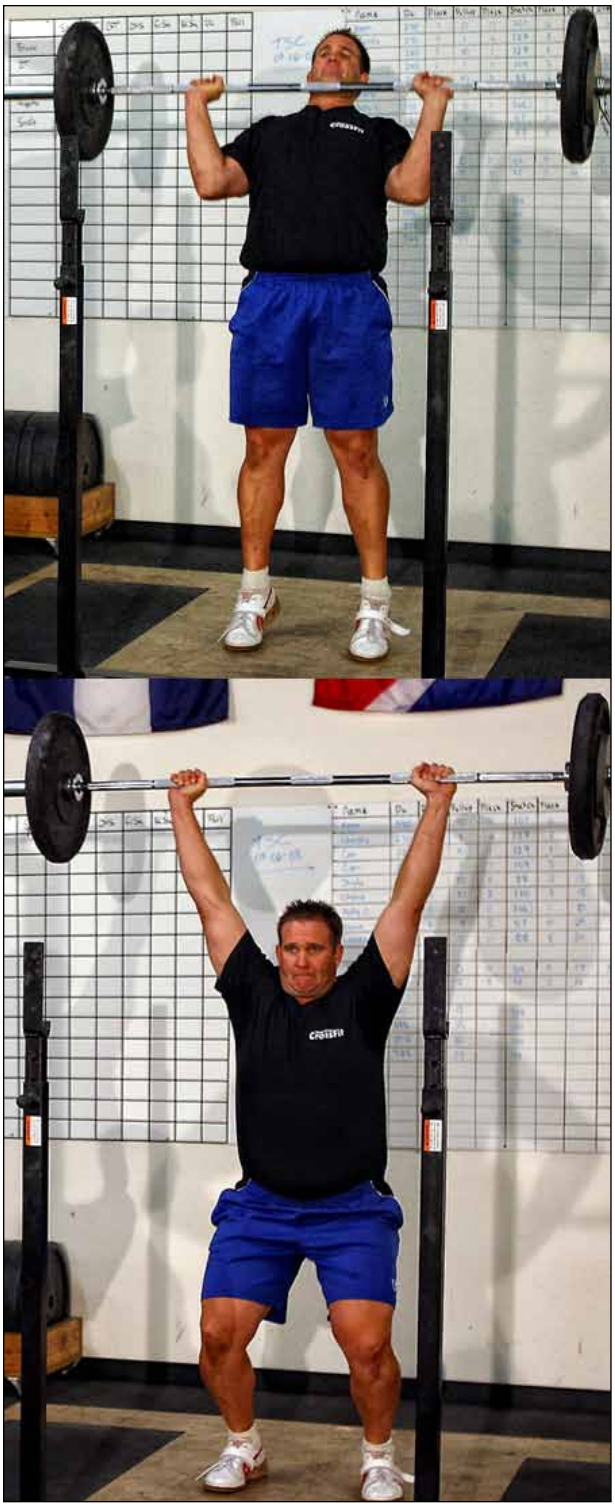
I'm convinced that the strength gained from doing any type of overhead work is much more transferable to any athletic endeavor, although I believe flat or incline presses can be most beneficial to overall strength when done properly. Now, more and more scholastic and collegiate strength coaches are seeing the value of these two overhead movements and adding them to their players' programs. Similarly, CrossFit athletes are putting weight overhead in their quest for total fitness.

Everywhere you turn you'll see ads pushing some product, exercise gadget or video that claims to enhance core strength. "Core strength" has become a trendy phrase. But overhead lifting makes all the groups that constitute the core a great deal stronger in a manner few other exercises can match. Elevating a loaded barbell overhead and holding it in position for five or six seconds strengthens the muscles and attachments of the arms, shoulders, back, hips and legs.

Technique Depends on Strength

Some think they need a coach to teach them the jerk. Certainly a coach who knows his stuff is an asset, but I taught myself how to jerk by looking at photos in magazines and watching others perform. I practiced the form until I knew I was doing it right: the bar would float upward in the proper groove to lockout. All my fellow lifters in the '50s and '60s learned to do jerks the same way, which means you can as well if you have the desire.

I can, and have, taught rank beginners how to jerk. Yet, it is my contention that an athlete will be able to learn the jerk much more easily if he or she spends some time strengthening the shoulder girdle and back, plus the hips and legs. Use squats for the hips and legs, power cleans for the back and military presses for the shoulder girdle. The military press is more useful in this regard than inclines, flat benches or dips because it requires that the bar be held in place overhead at the conclusion of each rep. This helps the athlete to get the feel of supporting a heavy weight overhead and also strengthens all the muscles that are part of that supporting process.



The jerk is a combination of strength and technique. If you lack either one, the iron will probably hit the floor.

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While the arms pay a much bigger role in pressing than they do in jerking, they still need to be strong in order to control and sustain a heavy weight overhead. A press is done more deliberately than a jerk, so it's more of a pure strength move. That's a good thing when trying to build a solid strength base. Pressing heavy weights also builds strength in the back, especially the higher portion. This is very valuable when jerking maximum loads because those larger upper back muscles are then capable of supporting a great amount of weight.

There are other benefits from pressing prior to learning how to jerk. Pressing teaches the proper line in which the bar needs to travel upward. This is the same line used in jerking. When someone learns to press, he or she knows how to position the bar properly across the shoulders. This is the same for the jerk, although the positioning of the elbows is often different for some athletes in the two lifts. I'll comment on this a bit later on.

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So in preparation to learning the jerk, spend six weeks or a couple of months honing your form on the press and moving the numbers up. If you focus on improving the press and increase your best by 40-50 pounds, it's going to be much easier for you to do jerks correctly because your upper body is going to be considerably stronger. The same holds true for your back and lower body because you'll be hitting your squats and power cleans hard at the same time you're leaning on your presses.

A truism that many often forget is that technique on any exercise is directly dependent on strength. Walking is a learned physical skill. In order for a toddler to toddle, he must first become strong enough to support himself on his feet and move forward. A patient recovering from hip or knee surgery has to relearn how to walk and can only do so after he or she has regained a certain amount of strength. So the stronger you are, the easier it will be for you to master the technique in the jerk.

Skip the Split Step—For Now

There are two ways to jerk a weight from your shoulders to a locked-out position overhead: push jerks without moving your feet or with a small skip to the side, and splitting your feet fore and aft. Both styles are effective and legal in competitions. It's mostly a matter of which one suits you the best.

Even if an athlete has decided on the split style, I still start him or her with push jerks. One of the most difficult parts of learning how to jerk is the start. You have to utilize your legs and hips to propel the bar upward. This is quite a contrast to overhead pressing, where the shoulders and arms assume this responsibility. In pressing, the primary groups are in the shoulder girdle. In jerking, they're in the hips, legs and back.

Push jerks force you to focus on those more powerful groups and will teach you to establish a precise line of flight without having to think about moving your feet. While teaching this exercise, I do not want the athlete to move the feet at all. I want him or her to learn to drive the bar just as high as possible in the correct line while maintaining a perfectly erect upper body, then locking it out.

Initially, I have the athlete drive the bar upward and lock it out without re-bending his knees to rack the weight. Of course, this means using light weights, but that's fine. I want the athlete to establish a pattern of driving the bar just as high as possible, then following through to the finish. Once this is established, more weight can be used and foot movement and re-bending of the knees is permitted.

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You want the bar to move up, not away from you, so an erect torso is critical to jerking.

Your grip for the jerk will be the same used for cleaning. After you clean a weight, either by power cleaning or full cleaning, you don't want to have to alter your grip for the jerk portion of the lift with a heavy weight lying on your shoulders. This is extremely awkward and will change the starting position.

I want to note that inflexible shoulders will pose a major problem for those trying to push or split jerk. The very first step for many athletes is to do loosen tight shoulders because when an athlete has stiff, unyielding shoulders, he or she cannot rack the bar properly nor lock the bar out correctly overhead.

You can use a towel, a piece of rope or a stick. Hold it over your head and rotate your shoulders back and forth. As the muscles and attachments warm up, assume a closer grip and work them more. Do this prior to doing jerks, while you're doing them and after you've finished the workout. If you happen to have very stubborn shoulders, stretch them again at night. They will loosen up if you persist.

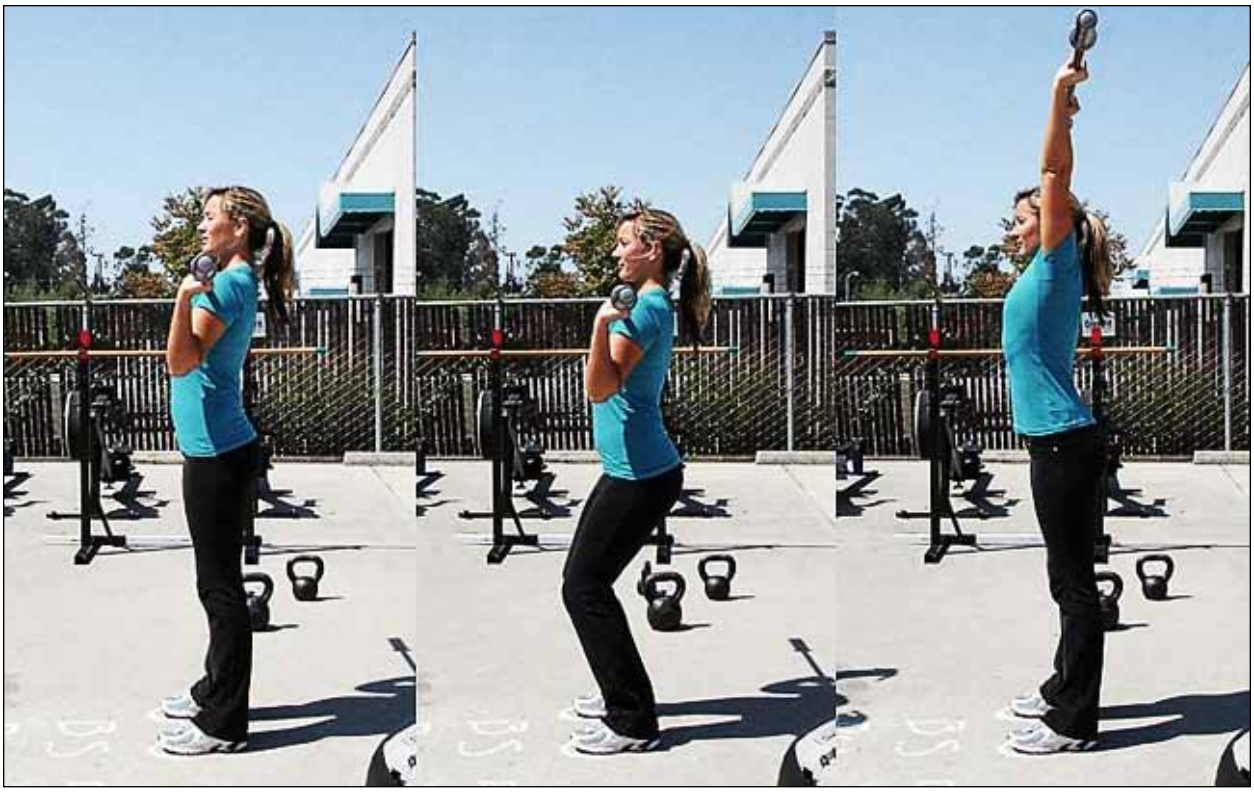
In this same vein, if you are doing a great deal of bench pressing, you need to change your routine if you want to be successful in learning how to jerk. Doing benches too often is the primary reason most strength athletes end up with tight shoulders. That's why the majority of Olympic lifters avoid benching entirely.

Another problem area for many when they first start racking heavy weights across their shoulders is the wrist or wrists. Two ideas will help. First, should there be a lot of pressure exerted on your wrists when you rack a weight, either to press or jerk it, tape or wrap them securely. Second, stretch out your elbows to take some of the stress off your wrists. You can do this alone, but having someone assist you is more efficient. Fix a bar inside a power rack, grip it firmly, then have a training mate elevate your elbows, one at a time. Once it hits a sticking point, continue to exert tension on the elbow for another six or eight seconds. Switch to the other arm, then do them together. While the training mate is pushing up against the elbows in a gentle but firm manner, the athlete must keep the torso erect. The procedure doesn't work when the athlete leans back and away from the discomfort—and, yes, there is discomfort, particularly at first.

The Dip: It's Shallower Than You Think

After you've loosened your shoulders and elbows and taped your wrists, you're ready to proceed. Using a clean grip, fix the bar across your frontal deltoids. It should not be set against your clavicles (collarbones) because it's painful, and doing so repeatedly can damage those bones. It's also a weaker starting position than if the bar is locked on your front delts.

A good rack position is easy to accomplish. Merely lift up your entire shoulder girdle by shrugging and you will have a nice pad of muscle to cushion the bar as it lies across your shoulders. Your upper arms may be set a bit higher for the jerk than the press. I've seen some lifters who had their triceps parallel to the floor, but that was not



The dip is not a quarter squat. It has to be shallow if you want to generate big power.

the norm. Most had their elbows a bit higher than what they used for the press, but not much. However, you don't want your elbows to be too low because this will cause you to drive the weight out front and you don't want that.

Before making a move, tighten your entire body from your feet to your traps. You must have a rock-solid base when you jerk. If any muscle group is relaxed, that will adversely affect the lift. Now you're ready for the dip.

Jerks can be done after you power or full clean a weight, but while learning the lift, it's best to take the weight out of a power rack or staircase squat rack. Once you have it set properly, lock the bar down into your shoulders. Make it part of your body. This will give you more control on the initial drive. You feet should be shoulder width apart, with toes straight ahead. Before making a move, tighten your entire body from your feet to your traps. You must have a rock-solid base when you jerk. If any muscle group is relaxed, that will adversely affect the lift. Now you're ready for the dip.

Learning how far to dip down will take some trial and error. You need to dip low enough to allow you to put a mighty thrust into the bar, but not so low that you cannot do so effectively. As a rule of thumb, the shorter the dip the better. You don't want it to resemble a quarter squat. If you dip too low, you'll find it's much harder to accelerate the bar upward and drive it in the correct line. A really low dip usually forces the lifter to lean forward, which will cause him to jerk the bar away from his body rather than straight up. The dip is a short, quick, powerful stroke.

It's useful to practice this move without a heavy weight on your shoulders. Use a broomstick or empty bar until you get the feel of what you're trying to accomplish. Remember that your upper body must stay rigidly straight, so contract your back muscles and pull your shoulder blades together. Drive the bar or broomstick upward to lockout. Don't bother re-bending your knees at this point. Just concentrate on a powerful start coming out of the dip and a strong lockout. When this goes smoothly, add weight and continue jerking the weight to arm's length without re-bending your knees or moving your feet. The key to making heavy jerks is in the start. Once you master that move, you're way ahead. Do this form of jerking for a session or two, then you're ready to put more movement in the lift and put more weight on the bar.

> It must be understood that jerking a heavy weight isn't just a matter of applying raw strength to the bar, like performing a squat or deadlift. It's knowing how to utilize several athletic attributes, such as timing, co-ordination and speed along with strength.

Pulling Under and Pushing Back

After dip and drive, the bar should soar up over your head. At the moment the bar hits its apex, dip down again and lock the bar out, then straighten your knees and finish the lift. As you re-dip, don't let the bar float free. Rather, push up against it forcefully. This helps keep the bar in motion and allows you to maintain control of the line of flight. You should be high on your toes at the end of the thrust and your entire body erect. If you aren't in that position, you're giving away power, and being on your toes lets you move back to a solid base much faster.

Efficient jerking requires a vertical bar path. Any deviation can rob you of power and ruin the lift.

When the bar is locked out overhead, continue to push up against it. Merely holding a heavy weight overhead is passive, exerting pressure up into it is assertive and builds another level of strength. The bar should be directly over the back of your head. That places it over your spine and strengthens all the muscles that support the spine, along with the hips, glutes and legs.

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Although driving the bar straight up and close to your face is a definite asset to the split style of jerking, it's an absolute necessity for the push jerk. If the bar jumps out front even a bit, there's no way for the lifter to bring it back in the proper line. A splitter at least has a chance to save the lift. A push jerker does not, so time must be spent practicing the start or gains will be minimal.

Lower the bar back to your shoulders in a controlled manner if possible. This can't be done with really heavy weights, but try anyway. Cushion the descending bar by bending your knees slightly. Then stand up and make sure your rack is set correctly and your feet are where they should be. Take a breath and do another rep. Breathing isn't the factor in jerking as it is in pressing because the jerk is an explosive lift that only takes a second or two to complete. So breathe just before the dip and drive and again when the bar is locked out.

The final step in doing a push jerk with a heavy poundage is to move your feet after the drive. Again, you'll be high on your toes, which makes movement easier. This move is all about timing and makes the jerk a quick lift. The instant you've finished driving the bar upward, move your feet. Just a quick skip to the sides is enough. And it has to be done aggressively. If there's lag time, the bar will falter or stall and you will have no way to set it in motion again.

It must be understood that jerking a heavy weight isn't just a matter of applying raw strength to the bar, like performing a squat or deadlift. It's knowing how to utilize several athletic attributes, such as timing, co-ordination and speed along with strength. This is exactly why the jerk is such a beneficial exercise for athletes in a wide range of sports. Whenever someone employs these attributes over and over in strength training, they naturally carry over to other athletic activities.

I recommend doing jerks in sets of no more than three reps, except for the lighter warm-up sets. The reason: when the bar is returned to the shoulders after each rep, it always slips out of the ideal position just a tad. When the weights get near maximum, a tad is a lot, so by the third rep the bar may be way out of position. It's quite difficult to readjust it because the lifter is tired from the previous reps. In some cases, I limit the reps to two so the lifter can maintain a perfect starting position. Then, if more work is desired, I just add in extra sets. That's far better than having the lifter do reps where the bar is not set correctly on the shoulders. When an athlete jerks from a poor starting position, he or she has to do the entire lift differently. This breeds bad form.

Pros and Cons of the Split Step

There are advantages and disadvantages in using the split style in the jerk. On the plus side, the drive doesn't have to be as precise. A bar that runs out of line, either too far forward or slightly back, can be guided back into the correct position because one foot is out front and one back. And a lifter can go lower in a split than he or she can by merely dipping under the bar. On the negative side, foot movement is much more involved than it is for the push jerk. Placement is critical to success.

Grip, rack and posture are the same for the split as the push jerk. The dip and drive are also identical. The difference is the split itself, where one foot moves forward and the other backward. The feet have to move fast, and they have to land correctly and at the same time. All the while the bar has to be kept under control. It's a high-skill move and can only be achieved with lots of practice.

> Not only do your feet have to land in a specified place, but they also have to get there fast and at the same time. Slam your feet into the platform, and if you hear "bang-bang" rather than just one "bang," your timing is off and you need to correct that flaw.

Which foot moves forward? The answer will reveal itself the very first time you try a split jerk. Bill March had the unusual talent of being able to extend either foot forward, but he was a unique athlete. Try moving both feet forward and you'll discover which feels more natural.

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Achieving perfect foot placement depends on a number of factors, the most important being your foot positioning at the start. Your feet must be exactly beside each other, shoulder width apart and toes straight ahead. From there, they move straight back and straight forward. If you start with a wider foot placement, your feet will tend to swing inward, and if you start with a narrow foot placement, your feet will end up on a line and severely affect your balance when you lock out the bar and attempt to recover.

Your lead foot will only travel, well, a foot—no more than the length of your shoe. Your other foot will go much farther because it's your lever leg. With moderate weights the back foot may only move a short distance. When the weights get demanding, forcing you into a deeper split, it may move as much as two feet or more. However, you don't want to get in the habit of going into an extremely deep split because that will make recovery much harder, or even impossible.

Another mistake many make is allowing their entire back foot to land on the platform, or they turn it to one side. Only the toes of the rear foot should make contact with the platform, and the foot needs to be straight. Either fault will cause a balance problem. The front foot is planted solidly and your knee should extend slightly out over the foot. Ideally, your feet will hit in the exact same spot on every rep. That's what you want, but it doesn't happen overnight. It takes practice, and a great deal of it. One way to learn is to take some chalk and mark the platform where you want your feet to be in the split. Then, after you do a split, see how close you came to hitting those marks.

There's more. Not only do your feet have to land in a specified place, but they also have to get there fast and at the same time. Slam your feet into the platform, and if you hear "bang-bang" rather than just one "bang," your timing is off and you need to correct that flaw.

As if that isn't enough, your feet should hit in the split at the same instance that you're locking out the bar. If your feet hit at different times, that will have an adverse effect on your base and balance. If your feet hit before or after the act of securing the bar overhead, it will usually cause your elbows to bend and this will result in a disqualified attempt. Of course, if you're just doing jerks as a dynamic exercise and have no intention of ever entering a contest, don't worry about that form mistake. If you have plans of competing in an Olympic meet, you have to learn to get the timing down. Re-bending the arms after the bar is locked out or pressing a weight to lockout is not acceptable.

Also, you must wait until you have completely finished the drive before moving into the split. You must put enough thrust into the bar so that you have time to make the move. That means you need to be high on your toes with your body erect before you switch your keys to the split portion of the lift. When you move, you must be a blur. I loved watching proficient jerkers. They would take

Don't let the bar control you: drive your shoulders into your ears and push against the weight.

their dip, then in less time that it takes to blink an eye, the bar would be locked out and they would be recovering from the split. A good key to think of as you're moving into the split is to slam your lead foot into the platform rather than just placing it there. It will help you move both feet much faster and will also establish a more solid bottom position in the split.

One more note about the rear leg. I know many top lifters bend their leg in a split, but your foundation will be more solid if you keep it straight, or as straight as you can. Those who can get away with this are always exceptionally strong. Most aren't in that category.

As soon as you split and have the weight locked out, don't hesitate in that position. Recover right away. Lingering in the bottom of a split can only cause trouble.

Your rear foot should move first. Should you slide your front foot back first, it will leave the bar dangling over thin air. With moderate weights, bring the rear foot forward a few inches, move your front foot just a bit, then you should be able to stand up without any difficulty. With max poundages you may have to slide your back foot forward a couple of times before moving your front foot. Of course, if you've only taken a shallow split, the recovery is a snap.

While you're recovering, you must keep pushing up against the bar. Exert pressure into it and think about stretching upward as you keep your entire body as tight as possible. Stand up, hold the bar over the back of your head for a few seconds, then lower it just like I suggested for the push jerk. Reset and do the next rep.

Pick a Style and Master It

Drilling with light weights or even a broomstick is quite helpful in learning the timing, speed and co-ordination required to perform split or push jerks.

Which style to use? The one that feels right, or the one you're better at. The Hungarian middle-heavyweight Arpad Nemessanyi was one of the few lifters at the '68 Olympics in Mexico City to use the push jerk. Through an interpreter I asked him why he used that style. The reply? "I can do more." It's basically that simple.

The strength gained from jerking heavy weights is extremely beneficial to a wide range of athletes and particularly useful to throwers in track and volleyball and basketball players who need vertical strength to excel. In addition, jerks are an asset in nearly every athletic endeavor I can think of.

When done perfectly, the jerk is an aesthetic combination of power and grace, and that's why so many athletes take to them so readily. They're much more than just a strengthening exercise. They're feats of strength that require a very high degree of athleticism. Agility, timing, quickness, co-ordination and determination are needed in order to jerk a heavy poundage.

Learn how to do the lift correctly, whether you select the push or split style. Diligently practice your technique. Then you'll be ready to advance to a higher level of functional strength.

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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 Mayague, 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.