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Building A Strong Shoulder Girdle

Bill Starr explains how to create a strong, balanced upper body.

By **Bill Starr** **August 2011**

All images: Staff/CrossFit Journal

Strong shoulders are beneficial to every athlete because they play an active role in every athletic activity. Even in sports such as soccer, where the athletes do not use their arms to handle the ball for the most part, strong shoulders are still important because they lower the risk of injury from impact with other players and the turf.

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Those participating in any contact sport understand all too well the necessity of keeping their entire shoulder girdle strong. Sports which utilize the arms a great deal—baseball, football, lacrosse, basketball, volleyball, swimming, all the field events in track, and both powerlifting and Olympic lifting—rely on having strong shoulders and arms. I include the arms in the shoulder girdle, as well as the upper part of the chest and back.

A Brief History of the Press

There was a time in the not-so-distant past when everyone who lifted weights possessed wide, powerful shoulders. Bodybuilders were actually strength athletes back in the '40s, '50s and '60s, and all of them believed wide shoulders added to their physiques. And they were right. Look at the photos of John Grimek, Steve Stanko, Vern Weaver, Val Vasilef, Serge Oliva, Bill Pearl and Marvin Eder. They had shoulders like barn doors, and they were not just window dressing. Those guys were extremely strong. Stanko was the first athlete in the world to total 1,000 lb. in the three Olympic lifts prior to becoming Mr. America. Grimek was a member of the 1936 Olympic team before he won that title twice. All the others won numerous Olympic contests while they competed for the bodybuilding titles at the same time.

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Often forgotten, the incline press can be found in Bill Starr's upper-body programs.

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The reason why all these athletes in a wide variety of sports possessed such imposing shoulders is because they did a great deal of overhead lifting, especially pressing. In fact, the military press was the standard of strength for everyone who lifted weights for whatever reason. When someone wanted to know how strong you were, he would ask, "What can you press?" One of my first goals when I began weight training was to press body weight. Once I'd achieved that, I moved that goal to pressing 200 lb., and throughout my lifting career I continually elevated the standard for the press. As a result, my shoulder girdle got stronger and stronger.

Now, the standard for strength is the bench press, and very few athletes even include military presses in their routines any longer. So what happened? A series of events that occurred almost simultaneously in the early '70s. The International Olympic Committee dropped the press from official competition. Joe Weider took control of bodybuilding away from the A.A.U and got rid of the athletic points, which meant contestants no longer needed to enter lifting meets, and the first exercises they dropped were the press, snatch, and clean and jerk—all overhead movements. Powerlifting gained a strong foothold, and the bench press was the test for upper-body strength. Finally, weight training for athletes emerged in force, and the primary shoulder-girdle exercise for them was also the bench press, primarily because coaches thought it was safer (which wasn't true) and it was easier to teach (which was true).

So in a very short span of time, the military press virtually disappeared from weight rooms, as did all the other forms of overhead lifting—jerks, snatches and push presses. All weight trainers and bodybuilders cared about was the flat bench, which is not nearly as useful in building a strong shoulder girdle as the overhead movements.

To add to the problem, few included any specific exercise for their upper backs. When the Olympic lifts were included in their programs, they did plenty of exercises that hit their upper backs: snatches, cleans, high pulls and shrugs. That changed to just doing deadlifts or, better yet, working on the expertly designed machines that emerged on the scene.

And this is why you rarely see anyone training in a weight room who has broad shoulders anymore. Even when they possess large arms, they aren't in proportion to their shoulders, and most have that book-bag slump simply because their upper backs are not strong enough for them to maintain an erect posture. The shift in the way athletes and those training for fitness lift has been dramatic in the past few decades, and not for the better. Problem after problem has emerged, such as a rash of rotator-cuff injuries, as well as injuries the shoulder joints themselves.

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When the military press was the primary shoulder-girdle exercise, rotator-cuff tears were unheard of. In fact, the majority of us didn't even know where the muscles were located, and they were not even mentioned in kinesiology and applied anatomy texts. Now a multitude of shoulders are being hurt due to the over-working of the flat bench without any corresponding exercises specifically for the upper back, primarily the traps. This is simply a matter of disproportionate strength, and, happily, it can be corrected simply by making some changes in your strength program.

In CrossFit, the overhead press is making a comeback in a big way.

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Upper-Body Balance

While I do start all my athletes, male or female, off with the flat bench, I move them to overhead movements very quickly. Actually, I much prefer to start most athletic teams with the incline bench press because it applies more directly to their sports, especially basketball, volleyball, lacrosse and baseball. But all the coaches insist on testing their players on the bench press, so I have to include it. Not that I'm anti-flat-bench. I believe that exercise has a part to play in building a stronger shoulder girdle. It's only troublesome when it's overworked to the exclusion of the other useful shoulder-girdle exercises.

What an athlete should be trying to achieve when putting together a routine to strengthen his upper body is balance. All angles and ranges of motion that the arms move in during practices and games should be made stronger. So my programs consist of flat benches, incline benches, overhead presses and dips. Those movements will hit every group in the front of the body very nicely. Then, to make sure there is more balanced strength in the entire shoulder girdle, add in one or more exercises for the upper back. These will strengthen the all-important traps, as well as the lats to some extent, and also the hard-to-hit rear deltoids. The lifts I use are as follows: power cleans to begin with, then power snatches, snatch- and clean-grip high pulls, and dynamic shrugs.

The Press

I'll start with the military or overhead press because it will need more attention than the other exercises. Few know how to do it properly. One thing I always liked about the military press is it can be done safely without the need of any spotter or assistance. This allows an athlete to do the movement at home if he so desires. Should he not be able to complete the lift, he merely lowers it back to his shoulders, or, if he is spent, he can drop it to the floor.

I've covered form for the overhead press in previous articles for the *CrossFit Journal*, but a review is never a bad idea. While you can either power-clean the weight or take it from a rack before pressing it, I have beginners start by taking it from a rack. That way, they can concentrate completely on the press and not be concerned with cleaning the weight. The first thing to learn how to do is fix the bar across your frontal deltoids. You don't want it to be on your collarbones. One, that's painful. And two, if the lowered bar bangs against those bones over and over, they can be bruised, and this is not only painful but can also eventually be injurious.

To do find the right spot for the bar, simply shrug your traps and elevate your entire shoulder girdle an inch or two. That will provide you with a muscular ledge on which to place the bar. Don't just let the bar lie there; pull it down into your frontal deltoids. Your elbows shouldn't be high, as in parallel to the floor, or very low. They should be somewhere in between. The best grip for most can be found in this manner: extend your thumbs on an Olympic bar until they touch the smooth center. Make sure you grip the bar firmly with your thumbs wrapped around the bar. No false grips.

Because your wrists will be taking a good deal of pressure during the press, it's a smart idea to tape them. This will also help keep them straight throughout the up and down movement of the bar, and they absolutely have to be straight. Cocking or twisting them around while the bar is in motion is an invitation to injury.

Relaxed shoulders won't give you a good "shelf" for pressing.

Elevate the entire shoulder girdle to get the bar to sit on your delts.

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Once you have the bar locked on your shoulders and your arms are in the correct position, step back from the rack and set your feet. They should be shoulder width with the toes forward. Try to grip the floor with your feet. At York, we used the analogy of a bird gripping the limb of a tree. That's what you want to attempt to do. That will help you create a solid base from which to press the weight. Lock your knees and keep them that way throughout the lift. Tighten all the muscles in your body from your toes to your traps. Now, bow your midsection forward just a tad. When you feel like you're in a perfect starting position, drive the bar off your shoulders in a straight line very close to your face. The bar should nearly touch your nose. As you do that, uncoil and continue to keep a steady pressure on the moving bar. As it passes your forehead, move your head and body under the bar. Don't lean back. This will cause the bar to either run forward or backward and carry it out of the correct line of flight. You want to try and keep the bar over your power base, the hips, all the way from start to finish.

Although the overhead, or military, press is easy to learn, it is difficult to master.

Breathing: just before you drive the bar off your shoulders, take a deep breath and hold it until you've moved through the sticking point or have locked it out. Don't inhale or exhale during the execution of the press. Either action causes your diaphragm to relax and that, in turn, creates a negative intra-thoracic pressure. In simple language, if you breathe, you diminish your power. Once the bar is firmly locked out, breathe, but continue to apply upward pressure in to the bar. Think about pushing it even higher, and hold it there on your final rep for five or six seconds. That forces all the muscles responsible for supporting and controlling the weight overhead to work even harder and will strengthen nearly every group in your entire body from your traps to your feet. Those who are constantly looking for a useful core exercise will find this dynamic hold at the end of a press to be perfect for their needs. It really hits all the groups that surround the spine—as many discover the morning after a heavy press workout.

Although the overhead, or military, press is easy to learn, it is difficult to master. When the weights get heavy, and that's a relative term of course, there is a great deal of timing, coordination and balance involved. And gains do not come rapidly on the overhead press. You must be determined to stick with them even when you stall out at a certain weight.

As with most exercises, I start everyone out with 5 sets of 5 reps. However, once form is at least adequate, I have them move to this set and rep formula: 3 sets of 5 as warm-ups, then 3 sets of 3 with the same work weight. After they have done that for a month or six weeks, I have them add in another work set, and a bit later, yet another. At that point, I also have them do a back-off set of 8 or 10 to further expand their workload. Every four weeks, I have them go after a max single. Breaking a PR is very motivational and helps them push through numerical mental barriers.

Give the press priority while you're learning the form and moving the numbers up.

I should mention a couple of other things in regards to the press. It's a good idea to wear a belt for these. It doesn't have to be a thick or wide one. In fact, the basic leather belt is the best. It will give you some support but, more importantly, will give you feedback as to whether you're leaning backward too much, and it will keep your lower back warm, which is very beneficial. However, do keep in mind that the belt will not save you from an injury if you use sloppy technique.

Secondly, always take some time to warm up your shoulders before starting your press workout. This goes for every pressing movement, and dips as well. Two sets of 20 lateral and frontal raises with dumbbells will do the trick.

There are two common mistakes beginners make in the overhead press. The first is following the flight of the upward-moving bar with their eyes. Your eyes should be looking straight ahead from start to finish. If you look up to see where the bar is, it will force you to lean back, and this has two negative results: it will carry the bar out of the correct line and will put undue stress on your lower back. The other error done by so many beginners is placing one foot out ahead of the other rather than having them on the same line. This, again, is potentially troublesome to the lower back because the stress is not evenly distributed. Should you happen to lose your balance and have to move one foot or both, it's best to end that set right there and start over after a short rest.

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Dips

My second favorite exercise for building strong shoulders is the dip using weight. This movement, like overhead presses, was a staple for every bodybuilder, strength athlete and competitive lifter when I first got interested in physical culture. When I came across my first set of dip racks and started doing as many as I could at the end of my workouts, my overall shoulder strength shot up, so I was a believer from the very beginning. But, like many other strength exercises, the weighted dip fell by the wayside when all the machines came on the scene. Rarely do I even see any dip bars in gyms and fitness facilities any more. They're not shiny and require hard work to get results, and this doesn't fit the mentality of gym owners and members with today's easy-is-better-than-hard attitude.

Many are reluctant to take the plunge with dips because they're not able to do very many of them. That's OK. It doesn't matter where you start out on any exercise, only where you end up. If you can only do 5 reps, use that as your starting point and try to add at least 1 rep every time you do them—which should be at every session until you get considerably stronger on the exercise. Do 4 sets of as many as you can do and, over time, you will arrive at 4 sets of 20. It isn't important how long it takes to get to that goal, just that you persist and get there.

After you can do 4 sets of 20 body-weight dips, it's time to add weight.

At that point, you need to add weight to the movement. Tuck a 10-lb. weight between your knees and go back to work. When you're able to handle that amount of resistance for 4 sets of 20, move on to a 20-lb. dumbbell. Keep climbing up the ladder until you reach 80s, 90s or the 100-pounders. I know it's possible to do dips with a 100-lb. dumbbell tucked between the legs because I was able to do that, and I'm in no way, shape or form a superman.

After that, dumbbells are extremely difficult to hold, so it's time to invest in a dip belt. Or figure out how to use two lifting belts to hold bigger dumbbells. However, the dip belt is much easier to deal with and worth the expense. Dealing with weights over 100 lb. on a set of dip racks set high off the floor can be daunting. Climbing up to the bars is difficult enough, but getting down after an exhausting set is often a risky task.

The solution: pull a bench in close to the dip racks. Not so close that the weight will hit it during the exercise, yet close enough for you to be able to step off it and assume a strong starting position on the bar. Then after you have completed your set, simply step back onto the bench.

Squeeze your legs around the weight and go up and down in a controlled manner. If you try and rush the movement, you'll start swinging.

The two most important points to know about weighted dips is that the weight has to be locked in tightly to your body and it cannot be allowed to swing during the execution of the exercise. Squeeze your legs around the weight and go up and down in a controlled manner. If you try and rush the movement, you'll start swinging. Should the weights start swinging like a pendulum, you should stop, step back on the bench and regroup. Swinging with a heavy weight strapped to you can be very traumatic to your wrists, elbows and shoulders, so do not allow that to happen.

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The flat bench should be done with control: no bridging, bouncing or squirming.

One other form point: whenever you hit the sticking point, look up and lean back. That will help to keep the weight right under your shoulders, which is where it needs to be. I find it beneficial to change the sets and reps at every workout on weighted dips. Do 4 sets of 8, do 5 sets of 5, then plan a session where you do 2 warm-up sets of 5 followed by 3 or 4 sets of 3. Once a month, go after a max single, and after you have been doing these for a few months, start adding in a back-off set of as many as you can do. The back-off set should be 50 lb. less than you handled on your top-end set.

Benching

Dips and presses go hand-in-hand to build greater shoulder strength. One involves pushing a weight upward, and the other involves pushing downward. Now all you need is to add in incline and flat benches, and you have all the bases covered. If you have an incline bench where the angle can be adjusted, use the steepest angle possible. This will help strengthen those muscles high on your chest, which are used much more so than those lower down. The higher angle also works the frontal deltoids better than at a lower angle and, of course, you'll be hitting those groups with the flat benches.

I won't go into form on either of these two styles of benching other than to say that perfect technique will yield greater results than raggedy form. Do each set precisely, which means pausing the bar for a second or more on the chest and not bridging or squirming around on the bench. One of the main reasons I prefer the incline over the flat bench is that it's nearly impossible to cheat on the incline. Try to rebound the bar and it will jump forward. Try to bridge and you will find that it's nearly impossible.

Five sets of 5 alternated with 3 sets of 5 followed by 2 or 3 sets of 3 works well for both the incline and flat benches. And, as I suggested with the dips, go after a max single about once a month.

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Work the Back

While all of the aforementioned exercises do work the upper back to some degree, especially the overhead press, you will still need to do something specific for that area in order to have a balance of strength in the shoulder girdle. And all the groups have to be worked extremely hard to stabilize the shoulder joints.

I start all my athletes off with power cleans, and this helps to maintain that balance from the get-go. Next, I teach them the power snatch, which is extremely good in this regard because the bar has to be pulled higher than in any other exercise, thus making the muscles of the upper back work even harder. Plus, those long pulls bring the rear deltoids into play, and they're a difficult group to strengthen.

The long pulls of the power snatch bring the rear deltoids into play, and they're a difficult group to strengthen.

After good form has been established on the power clean and power snatch, high pulls can be inserted into the routine using those two grips. The high pulls can be done with much more weight than the power movements, and this is what you want—to overload the groups involved, which includes the traps, lats and the rear delts.

I find that a good way to bring the high pulls into a workout is to do them right behind power cleans and power snatches. This works well because the muscles that will be doing the work are thoroughly warmed up and the line of movement is already imprinted in your mind. Use straps on these so that you can give your full attention to pulling the bar just as high as you can without having to worry about your grip. I suggest doing the high pulls in sets of 3. This will allow you to concentrate fully on your technique. Your goal should be to use 50 lb. more in the high pulls than you handled on the power cleans and snatches.

The final exercise for building a stronger shoulder girdle is the shrug, using both snatch and clean grips. This is the ultimate overloading exercise for the upper back. But in order for them to be effective, you must pile on the weights and pull just as high as you can on every rep from the very beginning. Again, use straps. These can be done inside or outside a power rack. Beginners should stay inside until their form is exact.

The power snatch requires a long pull, which is perfect for strengthening the muscles of the upper back.

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The initial warm-up set should be pulled high over your head—even so high that the bar hits the crossbar at the top of the rack. This will establish the pattern you want for all the rest of the sets. Fives work well, and your eventual goal should be to handle 585 lb. for 5 with the bar jumping at the top. That's six 45-lb. plates on each side.

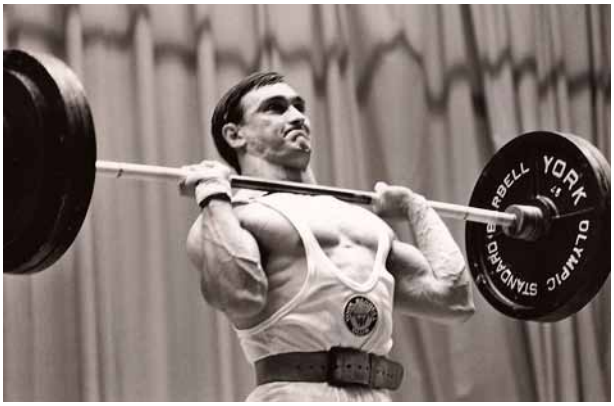
> There are few things in life that give me as much pleasure as waking up with sore traps. It tells me that my upper back is stronger.

The true test to determine whether you used enough weight on your shrugs is whether your traps are sore to the touch the next morning. If they're not, add weight. There are few things in life that give me as much pleasure as waking up with sore traps. It tells me that my upper back is stronger, and that is very important to me even though I no longer participate in competitive sports. Keeping that part of my body strong—and that includes my neck—means that I can do a great many things that involve my shoulder girdle, which, when you think about it, is involved in just about any movement you do during the day.

For aspiring athletes in any sport—football, baseball, soccer, basketball, lacrosse, volleyball, swimming, track and field, and all the rest—building and maintaining a strong shoulder girdle is even more important. Not only will it help them to perform better in their chosen sports, but it will also greatly reduce the risk of injury to their shoulders, back and neck.

Can't ask for much more than that.

✦



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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