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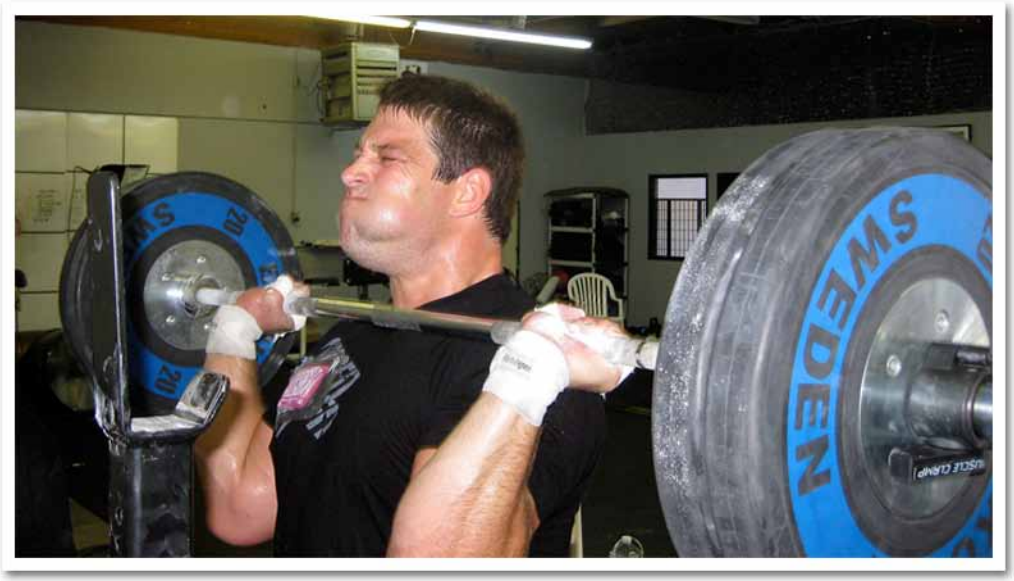
Overhead Is Rising

Misunderstood, often-ignored, and unfairly tarred as unsafe, overhead exercises like presses, jerks, push presses, and push jerks can help a wide range of athletes build wide, powerful, and flexible arms, shoulders, and back. Here's how to do them right.

Bill Starr



Overhead strength provides functional power to athletes in every sport imaginable, yet the lifts used to build this strength have been largely neglected for a long time. In fact, since the bench press replaced the military press as the standard for upper body strength and overall strength in the early 70s, (see sidebar below, "Why the Overhead Died") overhead movements are often banned from strength training programs as being ineffective and unsafe.

If you ask me, that is simply wrong. In my opinion, the overhead press is not only safe when you do it right and safer than a flat bench press, it is capable of being a far superior strength and fitness tool for athletes. There are a host of reasons:

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WHY THE OVERHEAD DIED

Prior to the 1970s, everyone who trained with weights did a great deal of overhead work. In most cases, at least one-third of the routine was dedicated to those exercises. Strength-trained athletes, fitness enthusiasts, bodybuilders, and, of course, Olympic weightlifters always included several types of overhead lifts in their programs.

Yes, even aspiring bodybuilders did them. That's because nearly all the contestants in the top physique shows did presses and jerks, and many also added push presses and push jerks. They also snatched and clean and jerked. Why? So they could compete at Olympic meets and gain those much sought-after athletic points. Those five points often proved to be the difference between winning and floundering way back in the pack.

Then, in the early 1970s, several events occurred in rather quick succession that drastically changed the face of physical culture in this country, and proved to be the death knell for the overhead lifts except for those who participated in the sport of Olympic weightlifting. However, even this group of athletes was affected when the press was eliminated from official competition by the International Olympic Committee in 1972.

This decision ended up having far-reaching implications. The reason the press was dropped was because it was deemed potentially harmful to the lower back. However, those close to the sport knew the real reason the lift was suddenly no longer part of the competition and it had nothing to do with safety. That was no more than a smoke screen. Lifters were not injuring their backs anymore than they injured their shoulders, elbows, or knees. The press was eliminated because judging the lift had

1. "Convertible" strength

The strength gained from doing presses and other overhead exercises is applicable to more athletic events than any other shoulder girdle movement—especially those sports that require the athletes to extend their arms overhead, including basketball, volleyball, tennis, baseball, lacrosse, swimming, the field events in track (javelin, shot put), and nearly every position in football. Only interior linemen benefit from doing flat benches, whereas the backfield, defensive backs, linebackers, wide receivers, and tight ends use the strength gained from overhead work more so than the flat or even the incline bench. There are others, too, but you get the idea.

Overhead lifts are even more convertible to other lifting exercises. I knew of many Olympic lifters who were pressing 300 or more who could lay down on a bench and use 400 without any prior practice on that exercise. Conversely, I have never seen a 400-pound bencher be able to overhead press 300. Most are barely able to handle in the 225 to 250 range.

2. Proportionate strength

Overhead exercises develop a more proportionate strength in the shoulder girdle than any other upper body movement. Presses, jerks, push presses, and push jerks create wide, powerful arms and shoulders, with less emphasis on the chest muscles, which play a minor role in nearly every sport. Overhead work does hit the high portion of the chest—a good thing since that part of the pecs helps to stabilize the shoulder girdle.

3. More flexibility

Overhead exercises do not hinder shoulder flexibility. Rather, they enhance it—an important point for anyone participating in a sport which requires a high degree of shoulder flexibility, such as gymnastics, the martial arts, and wrestling.

4. Works back, hips, even legs

While most upper body exercises only work the groups that make up the shoulder girdle, overhead movements also strengthen the back, from the traps to the lumbars, and also directly involve the hips, glutes, and legs. Most do not think about how much the back is utilized during overhead lifts. That is, until they go though a strenuous overhead workout. Then it becomes quite clear. When I start an athlete on overhead presses or jerks, the area of his body that gets the most sore is almost always his back.

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become very erratic and inconsistent. Judging the newer style of overhead press, which was much more explosive than the traditional technique, became more subjective and varied from class to class, depending on who was sitting in the judges' seats. One group might be allowed to knee-kick the bar upward at the start and lay back to ridiculous extremes, while the very next group was required to do the lift in strict form. On the international scene, the press became a political football. A judge from a rival nation would turn down an attempt even when it was done in perfect fashion. When those in power determined they could no longer control the situation, they decided that it would be easer just to eliminate the lift than try to enforce stricter standards from the judges.

The early 70s saw the spread of strength training for athletic teams sweep across the country, especially for football, like wildfire. Even small high schools and Division III colleges had some sort of strength program. Those routines usually had three or four primary exercises for the back, hip and legs, and shoulder girdle. The exercise of choice for the upper body was the flat bench, not the overhead press. The reasoning behind this decision was based on: 1) the notion that the press was a risky lift and 2) it was much easier to teach the flat bench than the overhead lift. But the bigger of the two factors was certainly safety. School administrators and coaches wanted no part of exercise that an international body had determined to be unsafe. They were correct about the overhead press being more difficult to teach than the flat bench because it is. And since the majority of the strength coaches in that

5. Protects rotator cuffs

The area of the back that get the most sore is usually the middle or right over his shoulder blades. Gaining and maintaining strength in this latter area is extremely beneficial since this is where the muscles that constitute the rotator cuffs are located. Back when the overhead press was the primary upper body exercise, rotator cuff injuries were unheard of. We didn't even know there were such muscles. But when the bench press replaced the overhead press and the lifters failed to do specific work on their upper backs and therefore the rotator cuffs, injury rates soared for those small but critical muscles.

In this regard, I should add that the very best way to rebuild a slightly damaged rotator cuff is by doing overhead presses. Start with dumbells, gradually work up to the barbell and proceed from there. It takes a bit of time, but eventually you will be able to strengthen those small muscles. It sure beats the alternative of surgery.

6. Balance and good looks

The overhead lifts belong in the routine of every strength athlete—including bodybuilder. Presses, jerks, push presses, and push jerks build a more balanced and pleasing physique than other upper body exercises.

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time frame were really football coaches, they did not have the expertise to teach their players how to press the bar overhead correctly.

While this was happening, Joe and Ben Weider took control of physique competition with the lure of sizeable monetary rewards that were not offered by the A.A.U. or Bob Hoffman. One of the first moves the Weiders made was to drop the athletic points. That meant the bodybuilders no longer had any motivation to lift in Olympic meets, so they stopped pressing, snatching, cleaning, and jerking. This drastic change in training procedure had a filter-down effect on younger bodybuilders. If the top guys didn't do any overhead lifts, then they wouldn't either.

The early 70s also saw the emergence of the new strength sport of powerlifting, mostly because the bench press, squat, and deadlift were much easier to learn than the high-skill snatch and clean and jerk. Rarely did a powerlifter include any overhead lifting in his routine.

The final straw in the demise of the overhead lifts came with the introduction of many well-designed machines such as the Nautilus. Now a person could gain size, strength, and a higher level of fitness without having to deal with barbells or dumbells. At least, that's what the manufacturers and proponents of the equipment proclaimed, and a great many people bought the concept. Machine training was easier than working with free weights, and it seems the majority of the population is always eager to take the easy over hard.

OVERHEAD EXERCISE TUTORIALS

Correct form is absolutely key for all overhead exercises, whose balance component requires a much higher skill level and more practice than exercise performed closer to the core of the body. For the record, the overhead press is a safe exercise when done right. Those very few who did sustain some type of lower back injury while performing a heavy press did so because of leaning back excessively. Some were able to lean so far backward that the lift resembled a standing bench press. It goes without saying that this outlandish maneuver should be avoided, but the truth of the matter is, this move is almost impossible to achieve unless it's practiced for a number of years.

A slight backward lean is acceptable, even beneficial in helping to keep the bar over the base of power, yet in most cases, the athlete has trouble bowing his back at all. It's not a natural move. I've never had any athlete hurt his back doing an overhead press because of leaning too far backward. The problem is getting them to bow their backs in perfect timing and coordination with the drive and rapid follow through.

In regards to injuries, the bench press ranks the highest of all exercises in strength training, but no one has ever suggested that this popular lift be removed from any program. Ugly form is tolerated, even encouraged by strength and sports coaches so that they can boast of x-number of 300-pound benchers. Quite often, bad technique is coupled with gross overtraining on the bench and as a result, elbows, wrists, and shoulders pay the price.

Here's how to perform the various overhead exercises safely and effectively.

Military or Overhead press

This is an exercise that's easy to learn but difficult to master. In my 15 years of coaching at three universities, only two athletes were able to do a 250-pound military press, while I had several dozen who benched over 400—proof that pressing heavy weights overhead is really a high-skill exercise and takes a lot of training to achieve.

Feet first

Stand at shoulder width, with toes straight ahead and on a line. One of the most common mistakes beginners make is to place one foot out in front of the other. This is incorrect, because it creates a weaker base and it also places an unequal stress on the lower back.

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So after only a few years, the only group of strength athletes who continued to do any type of overhead lifting were Olympic weightlifters. And they, for the most part, just did jerks. Very few did any overhead pressing, which many strength coaches, myself included, believed to be a huge mistake. Those muscles and attachments used to press heavy poundages are the same needed to control and fix a heavy jerk overhead.

Editor's Note: Obviously, the full spectrum of overhead lifts are central to CrossFit's programming. In addition to the press, push press, push jerk, and split jerk, we incorporate thrusters, swings, overhead squats, and snatches. Coach Starr is referring to the predominant tendencies in Globo-gyms, bodybuilding, and the presently established strength and conditioning protocols for universities and professional sports teams.

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Hand and elbow position

For most, grabbing the bar with a shoulder-width grip works. Extend your thumbs so that they barely touch the smooth center of an Olympic bar. Naturally, those with narrow or very wide shoulders will have to alter their grips slightly, but a bit of trial and error will take care of that. Just remember, when doing any type of pressing movement, your elbows should always stay directly under your wrists. That means your forearms will be in a vertical position throughout the lift.

While learning this exercise, you can either clean the bar or take it off the rack. Either way is effective. Once you learn the proper form you might want to start cleaning the weights because it's actually easier to press a weight after it has been cleaned than it is pressing it after taking it off a rack.

Starting position

Fix the weight across your frontal deltoids, not on your collarbones. To do this, elevate your shoulder girdle to create a muscular ledge. Your elbows should not be high, as in parallel to the floor, or pointed downward, but set somewhere in between those two extremes. Your wrists must be straight and they have to stay locked throughout the lift. If this poses a problem, wrap or tape them. If the wrists are allowed to twist or flex even slightly, the power generated by the back, shoulders, and arms cannot be transferred into the bar efficiently.

Once the bar is set properly on your frontal deltoids, take just a moment to tighten all the muscles of your body. Begin with your feet. Don't just stand on the floor, but drive your feet down into it and think about gripping it with your toes. We liked to use the image of a bird sitting on a tree limb and gripping the limb as tightly as he could. Then move on up your body, contracting your thighs, glutes, back, and shoulders, and arms. Now ease your midsection a bit forward so that you're coiled like a spring. Your knees should be locked and stay that way during the press.

Maintain body position through the press

Look straight ahead from start to finish. Don't follow the bar's upward movement with your eyes, as many do; this will cause you to lean back and take you out of a strong pressing position. Until you learn the form in the press, drive the bar off your shoulders deliberately. This will

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enable you to use the correct line on every rep. But after you feel confident with the lift, begin driving the bar upward in an explosive manner. Think in terms of a boxing punch: quick and powerful.

The start needs to be close to your face with the bar almost touching your nose. The initial drive will carry the bar to the top of your head. Follow through immediately. Any hesitation will cause the bar to stall. As it passes the top of your head, don't lean away from the bar, but extend your head through the gap you've created and bow your pelvis forward while keeping your knees locked. These moves will keep your power base under the bar and allow you to use your levers more effectively.

Be aware that the bar will always try to run forward, especially when the weights get heavy. After all, the bar doesn't have a brain—it goes where you guide it. So drill on the movement until it climbs upward in the same line every time. As soon as you lock out the bar, bring your torso erect and push up into the bar and hold it for 5-6 seconds. This simple act activates all of those groups which are responsible for supporting weights overhead, including all of the back, hips, and legs muscles.

When the bar is locked out, visualize a line running directly upward from the back of your head. That's where you want the bar to be because that places it right over your spine and is the strongest supporting position there is.

The press, like any other exercise consists of a start, middle, and finish. These three segments must blend together into a continuous, fluid movement. After you drive the bar off your shoulders, follow through by applying more pressure into the bar and it will shoot through the middle range. When you do that, you'll find that the finish is much easier.

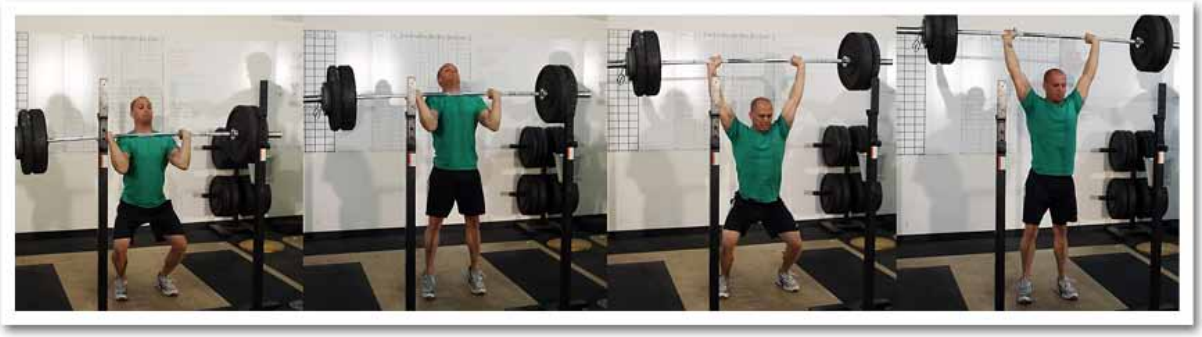
With emphasis on good form , you will quickly begin to feel the rhythm of pressing a weight overhead. A well-executed press will glide upward as if an unseen hand is lending assistance.

Coming down

Lower the bar back to your shoulders in a controlled manner. Never allow it to crash down, because that will not only bang up your shoulders and collarbones, it will also move the bar out of the ideal starting position and therefore adversely affect your next rep. When the weights get heavy, bend your knees a bit to cushion the descending bar. Then, relock them, tighten all your muscles again, get set, and do the next rep.

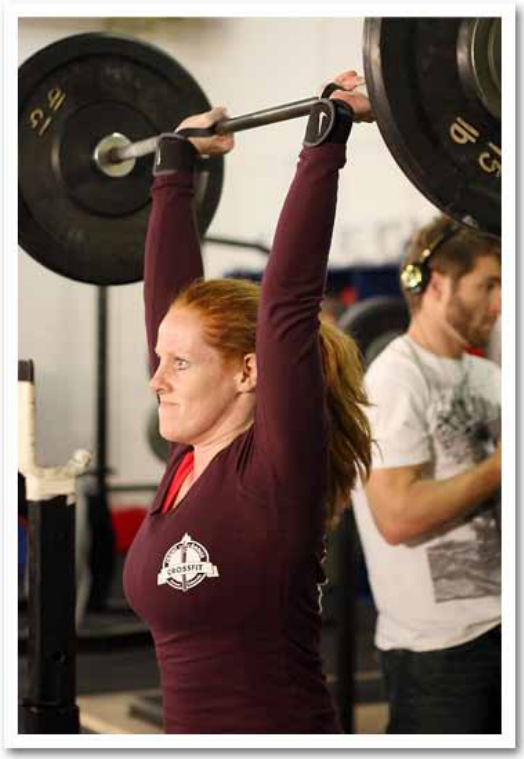
Breath control

In the beginning, while using light weights, how you breathe during the press doesn't matter much. However, as the poundages get demanding, breathing is critical. Just before you drive the bar upward, off your shoulders, take a deep breath and hold it until you have locked out the bar or at least driven it through the sticking point. Breathing while the bar is in motion diminishes your ability to apply force to it. This is because inhaling or exhaling causes your diaphragm to relax and this, in turn, creates a negative intrathoracic pressure. In other words, you no longer have a solid base when you breathe. Once you have the bar locked out, take as many deep breaths as you need, lower the bar back to the starting position, reset, and take another deep breath before your next rep.



Reps and Sets

During the learning stage, stay with five sets of five, starting with light weights and working up to as much as you can handle while using good form. Then after six to eight weeks of practicing the technique and building a firm foundation, switch over to this set and rep formula: two sets of five as warm-ups, followed by three to five sets of triples. Use the same weight on the threes and if you're able to make every rep, increase the top-end weight the next time you press.



Jerks

Jerks are currently done more frequently than overhead presses, because many high school, collegiate, and sports coaches have learned that his dynamic, high-skill exercise increases foot speed and coordination as well as strength. And, like the press, it is very convertible in terms of being able to utilize these athletic attributes in a wide range of sports.

While jerks can be taught when someone is just starting to train with weights, I have found that they do better if they wait until they have built strength first through overhead presses. After a couple of months doing those, an athlete is better able to perform jerks correctly.

Knee kick and fast feet

The fundamentals for the jerk are the same as for overhead presses—grip, foot, stance, and racking the bar on the frontal deltoids. The difference is that you'll use a knee kick to drive the bar upward and you'll be moving your feet.

Once you have your feet on a line and the bar racked solidly on your shoulders, take a short dip and drive the bar upward. As in the press, it should move close to your face.

Now comes the hard part. As the bar climbs upward, one foot moves forward and the other backward. They must move extremely fast and hit the platform at the same time. Bang them into the floor. Ideally, you will also be locking out the bar when your feet slam into the floor or platform. Your torso must stay erect. Any forward leaning will cause the bar to run out front and if it's allowed to travel too far, you will not be able to fix it overhead.

Which foot you move forward is purely an individual matter. It's like being left- or right-handed. Your lead foot will only travel a short distance, no more than the length of your foot. In contrast, your rear foot will move much further

LIFTING BELTS

The question invariably comes up as to whether athletes should wear lifting belts when doing overhead lifts. I recommend that they do wear a belt, but not for the reason most have in mind. A belt, no matter how wide or thick it may be will not prevent an injury if sloppy technique is utilized. However, a belt is beneficial in that it helps keep the lower back warm during a workout and this does reduce the risk to the lumbars. A belt also provides valuable feedback to signal that you're leaning too far backward or forward. And a snug belt helps keep your midsection tight and this is most reassuring when handling heavy weights.

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since it's your lever leg. Your front foot will move straight forward and your back foot must also move straight backward. A common mistake most beginners make is they swing the rear leg around slightly, so when they plant their foot, it's in the middle of their body. This severely affects balance. Also, the rear foot must land on the toes. It can't be turned so the heel or side of the foot is making contact with the floor.

This is a high-skill move and can only be mastered with lots of practice. Stay with light poundages until you get the feel and rhythm of the split. I often have lifters draw lines with chalk to mark exactly where they want their feet to hit. Even drilling with a broomstick helps.

Lock out the weight and recover

Once you're in a split and have the bar locked out, continue to exert pressure on it. If the weight is light, merely stand up. However, when the weight gets taxing, follow this procedure: Slide your rear foot forward a bit, then your front foot, rear foot, front foot, until you're stable enough to stand erect. Do not move the front foot first. If you do, the bar will suddenly be suspended over air with nothing to support it. At the bottom of the split, your knee should extend out in front of your lead foot and your rear leg should be straight and locked.

As soon as you have the weight locked out and under control, recover. Don't linger in that split position. Stand up and keep pushing up into the bar. It should be fixed overhead in the same position as an overhead press, on a line extending up from the back of your head, On your final rep of a set, hold the bar overhead for a 5-6 second count. Lower the bar in a controlled fashion, make sure your feet are pointed straight ahead and on a line and your rack is right, take a breath and do the next rep.

Reps and Sets

When learning the exercise with light weights, I have athletes do five reps, but as soon as the poundages get demanding, I recommend threes. The reason: every time the bar is reset after a rep, it moves a bit out of the ideal starting position. Plus, more weight can be handled with triples than with fives and this builds greater overhead strength. If the bar slips off the shoulders too much, stop. Place the bar on the rack and reset it on your shoulders. In some cases, I have the athlete use two reps rather than three if the slippage is severe. Six to eight sets is a good workout.

Push Presses and Push Jerks

After you learn how to overhead press and jerk, push presses and push jerks are a snap. On both exercises, you bend your knees to help you drive the bar upward, but on the push press, once you lock your knees, they need to remain locked. On the push jerk, you can rebend them and the bar will move from your shoulders to lockout in one fast movement. The push press is different in this regard. You want to have to press out the weight for the final 2-4 inches. Again, use three reps when the numbers get higher and hold the final rep overhead for 5-6 seconds.

There is a tendency for beginners to dip too low when push pressing or push jerking. But, when someone dips too low, he has difficulty putting a pop into the bar. The dip is a short, powerful stroke. Your entire body must be rigidly tight and perfectly upright. Both exercises are really drills to help you learn how to drive a heavy weight upward, in the correct line, and to follow through instantly. And since a lot more weight can be used on the push press than with a military press, it overloads those muscles to a greater extent.

If you're not currently doing any overhead exercises, give one or all of these a try. Many find that they have a natural aptitude for the exercises. They will not only improve your physique and strength, they will enhance those attributes that help you excel in your sport.

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Bill Starr is the author of the books The Strongest Shall Survive: Strength Training for Football, Defying Gravity, and thousands of magazine articles. He was the editor of Bob Hoffman's Strength and Health, Joe Weider's Muscle Builder, and a nationally-ranked Olympic weightlifter and powerlifter back in the day. Bill was one of the first professional strength coaches in the country, has forgotten more about training than most coaches will ever have the opportunity to learn, and makes a very convincing crab cake if you can talk him into it.

—Mark Rippetoe

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