Safety Considerations in Teaching the Overhead Lifts

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A GREAT NUMBER OF STRENGTH and conditioning programs incorporate overhead lifts (snatch, clean and jerk, push press, press, etc.). Many more coaches would use them were it not for a perceived notion that these lifts present more of a safety hazard than many other popular exercises.

As a coach who specializes in teaching and coaching these lifts, I am aware of these safety problems. With a little forethought, these safety issues can easily be alleviated. As strength coaches, you need to consider three major factors that reduce problems in the overhead lifts: (a) the physical layout of your facility, (b) the equipment you use, and (c) the instructional training you give your athletes to prepare them for overhead lifting.

■ Facility Design

A dedicated area is recommended for overhead lifting. Even if weight room space is at a minimum, the strength coach should find a way to set aside an area just for overhead movements. Just having an area to do the lifts seems to add to the safety factor. Some coaches have their athletes do overhead lifts in aisles between benches and machines. This can be dangerous; for various reasons, athletes may lose their balance and drop the barbell on some equipment or, worse yet, on a teammate.

An 8- × 8-ft platform is recommended for overhead lifting. Experience in weightlifting has shown that this amount of space is sufficient. This dedicated space has a positive psychological effect on the athletes. It gives them room to make the necessary adjustments to keep lifts under control without having to worry about other factors such as people and equipment.

Several excellent articles have been written about platform construction (2, 3, 4). I have had success with a 4- × 8-ft platform, but there was some allowance for additional space to the front and rear of this platform. Also, the platform was only 1/2 in. thick, so stepping off it was not a problem.

It is best to place this platform out of the main traffic pattern in the weight room. A rear corner or along a rear wall seems to work best. Allowing a 3- or 4-ft buffer around the platform for traffic patterns is recommended (2). Discourage athletes from standing directly in front or behind the lifter, so as to avoid accidents and to allow maximum concentration.

■ Equipment Considerations

Use of rubber bumper plates can also reduce the chances of injury in the overhead lifts. Injury usually occurs from trying to save the out-of-position overhead lift. An athlete lifting with bumper plates on the bar is far more likely to drop such a lift than fight to save it. He or she knows that dropping a weight with bumper plates will not damage the barbell or the platform. With the availability of lightweight bumper plates, it is easy to have your beginning athletes use this equipment with weights as light as 40 or 50 lbs.

If your weight room doesn’t have these bumper plates, place rubber inserts into your platform to absorb the impact of metal plates. Emphasize to the athletes that they should not try to be

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heroes and fight to save every lift. Chances are that the barbell or the platform will survive much better than your athlete in the event of a missed lift.

**Training Information**

A basic understanding of balance is the key to safe overhead lifting. As mentioned earlier, trying to save an out-of-position lift is the major cause of injury in the overhead lifts. Many such injuries could probably be avoided if the athlete had understood the principles of balance.

Very simply stated, when lifting, the body's area of balance is the area from the heel to the toes of the shoes across the width of the foot placement (see Figure 1). If the barbell is kept over this area, the lifter will have control. However, once the bar gets outside this area, it takes a considerable amount of strength to hold the lift. The athlete is forced to move to place the bar back over the area of balance. Most injuries occur when the athlete gets the bar out of the balance area, then tries to hold it.

Through proper training the athlete can learn how to reestablish his or her balance and also know which lifts are safe enough to attempt a save. For successful overhead lifting, the centers of gravity of the various body parts should be brought in line as much as possible (see Figure 2).

A simple example is building a tower with blocks. As long as the blocks are stacked so that their centers are over one another, you can build a tall, strong tower. If one block gets off center, the tower will wobble and eventually fall if a load is placed on top of it. Therefore the athlete must try to keep the elbows, shoulders, and hips lined up when lifting the bar overhead. Just like the tower of blocks, if one of these points is not lined up, balance will be difficult to maintain.

**Training Methodology**

Teaching the overhead lifts can be difficult if the athlete lacks the basic strength to hold the bar in the proper positions. For this reason, all beginning athletes should start with light standing presses and presses behind the neck. When done with a wide grip, presses behind the neck prepare the athlete for handling weights overhead in the snatching movements.

The standing pressing movements develop the triceps and shoulders to a large extent, but they also help develop the small muscles of the trunk and legs that support the body in the standing position. These are the muscles that help keep the joint centers lined up.

Don't assume that if an athlete is a good bench presser, he or she will do overhead lifts well. If an athlete has not developed these supporting muscles for the standing position, he or she won't be able to exert pressing power very well. Also, don't count on a lifting belt to provide this stabilization. The belt provides only minimal, localized support in the lower back region. It will not help an athlete who is lacking in basic upright supporting strength.

Another helpful beginning exercise is the heavy front quarter squat. In this lift, the athlete takes a heavy weight from the squat rack and places it on his or her chest in the position from which a jerk or push jerk would be performed. He or she then does a quarter squat attempting to keep the chest up and the shoulders directly over the hips while bending and extending the knees. This movement serves two purposes: (a) it develops the proper musculature, and (b) it accustoms the athlete to holding heavy weights on the chest.

It will take 3 or 4 weeks to build this basic strength. Two or three sets of 8 to 12 repetitions will do the job. The coach should monitor the amount of weight used. For beginners, a weight approximating the athlete's body weight should be sufficient. More experienced lifters can use 100 lbs or more above body weight. Remember that this is a preparatory exercise only and not a lift for maximum weight.
One final item the coach must add is a good upper body flexibility routine. Stretching the shoulders, elbows, and wrists will ensure that the athletes can get into the proper positions.

**Coaching Points**

The one error that should be avoided at all costs is using the layback style of overhead lifting. In this style the hips are forward and the shoulders are back, which forces the low back to absorb the bulk of the force exerted (see Figure 3). Also, in this position the athlete is more likely to lose his or her balance and control of the barbell. The key to avoiding this error is to have the athlete keep the trunk straight up and down (shoulder joint over hip joint) throughout the lift. It is okay to let the hips go back a little, but under no circumstances should you allow the athlete to get the shoulders behind the hips.

If your athletes show a tendency to use the layback style, work on developing the muscles of the trunk that will keep the athletes upright by doing the heavy front squat, standing presses, and abdominal exercises.

One coach has advocated that an important part of teaching exercise technique is teaching the athlete to miss the lift correctly [1]. He recommends that the coach and athlete rehearse the athlete’s action on an out-of-position lift.

In a final note, I do not recommend spotting overhead lifts. I feel this again leads to the athlete and the spotters trying to save out-of-
position lifts. The spotter is often in more jeopardy than the lifter. Many times the weight is out of the spotter's area of balance when he or she tries to catch it. Let it fall.

In summary, overhead lifting, although not risk free, can be used safely in any weight training program if the coach provides the proper area for lifting, the right equipment, the proper preparation of the athlete's body, and the correct instruction on how to execute the lift and how to safely miss it.

References


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