Using Free Weights to Improve Lateral Movement Performance

Allen Hedrick, CSCS
United States Air Force Academy
Colorado Springs, Colorado

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SELECTING EXERCISES TO TRAIN

movements, rather than muscle groups, is a concept that is well accepted by many in the strength and conditioning profession. This means that when designing a training program for a sport, exercises are chosen based on their similarity to the movement patterns found in that sport, rather than selecting exercises based on attempting to train a specific muscle group (3).

However, many training programs are limited to exercises that work only in the sagittal (front to back) plane, such as cleans, squats, deadlifts, and lunges. Although all these exercises are important in the training programs of athletes, none of them mimic the lateral movements that are seen so frequently in most sports. The purpose of this article is to discuss the importance of training lateral movements and to present exercises that accomplish this important goal. Although a variety of plyometric and agility drills can also effectively be used to improve lateral movement performance, this article will focus on the use of free weight equipment to improve lateral movement capabilities.

Observation Process

Selecting exercises based on their similarity to the movements that occur during competition requires careful observation by the strength and conditioning professional. Although this may sound like a simple process, it requires the identification of the critical movements that make up the sport. This may take practice and a concentrated effort to be successful because the observer must switch the normal thought process so as to be less concerned about the outcome of the game and more concerned about the movements that occur during the game. The optimum positions to view the performance of a motor skill vary from skill to skill (1). However, in most cases, the best vantage point is at a 90° angle to the performer.

One of the aspects that will be observed during this process is the frequency of lateral movements that occur in competition. Movements such as a linebacker sliding along the line of scrimmage in pursuit of the running back, the basketball player moving laterally in the defensive slide position, the shortstop moving quickly to catch a sharply hit line drive, or the tennis athlete sliding into position to return service are all examples of lateral movements that commonly occur in sports.

Lateral Training Movements

Resistance training is position-specific. That is, the increases in strength that occur during resistance training are very specific to the movement pattern that occurs during performance of the exercise (2). That is why exercises such as squats and cleans are emphasized when training to improve vertical jump performance. These exercises are biomechanically very similar to jumping. Thus, the more similar the exercise is to the movement being trained for, the more effective that exercise will be in improving the performance capabilities of that movement (3).
That being established, it should be clear that exercises such as cleans, squats, and lunges will not improve lateral movement capabilities because there is no lateral movement component in these kinds of exercises. Training to improve lateral movement capabilities requires exercises that are performed in lateral movement patterns.

Correct exercise technique is important in all of the following exercises, both to increase the effectiveness of the exercise and to reduce the opportunity for injury. It is critical that in all of the exercises listed the back should be kept in an arched position (i.e., chest up, shoulders back). It is also recommended that the knee not be allowed to flex forward of the foot in any of the exercises listed. It is important to be aware that all of the barbell exercises listed could also be performed with dumbbells. However, it is recommended that the exercises denoted as dumbbell exercises should only be performed with dumbbells for safety reasons (i.e., the ease with which the athlete can release the dumbbells to reduce the opportunity for injury).

The following is a list of exercises that involve lateral movement and thus can be used to improve lateral movement capabilities. Exercise descriptions are also included.

**Lateral Squat**
Place the bar on the back, as when performing squats. Place the feet about 6 in. wider than shoulder width. Keeping the left knee straight and the left foot planted, flex the right knee while sitting back at the hips and moving the hips laterally to the right (Figure 1). Return to the starting position and alternate the movement to the opposite side until the required number of repetitions has been performed (Figure 2). The exercise can also be performed with dumbbells. The movement is identical when performed with dumbbells except that the dumbbells are held at arm’s length during the exercise.

**Side Lunge**
Place the bar on the back, as when performing squats. Place the feet about shoulder width apart. Step directly laterally with the right foot...
through a comfortable range of motion. Keeping the left knee straight and the left foot planted, flex the right knee while sitting back at the hips and moving the hips laterally to the right (Figure 3). Return to the starting position and alternate the movement to the opposite side until the required number of repetitions has been completed (Figure 4). The exercise can also be performed with dumbbells. The movement is identical when performed with dumbbells except that the dumbbells are held at arm's length during the exercise.

**Arch Lunge**

Place the bar on the back, as when performing squats. Place the feet about shoulder width apart. Imagine an arch or semicircle about a stride's length in front of the body. Mentally divide the arch into sections, the number of sections depending on the number of repetitions that have to be performed. Lunge laterally with the right foot to the extreme right edge of the arch, and then return to the starting position (Figure 5). Alternate feet with each repetition. The placement of each step will depend on the number of repetitions to be performed. Gradually work your way to the opposite corner. The higher the number of repetitions that must be performed, the smaller the progression will be from the right edge of the arch to the left edge of the arch (Figure 6). It is important to pivot on the rear foot so as to always keep it pointing straight ahead, rather than at the angle of the step. Avoid having any of the steps directly in front of the body. In the lunge position, the knee should not flex forward of the foot on the front leg; the back leg should be bent so the knee is just off the floor. The movement is identical when performed with dumbbells except that the dumbbells are held at arm's length during the exercise.

**Dumbbell (DB) Lateral Step-up and Lateral Step-off**

Stand to the left side of a plyometric box that is 18 to 24 in. tall. Step across the body with the left foot up and onto the box, attempting to reach the far edge of the box (Figure 9). Continue until both feet are on the box and a standing position is achieved on top of the box. Step laterally with the right foot off the box (Figure 10) until standing with both feet on the floor. Repeat the movement in the opposite direction. Continue until the full number of required repetitions has been completed.

**DB Crossover Step-up and Lateral Step-off**

Stand to the left side of a plyometric box that is 18 to 24 in. tall. Step across the body with the left foot up and onto the box, attempting to reach the far edge of the box (Figure 9). Continue until both feet are on the box and a standing position is achieved on top of the box. Step laterally with the right foot off the box (Figure 10) until standing with both feet on the
floor. Repeat the movement in the opposite direction. Continue until the full number of required repetitions has been completed.

**DB Lateral Step-up and Crossover-off**

Stand to the left side of a plyometric box that is 18 to 24 in. tall. Step laterally with the right foot up and onto the box, attempting to reach the far edge of the box (Figure 11). Continue until a standing position is achieved on top of the box. Cross over with the left foot and step off the right side of the box (Figure 12) until standing with both feet on the floor. Repeat the movement in the opposite direction. Continue until the full number of required repetitions has been completed.

**DB Crossover Step-up and Crossover-off**

Stand to the left side of a plyometric box that is 18 to 24 in. tall. Step across the body with the left foot up and onto the box, attempting to reach the far edge of the box (Figure 13). Continue until a standing position is achieved on
top of the box. Cross over with the left foot and step off the right side of the box (Figure 14) until standing with both feet on the floor. Repeat the movement in the opposite direction. Continue until the full number of required repetitions has been completed.

**Summary**

Selecting exercises to train movements, rather than muscle groups, is a well-accepted concept. However, many programs fail to address training for lateral movement. This is unfortunate, because observation shows that most sports involve frequent lateral movements. Because resistance training is position-specific, it is important to include lateral exercises in the training programs of athletes who participate in sports that include a lateral movement component.

**References**


Allen Hedrick, MA, CSCS, is a strength and conditioning coach at the United States Air Force Academy.