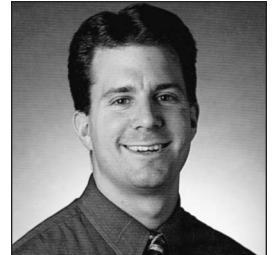


Modifying the Seated Row Exercise for Athletes With Shoulder Injury

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MOST STRENGTH AND CONDITIONING professionals at one time or another will encounter athletes with a history of some sort of shoulder pathology. Shoulder pathology could include but is not limited to rotator cuff/biceps tendonitis or strain, impingement syndrome, acromioclavicular (AC) joint sprain, chronic or acute shoulder subluxation/separation, and/or general shoulder instability. Chronic shoulder problems and instability are usually the result of a number of external and internal conditions that must be addressed in order to have a reduction of the symptoms and resolution of the problem. A narrow focus on the shoulder joint may neglect one of the major contributing factors common to shoulder joint pathology: strength deficits of scapula stabilizing musculature (5). Scapula musculature weakness can lead to imbalance of the scapula stabilizing system and, ultimately, will lead to improper shoulder and scapular mechanics (4).

Correcting the imbalance by increasing strength to the scapula stabilizing muscles can be accom-

plished while performing one of the more commonly prescribed exercises by strength and conditioning professionals, the seated row. A common situation exists when instructions for use of the seated row exercise may be appropriate for one athlete but not necessarily the best option for another. The typical instructions for the seated row may not be the most appropriate or most beneficial approach for an athlete with a history of shoulder injury. It is important for strength and conditioning professionals to recognize this situation and adapt their instruction of the seated row exercise accordingly.

Proper body positioning with a slight modification of the technique for this exercise will help promote a safer (for the shoulder joint) and more efficient workout that incorporates the scapular musculature. The recommended seat height is acceptable for athletes that are injury free but it may not be appropriate for athletes with shoulder pathology because the athlete is at or near 90° of shoulder flexion (Figure 1a). This has classically been identified as the subacromial impinge-

ment zone for the shoulder and repetitive performance of the seated row in this range could cause further irritation and inflammation. To stay clear of this impingement zone, the seat should be raised to a higher position or the athlete should grip the handles lower so that the hands remain below the level of the shoulders while performing the exercise. The athlete should maintain an erect sitting posture during the exercise by “sticking their chest out” (Figure 1b). The maintenance of an erect posture will place the thoracic spine, shoulder joint, and scapula in a proper biomechanical position (3). This is essential because it will assist the athlete in developing good scapula movement and control.

To initiate the motion, encourage the athlete to retract or “pinch” their shoulder blades backward and together without allowing their elbows to bend to incorporate the rhomboids and middle and lower trapezius muscles (1) (Figure 2a). Retracting the shoulder blades is an important but commonly over-



Figure 1a. The recommended body position may not be the most appropriate because the shoulder joint is placed near the impingement zone.



Figure 1b. Maintenance of an “erect” sitting posture coupled with a higher seat position or slightly lower grip on the vertical handle will allow for performance of the exercise away from the impingement zone.

looked portion of this exercise. The athlete should then proceed with the pulling motion and end at a position where their elbows are at the sides of their body (Figure 3a). To protect the shoulder joint from any unnecessary strain, the athlete’s elbows should not move past the sides of the body. If not performed in this manner, the humeral head will glide anteriorly (as the distal humerus moves posteriorly), stretching the anterior capsule of the shoulder joint (Figure 3b). This will cause a repetitive stretch to an already, in most cases, “lax” anterior capsule. This will contribute to altered shoulder and scapulothoracic mechanics. In addition, the humeral head may potentially migrate superiorly and narrow the subacromial space, causing impingement and irritation of the subacromial structures like the biceps tendon, rotator cuff tendon, and bursal sac (2). While still maintaining the erect posture, the athlete should finish the motion by allowing the elbows to straighten and the shoulder blades to protract to the resting position.

It is important to note that a common scapular compensation involves the substitution of the upper trapezius, or exaggerated shoulder shrugging, during a scapular-retraction exercise (4) (Figure 2b). This is consistent with the idea that scapular muscular imbalance that develops over time usually presents as dominant upper trapezius muscles that are strong with nondominant middle and lower trapezius muscles that are weak. The stronger upper trapezius muscles dominate the middle and lower trapezius muscles and pull the scapula into an elevated posi-

tion. This further accentuates scapular musculature imbalance because the middle and especially the lower trapezius muscles are in a lengthened and weakened position as the upper trapezius muscles continue to get stronger. This cyclic process facilitates faulty scapula mechanics that will contribute to chronic shoulder problems.

Initially, through the use of lower weights with good verbal and tactile cueing, the athlete needs to learn how to differentiate between the scapular movements of elevation and isolated adduction (retraction). The goal is to encourage minimal activation of the upper trapezius muscles and increased activation of the middle and lower trapezius muscles. Through the use of this technique, the instructor can address the athlete's deficits in muscle strength and balance through rhomboid and middle and lower trapezius muscles. Use of this modified technique allows for a more complete and balanced back-strengthened program while protecting the anterior capsule of the shoulder joint from repetitive stretching. The authors encourage this modification for all athletes, especially throwing athletes, regardless of past or present acute or chronic shoulder pathology because it will provide a safer technique for use of the seated row exercise. ▲

■ References

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Figure 2a. Initiate the motion with scapular retraction.



Figure 2b. Eliminating the common compensatory scapular motion of elevation or "shoulder shrugging" during the performance of this exercise.



Figure 3a. Proper ending position: the athlete should stop when his or her elbows are at the side of the body.



Figure 3b. Improper ending position: when the elbows move past the side of the body, overstretching of the anterior shoulder capsule will occur.

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