

Rotator cuff: Exercises and strategies to prevent injury

Have you ever experienced a dull ache or sharp pain in your shoulder or upper arm? Maybe you are unable to sleep on one side because your shoulder wakes you up at night. Perhaps, you have discomfort reaching behind your back to tuck in your shirt or grab your wallet. If so, you may be suffering from a rotator cuff injury.

Rotator cuff injuries, such as tendonitis, bursitis and tears, plague lots of people. The rotator cuff consists of four small muscles which form a sleeve around the shoulder and allow us to raise our arm overhead. These muscles, consisting of the supraspinatus, infraspinatus, teres minor and subscapularis, oppose the action of the deltoid and depress the head of the humerus (upper arm) during shoulder elevation to prevent impingement.

The most commonly injured muscle is the supraspinatus. It is responsible for initiating and aiding in elevation of the arm. If torn, the individual typically experiences persistent pain in the upper lateral arm and significant difficulty raising the arm without moving the scapula (shrug sign). The hallmark signs of a tear are nocturnal pain, loss of strength and inability to raise the arm overhead.

However, acute tendonitis may also present with similar signs and symptoms, as pain can inhibit motion and strength. Yet, symptoms associated with tendonitis normally respond to rest, ice, anti-inflammatory medication and therapeutic exercise.

Rotator cuff tears are most common in men 65 and older. Tears or injuries are typically related to degeneration, instability, bone spurs, trauma, overuse and diminished strength and flexibility related to the aging process. However, younger people are also at risk for injury if they are involved in repetitive overhead sports, including swimming, volleyball, baseball, softball, tennis or gymnastics.

Many people can function adequately with a torn rotator cuff if the pain isn't too severe. The primary reason for performing rotator cuff surgery is to alleviate pain rather than to restore function. It is common for patients to lose some mobility and range of motion after surgery.

Strength recovery is dictated by the size of tear, quality of the torn tissue at the time of surgery, time elapsed between injury and repair and the surgeon's ability to recreate the proper anatomical relationship.

It may take up to 18 months following surgery to completely recover, although most people return to normal activities of daily living in three to six months. Tendonitis, on the other hand, usually resolves within four to six weeks, depending on the management of the injury.

The key to avoiding rotator cuff injury is performing adequate conditioning prior to vigorous activities. Many weekend warriors try to pick up the softball,

baseball or football and begin throwing repetitively and forcefully without properly warming up. In addition, they are not likely to condition before the season (or stay in condition) like competitive athletes.

This often leads to excessive strain on the rotator cuff and swelling. The act of throwing is the most stressful motion on the shoulder. The rotator cuff is forced to decelerate the humerus during follow through at speeds up to 7,000 degrees per second.

Without proper strength and conditioning, the shoulder easily becomes inflamed.

Since the rotator cuff muscles are small, it is best to use lower resistance and higher repetitions to sufficiently strengthen them. Sample exercises include the theraband or light dumbbell rotation exercises.

Other common shoulder exercises are shoulder raises and diagonal arm patterns using bands, weights or medicine balls. In addition to cuff specific exercises, it is also important to strengthen the muscles around the shoulder blade. These exercises include wall push-ups with a plus (rounding shoulder blades), shrugs and rows to name a few. Using the proper weight, form and range of motion are essential in rehabilitating and preventing injury.

Finally, it is important to note some precautions with general exercises routinely performed in health clubs. I recommend the following

suggestions to prevent rotator cuff problems:

- Avoid lat pull downs and military presses behind the head, as they place the shoulder in a poor position and encourage impingement.
- Do not lower the bar or dumbbells below parallel with an incline or flat bench press.
- Refrain from using too much weight with lateral shoulder raises. This exercise increases the load on the shoulder to 90 percent of the body weight, so there is no need to use heavy weight. It is best to maintain an arc of movement slightly in front of the body with lateral raises to decrease stress on the rotator cuff, while avoiding elevation above 90 degrees.
- Specific rotator cuff exercises can be incorporated into upper body workouts. Perform two sets of 15 to 25 repetitions for each exercise. These exercises should be done no more than three times per week to avoid overtraining.

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FIT ADVICE
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