

Understanding Pain in the Cuff

By Brian Schiff, PT, CSCS

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 several people in our population. The rotator cuff consists of four small muscles, which form a sleeve around the shoulder and allow us to raise our arm overhead effectively. 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 compensatory motion from 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 age 65 and older. Tears and/or injury are typically related to degeneration, instability, bone spurs, trauma, overuse and diminished strength/flexibility related to the aging process. However, youth are also at risk for injury if they are involved in repetitive overhead sports, including swimming, volleyball, baseball, softball, tennis, gymnastics, etc.

Many people can function adequately with a torn rotator cuff provided they have a low to moderate pain level. The primary reason for performing rotator cuff surgery is to alleviate pain rather than to restore function. It is common for post surgical patients to lose some mobility/range of motion. 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 3-6 months. On the contrary, tendonitis usually resolves within 4-6 weeks, depending on the management of the injury.

The key to avoiding rotator cuff injury is performing adequate conditioning prior to stressing it with vigorous activities. Many weekend warriors try to pick up the softball, baseball, football, etc. and begin throwing repetitively and forcefully without properly warming up. In addition, they are not likely to condition before the season like competitive athletes.

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This often leads to excessive strain on the rotator cuff and swelling. The inevitable result is soreness, especially with overhead movement or reaching behind the back. 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 7000 degrees/second.

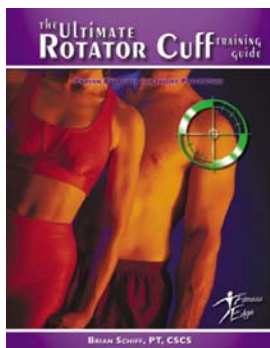
Without proper strength and conditioning, the shoulder easily becomes inflamed. Since the rotator cuff muscles are small, it is best to utilize lower resistance and higher repetitions to sufficiently strengthen them.

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 biomechanical position encouraging impingement.
- Do not lower the bar or dumbbells below parallel with incline/flat bench press for the aforementioned reason.
- Refrain from using too much weight with lateral shoulder raises. This exercise increases the load on the shoulder to 90% 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 2 sets of 15-25 repetitions for each exercise. These exercises should be done no more than three times per week to avoid overtraining.

Brian Schiff, PT, CSCS is a licensed physical therapist, respected author, and fitness professional. He graduated from The Ohio State University in 1996 with a Bachelor of Science degree of Physical Therapy in Allied Health Professions. Since then, he has practiced as a licensed physical therapist specializing in sports medicine. Through the National Strength and Conditioning Association, Brian became a certified strength and conditioning specialist (CSCS) in 1998. Brian is also a golf conditioning specialist and currently serves as strength and conditioning coach for The Columbus Crew Major League Soccer Team.

Schiff, a founding member of The American Association of Personal Trainers, developed 2 e-books on shoulder training, [The Ultimate Rotator Cuff Training Guide](#), and [The Ultimate Frozen Shoulder Therapy Guide](#), while co-authoring a golf conditioning e-book called [Fitness Secrets of Championship Golfers](#) and a manual on ACL injury prevention entitled *Protecting The Athlete's Knee*.



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