



Shoulder Pain and Rotator Cuff Tears for the Active Patient

By Gerardo Goldberger, DO

Advanced Orthopedics and Sports Medicine Institute, PC

Introduction:

Rotator cuff tears are a common source of shoulder pain in the active population. Although sports participation and trauma are common factors in the development of shoulder pain, rotator cuff tears are also frequently caused by the normal degenerative aging process of the shoulder.

The rotator cuff is a group of four muscles that surround the ball of the shoulder joint and provide stability and motion for functional activities. As we age, normal wear and tear can break down the tendon and muscle fibers, which in addition to a decrease in blood supply, contributes to degeneration and tearing, ultimately leading to a full thickness tear of the rotator cuff.

Multiple occupations and activities require heavy lifting and overhead motions predisposing an individual to inflammation, calcium deposits and arthritic bone spurs.

Common Causes of Rotator Cuff Injuries:

Some common causes of rotator cuff injuries include falling and using an arm to break a fall; lifting with the upper extremities and exceeding the ability to maintain proper lifting techniques will also result in a strain to the shoulder girdle.

Sport participation, particularly involving overhead motions in tennis, volleyball, baseball and swimming have been identified as a significant source of rotator cuff dysfunction. Furthermore, weight training with repetitive stress and a lack of proper technique is also a major source of rotator cuff and shoulder injuries.

Diagnosis:

Identifying the pain generator and the nature of the injury in a shoulder requires an experienced orthopedic surgeon with thorough understanding of the complex dynamics and function of the rotator cuff. Careful attention of each patient is given in regards to pain, loss

of motion, and muscle group weakness, which contribute to a compromise in activities of daily living.

An orthopedic surgeon with advanced knowledge of sports mechanics can help identify technical errors, predisposing an athlete to shoulder pain.

Diagnostic studies to assist in making a diagnosis include x-rays, Magnetic Resonance Imaging and ultrasound. These modalities often confirm clinical suspicions of injury and help quantify the degree of inflammation and/or tearing.

Treatment:

Once a careful diagnostic process identifies the nature and degree of a rotator cuff injury, multiple surgical and non-surgical options are available.

Non-surgical treatment directs a patient to avoid activities that cause symptoms. In addition, a physical therapy program can be implemented to improve range of motion, flexibility, restore strength and relieve pain. Multiple scientific studies have shown that approximately 50% of patients have a decrease in pain and an improvement in motion. Without surgery, weakness and loss of strength is seldom restored in the presence of a tear. Duration of symptoms and size of tears are major variables and predictors of poor outcomes in non-surgical care.

Advantages with non-surgical treatment include decreased risk of infection and anesthesia complications. Disadvantages include change in activities participation, increase in size of tears and pain leading to further dysfunction and loss of strength.

Surgical Intervention:

Surgical management is usually pursued for a rotator cuff tear that does not respond to non-surgical options and is associated with weakness, loss of motion affecting function and quality of life.

A trial of conservative (non-surgical) options is usually attempted except for rotator cuff tears that are identified as large in nature, traumatic (as opposed to degenerative) or associated with severe weakness compromising functions.

Arthroscopic management of rotator cuff tears is considered the standard of care. In this intervention a camera (arthroscope) is introduced into the shoulder through small incisions, and reconstruction of the damaged tissue is undertaken, in addition to removing existing bone spurs and arthritic changes.

Arthroscopic reconstructive techniques are frequently done as outpatient procedures under regional anesthesia. Approximately 80-95% of patients achieve a satisfactory outcome with relief of pain, restoring function and motion. An individual surgeon's ability to repair a torn rotator cuff plays a vital role in having a satisfactory outcome. Factors that tend to compromise the surgical outcomes include poor quality of tissue associated with larger tears,

and poor compliance with post-operative rehabilitation.

Recent arthroscopic technological advances have allowed surgeons to treat larger tears, while decreasing post operative pain and stiffness.

Following arthroscopic rotator cuff surgery patients are required to go through a rehabilitation process. The initial phase requires the patient to wear a sling to protect the repair, while initiating an early mobilization program to avoid stiffness.

A physical therapy program is implemented soon after a surgical intervention, individually catered to each patient's needs based on the condition of the tissue visualized during the surgical procedure. Physical therapy programs for repair of rotator cuffs last 8-12 weeks post-operatively, while most patients continue to gain strength and function for up to 6 months to a year after surgery.

Dr. Gerardo Goldberger is a board-certified orthopedic surgeon and the chairman of the Department of Orthopedics at CentraState Medical Center. He has been a Board Examiner for the American Osteopathic Academy of Orthopedics since 2003 and specializes in spine surgery, knee and shoulder arthroscopy, and total joint replacement.

Dr. Goldberger's interest in sports medicine stems from his involvement in sports as an athlete and physician. Notably, he was a field physician at the Olympic Games in 1996 and at the Soccer World Cup in 1994. An athlete himself, Dr. Goldberger rowed at Rutgers University, and has participated in multiple Ironman races in the U.S. and Europe as a competitive tri-athlete. In 2007, he was a member of the USA Team at the Aquathlon World Championships held in Mexico. His understanding of the demands of competitive sports allows him to provide individualized treatment plans for athletes, based on the latest minimally invasive techniques in shoulder and knee arthroscopy.

Dr. Goldberger is a partner at <http://www.advancedorthosports.com> Advanced Orthopedics and Sports Medicine Institute which provides advanced medical care in Freehold, New Jersey with leading doctors and surgeons, state-of-the-art technology, and exceptional Patient-Centered, Patient-Focused Care™. The seven practicing physicians at AOSMI have a combined 100 years of experience providing exceptional orthopedic care to the New Jersey community of Monmouth County. With their new offices, <http://www.webimmg.com> marketing, community outreach and involvement in the Freehold, Monmouth County area AOSMI is making a difference in the lives of many area residents.

