



The American Orthopaedic  
Society for Sports Medicine

Edmund Ganal, M.D.



## SPORTS TIP

# Shoulder Impingement

EXPERT CONSULTANT: Ben Shaffer, MD

### What is shoulder impingement?

Impingement refers to mechanical compression and/or wear of the rotator cuff tendons. The rotator cuff is actually a series of four muscles connecting the scapula (shoulder blade) to the humeral head (upper part of the shoulder joint). The rotator cuff is important in maintaining the humeral head within the glenoid (socket) during normal shoulder function and also contributes to shoulder strength during activity. Normally, the rotator cuff glides smoothly between the undersurface of the acromion, the bone at the point of the shoulder, and the humeral head.

### How does shoulder impingement occur?

Any process which compromises this normal gliding function may lead to mechanical impingement. Common causes include weakening and degeneration within the tendon due to aging, the formation of bone spurs and/or inflammatory tissue within the space above the rotator cuff (subacromial space), and overuse injuries. Overuse activities that can lead to impingement are most commonly seen in tennis players, overhead athletes, and swimmers.

### How is shoulder impingement diagnosed?

The diagnosis of shoulder impingement can usually be made with a careful history and physical exam. Patients with impingement most commonly complain of pain in the shoulder, which is worse with overhead activity and sometimes severe enough to cause awakening in

the night. Manipulation of the shoulder in a specific way by your doctor will usually reproduce the symptoms and confirm the diagnosis. X-rays are also helpful in evaluating the presence of bone spurs and/or the narrowing of the subacromial space. MRI (magnetic resonance imaging), a test that allows visualization of the rotator cuff, is usually not necessary in cases of shoulder impingement, but may be used to rule out more serious diagnoses.

### How is shoulder impingement treated?

The first step in treating shoulder impingement is eliminating any identifiable cause or contributing factor. This may mean temporarily avoiding activities like tennis, pitching, or swimming. A nonsteroidal anti-inflammatory medication may also be recommended by your doctor. The mainstay of treatment involves exercises to restore normal flexibility and strength to the shoulder girdle, including strengthening both the rotator cuff muscles and the muscles responsible for normal movement of the shoulder blade. This program of instruction and exercise demonstration may be initiated and carried out either by the doctor, certified athletic trainer, or a skilled physical therapist. Occasionally, an injection of cortisone may be helpful in treating this condition.

### Is surgery necessary?

Surgery is not necessary in most cases of shoulder impingement. But if symptoms

persist despite adequate nonsurgical treatment, surgical intervention may be beneficial. Surgery involves debriding, or surgically removing, tissue that is irritating the rotator cuff. This may be done with either open or arthroscopic techniques. Outcome is favorable in about 90 percent of the cases.

