

## ***QUADRILATERAL SPACE SYNDROME***

### **DESCRIPTION**

A rare nerve condition in the shoulder causing pain and occasionally weakness in the back of the shoulder. It involves compression of the axillary nerve at the back of the shoulder, usually by a band of ligament-like (fibrous) tissue or between the teres major and teres minor muscles in the back of the shoulder. The axillary nerve supplies the deltoid muscle, the main muscle to the shoulder. The quadrilateral space is a space in the back of the shoulder formed by 3 muscles, the teres minor muscle above, the teres major below, the triceps muscle on one side and the arm bone (humerus) on the remaining side. The axillary nerve and posterior circumflex humeral artery run through this space. This space can be closed down, compressing the nerve and artery when the arm is in the throwing position as well as by fibrous bands.

### **FREQUENT SIGNS AND SYMPTOMS**

- Pain and discomfort (burning or dull ache) that is poorly localized, often in the back of the shoulder, and occasionally the front of the shoulder and arm
- Heaviness or fatigue of the arm.
- Pain made worse by putting the arm in the throwers' position
- Sometimes tingling, numbness or burning in the back of the shoulder and occasionally to the arm and forearm.
- Tenderness in the back of the shoulder
- Atrophy (shrinkage) of the deltoid muscle or teres minor muscle.

### **CAUSES**

Pressure on the axillary nerve at the back of the shoulder, often by a fibrous band or compression between the teres minor and teres major muscles.

### **RISK INCREASES WITH**

- Sports that require throwing (baseball pitchers)

### **PREVENTIVE MEASURES**

- Appropriate warm-up and stretching before practice or competition.
- Appropriate conditioning, specifically shoulder flexibility, muscle strength and endurance

### **EXPECTED OUTCOME**

Usually curable, with appropriate treatment, though sometimes surgery is necessary.

### **POSSIBLE COMPLICATIONS**

- Permanent weakness of the shoulder, particularly rotating arm outward, lifting the arm and throwing
- Persistent pain in the shoulder.
- Increasing weakness of the extremity
- Disability and inability to compete

## **GENERAL TREATMENT CONSIDERATIONS**

Initial treatment consists of rest from the offending activity and medications to help reduce inflammation and pain. Stretching exercises of the shoulder muscles are useful. Referral to physical therapy and/or an athletic trainer may be recommended for further treatment, including ultrasound and other modalities. Injections with cortisone, often with numbing medicine, to the area where the nerve is being pinched may be recommended to help reduce the nerve inflammation and pinching. If this conservative treatment is not successful, surgery may be necessary to free the pinched nerve by cutting the fibrous band where the nerve is being pinched. When surgery is necessary, it provides almost complete relief in most patients who undergo this operation.

## **MEDICATION**

- Non-steroidal anti-inflammatory medications, such as aspirin and ibuprofen (do not take if surgery planned in 7 days or less), or other minor pain relievers, such as acetaminophen, are often recommended. Take these as directed by your physician. Contact him/her immediately if any bleeding, stomach upset or an allergic reaction occurs.
- Pain relievers may be prescribed as necessary by your physician, usually only after surgery. Use only as directed and only as much as you need.
- Injections of corticosteroids may be given to reduce inflammation.

## **HEAT AND COLD:**

- Cold is used to relieve pain and reduce inflammation for acute and chronic cases. Cold should be applied for 10 - 15 minutes every 2-3 hours for inflammation and pain, and immediately after any activity which aggravates your symptoms. Use ice packs or an ice massage.
- Heat may be used prior to performing stretching and strengthening activities prescribed by your physician, physical therapist or athletic trainer. Use heat pack or a warm soak.

## **NOTIFY OUR OFFICE IF**

- Symptoms get worse or do not improve in 2 weeks despite treatment
- New, unexplained symptoms develop. Drugs used in treatment may produce side-effects.