

# **LITTLE LEAGUER'S ELBOW**

## **What is Little Leaguer's Elbow?**

Little leaguer's elbow is a general term that refers to pain on the inner knob of the elbow in adolescent, overhead throwing athletes. Little Leaguer's elbow (LLE) is an increasing diagnosis today. The reason for the increase is most likely due to the fact that there are more young, overhead throwing athletes and more importantly is the increase in the number of throws they are throwing. Children are constantly competing in sports. While competition is a healthy part of a youngsters' development, overly ambitious coaches and parents may be responsible for perpetuating these injuries. Little Leaguer's elbow is recognized as the result of the repetitive stresses of overhead throwing.

In the adolescent, the muscle origin on the inner side of the elbow is attached to a growth plate, which is not as strong as the bone itself. Thus, little leaguer's elbow is stress to the growth plate tending to pull it away from the main shaft of the bone.

## **What are the symptoms of little leaguer's elbow?**

The flexor muscles of the forearm originate on the inner bone of the elbow, the medial epicondyle. With repetitive use of these throwing muscles, tremendous stress eventually produces small "microtears" in the muscle origin. The result is pain directly over the medial epicondyle. The stresses transferred to this area are greatly increased by throwing curve balls and other breaking pitches, which require more forceful movement of the wrist. The pain will increase with more forceful throwing or gripping. A thrower's velocity and movement on the ball will be dramatically decreased due to the pain incurred while progressing through the throwing motion. It is important to recognize the condition early, since adequate rest from repeated stresses may allow for resolution of symptoms.

## **How is the diagnosis made?**

Little leaguer's elbow usually starts slowly. The pain builds gradually over a three to seven day period. The pain originates from microtears at the muscle origin on the inner knob of the elbow (the medial epicondyle). The larger the tear, the greater the discomfort. As the pain sets in, it becomes increasingly difficult to throw with any velocity or action. When you wake up, you may feel stiffness and pain. The pain often radiates down the forearm. Some patients are unable to fully straighten the elbow.

The diagnosis can be made by palpation (touch). Your physician can make the diagnosis by putting a finger directly over the medial epicondyle. The patient will be sensitive to the tenderness and pain, thus, a diagnosis can be made. Occasionally the ulnar nerve which glides in the groove behind the medial epicondyle can become secondarily irritated causing numbness and tingling to the ring and small fingers.

X-rays of the affected elbow are always taken, to assess the bony anatomy. The growth center can be analyzed for any separation of the growth plate. This could be compared to the opposite elbow. Should this reveal any significant displacement, surgical intervention may be necessary to restore the growth center to its normal position.

An avulsion fracture can occasionally occur as a result of this injury and could require surgical treatment. In chronic LLE changes can occur in the size of the medial epicondyle which can contribute to nerve entrapment problems

### **What does the treatment consist of?**

Treatment generally consists of decreasing the inflammation at the elbow with ice and rest, as dictated by signs and symptoms. All throwing should be stopped until the tenderness over the bone is gone. This may take six to eight weeks. If you resume throwing before the pain is gone, it will return immediately. Anti-inflammatory medications may be helpful in reducing the symptoms, but alone are not the remedy. Cortisone injections should not be considered because they may have a negative effect on the growth center.

Once the pain is gone, active and passive range of motion and flexibility exercises can be initiated. When full motion and flexibility have returned, a gradual strengthening program may begin. This can consist of theraband or surgical tubing resistance exercises that can be progressed to free weights and weight machines. Throwing may resume during the strengthening phase as long as it is pain free. A graduated throwing program progressing from short, slow throws to long, faster throws should be followed. This period of rehabilitation may take six to twelve weeks before you can return to unrestricted throwing.

### **How can Little Leaguer's Elbow be prevented?**

Prevention is achieved by paying attention to flexibility, the length of time a player throws and maintaining correct body mechanics.

Flexibility consists of gentle stretching of not only the arm and shoulder, but the core of the body and lower extremities as well. The length of time a player is allowed to pitch should be less than an adult. Start your warm-up with throwing short distances then gradually increase length and velocity until you reach your game speed and distance. Proper body mechanics will reduce stress on the elbow. Overhead, rather than sidearm and curve ball throws, should be taught because less stress will be placed on the smaller arms and hands of young pitchers. Pitchers should be taught to use their core and lower body to generate speed during the wind-up and deceleration during the follow through. All these measures together will minimize the risk of a young thrower developing Little Leaguer's elbow.

Pitch counts, proper mechanics, avoiding overuse (e.g. combination of playing pitcher and catcher), changing positions (eg. move from pitcher to first base while symptomatic) and avoiding throwing curve balls are important components to reducing the possibility of developing a Little Leaguer's elbow.

Many of these principles are outlined in an excellent publication accessible via our website (AOSSM Youth baseball and softball injuries-property of AOSSM.org). Please refer to the SPORTS section in the websites table of contents. Additionally, check out in the FAQ section Preventing Youth Baseball Injuries.