LITTLE LEAGUE SHOULDER

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What is it?

"Little league shoulder" is a condition that arises from microscopic injuries to the growth plate in the shoulder that occurs in athletes that throw overhead. Repeated overhead throwing can lead to irritation of the growth plate that is located in the humerus (the long bone of the arm) closest to the shoulder. This condition affects young athletes who are still growing.

Causes

Repeated overhead throwing causes stress to the growth plate, leading to inflammation. Little league shoulder most commonly occurs in baseball players, but can occur in other athletes who do a lot of overhead arm movements, including volleyball or tennis players.

Risk Factors

• Poor mechanics
• High pitch or throw count
• Poor technique while throwing breaking balls (curve balls, for example)

Symptoms

• Usually a gradual onset of pain in the throwing shoulder
• Pain in the shoulder while throwing, particularly after an increased number of throws or while trying to increase velocity
• The shoulder may remain painful for days after throwing
• The shoulder may be visibly swollen

Diagnosis

Usually, little league shoulder is diagnosed by history and physical examination. A sports medicine physician will take X-rays, which may show widening of the growth plate when compared to the uninjured arm. Occasionally, magnetic resonance imaging (MRI) of the shoulder may be needed, particularly if the patient does not experience improvement with conservative therapy, or if another diagnosis is being considered.

Treatment

• Rest of the affected shoulder is the main component of treatment. Athletes may not be able to throw for 2-3 months
• Physical therapy may be used to strengthen the rotator cuff and stretch the back part of the shoulder.
• When returning to play, athletes should start throwing at short distances with low velocity. A gradual increase in distance and velocity may occur over a few weeks as long as pain does not return.

Prevention

- A throwing coach may help correct poor throwing technique.
- The use of breaking ball pitches should not be encouraged until athletes are older and skeletally mature.
- Enforcement of pitch or throw count recommendations:
    - Athletes 7-8 years old: 50 pitches per day
    - Athletes 9-10 years old: 75 pitches per day
    - Athletes 11-12 years old: 85 pitches per day
    - Athletes 13-16 years old: 95 pitches per day
    - Athletes 17-18 years old: 105 pitches per day

Return to play

- Often, after 2-3 months of rest and non-painful rehabilitation, the patient may begin a graduated throwing program over several weeks, leading to a full return to sports participation.

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References
http://www.littleleague.org/assets/forms_pubs/media/pitchingregulationchanges_bb_11-13-09.pdf

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Shanley E, Thigpen C. Throwing injuries in the adolescent athlete. Int J Sports Phys Ther. 2013 Oct;8(5):630-40.

Figure IV
Humerus (Arm Bone) at the Shoulder