

STEVEN CHUDIK MD

SHOULDER, KNEE & SPORTS MEDICINE

Little League Shoulder
Proximal Humerus Epiphysitis

The physis (growth plate) is a layer of cartilage near the end of bone whose cells multiply and turn into bone to lengthen the bone during growth. Most growth plates close (fuse or disappear) in girls between the ages of 14 to 16, and by age 16 to 18 in boys (although some growth plates close as late as age 25).

The growth plate is the weak link in the growing athlete during different stages of growth and is more susceptible to injury than bone, muscle, or ligaments. Little League Shoulder is characterized by stress injury to the physis (growth plate) of the proximal humerus (upper arm bone). Repetitive forces from throwing or other overhead activities like swimming, volleyball serving, and racquet sports are the most common cause.



X-ray showing widening of the growth plate



MRI showing inflammation of the proximal humeral epiphysis

Frequent Signs and Symptoms

- Gradual onset of symptoms following frequent and prolonged activity
- Pain, tenderness, bruising, and swelling
- Weakness or inability to use the injured extremity in athletic activities
- Pain with throwing or inability to throw at full speed



Orthopaedic Surgery & Sports Medicine
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Etiology (Causes)

Little League Shoulder is a stress injury to the proximal humerus growth plate (which is still developing during adolescence) from overuse or fall. Repeated stress or injury interferes can cause a fracture or separation of the growth plate.

Risk Factors

- Repetitive overhead motion sports such as baseball, softball, swimming, etc.
- Prolonged sports seasons without adequate rest or down time
- Poor throwing mechanics
- Poor physical conditioning (strength and flexibility)
- Rapid skeletal growth

Preventive Measures

- Promote multi-sport participation that avoids repetitive stress on the same parts of the body
- Exercise moderately, avoiding extremes
- Rest appropriately after vigorous exercise
- Appropriately warm up and stretch before practice or competition.
- Maintain appropriate conditioning:
 - Cardiovascular fitness
 - Muscle strength
 - Flexibility and endurance
- Use proper technique
- Use throwing interval programs in the preseason to prepare the arm for the season

Outcomes

Mild cases can be can resolve with slight reduction of activity level, whereas moderate to severe cases may require significantly reduced activity for 3 to 4 months

Potential Complications

- Untreated stress injury to the growth plate can progress to a complete fracture (separation) of the growth plate
- Prolonged healing time if not appropriately treated or not given adequate time to heal
- Recurrence of symptoms or increasing symptoms if not given adequate time to heal or if sports are resumed too soon; appropriately treating the problem the first time reduces the likelihood of recurrence



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Treatment Considerations

Initial treatment for growth plate injuries is a period of rest to allow the bone time to heal and repair itself. These injuries can require a few weeks to months of rest followed by a gradual return to activity period of complete rest from activity followed by a gradual return to play with an interval throwing program. Recovery is complete when the patient is no longer tender to touch, is completely pain free, sufficient time for bony healing has passed, and he/she has gradually resumed activities. If the athlete returns to play too quickly, the injury will reoccur. Surgery is rarely needed in the growing patient; however, surgery is sometimes necessary in non-compliant patients who fail to allow the stress injury to heal in a reasonable time frame.

Possible Medications

Avoid nonsteroidal anti-inflammatory medications, such as aspirin and ibuprofen (DO NOT take within seven days before surgery) as they inhibit early inflammatory events in the healing cascade. Or other minor pain relievers, such as acetaminophen, are reasonable to try. Take these as directed by your physician. Contact your physician immediately if any bleeding, stomach upset, or signs of an allergic reaction occur.

Modalities (Heat and Cold)

- Cold is used to relieve pain and reduce inflammation. Cold should be applied for 10 to 15 minutes every two to three hours for inflammation and pain and immediately after any activity that aggravates your symptoms. Use ice packs or an ice massage with a cloth between the ice and your skin to prevent burning /freezing your skin.
- Heat may be used before performing stretching and strengthening activities prescribed by your physician, physical therapist, or athletic trainer. Use a heat pack or a warm soak.

Notify My Office If Symptoms Worsen

This information is provided by Dr. Steven Chudik. It is not to be used for diagnosis and treatment. For a proper evaluation and diagnosis, contact Dr. Chudik at contactus@chudikmd.com/, or 630-324-0402.

