Throwing Injuries in Young Athletes

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Shoulder and elbow pain are common complaints in young baseball and softball players, but given the developing skeletons of these athletes, pain in these areas should always raise a concern. Young throwers are susceptible to injury for a variety of reasons. Open growth plates are weaker than mature bone and therefore more vulnerable to stress. Muscles are often underdeveloped and less able to absorb stress from repetitive activity. Kids are still learning how to play their sport and often times use improper biomechanics. Finally, participation at younger ages and more intense levels of competition leads to more overuse injuries.

For baseball pitchers specifically, additional risk factors for shoulder and elbow injury include*:

- Pitching with arm fatigue
- Pitching > 8 months/year
- Playing catcher in addition to pitching
- Participating in showcases, concurrent leagues or travel ball
- Throwing > 80 pitches in a game or 100 innings in a year
- Fastball velocity > 85mph

Two of the most common problems in young throwers are injuries to the growth plates in the shoulder and elbow known as Little League Shoulder and Little League Elbow, respectively.

Common signs of these injuries are:
- Pain located in the upper arm or inside of the elbow
- Pain during or after pitching or throwing
- Tenderness to touch
- Weakness in the affected arm
- Loss of control or velocity

Any pain that is persistent, worsening, affecting performance or occurring with daily activities should be evaluated by a physician or other certified medical provider with experience treating throwing injuries. X-rays may be necessary to rule out damage to the growth plate. Treatment of these injuries typically starts with rest from throwing and any other painful activities until the pain resolves. Ice and anti-inflammatory medicine can be used as needed for pain relief. A rehabilitation program working on muscle flexibility and strengthening is key to treating not just the current injury but also to help prevent future recurrence. A throwing evaluation can help identify any biomechanical errors that have contributed to injury. Finally, a supervised throwing and pitching progression can ensure that these athletes do not resume activity too quickly.

Many throwing injuries can be prevented with the right precautions. This starts with following pitch counts and obtaining adequate rest between pitching outings. The maximum number of pitches that should be thrown per game as well as the amount of rest needed varies by age. Guidelines and prevention tips endorsed by Little League Baseball & Softball and USA Baseball are available at http://m.mlb.com/pitchsmart.

Other prevention tips include:
- Warm up properly before throwing or pitching
- Track pitches thrown in practice and showcases in addition to games
- Do not pitch in multiple games on the same day
- Avoid playing in multiple leagues at the same time
- When not pitching, avoid playing catcher
- Look for signs of arm fatigue and do not ignore or throw through pain
- Take at least 3 months off from throwing during the year