



BASSETT HEALTHCARE

Little League Elbow Injuries: Is Your Child at Risk?

Each spring, children look forward to the start of Little League Baseball. They break in a new glove, start playing catch with Mom or Dad in the yard, and eventually join teammates on the field with the help of volunteer coaches. Most Little Leaguers have dreams of playing varsity baseball in high school, and maybe even college or the professional leagues. Injury prevention is extremely important to the health and safety of these young athletes.

Overuse elbow injuries are not uncommon in Little League players and can take months to heal. In some circumstances, an injury to a player's "throwing arm" will need surgical treatment if not diagnosed early enough. A tremendous amount of force occurs in the elbow during a long overhand throw or fast pitch. The greatest stress is placed on the medial section, or inside of the elbow joint, during the acceleration phase of the throw. At this point, the elbow is bent at a right angle, putting additional stress on the elbow as the ball is hurled forward.

In a child age 8 to 13, the elbow anatomy is very different than that of an adult. The bones are still open at growth centers allowing for separation of the bones if too much force is placed on the joint. While this doesn't mean that you should hang up your child's beloved baseball mitt, it does mean that you should have any signs of stress or injury investigated by a health care provider. If a child who throws repetitively experiences symptoms such as elbow pain during or after throwing, swelling or tenderness in the elbow, or limited motion in the elbow, examination by a health care provider is recommended. Remember to watch for decrease in throwing performance, as this is often a sign that the young player's elbow is becoming chronically injured.

Dr. Joseph Chandler, Director of Medical Services for the Atlanta Braves, was in Cooperstown in May for a Symposium discussing these kinds of injuries. He surveyed 101 minor and major league pitchers to see what their youth baseball experience was like. The average age they started pitching was 10.1 years of age. When asked about specialty pitches, the average age they started throwing the curveball was 14 years, the slider was 17.8 years, and the changeup was 16.9 years. While injury was extremely rare in this surveyed group, research on youth baseball pitchers is ongoing.

Dr. James Andrews, Medical Director of The American Sports Medicine Institute, in Birmingham, Alabama, has published several studies identifying risk factors and guidelines for prevention of injury in youth baseball. The 5 major risk factors are:

- throwing a breaking ball (curveball or slider) at an early age;
- too many pitches per game or too many innings per week;
- poor pitching mechanics;
- poor practice and conditioning habits, and finally;
- genetics

The recommendations for preventing injuries in the young throwing athlete focus on limiting the above risk factors. First and foremost, wait until age 8 to start pitching and avoid throwing the curveball until age 14 and the slider until age 18. The number of pitches per game should be limited to avoid overuse of the elbow. In a recent study conducted on 172 youth pitchers, the risk of injury increased 10 percent for every 10 pitches thrown. At age 8 to 10, allow a 50-pitch maximum, and from age 11 to 14, a 75-pitch maximum. In a more general sense, we should limit Little League pitchers to six innings per week. Rest periods of two or more days between games are necessary as well to allow tissues to heal.

In addition, coaches and parents need to teach the proper mechanics of throwing. Young athletes need guidance not only in skill acquisition but also to develop habits of stretching and strengthening for the arm, leg and trunk muscles. Proper conditioning will promote health and diminish overuse injuries. Injury prevention is the responsibility of all who are involved with youth baseball. Keep young players healthy so that they may enjoy the sport throughout their lifetime.

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