

Throwing Injuries in the Elbow in Children

With baseball season fast approaching in the spring, doctors continue to see an increase in elbow problems in younger athletes. Common elbow problems are referred to by a lot of doctors as “Little Leaguer’s elbow”. In the UK, children are also playing cricket and rounders. By the river or the sea, children love to throw stones. And even racket sports such as tennis and badminton can replicate the movement similar to a throw.

Throwing injuries can affect the wrist, elbow, shoulder, neck or upper back. Most often throwing injuries are repetitive strain injuries, with children doing significant number of throws in a short period of time. This is why some sports limit the number of throws or pitches that a child can do in any one week.

The most common injuries in children involve spraining the collateral ligaments. That can be from repeated forceful throwing, or trauma from a collision, or during the sports field if the arm gets stuck while the player keeps moving. If the collateral ligament is torn, then the elbow could sublux (to move partially out of joint) or dislocated (to move fully out of joint). It is also possible to sublux a small joint in the elbow called the radio-humeral joint, which is where the radius joins to the arm bone.

There are also muscles that insert around the elbow and these can be torn too, but this is less common in children.

Throwing Injuries in the Elbow in Children Anatomy

Three bones joint together to complete the elbow joint. The bone in the upper part of the arm is referred to as the humerus. Two bones from the forearm come together to make up the lower elbow part of the arm. All of the bones have a distinct shape. Collateral ligaments that are connected to the bones work to keep everything in proper alignment. On the inside is the ulnar collateral ligament, sometimes called medial collateral ligament. On the outside of the elbow is the radial collateral ligament, sometimes called the lateral collateral ligament. The ligaments stop the elbow from dislocating and provide stability to the joint.

The elbow is loosely known as a hinge joint but it is capable of other movements such as rotation and translation, but the main movement is flexion and extension (i.e. bending and straightening). During a throw, the elbow will rotate as well as extend. Rotation allows the hand to rotate the palm down and up, which is known as supination and pronation.

If you throw a ball under-arm, the arm remains in a supinated position. If you throw the ball over-arm, the arm is pronated and has thus rotated.

How to Treat Throwing Injuries in the Elbow in Children:

1. Get to See a Doctor or Therapist

Your child’s arm needs to be examined, and a diagnosis needs to be made clear. If the diagnosis is unclear, a scan may be performed. If there is risk of a fracture (during trauma), then an X-ray will need to be conducted. If not, an MRI scan may be performed. This is useful to establish the severity of the ligament injury if this is suspected.

2. Rest

Once you notice pain setting in, you need to refrain from participating in those activities that are causing the pain to begin with. Continuing to throw the ball might end up aggravating the injury further.

3. Ice

To help reduce swelling, apply an ice pack to the area for 5-10 minutes at a time three to five times per day. Make sure to wrap the ice in a thin towel to prevent any ice burns from occurring on the skin.

4. Activity Modification

If you find that after resting the pain is still present, you might have to make changes to your throwing technique. Changing things up might be the answer you need to be able to play ball without having to worry about being in a lot of pain.

5. Surgery

Surgery is only necessary on rare occasions, especially in boys that are older than 14 and girls that are older than 12. Depending upon how severe the injury is, surgery might involve removal of any loose bone fragments, bone grafts or reattaching the ligament back to that of the bone.

Tips:

- If pain continues after a couple of days of complete rest, you need to stop engaging in the activity until the child is able to get treatment.
- Most sports will have guidelines about how frequently the child should play. This is to prevent over-use injuries, especially to the arms. Check with your sports governing body on the official participation requirements so they are not over-doing it. For example...
- Younger pitchers shouldn't play more than three to four innings per game.
- Children who are 8-10 years of age shouldn't throw more than 75 pitches per week.
- Children between 11 and 12 years of age shouldn't throw more than 100 pitches in a week.
- 13-14 year olds shouldn't throw more than 125 pitches during a week.
- Practice and competitive play count toward the total amount of throws children should make in a week.