

KEEPING YOUR ATHLETE'S ARM INJURY-FREE

Those of us who specialize in pediatric sports medicine have noticed a tremendous rise in the number of shoulder and elbow injuries among youth baseball players over the past 15 years. In order to prevent these injuries, one must understand why this is occurring and the attendant risk factors.

Risk Factor #1: Early Sport Specialization

When kids play a single sport year round they are not allowing for enough time for recovery and repair of over-stressed ligaments and cartilage. In the case of baseball, the structures at risk are the ligaments (ie. Tommy John ligament), the growth plates (cartilage within the bone that allows for bone growth), and the cartilaginous joint surfaces. It is important for parents to understand that children are not miniature adults. Their bones, joints, and physiology are very different from adults. The bone and joint tissues of a strong healthy child are not strong enough to withstand year-round throwing. Overuse of these tissues can result in:

1. Ligament tears (Tommy John)
2. Stress fractures
3. Growth plate damage (Little League Shoulder and Elbow)
4. Joint surface damage (osteochondritis dessicans)

It is also important for parents to understand that the surgical treatment for these problems DOES NOT make the joint normal. There is a misconception out there that procedures such as Tommy John surgery make the joint stronger. Though the success rate of surgery is 85%, the truth is that these surgeries are salvage procedures that do not guarantee an athlete will return to their prior level of function with that arm.

Recommendation: Pitchers should refrain from throwing at least 2-3 months per year and avoid pitching 4 months per year.

Risk Factor #2: Fatigue

Throwing while fatigued results in altered throwing mechanics and abnormal stresses on the bones and joints. Fatigue stress can be prevented by:

5. Not pitching or throwing with a "tired" arm
6. Getting appropriate rest between throwing sessions (ie, do not pitch on consecutive days)
7. Taking 2-3 months off per year (non-pitchers) and 4 months off pitching

8. Physical training and conditioning of the shoulder blade muscles, rotator cuff, and arm to become resistant to fatigue.
9. Avoid pitcher and catcher positions in the same season.
10. Do not play with shoulder or elbow pain
11. Pitch count limits (number of innings or pitches)
12. Learn proper throwing/pitching mechanics

Risk Factor #3: Showcases

Showcases are a good opportunity to demonstrate your skills to coaches and scouts but they are risky to the arm. They tend to take place at the end of a season when the player is fatigued. Naturally, athletes also tend to overthrow in an attempt to impress. This is a dangerous combination.

Risk Factor #4: Radar Gun

Naturally, athletes tend to overthrow when the radar gun is in use. The radar gun should be used sparingly or not at all. Emphasis should be placed on technique, control, and pitch placement rather than velocity.

In summary, there is a lot we can do to prevent serious overuse injuries in our athletes. Allowing time for rest and recovery from daily wear-and-tear is equally as important as counting pitches and innings. Learn proper throwing mechanics so that you are using your whole body to throw, not just your arm. Never throw with a painful or fatigued arm. Be very careful about showcases and turn off the radar gun. In my opinion, the greatest threat to a young athlete's future career in baseball is not lack of talent, desire, or practice. It is injury. Though we cannot prevent all injury occurrences, we can greatly reduce the number of injuries to the arm and shoulder by following the guidelines mentioned here.

Have a great season!

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