



## **WRONG PITCHING MECHANICS CAN FORCE LITTLE LEAGUERS TO THROW AWAY MORE THAN JUST A GAME**

### **Physical Therapists Say Correct Throwing Posture is Key To Preventing Arm and Shoulder Injuries**

From youngsters playing their first game of tee-ball to the last team standing at the Little League World Series in August, spring and summer baseball is a rite of passage in schoolyards and fields worldwide. But in their attempts to throw the farthest and fastest, millions of Little Leaguers put themselves at major league risk of arm and shoulder injuries, says the American Physical Therapy Association (APTA).

"Little League pitchers can throw more than 100 pitches per game -- almost twice that of a professional pitcher -- placing substantial stress on a young, still developing arm," says physical therapist David A. Boyce, PT, EdD, OCS, ECS, assistant professor at Bellarmine University's Physical Therapy Program. Boyce, who has treated professional baseball players as well as Little Leaguers, says "Kids sometimes mistake strength for proper pitching mechanics and may be trading six innings of excitement for years of debilitating arm and shoulder problems," he says.

The pitcher runs the greatest risk of injuries resulting from overuse or improper mechanics, leading to a condition known as "Little League Elbow." A chronic inflammation of the growth plate in the elbow joint, Little League Elbow can feel like tendonitis. In his practice, Boyce has seen children as young as 8 years old with this condition. "Pitchers who continue to pitch through the pain can eventually cause the growth plate to separate from the joint, requiring surgery to re-attach it."

Baseball's Safety Advisory Committee recommends that the first pitch introduced to Little Leaguers should be the fast ball at 8 years old, followed by the change-up at 10, the curve ball at 14, the knuckle ball at 15, and the slider and fork ball at 16. Boyce notes that this is because a fast ball features a standard grip, and pitchers don't have to deviate and flex their wrists to throw it. "It's when young pitchers start throwing curve balls that Little League Elbow starts to surface. Younger pitchers don't possess the neuromuscular control and stability in their bones to withstand the forces that are placed across the elbow when throwing more technical pitches," he adds.

Most Little Leaguers mistakenly throw with the force coming from the arm instead of the trunk, observes Boyce. "When a child comes to me with Little League Elbow, I tell him or her that the key to throwing harder is not arm strength, but trunk, leg, and hip strength. Too often we try to strengthen the arm and get little or no lasting results."

His advice: "Direct the front shoulder and hip toward the target. Let the legs and trunk supply the power, and let the arm function like a whip."

Shoulders are also in danger during a pitch. Because the shoulder is the most mobile joint in the body, it is also the most unstable, notes Boyce. The four muscles surrounding the shoulder, called the rotator cuff, are stressed during the acceleration and deceleration phases of pitching. These excessive forces can damage ligaments and muscles within the shoulder joint. To reduce the risk of injury, says Boyce, it is important that the muscles of the trunk and shoulder girdle be strong, stable, and flexible.

Because children tend to be less aware of their physical limitations, it is especially important that parents and coaches watch their children carefully for correct throwing mechanics, while advocating proper conditioning and pre- and post-game stretches. "Attentive parents

and coaches will maximize their child's chances of having a healthy season," says Boyce. APTA recommends three important upper body stretches: the inferior shoulder stretch, the posterior shoulder stretch, and the rotator cuff stretch. "Once kids understand the proper way to throw, they need to concentrate on a pitching maintenance program that consists of exercise, stretching, proper pitching rotation and volume, and periods of active rest," Boyce concludes.

## **PHYSICAL THERAPIST TIPS ON HOW TO AVOID INJURING YOUR ARM**

### ***And what to do in case you do***

Danny Smith, PT, DHSC, OCS, SCS, a physical therapist and board-certified sports physical therapist clinical specialist, runs clinics for Little League coaches in Tennessee. Smith recommends the following for Little Leaguers...and their coaches:

- Above all, teach young athletes to be mindful of how their bodies feel. Pain is the first sign of a problem, and athletes of all ages need to pay close attention to any type of muscle twinge, tightening, or burning sensation.
- Coaches should carefully observe their pitchers' techniques. Success on the field may be fleeting if the pitches ultimately are damaging a young player's shoulder.
- Conditioning and strengthening exercises are most effective after mechanics are learned and put into action. If possible, begin a conditioning program at least a month before the season begins. A basic stretching regimen should be used *before* a player ever picks up a baseball.
- Players should start with short tosses and gradually work up to throwing the ball a greater distance. Increasing the velocity should be the final step.
- If the arm region is sore or tight, apply ice to the area for 10-15 minutes to help diminish the amount of blood that might otherwise leak into the muscle. When there is microscopic tearing of the muscle tissue, blood is leaking into the surrounding muscular tissue, causing pain and muscle spasms. Using ice will help reduce the pain, spasms, and inflammation associated with this condition.

Excel Physical Therapy, Westhills Professional Plaza, # 3 568 South Railway St  
SE, Medicine Hat, AB, T1A 2V6

3/3/2007