

Learn, Teach the D



*Improve dialog
between
coaches,
players and
parents to
catch arm
injuries earlier.*

You can't be part of baseball and not worry about players' throwing arms. Stories of high school pitchers undergoing surgery to repair damage from overuse injuries are now common, and the micro-traumas responsible likely started before they even took the mound in high school.

Dr. James Andrews brought his message of pitcher protection to the Little League Baseball World Series this year, as part of the unveiling of a new national concern for baseball pitchers' arms.

Recognize Signs Early

If coaches are to avoid overuse injuries, they need to know how to recognize the signs of a developing problem. According to the USA Baseball Medical and Safety Advisory Committee report, "Preventing Overuse Injuries in Youth Baseball," overuse injuries are caused by repetitive stresses on the muscles and supporting structures of youngsters that are not given sufficient time to heal after pitching.

In the study "Elbow Injuries in Young Baseball Players," published in *The Physician and Sportsmedicine*, the damage starts innocuously:

- **Arm Fatigue** – first sign of impending injury;
- **Local Soreness** – if an injury is developing this will follow fatigue; and
- **More Severe Pain** – persisting into the next day (or longer) after initial pain.

A more erect delivery, poor arm positioning/low elbow height, poor or no follow-through, and improper foot positioning are some signs a coach can use to recognize fatigue in the pitcher. Coaches cannot count on the player to tell them when the player's arm is fatigued.

Additional studies have shown that when youth pitch with arm fatigue, they have a much higher risk of surgery later in their careers.

Wear, Tear Progresses Over Time

Many times, a pitcher coming to him requiring surgery will have years of accumulated damage, as the micro-

tears from individual, distinct traumas that never healed properly, Dr. Andrews cautioned. "The coaches say, 'I've never seen a youth injured under my watch,'" Dr. Andrews explained of these early, un-rehabilitated injuries. "You didn't see [an injury], but it saw you."

Authors of "Elbow Injuries in Young Baseball Players," James Whiteside MD, Dr. Andrews and Glenn S. Fleisig Ph.D., wrote that a player may initially indicate an arm injury by saying his arm is "stiff," or he has difficulty "getting loose" or the player may not say anything, and the injury may demonstrate as inaccurate throws producing more pain or other symptoms.

The authors warn that according to their research, players usually only seek medical attention when arm pain impairs the player's throwing or hitting ability. Players recounted that local soreness in the arm began after repeated hard throwing but went away after rest, only to flare up again during throwing.

Ask Player if Pitching is 'Off'

"Coaches and parents can help prevent more serious injuries by investigating when players exhibit abnormal mannerisms while fielding, throwing or batting," the report states. And if the player waits for the injury to be determined a clinical diagnosis, meaning a separation is developing between key parts of the elbow, the amount of time needed for the arm to heal is often season ending, if not worse. Catching the injury early is imperative.

The new position statement on pitching suggests pitchers throw no more than 1000 pitches per season and stay within the limits imposed by their league per game. It also recommends against pitching on more than one team with overlapping seasons.

If a pitcher's arm doesn't get time off from competitive throwing, the stresses put on the pitcher's arm – the micro-tears – could combine to the point that a single throw can cause damage requiring surgery to repair.

Dr. Andrews explained that often pitchers talk about a pop or snap sound in their arm as the injury occurs. But that throw was just "the straw that broke the camel's back," and not a single event that caused injury. "I've said for years that we take better care of our professionals than we do our youth players," Dr. Andrews said in issuing the pitching guidelines. "Those injuries [of older pitchers] don't begin at 26 years of age."

Communicate Outside Pitching

"The number one thing that is becoming more apparent and more of a problem is travel ball, where we have no control over what they pitch. They play Little League on Friday night, and then go... play in a travel league on

Dangers of Overuse Injuries

Friday, Saturday, Sunday, and pack as many games in as they possibly can. And we don't know what they do in these travel leagues. So they come back and pitch, following our rules, after four days rest, but they've already been in a travel ball league where you have no control over what they do," he stated. This leads to arm fatigue and injury, even though the player has met Little League's pitch count requirements, he cautioned. So the coach needs to communicate with the players who are in multiple leagues about when they pitch. The player should alert their travel ball team coach on pitching they've done in Little League, prior to an outside tournament as well.

Treatment and Rehabilitation

The study suggests coaches can follow some simple advice to help reduce the inflammation that hastens the onset of the development of the damage to throwers' elbows: ice. Apply ice for 15 minutes per hour for three or four hours after hard throwing to protect the muscles of the arm, either shoulder or elbow or both. If soreness

develops, take it to the next step: RICE – Rest, Ice, Compression, Elevation. (See page 8 for more.) That can mean stopping play for the player to rest the muscles, either for a few days or longer. Go see a sports physician at the first signs of arm injury to determine the correct course of action, whether simple rest and anti-inflammatory actions (ice, medication) or more extensive treatment.

"Some people criticize the pitch counts," Dr. Andrews stated. "Baseball is a developmental sport, and the players need to start early to learn it. Encourage throwing, but not *competitive* throwing. Year-round competitive throwing is the problem."

Dr. Andrews, medical director at the American Sports Medicine Institute in Birmingham, Ala., is the first surgeon to perform ulnar collateral ligament reconstruction, or, as it is better known, Tommy John surgery. In 2008, he was elected as the 23rd member of the Little League International Board of Directors.

Pitchers Need Rest in Season, Time Off Between Seasons

The American Sports Medicine Institute has issued a position statement to help educate coaches, players and parents about the risks of baseball pitching, and the ways to pitch more safely. Dr. James Andrews, medical director for ASMI, issued the following statement at the Little League Baseball World Series in Williamsport, Pa.

Position Statement for Youth Baseball Pitchers, August 2009

With the rise in elbow and shoulder injuries in youth baseball pitchers, the adult community needs to take steps to prevent these injuries. Research points to overuse as the principle risk factor. Poor pitching mechanics also contribute to injury risk. Another suggested risk factor is poor physical fitness.

Throwing curveballs has been suggested as a risk factor, but the existing research does not support this concern. However, a youth pitcher may not have enough physical development, neuromuscular control and proper coaching instruction to throw a curveball with good mechanics. Throwing curveballs too early may be counterproductive, leading to arm fatigue as well as limiting the youth's ability to master fastball mechanics.

Thus, the recommendations for preventing injuries in youth baseball pitchers are

- Watch and respond to signs of fatigue. If a youth pitcher complains of fatigue or looks fatigued, let him rest from pitching and other throwing.
- No overhead throwing of any kind for at least two to three months per year (four months is preferred). No competitive baseball pitching for at least four months per year.
- Follow limits to pitch counts and days rest.
- Avoid pitching on multiple teams with overlapping seasons.
- Learn good throwing mechanics as soon as possible. The first steps should be learned, in order: 1) basic throwing, 2) fastball pitching, and 3) change-up pitching.
- Avoid using radar guns.
- If a pitcher complains of pain in his elbow or shoulder, get an evaluation from a sports medicine physician.
- Inspire youth pitchers to have fun playing baseball and other sports. Participation and enjoyment of various physical activities will increase the youth's athleticism and interest in sports.

