

OVERUSE INJURIES IN BASEBALL/SOFTBALL



AOSSM SPORTS TIPS

WHAT CAUSES OVERUSE BASEBALL/SOFTBALL INJURIES?

Injuries in young athletes are on the rise, but elbow and shoulder injuries in children are on the verge of becoming an epidemic. Thousands of children are seen each year complaining of elbow or shoulder pain. Damage or tear to the ulnar collateral ligament (UCL) is the most common injury suffered and is often caused by pitchers throwing too much. This ligament is the main stabilizer of the elbow for the motions of pitching. When it becomes damaged, it can be difficult to repair and rehabilitate.

HOW CAN OVERUSE BASEBALL/SOFTBALL INJURIES BE PREVENTED?

Overuse injuries are preventable, especially those related to the UCL and shoulder. Some tips to keep an athlete in the game throughout their life include:

- Warming up properly by stretching, running, and easy, gradual throwing
- Rotating playing other positions besides pitcher
- Concentrating on age-appropriate pitching. Nolan Ryan didn't start pitching until he was in high school
- Adhering to pitch count guidelines, such as those established by Little League Baseball (See tables)
- Avoiding pitching on multiple teams with overlapping seasons

- Not pitching with elbow pain or shoulder; If the pain persists, see a doctor
- Not pitching on consecutive days
- Not playing year round
- Never using a radar gun
- Communicating regularly about how an athlete's arm is feeling and if there is pain
- Developing skills that are age appropriate
- Emphasizing control, accuracy, and good mechanics in young pitchers
- Master the fastball first and the change-up second, before considering breaking pitches

Maximum Pitch Counts

Age	Pitches/Game
7-8	50
9-10	75
11-12	85
13-16	95
17-18	105

Source: Little League Baseball

Rest Periods Required

Ages 7-16 Number of Pitches	Ages 17-18 Number of Pitches	Required Rest
61+	76+	3 calendar days
41-60	51-75	2 calendar days
21-40	26-50	1 calendar day
1-20	1-25	No day of rest required

Source: Little League Baseball

Age Recommended for Learning Various Pitches

Fastball	8 ± 2
Slider	16 ± 2
Change-up	10 ± 3
Forkball	16 ± 2
Curveball	14 ± 2
Knuckleball	15 ± 3
Screwball	17 ± 2

Source: From work by James R. Andrews, MD, and Glenn S. Fleisig, PhD

HOW IS AN ELBOW OR SHOULDER INJURY DIAGNOSED?

If a young athlete is throwing too hard, too much, too early, and without rest, a serious elbow or shoulder injury may be on the horizon. If the athlete complains of elbow or shoulder pain the day after throwing, or movement of the joint is painful or restricted compared to the opposite side, see a physician familiar with youth sports injuries immediately. An examination and radiographs should be done. An MRI scan may also be helpful.

HOW IS AN OVERUSE ELBOW OR SHOULDER INJURY TREATED?

The most obvious treatment for overuse is rest, especially from the activity that created the injury in the first place. Ice is also used to reduce soreness and inflammation. Ibuprofen can be taken to help with any pain. If symptoms persist, it is critical that a physician be contacted, especially if there is a lack of full-joint motion. Usually a simple “rest cure” approach will not be enough, because even though it allows symptoms to subside, it also creates loss of muscle bulk, tone, flexibility, and endurance. Once pain is gone and full motion is present, a throwing rehabilitation program can start. Under some circumstances, surgery may

be necessary to correct a problem. Overuse and stress-related problems can affect growing parts of bone, not just the soft tissue (muscles, tendons, and ligaments). If the condition is not treated, it could cause deformity of the limb and permanent disability.

Expert Consultants

Mary Lloyd Ireland, MD

James R. Andrews, MD

Glenn S. Fleisig, PhD

REFERENCES

- Prevention and Emergency Management of Youth Baseball and Softball Injuries. American Orthopaedic Society for Sports Medicine. 2005.
- Little League Baseball. http://www.littleleague.org/Assets/old_assets/media/pitchcount_faq_08.pdf
- American Sports Medicine Institute. www.asmi.org

Sports Tips are brought to you by the American Orthopaedic Society for Sports Medicine. They provide general information only and are not a substitute for your own good judgement or consultation with a physician. To order multiple copies of this fact sheet or learn more about other orthopaedic sports medicine topics, please visit **www.sportsmed.org**.



The American Orthopaedic
Society for Sports Medicine

Copyright © 2009. American Orthopaedic Society for Sports Medicine. All rights reserved. Multiple copy reproduction prohibited.