Dr James Sostak, MD

✓ Fellowship Trained Orthopedic Surgeon

✓ Board Certified by the American Board of Orthopedic Surgery

✓ Subspecialty Certification in Sports Medicine

✓ Played college and professional baseball & holds NCAA record for the most consecutive hits
Plan Of Attack

Importance of developing athletes first

✓ What does this mean?
✓ Sets important foundation

Growing Thrower’s Arm

✓ Why are injuries up?
✓ What are the rules?
✓ Some new data

“Wait, wait! ... He changed his mind. Install the other throwing arm. He wants a lefty.”
Deliberate Practice Vs. Play

**Deliberate Practice:**
- Activities motivated by goal of performance enhancement and not enjoyment

**Deliberate Play:**
- Activities increase motor skills, emotional ability, and creativity
- Focus is not to directly enhance performance
- Children typically spend more time engaged in sport
Long Term Athlete Development Program

Prior to age 12:
80% deliberate play, achieve physical literacy
Develop ABCs (Agility – Balance – Coordination – Speed)
Training to train

Age 13-16:
50/50 split between a chosen sport and other activities
Training to compete

Age 17 and Up:
Late specialization starts, 75% of time in sports specific competition, but 25% of training time still in non-specialized sports and deliberate play
Training to win
Coaches:

Ethical responsibility to allow for a multi-sport experience

Younger the player = more focus on fundamental movement and less on sport specific skills

Create space for athletes to participate in more than one sport/activity

Adequate “off season”
- prevents burnout and injury, increases motivation
Business of youth sports needs to take a backseat, but how? (continued)

Youth sport organizations:
- Stop creating one size fits all programming
- Delay high-cost, high-commitment travel programs for as long as possible
- Delay 6 day/week programming until at least 12

Sports Governing Bodies:
- Educate coaches
- Celebrate the organizations that do it right
- Create high standards, allow clubs that meet them the right to brand website
Parents:

• Ask Questions!!!
• Is my child being taught to properly run, jump, land, fall, roll, etc…
• Is there an injury prevention program being taught
• Are coaches educated on dangers of overuse injury and burnout
• Encourage multi-sport/activity participation
• If participating in only one sport, ensure adequate rest and off-season
Food For Thought

Figure 14 (2013): Average number of sports participated in, based on age

2014 USOC Comprehensive survey of their Olympians
Food For Thought

All players on 40-man roster were multisport athletes
EXCLUSIVE
KORE IN CHINA
KORE IN TWILIGHT

MO'NE
REMEMBER HER NAME

AS IF WE COULD EVER FORGET

WORDS BY ALBERT CHEN
PHOTOS BY AL TIELEMANS
P. 4
The Growing Pitcher’s Arm

No competitive baseball pitching for at least 4 months per year

Follow recommended limits for pitch counts and days rest

Don’t pitch on multiple teams with overlapping seasons

Don’t be a pitcher and catcher on the same team

Play other sports in addition to baseball

American Sports Medicine Institute (Andrews 2012)
The Growing Pitcher’s Arm

Despite these guidelines from Dr. Andrews himself:
Youth pitching overuse injuries are on the rise

More shoulder and elbow surgeries are performed on developing pitchers

Why?
Recent studies showed youth pitchers aren’t following the rules
The Pitching “Rule Of Ones”

One Game and One day at a time …

One Hundred Pitches is the absolute upper limit

One position at a time …

At least One other organized sport or One season off

One complaint of Arm Pain or Tiredness = One Week off

J Guettler, May 2013
Looking At The Data

Statistically Significant increased risk of ARM PAIN and Fatigue when:

- Pitching for more than one team during season
- Pitching more than one game during same day
- Pitching back to back days
- Pitching in leagues w/o pitch counts
- Throwing curve balls prior to high school

Arm Pain and Fatigue = Possible increased Risk of Injury!
The Impact of Fatigue on Baseball Pitching Mechanics in Adolescent Male Pitchers

Brandon J. Erickson, M.D., Terrance Sgori, B.S., Peter N. Chalmers, M.D., Patrick Vignona, B.S., Matthew Lesniak, B.S., Charles A. Bush-Joseph, M.D., Nikhil N. Verma, M.D., and Anthony A. Romeo, M.D.

46% of subjects pitched for multiple teams

39% pitched for more than 9 months a year

11% returned to the mound after being removed

61% pitched for showcases

The Impact of Fatigue on Baseball Pitching Mechanics in Adolescent Male Pitchers (Erickson et al Arthroscopy 2016)
As pitch # increased: Pain and fatigue scores increased, and velocity decreased, accuracy didn’t change

upperbody mechanics didn’t significantly change

knee flexion at ball release increased, and hip to shoulder separation decreased

**THIS SUGGESTS LEG and CORE MUSCLES FATIGUE FIRST!**

61% pitched for showcases
Throwing fastballs - not curveballs - linked to Tommy John surgery
What To Take With You

Focus on developing Athletes First

Especially at younger ages (ABC’s)

Less emphasis on specialized skill development, more on broad fundamentals

Encourage multi-sport participation

Embrace multisport athletes
What To Take With You

Take the growing pitcher’s arm rules to heart

Promote Leg and Core muscle strengthening

If a thrower complains of arm pain, or you notice their performance declining:
Consider 1-2 weeks of “throwing rest”.
If pain persists have them evaluated by an orthopedist or sports medicine specialist.
Thank You!

James Sostak, MD

Mon - Fri 8:30am - 8:00pm