

*Always First<sup>SM</sup>*

# **Baseball Sports Medicine Update 2017**

**Dr. James Sostak**



# Dr James Sostak, MD

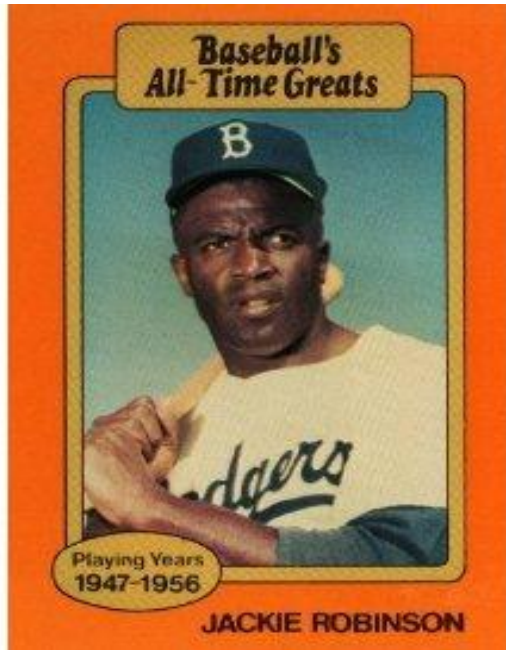
- ✓ Fellowship Trained Orthopedic Surgeon
- ✓ Board Certified by the American Board of Orthopedic Surgery
- ✓ Subspecialty Certification in Sports Medicine
- ✓ Played college and professional baseball & holds NCAA record for the most consecutive hits



# Plan Of Attack

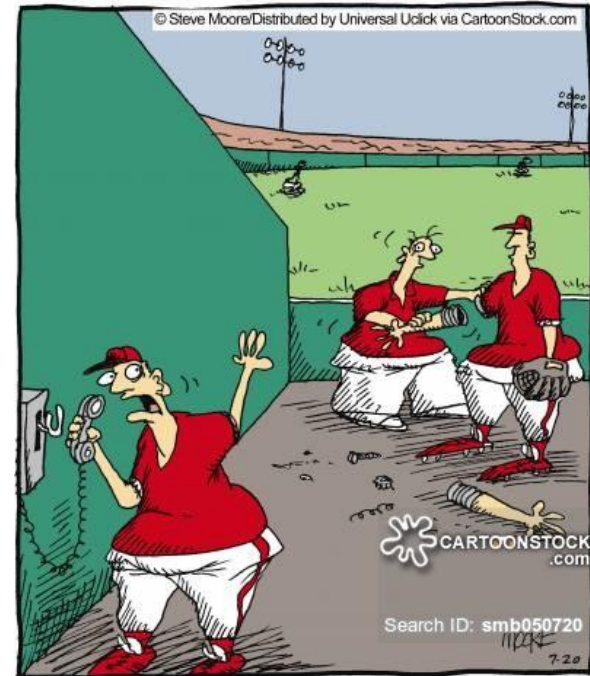
## Importance of developing athletes first

- ✓ 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**

# Business of youth sports needs to take a backseat, but how?

## 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

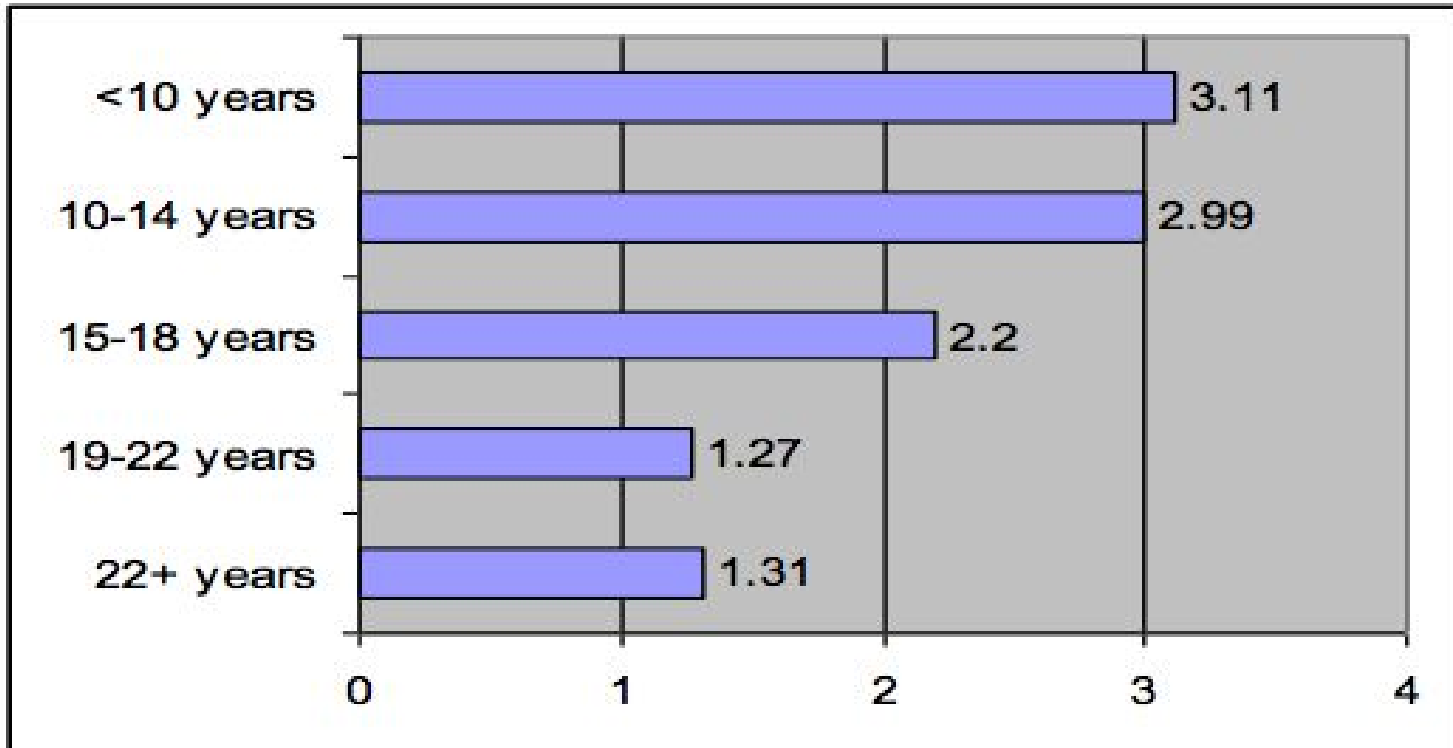
# Business of youth sports needs to take a backseat, but how? *(continued)*

## 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

KOBE IN CHINA  
KOBE IN TWILIGHT

BY  
CHRIS  
BALLARD  
P.48

# Sports Illustrated

6.25.2014 / SI.COM

The 13-year-old from South Philly has owned the sports conversation since her shutout of Tennessee last Friday.

# MONIE

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

# 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 Recent Data

## 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)*



# The Recent Data

## The Impact of Fatigue on Baseball Pitching Mechanics in Adolescent Male Pitchers

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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

*The Impact of Fatigue on Baseball Pitching Mechanics in Adolescent Male Pitchers (Erickson et al  
Arthroscopy 2016)*

# Sports Illustrated

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

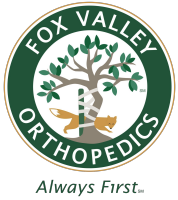
**Take the growing pitcher's arm rules to heart**

**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

**Ortho**  
**>>>First™**

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

