



# Epidemiological Studies

- Over the last ten years at ASMI, because of this epidemic of throwing arm injuries, we have done the following epidemiological studies with the hope that we could “prevent some of these injuries”
- We have also been instrumental in changing some of the rules in youth baseball to prevent injuries!!



## A Few of These ASMI Studies Include:

- Effect of pitch type, pitch count, and pitching mechanics on risk of elbow and shoulder pain in youth baseball pitchers  
Lyman et al, *Am J Sports Med* 2002
- Risk factors for shoulder and elbow injuries in adolescent baseball pitchers

Olsen et al, *Am J Sports Med* 2006



The Take Home Message in These ASMI Studies  
Showed That if a Young Pitcher Throws with  
Fatigue He Has a 36 to 1 Times Risk of Injury



From these ASMI epidemiology studies, the USA  
Baseball Medical & Safety Advisory Committee  
has made the following recommendations and  
position  
statements on Youth Baseball Pitching Injuries

# Injury Prevention



## USA Baseball Guidelines (2004)

- Pitch count chart
  - Pitches per game, season, year
  - Ages 9-14 yrs
- Discourage
  - Breaking pitches
  - Multiple leagues
  - Showcases
  - Year-round baseball
- Encourage
  - Good mechanics
  - Good conditioning



# From These Studies and Recommendations, the Little league Got Involved in Injury Prevention



- Little League Pitch Count Rule (2007)

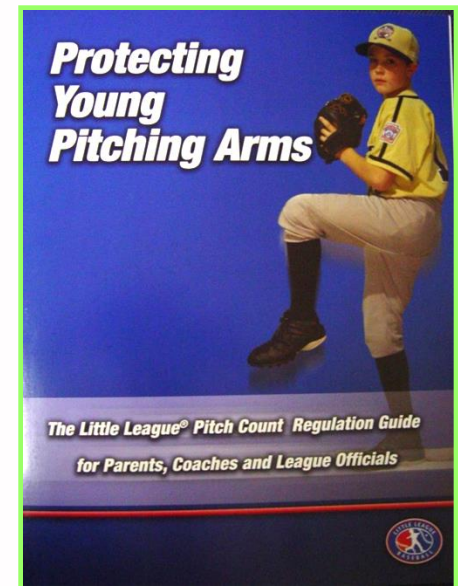
- Pitches allowed per game

- 17-18 yrs      105 pitches
    - 13-16 yrs              95 pitches
    - 11-12 yrs              85 pitches
    - 10 and under              75 pitches

- **7-8                      50 pitches (2008)**

- Days rest after pitching

- 61 or more pitches              3 days
    - 41-60 pitches              2 days
    - 21-40 pitches              1 day





*What about  
Cheerleading / Gymnastics?*





Dr. Fred Mueller Director of the National Center for  
Catastrophic Sports Injury Research at the Univ. of North  
Carolina

## “Cheerleading is out of control”

- Cheerleading injuries resulting from ER visits have increased almost 6 fold since 1980 to nearly 30,000 in 2008 according to the US Consumer Product Safety Commission
- The exact number of serious injuries is not known because there is no formal reporting system
- But for catastrophic injuries cheerleaders lead the stats
  - Over the 26 yrs from 1982 to 2008 they show disabilities caused by head or spine trauma are almost double for high school cheerleaders than for all other female sports combined. There were 73 catastrophic injuries including 2 deaths during this period
- Gymnastic was 2<sup>nd</sup> with 9 catastrophic injuries





## Dr. Fred Mueller

# “Cheerleading is out of control”

- There are approx. 3 million cheerleaders nationwide
- With 400,000 at the high school level
- In college, during 2005, 25% of the NCAA insurance medical expenses was spent on cheerleading injuries
- In comparison, FB with 10X the participants accounted for 57% of the money spent



# What about Football?



## SPORTS TIPS

### FOOTBALL INJURIES

Football is one of the most popular sports played by young athletes, and it leads all other sports in the number of injuries sustained. In 2007, more than 920,000 athletes under the age of 18 were treated in emergency rooms, doctors' offices, and clinics for football-related injuries, according to the U.S. Consumer Product Safety Commission.

#### WHAT TYPES OF INJURIES ARE MOST COMMON IN FOOTBALL?

Injuries occur during football games and practice due to the combination of high speeds and full contact. While overuse injuries can occur, traumatic injuries such as concussions are most common. The force applied to either bringing an opponent to the ground or resisting being brought to the ground makes football players prone to injury anywhere on their bodies, regardless of protective equipment.



# FOOTBALL

Reportedly one in every three high school football players will be sidelined 2<sup>0</sup> to injury

In 2007, more than 920,000 athletes under the age of 18 were treated in emergency rooms, doctors offices and clinic for football related injuries according to the Consumer Product Safety Commission



# How Can Football Injuries be Prevented?

- Have a pre-season health and wellness evaluation
- Perform proper warm-up and cool-down routines
- Consistently incorporate strength training and stretching
- Hydrate adequately to maintain health and minimize cramps
- Stay active during summer break to prepare for return to sports in the fall
- Wear properly fitted protective equipment, such as helmet, pads, and mouthguard
- Tackle with the head up and do not lead with the helmet
- Speak with a sports medicine professional or athletic trainer if you have any concerns about injuries or prevention strategies



On The Other Side of The “Coin”  
There Is Another Youth Sports  
Problem We Have To “Deal With!”



# *The Young Athlete's Paradox*


- The younger they are:
  - The more *symptoms* and *pain* they have
  - The less you find on P.E.
  - The more they want you to operate
  - The less *pathology* you find at surgery!
  - *The less talented they probably are regardless of what their parents say!*



# COUNCIL OF CHAMPIONS

A Council of Champions has been completed...Neal El Attrache and I are Co-Chairmen

The purpose of this council is to help promote, influence, fund, and stimulate the goals of the STOP program







## Noteworthy are:

- **John Smoltz**, future baseball Hall of Famer and ESPN baseball analyst, along with:
  - *Sam Bradford*
  - *Tom Brady*
  - *Jack Nicklaus*
  - *Brett Favre*
  - *Shaquille O'Neal*





# Youth Sports Injury Prevention Research

- Research is a big part of our prevention program
- A \$300,000 in grant money is available on a competitive grant proposal agenda through the Orthopaedic Research and Education Foundation.



# Sponsorship

- The **STOP** Injuries Campaign is of course the initiative of the AOSSM – a 501(c)(3) not for profit organization established in Illinois in 1972
- Sponsorship and financial commitment for this **STOP** campaign against youth injuries is crucial to success over the long haul! Our goal is 50 million dollars



*Hopefully in the future **Prevention***

*will become more important than treatment  
especially with the epidemic rise in injuries in youth sports*



This is a national initiative by the **AOSSM**  
**[www.stopsportsinjuries.com](http://www.stopsportsinjuries.com)**



# Summary of the STOP Campaign

- Yes there is a tremendous need for prevention of injuries in youth sports
- Our country's socio-economic structure in some ways is dependant on keeping these young athletes healthy!
- Education and research in prevention is the key to these GOALS!!
- Our motto is: Keep our kids out of the operating room and on the playing field!
- Please help –

*Thanks... Jim Andrews*



Major League Baseball has also developed a compressive **PREVENTIVE** youth baseball program entitled



Go to MLB link for further information:

<http://m.mlb.com/pitchsmart/>



*Thank You for allowing me  
to present this information to you.*

*James R. Andrews M.D.*



# Thank You



**ANDREWS**  
Sports Medicine and Orthopaedic Center



American Sports Medicine Institute

  
**ANDREWS**  
INSTITUTE  
ORTHOPAEDICS & SPORTS MEDICINE



RESEARCH &  
EDUCATION  
FOUNDATION