

Overview of Upper Extremity Overuse Injuries in Baseball



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BLUF

- Pre-season evaluation
- Manage load in season
- Kinetic chain
- Nutrition
- Smart strength training
- Recovery
 - Sleep
 - Mindfulness
- Youth specifics
 - Pitch counts and recovery time
 - Age of various pitches
 - Time off from throwing (3 months)
 - Play another sport

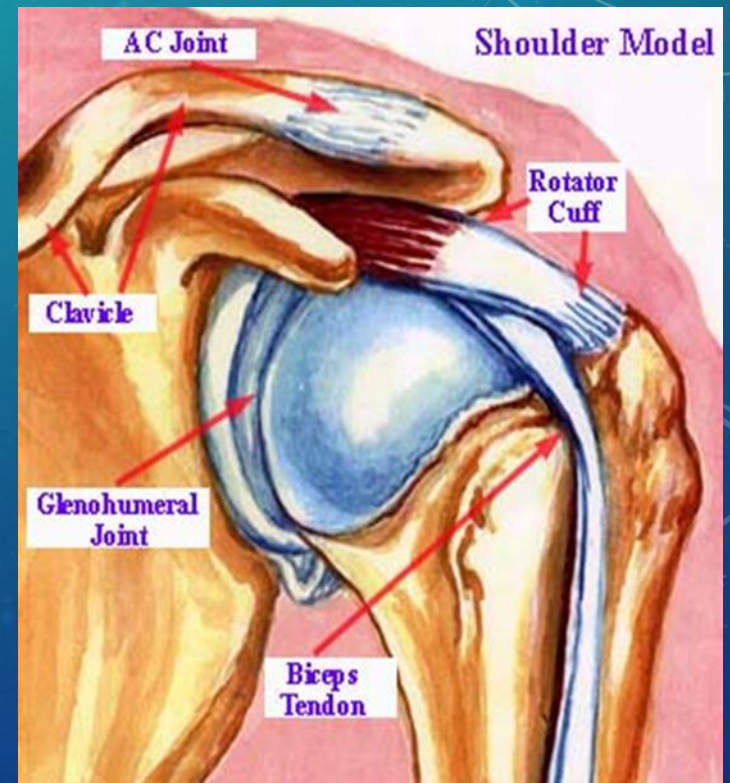
SHOULDER INJURIES

- Shoulder pathology can be logically classified into 4 categories according to patient complaint
- An accurate history is the key to allow the clinician to easily classify shoulder pathology



Shoulder Injuries

- These complaints include the following:
 - Stiff Shoulder
 - Weak** Shoulder
 - Unstable** Shoulder
 - Rough (Crepitus) Shoulder



Diagnosis

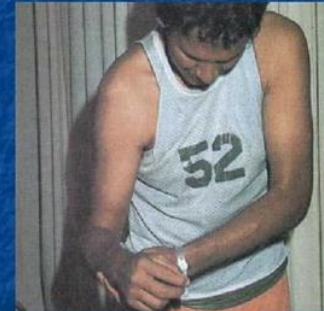
- Weak Shoulder
 - Rotator cuff pathology
 - Cervical Radiculopathy
 - Brachial Plexopathy or TOS
 - History
 - overuse (volume vs technique)
 - sometimes one throw with a “pop”



Diagnosis

- Unstable Shoulder
 - Subluxation
 - Dislocation
 - Chronic Shoulder Instability
 - History
 - Usually age<40, locking, crepitus
 - Pathology
 - Labrum, capsular ligaments

Anterior Dislocation, Right Shoulder



Related Diagnosis

- Subacromial or Subdeltoid Bursitis
 - History
 - trauma at or around bursae
 - Specific Tests
 - Palpatory pain
 - Pain with both active and passive range of motion

Elbow Injuries

- Ulnar Collateral Ligament Sprain
 - Caused by valgus stress on elbow
 - Seen especially in athletes, especially baseball players, where repetitive activity can weaken ligament
 - Can tear completely often preceded by audible “pop”

DUKE SCREEN



Cervical:

Range of Motion	Left	Right
Rotation		
Rotation and Flexion		

Thoracic Range of Motion:

	Left	Right
Degrees of Rotation		

Shoulder

Range of Motion	Left	Right
External Rotation		
Internal Rotation		
Total Motion		
Latissimus <u>Dorsi</u>		

Strength	Left	Right
External Rotation		
Internal Rotation		

Elbow:

Range of Motion	Left	Right
Flexion		
Extension		

Hip:

ROM	Left	Right
External Rotation		
Internal Rotation		
Extension		
Total Motion		

Strength	Left	Right
Hip Extension		
Glute-Hamstring Activation		
Hip Abduction		
Standing T-Burg		

Ankle

	Left	Right
Dorsiflexion		

YOUTH RISK FACTORS

45%

pitched in a league without pitch counts or limits

43.5%

pitched on consecutive days

30.4%

pitched on multiple teams with overlapping seasons

19%

pitched in multiple games on the same day

13.2%

pitched competitive baseball for more than 8 months per year

STOP SPORTS INJURIES (PEDS)

- Rotate playing other positions besides pitcher
- Concentrate on age-appropriate pitching
- Warm up properly by stretching, running, and easy, gradual throwing
- Adhere to pitch count guidelines, such as those established by Little League Baseball (See tables)
- Avoid pitching on multiple teams with overlapping seasons
- Don't pitch with elbow or shoulder pain, if the pain persists, see a doctor
- Don't pitch on consecutive days
- Don't play year-round
- Never use a radar gun
- Communicate regularly about how your arm is feeling and if there is pain
- Develop skills that are age appropriate
- Emphasize control, accuracy, and good mechanics
- Master the fastball first and the change-up second, before considering breaking pitches
- Speak with a sports medicine professional or athletic trainer if you have any concerns about baseball injuries or baseball injury prevention strategies See more at:

http://www.stopsportsinjuries.org/STOP/STOP/Prevent_Injuries/Baseball_Injury_Prevention.aspx#sthash.XE53DFVX.dpuf

STOP SPORTS INJURIES

Age Recommended for Various Pitches

- See more at:

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





PITCH SMART.

A series of practical, age-appropriate guidelines to help parents, players and coaches avoid overuse injuries and foster long, healthy careers for youth pitchers.

AGE	DAILY MAX (PITCHES IN GAME)	REQUIRED REST (PITCHES)					
		0 Days	1 Days	2 Days	3 Days	4 Days	5 Days
7-8	50	1-20	21-35	36-50	N/A	N/A	N/A
9-10	75	1-20	21-35	36-50	51-65	66+	N/A
11-12	85	1-20	21-35	36-50	51-65	66+	N/A
13-14	95	1-20	21-35	36-50	51-65	66+	N/A
15-16	95	1-30	31-45	46-60	61-75	76+	N/A
17-18	105	1-30	31-45	46-60	61-80	81+	N/A
19-22	120	1-30	31-45	46-60	61-80	81-105	106+

Thank You

