Elbow Problems in Young Athletes

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Financial Disclosure

None

Case #1

11 Year Old Pitcher: Elbow Pain
Case #1

11 Year Old Pitcher
• New complaint
• Medial side
• Throwing arm
• Pitching for 4 years
  – Team wins when he pitches
• Pitching coach
  – Just started throwing a curveball
• No injury
• Healthy

Physical Exam
• Appearance: normal
• ROM: full
• Tender:
  – Medial side of the elbow
  – None lateral side
• Strength: Good grip strength, but tender with wrist flexion and pronation against resistance
• Stability: normal, but pain with valgus stress
• NeuroVasc: normal. Tinnel: Negative

What else do you need to examine?
• Hint: A nearby body part
DDx: Medial Elbow Pain?

- “Little League Elbow”
- “Tommy Johns”
  - Chronic UCL injury
- Medial epicondyle fracture
- Ulnar nerve entrapment
- Stress fracture
- Infection/tumor

So, what’s your Dx?

Symptomatic Side

Comparison

“Little League Elbow”

Medial Epicondyle Apophysitis
- Ages 11-14
- Repetitive throwing
- Tension injury
- Subclinical failure
- Impending fracture
**Muscles: Medial Epicondyle Origin**

- Pronator Teres
- Flexor Muscles
- Medial Epicondyle

**GERD vs. GIRD**

- Glenohumeral
- Internal Rotation
- Deficit
- Relative lack of IR of the shoulder
- Tight posterior-inferior capsule

**Imaging**

- Plain radiographs
- ± external rotation oblique
- ± comparisons
Variations
Treatment

- Education/prevent fracture
- Ice, NSAID’s
- Switch positions in baseball
  - May bat
  - Low demand positions if pain-free
- Time: 6-12 mos. to pitching
- Rarely immobilize/cast
- Assess and rehab shoulder

Prevention: Shoulder & Elbow

- Education
- Technique
- Monitor for sx’s
- Evaluate early
- Identify the “error”
- Deliberate & graduated return
- Pitch counts

“Little League Elbow”

- “Medial Epicondylar Apophysitis”
- Ulnar collateral ligament tear
- OCD capitellum
- Medial epicondyle fracture
Medial Epicondyle Fracture

- Apophysitis is an impending fracture

**Pitfall #1**

Healing of Displaced Fractures

- Often heal with a fibrous union
- Most heal without symptoms
- Demands and expectations
- Informed consent

Went on to become a professional pitcher…
Re-do the animation
Michael Busch, 05/01/2012
Open Reduction Internal Fixation

2.0 mm K-wire

Case #2

12 y/o female gymnast
- Chronic lateral elbow pain
- No specific injury
- Hurts with tumbling and vault
- Recently went from level 7 to level 8

DDx: Lateral Elbow Pain?
- Osteochondritis capitellum
- Synovial impingement
- Radiocapitellar abnormalities
  - Traumatic
  - Congenital
Valgus Overload of the Elbow

- Medial epicondyle
  - Apophysitis
  - Fracture
  - UCL injury
- Osteochondritis dessicans
  - Capitellum
- Others

OCD Capitellum

Etiology
- Repetitive compression stresses
- Stress fracture of sorts
- End arterial blood supply
- Predisposed individual
“Conservative” Care

• Rarely successful
• Most displace with time
• Even with surgery, may preclude pitching and gymnastics
• Long term effects?
Synovial Impingement of the Posterolateral Elbow (SIPE)

Arthroscopic Resection

“Little League” Lessons

- Growing incidence of over-use injuries in kids
- Group of conditions all due to excessive valgus at the elbow
- Know the specifics…
- But don’t forget the basics
  – Throwing/pitching mechanics
  – Training errors
  – Rest/time
“In America, you have forgotten to teach your children to play chess.”

Haluk Altiok, MD

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