

Sprains (General)

- 3 Degrees of Sprain
 - Not much use clinically
- Radiographs
 - To rule out fractures
 - **Don't stress the joint until AFTER the xrays**
- Children and Sprains
 - Yes, they can get them
 - Rule out fractures first
- Treatment
 - Immobilize for 2-3 days
 - Orthopedic consult for 3rd degree

Ankle Sprains

- Most common mechanism: plantar flexion and inversion
- Lateral ligaments: Anterior / Posterior talofibular and calcaneofibular
- Anterior talofibular most easily injured
- Anterior Drawer Test: evaluates anterior talofibular ligament
- Ankle Inversion Stress Test: evaluates calcaneofibular ligament
- High Ankle Sprains (Syndesmosis Sprains): squeeze test; crossed-leg test

Strains

- 3 degrees of Strain
- May see fractures with 2nd or 3rd
- May have pain with active or passive motion and comfort at rest
- Orthopedic consult for 3rd degree

Synovitis

- Basically diagnosis of exclusion
- FABER test to rule out sacroiliac joint pathology
 - **F**lexion, **A**Bduction **E**xternal **R**otation
 - Also, most comfortable position for effusions
- Prone internal rotation
 - Most sensitive test for intra-articular hip pathology
- Ultrasound: can detect effusions, but that doesn't rule out infection
- Septic Arthritis Predictors (0 = 2%; 1 = 9.5%; 3 = 73%)
 - Temp. > 38.5 in the preceding week
 - Refusal to bear weight
 - ESR > 40
 - WBC > 12,000
- Most common cause of hip pain in children: Transient Synovitis
- URI precedes hip pain in > 50% of patients
- Care for Transient Synovitis
 - Rest or non-weight-bearing
 - NSAIDs
 - Re-check at 12-24 hours

- Follow-up
 - 75% resolve in 2 weeks
 - May last 8 weeks
 - Persistent effusion (4-6 weeks) concerning for Legg-Calvé-Perthes
 - Follow-up radiographs at 6 months
 - Debatable if asymptomatic

Fasciitis

- 2 Types of Necrotizing fasciitis
 - Type 1: polymicrobial, abdomen and perineum
 - Type 2: Group A strep, extremities
- **Predictors of mortality:**
 - Diabetes (most important)
 - Advanced age
 - Greater than 2 comorbidities
 - Surgical delay > 24 hours
- Treatment is surgical
- Broad Coverage Antibiotics
 - Primaxin (imipenem/cilastin)
 - 500mg IVPB QID
 - Meropenem
 - 1 gram IVPB TID
 - Zosyn
 - 4.5 gram IVPB TID
 - Timentin (ticarcillin/clavulanate)
 - 3.1 grams IVPB TID
 - Vancomycin
 - 1 gm IVPB if MRSA suspected (duh....)

Plantar Fasciitis

- Over-use injury
- Worse with initial weight-bearing
- Progresses to pain persistent with ambulation
- 50% have calcaneal spur
- Treatment: rest, avoidance, NSAIDs, Orthotics

Plantar Fascial Rupture

- Tears off of calcaneal attachment
- Generally occurs during push-off phase of gait
- Pain with passive dorsiflexion of big toe
- Treatment is non-surgical

Compartment Syndrome

- Can be caused by reperfusion of ischemic tissues
- Most commonly seen: anterior compartment of leg
- **Most commonly missed: deep posterior compartment of leg**

Wood Resident Lecture Handout: Soft tissues
May 22, 2008

- Pulse and Doppler flow not useful
- ***Hallmark findings unreliable in pediatrics***
- Perfusion Pressure: Diastolic BP – compartment pressure
- Fasciotomy indicated with absolute compartment pressure of 30 mmHg, or perfusion pressure of 30 mmHg, depending on what source you read
- ***12-hour delay to surgery can be problematic***
- Cannot provide deep anesthesia infiltration

High-Pressure Injection Injuries

- Higher viscosity fluid = higher pressures
- High amputation rates
- ***Amputation rates increase if surgery delayed > 6 hours***
- Important characteristics: type of fluid, pressure, volume injected
- *Paint / Paint thinner*: significant early inflammatory response, higher amputation rates
- *Grease*: less immediate inflammation, more long-term problems
- ***Digital blocks not recommended (adds more fluid / pressure)***