Orthopaedic Trauma for NPs/PAs
Common Pediatric Fractures (SCH, BBFx, Femur)
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**SCH Fx**
I. Type I fractures – nondisplaced. Cast for 3 weeks
II. Type II fractures – posterior cortex intact, distal fragment extended
   a. Operative versus Nonoperative – dealer’s choice (Age, swelling, comminution)
      i. Coronal malalignment needs surgery
      ii. Closed reduction and cast successful in 72% (Parikh, et al JPO 2004)
         1. Repeat XR in cast in 1 week
         2. Anterior humeral line must cross capitellum
III. Type III fractures – Completely displaced
   a. Operative treatment
   b. High risk of neurovascular injury (12% nerve injury, 5% pulseless – Garg et al JPO 2014)
   c. Assess soft tissue injury – swelling, ecchymoses, puckering – these signs are associated with
      neurologic injury, pulselessness as well as a deterioration of exam overnight). This is more of a
      factor than the XR in deciding urgency of treatment.
   d. Careful serial exams if you admit for surgery the next morning

**BBFx**
I. Most common fracture in children, want to restore full forearm rotation
II. Remodelling
   a. Closer to the Physis = More Remodelling
   b. Rotation does not remodel
   c. Sagittal plan deformity remodels more than AP deformity

<table>
<thead>
<tr>
<th></th>
<th>Age &lt;8yo</th>
<th>Age &gt;8yo</th>
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</thead>
<tbody>
<tr>
<td>Proximal</td>
<td>&lt;10deg</td>
<td>&lt;5deg</td>
</tr>
<tr>
<td>Midshaft</td>
<td>&lt;20deg</td>
<td>&lt;15deg</td>
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<tr>
<td>Distal</td>
<td>&lt;45deg</td>
<td>&lt;20deg</td>
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III. Reduction Principles
   a. Longitudinal traction, Recreate the deformity
   b. Use intact periosteum on concave side
   c. Interosseous mold, straight ulnar border, 3 point mold

IV. Weekly XR in cast first 2-3 weeks! Let family know that you may need to wedge or replace the cast

**Femur**
I. General Principles
   a. <2yo – Think Nonaccidental Trauma
   b. High energy injury – Trauma eval
   c. Check AP Pelvis XR
   d. Timing not important
   e. Buck’s traction for comfort, can help with length
II. 0-6 mo age- Pavlik vs Spica, consider Nonaccidental Trauma
III. <5yo – Spica cast, Valgus mold
IV. > 5 – Dealer’s choice for some type of implant