

Orthopaedic Surgery for Paediatric Neuromuscular Patients

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Indications

- Pain
- Mobility
- Hygiene
- Seating

Scoliosis

- Often progressive and severe
- Quadriplegic CP, Duchene, Spina Bifida
- Hips may be dysplastic / dislocated
- Which first - Hip or Spine?
 - If fusing to sacrum, spine first
 - Liase with Spinal Surgeons

Common CP deformities

- Planovalgus / Cavovarus foot
- Toe walking
- Flexed knees
- Flexed hips
- Scissoring
- Hip subluxation
- Leg length difference

Principles

- CP pts are weak, complex, gait lab assessment
- Rapidly weaken if kept non wt bearing – may not regain strength to overcome residual deformity and gravity
- Bone is weak, thin cortices. Locking plates useful
- Keep joint reaction force anterior to knee
- Over lengthened gastrosoleus – off legs
- Consider time lost for schooling

Planovalgus foot

- Collapsed arch due to tight gastrosoleus and weakness
- Calcaneal lengthening osteotomy / subtalar / triple fusion, with careful gastrosoleus lengthening
 - Autograft vs xenograft
- Cavovarus - tendon transfer / osteotomy

Hamstrings and Psoas

- Bi - articular
- Often short (tight)
 - Often cause of toe walking
- Distal medial lengthening (recession)
- Psoas recession
 - Early weight bearing and physio
 - Safer than gastrosoleus recession

Knee fixed flexion

- Growth manipulation (8 plates)
- Distal femoral osteotomy – often with tibial tuberosity distalisation to correct patella alta and re-tension quadriceps



Scissoring

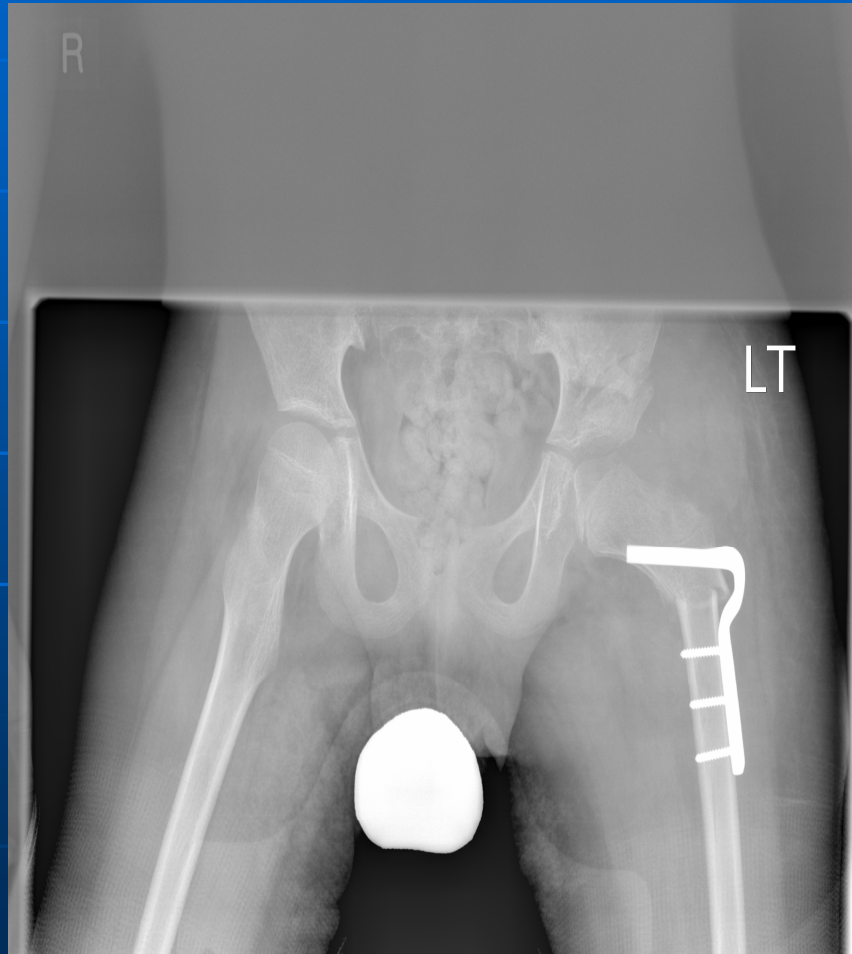
- Check hips
- Femoral internal torsion (ante version)
- Hip flexors and adductors tight
- Consider foot position and stability post external rotation osteotomy ?
Requires tibial internal rotation osteotomy

1/8", 2/8", 3/8", 1/8"
dist tib, prox tib, dist fem, prox fem



Painful hip subluxation

- Open reduction with femoral and pelvic osteotomies
- Excision proximal femur – 9 months before assess result



Upper Limb

- Flexed elbow, pronated forearm, flexed wrist and fingers, thumb in palm
- Surgery does not improve function
- Wrist fusion, forearm flexor recession and thumb correction high pt satisfaction

Questions

- Opportunities in theatre