Orthopaedic problems in children

Developmental Dysplasia of the HIP

Affect up to 3% of newborn
Responsible for 29% of hip replacements in under 60 year olds
20% of cases are bilateral
80% are in girls

Illustration 1: Congenital calcaneovalgus foot

Risk factors

- Positive family history
- Breech
- Birthweight>5kg
- Congenital calcaneovalgus foot deformity
- Oligohydramnios
- Prematurity

Tests
At birth and at 6 weeks check:

- Ortolani [relocate previously dislocated femoral head]
- Barlow [dislocate previous articulated femoral head]

Later diagnosis

- Check for limited hip adduction (<60 degree) with hip flex at 90 degree (should be able to fully abduct to the couch).
- Galleazzi test [both hips and knees are flexed to 90 degree and relative heights of the knees should be equal
- Buttock flattening, widened perineum on affected side and asymmetric thigh folds can be present but are not particularly sensitive. Asymmetric skin folds are found in 25% of normal infants and is not significant on its own.

Investigations
USS up to 4.5 months of age [hips remain cartilaginous up to this age]
After 4.5 month AP pelvic X-ray to assess shallowness of acetabulum

Protocol:
Neonatal clinic hip examination at birth:
Normal? -> No risk factors -> Reassess at 6 weeks
Normal? -> Has risk factors -> USS at 6 weeks and immediate treatment if abnormal
Abnormal hip examination: USS at 2-3 weeks. Refer specialist. Treatment to start by 6-8 weeks at the latest

Most hips will stabilise spontaneously by 2-6 weeks. Otherwise will need Pavlik harness [early detection is essential as older children will require more complex surgery]

Slipped Upper Femoral Epiphysis

Relatively rare: 1-7 per 100000. 3 times more common in boys
Bilateral in 20%

Acute SUFE typically occur after trauma and prevent weight bearing [will often present to A&E]
Chronic SUFE: occurs over weeks/months. Presents as hip,knee or thigh pain usually in an overweight adolescent. Any child will knee pain should have HIP and knee examined. Examination of hip reveals LOSS OF INTERNAL ROTATION and PAIN at extremes of movement.

Investigation
AP and lateral x-ray of both hips on the same film.

Management
ADMIT. Likely to require surgical screw to fix and stabilise the epiphysis

PERTHE'S DISEASE

Aged between 3 and 12 years; most common between 5 and 7 years.

- more common in boys (3-4 x).
- family history in 12%.
- about 20% bilateral.

Avascular necrosis of femoral head

Presentation is with pain and limping, usually affecting just one hip, but occasionally both, developing over a month.

Thomas' test: where the uninvolved flexed leg is held against the abdomen of the supine patient to flatten the lumbar lordosis. If a hip flexion contracture is present in the opposite leg then it will not remain on the couch

ADMIT