



# Haemophilia and Orthopaedic Surgery



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# Disclaimer

- Director of Education OTC South Pacific



- No funds or company support received for this presentation

# Overview

- General principles of orthopaedic pathology in haemophilia
- Multidisciplinary team approach
- Surgical procedures and decision making

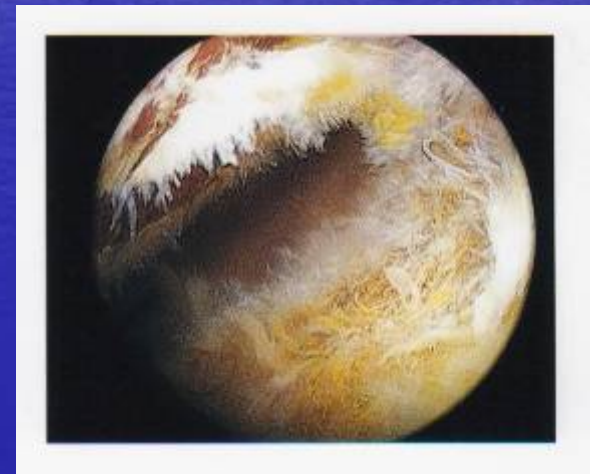


# Change in surgery over time

- Decreasing need for surgery
- Different procedures utilised
- Change from open knee synovectomy and Achilles tenotomy in 1970's
- 2000's Elbow synovectomy and excision of radial head, and knee replacement

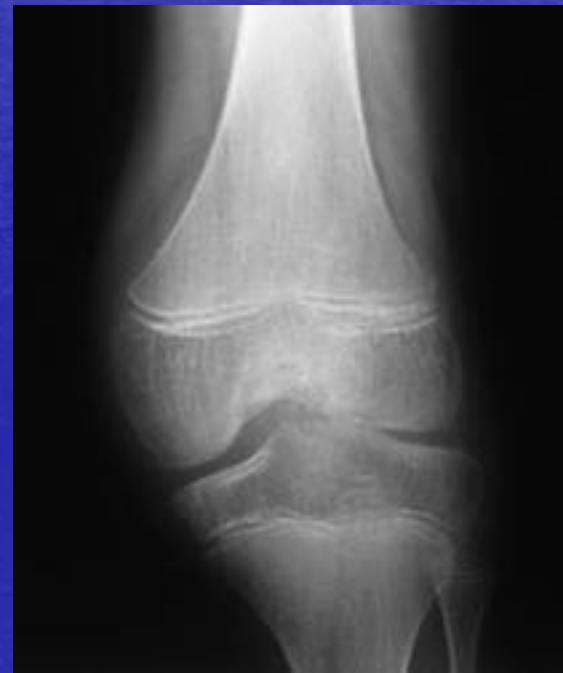
# Orthopaedic Pathology

- Joint Bleeds– Ankles, Knees, Elbows– 80%
- Medical management
- If bleeds continue:
- Synovial hypertrophy
  - increased vasc
- Chronic synovitis
- Articular cartilage destruction



# Orthopaedic Pathology

- In Children
- Hypertrophy of growth plate
- Leg length inequality
- Angular deformity

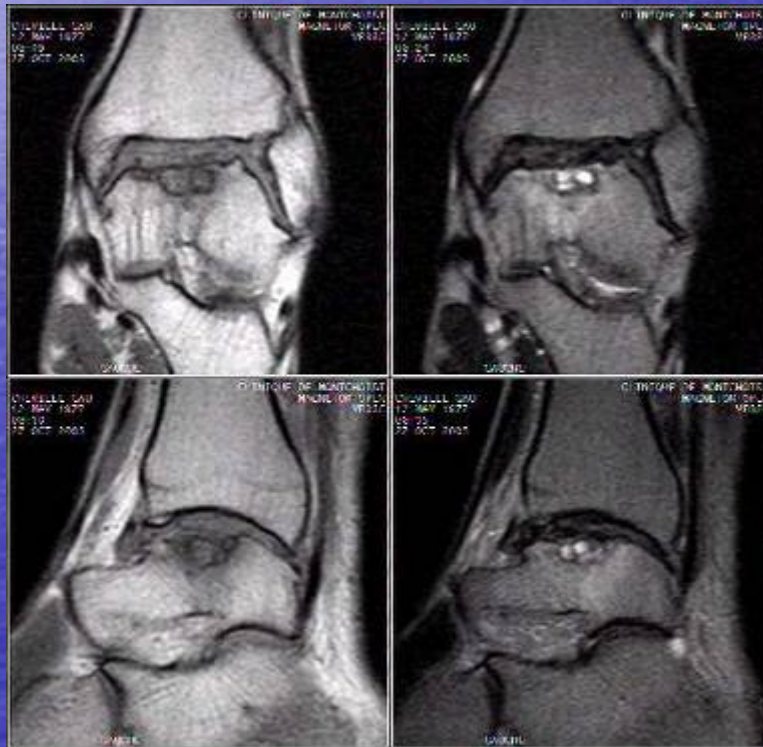


# Children

- Joint contractures
  - Tendoachilles lenghening
  - Hamstring lengthning
  - Osteotomy
  - Ilizarov
- Joint needs to be in good condition

# Orthopaedic Pathology

- Haemophilic Arthropathy





# Surgical procedures

- Synovectomy
- Joint Debridement
- Osteotomy
- Fusion/Arthrodesis
- Arthroplasty



# Synovitis

- **Synovectomy - Radiosynovectomy**
- **Surgical synovectomy – Not often these days**
- **Arthroscopic V's Open – Knee**
- **Elbow/Ankle – Open**
  
- **Aim to reduce bleeds and pain and preserve joint**
  
- **Outcomes – often reduced ROM**
- **Hard to rehab**

# Joint Debridement

- Usually to remove osteophytes or graft cysts
- Best in relatively preserved joint
- Ankle/elbow best results



# Elbow

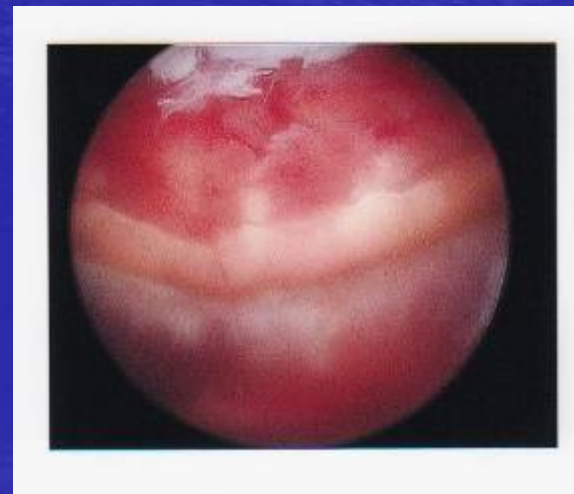
- Joint debridement and partial synovectomy has good results
- Radial head excision –  
increase  
pronation/supination  
by up to 60° arc



# Joint Debridement - Knee



- Arthroscopic debridement
- Results in OA are poor
- Best result in acute deterioration
- Loose osteochondral body



# Arthroplasty (Joint Replacement)

- Most common end point
- Often relatively young
- Preop joints very stiff, limited ROM
- Bone stock poor – osteopaenia
  - distorted architecture

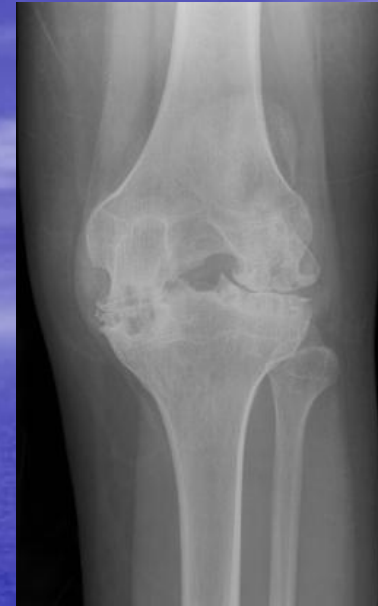
# Haemophilia and arthroplasty

- Often combine procedures to save on factor
- Bilateral Knee replacements
- Shoulder and knee replacements



# Knee replacement

- Most common
- Not like a routine TKR
- Younger patient
- Very stiff joint – 0-40°
- Difficult exposure
- Bone stock loss – Cysts/grafting
- Osteopaenia





# Knee replacement

- Extra components
- Longer surgery
- Difficult rehab
- Length of stay longer - factor
- Post op ROM increased 60 deg
- Patient satisfaction - High



18 years Bilateral  
TKR

Martin,B; Halliday,B: 15 year series of TKR in Haemophilia at RBWH.  
QAOA Townsville 2006.

# Revision Knee Replacement

- Young patients
- Relatively active
- Poor bone stock
- Young revision age



# Hip replacement

- Uncommonly affected in Haemophilia
- But can get hip fracture
- Or OA with background Haemophilia
- Modify procedures to fit pathology



# Hip replacement

- Sometimes side effects of Haemophilia cause unusual complications
- Pseudotumour



# Pseudotumour

- Probably begin outside bone
- Encapsulated haematoma
- Erodes in to bone
- Prox femur
- Curettage and fill

Graft

Cement

Bone Substitutes



# Hip replacement

- Revision surgery needs a range of solutions

First reported case of  
Impaction grafting technique in  
Haemophilia – 2001 - RBWH




# Shoulder

- Very stiff preop
- Poor joint stock
- Results do not equate to those in OA
- Good pain relief



# Elbow

- Cubital tunnel syndrome with ulna nerve palsy
  - Combined pathology:
  - Elbow synovitis
  - Progressively valgus elbow
- 
- Decompress nerve and synovectomy



# Elbow replacement

- Option for low demand elbows
- Often high demand – crutches/sticks
- Bone stock issues
- Stiff pre op
- Stiff post op
- Difficult
- Last resort



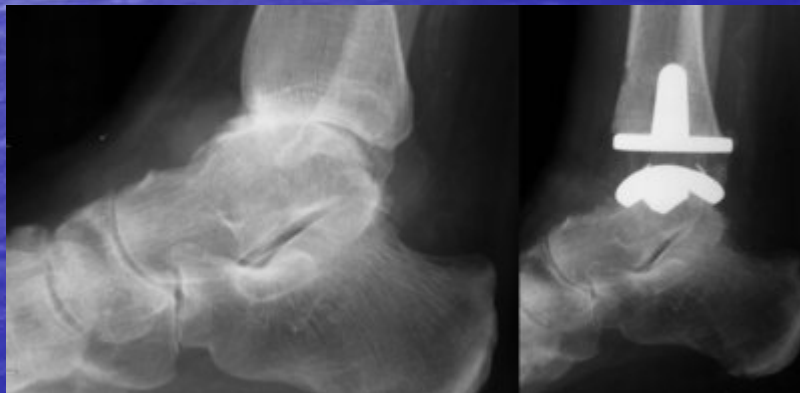
# Arthrodesis - Fusion

- Systemic disease
- Ankle is most common joint fused
- Modern arthroscopic assisted techniques



# Ankle replacement

- Results in osteoarthritis acceptable
- But in haemophilia
  - Bone stock – Cysts/Osteopaenia
  - Poor pre op ROM
  - Deformity



# Typical Orthopaedic Conditions

- Knee meniscal tears
- Fractures
- Rotator cuff pathology
- Cervical spondylosis
- Lumbar disc disease

# Summary – Orthopaedic surgery

- Need is slowly getting less
- Challenging situations need a range of solutions
- Combine surgeries to reduce factor use
- Use of newer bone substitutes to replace bone graft needs

# The (Distant) Future

- Healthy joints with no need for orthopaedic surgeons for haemophilia specific conditions

