Knee and Hip replacements
Who, when and how?

Adrian C Fairbank
MA, FRCS, FRCS(Orth)
Who am I?

Adrian Fairbank

- STH medical school
- SGH Orthopaedic training rotation
- Research - Johns Hopkins, USA
- Joint replacement fellowship

Royal Adelaide Hospital, Australia
My aims tonight?
Aims

- Discuss who is suitable for joint replacement
- Discuss post op joint replacement problems
- Open forum questions
Joint Replacement

- 40,000 per year in UK
- Longevity increasing
- TKR matching THR
- Best QALY of any intervention
Joint replacement

Lower limb

- Resurfacing hip replacement
- Total hip replacement
- Unicondylar knee replacement
- Total knee replacement
Who

- Usual elderly osteoarthritic
Usual Osteoarthritic

- Age 60 +
- Fulfill Charnley’s criterion
- Limited medical problems
- No infection or ulcers
Charnley’s Criterion

- Pain with activity
- Night and rest pain
- Stiffness
- Failed conservative treatment
  - Stick
  - Weight loss
  - Analgesia
Who

- Unusual secondary osteoarthritic
  - Dysplasia
  - Trauma
- Post infection
  - TB, Staph.
Unusual Osteoarthritic

- Young patient with dysplasia
- Young patient following trauma
- Post AVN for whatever reason
Unusual Osteoarthritic

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- Young patient following trauma
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Unusual Osteoarthritic

- Young patient with dysplasia
- Young patient following trauma
- Post AVN for whatever reason
Infection

- TB
- Staphylococcus
- Unusual organisms
- IV drug abuse
Oddities

- Haemophilia
- Gauchers disease
- Caissons disease
- Irradiation
Questions ?
When

- Intercurrent disease treated or controlled - Hypotensive anaesth.
  - Hypertension
  - Diabetes
  - Sepsis (esp. UTI)
  - Prostatic hypertrophy
  - Back pain
When

- Proximal affected joint
- Treat worst first
- Optimise for surgery
- Adequate operative environment
  - Preoperative assessment clinics
  - Discharge planning
  - Occupational therapy aids
How - Hospital

- Hospital
  - Laminar flow theatre
  - Orthopaedic theatre staff
  - Adequate postoperative care - inc. ITU
  - Home set up
  - Audit
How - Surgeon

- Adequately trained leader
- Regularly performing joint surgery
- Formal supervision of junior surgeons
- Joint replacement fellowships
- Audit
How - Implant

- Cemented
- Uncemented
- Hybrid
- Head size, head material
- Research
How - Department

- Rapid access for problems
- Physio and hydro
- Sensible outpatient follow up
- Radiograph as clinically indicated
How - Follow up

- Minimal if straightforward
- Long term if uncemented
- Long term if complicated
  - Infection
  - Heterotopic ossification
  - Trendelenburg positive gait
How - Follow up

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Questions ?
Postoperative problem solving
Complications

- Early (< six weeks)
- Intermediate (> six weeks)
- Late (years)
Complications

Early

- Infection - Superficial or deep
- Haematoma - Superficial or deep
- Wound discharge - ? infected
- Thrombosis and swelling
- Dislocation
Complications

Early

- Exclude infection
  - Assess FBC and CRP
  - Swab
  - No antibiotics until culture
  - Assess at hospital
Complications

Early

- Exclude thrombosis
  - Risk factors and therapy
  - Homan’s sign
  - Clinical suspicion
  - Assess at hospital
Complications
Early

- Dislocation
  - Acute episode
  - Severe pain, unable to weight bear
  - Short limb
  - Rotated

- Hospital reduction
Expectations

- Walking well at three months
- Non impact activities six months
  - Golf, Swimming, Tennis
- Niggles
- Longevity - 95% at 15 years
Questions ?
Complications
Intermediate

- Catastrophe
- Infection
- Heterotopic bone formation
- Early loosening
- Expectations?
Complications
Intermediate

- FBC and CRP/ESR
- Radiographs and comparison
- Hospital assessment
Questions ?
Complications

Late

- Infection
- Aseptic loosening
  - Wear debris
  - PMMA
  - UHMWPE
  - Third body wear
- Stem or acetabular lining fracture
Complications

Late

- Infection
  - Prophylaxis
  - Dental treatment
  - Urological operations
  - Skin infection/ ulcers
  - MRSA and other ‘super bugs’
Complications

Late

- Aseptic loosening
  - Weight
  - Activity
  - Surgery
  - Implant
  - Patient’s bone
Complications

Late

- FBC and CRP/ESR
- Radiographs

- Primary indicator of impending failure is patient symptoms ie: Pain
Questions ?
Approach

- Onset of pain
  - Gradual
  - Sudden

- Position and character of pain
  - Buttock or groin
  - Thigh
Approach

Investigations

- FBC/ESR/CRP
- Radiographs

Management
  - Appropriate referral
Summary

- Joint replacement successful
- Knees matching hips
- Problems identified early
- Problems dealt with appropriately
- Infection the disaster
Thank you

Adrian C Fairbank