“Removal of Implants: One Stage or Two”

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Disclosures

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Outline

• Covered
  – Importance of surgical management of PJI
  – Diagnosis of PJI
  – Indications for Debridement and Liner Exchange

• One Stage vs Two Stage Tx PJI
  – Definitions
  – Indications
  – Contraindications
  – Technique & Tips
Assumptions

- **Diagnosis of PJI Confirmed**
  - MSIS Criteria
- **I&D inappropriate**
Definitions – Two Stage Exchange
Surgical Treatment of PJI

• Complete removal of infected
  – Components
  – Cement
  – Associated Hardware
• Extensive debridement
  – Synovium
  – Infected tissue, necrotic debris
• Irrigation
• Antibiotic Spacer
  – Articulating
  – Static
• Closure
• THEN --→
Definitions – Two Stage Exchange
Surgical Treatment of PJI

• THEN →

• Antibiotics
  – 6 weeks usual
  – Typically intravenous

• Antibiotic holiday
  – Variable duration 2-6 weeks
    • (certain cases longer)
  – Monitor for s/s of infection eradication
  – Resolution of inflammatory markers

• Return to OR for definitive Revision
TJR
Definitions – One Stage Exchange

• Complete removal of infected
  – Components
  – Cement
  – Associated Hardware
• Extensive debridement
  – Synovium
  – Infected tissue, necrotic debris
• Irrigation

• (Partial wound closure)
• Re-prep, new drapes, clean instruments
• THEN definitive revision TJR
• *Key defining feature c/w I&D – EVERYTHING is removed
Indications – One Stage Exchange
(Situations in which One Stage may be considered)

• Bacterial species known
  – Positive cultures BEFORE surgery
• Antibiotic available for systemic treatment.
• If possible, antibiotic available for cementation of components to deliver local antibiotics.
• Evolving indication:
  – Early post-op cementless THA PJI²
  – (vs Liner exchange)
Contraindications– One Stage Exchange
(Situations in which One Stage should NOT be considered)

• Systemic sepsis
• Unknown organism
  – Culture negative infection
• Presence of sinus tract.
• Severe soft tissue damage that may require flap coverage.
Tips– One Stage Exchange
Case Example– One Stage Exchange
Cemented TKA
Case Example—One Stage Exchange Cementless Early THA
Case Example– Two Stage Exchange Late THA
One Stage Exchange
Other Considerations

• European experience / success
  – Cemented components
  – Local abx delivery

• Aggressive surgical debridement
  – Hinge components frequently needed in many series

• Two stage still most common for chronic PJI in US