

“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, nectoric 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, nectoric 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

