Hip Resurfacing

Information for Physical Therapists

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Hip Resurfacing

- Why develop hip resurfacing?
Hip Resurfacing

- Issues with traditional total hip replacements led to resurfacing
  - Wear leading to osteolysis and component loosening
  - Lack of bone stock at the time of implant failure, making revision surgery difficult
  - Instability, resulting in dislocations for a few and restrictions for all
Hip Resurfacing

- Failed implant
Hip Resurfacing

- Failed implant
Hip Resurfacing

- Dislocated total hip
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- Wear and osteolysis lead to exploration of different bearing surfaces
  - Ceramic can be made smoother than metal
  - Metal is more durable to impact loading than ceramic or plastic
  - Metal is more readily machined to a variety of shapes and sizes
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- Wear Particles
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- All of the following combinations show less wear in simulators than traditional metal on plastic
  - Ceramic on plastic
  - Ceramic on ceramic
  - Metal on Metal
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- Metal on Metal
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- Ceramic Hip
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- Stability can be improved by increasing the size of the articulation
- ROM before impingement is improved by increased head to neck ratio
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- Alternate bearing surfaces allow much bigger articulations increasing the “jumping” distance in all cases
- Head to neck ratio is improved most in large head total hips (higher than in resurfaced hips)
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- Clear Advantages
  - Uses an alternate bearing surface with better simulator wear
  - Has a large articulating surface
  - Removes very little bone
  - Metal-Metal less impact sensitive
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- BHR
Hip Resurfacing

- BHR
Hip Resurfacing

- BHR
Hip Resurfacing

- BHR
Hip Resurfacing

- BHR

Youngest Patient:
36 y/o male

Oldest Patient:
79 y/o male
Hip Resurfacing

- Newly discovered advantages
  - Improved “feel” in many cases
    - Exact reproduction of anatomy
    - Proprioception from capsule healing to bone
Hip resurfacing

- **Disadvantages**
  - Limited length of clinical follow up (11 years in England, 2 in the US)
  - Larger exposure, can not work through the hole created by the resection of the femoral head
  - Smaller head to neck ratio, less ROM before impingement for a given head size
  - Because the femoral neck is preserved, it can fracture
    - Post op stress factures (first six months) in patients with poor bone quality or the very active
Hip Resurfacing

- Disadvantages,
  Exposure
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- Not all hips have enough bone stock to be resurfaced
Hip resurfacing

- Physical therapy implications
  - Reduce concern for dislocation
  - More muscle reconditioning compared to mini hip exposure
  - Higher patient expectations due to nature of patients that are candidates for this implant
Hip Resurfacing

- Multimodal Pain control
  - Preemptive analgesia
    - Oxycontin and Celebrex pre op
  - Intraoperative Injections
    - Marcaine and morphine
  - Aggressive treatment of nausea
    - Pre op Zofran, Dexamethasone, and scopalamine
    - Post op fluid bolus
    - No IV narcotics
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- In patient therapy changes
  - Nationally procedure is going to 24 hour stay, and in some cases out patient
  - Mobilization with in hours of leaving the OR
  - Aggressive anesthesia with little to no narcotics
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- New therapy protocol being developed with Northwoods (Bruce)
  - Faster mobilization, how can we improve?
  - More attention to muscular rehabilitation?
    Protection of maximus insertion?
  - More attention to coordination/proprrioception
  - Sport/activity specific rehabilitation?