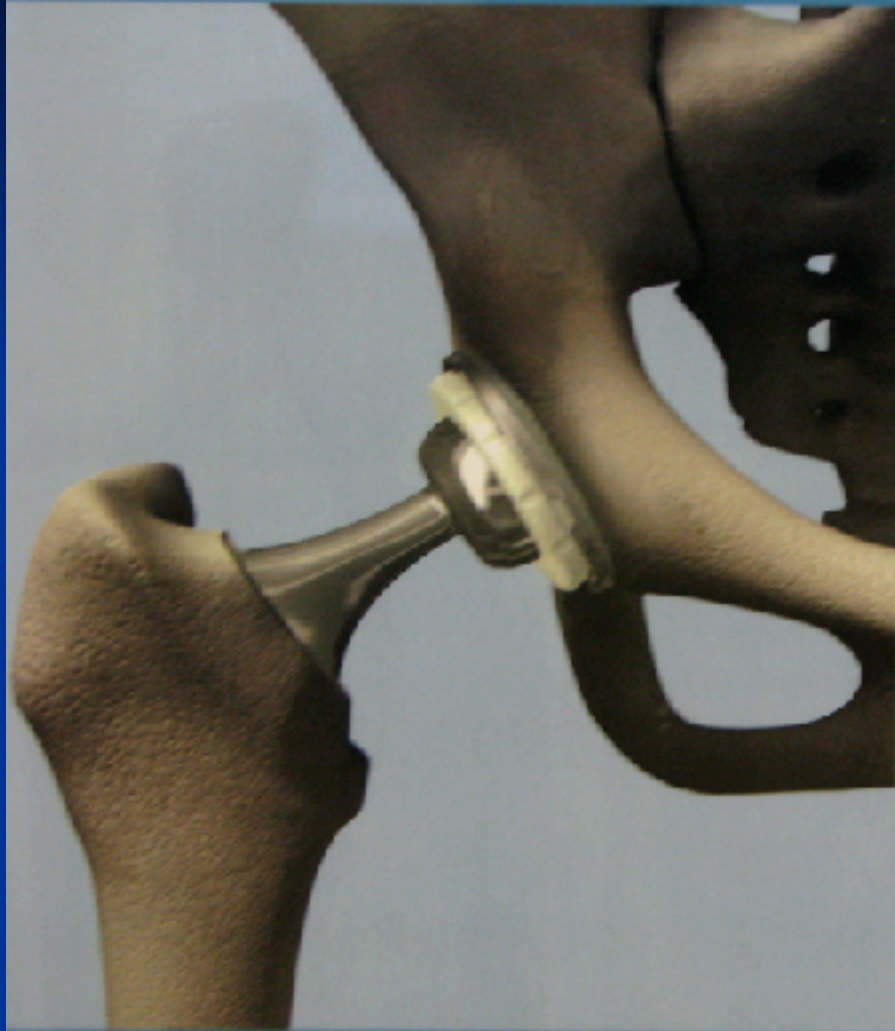


Hip Resurfacing

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

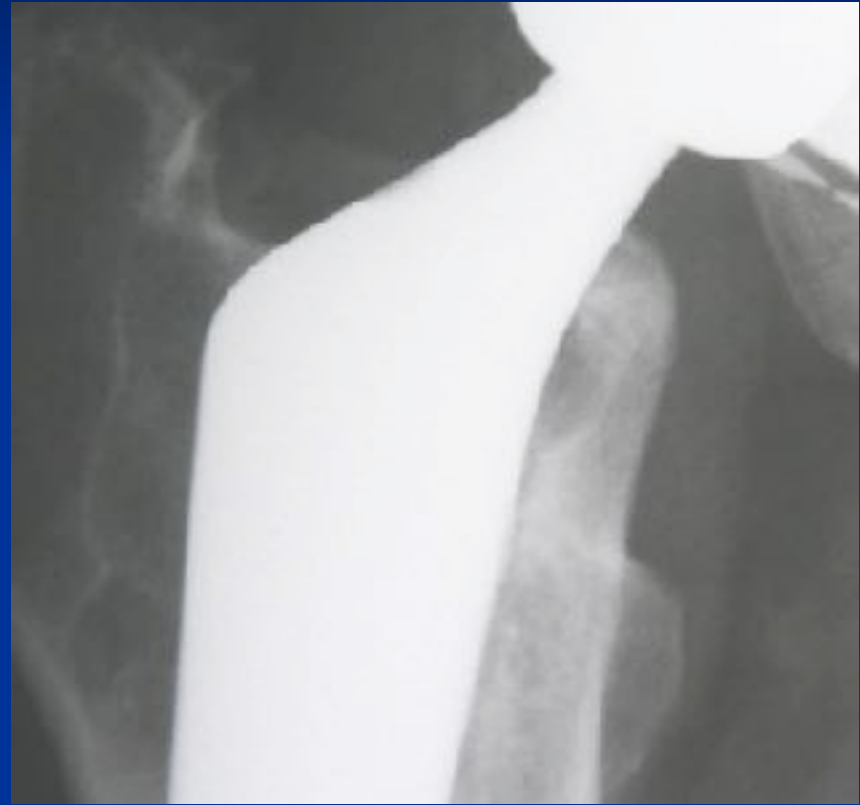
Hip Resurfacing

- Failed implant



Hip Resurfacing

- Failed implant



Hip Resurfacing

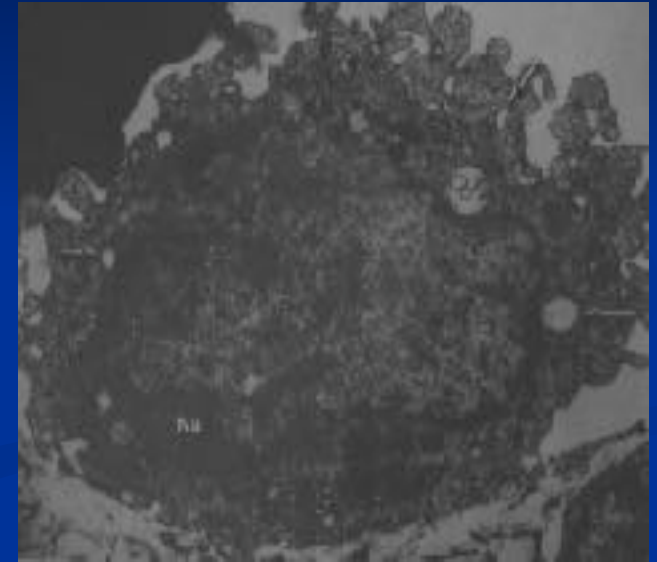
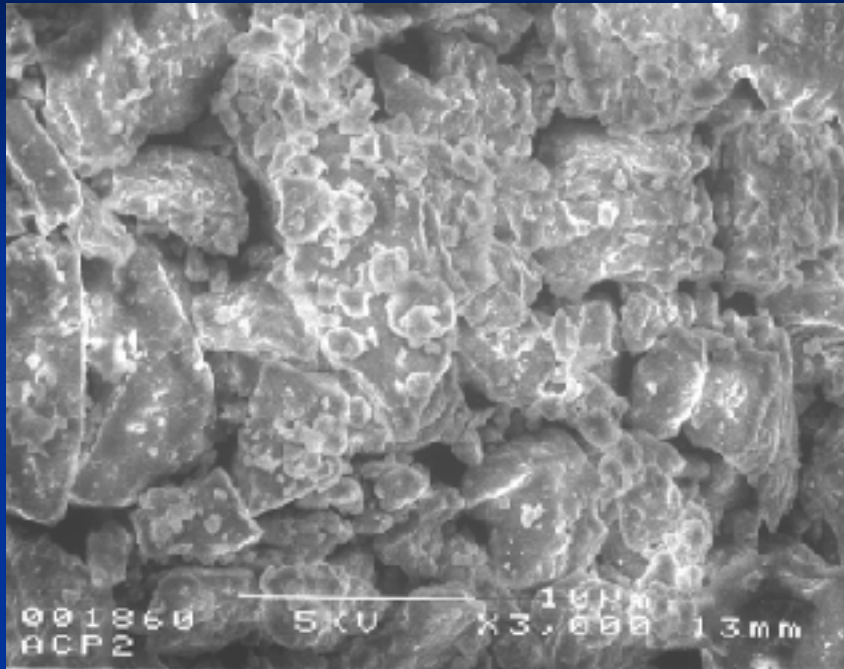
- Dislocated total hip



Hip Resurfacing

- 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

Hip Resurfacing



- Wear Particles

Hip Resurfacing

- All of the following combinations show less wear in simulators than traditional metal on plastic
 - Ceramic on plastic
 - Ceramic on ceramic
 - Metal on Metal

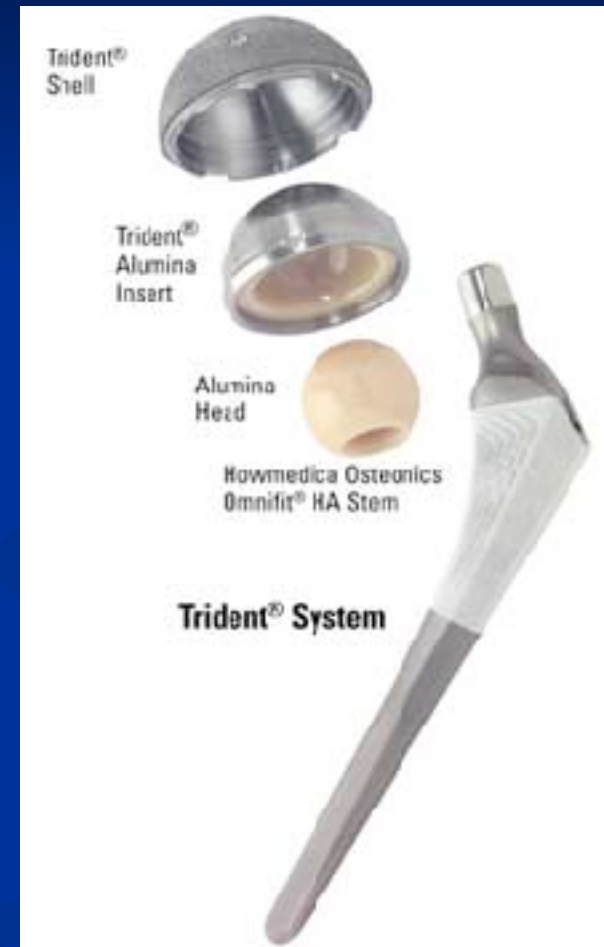
Hip Resurfacing

- Metal on Metal



Hip Resurfacing

- Ceramic Hip



Hip Resurfacing

- Stability can be improved by increasing the size of the articulation
- ROM before impingement is improved by increased head to neck ratio

Hip Resurfacing

- 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)

Hip Resurfacing

- 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

Hip Resurfacing

- BHR



Hip Resurfacing

- BHR



Hip Resurfacing

- BHR



Hip Resurfacing

- BHR

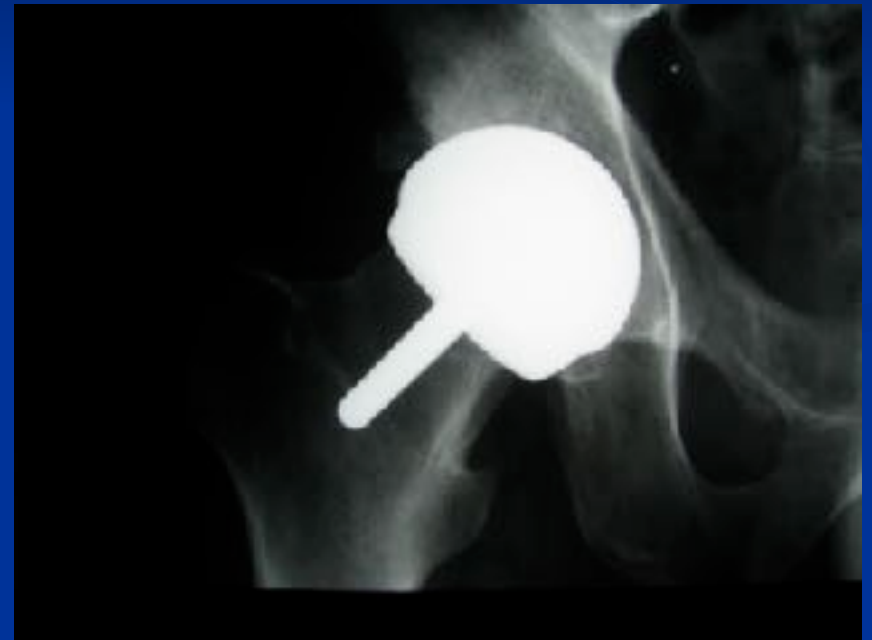


Hip Resurfacing

- 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 fractures (first six months) in patients with poor bone quality or the very active

Hip Resurfacing

- Disadvantages,
Exposure



Hip Resurfacing

- 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
 - Pre operative analgesia
 - Oxycontin and Celebrex pre op
 - Intra operative Injections
 - Marcaine and morphine
 - Aggressive treatment of nausea
 - Pre op Zofran, Dexamethazone, and scopolamine
 - Post op fluid bolus
 - No IV narcotics

Hip Resurfacing

- In patient therapy changes
 - Nationally procedure is going to 24 hour stay, and in some cases out patient
 - Mobilization within hours of leaving the OR
 - Aggressive anesthesia with little to no narcotics

Hip resurfacing

- 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 co ordination/
proprioception
 - Sport/ activity specific rehabilitation?