MOM Total Hip Replacement

- Very popular 5 years ago
- Big head, less dislocation
- Small neck, great ROM
- Turned out to be a disaster
MoM THR vs Resurfacing

- I do not recommend MoM THR
- Highest failure rate of any bearing
- **Opposite** relation of failure rate to head size than resurfacing
- Why? It’s the Morse taper!
Morse Tapers

- Fine for 28, 32
- 50+: Too much torque and moment for small diameter tapers
- Bigger head -> more wear
Taper Corrosion

More metal debris than the bearing itself!
MoM THR Revision Rate vs Size

Figure HT22: Cumulative Percent Revision of Metal/Metal Primary Total Head Size (Primary Diagnosis OA)

- Metal/Metal ≤28mm
- Metal/Metal 30-32mm
- Metal/Metal 36-40mm
- Metal/Metal >40mm

Australian Registry
Resurfacing Revision Rate vs Size

Log-rank test for equality over strata p-value < 0.001:
Hazard Ratio (adjusted for age):
F < 50mm vs M > = 50mm = 3.22; 95% CI (2.47, 4.21) p-value < 0.001
M < 50mm vs M > = 50mm = 2.69; 95% CI (1.91, 3.79) p-value < 0.001
F > = 50mm vs M > = 50mm = 0.61; 95% CI (0.22, 1.66) p-value = 0.334
F < 50mm vs M < 50mm = 1.20; 95% CI (0.65, 1.88) p-value = 0.234

< 50mm
≥ 50mm

Years Since Primary Procedure

Cumulative Percent Revised

Australian Registry
Resurfacing vs MoM THR

- Bigger THR head size causes increased trunion torque, rocking
- Micromotion, fretting
- 10 X higher ion levels than resurfacing!
- But in resurfacing, bigger is better