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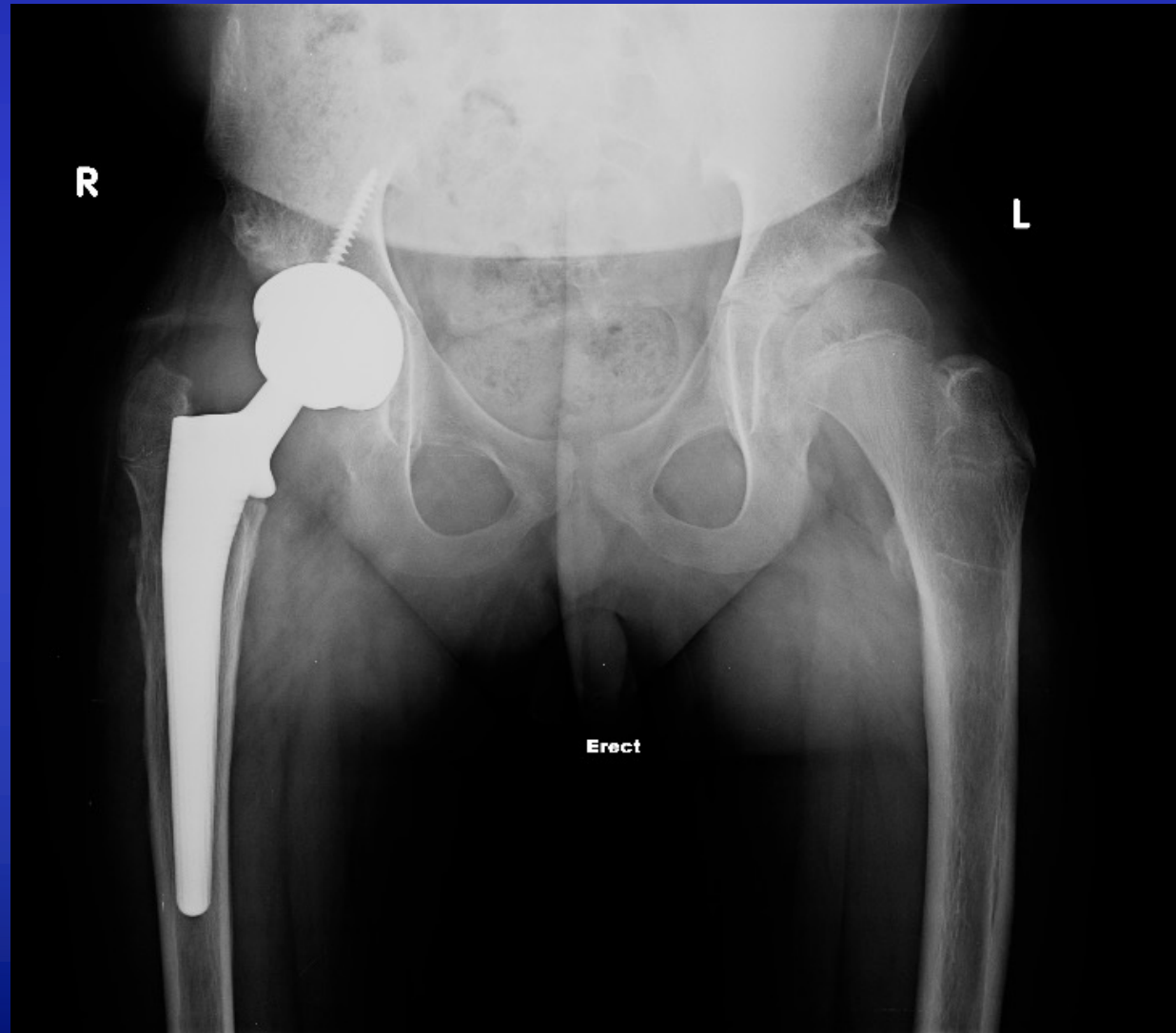


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ORTHOPAEDIC & SPORTS MEDICINE SERVICE

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Management of Hip Arthritis in Young People



Introduction

- ▶ OA presents unique challenges in younger patients
- ▶ Symptoms & Quality of Life: Pain, mobility limitations
- ▶ Patient Goals: Maintaining active lifestyle and delaying surgery

Patient Expectations

- ▶ High Expectations: Desire for pain relief and function
- ▶ Realistic Outcomes: need to understand options in detail
- ▶ Lifestyle Goals: Balancing joint health and activity

Non-Surgical Management Overview

- ▶ Conservative options first
- ▶ Personalized Goals: Tailoring treatment
- ▶ Joint injections
- ▶ Progression: When to consider surgery

Physiotherapy & Exercise

- ▶ Strength Training: Core and hip muscles
- ▶ Range of Motion: Maintain, not improve
- ▶ Impact on Pain: Reducing inflammation

Low Impact Activities

- ▶ Preferred Activities: Cycling, swimming, rowing
- ▶ Avoidance: High-impact activities
- ▶ Goal: Protect joint integrity while staying active

Benefits of Exercise

- ▶ Research Evidence: Functional improvement with hip specific exercise programs
- ▶ Outcomes: Mobility, strength, pain relief
- ▶ Tailored Programs for better adherence

Weight Management



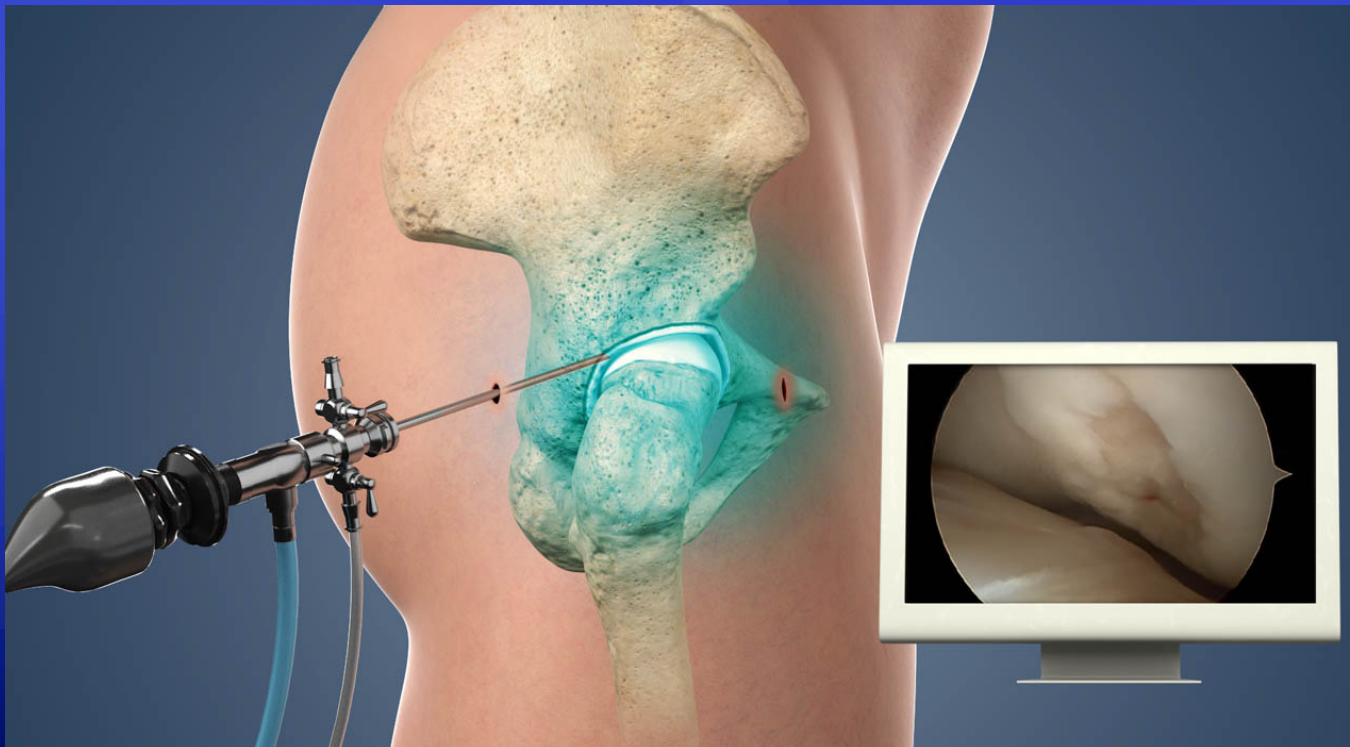
- ▶ Impact on Joint Load: Lower weight reduces stress
- ▶ Evidence: Symptom reduction correlation (Blagojevic et al., 2010)
- ▶ Strategies: Diet, lifestyle changes

Surgical Management Overview

- ▶ Failure of conservative treatment
- ▶ Decision Factors:
 - ▶ Age
 - ▶ Activity + goals
 - ▶ Degree of arthritis

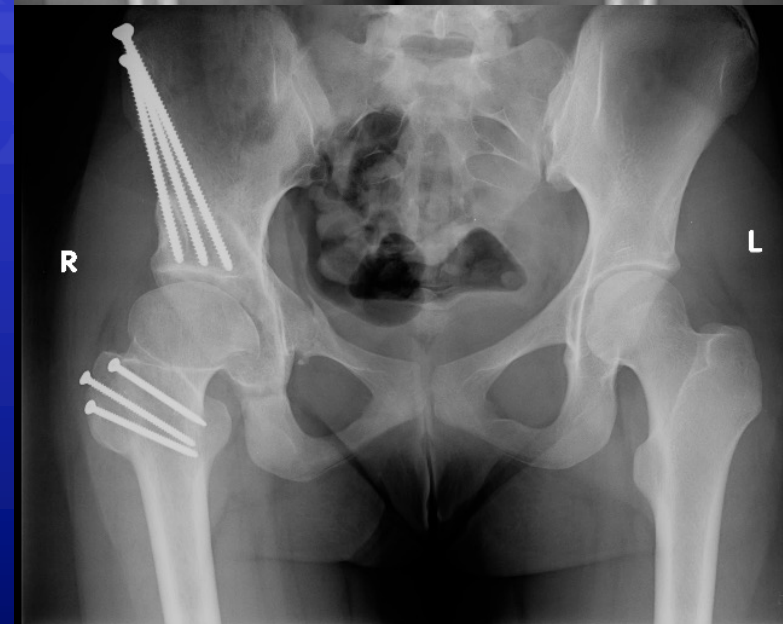
Hip Arthroscopy

- ▶ Indications:
 - ▶ Mechanical symptoms from labral tears or focal condral defects
 - ▶ Improve head/neck offset with CAM impingement
 - ▶ Only for early-stage arthritis
- ▶ Outcomes: Worse outcomes in advanced stages (Sing et al., 2021)



Periacetabular Osteotomy (PAO)

- ▶ Patient Selection
 - ▶ Dysplasia or retroversion/overcoverage
 - ▶ Under 35
 - ▶ Mild OA
- ▶ Pros: Delays replacement by 20-30 years
- ▶ Cons: Long recovery, complex surgery



Femoral Osteotomy

- ▶ Indications:
 - ▶ Focal chondral lesions not amenable to arthroscopy
 - ▶ Abnormal proximal femoral anatomy resulting in impingement
- ▶ Outcome: Reduced focal loading or impingement, arthritis delay

Hip Resurfacing Arthroplasty

- ▶ Candidates: Young, active, high-impact goals
- ▶ Advantages: Lower dislocation risk, improved function vs THR
- ▶ Risks: Femoral neck fractures, metal ions, higher revision rate



Hip Resurfacing (Cont.)

- ▶ Metal on Metal Risks: Requires monitoring
- ▶ New Advances: Ceramic-on-ceramic
- ▶ Registry Data: overall higher revision rate than THR

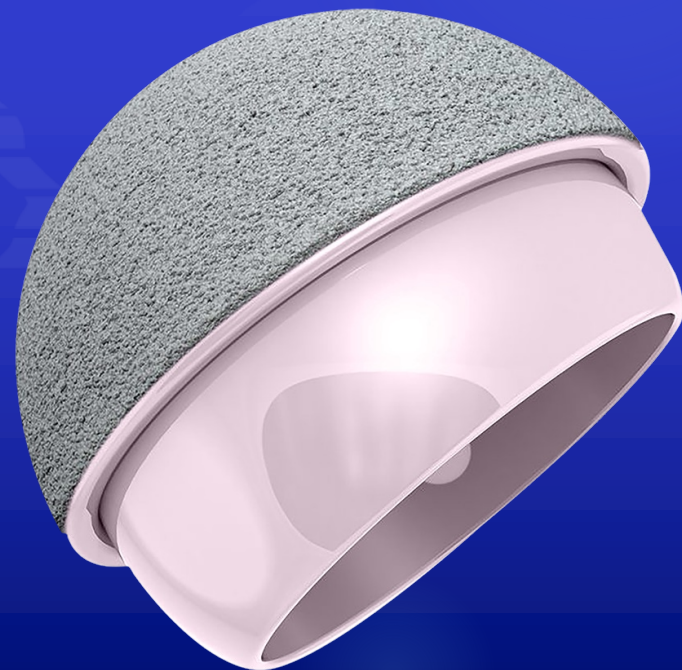
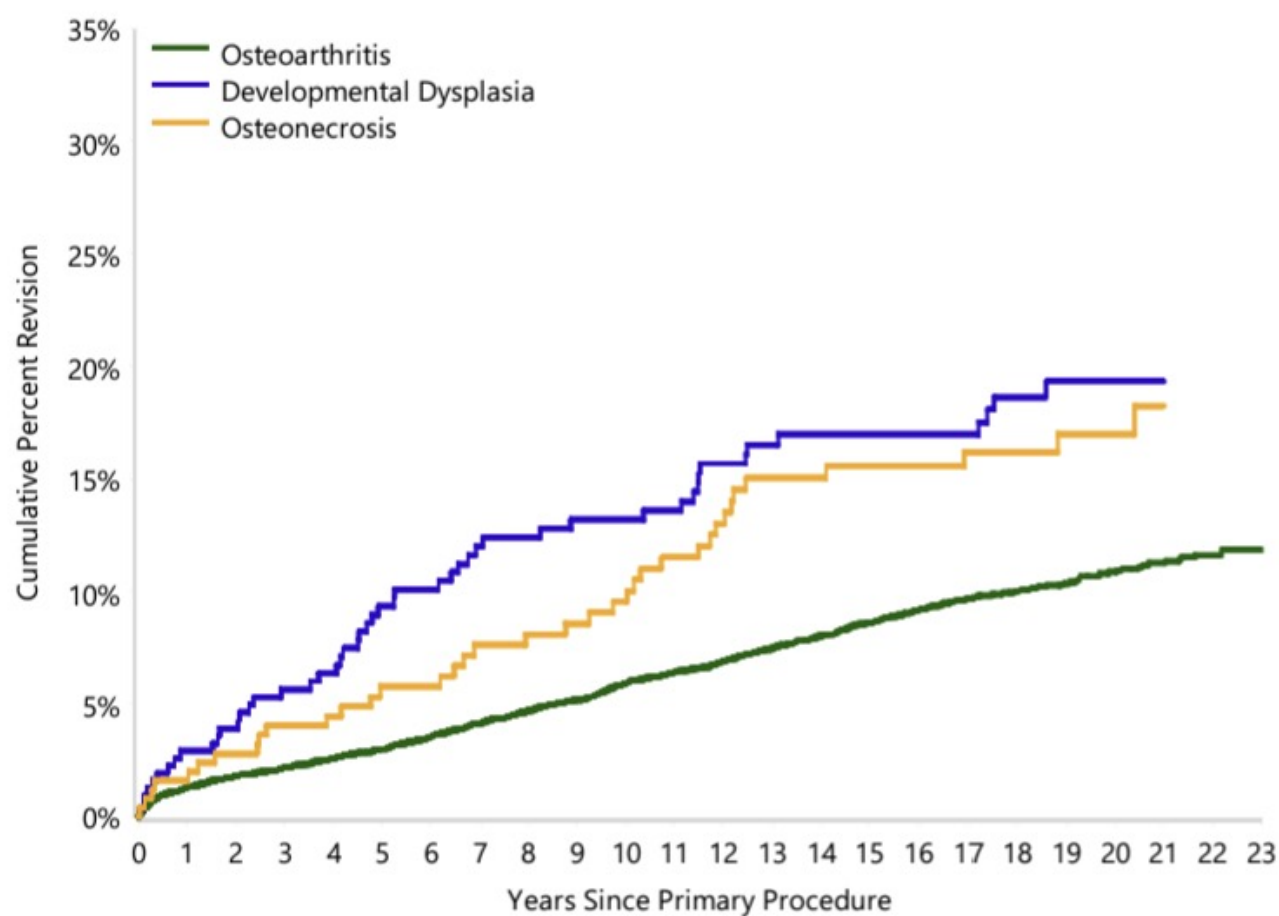


Figure HT87 Cumulative Percent Revision of Primary Total Resurfacing Hip Replacement by Primary Diagnosis



HR - adjusted for age and gender

Developmental Dysplasia vs Osteoarthritis

0 - 6Mth: HR=1.24 (0.54, 2.80), p=0.612

6Mth - 5Yr: HR=2.25 (1.43, 3.52), p<0.001

5Yr+: HR=0.88 (0.58, 1.34), p=0.546

Developmental Dysplasia vs Osteonecrosis

Entire Period: HR=0.72 (0.47, 1.10), p=0.128

Osteonecrosis vs Osteoarthritis

Entire Period: HR=1.72 (1.24, 2.41), p=0.001

Figure HT91 Cumulative Percent Revision of Primary Total Resurfacing Hip Replacement by Gender (Primary Diagnosis OA)

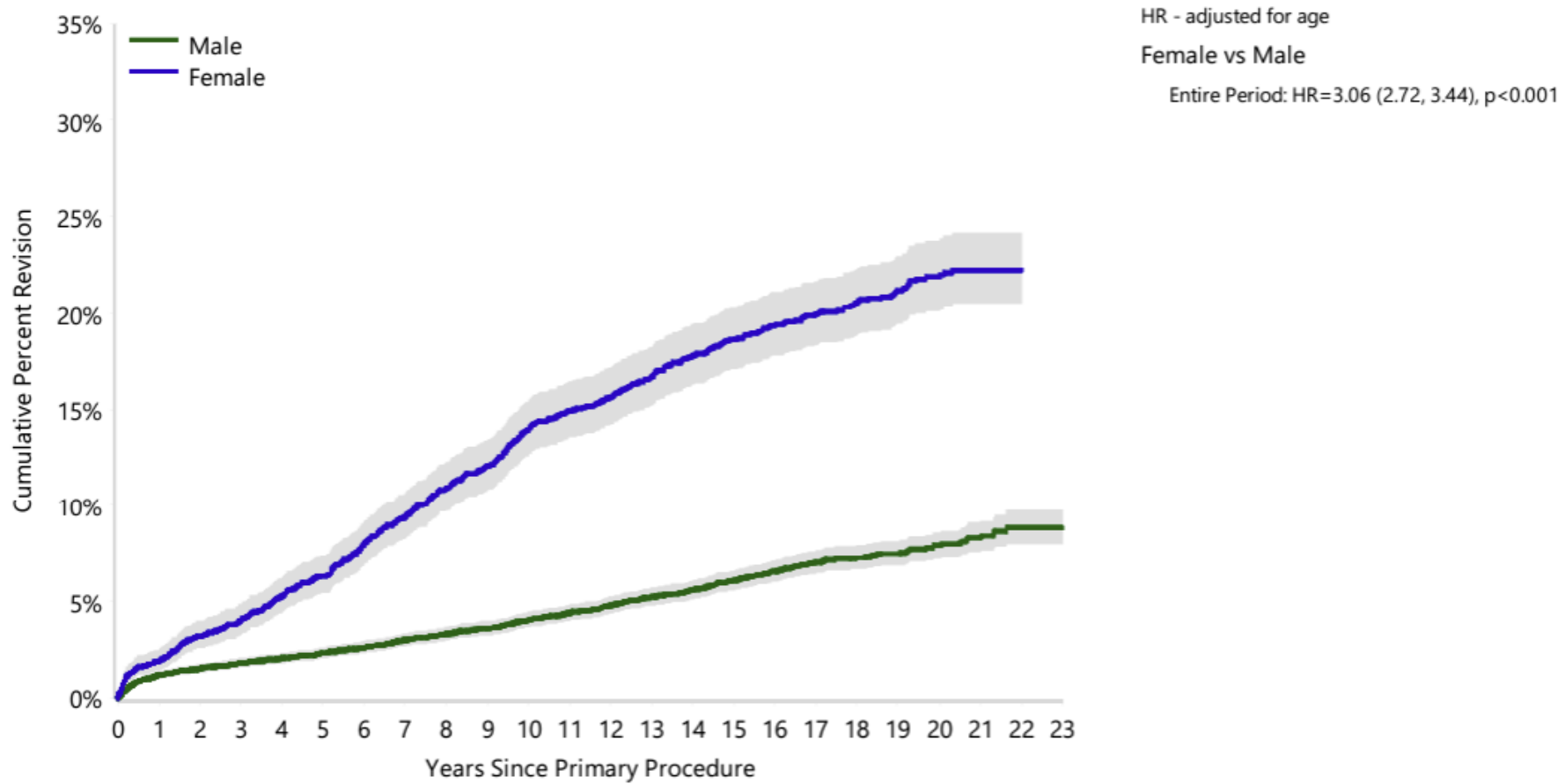
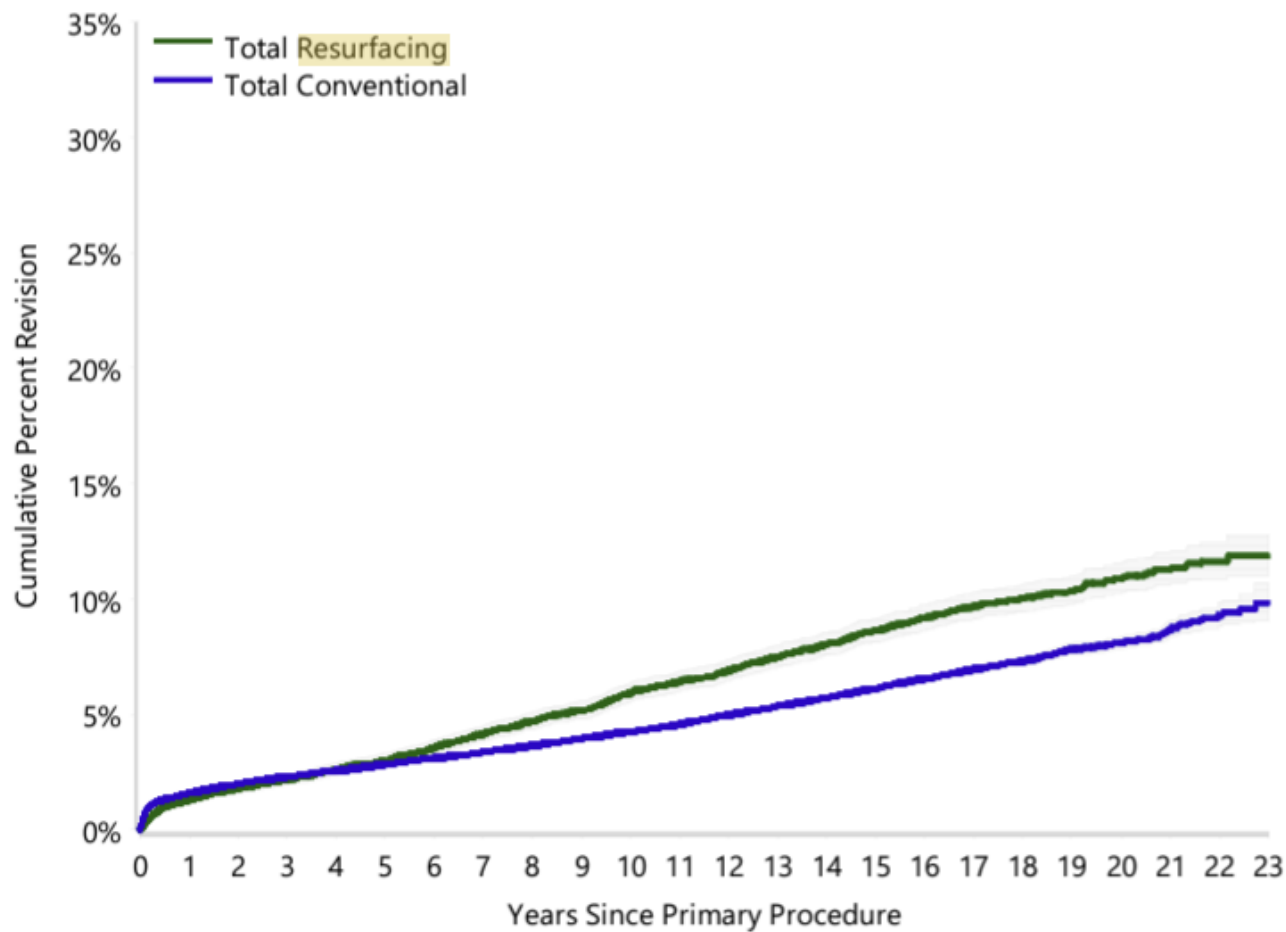


Figure HT97 Cumulative Percent Revision of Primary Total Hip Replacement by Class (Primary Diagnosis OA)



HR - adjusted for age and gender

Total Resurfacing vs Total Conventional

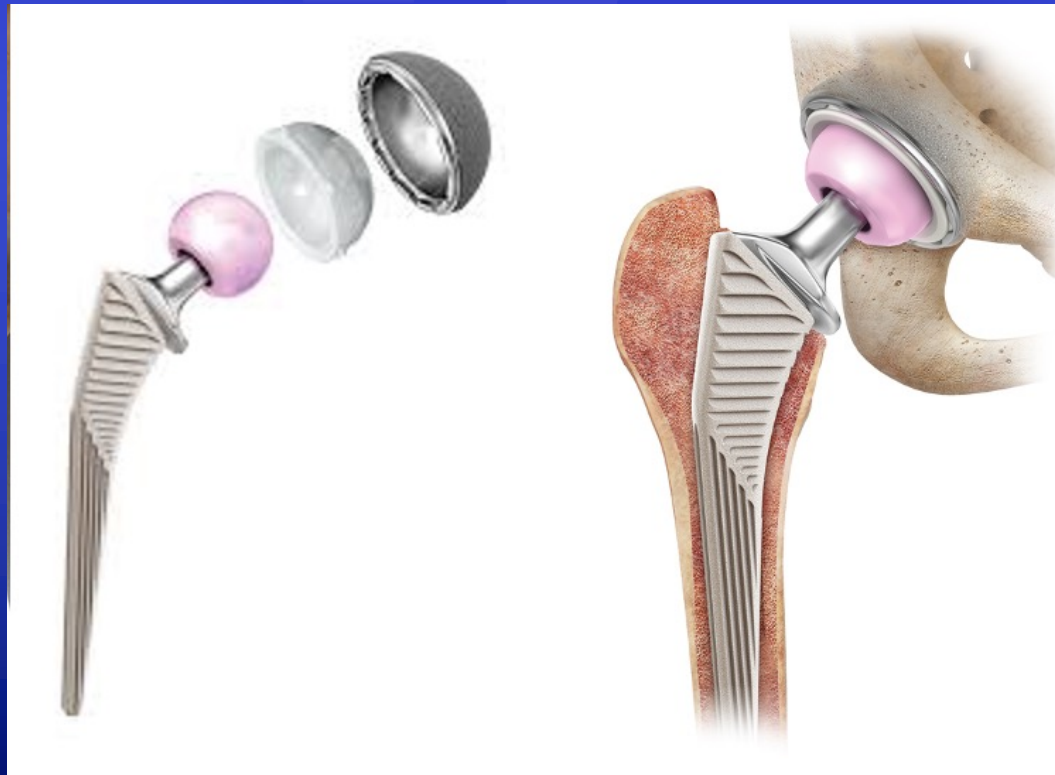
0 - 1Mth: HR=0.30 (0.22, 0.43), p<0.001

1Mth - 3Mth: HR=0.91 (0.71, 1.16), p=0.433

3Mth+: HR=1.45 (1.36, 1.56), p<0.001

Total Hip Replacement (THR)

- ▶ Indication: End-stage arthritis
- ▶ Benefits: Pain relief, quality of life
- ▶ Limitations: No running or high impact sports



THR - Prosthetic Advances

- ▶ Materials: Ceramic-on-ceramic, ceramic on highly cross linked polyethylene (XLPE)
- ▶ Longevity: Reduced revision rate
- ▶ Evidence: Cementless fixation preferred in young patients (Huo et al., 2021)

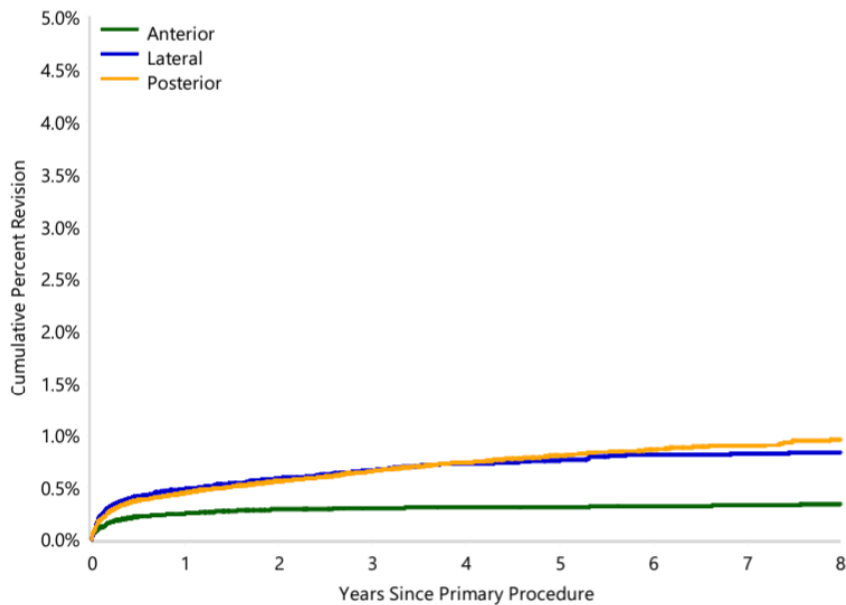
Surgical Approaches for THR

- ▶ Outcomes: All approaches similar at 6 months
- ▶ Factors: Surgeon experience, patient anatomy

Direct Anterior Approach (DAA)

- ▶ Pros: Lower dislocation, faster recovery
- ▶ Cons: Higher fracture rate
- ▶ Limitations: Not for severe deformities

Figure HT59 Cumulative Percent Revision of Primary Total Conventional Hip Replacement by Surgical Approach (Primary Diagnosis OA, Revision for Dislocation/Instability)



HR - adjusted for age, gender, ASA score and BMI category, femoral fixation and head size

Lateral vs Anterior

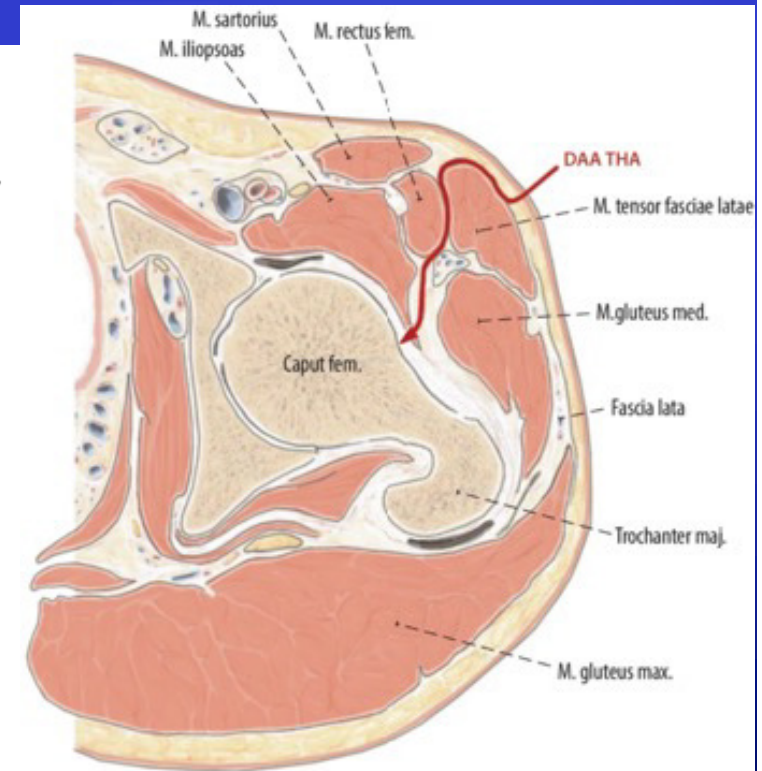
0-2wk: HR=1.53 (1.06, 2.21),p=0.023
 2wk-1Mth: HR=2.55 (1.78, 3.64),p<0.001
 1Mth-6Mth: HR=1.75 (1.33, 2.32),p<0.001
 6Mth+: HR=3.16 (2.35, 4.23),p<0.001

Posterior vs Anterior

0-3Mth: HR=1.64 (1.37, 1.97),p<0.001
 3Mth-9Mth: HR=2.03 (1.53, 2.69),p<0.001
 9Mth+: HR=4.34 (3.32, 5.67),p<0.001

Posterior vs Lateral

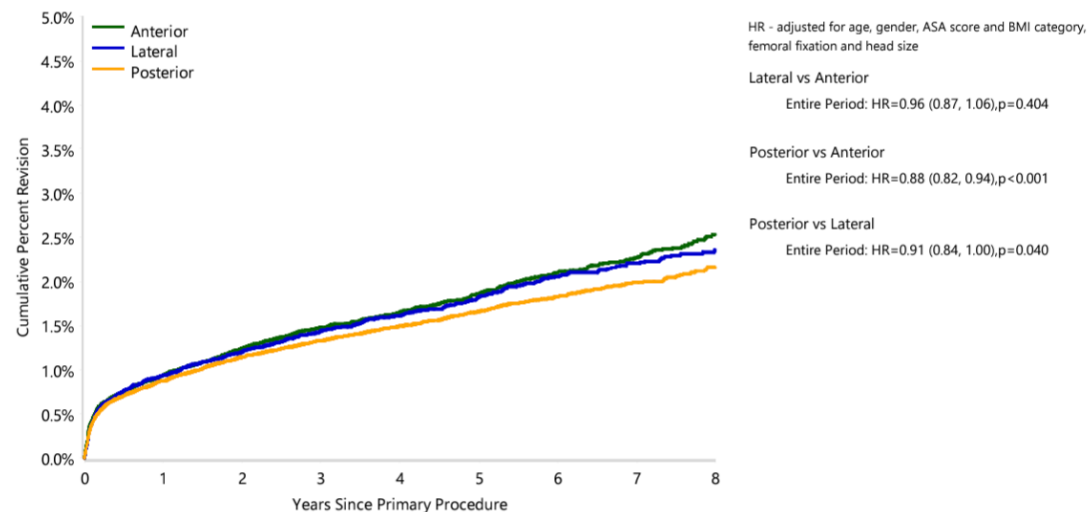
Entire Period: HR=1.06 (0.93, 1.21),p=0.417



Posterior and Lateral Approaches

- ▶ Posterior: Common, suited for complex cases
- ▶ Lateral: Suitable for complex, abductor risk
- ▶ Trade-offs: Dislocation (posterior), recovery (lateral)

Figure HT54 Cumulative Percent Revision of Primary Total Conventional Hip Replacement by Surgical Approach (Primary Diagnosis OA, Major Revisions)



Conclusion

- ▶ Non-operative management is effective and cheap
- ▶ Hip arthroscopy for labral tears or mild impingement
- ▶ Pelvic +/- femoral osteotomies for dysplasia or complex impingement
- ▶ Hip resurfacing for young, active men
- ▶ THR have excellent long term results