

Dual Mobility vs Large Heads

In Favor of Dual Mobility

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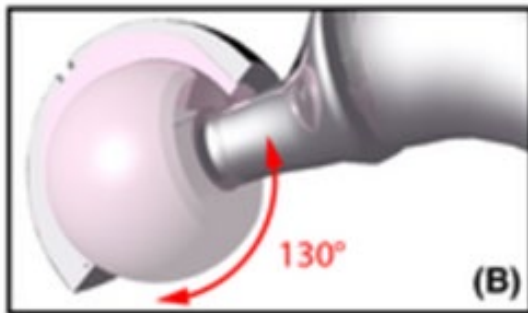
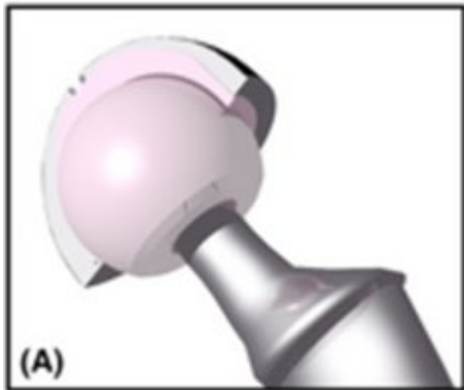
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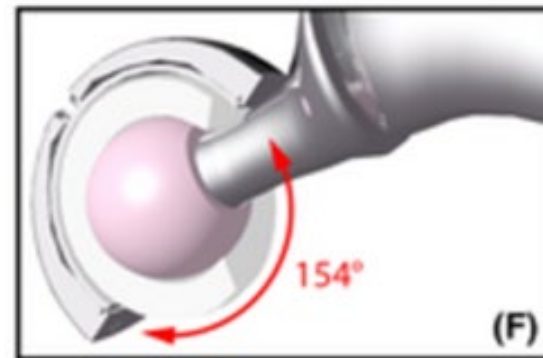
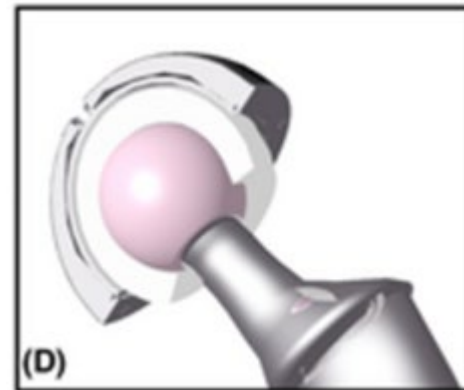
No Disclosures or Conflicts of
Interest

Why Dual Mobility? Improved Stability

Fixed Bearing



Dual Mobility



Why not Dual Mobility? Intraprosthetic Dislocation



Sobhi S, Kop A, et al., Arthroplast Today. 2024 Dec 20;31

Why not Dual Mobility?

Other Failure Mechanisms?



Why not Dual Mobility? Other Failure Mechanisms?



Corrosion/Adverse Local Tissue Reaction?

Metz AK, et al. Arthroplast Today. 2025 Apr 14;33:101687



Liner Malseating?

Rames RD, et al. J Arthroplasty. 2023 Jul;38(7 Suppl 2):S438-S442.

How do Dual Mobility
constructs compare to
Large Femoral Heads
(LFH) ≥ 36 mm?

Literature review:

- Registry Studies
- Meta-analysis

Australian Registry

Clin Orthop Relat Res (2022) 480:1091-1101
DOI 10.1097/CORR.0000000000002085

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Clinical Research

In Revision THA, Is the Re-revision Risk for Dislocation and Aseptic Causes Greater in Dual-mobility Constructs or Large Femoral Head Bearings? A Study from the Australian Orthopaedic Association National Joint Replacement Registry

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Australian Registry: Methods

- Aseptic Revisions after THA for OA
- Dual Mobility vs LFH
- Adjusted for Age, Sex, Femoral Fixation
- Mean 2-year follow-up for Dual Mobility and 4-year for LFH

Australian Registry: Results

- No difference in re-revision rates for dislocation
- No difference in re-revision rates for all aseptic causes

Kaiser Registry

Dual-Mobility Articulations in Revision Total Hip Arthroplasty

A Comparison with Metal or Ceramic on Highly Cross-Linked Polyethylene and Constrained Articulations

Monti Khatod, MD, Priscilla H. Chan, MS, Heather A. Prentice, PhD, Brian H. Fasig, PhD, Elizabeth W. Paxton, PhD, Nithin C. Reddy, MD, and Matthew P. Kelly, MD

Investigation performed at Medical Device Surveillance & Assessment, Kaiser Permanente, San Diego, California

J Bone Joint Surg Am. 2024;106:2313-21

Kaiser Registry: Methods

- Revision THA for aseptic cause
- Dual Mobility vs LFH
- Adjusted for age, sex, BMI, ASA, neurological disorder, indication for primary and revision, surgical approach, cup diameter, operative time, operative year, femoral fixation, and surgeon

Kaiser Registry: Results

- Higher dislocation rate for LFH vs Dual Mobility (HR 2.46, $p < 0.001$)
- Higher all-cause aseptic re-revision rate for LFH vs Dual Mobility (HR 2.03, $p = 0.01$)

Registries

Registry results “may reflect confounding based on patient characteristics and baseline risk...this represents an association rather than a causal relationship and does not account for potential confounders.”

AJRR 2024 Annual Report

Risk factors for dislocation

- Age
- Income
- Ethnicity
- Substance use disorder
- Social deprivation
- BMI
- Neurological disorders
- Psychiatric disease
- Comorbidities
- Previous surgery
- Surgical indications
- Spinopelvic relationships
- Femoral head diameter
- Fixed bearings
- Nonelevated acetabular liners
- Stem fixation
- Femoral neck length
- Surgeon experience
- Surgeon volume
- Component positioning
- Soft tissue integrity
- Soft tissue repair
- Surgical approach

Kunutsor SK, et al., Risk factors for dislocation after primary total hip replacement: meta-analysis of 125 studies involving approximately five million hip replacements. *Lancet Rheumatol*. 2019 Oct;1(2):e111-e121.

Statistical Adjustment

Australian Registry

Age

Sex

Femoral fixation

Kaiser Registry

Age

Sex

Femoral fixation

BMI

ASA

Neurological disorder

Indication for primary
and revision

Surgical approach

Cup diameter

Operative time

Operative year

Surgeon

Meta-analysis



Contents lists available at ScienceDirect

The Journal of Arthroplasty

journal homepage: www.arthroplastyjournal.org

Systematic Review and Meta-Analysis

Outcomes of Dual Mobility Versus Fixed-Bearing Components in Revision Total Hip Arthroplasty: A Systematic Review and Meta-Analysis

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Meta-analysis: Results

- No cases of intraprosthetic dislocations reported in 2108 revisions with Dual Mobility
- One case of metal-related pathology

Meta-analysis: Results

- Lower all-cause re-revision rates for Dual Mobility compared to LFH (9.6% vs 15.2%, $P < 0.001$)
- Equivalent re-revision rates for dislocation for Dual Mobility and LFH (3.1% vs 4.3%, $P = 0.11$)

Summary

- In all studies, Dual Mobility was **equivalent or better** than LFH in reducing dislocation and re-revision
- Longer follow-up is needed