Dual Mobility

A Summary of Economic Outcomes

Clinical Significance of Dislocations

Dislocation remains a common issue associated with total hip replacement (THR) **across multiple healthcare systems** with varying treatment practices.[1]

Dislocation rates vary from

0.2%-7%

in peer-reviewed literature[2-6]

Dislocation is the cause of

17.4%-22.5%

revision cases according to registry data[7-9]

Several risk factors lead to dislocation following THR[10]

1. Patient Specific
Age, Neurologic Disease, Impaired Compliance.

2. Surgery Related
Implant Position & Design, Surgeon Variability.

Economic Burden of Dislocations

Dislocation following primary THR has both **cost & resource implications**

~37% Dislocation cases required surgical intervention[11]

Dislocation increased the cost by 300%-342% when compared to primary THA[12,13]

5 days vs. 3 days

Patients with unplanned THA admissions had a longer length of stay when compared to elective admissions ($p<0.0001$) leading to a 24% increase in median costs[14]

Dual Mobility Technology May Reduce the Risk of Dislocation Following Primary THR

Dual mobility (DM) components tend to demonstrate favourable survivorship at both mid- and long-term follow-up.

***De Martino et al.*[15]**
12,844 primary DM mean follow-up: 6.8 years
Intra-prosthetic Dislocation: 0.7%
Mean Dislocation: 0.9%

***Darrith et al.*[16]**
10,783 primary DM mean follow-up: 8.5 years
Intra-prosthetic Dislocation: 1.1%
Mean Dislocation: 0.46%

DM cups have demonstrated a decreased risk of revision for dislocation without increasing the risk of revision for other causes or osteolysis[17]

DM cup designs can also **reduce the rate of dislocation in the treatment of displaced fractures of the femoral neck** when compared to conventional cups in primary THR and hemiarthroplasties[18-21]

7-15x Greater dislocation rates following **conventional primary THA** treatment for fractured neck of the femur with **conventional cups** when compared with **DM cups** in a similar cohort.[18]

Dual Mobility Technology in Primary THR is a Cost-Effective Procedure

Three cost-effectiveness studies, based on real world data, demonstrate that THA using DM provide greater health gain and are cost-saving when compared to standard THR.

***Epinette et al.*[22]**

- 80,405 patients who underwent THR in 2009 were followed over a 4-year period
- DM resulted in relative risk of dislocation of 0.4 compared to standard THR, translating to 3,283 fewer dislocations, €28.3 million savings, and 441 QALY's gained per 100,000 patients

€283
in savings per case with THA-DM

***Barlow et al.*[23]**

- From a societal perspective - using DM resulted in lower accrued costs & better quality of life for THA
- Sensitivity analysis demonstrated DM remained cost-saving until DM implants exceeded those of standard THR by $1,023
- The cost-effectiveness threshold for DM implants was $5,287 greater than conventional implants

***Elbuluk et al.*[24]**

- DM implants are cost-effective for patients with spinal deformity who are a high-risk population for dislocation after THA
- The cost-effectiveness threshold for DM implants was $1,180 with the incremental cost-effectiveness ratio being $71,000/QALY

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Table HT15 Primary Total Conventional Hip Replacement by Reason for Revision (Primary Diagnosis OA)

Reason for Revision	Number	Percent
Prosthesis Dislocation/Instability	2702	22.5
Infection	2687	22.3
Fracture	2589	21.5
Loosening	2535	21.1
Pain	245	2.0
Leg Length Discrepancy	207	1.7
Malposition	181	1.5
Lysis	154	1.3
Implant Breakage Stem	105	0.9
Implant Breakage Acetabular Insert	102	0.8
Incorrect Sizing	81	0.7
Wear Acetabular Insert	72	0.6
Metal Related Pathology	55	0.5
Implant Breakage Acetabular	46	0.4
Implant Breakage Head	23	0.2
Other	244	2.0
TOTAL	**12028**	**100.0**

Note: All procedures using metal/metal prostheses have been excluded
Restricted to modern prostheses

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