Dual-Mobility Constructs in Primary Total Hip Arthroplasty in High Risk Patients With Spinal Fusions: Our Institutional Experience

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Disclosures

BPC and **MS** – no disclosures

TPS – Exactech, Lima

SAJ – Stryker, Imagen

DJM – Orthalign, Smith and Nephew, Knee Society, Imagen, Insight, Wishbone

GWH – Stryker, Exactech, Knee Society

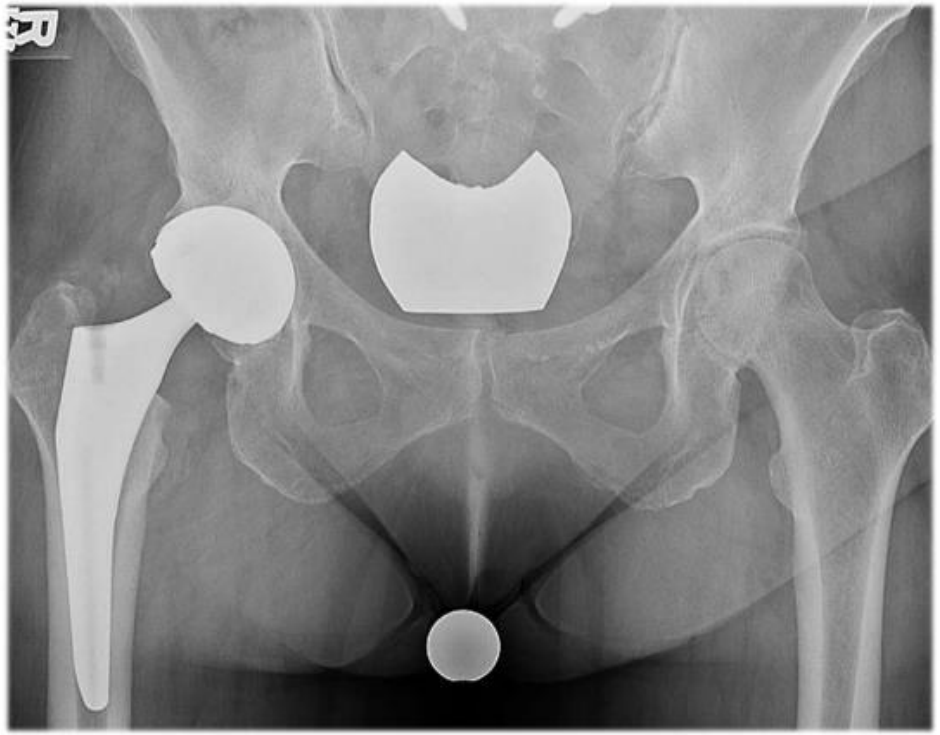
Introduction

- Patients with prior spinal fusions are at particularly high risk of dislocation after primary THA
  - Reports of up to 10% dislocation rates
- Dual mobility (DM) constructs have been shown to reduce dislocation rates in high risk primary and revision THA
- Paucity of data on the use of DM constructs in patients with spinal fusions

Study Aims

Analyze the outcomes of DM constructs in high risk spinal fusions patients undergoing primary THA, specifically:

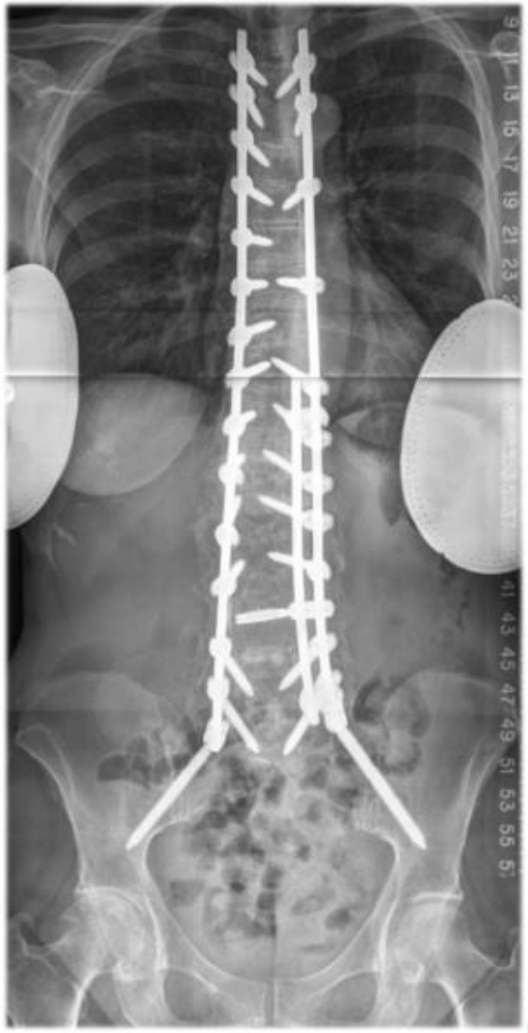
1. Survivorship Free from Dislocation
2. Other complications and reoperations
3. Patient Reported Outcome Measures



Patients and Methods

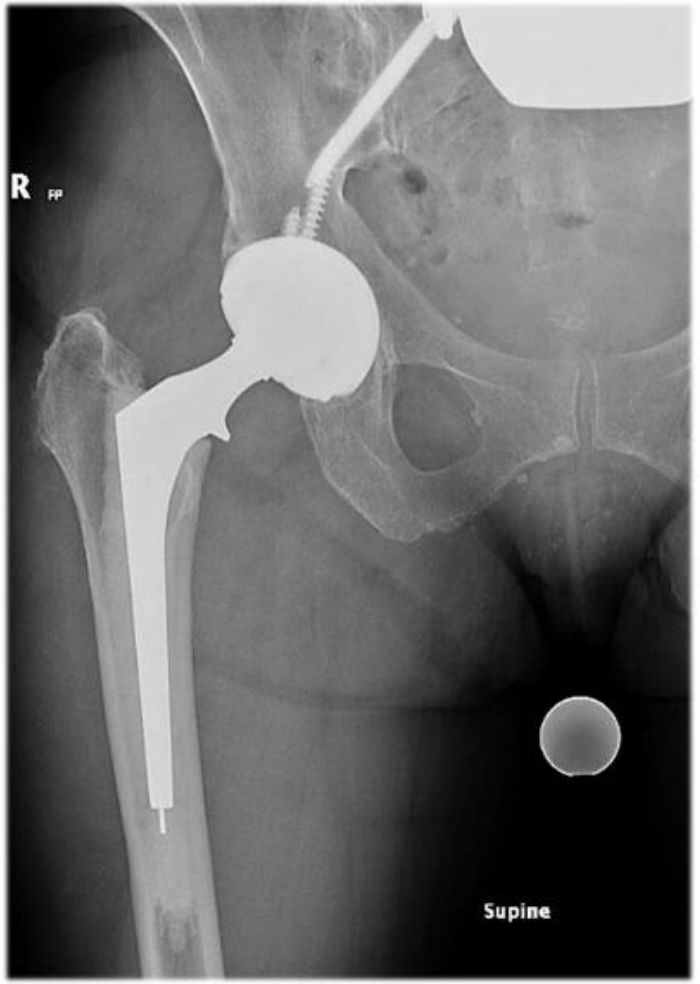
- 86 primary THAs (80 patients) - primary posterolateral THA with DM construct and prior spinal fusion at the same institution
  - 57 females (71%)
  - Mean age = 69 years
  - Mean BMI = 28 kg/m^2
  - Mean follow-up = 3 years

- Methods
  - Analyzed survivorship via the Kaplan Meier Method
  - Compared preoperative and postoperative HOOS Jr. and VR-12 Physical (PCS) and Mental (MCS) scores



Surgical Details

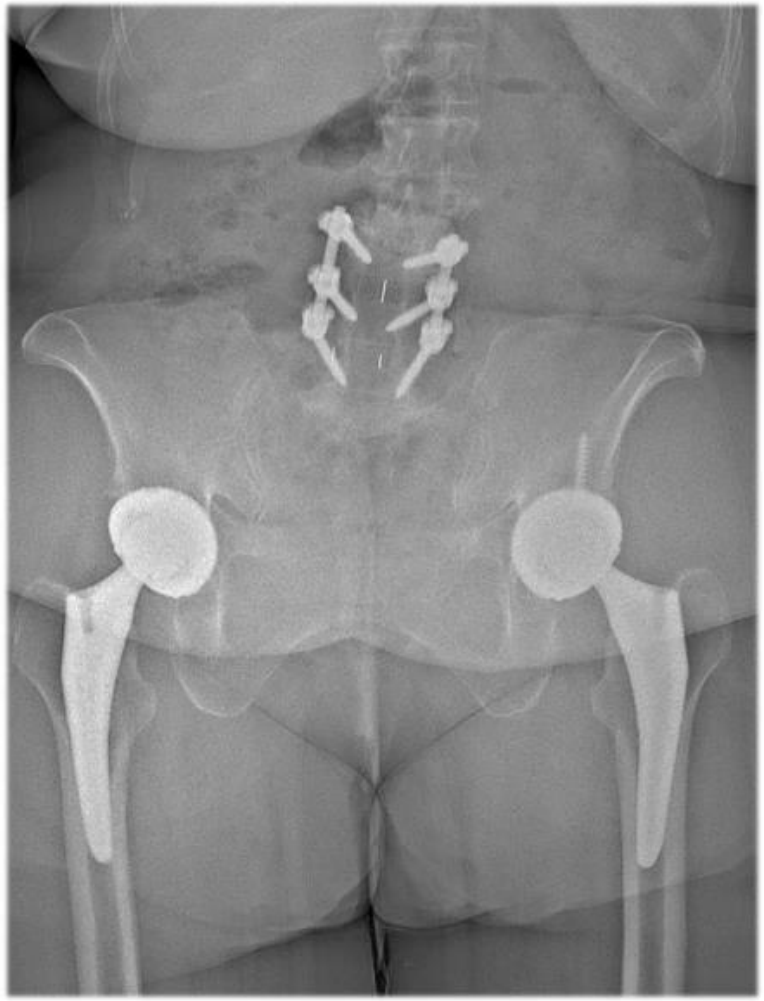
- All posterolateral approach
- 56 (65%) modular DM construct; 30 (35%) monoblock
- Mean cup size = 52 mm (44-62)
- Mean effective femoral head size = 42 mm (36-52)
- Acetabular position
  - Mean inclination = 44° (30 - 57°)
  - Mean anteversion = 24° (12 - 40°)
- Prior spinal fusion
  - Median No. Levels = 4 (range, 1-14)
  - 59 (74%) with 2 or more levels
  - 50 (63%) fused to sacrum



Survivorship Free From Dislocation

- Survivorship Free from Dislocation was 100% at both 2 and 5 years

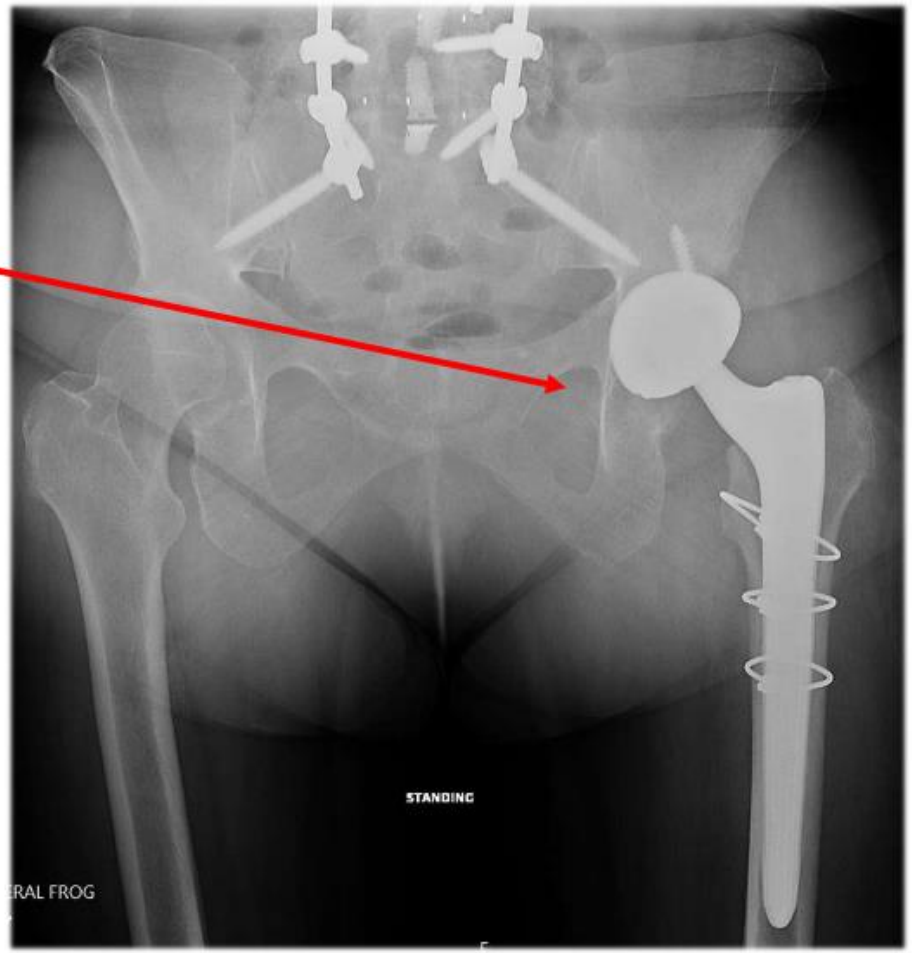
- No postoperative dislocations



Complications

- Six patients (7.5%) experienced a complication, including 3 (4%) reoperations
  1. Traumatic Vanc B2 fracture at 2 months postoperative– isolated femoral revision
  2. 2-stage exchange for chronic PJI at 6 months
  3. Superficial I&D for nonhealing wound at 1 month
  4. and 5. Infrapopliteal DVT treated with anticoagulation
  6. Minimally displaced greater trochanter fracture treated successfully nonoperatively

- No complications related to the acetabular component



PROMs

- **HOOS Jr.**
  - Preoperative: mean 50 (range, 21-76)
  - Postoperative: mean 87 (range, 33-100)
    - P<0.001

- **VR-12 PCS and MCS**
  - Preoperative: mean 31 (range, 17-51) and 42 (range, 19-69)
  - Postoperative: mean 44 (range, 21-61) and 53 (range, 29-72)
    - P<0.001

Conclusion

- In contrast to prior reports of up to 5-10% dislocation rates in this high risk spinal fusion population, no patients undergoing a primary posterolateral THA with a DM construct sustained a dislocation, despite:
  - Median of 4 fusion levels and 74% with 2 or more levels fused
  - 63% fused to the sacrum
  - Range of acetabular component position
- Reliable improvement in clinical outcomes and no unique acetabular complications noted in this study
- More patients and continued follow-up is required

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