Growing Concerns Related To Intraprosthetic Dislocation Of Dual-Mobility Hip Implants

JBJS Case Connector [1], an online case journal published by *The Journal of Bone and Joint Surgery* [2], has issued a "Watch" [3] regarding early intraprosthetic dislocation with dual-mobility hip implants. The "Watch" is based on two case reports published in the September 25th issue, in addition to recent cases in the orthopaedic literature pointing to similar problems.

In both cases of early intraprosthetic dislocation described in this issue of *JBJS Case Connector*, surgeons chose a mix-and-match strategy to minimize surgical complexity and bone loss and to maximize hip stability. Despite these sound clinical objectives, both cases suggest that combining dual-mobility components with components from manufacturers of non-dual-mobility systems may increase the risk of adverse events.

To enhance clinical outcomes and improve patient safety, *JBJS Case Connector* is committed to alerting the orthopaedic community about potentially problematic devices or therapeutic approaches. When two or more such cases with similar mechanisms appear, our editors will identify the procedure or implant as a "watchable" intervention to sharpen the focus of clinicians on the potential for similar problems and enhance clinical outcomes and patient safety.

"The publication of 'Watches' helps fulfill our mission to serve the orthopaedic community," commented Marc Swiontkowski, MD, editor of *JBJS Case Connector*. "The 'Watch' designation may encourage the orthopaedic community to either demonstrate that these are isolated, unrelated cases or sharpen the focus further by rigorously evaluating the intervention and/or reporting related cases."

Study Details:

- In a case study titled "Complete Dissociation of the Polyethylene Component in a Newly Available Dual-Mobility Bearing Used in Total Hip Arthroplasty," [4] Ward, et al. report on the intraprosthetic dislocation of a dual-mobility implant where the polyethylene component ended up in in the patient's gluteal soft tissue.
- The second case study, "Early Failure of Metal-on-Metal Large-Diameter Head Total Hip Arthroplasty Revised with a Dual-Mobility Bearing" [5] by Riviere, et. al., reviewed the implantation of a dual-mobility bearing to revise a large-diameter metal-on-metal implant. Surgeons left the well-fixed monoblock cup in place to preserve bone and minimize surgical complexity. At fourteen months postrevision, the patient presented with acute, intense groin pain. Radiographs revealed dislocation. During revision surgery, extensive wear of the mobile polyethylene component was apparent, with

loose polyethylene particles in the joint and scratches on the dome of the metal head.

Key Findings:

- Case Study #1: The authors surmise that the metal and polyethylene components had separated during an attempt at closed reduction of the dislocation when the patient had first presented. They suggest further that early intraprosthetic dislocations may be "generalizable to dual-mobility bearings and not related to the products of specific companies."
- Case Study #2: In this case, the authors speculate that the mobile polyethylene ball and existing acetabular cup were incompatible in shape and design. Surgeons replaced the existing acetabular cup with a modular trabecular metal cup and implanted a ceramic modular bearing.

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