

'Watch' cites concern about femoral neck fractures in long-necked modular implants

January 22 2014

[JBJS Case Connector](#), an online case report journal published by the [Journal of Bone and Joint Surgery](#), has issued a "[Watch](#)" regarding femoral neck fractures in patients whose implants used modular head-neck and neck-stem designs. While some of these designs are no longer available from manufacturers, thousands of such devices have already been implanted. This Watch encourages surgeons to be wary about one specific aspect of modular hip designs: long femoral necks.

This "Watch" is based on a case presented in the January 22, 2014 issue of JBJS Case Connector and three previously published cases. Modularity and long femoral neck length are the common denominators among all the cited cases. While the "Watch" recognizes the desirable outcome of optimized hip biomechanics—particularly for younger, active patients—these cases indicate a real risk of fracture that should be discussed with patients.

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, encourage publication of these cases and thereby 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 the January 22, 2014 edition of JBJS Case Connector, Baratz et al. reported on a femoral neck fracture in a patient whose uncemented stem component was coupled with a 32-mm femoral head with a +16-mm skirted neck length. After seven years of uneventful, asymptomatic hip function, the patient felt a pop in her hip upon rising from a seated position, and she fell. Radiographs taken at the local emergency department showed a displaced fracture through the femoral neck, with the acetabular component and stem appearing well fixed.
- Wright et al. reported on a forty-nine-year-old obese man who received a hip replacement using a dual-tapered rectangular stem with a long, modular neck, all made from a titanium alloy. Four years after the surgery, the man slipped on ice and fell squarely on the replaced hip. Three days after the fall, he heard a snap in his hip and was unable to bear weight on his lower extremity. Radiographs revealed a fracture of the modular neck, with the femoral head remaining well fixed to the proximal fragment of the fractured neck and the distal fragment seated in the bore of the femoral stem.
- Wilson et al. reported on a sixty-two-year-old, overweight man who went through two identical modular stems, each with a long, 8-degree retroverted neck. The first was replaced with an identical modular stem in February 2007 due to a fracture of the original 32-mm ceramic femoral head. Subsequently, the patient collapsed while walking normally and presented with pain and

inability to bear weight. Radiographs revealed a fracture of the distal portion of the femoral neck.

- The fourth case occurred in a thirty-year-old man with rheumatoid arthritis who received a total [hip replacement](#) using a modular stem with a long, straight neck and no offset. Atwood et al. reported that the hip performed well for almost two years, at which point the man fell and landed on the implanted hip. Radiographs revealed a fractured femoral stem, and subsequent revision surgery showed that the modular neck had fractured about 2 mm below the edge of the stem.

Provided by Journal of Bone and Joint Surgery

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