## Severe Femoral Deformity Treated with Extensive Porous-Coated Stem in Revision Hip Arthroplasty

O-025

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**Introduction:** To determine the benefit of an extensively porous coated long femoral stem in patients with severe femoral deformity while receiving revision total hip arthroplasty.
**Materials and Methods:** This study reviewed the results of 5 patients who received a revision total hip arthroplasty with extensively porous coated long femoral stem (AML long stem, DePuy) between March 2010 and March 2012, including post THR with stem malposition and loosening (3 hips), post bipolar hemiarthroplasty with femoral periprosthetic fracture and stem loosening (2 hips). The mean follow-up period was 26.2 months. We did the corrective osteotomy procedure before implanting the long stem. The clinical and radiological results were evaluated by the Harris hip score and serial radiographic findings.
**Results:** The preoperative and postoperative Harris hip score was 20 and 78 respectively. Radiographically, none of early loosening occurred around the stem. There was no incidence of resorption progressing and no stem loosening during postoperative follow-up. In addition, none of the femoral components showed evidence of subsidence, pedestal, or shedding of metal particles. No perioperative complications encountered including heterotopic ossification, intraoperative periprosthetic fractures, and nonunion of the femoral osteotomy site.
**Discussion:** The short term results of revision total hip arthroplasty using an extensively porous coated stem treated severe femoral deformity were reliable, and there was no case involving the progression of proximal bone resorption.

## Fracture of Fully Coated Femoral Revision Long Stem

O-026

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**Introduction:** Femoral bone loss during revision total hip arthroplasty is a challenging problem. When bone loss in the proximal femoral metaphysis is too large to provide implant stability, bypass fixation in the distal diaphysis with long stem prosthesis to overcome the deficient femur is often needed. The fracture of uncemented, fully porous, coated femoral stems is a rare complication. Multiple factors may result in stem fracture, including geometric design, prosthetic material, surgical technique, quality of bone, body weight, and patient activity. We present 9 patients with fracture of revision long stem with analysis.
**Materials and Methods:** From 2005 to 2013, there were total 9 patient with fracture of revision long stem(Zimmer, Warsaw, VerSys fully coated stem) were included. The age, gender, revision day, stem broken day, femoral bone loss type, broken stem size, and duration of stem broken after revision surgery were collected and analyzed.
**Results:** We could summarize 3 categories of failure: 1.status post transverse femur osteotomy in previous revision surgery, 2.massive trochanteric bone loss, 3. Minor trochanter bone loss with inadequate metaphyseal bone contact with prosthesis. In group 1, because transverse osteotomy with inadequate fixation, stress from neck was transfer to distal femur mainly by stem, with early stem broken (18,18,.23 months). In group 2, compromised activity level due to massive trochanteric bone loss cause the stem maintain longer than group 2. In group 3, because of minor trochanter bone loss with inadequate metaphyseal bone contact, the stem maintained for longest time between 3 groups(86, 121,126 months), but broken eventually.
**Discussion:** Bypass fixation in the distal diaphysis with long stem prosthesis without bone support over metaphyseal area may cause long stem broken eventually.