



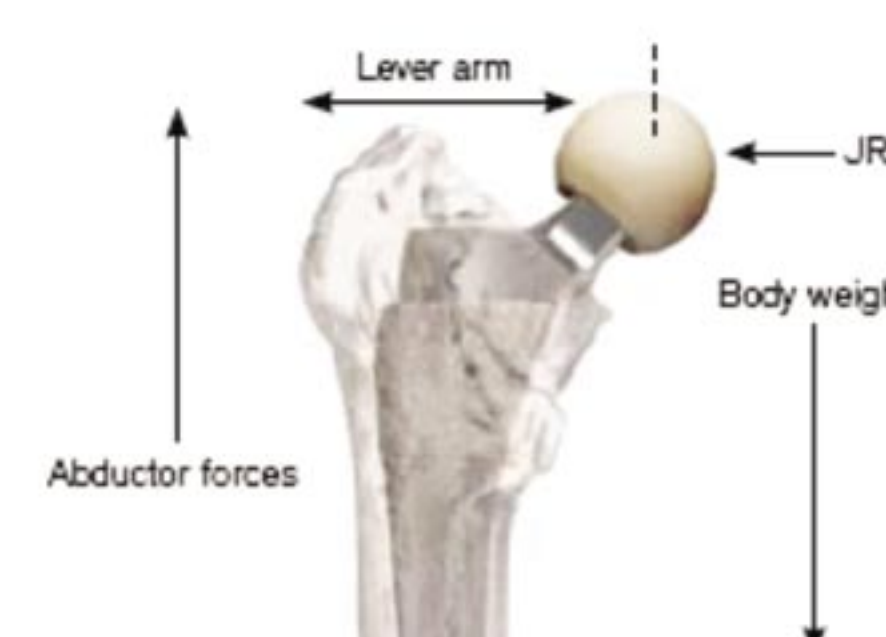
Case Report on Proximal Modular “Dual Press Design”



By: *Louis Keppler, MD and **Timothy McTighe, Dr. H.S. (hc)
*The Spine and Orthopaedic Institute at St. Vincent Charity Hospital, Cleveland, Ohio, USA
** Joint Implant Surgery & Research Foundation, Chagrin Falls, OH, USA

Introduction:

Total hip arthroplasty has a very high success rate as measured by pain relief, improved function and patient satisfaction. However, on occasion complications do happen. This paper will review three cases that required surgical intervention, as well as the design features of the modular stem that made revision surgery considerably easier. Proximal modular stem designs provide some versatility in both restoring joint mechanics and in access for revision situations.



Dual Press™
Modular neck

Material & Methods:

Three patients received cementless THA within the past two years. All three had a K2 Dual Press™ proximal modular stem design. Two patients had MOM bearings that shifted position and one had a cementless porous cup with a 36mm poly bearing with metal head that dislocated. All were performed at the same hospital by the senior author using a small posterior surgical approach. All three had different acetabular components. The two MoM designs were the Wright Medical and the ASR™ from Depuy. Both are a one piece hip socket liner design with titanium plasma surface without any adjunction fixation besides the press fit of the socket. Both were placed in average demand patients.



The third hip was a porous cementless cup (well fixed) post-operative dislocation that required open reduction and an exchange in the proximal modular neck to an increased femoral offset and version angle stabilizing the joint mechanics.



Wright Medical



ASR™ DePuy



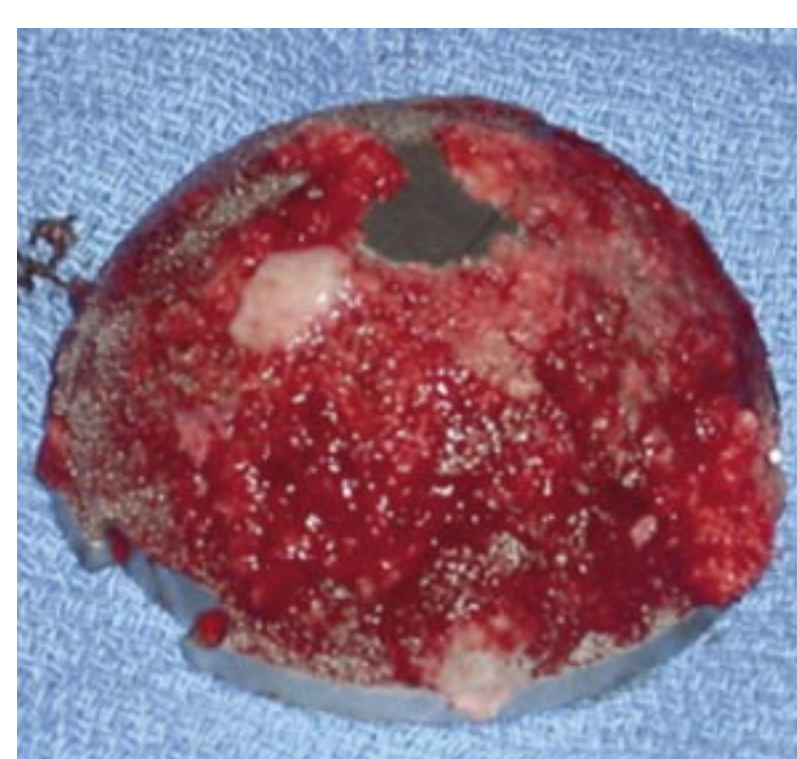
Interface™ Apex Cup



MoM Cup Spinout



Explant™ Tool

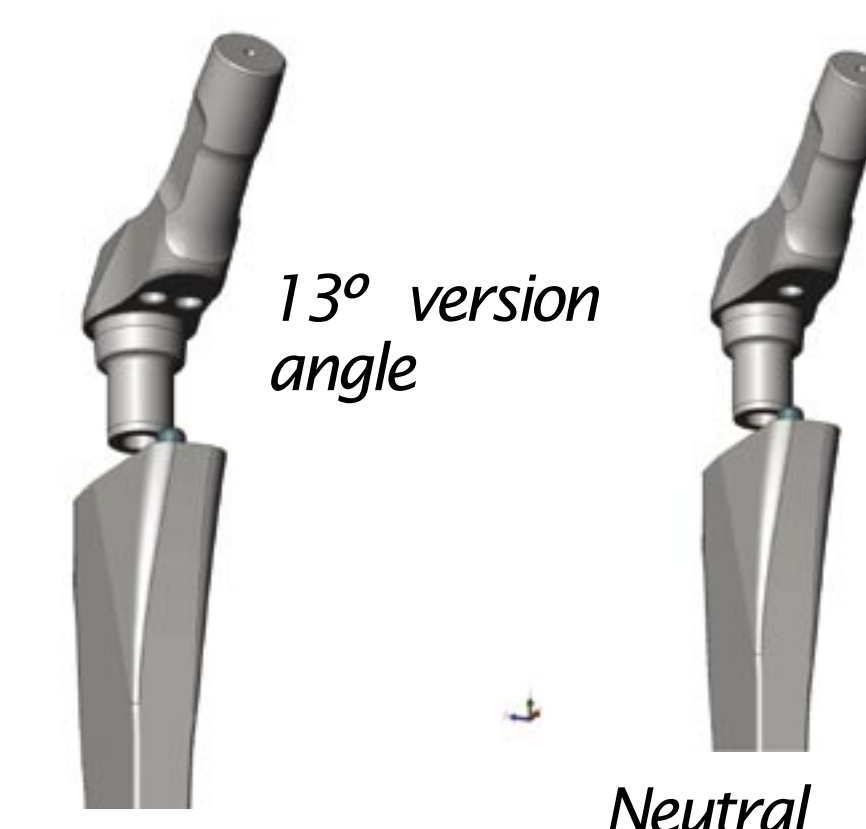


MoM cup removal

The modular junction allows removal of the proximal neck segment improving exposure of the socket. The Explant™ cup removal system was then used without difficulty and with little bone destruction.

The Dual Press modular junction has a unique design that allows for retrievability in just these types of cases. A proximal setscrew is removed allowing access of a slap hammer making the proximal neck disengage from the stem body. This greatly improves exposure for removal and implantation of the acetabular component. Then a new proximal neck segment with head was attached with no disruption of the stem/bone interface.

The dislocation case was addressed by removal of the proximal modular neck. Increased femoral offset and 13° of version angle were added to the new neck position. The cup, liner and stem body were not changed at all. Patient was stable; hip closed and patient discharged the next day.



Modern day designs in implants and instrumentation have made THA more reproducible. In cases of revision surgery they provide design features and benefits that reduce operative time and complications. This also results in significant cost savings as compared to traditional monoblock stem designs.

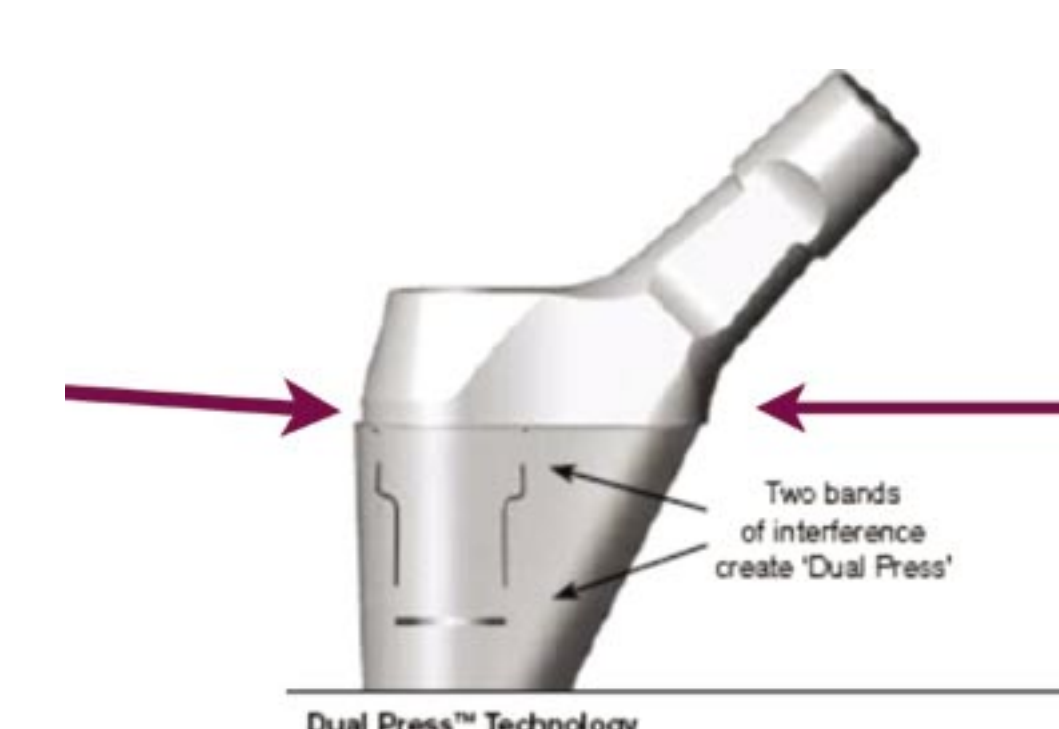
After selection of the new proximal neck it can be assembled in situ reducing disruption of the stem/bone interface. A cam device is inserted into the neck and stem/body that compresses the Dual Press modular junction together.

Discussion & Conclusion:

All three required revision surgery that was made considerably easier by the design feature of proximal Dual Press™ modularity.

The ease of removal of the proximal modular neck allowed for better exposure of the socket making the use of the Explant™ cup removal system more effective with less bone and soft tissue destruction.

We have now had two MoM spinouts in average demand patients. The potential of cup revisions is always with us, so a proximal modular neck that is removable is a crucial feature in these type of situations. We are optimistic about this design concept.



Dual Press™ modular design shares load over a broader surface than other modular neck designs.

