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CORR Insights

CORR Insights®: Low Frequency of Early Complications With Dual-mobility Acetabular Cups in Cementless Primary THA

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Where Are We Now?

Although dual-mobility sockets have been around for more than 40 years, there are no long-term followup studies on these devices currently available. We do have medium-term followup studies, which showed that dual-mobility cups reduced the risk of dislocation [5]. However, as Chughtai et al. appropriately note, these devices have been associated in some reports with a serious complication, called intraprosthetic dislocation. Although the authors did not observe any intraprosthetic dislocations in this series, they correctly state that many other studies have indeed reported this complication. Intraprosthetic dislocation typically results in further revision surgery, and—as the authors also correctly note—can cause other problems like intraarticular metallosis. This complication has been reported to occur in as many as 5% of hips treated with dual-mobility sockets [3].

Initially designed by Gilles Bousquet in Lyon, France with the idea of reducing the risk of dislocation after THA, dual-mobility sockets made their way to the United States about 15 years ago, adding another tool to the management of instability after THA. At that time, enthusiasm for constrained devices was waning, as both early and late failures with those devices were reported in increasingly large numbers [1, 2]. Dual-mobility sockets did their job, decreasing the occurrence of instability after revision THA. However, orthopaedic surgeons began extending the scope of these devices—first to primary THAs with increased risk of instability (such as those for hip fractures, and those in older patients) and then, more recently, to routine primary THAs.

Despite the allegedly bad performance of polyethylene in a convex surface there are no data on the performance of these devices when manufactured with highly-crosslinked polyethylene.

Where Do We Need To Go?

The current data on dual-mobility sockets give reason for cautious optimism. But time and experience have a way of tempering this kind of optimism. The paper by Chughtai and colleagues

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is a good first step. But clearly, this group of patients needs to be followed to ascertain whether survivorship at 10–15 years is as good as that seen with more traditional THA designs. As we consider potential complications of this device, the risk of intraprosthetic dislocation should be added to that of standard dislocation. We must also recognize that with these devices, both types of dislocation may result in further open surgery for their treatment.

How Do We Get There?

Despite having dual-mobility sockets in our toolbox for more than 40 years, we still do not have a single long-term study about these devices. Long-term followup studies are warranted before we can recommend their use for routine THA. It is equally important to study the effectiveness of dual-mobility sockets in preventing dislocation in revision THA, which was the initial reason why they were brought in the United States in the first place. I do find it worrisome that there have been isolated reports of intraprosthetic dislocation occurring early after revision THA [4].

For the practicing hip surgeon, the use of dual-mobility sockets should be confined to revision THA for instability or with high-risk of instability. It may be reasonable to extend their use to primary THA where a higher than normal risk of instability is known to exist, but the use of dual-mobility devices for routine primary THA should wait until long-term data on survivorship—free of complications and instability—is available.

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