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Metal-on-Metal Hip Replacement

Orthopaedic surgeons provide awareness and information to patients, medical community at-large

Rosemont, Ill.

Total hip arthroplasty (THA) is one of the most successful surgeries in the past several decades. This procedure has relieved pain and restored movement to hundreds of thousands of people. The decision to have hip replacement surgery should be made after discussion between the patient and his or her orthopaedic surgeon. According to the **American Academy of Orthopaedic Surgeons** (AAOS), patients have several options for hip replacement implants, each with its own advantages and potential drawbacks.

Younger and more active individuals are now having joints replaced, and one of the challenges of this is to ensure that the bearing surface between the ball and socket can last for many years. Metal-on-metal (MoM) hip implants have been known to wear less, and its use allows for a larger ball, which can reduce the risk of a dislocated hip. MoM hip implants have been typically used in patients to treat osteoarthritis and pain in the joint.

According to data from the Nationwide Implant Sample database, in a one-year period from 2005-2006, approximately 39,200 MoM hip replacements were performed. MoM hip implants are made of a cobalt-chromium alloy and alleviate the discomfort that patients feel before the surgery. For many patients, hip replacements – no matter what type of bearing surface is used – dramatically improve overall quality of life.

“In general, a patient should be relatively pain-free three months after any hip replacement surgery,” stated Joshua Jacobs, MD, spokesperson for the AAOS and an orthopaedic surgeon and researcher in Chicago, Ill. “Any new pain or increase in pain at that point should be promptly communicated to your surgeon, as it may indicate a complication.”

According to a case report in the online American edition of the **Journal of Bone and Joint Surgery** (JBJS), two patients who received MoM total hip replacements experienced adverse events. The report outlines the adverse effects – including timelines and descriptions of the problems they experienced until the implants were removed at 47 and 40 months, respectively. After the revision surgeries, the symptoms improved. Both patients were fit, healthy 49-year old males. Their experience reports that cobalt toxicity developed within their bodies after the MoM device was implanted.

The case report states that at present, at least six reports of cobalt toxicity have been related to arthroplasty implants, although the two in this report are the only ones that occurred in patients with MoM hip replacements. It also notes that a larger group study will be required to define the prevalence and spectrum of cobalt poisoning due to hip arthroplasty.

“Orthopaedic surgeons are concerned about patient health and outcomes,” said Mary O’Connor, MD, president of the **American Association of Hip and Knee Surgeons** (AAHKS) and an orthopaedic surgeon in Jacksonville Fla. “Because of this, we are actively engaged with educating our members regarding concerns

related to MoM hip replacements and working with all stakeholders to determine any risks associated with metal-on-metal hips.”

“This information is not meant to instill any type of fear in our patients, stated Chitranjan S. Ranawat, MD, president of the **Hip Society** and an orthopaedic surgeon in New York. “However, we want to elevate patient awareness about metal-on-metal hip replacements. We suggest that any patient who received a metal-on-metal hip inform all medical care givers about their joint replacement device and pay attention to post-operative pain.”

As with any surgery, joint replacement surgery has some risks, but is successful in more than nine out of ten people. If complications occur, most are successfully treatable.

As a way of identifying early problems that may arise from any joint replacement procedure, the Academy has helped to establish the **American Joint Replacement Registry** (AJRR). The AJRR will track data, just as joint registries in other countries do. This national database will serve as an early alert system for continued or new device problems. The data collection process has just begun this month and will allow orthopaedic surgeons to track the success and failures of any implant used nationwide.

What should patients do if they have had a MoM hip replacement?

Most patients have not had any problems with MoM implants. If the patient does not have any medical or health changes, and the hip is not painful, there is no reason to believe a problem exists. If, however, the patient notices new pains or medical concerns, he or she should talk to a doctor or orthopaedic surgeon. An open dialogue with your physician is the best way to protect your own health.

Should patients with MoM hip implants get a blood or urine test done to check for cobalt levels?

The patient should discuss the value of such testing with his or her orthopaedic surgeon. At present, the testing has not been standardized and must be done by labs that specialize in trace metal analysis.

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Disclosure: Dr. Jacobs is a consultant with Zimmer, Johnson and Johnson, Medtronic and Implant Protection. He receives research funding from Zimmer, Medtronic Spinal Motion. Dr. O’Connor has engaged in consulting activity for Zimmer, Inc. in the past year. Dr. C. S. Ranawat receives royalties from DePuy and Stryker and has received research support from DePuy and Stryker. His family members serve as consultants to Conformis and MAKO.