

An arbeits for patients with metal-on-metal total hip replacement from 2005 – 2012

Editorial

“Metal-on-metal hip implants, can cause a reaction in some patients where metal particles have a reaction around the joint, leading to deterioration of the tissue around the joint, loosening of the implant, and failure of the device.”

If you were between the ages of roughly 40 and 75 during the years of 2005 through 2012, you may have been one of millions of candidates who had a Metal on Metal (M.O.M.) hip prosthesis implanted. The time frame came to be as a result of Patients showing signs and symptoms of metal ions leaching into the bloodstream creating a metal ‘poisoning’ known as metallosis. These symptoms can be generally seen within the first few months to a year after surgery. The thought behind the development and use of the M.O.M. hip was cogent two-fold. It would solve the two most common risks of the procedure. The first advantage was an increase in the size of the head component. The larger head size would deal with one of the most common complications-dislocations (by making the fit of the head into the socket more compatible and secure).

The second advantage was that the effective ‘life’ of the prosthesis would be significantly increased by substituting metal for the polyethylene (plastic) of the socket. This last was particularly important for the younger group of patients and tended to solve the problem of having to undergo one or more potential replacements due to wear-out. For example, if you were a THR candidate but in your 40s, and the average life of the prosthesis was calculated as 15-20 years, in all probability you would need to face one re-do and perhaps even two, each involving a major surgical procedure.

These two design solutions seemed eminently reasonable, and were quickly adopted by most manufacturers and many orthopedic surgeons. Due to the problems with M.O.M devices Manufacturers recalled the prosthetic, and stopped further manufactory.

Recommendations for patients of metal-on-metal hip replacements

You are undoubtedly aware of the massive recall by all manufacturers of M.O.M. prostheses employed wide spread during this time frame. They are no longer used. But even if you’re asymptomatic you may wonder if your hip replacement was one of the metal-on-metal variety, and whether you will develop symptoms. The answer is, sooner or later you may develop problems. These range from shedding small ions of metal both locally that may erode the bone around the prosthesis, causing loosening of the prosthesis, and bone necrosis, as well as absorption into the soft tissue around the prosthesis and ultimately being picked up by the blood, and distributed widespread.

As an orthopedic surgeon who performed and taught hip replacement I thought to offer some observations on the matter.

Of interest is that not every M.O.M. replacement demonstrated all of these changes, not after a predictable time after insertion, and not to a uniform degree. However, a known M.O.M. insertion has become

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a subject of serious concern to manufacturers, surgeons and perhaps most important, patients. The question as a patient, is what to do about the potential or even already existent problem-both how, when and what to do? With these questions in mind, I have a suggested arbeits, or scheduled approach for patients who have come to me for possible advice.

- If you have had a hip replacement or even resurfacing (the similar but lesser procedure) during the 2005 to 2012 period, contact the office of your surgeon. Ask if you had a M.O.M. prosthesis used in your procedure. His operative records (a part of his office notes) will have recorded the device he used. If not metal on metal - the problem doesn’t exist for you.
- The symptoms of an M.O.M. that can develop vary anywhere from noises (e.g. Squeaks, clicks or clunks) in the joint to pain in the hip area, catches on range of motion or even limp. Any of these symptoms require immediate attention!
- If you find that you have had an M.O.M. prosthesis inserted, but are symptom free, I would see your surgeon, have a physical examination, and insist on current radiographic studies of the hip (Including a set of plain x-rays and an MRA) as well as blood studies for levels of metallic ions. If these three medical elements are negative, I would suggest they be repeated every six months for the next eighteen months. If still negative once a year for a minimum of five years. Thereafter only if any symptoms develop.

What happens if symptoms exist

If on the other hand, either your radiographic tests are positive, or you begin to develop even minor symptoms in the hip, I would suggest an immediate hip replacement. In point of fact the sooner it is done after the discovery of positive findings, no matter how minimal, the better. I wouldn’t wait for the longer term effects to develop, but rather look to prevent them from developing, even though it means a second major surgical procedure relatively soon after the first.

- I would hesitate to suggest this is a definitive answer for the millions of patients who had these hips implanted in this era. But I do say that once informed- take the bull by the horns, rather than in effect wait to be gored.
- As to which surgeon should do you replacement, I would go to the surgeon who first emplaced the M.O.M. device. He knows and

understands your anatomy, how he approached the insertion, what he encountered, what he did surgically. It is obviously not a happy solution to an unhappy event, but positive and immediate action is the lesser risk to take - and the sound medical thing to do.

c. There a is little information about the long term effects o f metallosis, or deposits of metal in bone, but considering the general effect, and possible increase of pathology, removal of the source of the problem seems the least that can be done (Table 1).

Schedule Studies every year for 5 Years – then every 5th thereafter.

- a. What I want to convey is simple. Any time from a few weeks to a few months the studies are at all positive, schedule replacement surgery as soon as possible.
- b. If you have physical symptoms or signs, pursue radiography and blood studies immediately, and if they prove positive, schedule replacement surgery as soon as possible.

Table 1 Metal-on-metal timeframes for action

Timeframe	Radiographic Study	Blood Study	Action
Immediate	X-rays & MRA negative	Negative	Reschedule exams for 3months
Immediate	Studies Positive	Negative	Surgery to Replace prosthesis
Immediate	Studies Negative or Ambivalent	Positive	Surgery & Hematology & appropriate consults
Six Months	Studies Negative	Studies negative	Reschedule for 1 year
Six Months	Studies Positive either blood or	Radiographic	Surgery
One Year	All Studies Negative		Reschedule studies for 1 year
One Year	Any studies Positive		Surgery

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Conflicts of interest

The authors declare there is no conflict of interest.