

## **MINIMALLY INVASIVE (MIS) TOTAL HIP ARTHROPLASTY (THA)**

### **WHAT DOES MIS MEAN?**

MIS total hip arthroplasty is a less invasive method of performing total hip replacement. Although, the hip components are the same as those used in the traditional surgery, the procedure differs from the traditional procedure in two major respects.

- 1) Instead of the usual 10- to 14-inch incision, the procedure is performed through one (some times two) 2- to 3-inch incision(s).
- 2) There is less violation of the muscle tendon attachments of the hip. This allows for a more rapid return to activities of daily living, earlier return to work, less blood loss, pain, and a shorter hospital stay.

### **HOW IS THIS POSSIBLE?**

The development of newer instruments and fiber optic illumination enables the surgeon to accurately perform the same procedure with smaller incisions and less trauma to the surrounding tissue. However, surgeons need to be trained in these newer techniques.

### **WHO IS A CANDIDATE FOR MIS THA?**

Almost all of our patients with severe arthritis of the hip are candidates for this type of procedure. Both cemented and un-cemented components can be inserted with MIS techniques. Exceptions that may require your surgeon to modify the approach include heavily muscled or obese patients, prior surgery, or severe deformity. Your surgeon will talk with you about your particular case.

### **WHAT SHOULD I EXPECT BEFORE AND ON THE DAY OF SURGERY?**

Many of your questions will be answered in an individual or group information session given by hospital personnel. You should stop anti-inflammatory medication 7 days, and anti-coagulant therapy (Coumadin) 5 days before surgery. Other than essential medication, you should not eat or drink 12 hours before surgery. A history and physical exam will be required. You should arrive at the hospital at least 2 hours before the planned surgery time. Your surgeon and anesthesiologist will meet with you and your attending relatives before the procedure. An IV will be started and an antibiotic administered, along with an oral anti-inflammatory pain pill. The procedure is usually performed under a spinal anesthetic with additional sedation. A long acting anesthetic is injected at the surgical site to further aid in pain control and permit early rehabilitation. Physical therapy is started on the day of surgery, concentrating on full weight bearing ambulation, strengthening (straight leg raises) and range of motion (full flexion is allowed, but you need to avoid rotating your leg inward or crossing your knees). Pain management is accomplished with oral and, occasionally, IV medication to allow you to remain alert, but comfortable.

### **HOW LONG WILL I BE IN THE HOSPITAL?**

You will be discharged when you become independent at walking (usually with a cane), getting in and out of bed, and managing stairs. About half of our patients leave the day after surgery and half on the second

day after surgery. If you have other medical conditions that impair your recovery, rehabilitation and transitional care may be necessary.

### WHAT CAN I EXPECT AFTER DISCHARGE?

You will have some discomfort in your hip and thigh. Usually this can be well managed with oral pain medication (a narcotic and an anti-inflammatory) for 2 to 3 weeks. To minimize the risk of blood clots, support stockings should be worn at night. A daily 325 mg aspirin should be taken for 30 days.

Your incision is closed with dissolvable sutures and the ends may be clipped off after 2 weeks with a small scissors cleansed with alcohol. If the incision is dry, you may shower, but do not soak the incision in a hot tub or bath. Leave the skin tapes (steri-strips) on for two weeks.

The hospital therapist will give you exercises that should be performed 3 times a day. Usually, outpatient physical therapy will not be necessary. You should avoid prolonged sitting, and go for comfortable, short walks several times a day. But, don't overdo your activity. Excessive walking, working around the house, mowing the lawn, or shoveling snow may cause excessive swelling or deep bleeding and should be avoided. Dental work and long car trips need to be postponed for six weeks after the time of surgery.

The discomfort and sensation of swelling should lessen over time. An excessive increase in pain, swelling, a temperature over 100 degrees, incision draining or discharge, and pain and swelling in the calf should be reported immediately to your surgeon.

If your surgeon has corrected some shortening in your leg due to the arthritis, you may feel that the leg is excessively long for 2 to 3 months until contracted muscles relax and your pelvis accommodates to the changed length.

### WHAT ARE THE POTENTIAL COMPLICATIONS OF MIS THA?

Complications of MIS THA are the same as with standard total hip replacement. The most serious complications are infection and the formation of blood clots. The frequency of the complications is low, less than 1 percent, but cannot be totally avoided. Precautions are taken to minimize infections with peri-operative antibiotics, and to minimize blood clots with early mobilization, the aspirin and support socks. Somewhat more common is the risk of dislocation (separation of the ball from the socket). This would require a trip to the emergency room. This problem usually occurs when the hip is flexed, for example, when sitting, kneeling, squatting, or placing the leg on a high step or stool, adduction (bringing the operated knee toward the other leg or across the midline), and internal rotation (rotating the knee or foot inward). You may fully flex, but only with your knees apart and your foot pointed outwards. At the time of the procedure, your surgeon may elect to lengthen your leg somewhat to minimize this complication. Other potential complications include, but are not limited to, loss of motion of the hip, injuries to blood vessels and nerves, cracks or fractures of the bones about the hip components and more long-term failure or loosening of the prosthesis.

### HOW LONG IS THE HEALING PROCESS AND FUNCTIONAL RECOVERY?

When you are discharged, you will be able to walk independently, usually with a cane. Driving is allowed when you are no longer taking narcotics and feel safe, usually in 2 to 3 weeks. Longer walks are possible in 2 to 3 weeks, and more vigorous activities (such as golf) in 6 to 8 weeks. You may return to a desk job in 2 to 3 weeks and more vigorous activity in 2 to 3 months. For up to a year, you may have some aching about the hip with more vigorous activity or with inclement weather changes. The time of recovery and the discomfort will vary considerably from patient to patient and your doctor will advise you of your

limitations as you progress with recovery and therapy. Permanent limitations include the avoidance of running and jumping. Keeping your knees and foot rotated outward when in a flex position is also a permanent limitation. In general, you may participate in any sport that is not a high impact sport.

#### WHAT ARE THE LONG-TERM EXPECTATIONS OF MIS THA?

Recently developed biomaterials prolong the life of THA. These include highly cross-linked polyethylene, ceramic on ceramic, and metal on metal joint interfaces. We expect these materials will prolong the longevity of our current hip replacements from 15 to 20 years or longer. Should your hip components need replacing, a revision can be done. There are many factors that accelerate wear of the components, including heavy weight, a younger age, more vigorous activity and impact-loading on the prosthesis. We recommend you control your weight through a non-impact exercise program and diet, and avoid running and jumping activities. You are required to take antibiotics before all dental procedures for at least 2 years after surgery. We can provide you with a card to inform airport security personnel that you have a prosthesis in place, but expect screening anyway should your prosthesis set off the metal detector. You should follow up your total hip arthroplasty in 5 years with an x-ray making an appointment with your clinic at that time. Should you have any unusual symptoms in the interim, your surgeon should be contacted immediately. Most patients can expect to enjoy their total hip replacement for many years with increased pain- free function.