



### What is hip resurfacing?

For the young, active patient with advanced hip disease, hip resurfacing can be an alternate treatment to total hip replacement. The procedure is regaining popularity and holds great promise since it often permits a return to normal life activities.

### Total hip resurfacing versus total hip replacement

For those suffering from severe hip arthritis, total hip replacement is a very successful treatment option. With this procedure, the worn out head of the femur is removed, then the inside of the femur is reshaped and replaced with a stem and metal ball that fits into the centre of the femur. In addition, the socket of the pelvis is reshaped and fitted with a two-part implant that consists typically of a metal shell and plastic liner. Over time, friction associated with the metal ball rubbing against the plastic liner can cause particles of the plastic to wear away. These particles can get caught between the bone and cause loosening and failure of the stem and cup.

For younger, active patients who need a total hip replacement, there is a chance that traditional hip replacements will wear out during their lifetime and may need to be replaced again. Revision hip replacement is much more difficult and may not last as long as the original hip replacement.

The metal on metal technology used in hip resurfacing often eliminates the problems associated with metal on plastic wear, offering an option that may last for many years.

## Total hip resurfacing



For some younger, active patients, the best course of action is often total hip resurfacing. Since the head of the femur is preserved, hip resurfacing conserves more of the bone. This is largely due to the fact that instead of removing the head completely, it is shaped to accept an anatomically sized metal sphere. And there is no large stem to go down the central part of the femur. Also, the surface of the socket, acetabulum, is resurfaced and replaced with a metal shell that is pressed directly into the bone.

## The implant

The hip resurfacing implant, such as the BIRMINGHAM HIP<sup>®</sup> Resurfacing System implant, is made of two parts working together to restore the original function of the ball-and-socket joint. These two parts consist of a metal mushroom-like cap, which is inserted over the top of the resurfaced femoral head, and a metal cup that is pressed into the socket. The bone then grows into the socket adding increased stability.

The metal on metal hip resurfacing implant offers a significant advantage over traditional total hip replacement implants. Its larger diameter enables your surgeon to reconstruct the hip to more closely match the natural hip, avoiding dislocation after surgery. During the first five years after traditional total hip replacement, about 1-4% of patients will suffer dislocation. However this larger metal on metal joint replacement reduces the odds to 0.3%, offering improved stability and less restrictions.

## Who is a candidate for hip resurfacing?

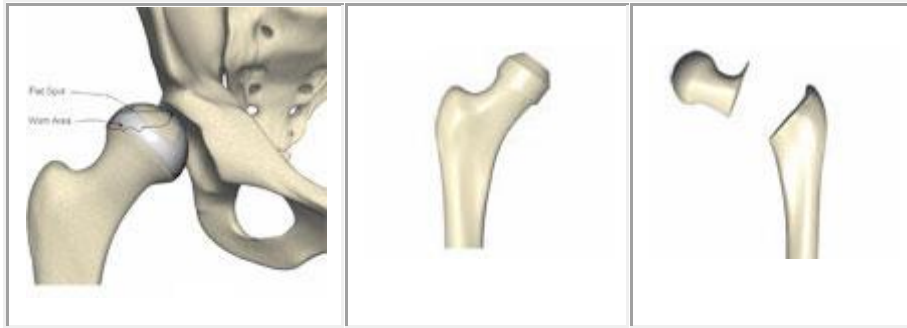
Hip resurfacing is intended for young, active adults who are under 60 years of age and in need of a hip replacement. There are certain causes of hip arthritis that result in extreme deformity of either the head of the femur or the acetabulum. These cases are usually not candidates for hip resurfacing.

Regular consideration of hip resurfacing is given to those under the age of 60, while those over 60 who are living non-sedentary lifestyles may also be considered for this procedure. However, this can only be further determined by a review of your bone quality.

Talk with your orthopaedic surgeon to find out more about the BIRMINGHAM HIP<sup>®</sup> Resurfacing System implant and if hip resurfacing is the right option for you.

## Keep your bone

### Resurfacing spares bone instead of replacing it



Unlike a total hip replacement (THR), the BIRMINGHAM HIP<sup>®</sup> resurfaces the joint. The worn cartilage and damaged first layer of bone are removed and a fresh, low-wearing metal surface is installed. Total hip replacements require the removal of the upper segment of bone, the hollowing out of the upper half of the leg bone, and a large spike fixed to this upper bone, replacing the top part of the femur.

For either procedure, the socket is prepared by shaving off the damaged cartilage and the first layer of bone. An appropriately sized replacement socket is pressed into the bone. For the BIRMINGHAM HIP<sup>®</sup>, this socket has a new low-wear metal surface on the inside. For a THR, the socket often will instead accept a liner made of plastic, ceramic or metal.

To prepare the head, or ball, of the hip for a BIRMINGHAM HIP<sup>®</sup> head, the cartilage and first layer of bone are shaved off as well. The appropriately sized head is pressed onto the prepared bone, with bone cement used to fill any gaps and holes in the bone.

For a THR, the head and neck of the leg bone are removed. A cavity is opened up in the upper portion of the leg bone to fit the stem of the THR. The stem is pressed into place and a ball is placed onto the stem. This new head is often much smaller than the patient's original head.

## Get back your activity

### Resurfacing allows higher activity after surgery

Because the BIRMINGHAM HIP<sup>®</sup> loads the bone more like normal, higher levels of activity are typically allowed. With total hip replacement (THR), most surgeons are concerned that higher activity levels could cause the implant to loosen. Although loosening of THRs has decreased significantly over the years, it is still a concern and leads many surgeons to restrict activities to those with low impact, such as doubles tennis or walking. Additional restrictions surrounding THR may be given because of the risk of dislocation when using a head smaller than the natural anatomic size.

The BIRMINGHAM HIP<sup>®</sup> provides normal anatomy and normal bony loading, allowing for activities that normal hips can tolerate. Therefore, your surgeon will likely allow you to return to most activities, including impact activities, following a proper rehabilitation schedule.

Your surgeon will place restrictions on you for the first year to follow while your body heals and your bone remodels to fit the implant. Following that, restrictions are likely to be lifted, while THR patients are likely to have lifelong restrictions on their activities.

## **Before Hip Resurfacing Surgery**

### **How do you prepare for surgery?**

Successful surgery is always a cooperative effort between you, the orthopaedic surgeon, and the people who help you recover from surgery. You have a very important role in preparing for your hip resurfacing surgery. As the patient, it is important to follow the directions given by your orthopaedic surgeon. Prior to surgery be sure to ask about all of the following:

- Pre-operative procedure
- Getting your house ready before your surgery
- Help at home
- Preparation for the hospital
- Days before surgery
- Day of surgery

### **Pre-operative procedure**

Your initial surgical consultation may include pre-operative X-rays, a complete medical and surgical history, physical examination and a review of medications and allergies. During this visit, your orthopaedic surgeon will likely review your hip resurfacing procedure and answer any questions. For more on this, refer to our patient document; print it out and bring it along to visits with your doctor.

Your orthopaedic surgeon may require that you have a complete physical examination by your internist or family physician as you will need to be cleared medically before undergoing this procedure. Your surgeon may suggest that you consider donating your own blood to save in case you need it during surgery or in the event of a post-operative blood transfusion.

In addition, your orthopaedic surgeon may ask you to consult a physical therapist to discuss recovery, a hip rehabilitation program and important precautions you must take after your surgery. The physical therapist may also give you instruction on exercises you can begin prior to your surgery in order to aid with recovery.

Finally, your orthopaedic surgeon and the hospital may require you to visit the admissions department prior to surgery to pre-certify your hip resurfacing procedure with your insurance company.

## Getting your house ready before your surgery

To make life and recovery as easy as possible for you and your family after surgery, there are a few easy things you can do. For starters, arrange furniture and household items so that you can get to them easily once you arrive home. A few suggestions:

- Remove all throw rugs or anything else that could cause you to trip
- Move phone and electrical cords out of the way
- Move personal items to shelves or tables that are above waist level. You should not be bending past 90 degrees in rehabilitation.

## Help at home

Various sources are available when it comes to planning for your care at your home. Ask your doctor about resources for extended care facilities, home health care and other alternative living services. If your discharge plan includes time in an extended care facility, plan to visit the facilities in your area to find one that best suits your needs.

## Preparation for the hospital

Here are a few things to keep in mind while packing and preparing for the hospital.

### **Clothing:**

Getting dressed in the morning helps you feel better, so be sure to bring comfortable clothing to the hospital.

- Loose pants or shorts
- Loose tops or T-shirts
- Underwear and socks
- Short robe or pyjamas
- Toiletries

### **Shoes:**

It is vital to bring the right shoes to the hospital. You may want to buy a new pair of shoes so that your walking is not influenced by the wear patterns on your old shoes (inspect the soles of your shoes for these patterns). When deciding what shoes to bring, consider the following:

- The foot on your operated leg may be swollen after surgery. Bring a shoe that accommodates that increased size. The shoe can be slip-on or laced.

- Choose a shoe with a low heel of less than one inch. Gym shoes and walking shoes are fine.

## **Days before surgery**

Sleep and a good diet are essential to helping your surgery go as smoothly as possible. Make sure you get plenty of both. Your doctor should also provide you with instructions about the use of medication prior to surgery. Generally, aspirin and non-steroidal anti-inflammatory medications should not be taken seven days prior to surgery.

The night before surgery you may not eat or drink after midnight. If medication is to be taken, you may have a few sips of water, if needed. On the morning of surgery, you may brush your teeth and rinse your mouth, but do not swallow any water.

## **Day of surgery**

Once you are admitted to the hospital you will be taken to the appropriate pre-surgical area where the nursing staff will take your vital signs, start intravenous (IV) fluids and administer medications as needed.

Just prior to surgery, you will be asked to empty your bladder. It's also necessary to remove all jewellery, contacts, glasses, dentures and even nail polish. Then you'll change into a hospital gown, be placed on a stretcher and be transported to the operating room area. The anaesthesiologist will meet you there and review the medications and procedures to be used during surgery. An IV will be inserted and final preparations for your surgery are made.

## **Your surgeon will, of course, see the day differently.**

Your surgeon will start the operation with a technique to approach the hip joint.

The surgeon then prepares the bone for resurfacing, using specialized instruments supplied by Smith & Nephew, the manufacturer of BIRMINGHAM HIP<sup>◇</sup> Resurfacing System implants. The head of the femur is prepared to receive the resurfacing component, and the socket is shaped to accept the new resurfacing cup. Once this is accomplished the socket is inserted in a position to give stability to the hip, and allow the bone to grow around it. This encourages long-term security in the newly refinished hip joint. Finally, the resurfacing head component is fixed into position using bone cement.

Following a careful inspection of all components your surgeon will then close the surgical approach path with sutures. It is common for the surgeon to leave a drainage tube exiting from just below the incision for a couple of days after BIRMINGHAM HIP<sup>◇</sup> Resurfacing System surgery, but in some cases it is not necessary.

## After surgery

Recovery from hip resurfacing usually begins the day after surgery. Many patients try a few steps with crutches. Most BIRMINGHAM HIP<sup>®</sup> Resurfacing System patients return home in four to six days. Many patients can get back to walking and low-stress activities quickly, but some may need to limit activities depending upon special conditions. Follow your doctor's advice to do what is best for your particular situation.

## The weeks after hip surgery

Walking is the key to a speedy return to your active lifestyle. But don't overdo it. Swimming is good, but you shouldn't attempt other sporting activities, including golf, until getting cleared by your surgeon. Talk to your doctor about planning a regular exercise and stretching program.

## Precautions after BIRMINGHAM HIP<sup>®</sup> Resurfacing System surgery

Although it happens very infrequently, the most common cause of revision for a BHR<sup>®</sup> is femoral neck fracture. When this occurs, it is usually in the first 6 to 12 months before the bone in the upper femur adjusts to the resurfacing cap. During the first 6 to 12 months, the bone in this area gets denser and stronger, allowing greater use of your hip. Follow your surgeon's advice regarding return to activity so that you have the best chance for success.

The first 6 to 12 months after a BIRMINGHAM HIP<sup>®</sup> Resurfacing System operation are the most vulnerable for the new hip joint. You'll want to try out your new resurfaced hip. But you'll also want to be smart, and take it slowly.

Avoid heavy lifting and high-impact activities like jogging or jumping during this period. Don't twist or squat. Driving can resume around four to five weeks after hip resurfacing surgery, pending physician approval, but try to avoid extreme movements of the hip for around three months. Your surgeon will provide more information specific to your surgery and condition.

## Life after surgery

In many cases, patients having hip resurfacing surgery have been able to return to activities they enjoyed before hip pain.

Remember to listen to what your body tells you, and what your doctor recommends. If you begin to have pain or swelling, contact your physician for advice.

