

HIP AND KNEE ARTHRITIS: Considering Hip or Knee Replacement Surgery **By Dr. Robert Singer, Blair Orthopedic Associates & Sports Medicine**

Hip and knee arthritis is a fairly common entity which I encounter in my practice as an orthopedic surgeon with Blair Orthopedic Associates and Sports Medicine in Altoona. Quite often by the time I see these patients in my office, they have a fairly significant amount of arthritis which has already been refractory to conservative type treatment. In a normal healthy knee and hip, the bone surfaces that come together at the joint are smooth and hard with a cushioning layer of tissue, called articular cartilage, preventing direct contact between the bones. This tough layer of articular cartilage allows the bones in the hip and knee joints to move without creating friction or wear on the bone surfaces. However, when this cartilage is damaged or worn away, the joint space decreases and eventually becomes non-existent as the bones eventually rub together causing friction, pain and eventually deterioration of the bone surfaces.

Many people frequently associate joint pain with injury or fracture to the hip or knee, but other common causes of damaged hip or knee joints include the breakdown of cartilage, which is commonly known as osteoarthritis; inflamed or stiff cartilage, which is also known as rheumatoid arthritis; other inflammatory types of arthritis; or the decay of bone from long term use of alcohol or steroids, also known as osteonecrosis. In some people, all of the bone surfaces may be damaged. In others, damage may be limited to only one side of the joint, particularly in the knee. Initially, patients with osteoarthritis in the knee and hip can be treated with nonsteroidal anti-inflammatories, periodic steroid injections, or a certain type of injection with a medication called Hyaluronic acid, which helps provide a cushion to the arthritic joint as well as providing some nutrition to the existing cartilage left in that joint. Also, low impact exercise and water-based exercise will help maintain the range of motion, bone density and muscle strength that can give someone more longevity in the arthritic joint.



While some people have arthritic joints that are well managed by conservative means, there is a certain population of patients who are refractory to conservative treatment and would be amenable to joint replacement surgery.

Traditionally knee and hip replacement surgery has been proven to be highly successful in alleviating pain and restoring mobility, however, rehabilitation after traditional knee and hip replacement can be lengthy and painful. In fact, sometimes people postpone knee replacement surgery not wanting to be away from work and every day activities; others are concerned about a long surgical scar.

There are three types of knee replacement surgery which I perform. First is the traditional knee replacement which typically involves an 8"-10" incision performed on the front of the knee through which the arthritis from the knee is removed and replaced with metal components on the end of the femur (the upper leg) bone and the tibia (a lower leg) bone as well as a plastic portion cemented to the kneecap. This treatment comes very close to matching the natural curve of the bone and restores the hinge-type mechanism of a normal knee. Occasionally I see younger patients with isolated arthritis on the inside or outside portion of their knee which is refractory to conservative treatment and that may only require a partial knee replacement.

This is also referred as a unicompartmental knee replacement. In partial knee replacement surgery, only the diseased portion of the knee is removed and a small implant is placed, thus alleviating pain, maintaining the range of motion, and providing a quicker rehabilitation time. The third option with knee replacement surgery is a relatively new procedure known as the

minimally invasive quadriceps sparing total knee arthroplasty. This type of surgery uses the same clinically proven implants as traditional knee replacement surgery but the techniques to place the implants are less invasive. With minimally invasive replacement surgery, the surgeon makes a 3"-5" incision and uses special tools and adapted surgical techniques to avoid cutting and manipulating key tissues. The goals of minimally invasive total knee arthroplasty include less tissue trauma and a less conspicuous incision, shorter total rehabilitation times, less blood loss, less pain, and a shorter hospital stay. I should state that the minimally invasive total knee arthroplasty procedure is not for everyone. Various factors including weight, activity level, and bone quality all help determine if a patient is a candidate for a minimally invasive total knee replacement.

Several options are also available for hip replacement surgery. Traditionally, hip replacement surgery required an exposure along the back part of the hip 10"-12" long in order to gain access to the hip joint to perform the hip replacement. The hip joint itself is more like a ball and socket type joint in which the socket is replaced with a metal cup and the ball is replaced with a metal ball and stem type device with a plastic inner cup to provide stability and reduce friction. While the traditional hip replacement may be the only option for certain patients due to their size, activity level or concurrent medical problems, many patients may be a candidate for a mini-incision hip replacement. The "mini-hip" procedure uses the same implants described above, however the incision is performed through a 2 1/2" to 3 1/2" incision on the back part of the hip joint and buttocks, but uses specialized tools and adapted surgical techniques to help minimize the cutting of muscles and subsequently reducing the rehab required, thus shortening the recovery phase and overall decreasing pain related to the procedure.

A third type of hip replacement procedure is known as the two incision mini-hip replacement surgery which is available for a select group of patients who meet the criteria for this type of procedure. Typically this patient is younger, thinner and would receive a hip replacement that does not require augmentation with bone cement. This type of procedure is more of a muscle splitting procedure in which no muscles are detached from around the hip joint thus decreasing pain, improving stability and even making the recovery and rehabilitation time even less. This procedure provides the advantage of less pain and shorter hospital stay, which is typically overnight in the hospital. At some hospitals in the country these procedures are even being performed on an outpatient basis.

In summary, for a certain group of patients with hip and knee arthritis which is refractory to conservative treatment, the option of traditional and mini-incision hip and knee replacement surgery can be quite beneficial in improving quality of life, activity level and decreasing pain associated with hip and knee arthritis, and should be discussed with your orthopedic surgeon.

* * * * *

ABOUT THE AUTHOR:

Dr. Singer is a Board Certified Orthopedic Surgeon with a special interest in Adult Trauma and Reconstructive Joint Surgery. Dr. Singer is a graduate of Gannon University in Erie, PA where he earned a BS degree in Biology. He received his medical school training at Kirksville College of Osteopathic Medicine in Missouri. Dr. Singer completed his internship and residency in orthopedic surgery at Ohio University College of Osteopathic Medicine from 1991 to 1996.