

# A Patient's Guide



## Don't Let Hip Pain Slow You Down

Your joints are involved in almost every activity you do. Simple movements such as walking, bending, and turning require the use of your hip and knee joints. Normally, all parts of these joints work together and the joint moves easily without pain. But when the joint becomes diseased or injured, the resulting pain can severely limit your ability to move and work. Osteoarthritis, one of the most common forms of degenerative joint disease, affects an estimated 27 million people in the United States.<sup>1</sup> Whether you are considering a total joint replacement, or are just beginning to explore available treatments, this brochure is for you. It will help you understand the causes of joint pain and treatment options. Most importantly, it will give you hope that you may be able to return to some of your favorite activities.

Once you're through reading this brochure, be sure to ask your doctor any questions you may have. Gaining as much knowledge as possible will help you choose the best course of treatment to relieve your joint pain – and get you back into the swing of things.

# What is a Hip Joint?

Your hip joint is a ball-and-socket joint, formed by the ball, or femoral head, at the upper end of the thigh bone, and the rounded socket, or acetabulum, in the pelvis. The bone ends of a joint are covered with a smooth, tough material called cartilage. Normal cartilage cushions the

bones and allows nearly frictionless and pain-free movement. The rest of the surfaces of the joint are covered by a thin, smooth tissue lining called the synovium. The synovium produces fluid that acts as a lubricant to reduce friction and wear in the joint.



### Common Causes of Joint Pain

#### **Osteoarthritis (OA)**

Sometimes called degenerative arthritis because it is a "wearing out" condition involving the breakdown of cartilage and bones. When cartilage wears away, the bones rub against each other, causing pain and stiffness. OA usually occurs in people aged 50 years and older, and frequently in individuals with a family history of arthritis.

#### **Rheumatoid Arthritis (RA)**

Causes the synovium to become thickened and inflamed. In turn, too much synovial fluid is produced within the joint space, which causes a chronic inflammation that damages the cartilage. This results in cartilage loss, pain, and stiffness. RA affects women about 3 times more often than men, and may affect other organs of the body.

#### **Post-traumatic Arthritis**

May develop after an injury to the joint in which the bone and cartilage do not heal properly. The joint is no longer smooth and these irregularities lead to more wear on the joint.

### **Common Causes** of Joint Pain

(continued)

#### Avascular Necrosis

Can result when bone is deprived of its normal blood supply. Without proper nutrition from the blood, the bone's structure weakens and may collapse and damage the cartilage.

#### **Paget's Disease**

A bone disease that often affects the hip. Bone formation is sped up, causing the density and shape of the bone to change. Joint pain can also be caused by deformity or direct injury to the joint. In some cases, joint pain is made worse by the fact that a person will avoid using a painful joint, weakening the muscles and making the joint even more difficult to move.

#### **Treatment Options**

Following the orthopaedic evaluation, your orthopaedic surgeon will review and discuss the results with you. Based on his or her diagnosis, your treatment options may include:

- Medication
- Joint fluid supplements
- Physical therapy
- Joint replacement





According to the Agency for Healthcare Research and Quality, more than 285,000 total hip replacements are performed each year in the United States<sup>2</sup> Hip replacement involves the removal of arthritic bone ends and damaged cartilage and replacing them with prosthetic implants that are designed to replicate the hip joint.

Hip replacement surgery may be considered when arthritis limits your everyday activities such as walking and bending, when pain continues while resting, or stiffness in your hip limits your ability to move or lift your leg. It is time to consider surgery if you have little pain relief from antiinflammatory drugs or other treatments, such as physical therapy, do not relieve hip pain. Hip replacement can help relieve pain and get you back to enjoying normal, everyday activities.

Total hip replacement is often reserved for patients who:

- Have a painful, disabling joint disease of the hip resulting from a severe form of arthritis
- Are not likely to achieve satisfactory results from less invasive procedures, such as arthrodesis (artificial stiffening or fixation of the joint)
- Have bone stock that is of poor quality or inadequate for other reconstructive techniques

In a total hip replacement operation, the surgeon replaces the worn surfaces of the hip joint with an artificial hip joint. The worn head of the femur (thigh bone) is replaced with a metal or ceramic ball mounted on a stem; the stem is placed firmly into the canal of the thigh bone at its upper end. The acetabulum (hip socket) is prepared and implanted with a metal cup and plastic or ceramic insert. The ball and insert are designed to glide together to replicate the hip joint.

#### Acetabular Cup MDM Liner Polyethylene Insert Femoral

#### **Total Hip Implants**

The conventional arrangement of a metal ball into a special plastic (polyethylene) cup has been shown to have positive results over the years<sup>2</sup> Another arrangement is the mobile bearing hip

Femoral Stem

Head

MDM Acetabular Cup and Accolade II Femoral Stem shown.

system which contains two points of articulation. Mobile bearing hip replacement components are designed to fit together in a unique way to allow for a more natural range of motion,<sup>3</sup> more resistance to wear,<sup>4</sup> and greater joint stability.<sup>5</sup>

#### Technologies That Help Impact Implant Performance

There have been significant advancements in improving the bearing surfaces in total hip replacement. These advancements have decreased wear and may extend the life of your implant. Stryker's Precisely Engineered Polyethylene, called X3, has demonstrated 97.8% survivorship in a clinical patient study.<sup>6</sup> This technology is particularly important for younger patients.

Your doctor will discuss the exact type of prosthesis and surgical procedure with you.

#### **Complications of Hip Replacement**

As with any surgery, there is risk of complications after hip replacement surgery. However, they are relatively rare. Blood clots are the most common complication after surgery. Your doctor may prescribe one or more measures to prevent a clot from forming in your leg veins. These measures may include special support hose, inflatable leg coverings and blood thinners.



Generally, after hip replacement surgery, your doctor may instruct you to spend approximately 3 to 5 days in the hospital. Most hip replacement patients begin standing and walking with the help of a walker and a physical therapist the day after surgery.

Recovery varies with each person. It is essential that you follow your doctor's instructions regarding home care during the first few weeks after surgery; especially the exercise program you are prescribed. You may be able to resume many normal light activities of daily living within 3 to 6 weeks following surgery. Complete recovery typically takes from about 3 to 6 months.

# Don't Let Hip Pain Slow You Down

You don't have to let hip pain slow you down. If you haven't experienced adequate relief with medication and other conservative treatments, Hip Joint Replacement may provide the pain relief you long for and enable you to return to your favorite activities. Remember, even if your doctor recommends hip replacement for you, it is still up to you to make the final decision.

For more information visit www. aboutStryker.com and contact your doctor.

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#### References

1. What is Osteoarthritis?, Arthritis Foundation Website, Retrieved February 14, 2013 from http://www.arthritis.org/what-is-osteoarthritis.php.

2. Total Hip Replacement, American Academy of Orthopaedic Surgeons website. Retrieved on February 14, 2013, from http://orthoinfo.aaos.org/topic. cfm?topic=A00377.

3. Stryker Test Report: RD-06-078.

4. Stryker Orthopaedics Restoration ADM X3 28 mm ID acetabular inserts made of X3 Gas Plasma Sterilized UHMWPE, show a 97% reduction in volumetric wear rate versus 28mm ID Restoration ADM Duration Gamma Radiation Sterilized UHMWPE. Both ADM constructs utilized a 54mm OD shell and the inserts were approximately 9.9mm thick. Testing was conducted under multi-axial hip joint simulation for 5 million cycles using a 28mm CoCr modular femoral head articulating counterface and calf serum lubricant. Volumetric wear rates were  $109.7\pm6.0 \text{ mm}^3/10^6$  cycles and  $-1.03 \pm 3.8 \text{ mm}^3/10^6$  cycles for Duration and X3 polyethylene insert test samples. Although in-vitro hip wear simulation methods have not been shown to quantitatively predict clinical wear performance, the current model has been able to reproduce correct wear resistance rankings for some materials with documented clinical results.<sup>1-3</sup>

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The information presented in this brochure is for educational purposes only. Stryker is not dispensing medical advice. Please speak to your doctor to decide if joint replacement surgery is right for you. Only your doctor can make the medical judgment which products and treatments are right for your own individual condition. As with any surgery, joint replacement carries certain risks. Your surgeon will explain all the possible complications of the surgery, as well as side effects. Additionally, the lifetime of a joint replacement is not infinite and varies with each individual. Also, each patient will experience a different post-operative activity level, depending on their own individual clinical factors. Your doctor will help counsel you about how to best maintain your activities in order to potentially prolong the lifetime of the device. Such strategies include not engaging in high-impact activities, such as running, as well as maintaining a healthy weight.

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