

100

QUESTIONS & ANSWERS

What is a hip
replacement?

○○○○

Can I be too
young to have
hip replacement
surgery?

○○○○

What is
hip resurfacing?

○○○○

Should I limit my
activity? Can
exercise help?

○○○○

What is
minimally
invasive surgery?

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About

Hip Replacement



by
Stuart J. Fischer, MD

100 Questions & Answers About Hip Replacement

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Dedication

To my wife Doreen and my children Anna, Sara, and Lisa

and

To my mother Charlotte Fischer, and my father Dr. Leo Fischer,
the first orthopaedic surgeon in the family.

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Introduction

What is a hip replacement?

Why should I have a hip replacement?

When were the first total hip replacements done?
How many are done each year?

More . . .

1. *What is a hip replacement?*

A hip replacement is the removal of all or part of the hip joint and insertion of an artificial ball or an artificial ball and socket. The diseased bone and joint surfaces are replaced with new or prosthetic parts.

The new parts are called *components* or *implants*. They are called implants because they are inserted or implanted in a patient's body.

A hip replacement may be partial or total. In a **total hip replacement**, both the ball of the hip joint

Total hip replacement

A hip joint replacement where both the ball of the hip joint (femoral head) and the hip joint socket (acetabulum) are removed and replaced with artificial or prosthetic parts.



Figure 1 Illustration of total hip replacement components.

Courtesy of Smith and Nephew.

(**femoral head**) and the hip joint socket (**acetabulum**) are removed and replaced. In a partial replacement, only the femur is replaced and the socket is left intact.

In the 40 years since hip replacements were first performed, millions of people around the world have experienced relief from disabling hip disease. They have been able to walk and to resume normal function pain free. Total hip replacement has been considered a modern medical miracle.

This book is a guide to the many facets of hip replacement surgery. It is meant to provide information about hips, hip disease, and hip surgery that is detailed but coherent and easy to read. In addition, this book will:

- Tell you about the different kinds of hip replacements.
- Explain why you might be a candidate for surgery.
- Review the anatomy of a normal hip.
- Show you what happens when your hip stops functioning normally.
- Review the causes of hip pain and hip disease.
- Describe the symptoms of a bad hip.
- Tell you how your doctor makes the diagnosis of an arthritic hip.
- Outline the nonsurgical treatment of hip disease.
- Discuss the surgical options for different types of hip disease and different patients.
- Tell you about orthopaedic surgeons and what they do.
- Explain how the procedure is done.
- Describe the different types of implants that are available and what they are made of.
- Tell you what to expect during your hospital stay and afterward.

Femoral head

The round part or ball of the hip joint.

Acetabulum

Socket of the hip joint.

- Outline the physical therapy and rehabilitation you will need after surgery.
- Talk about the care of your new hip joint.
- List the risks of surgery and their consequences.
- Discuss procedures that can be done instead of hip replacement to treat a painful hip.

The book will also tell you what happens when you need to have a second or *revision* surgery on the same hip. It will review some of the many advances in hip replacement technology.

Most important, the one hundred questions and answers will encourage you to seek new information. As you read through the book, try to think of the questions you need to ask your doctor and other things you want to know about this very successful operation.

2. Why should I have a hip replacement?

The main reason to have a hip replacement is relief of pain. When your hip joint is damaged or diseased it can be severely painful. Along with the pain, you can lose motion in your hip and have difficulty walking. It becomes harder to perform your routine activities. In short, your diseased or damaged hip interferes with the quality of your day-to-day life.

A painful hip can affect other parts of your body. You may develop back pain as you try to compensate for loss of motion in your hip. You may feel pain in your knee or in your opposite leg as you try to relieve pressure on your bad side. If your mobility is limited, you may gain weight because you are unable to exercise.

Hip replacement can relieve pain and improve the strength and motion in your hip. In some cases the

results are dramatic. Many patients note that even a day or two after the procedure they have pain in their incision, but the joint pain they had before surgery is largely gone.

For most people, hip replacement surgery is *elective*. It is done for conditions such as osteoarthritis, which are not life threatening but affect your life in other ways. It is a procedure that is planned and scheduled ahead of time. It is not something you have to do, but is something you choose to do. Unlike an appendectomy, it is not an emergency procedure. The decision to have a hip replacement is made after consultation with an orthopaedic surgeon, but ultimately, the decision is yours.

For a few patients, hip replacement has to be done on an urgent basis. If a hip is broken (**fractured**), surgery should be done as soon as possible to relieve pain and allow the patient to get out of bed. Hip replacement is the treatment of choice for some fractures. Bone tumors in the hip also require urgent treatment because the tumor will continue to grow and cause further damage to the bone.

Fracture

A crack or break in a bone.

There is more to hip replacement than just the surgical procedure. There is preoperative planning, testing, and medical evaluation. After surgery there is time in the hospital, therapy, and rehabilitation. And of course life is different with an artificial joint in your body.

As you consider surgery, take time to learn about your hip, what treatment is available and why you would be a candidate for hip replacement.

Margaret K., a patient, says:

My new hip felt perfectly natural and totally pain free.

3. When were the first total hip replacements done? How many are done each year?

Hip replacement surgery has been a work in progress for more than 80 years. Dr. Marius Smith-Petersen in Boston developed the *cup arthroplasty* in the 1920s and 1930s. Damaged bone from the hip joint was removed and a metal cup was placed over the head of the femur. While this wasn't truly a replacement, it was an attempt to put new surfaces in a damaged joint. The cup arthroplasty remained the primary surgical treatment for an arthritic hip for 25 years.

Partial hip replacement

A hip joint replacement where only the femur is replaced with an artificial or prosthetic part. The hip joint socket (acetabulum) is left intact.

Shaft

The long portion of a bone. In the femur it is the segment between the hip and the knee.

Prosthesis

An artificial component or implant used to replace a damaged or diseased body part.

Polyethylene

A strong plastic material used as the bearing surface in most acetabular components.

The first **partial hip replacement** was performed by Dr. Austin Moore at Johns Hopkins University in the early 1940s. Only the femoral head was replaced, not the socket. It consisted of a large metal ball with a stem that fit inside the **shaft** of the femur. The Austin Moore **prosthesis** was modified in the 1950s and became the standard treatment for certain types of hip fractures.

The modern total hip replacement was pioneered by Sir John Charnley at Wrightington, England in 1962. For this surgery, a small metal ball and stem that fit inside a plastic or **polyethylene** socket were used. Both components were inserted in bone and held in place with bone cement. The femoral head was smaller than normal so as to create less friction and wear in the socket. Dr. Charnley called his procedure "low friction arthroplasty." Even though cement is now used less frequently, the concept of a metal femoral head articulating with a polyethylene socket remains the gold standard in hip replacement to this day.

In the United States, more than half a million hip replacement procedures are done annually. According

to data from the Department of Health and Human Services National Hospital Discharge Survey, 231,000 total and 251,000 partial hip replacements were performed in the United States in 2006. An additional 38,000 revision procedures were done on hips that had previous surgery. This represented an increase of more than 200,000 surgeries in an 8-year period.

As our population ages and medical advances help people to live longer it is expected that the number of hip replacements done annually will continue to grow.

Hip Disease

What are the parts of a normal hip joint?

What is *osteoarthritis*?

What is arthritis secondary to childhood hip disease?

More . . .