Knee pain? YOU MAY NEED A KNEE REPLACEMENT
Introduction

If you’re reading this brochure, you or a loved one is likely suffering from a severe knee problem. Serious knee joint conditions can cause pain, reduced range of motion, and decreased quality of life.

Those conditions include Osteoarthritis, Osteonecrosis, Rheumatoid Arthritis, Traumatic Arthritis, or Traumatic Injury. The key is finding a way to restore your mobility, provide pain relief, and allow you to get back to your daily activities. That’s why your doctor may recommend a total knee replacement from MicroPort Orthopedics, a company with a established track record of developing new and better ways to address knee replacement.

We know that the prospect of knee replacement surgery is an important choice for you. We’ve provided this brochure as a resource to enable you to learn more about how our implants can provide a solution to help you get back to being you.

This patient education brochure is presented by MicroPort Orthopedics.

This information is provided for purposes of education alone. Please consult your physician to determine if these products are right for you at this time. Also remember that patient results may vary.

For more details about MicroPort’s products or prescribing information, including warnings and contraindications, please visit www.ortho.microport.com.

Every patient is different, and individual results vary. There are risks and recovery times associated with surgery. Consult your doctor to determine if knee replacement surgery is right for you.
NORMAL KNEE

- Femur: Thigh bone
- Patella: Knee cap
- Cartilage
- Posterior Cruciate Ligament (PCL)
- Menisci
- Anterior Cruciate Ligament (ACL)
- Collateral Ligaments
- Tibia: Shin bone
- Fibula
Knee Anatomy

The knee joint is where the end of the thigh bone (femur) meets the top of the shin bone (tibia) and the knee cap (patella). The femur and tibia are connected by a set of muscles and ligaments, of which the thigh (quadriceps) muscles are primarily responsible for straightening the knee.

The knee joint is cushioned by cartilage that covers the ends of the femur and tibia, helping them to move smoothly against each other. On the tibia lie two crescent-shaped pieces of cartilage called menisci. The menisci act as shock absorbers for the knee. They also provide a pocket-like surface on the top of the tibia for the femur to sit in. This pocket increases the stability of the knee and prevents it from sliding during activities. In a knee joint that has osteoarthritis (Arthritic Knee), the cartilage wears down and bone begins to rub on bone. This creates pain and reduces the function of the knee.
Why Does My Knee Hurt?

There are a variety of conditions that can lead to knee joint deterioration, resulting in pain, reduced range of motion, and decreased quality of life. When cartilage in the knee joint is damaged or worn down by disease, your knee bones begin to rub together, resulting in friction, pain, and even bone deterioration. Worn cartilage is typically associated with osteoarthritis, the most common type of arthritis leading to knee replacement.

Osteoarthritis is just one of the many forms of arthritis, which can result in individuals experiencing pain and limited activity level. Other forms of arthritis include: Rheumatoid Arthritis, Traumatic Arthritis, and Non-Arthritic Trauma.
Diseases of the Knee

WHAT IS OSTEOARTHRITIS?

Osteoarthritis is a common condition in which the cartilage that normally cushions the bones of a joint gradually begins to wear, causing the bones to rub together. Osteoarthritis of the knee is common because most of the body's weight is carried by the knee joint. This can make the knee wear out more quickly than other joints. Symptoms include pain, swelling, and changes in appearance and function of the joint, which can contribute to loss of motion.

WHAT IS RHEUMATOID ARTHRITIS (RA)?

Rheumatoid arthritis occurs when the body's own immune system attacks the synovial lining of the joints, just as it would foreign bacteria. Synovial fluid is a clear, smooth, oil-like lubricating liquid that makes it easier for the joints to move. With RA, there is more friction in every movement of the knee and this causes pain.

WHAT IS TRAUMATIC ARTHRITIS?

Traumatic arthritis results when the joint, or the ligaments surrounding it, are damaged by fracture, dislocation, or other accident-related injury. All arthritic conditions result in stiffness, swelling, and the loss of motion. It becomes difficult to put pressure on the knee, and the joint becomes increasingly tender and swollen. As time passes, arthritis of the knee can significantly affect your ability to walk.

WHAT IS NON-ARTHRITIC TRAUMA?

In addition to arthritis, knee replacement surgery may be recommended for individuals whose knee has been injured as the result of trauma. This could be a knee fracture or dislocation caused by a fall or other injury to the knee.
Before recommending surgery, your doctor may have considered other treatments for your knee pain. Total knee replacement (commonly known as TKR) is one of the most successful treatments to restore knee function and stop arthritic pain, and may be recommended by your doctor.

The goal of the surgery is to replace the arthritic surfaces of the bones with smooth artificial surfaces made of metal and plastic. These new surfaces are designed to closely mimic normal knee function, while also preventing pain caused by the damaged ends of the bones rubbing together.

Precision instruments are utilized to reshape the ends of the bones to accept the artificial knee implant. A metal “tray” is placed on top of the tibia. An implant-grade plastic (polyethylene) insert is locked into the top of this tray.

The plastic now acts as the cushioning cartilage and menisci. Next, a highly polished, implant-grade metal component is placed on the end of the prepared femur. Finally, the underside of the patella (knee cap) may be removed and replaced with a plastic dome that will slide against the new joint.
**Patella Dome**  
Plastic on the back of the knee cap

**Femoral Component**  
Metal at the end of thigh

**Tibial Insert**  
Plastic replaces menisci

**Tibial Tray**  
Metal on top of shin
Example of a MicroPort Orthopedics Total Knee Solution

- Femoral Component
- Polyethylene Insert
- Tibial Plate Component
What is MicroPort Orthopedics?

MicroPort Orthopedics is a well-established orthopedic company with a distinguished track record in the field of total joint replacement. Through innovation in implant technology and less invasive surgical techniques, MicroPort is continually working to create products that can dramatically improve the lives of patients.

WHY HAS YOUR SURGEON SELECTED MICROPORT ORTHOPEDICS KNEE PRODUCTS FOR YOU?

MicroPort Orthopedics offers multiple knee replacement options tailored to fit a variety of patients. Our knee implants are precision engineered to provide optimal performance, enabling patients to get back to doing the things they enjoy free from the discomfort and limitations of a deteriorating joint. Based on your activity level, age, and other factors, your physician may determine that a MicroPort Orthopedics knee product is right for you.
Important Information

PRESCRIBING INFORMATION AND PRECAUTIONS

Advances in total knee replacement have given surgeons the ability to assist patients in restoring mobility, correcting deformity and reducing pain. While the implants used are largely successful in attaining these goals, it must be recognized that they are manufactured from metal and plastic. Knee replacement systems cannot be expected to withstand activity levels and loads as would normal healthy bone.

To determine if you are a candidate for knee replacement, discuss your condition with your surgeon. He / she may determine that a knee replacement is appropriate for you if you have severe pain or significant disability resulting from one or more of the following conditions:
INDICATIONS

• Deterioration of the knee joint cartilage (osteoarthritis).

• Inflammation in the lining of the knee joint (rheumatoid arthritis).

• Physical injury to the knee joint resulting in arthritis (traumatic arthritis).

• Moderate valgus (knock-kneed), varus (bowlegged), or flexion (bending) deformities.

• Correction of problems caused by previously failed surgeries.

CONTRAINDICATIONS

During consultation your doctor may decide that knee replacement surgery is not appropriate if:

• You have an infection.

• You do not have enough bone or the bone is not strong enough to support the prosthesis.

• You have known metal/plastic allergies.

• Your knee is severely unstable, possibly due to unstable knee ligaments.

• You have one of several conditions known as neuromuscular disease (cases where there is inadequate neuromuscular status).

The indications and contraindications herein are not intended to be an exhaustive list. Additional considerations that may impact the outcome include the patient’s weight, occupation or level of activity. Consult with your physician to determine the correct treatment for you.
What Are the Risks?

With any major surgical procedure, there are risks and recovery times. Potential adverse effects which may result from knee replacement include, but are not limited to the following: pain, bone or component fracture, blood vessel damage or blockage, temporary or permanent nerve damage, a sudden drop in blood pressure during surgery due to the use of bone cement, leg deformity, blood clots that can travel to your heart or lungs, delayed wound healing, and deep wound infection or accelerated wear of the prosthesis which may necessitate additional surgery. Your weight, age, and medical history determine your specific risks. Ask your doctor if knee replacement surgery is right for you.

For an additional listing of associated risks and precautions, please see the Frequently Asked Questions on the following pages.
When is Knee Surgery Appropriate?

A. Only you and your doctor can determine what is the correct course of treatment for you and your condition. Surgery should be the last step and should be considered when other alternatives have proven ineffective and, when knee pain significantly impacts the activity and quality of your life.

What Differentiates the Medial-Pivot Design from Other Implant Designs?

Many total knee implants on the market are based on a philosophy that the knee moves like a hinge...swinging only back and forth. But, of course, the knee does not function simply as a door hinge. The knee bends and rotates. The EVOLUTION® Medial-Pivot Knee was designed to more closely mimic the natural knee’s motion.

How Long Does a Knee Implant Last?

Unfortunately, there is no easy answer to this question, other than “it depends”. Implant lifespan varies based on the materials it is comprised of (metal and plastic), patient anatomy, as well as, how much “wear and tear” it receives after being implanted.
BEFORE SURGERY, IS THERE ANYTHING I SHOULD TELL MY DOCTOR?

You should tell your doctor about your full medical history, even if you don’t think that something in your history is important. Tell your doctor about any and all medications and herbal supplements you take. You should be sure to tell your doctor about your occupation and lifestyle, particularly if your lifestyle involves any demanding physical requirements such as running or lifting heavy weights. Your surgeon will consider your lifestyle as well as your weight when determining whether a knee replacement is appropriate for you.

You should also tell your doctor if you think you might have a hard time following any instructions you are given regarding your new knee replacement. Before you decide that a knee replacement is right for you, speak with your doctor about the instructions you can expect.

BEFORE SURGERY, IS THERE ANYTHING I SHOULD ASK MY DOCTOR?

You should ask your doctor to explain all of the risks of surgery to you. You should also ask your doctor what type of rehabilitation you can expect. Your doctor may request that you attend physical therapy, so you will need to make sure you understand this and can make arrangements for transportation if needed.

AFTER SURGERY, WHEN SHOULD I CALL MY DOCTOR?

After you have had knee replacement surgery, call your doctor if any of the following things occur:

- Redness, swelling or drainage from around the incision
- An unexplained fever (temperature over 100°F Fahrenheit or 38°C Centigrade) or chills that last more than a day
• Severe knee pain that is not relieved by your pain medicine, or any sudden swelling in the thigh or calf. It will always be important to protect this new part of your body from infection.

Your doctor may also give you additional signs and symptoms to watch out for.

**AFTER I HAVE HEALED, WHEN SHOULD I CALL MY DOCTOR?**

After you’ve healed, you should keep any follow-up appointments that your doctor requests. In addition, if you notice any unusual sounds or sensations coming from your knee, please contact your doctor for further follow-up.

**WILL I NEED MORE THAN ONE SURGERY?**

Knee replacement implants cannot be expected to perform as well as your natural joint. They carry the risks of breakage and wear, particularly if you lead a very active lifestyle, or place a lot of demand on the implant. If the implant does break or wear out, you may need additional surgery.

**ARE THERE CERTAIN PEOPLE WHO SHOULD KNOW ABOUT MY KNEE IMPLANT?**

If you travel by air, you will likely need to tell airport security about your knee implant because you may activate the metal detector. This is common and the security officer will have an alternative method for screening you.

As well, if you are sent for an MRI at any time after surgery, be sure to tell the MRI Technician about your knee implant.
The CE-Marking of Conformity is applied per catalog number and appears on the outer package label, if applicable.