

## KNEE ARTHRITIS

*Arthritis* is the name of any of more than 300 inflammatory joint disorders. There are many different types of arthritis, several of which can affect the knee. The most common form is osteoarthritis, also known as degenerative joint disease. In this condition, the slippery cartilage that covers the ends of bones in joints wears down. Cartilage protects the joints and acts as a shock absorber. It provides a smooth, gliding surface for joint motion. Without cartilage to protect the joints, the ends of the bone rub together, causing pain. Rheumatoid arthritis (RA) can also affect the knees. RA is a chronic inflammatory disease that causes pain, stiffness, and swelling in the joints, usually in a symmetrical pattern (if one knee has it, the other one will also). In RA, the joint lining (synovium), normally smooth and shiny, becomes inflamed, painful and swollen. The disease, which lasts over a long period of time, can cause damage to cartilage.

The knee consists of the two leg bones (femur and tibia), as well as the patella, or kneecap. The surfaces of the bones are slightly curved, so that the femur rests in a shallow pocket. The bones are covered by a thin layer of articular cartilage which protects the bone and provides a smooth surface to slide against. In addition, a thicker piece of cartilage called the meniscus also protects the surfaces of the bones and provides a cushion against the shock of weight and normal activities.

Stability in the knee is provided by a set of ligaments that connect the tibia to femur, one on each side and two that cross between the bones. Finally, muscles and tendons that attach to the patella, or kneecap, assist in stabilizing the joint.

In a normal knee, the surfaces of the bones are smooth and rubbery, allowing all the components to slide against each other easily. In an arthritic knee, however, the articular cartilage is broken down, causing the surfaces to be worn and the bone exposed. When this happens, the bone rubs together during movement, and soft tissues become inflamed, causing pain.

### **Causes of Knee Arthritis**

Osteoarthritis can be caused by repeated stress on the joint. The condition tends to affect older people more frequently. Young persons affected with osteoarthritis may have inherited a form of the disease or may have suffered from a repeated injury.

### **Symptoms of Knee Arthritis**

Knee Arthritis will generally cause pain, swelling and stiffness. The knee may be stiff only in the morning, or may persist throughout the day. It may lock up or become stiff suddenly, due to cartilage that becomes trapped in the hinge of the knee.

Your doctor may take x-rays of your knee to rule out other possible conditions, and also to check for a decreased amount of joint space that can appear due to the reduced amount of cartilage. As the wear and weight bearing continues, the joint may wear asymmetrically and angulate producing a knock-knee (*genu valgum*) or bowleg (*genu varum*) deformity.

### **Treatment of Knee Arthritis**

Your doctor will usually prescribe pain medications such as aspirin or non-steroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen to reduce the swelling. Losing any excess weight will also help to improve the effects of osteoarthritis.

Unfortunately, however, the symptoms of arthritis may be chronic, lasting a lifetime. This can make ordinary tasks difficult and cause psychological effects as well.

There are many treatments available, short of surgery, to help alleviate the symptoms of arthritis. Activities should be tailored to what is most comfortable, but should not be completely curtailed. A common misconception is that one can prevent the progress of arthritis by completely avoiding the knee. While continued activity may aggravate the injury, you should continue to remain as active as you can, as this will prevent the loss of bone and muscle strength.

If you need assistance walking, a cane may help to reduce some stress on the knee. In addition, losing weight if you are significantly overweight will help both to minimize stress on the joint, and will make surgery go more smoothly if it becomes necessary.

If your arthritis becomes severe, significantly limiting daily movement and causing a great deal of pain, *total knee replacement surgery* may be warranted to try to improve function in the joint. This involves replacing a portion of the diseased bone on the tibia and femur with plastic and metal components. These components are designed to slide smoothly against each other, reducing friction and allowing you to return to a more normal schedule of activities.

Osteotomy of the tibia bone at the knee joint can realign the knee bones by straightening it and markedly decrease the pain.

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