

Osteoarthritis of the Knee

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Introduction

Osteoarthritis (OA) is a common problem for many people after middle age. OA is sometimes referred to as degenerative, or wear and tear, arthritis. OA commonly affects the knee joint. In fact, knee OA is the most common cause of disability in the United States. In the past, people were led to believe that nothing could be done for their problem. Now doctors have many ways to treat knee OA so patients have less pain, better movement, and enhanced quality of life.

This guide will help you understand

- how OA develops
- how OA of the knee causes problems
- how doctors treat the condition

Anatomy

Which parts of the knee are affected?

The main problem in OA is degeneration of the articular cartilage. Articular cartilage is the smooth lining that covers the ends of the leg bones where they meet to form the knee joint. The cartilage gives the joint freedom of movement by decreasing friction. The layer of bone just below the articular cartilage is called subchondral bone.

When the articular cartilage degenerates, or wears away, the bone underneath is uncovered and rubs against bone. Small outgrowths called bone spurs or osteophytes may form in the joint.

Related Document: [A Patient's Guide to Knee Anatomy](#)

Causes

How does knee OA develop?

OA of the knee can be caused by a knee injury earlier in life. It can also come from years of repeated strain on the knee. Fractures of the joint surfaces, ligament tears, and meniscal injuries can all cause abnormal movement and alignment, leading to wear and tear on the joint surfaces. Not all cases of knee OA are related to a prior injury, however. Scientists believe genetics makes some people prone to developing degenerative arthritis. Obesity is linked to knee OA. Losing only 10 pounds can reduce the risk of future knee OA by 50 percent.

Scientists believe that problems in the subchondral bone may trigger changes in the articular cartilage. Normally, the articular cartilage protects the subchondral bone. But some medical conditions can make the subchondral bone too hard or too soft, changing how the cartilage normally cushions and absorbs shock in the joint.

Symptoms

What does knee OA feel like?

Knee OA develops slowly over several years. The symptoms are mainly pain, swelling, and stiffening of the knee. Pain is usually worse after activity, such as walking. Early in the course of the disease, you may notice that your knee does fairly well while walking, then after sitting for several minutes your knee becomes stiff and painful. As the condition progresses, pain can interfere with simple daily activities. In the late stages, the pain can be continuous and even affect sleep patterns.

Diagnosis

How do doctors identify OA?

The diagnosis of OA can usually be made on the basis of the initial history and examination.

X-rays can help in the diagnosis and may be the only special test required in the majority of cases. X-rays can also help doctors rule out other problems, since knee pain from OA may be confused with other common causes of knee pain, such as a torn meniscus or kneecap problems. In some cases of early OA, X-rays may not show the expected changes.

Magnetic resonance imaging (MRI) may be ordered to look at the knee more closely. An MRI scan is a special radiological test that uses magnetic waves to create pictures that look like slices of the knee. The MRI scan shows the bones, ligaments, articular cartilage, and menisci. The MRI scan is painless and requires no needles or dye.

If the diagnosis is still unclear, arthroscopy may be necessary to actually look inside the knee and see if the joint surfaces are beginning to show wear and tear. Arthroscopy is a surgical procedure in which a small fiber-optic TV camera is inserted into the knee joint through a very small incision, about one-quarter of an inch long. The surgeon can move the camera around inside the joint while watching the pictures on a TV screen. The structures inside the joint can be poked and pulled with small surgical instruments to see if there is any damage.

Treatment

What can be done for the condition?

Nonsurgical Treatment

OA can't be cured, but therapies are available to ease symptoms and to slow down the degeneration. Recent information shows that mild cases of knee OA may be maintained and in some cases improved without surgery.

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