



Knee Conditions: OSTEOARTHRITIS OF THE KNEE

Articular cartilage is the tissue located at the end of bones. It can deteriorate over time. This causes a common condition called osteoarthritis. It can become worse over time. In many people, osteoarthritis can be debilitating. Normally, cartilage is the shock absorber in a joint. It absorbs energy from jarring movement, protecting the bone and other tissue in the area. Cartilage is naturally a very slippery material. It helps the joint glide smoothly. When the cartilage begins to show wear and tear, the lining of the joint becomes inflamed and painful. This makes the joint stiff. Osteoarthritis is an extremely common ailment of aging. In fact, it's the most common joint condition throughout the world. There are about 27 million people with osteoarthritis in the US alone.



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Risk Factors

A risk factor is something that increases your likelihood of getting a disease or condition. It is possible to develop osteoarthritis with or without the risk factors listed below. However, the more risk factors you have, the greater your likelihood of developing osteoarthritis. If you have a number of risk factors, ask your doctor what you can do to reduce your risk.

Medical Condition: You have an increased risk of developing osteoarthritis if you have or have had

- Past injury to a joint
- Previous surgery to the joint
- History of infection in a joint
- Inherited abnormalities of the joint
- Weakness of muscles around a joint
- Acromegaly (a pituitary disorder)
- Paget's disease of bone

Age: Increasing age puts you at increased risk for osteoarthritis.

Gender: Osteoarthritis is more common in women than in men.

Genetic Factors: Osteoarthritis tends to run in families.

Other: You are more likely to develop osteoarthritis if you:

- Are overweight
- Work at a job or participate intensely in an activity that requires a lot of lifting, squatting, or repetitive joint use

Symptoms

Symptoms of osteoarthritis include the following:

- You may have a feeling of instability in the joint. For example, your knee may feel as if it is going to buckle underneath you.
- You may feel or hear a grating or creaking sound when you bend or unbend your joint.
- Your joint may develop an abnormal appearance:
 - It may appear inflamed, red, swollen.
 - It may appear misaligned or misshapen.

Pain in the joint

- Most commonly affected joints are those of the knees, hips, hands, or spine.
- Pain usually increases when the joint is used or stressed.
- Pain is usually decreased by resting the joint.
- May be described as a dull, achy pain or a sharper, stabbing sensation.

Stiffness

- Stiffness can make everyday activities difficult, such as leaning down to pick something up, putting on shoes, opening a jar, walking, or climbing stairs.
- Stiffness occurring first thing in the morning is common, usually lasting for 30 minutes after you resume activity.
- Stiffness after any period of inactivity is common (such as after sitting still for a couple of hours).
- Stiffness decreases your range of motion, so that you can't bend or unbend a joint as far as you normally could.

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Diagnosis

Osteoarthritis is usually diagnosed after your doctor has taken a careful history of your symptoms. A physical exam will be done. There are no definitive lab tests to make an absolute diagnosis of osteoarthritis. Certain tests, specifically x-rays of the joint, may confirm your doctor's impression that you have developed osteoarthritis.

X-ray examination of an affected joint –A joint with osteoarthritis will have lost some of the normal space that exists between the bones. This space is called the joint space. This joint space is made up of articular cartilage, which becomes thin. There may be tiny new bits of bone (bone spurs) visible at the end of the bones. Other signs of joint and bone deterioration may also be present. X-rays, however, may not show very much in the earlier stages of osteoarthritis, even when you are clearly experiencing symptoms.

Arthrocentesis –Using a thin needle, your doctor may remove a small amount of joint fluid from an affected joint. The fluid can be examined in a lab to make sure that no other disorder is causing your symptoms, such as rheumatoid arthritis, gout, or infection.

Blood tests –Blood tests may be done to make sure that no other disorder is responsible for your symptoms, such as rheumatoid arthritis or other autoimmune diseases that include other forms of arthritis.

Treatment

Strengthening the muscles supporting the knee may decrease pain and absorb energy around the joint. Swimming and using machines that un-weight your knees are good options. They do not put stress on the joint. Manual therapy, including massage therapy and manipulation, may be helpful.

Another option is transcutaneous electrical nerve stimulation (TENS). With TENS, you are connected to a small machine. The machine sends electrical signals through the skin to nerves. This type of therapy may decrease pain in some people.

Your therapist can also recommend mechanical aides and assistive devices. Shoes with shock-absorbing insoles may provide some relief while you are doing daily activities or exercising. Splints or braces help to properly align joints and distribute weight. Elastic supports, canes, crutches, walkers, and orthopedic shoes can help with advanced osteoarthritis in the lower body.

If you are having difficulty getting around due to arthritis pain, your physical therapist might recommend that you install handrails and grips throughout your home. These are useful in the bathroom and shower. You may need elevated seats, including toilet seats, if you're having difficulty rising after sitting.

Prevention

There are no real methods for preventing the development of osteoarthritis. However, following certain preventive measures may slow its progression. Such measures include:

Maintain an Appropriate Weight: Keep your weight in an appropriate range for your age, height, and body type. Carrying excess body weight can put increased stress on your bones and joints. By maintaining a healthy weight, you can reduce the stress on your body.

Avoid Certain Activities: Although exercise is good for your body, you may want to avoid activities that might injure your joints or that require intense, repetitive joint motion, or repetitive stress on "at risk" joints.

Begin an Exercise Program: Participating in a safe exercise program will strengthen your muscles, which will help support and stabilize your joints. And these muscles help to absorb some of the energy, or shock, delivered to the limb.