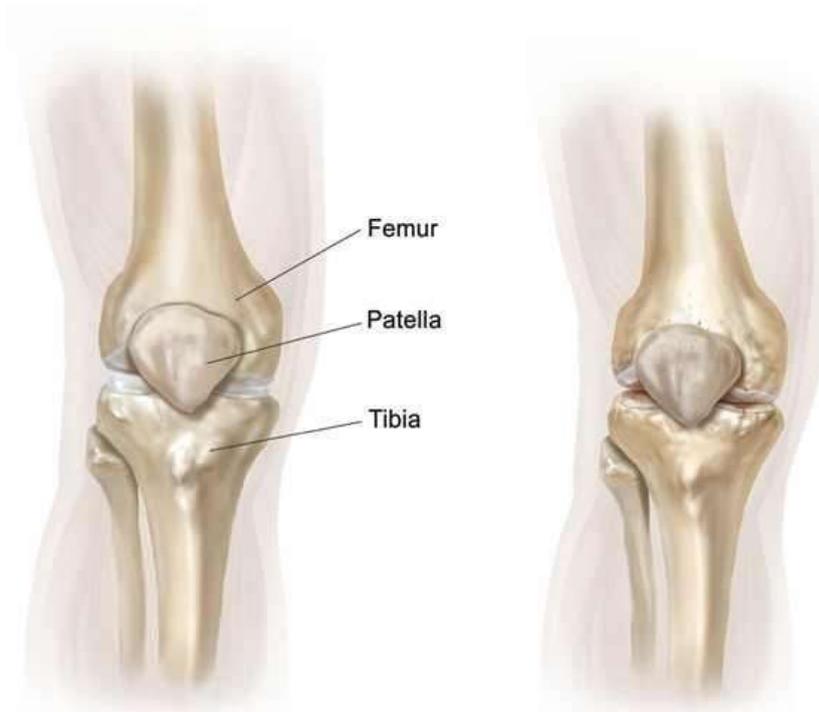


# Frequently Asked Questions about Osteoarthritis of the Knee

## What causes OA Knee?

The risk for disability from OA Knee is as great as that from cardiovascular disease.



**Healthy Knee**

**Diseased Knee**

OA Knee usually occurs in knees that have experienced trauma, infection or injury. A smooth, slippery, fibrous connective tissue called articular cartilage acts as a protective cushion between bones. Arthritis develops as the cartilage begins to deteriorate or is lost. As the articular cartilage is lost, the joint space between the bones narrows. This is an early symptom of OA Knee and is easily seen on X-rays.

As the disease progresses, the cartilage thins, becoming grooved and fragmented. The surrounding bones react by becoming thicker. They start to grow outward and form spurs. The synovium (a membrane that produces a thick fluid that helps nourish the cartilage and keep it slippery) becomes inflamed and thickened. It may produce extra fluid, often known as "water on the knee," that causes additional swelling.

Over a period of years, the joint slowly changes. In severe cases, when the articular cartilage is gone, the thickened bone ends rub against each other and wear away. This results in a deformity of the joint. Normal activity becomes painful and difficult.

## What factors increase the risk of developing OA Knee?

Several factors may increase the risk of developing osteoarthritis of the knee.

- **Heredity:** There is some evidence that genetic mutations may make an individual more likely to develop OA.
- **Weight:** Weight increases pressure on joints such as the knee.

- **Age:** The ability of cartilage to heal itself decreases as people age.
- **Gender:** Women who are older than 50 years of age are more likely to develop OA Knee than men.
- **Trauma:** Previous injury to the knee, including sports injuries, can lead to OA Knee.
- **Repetitive stress injuries:** These are usually associated with certain occupations, particularly those that involve kneeling or squatting, walking more than 2-4 km a day, or lifting at least 30 kilos regularly. In addition, occupations such as assembly line worker, computer keyboard operator, performing artist, shipyard or dock worker, miner and carpet or floor layer have shown higher incidence of OA Knee.
- **High impact sports:** Elite players in football, long-distance running and tennis have an increased risk of developing OA Knee.
- **Other illnesses:** Repeated episodes of gout or septic arthritis, metabolic disorders and some congenital conditions can also increase your risk of developing OA Knee.
- Other risk factors are being investigated, including the impact of vitamins C and D, poor bone alignment, poor aerobic fitness and muscle weakness.

### How is OA Knee diagnosed?

- Patient-reported symptoms such as pain or disability and actual physical signs. Classic changes are seen in the joint on X-rays.

### How is OA Knee treated?

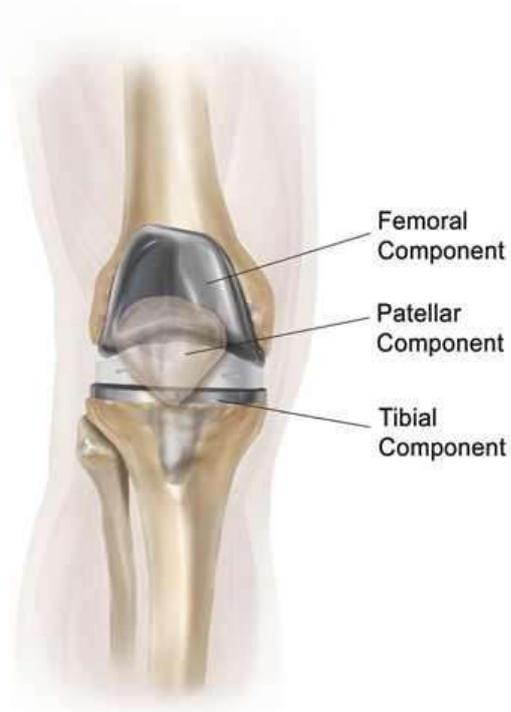
Initial treatment is generally directed at pain management. OA Knee pain may have different causes, depending on the individual and the stage of the disease. Thus, treatment is tailored to the individual.

A wide range of treatment options is available. In general, treatment options fall into five major groups:

- **Health and behavior modifications**, such as patient education, physical therapy, exercise, weight loss, and bracing
- **Drug therapies**, including simple pain relievers such as aspirin, panadol or nonsteroidal anti-inflammatory drugs, COX-2 specific inhibitors, opiates and stronger drugs for patients who do not respond to other drugs or treatments.
- **Intra-articular treatments of corticosteroid injections**
- **Surgery**, including arthroscopy, osteotomy, and arthroplasty (joint replacement)
- **Experimental/alternative treatments** such as acupuncture, magnetic pulse therapy, vitamin regimes and topical pain relievers, glucosamine and/or chondroitin sulfate and injections of hyaluronic acid (viscosupplementation)

If your knee is severely damaged by arthritis or injury, it may be hard for you to perform simple activities such as walking or climbing stairs. You may even begin to feel pain while you're sitting or lying down.

Knee replacement was first performed in 1968. Improvements in surgical materials and techniques since then have greatly increased its effectiveness. Approximately 30 000 knee replacements are performed each year in Australia.



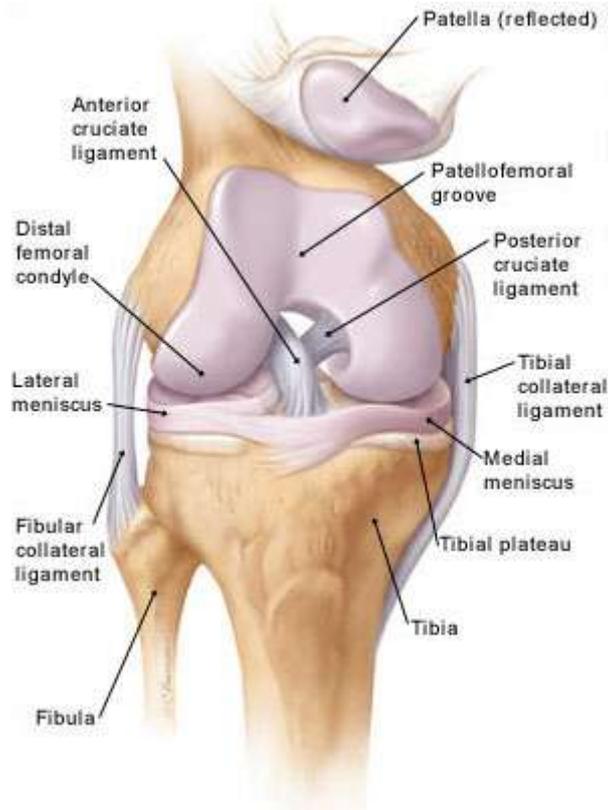
## How the Normal Knee Works

The knee is the largest joint in the body. Nearly normal knee function is needed to perform routine everyday activities. The knee is made up of the lower end of the thigh bone (femur), which rotates on the upper end of the shin bone (tibia), and the knee cap (patella), which slides in a groove on the end of the femur. Large ligaments attach to the femur and tibia to provide stability. The long thigh muscles give the knee strength.

The joint surfaces where these three bones touch are covered with articular cartilage, a smooth substance that cushions the bones and enables them to move easily.

All remaining surfaces of the knee are covered by a thin, smooth tissue liner called the synovial membrane. This membrane releases a special fluid that lubricates the knee, reducing friction to nearly zero in a healthy knee.

Normally, all of these components work in harmony. But disease or injury can disrupt this harmony, resulting in pain, muscle weakness and less function.



## Is Total Knee Replacement for You?

The decision whether to have total knee replacement surgery should be a cooperative one between you, your family, your family physician and your orthopaedic surgeon. Reasons that you may benefit from total knee replacement commonly include:

- Severe knee pain that limits your everyday activities, including walking, going up and down stairs, and getting in and out of chairs. You may find it hard to walk more than a few blocks without significant pain and you may need to use a cane or walker.
- Moderate or severe knee pain while resting, either day or night
- Chronic knee inflammation and swelling that doesn't improve with rest or medications
- Knee deformity--a bowing in or out of your knee
- Knee stiffness--inability to bend and straighten your knee
- Failure to obtain pain relief from non-steroidal anti-inflammatory drugs. These medications, including aspirin and ibuprofen, often are most effective in the early stages of arthritis. Their effectiveness in controlling knee pain varies greatly from person to person. These drugs may become less effective for patients with severe arthritis
- Inability to tolerate or complications from pain medications
- Failure to substantially improve with other treatments such as, physical therapy, hydrotherapy or activity modification.

Most patients who undergo total knee replacement are age 60 to 80. Recommendations for surgery are based on a patient's pain and disability, not age. Total knee replacements have been performed successfully at all ages, from the young teenager with juvenile arthritis to the elderly patient with degenerative arthritis.