

Osteoarthritis of the knee

Osteoarthritis is the most common form of joint disease, causing pain and stiffness and the knee is one of the most commonly affected joints.

Symptoms

- Pain
- Stiffness
- A grating or grinding sensation when the joint moves
- Swelling (either hard or soft)
- Possible locking or giving way of the knee on weight bearing.
- Vigorous activity may cause pain to flare up

Who gets it?

It's most likely if:

- You're in your late 40's or older
- Overweight
- Female
- Family history of osteoarthritis
- Had a previous severe knee injury
- Joints have been damaged by another disease, for example rheumatoid arthritis or gout.

How can you help yourself?

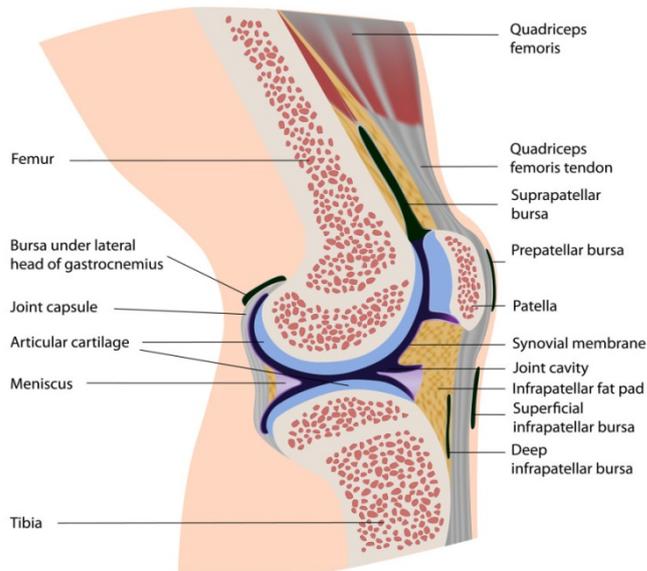
- Losing weight (losing one pound of body weight overall results in four pounds of pressure being taken off the knees)
- Regular exercise (aerobic – for example, anything that raises the heart rate and breathing – brisk walking, swimming, cycling, cross-trainer. Strengthening – activities that involve moving joints through range with some load going through them – body weight or additional weight – squats, step ups, sit to stands)
- Reducing stress on the affected joint (walking stick, appropriate footwear, pacing activities)
- Pain relief (analgesics, anti-inflammatory creams, gels and tablets)

Treatments available

If you still experience pain after trying the above the following may be an option:

- Capsaicin cream
- Stronger painkillers (for example tramadol)
- Steroid injections into the painful joint
- Surgery, including joint replacement.

Anatomy of the Knee Joint

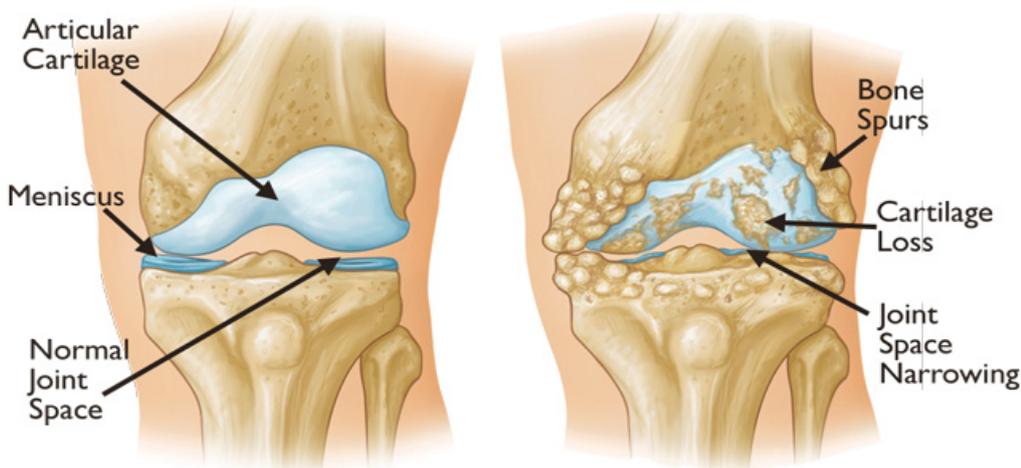


The knee is the largest and strongest joint in your body. It is made up of the lower end of the femur (thighbone), the upper end of the tibia (shinbone), and the patella (kneecap). The ends of the three bones where they touch are covered with articular cartilage, a smooth, slippery substance that protects and cushions the bones as you bend and straighten your knee. Two wedge-shaped pieces of cartilage called meniscus act as "shock absorbers" between your thighbone and shinbone. They are tough and rubbery to help cushion the joint and keep it stable.

The knee joint is surrounded by a thin lining called the synovial membrane. This membrane releases a fluid that lubricates the cartilage and reduces friction.

The knee joint is held in place by 4 large ligaments, preventing the bones moving in the wrong direction or dislocating. The thigh muscles also help to hold the knee joint in place. In osteoarthritis, the cartilage in the knee joint gradually wears away. As the cartilage wears away, it becomes frayed and rough, and the protective space between the bones decreases. This can result in bone rubbing on bone, and produce painful bone spurs.

Osteoarthritis develops slowly and can affect the smooth movement of the joint. Pain may increase as the changes in the joint develop, but it's also possible to have significant changes with minimal pain.



When a joint develops osteoarthritis the bone underneath the cartilage reacts by growing thicker and becoming broader and all the tissues within the joint become more active than normal.

- The bone at the edge of the joint grows outwards, forming bony spurs called osteophytes. This can affect the thigh bone, shin bone and kneecap.
- The synovium (membrane surrounding the joint) may swell and produce extra fluid, which causes the joint to swell
- The capsule and ligaments slowly thicken and contract as if they were trying to stabilise the joint.

The changes in and around the joint are partly the result of the inflammatory process and partly the body's attempt to repair the damage. In some cases the repairs are quite successful and the changes don't cause much pain, or the pain is mild and may come and go. However, in other cases the repair doesn't work as well and your knee becomes damaged. This can lead to instability and more weight being distributed onto other parts of the joint, which can cause symptoms to become gradually worse and more persistent over time.

What is the outlook?

- It's impossible to predict how osteoarthritis will develop for any one person
- It can sometimes develop over a very short period, causing a lot of joint damage, therefore possibly some deformity and disability
- More often than not osteoarthritis is a slow process that develops over many years and results in fairly small changes in just part of the joint.
- Muscles that move the joint can become weakened and cause the joint to be unstable, therefore the knee may give way with weight bearing.
- Changes in lifestyle can greatly reduce the risk of osteoarthritis progressing – two main changes are regular exercise and keeping a healthy weight.
- Osteoarthritis does not lead to other types of joint disease and does not spread through the body. However, deformity caused in one joint may lead to uneven loading of other joints.

Self-help and daily living

- If sleep is a problem at night, heat may help. Try a hot bath before bed or a hot water bottle/wheat bag. Taking a painkiller before bed can also give some relief and ease night pain. Placing a pillow between your knees may also help.
- Most people are able to continue their jobs with osteoarthritis although you may need to make some alterations to your working environment. Speak to your employer's occupational health service to arrange a work place assessment.
- Living with a long term condition may lower your morale and affect your sleep. It is therefore important to tackle these problems early on, try and speak to your healthcare team, your family or friends.

If you require this leaflet in a different format or language, please contact the Trust's Equality and Diversity Team on 024 7653 6802

Ref: Arthritis Research UK; www.nhs.uk/Conditions/Osteoarthritis; orthoinfo.aaos.org;
Management of Osteoarthritis – NICE Pathways