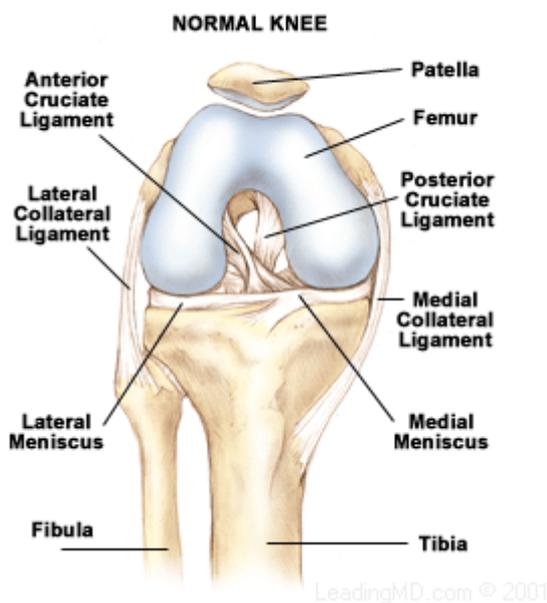


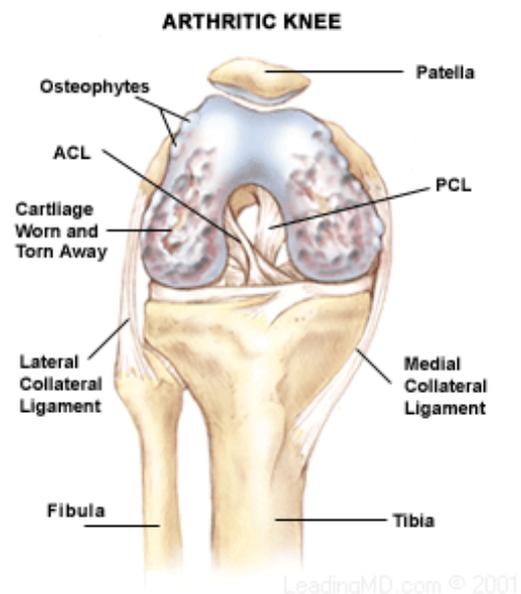
## What is it?

Osteoarthritis (OA) refers to an inflammation or swelling in a joint ('arthritis' means inflamed joint and 'osteo' means bone). The cartilage which covers the joint surfaces becomes damaged. There is cartilage which covers the femur (thigh) bone, tibia (shin) bone and patella (kneecap). OA can be widespread within the knee or confined to a specific compartment.



## How is it diagnosed?

Knee OA is typically diagnosed history and confirmed with x-ray. X-rays will show a narrowing of the joint space (space between the bones) and signs of additional bone load and wear. The images are easy to explain and understand, so bring them in and your physiotherapist can point out the significant findings. Other scans are usually not necessary.



## How does OA develop?

Everyone develops OA in some form as they age. It is a normal wear and tear process that occurs in all joints and should only be of concern where the degree or rate of wear is significantly higher than expected for age, or when pain is present.

The knee joint contains additional cartilage in the form of the medial and lateral meniscus, which act like cushions in the knee to help distribute the weight more evenly. These menisci can be damaged or torn, causing varying degrees of pain and disability. A roughening of the joint surfaces causes an increased rate of abrasion and can be felt as 'crepitus' or grinding in the knee joint. As the cartilage continues to wear, the joint has less and less shock absorption which tends to make the crepitus and pain worse.

## What happens if I have OA of the knee?

Remember everyone's knees suffer some wear and tear as they age, and pain is often minimal or non-existent in mild to moderate cases. Severe OA, or a bone-on-bone type picture, is usually associated with pain and loss of movement and function, although it's important to remember that the pain comes from loading of irritated tissues, not from thinned or worn cartilage on its own.

We can replace the joint surfaces through Total Knee Replacement surgery (a significant, end-stage operation) but we can't regrow cartilage. That means the principle of all non-operative treatment is to reduce the load – several strategies are summarized below and all can help reduce pain and improve function, in some cases quite significantly.

## How can physiotherapy help me?

For knee OA we tend to identify all the risk factors at play for each individual, then address each issue as needed, one by one. There are many risk factors but to effectively narrow the focus for most people it's helpful to separate them into those you can change versus those you cannot.

### Cannot change – commit minimal effort to these

- ✦ The degree of pre-existing wear or injury
- ✦ Genetics: some people are more susceptible because they have inherited softer cartilage
- ✦ Bone structure: a marked deviation from 'neutral' i.e. knock knees or bow leg alignment

### Can change – commit maximum effort to these

- ✦ Excess body weight: for every 1kg of bodyweight, 4kg in load is taken through the knee.
- ✦ Leg muscle strength: more load through the muscles means less load through an irritated joint.
- ✦ Leg muscle flexibility: poor flexibility affects how smoothly a joint moves
- ✦ Footwear and shoe support: your physio can provide specific recommendations to reduce the load coming up from below
- ✦ Activity modification: whether it's sports technique or simply an easier way to do the gardening, we can provide practical tips that make a difference. Doing too little or too much can cause problems but we can help.
- ✦ Volume of pivoting and twisting: for some presentations, a well-fitted brace can make a big difference. It is definitely not a one size fits all situation!

Almost everyone at any stage of OA can improve their knee pain through the measures above;

People with **mild to moderate OA** can significantly reduce their symptoms to the point where they feel no limitation in their usual routines.

People with **severe OA** will in many cases delay the need for surgery

**Pending knee replacement:** better pre-operative strength and function is linked with less post-operative pain and a better outcome overall; many surgeons insist on 'prehab' for this reason.

## Will I need surgery?

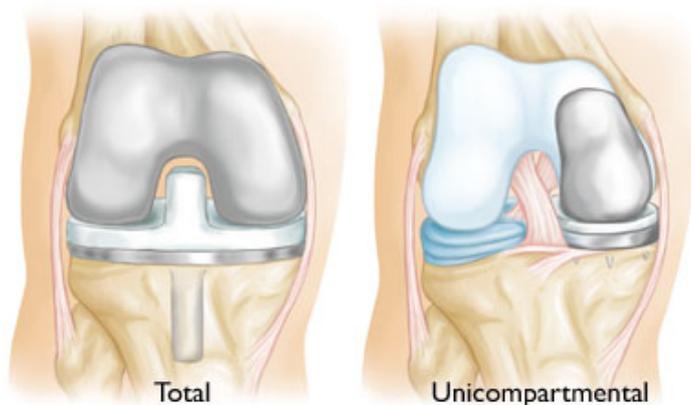
There are two types of surgery considered for OA knees – arthroscopy and knee replacement.

### Arthroscopy

Arthroscopy (keyhole surgery) for knee OA is reducing in popularity among surgeons as a number of high quality studies have shown limited medium and long term improvement in pain or function following the procedure.

### Knee Replacement

Knee Replacement involves removal of the existing joint surfaces and replacement of those surfaces with an artificial joint, made of metal, plastic or ceramic. Knee replacements may be isolated to one side of the knee (Unicompartmental Knee Replacement, or UKR) or both sides of the knee (Total Knee Replacement, or TKR).



TKR is by far the most common procedure in Australia with good data supporting its efficacy in helping patients achieve pain relief and improvements in function. It is however a big surgery, involving 4-6 days in hospital and several months committed effort to rehabilitation to get a good result.

Artificial knees do not last forever (they have an estimated lifespan of 20-30 years, and revision operations are complex) so surgeons are reluctant to perform these operations on younger people unless there is severe damage and gross restrictions in function.