

# Osteoarthritis of the Knee

Osteoarthritis (OA) is a disease that causes pain and stiffness in your joints. The knee is one of the most commonly affected joints. Osteoarthritis mainly affects people over the age of 50, the older you are the more likely you are to develop it.

The changes to your joint caused by OA affect how well your joint works, causing stiffness and pain. These changes can be:

- loss or thinning (by wear and tear / degeneration) of the cartilage that normally allows your bones to move

- smoothly against each other;
- the shape of your bones, you may develop bony growths, called osteophytes (bone spurs); and
- inflammation in the membranes that line your knee joint.

## CAUSES OF KNEE OA

In some cases it is not clear what has caused the deterioration in your knee cartilage leading to OA developing. Some things do, however, increase your risk of developing OA:

- age;
- being a woman;
- being overweight;
- a history of trauma or injury to your knee or knee cartilage;
- a cumulative strain on your knees through manual labour (farming, standing long periods at factories or repeated kneeling for example) or through sport, such as running; and
- there is a possibility of a genetic link to knee OA.

OA seems to develop after a series of minor injuries to your knee or a more severe injury/trauma to the joint. It may be that a number of the things above combine to make your knee more susceptible to developing OA.

## SYMPTOMS OF KNEE OA

OA normally affects one knee more than the other. Sometimes there are no symptoms in the second knee; however, there may be evidence of OA in the joint on investigation.

Symptoms include:

- knee pain that is in and around your knee;
- pain that becomes worse with too much activity or exercise, or unaccustomed activity;
- pain that is often worse by the end of the day or at night;
- if you have overdone it, you often feel the painful result the next day;
- stiffness that is worse in the morning and eases through the day with light movement;
- stiffness which returns if you sit for too long;

- your knee can 'give way' or 'lock' and you may battle to straighten it completely;
- your movement of bending and straightening may be limited due to pain, stiffness and/or swelling; and
- your knee may creak, grind and make noises as you move.

## DIAGNOSIS OF KNEE OA

Your doctor or physical therapist will be able to determine the possibility of OA based on your 'story', symptoms and following a physical examination. The diagnosis and extent of the damage can then be confirmed with an X-ray or magnetic resonance imaging (MRI), which is also done to rule out any other causes.

## MANAGING KNEE OA

There is no cure for OA. However, there are things you can do to manage the condition and improve your symptoms. Management should focus on reducing your pain and stiffness, while improving your knee function such that you can have an active, better quality of life.

### 1 Medication

No drug or medication has been developed to alter, improve or cure OA. Medication is for symptomatic relief and therefore includes analgesics (pain medication) and non-steroidal anti-inflammatories (NSAIDs). These can be taken orally, or in suppository form or through creams and gels, or adhesive patches.

In more severe cases or during bad flare-ups of pain and swelling, steroid injection directly into the joint can be performed and gives relief for weeks to months.

There are many supplements or alternative medicines that contain glucosamine or chondroitin, collagen, etc, which are meant to ease the symptoms and improve cartilage health. There is limited scientific evidence that these work.

You can't be on medication permanently, so this should be 'saved' for bad days and flare-ups. You need to manage your OA symptoms through other means as discussed below.



## 2 Physical Therapy

An individualised rehabilitation programme of exercise therapy can greatly improve your function and reduce your symptoms. Stronger muscles and ligaments supporting the knee can reduce the load through the joint. Exercise therapy is aimed at prescribing strengthening exercises to your thigh and often buttock muscles (your entire leg and hips need to be strong). Stretching and mobility exercises will aim at improving range of motion in your knee. Your physical therapist can also advise on sport activities that are safe, or adjusting your training to ensure you have sufficient rest days, for example.

Physical therapy may also include hands-on treatment, such as massage and techniques to reduce swelling and release tight structures. Advice on the use of a brace or strapping will also be done by your therapist and aim to provide support and stability for your knee joint.

You may be referred to an occupational therapist who can give practical assistance for everyday tasks. They can advise you on changes that you can make to your car, home or workplace to ease any stress on your knee. These may include fitting bath aids, chair and bed raisers, grab rails and additional stair rails.

A podiatrist may also be required to assess your foot 'posture' and prescribe or custom-make orthoses (supports for your feet that lie within your shoes). How your

feet move and stand can have profound effects on your knee.

## 3 Surgery

If you have OA that causes severe pain, disability and has a significant impact on your daily life or work, your doctor may suggest you have surgery. This will usually only be after you've tried other conservative treatments, such as physical therapy. There are different surgical options, which include the following.

- **Knee arthroscopy.** This is key-hole surgery that can wash out the joint, remove or repair small tears in the meniscus (cartilage). It can be helpful if your knee locks frequently; however, it is not usually recommended if you have fully developed or more advanced OA.
- **An osteotomy.** This procedure involves cutting and refixing your bone to avoid it putting undue stress on parts of your knee joint including your cartilage. It may improve joint alignment and could be an option for younger individuals.
- **Knee replacement surgery.** Partial or total knee replacement is where the surgeon removes the damaged parts of your joint and replaces it with artificial parts.

## 4 Self-help

There are many things you can do to reduce the pain and stiffness in your knee.

- Maintain a healthy weight by watching

your diet and exercising regularly (this needs guidance so as not to exacerbate your symptoms and may need you to do low impact activities such as swimming, cycling, Pilates, aquacise, for example). Being overweight increases the load and strain through your knee joint.

- Use a walking stick or crutch to ease the stress on your joint.
- Wear appropriate supportive, cushioned, well fitting shoes – these help with shock absorption.
- Some people prefer heat whereas others ice packs. You can try and see what works for you. A hot bath or hot water bottle at the end of the day may ease your pain, or an ice pack or cold wrap may be better.
- Planning – structure your day to spread out chores allowing for rest. Likewise, consider your needs and plan so you are not repeatedly walking up and down the stairs at home (for a forgotten laundry basket or car keys, for example). Plan your outings to do all tasks needed without having to go out repeatedly in a day.

Surgery doesn't have to be seen as the end of the world. It can give a completely new and liberating lease of life. Provided that you are well prepared, which your physical therapist can help with, and you complete the rehabilitation following surgery, a new knee joint could change your quality of life. However, many people live with OA of the knee for years or sometimes forever. It can be well managed with the help of a therapist, specific exercise and some guidance on every day life to ensure you cope.

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