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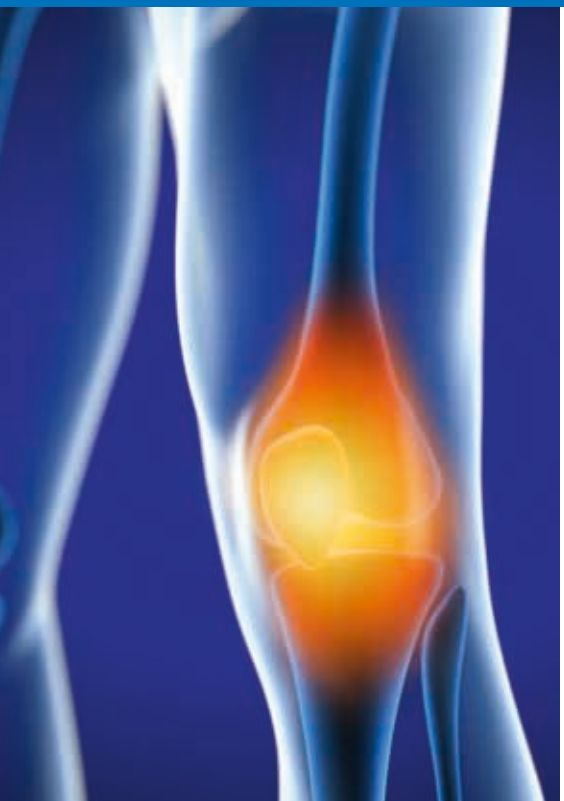
Nottinghamshire Integrated Care System

Knee Osteoarthritis (OA)

Information for patients



Information in this booklet is intended to be used as a guide. It gives you an idea about how *Knee Osteoarthritis (OA)* can be managed. However, you should remember that every case is different, and symptoms and management can vary from person to person.

This leaflet will offer some advise about *Osteoarthritis (OA)* and how you can help to manage your symptoms.

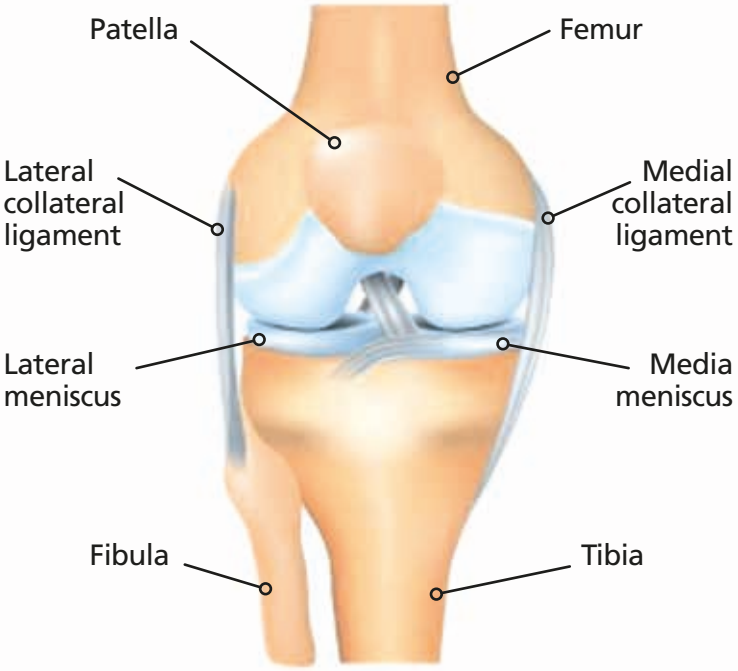
Osteoartritis (OA) is often called athritis. It can happen in lots of joints in the body as it is a normal part of the aging process. However, it is common in the knee joint.

There are many ways of managing knee OA. It is a big joint and absorbs a lot of weight during day-to-day activities, such as walking or climbing the stairs. There are many different treatment options, some will suit some patients better than others.

The most important thing is to make sure your pain in under control, you maintain your knee movement and increase the strength of the muscles.

The knee joint is the most common joint to cause functional problems for people.

THE HUMAN KNEE



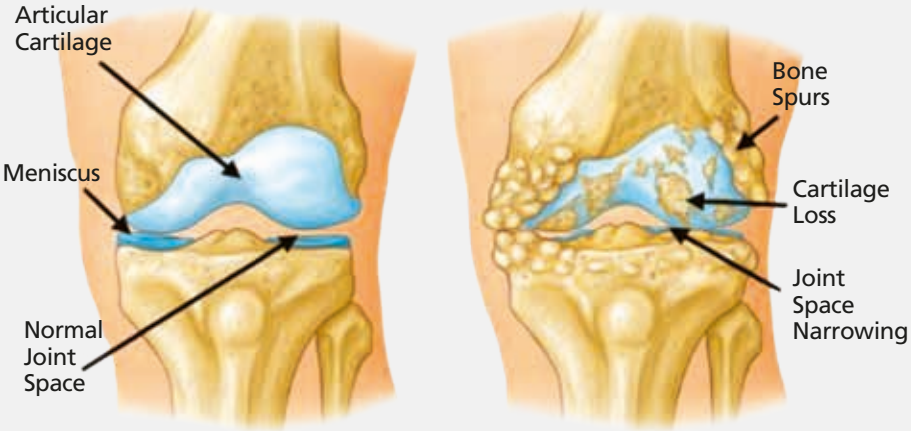
What is Osteoarthritis?

Osteoarthritis (OA) is a joint related disease where the layer at the end of your bones, called cartilage, begins to gradually wear down. This can happen on the surface of your main knee joint, as well as behind the kneecap. Your body reacts by trying to repair itself, which results in the following changes:

- 'Bony Spurs' - bone at the end of the joint grows outwards
- 'Effusion' - swelling may accumulate in the joint
- The joint capsule and ligaments thicken to stabilise the joint
- Pain can often make the muscles become weaker which makes daily tasks more difficult

These changes are often painless and the joint repairs itself well. However, on other occasions, the repairs are less successful, and you could experience on going symptoms, such as pain, swelling and giving way.

In more severe cases the cartilage can become so thin that it no longer covers the ends of the bones resulting in a narrow joint space.



Anatomy

The knee joint is the largest joint in the body. It is where the end of the thigh bone (femur) connects with your shin bone (tibia). It is a complex joint that locks straight to help us stand and bends and twists to help us move. The ends of the bones are covered in cartilage, a smooth surface that reduces friction. This makes the movement of our knee joint easier. Between the bones we have another type of cartilage, called menisci, these act as shock absorbers. This cartilage is compressed under weight.

Our knee is supported by four ligaments. These, along with a capsule, help to keep the knee stable. Our thigh muscles, which connect to the bones via tendons, help support and move the knee when they contract. The muscles off load the pressure and force put through the knee joint.

Our kneecap (patella) is in the middle of a large tendon that connects our thigh muscles to our shin bone; it also has cartilage behind it.

Why me?

There are a variety of factors that can contribute to OA, such as:

- Age related changes - late 40's onwards. A combination of muscles weakening and reduction of healing ability over time
- Gender - twice as common in women as in men
- Being overweight - increased force goes through the joint, especially through the knee
- Previous injury - commonly injury to the cartilage makes developing arthritis more likely
- Genetics – OA often runs in the family
- Other joint disease can sometime contribute to OA

Symptoms

These symptoms can be present in one or both knees and include:

- Pain that worsens with movement and eases with rest
- Certain tasks being more painful than others, such as using the stairs
- Stiffness, especially in the morning
- Swelling
- Good days and bad days
- Creaking in the knee
- Changed shape of the knee joint
- Giving way, which may be due to pain or muscle weakness

OA and the symptoms are different for everyone.

Diagnosis & Investigations

***Osteoarthritis (OA)* is often diagnosed from the signs and symptoms that you describe.** Assessment of the knee, hip and ankle by a health care professional may help to inform this diagnosis. X-Rays are not always needed to make a diagnosis. X-Rays may show the extent of the OA, but they do not indicate how much pain you should be in. Someone with a lot of changes on an X-Ray may have less pain than someone with only mild changes of X-Ray. Requesting an X-Ray is therefore not essential. There are no blood tests to diagnoses OA and MRI scans are not more useful than X-Rays.

Will it get better?

Typically, OA can present with days where there are very few symptoms and other days which are more difficult to manage. Some people may manage symptoms well for a long period of time and then experience a flare of symptoms. There is no 'cure' for OA but there are many ways that you can manage it to help improve your symptoms.

We work with a team of Orthopaedic Advanced Practitioners and Consultants. If you do not respond to physiotherapy, we can escalate your care, such as considering steroid injections.

Steroid injections are sometimes used to facilitate physiotherapy exercises. They offer a window of opportunity of reduction in symptoms to allow participation of the exercises. Injections are only offered in conjunction with physiotherapy.

Management

OA is treated with a variety of different management techniques. Below is a list of ways you can help yourself.

- **Heat:** using heat on the muscles around your knee joint can help to ease the pain and increases blood flow to the area to help repair. A hot water bottle or heat pack may be useful. Take care when using heat to avoid burns to the skin.
- **Ice:** applying ice or frozen vegetables to the knee joint itself can reduce swelling in the area. Do not apply directly to the skin and avoid applying for more than 10 minutes at a time.
- **Pacing:** break up the big tasks of the day if you find them painful. Make sure to rest your knee regularly and slowly build up your tolerance of the tasks you find difficult. Try and avoid doing too much in one day, if it would result in being off your feet the following day.
- **Sleep Hygiene:** a lot of evidence shows how a good night's sleep can reduce pain levels. Try to get between 6 and 9 hours consistently. Try relaxation before you go to sleep.
- **Stress management:** being stressed can increase pain. Make sure to take time for yourself and use techniques such as mindfulness. Speak to a health care professional for more help if you need

WHAT TO AVOID?

Osteoarthritic joints do not like to remain still for long periods of time, and this can often explain why joints feel 'stiff' when getting up after lots of sitting. It is therefore important to keep joints moving and muscles strong to support the joint.

MEDICATION FOR PAIN CONTROL

Controlling your pain allows you to continue to function and helps you cope. Your GP may have already discussed medication to help with your pain and the correct ways to take pain relief. They may recommend that you take it as a short course rather than 'as and when' the pain is bad. This often includes 'non-steroidal anti-inflammatory' medication such as ibuprofen, paracetamol or Zapain. Anti-inflammatory gels can also be trialled. Please always read the instructions before using these products.

SELF-MANAGEMENT

Lifestyle changes and exercises are an effective way to help improve your OA symptoms.

- **Weight management:** our knees bear a lot of our weight when we do daily tasks. Up to 6 times your body weight is put through the knee when going downstairs. Therefore, losing weight will reduce this load and improve your symptoms.
- **Nutrition:** a healthy balanced diet will not only help you lose weight, but it can reduce levels of swelling and pain. Foods high in vitamin D are particularly recommended, such as fish and mushrooms.
- **Footwear:** wearing the appropriate shoes, with cushioned soles, can act as shock absorbers for the painful knee.
- **Exercise:** finding the right balance of exercise is essential to manage OA. Doing too much or too little can worsen symptoms. Little and often is a good place to start and build up gradually.
  - Strengthening exercises are important to build muscle strength and support the knee joint to prevent the disease progressing.
  - Balance exercises also play a key role in feeling stable, which is vital for falls prevention in later life.

At the end of this leaflet you will find a small selection of exercises you can try to help build your strength and balance.

Some discomfort with exercise is to be expected but this should ease within a short time.

Aerobic exercise - activities such as brisk walking and swimming can assist with general health, and weight loss. It also releases endorphins, which is the body's natural pain relief.

It is important to find an aerobic exercise that you enjoy, as to get the best outcomes, you will need to continue with it long term.

Lifestyle changes and exercise will not provide a quick fix. It will require several months of consistent effort before we expect to see true improvements. Don't become disheartened.

STEROID INJECTIONS

Steroid injections are sometimes used to facilitate physiotherapy exercises. They offer a window of opportunity to reduce symptoms, to allow participation of the exercises. Injections are only offered alongside with physiotherapy. Steroid injections can be discussed with your health care professional.

SURGERY

A lot of patients who have a diagnosis of Knee OA improve their quality of life with lifestyle changes and exercise. If your symptoms do not improve, you may wish to consider injection therapy or surgical input. However, these will need to be discussed with your health care professional.

Surgery is not a decision to be taken lightly and it does not guarantee an improvement in your symptoms. If this is something you would like to consider you will be referred to a specialist to discuss further management.

EXERCISES

The following exercises are designed to stretch, strengthen and stabilise the structures that support the knee.

EXERCISE 1

Straight leg raise sitting:

- Straighten one leg, hold for a slow count to 10 and then slowly lower your leg.
- Repeat 10 times of each leg.
- If you find this easy straighten and raise one leg before you count to 10.

EXERCISES

EXERCISE 2

Straight leg raise (lying):

- Bend one leg at the knee. Hold your other leg straight and lift your foot just off the bed.
- Hold for a slow count of 5, and then lower.
- Repeat 5 times on each leg.

EXERCISE 3

Muscle stretch:

- Bend one leg at the knee. Place a rolled up towel under the ankle of the other leg. With the straight leg use the muscles to push the knee down towards the bed and hold for a slow count of 5. Repeat 5 times on each leg

EXERCISES

EXERCISE 4

Leg stretch:

- Sit on the floor or sofa with your legs out straight in front. Keep your foot on the floor and slowly bend the knee to feel a stretch. Hold for 5 seconds then slowly straighten the knee.
- Repeat 10 times on each leg.

EXERCISE 5

Step ups:

- Step onto the bottom step of stairs with your right foot. Bring up your left foot, then step down with your right foot, followed by your left foot.
- Repeat with each leg until you get slightly out of breath.

EXERCISES

EXERCISE 6

Knee Squats:

- Hold onto a chair or work station. Squat down a short way by sticking your bottom backwards as if you were going to sit. Return to the standing position.
- Repeat 10 times.
- As it gets easier you can squat lower

EXERCISE 7

Leg cross:

- Sit on a chair. Cross your ankles, push your front leg backwards and your back leg forwards against each other until your thigh muscles become tense.
- Hold for 10 seconds and then relax.
- Switch legs and repeat.

EXERCISES

EXERCISE 8

Sit / stands:

- Sit on a chair. Stand up without using your hands. Make sure the movement is slow and controlled. Repeat for 1 minute. If a chair is too low start with a cushion on the seat and remove it when you improve.

FURTHER INFORMATION

The ESCAPE-pain web site can offer more information to help you manage your osteoarthritis.

https://escape-pain.org.