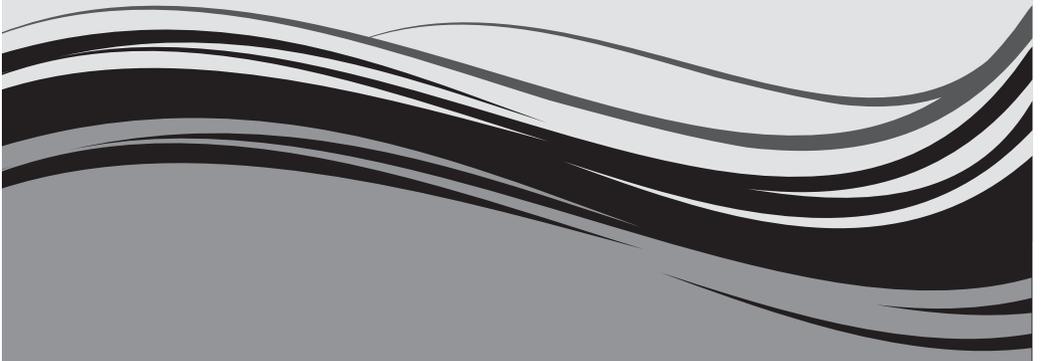


Osteoarthritis (OA) of the Knee

Patient Information Leaflet



What is osteoarthritis (OA)?

Osteoarthritis is a condition that affects the joints causing pain and stiffness. The knee is one of the more commonly affected joints. It is sometimes referred to as degenerative joint disease or wear and tear.

What causes osteoarthritis (OA)?

All normal joints and joint tissues are constantly undergoing some form of repair because of the wear and tear that our daily activities place on them. However, in some people, it seems that this repair process becomes faulty in some way (perhaps because of severe wear and tear to the joints or a problem with the repair process) and OA develops. A certain amount of wear and tear is normal as we age.

In joints with OA, the joint cartilage becomes damaged and worn. The bone tissue next to the cartilage can also be affected and bony spurs can develop around the joint edges. Those spurs are called **osteophytes** and we can sometime see these on X-rays. The joints and the surrounding tissues can also become inflamed. This inflammation is called **synovitis**.

Factors that may play a role in the development of osteoarthritis include:

- **Age:** OA becomes more common with increasing age. By the age of 65 at least half of the people will have some OA in some joint (s)
- **Obesity:** Knee OA is more likely to develop if you are overweight. This is because there is an increased load on the joints and a potential for more damage
- **Your Sex:** Women are more likely to develop OA than men.
- **Genetics:** There may be some inherited tendency for OA to develop in some people if your parents, brothers or sisters have had OA.

- **Previous Joint Damage or Deformity:** This may be from a previous fracture or injury around the knee joint that has caused damage to the joint surfaces.

However the exact cause of OA is unknown. It is probably a combination of the above factors.

What are the symptoms of osteoarthritis?

- Pain, stiffness, and limitation in full movement of the joint are typical. The stiffness tends to be worse first thing in the morning but tends to loosen up after half an hour or so.
- Swelling and inflammation of the knee can sometimes occur.
- An affected joint tends to look a little larger or more knobbly than usual.
- A grating or cracking sound or sensation at your knee is fairly common.
- Weakness and muscle wasting around the knee joint can make it difficult to fully straighten the knee.
- Reduced function- i.e. climbing stairs, walking for long distances, kneeling.

You may experience all or some **of those** symptoms. Your symptoms may vary for no apparent reason with bad spells of a few weeks or months broken by better periods.

How Is Osteoarthritis Diagnosed?

We usually diagnose Osteoarthritis based on your symptoms and the physical signs that we found when your knee was examined. There are no blood tests for osteoarthritis. X-rays are often **not needed** to diagnose osteoarthritis. However, sometimes your doctor may suggest X-rays or other tests if they are uncertain about the diagnosis and want to rule out other problems.

What You Can Do To Help Yourself?

There is no cure for osteoarthritis. However OA may not necessarily get worse and there are many **things you** can do to manage the symptoms to maintain an active lifestyle.

Reduce stress on the joint.

- Keep to your ideal weight. Extra weight on the joint can make symptoms worse. Even a modest weight loss can make quite a difference.
- Avoid high heels. Wear appropriate footwear with cushioned soles or insoles.
- Try not to overstress your joint by doing too much all in the one day e.g. spread household chores throughout the week.
- Avoid being in one position for too long when possible to help prevent stiffness.
- Use a walking stick if you have one.

Exercise

It is important to find the right balance between rest and exercise. Generally too much activity can increase pain in a knee with osteoarthritis but too little makes the joint stiffen up.

Osteoarthritis in the knee can weaken the thigh muscles (quadriceps). This can increase your knee pain and you may feel as if your knee has a tendency to give way perhaps even causing you to stumble or fall. Doing the exercises at the back of this leaflet everyday should help.

A physiotherapist in your local hospital or health centre can give you advice on exercise and managing with early osteoarthritis. Some physiotherapy departments have classes for patients with osteoarthritis of the knee.

Swimming can be a very good way of exercising and keeping fit. The water supports the body's weight so that little force goes through your joints as you exercise and causes very little pain.

Leisure centres also run a variety of exercise classes that may be suitable and enjoyable. These classes can help to introduce you to exercise especially if you have not done it for quite some time.

Other Treatments

Some people find that they can also get some pain relief from using hot or cold packs. Try wrapping crushed ice in a damp towel and hold it for five to ten minutes against the part of the knee that hurts. You can do this every two to three hours. Make sure you use a damp towel between the ice and the skin to avoid an ice burn.

Or you could use a heat pad or a hot water bottle with an insulated cover on it. Make sure this is not too hot and not directly touching your skin. You can apply this for 10 to 15 minutes three to four times a day.

Medication

If you still have pain after trying the above you can speak to your doctor to discuss medication for pain relief.

Surgery

You won't necessarily need a knee replacement if you have osteoarthritis of your knee. Your healthcare team will always try other measures before suggesting a knee replacement. If your symptoms are still manageable and your medication is effective then you may prefer to wait. Most people who have a knee replacement are over 55. The earlier you have a knee replacement the greater the chances that you'll eventually need further surgery.

What is a knee replacement and risks?

If your knee is damaged by arthritis and the pain, stiffness and disability are having a serious impact on your every activities and you have tried all the self help advice we may consider you for a knee replacement. It is worth noting that 1/5 of patients who have a knee replacement are not happy with the result.

Are there any reasons why I can't have a knee replacement?

Unfortunately, some people may not be able to have a knee replacement even though their arthritis is very bad. This may be because:

- You have a circulatory condition that may exclude you from having a knee replacement.
- Your thigh muscles (quadriceps) are very weak and may not be able to support your new knee joint
- You have deep or long-lasting open sores (ulcers) in the skin below your knee, increasing your risk of infection.
- You have other medical conditions that put you at higher risk from a general anaesthetic.

We do not routinely provide a hospital appointment for osteoarthritis.

Procedure

The knee is an important hinge joint and as it is weight-bearing can be prone to 'wearing out'. Arthritis is painful and disabling and you and your surgeon may have decided that a knee replacement may be your best option.

A knee replacement is a surgical procedure, in which the injured or damaged running surfaces of the knee are replaced with artificial parts which are secured to the bone.

You will see the surgeon before your operation. They will take this opportunity to draw (mark with a pen) on your leg. This is to make sure they operate on the correct leg. If you have any questions, this might be a good time to ask them.

Staff will give you an anaesthetic in the theatre. This may be a general anaesthetic (where you will be asleep) or a local block (e.g. where you are awake but the area to be operated is completely numbed). The anaesthetist will discuss this with you.

Staff may place a tight inflatable band (a tourniquet) across the top of the thigh to limit the bleeding. We will clean your skin with antiseptic solution and cover the area with clean towels (drapes). The surgeon will make an incision (a cut) down the middle of the knee. The knee capsule (the tough, gristle-like tissue around the knee) which is then visible can be cut and the knee cap (patella) pushed to one side. From here, the surgeon can trim the ends of the thigh bone (femur) and leg bone (tibia) using a special bone saw. Some surgeons also remove the underside of the knee cap.

Using measuring devices, the new artificial knee joints are fitted into position. The implants have an outer alloy metal casing with a "polyethylene" bearing which sits on the leg bone. Sometimes, the surgeon places a polyethylene button on the underside of the knee cap.

When the surgeon is happy with the position and movements of the knee, they will close the tissue and skin. They may use stitches (sutures) or metal clips (skin staples). The clips and stitches will need to be removed around 10 days after the operation.

Drains may be used, and if so these can be pulled out easily on the ward in a day or two.

When you wake up, you will have a padded bandage around the knee. If you are in pain, please ask for pain killers. If you have pain, it is important that you tell the ward staff.

You will go for an X-ray the day after the operation and we will encourage you to stand and take a few steps.

The physiotherapy team will visit you, and suggest exercises for you. It is important to do these (as pain allows).

***Please be aware that a surgeon other than your consultant but with adequate training or supervision may perform the operation*.**

Risks

As with all procedures, this carries some risks and complications.

Common: (2-5%)

- **Pain:** Your knee will be sore after the operation. If you are in pain, it's important to tell ward staff so they can give you medicines. Pain will improve with time. Rarely, pain will be a chronic problem and may be due to any of the other complications listed below, or, for no obvious reason. Rarely, some replaced knees can remain painful.
- **Bleeding:** Some patients may occasionally need a blood transfusion or iron tablets. Rarely, the bleeding may form a blood clot or large bruise within the knee which may become painful and may require an operation to remove it.
- **DVT:** (deep vein thrombosis) is a blood clot in a vein. The risks of developing a DVT are greater after any operation (and especially a bone operation) DVT can pass in the blood stream and be deposited in the lungs (a pulmonary embolism – PE). This is a very serious condition which affects your breathing. Your surgeon may give you medication to try and limit the risk of DVTs from forming. Some hospitals will also ask you to wear stockings on your legs, while others may use foot pumps to keep blood circulating around the leg. Starting to walk and moving about as soon as possible after your operation is one of the best ways to prevent blood clots from forming.
- **Knee stiffness:** may occur after the operation, especially if the knee is stiff before the operation. Manipulation of the joint (under general anaesthetic) may be necessary.

- **Prosthesis wear:** With modern operating techniques and new implants, knee replacements last many years. However, in some cases, they fail earlier. The reason is often unknown. The plastic bearing is the most commonly worn away part.

Less Common: (1-2%)

- **Infection:** We will give you antibiotics at the time of the operation and the procedure will also be performed in sterile conditions (theatre) with sterile equipment. Despite this infections still occur (1 to 2%). The wound site may become red, hot and painful. There may also be a discharge of fluid or pus. We usually treat this with antibiotics and an operation to washout the joint may be necessary. In rare cases, the prosthesis may be removed and replaced at a later date. The infection can sometimes lead to sepsis (blood infection) and strong antibiotics are required.

Rare: (less than 1%)

- **PE:** a Pulmonary Embolism is the spread of a blood clot to the lungs and can affect your breathing. This can be fatal.
- **Altered leg length:** the leg which has been operated upon, may appear shorter or longer than the other.
- **Altered wound healing:** the wound may become red, thickened and painful (keloid scar) especially in Afro-Caribbeans.
- **Joint dislocation:** if this occurs, the joint can usually be put back into place without an operation. Sometimes this is not possible, and an operation is required, followed by application of a knee brace.
- **Nerve Damage:** efforts are made to prevent this, however there is a risk of damage to the small nerves of the knee. This may cause temporary or permanent altered sensation around the knee. There may also be damage to the Peroneal Nerve, this may cause temporary or permanent weakness or altered sensation of the lower leg. Changed sensation to the outer half of the knee may be normal.

- **Bone Damage:** bone may be broken when the prosthesis (false joint) is inserted. This may require fixing either during the operation or at a later date.
- **Blood vessel damage:** the vessels at the back of the knee may rarely be damaged, this may need another operation.
- **Death:** This very rare complication may occur after any major operation and from any of the above.

If, you wish to speak with an experienced health professional for more information or advice, please contact the Helpline on: 0141 211 5585

Open:

Monday	4:30pm	-	6:30pm
Thursday	3:00pm	-	4:00pm
Friday	10:00am	-	11:30am

If those times are unsuitable you can leave a message on our answering machine and we will call you back but it will be within our help line answering times.



Personal exercise program

knee Osteoarthritis

NHS Greater Glasgow & Clyde
Glasgow Royal Infirmary
Alexandra Parade, G31 2ER, Glasgow, United Kingdom

Provided by Orthopaedics North
Provided for
Training start date 22/03/2017



Quadriceps sets
Lie on your back with legs straight.

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Tighten the muscles of your front thigh, bend your ankles and push your knees down firmly against the bed and hold.

Reps	10
Sets	1
Secs	5
Daily	1 times



Knee extension
Lie on your back with your head elevated. Put a pillow under both knees

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Bend one ankle, tighten the front thigh muscles and straighten the knee. Keep the back of the knee on the pillow and hold. To make the exercise harder put a weight around your ankle.

Reps	10
Sets	1
Secs	5
Daily	1 times



Ankle pumps
Sit with one leg supported on a chair.

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Tighten the muscles of your front thigh, bend your ankle and push your knee down and hold.

Reps	10
Sets	1
Secs	5
Hold for	sec
Daily	1 times



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Quadriceps sets
Sit on a chair.



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Pull your toes up, tighten your front thigh muscles and straighten your knee. Hold and slowly relax your leg.

Reps 10
Sets 1
Secs 5
Daily 1 times



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Hamstring stretch
Sit on a chair, close to the edge, with one leg straight in front of you. Place your hands on your thigh just above the knee cap.



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Lean forward from the hips, keeping your back straight. Straighten your knee assisting the stretch with your hands and hold.

Reps 10
Secs 5
Daily 1 times



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Lean forward from the hips, keeping your back straight. Straighten your knee assisting the stretch with your hands and hold.

Reps 10
Secs 5
Daily 1 times



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Knee flexion

Stand. Hold onto a support, if needed.



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Bend the knee and lift your foot off the floor and hold.

Reps 10
Sets 1
Secs 5
Daily 1 times

If you need help or advice with the exercises a physiotherapist could offer support.