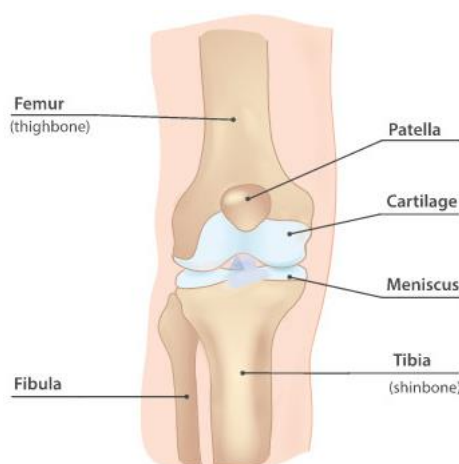


Knee Osteoarthritis

Patient Information



www.injurymap.com/free-human-anatomy-illustrations

Knee anatomy

The knee has two joints, the main joint (tibiofemoral) is where the end of the shin bone (tibia) meets the thigh bone (femur). The other joint is called the patellofemoral joint. This joint is located at the front of the knee and comprises of the end of the femur and the back of the kneecap (patella).

On the end of these bones, we have a smooth but tough structure called cartilage, this allows our bones to easily move over one another. Between the femur and tibia there are two rings of thick cartilage called the meniscus. The meniscus increases stability of the knee, provides nutrition and lubrication to the joint and acts as a shock absorber.

The joint is surrounded by many muscles that help to provide strength and stability. The main muscle groups that work around the knee are your quadricep muscles (located at the front of the thigh), the hamstring muscles (located at the back of the thigh), and the calf muscles (located at the back of your lower leg).

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What is osteoarthritis (OA)?

Osteoarthritis (OA) is the most common form of joint arthritis. Osteoarthritis mainly affects the knees, hips, hands, and lower back. The knee is the most common joint affected. When a joint starts to develop osteoarthritis, the cartilage starts to roughen. The body then attempts to repair this substance, this can lead to tiny bits of extra bone (osteophytes) developing and the joint capsule can become thickened and contract (tighten) to keep the joint stable. This process can lead to extra synovial fluid (used for lubrication) being produced. The early stages can often happen without causing much pain or trouble.

Approximately 1 in 5 people over the age of 45, in the United Kingdom, have osteoarthritis of the knee. Symptoms may develop over a long period of time and can often be managed by following the right advice.

What are the symptoms?

Symptoms vary from person to person but may include:

- Pain, swelling, and stiffness are common symptoms.
- Pain can be made worse after certain activities (activity related pain)
- Pain/ stiffness may be worse following a period of rest.
- You may experience grating or grinding sensations on movement.

Symptoms may vary from day to day, for some people symptoms may be mild and intermittent. For other people symptoms can be more severe and affect function.

How is it diagnosed?

Osteoarthritis can be diagnosed after taking a history and undertaking a physical examination of your knees. The diagnosis of osteoarthritis is made based on a collection of signs and symptoms following this assessment.

Do I need investigations?

In many cases a diagnosis of osteoarthritis can be made without the need for an x-ray or other investigations. X-ray changes are not a good indicator of a person's level of pain or disability. In some cases, further investigations may be used to guide management if you have not responded to initial advice and treatment.

Risk Factors:

Multiple factors can increase the risk of developing osteoarthritis, these include:

- Most common in those over the age of 45, this does not mean those younger cannot develop it.
- Obesity: this can increase the stress through the joints as well as chemicals within our body that encourage inflammation.
- Previous injury such as a previous fracture
- Previous surgeries on the knee
- Genetics: If there is a family history of osteoarthritis
- Multiple years of activities or occupations that put repeated, heavy stresses through the joints may contribute, but normal exercise and activity doesn't cause OA.

What can I do to help myself?

Be positive! There are many things you can do yourself to help manage your symptoms.

The National Institute for Health and Care Excellence produced guidelines [NG226] for managing osteoarthritis. They recommend the following:

- Regular exercise including muscle strengthening and aerobic exercise.
- Weight management
- Pain relief
- Activity pacing
- Orthotics such as knee supports.

Prolonged periods of rest when your pain is worse can lead to stiffness and muscle weakness. **Pacing your activities** can be helpful to avoid aggravating your pain. Use the '**traffic light system**' to plan and prioritise your activities through the week.



Red activities will normally cause pain.



Amber activities can cause pain on a bad day or if they are done repetitively.



Green activities are easy and cause little to no problems.

'Red' activities can sometimes be broken down into smaller tasks to make them 'amber' or 'green' activities. Consider spreading activities out during the week to avoid too many 'red' activities on one day.

Heat or cold can be used to help pain. Use frozen peas wrapped in a damp tea towel for up to 15 minutes, or alternatively try a wheat bag/ hot water bottle wrapped in a towel. Use whichever gets best results for you. Make sure to protect your skin with a towel and regularly check your skin to avoid skin damage as both can cause burns if used incorrectly.

You may be prescribed simple **pain relief** or **anti-inflammatory medication**: take these as prescribed until the pain settles. Your GP or Pharmacist can advise you on this. Consult your GP if your medication is not helping as they may be able to prescribe an alternative medication.

You may find simple **relaxation methods** can also be useful to relieve your pain. This can be especially useful if you are feeling stressed or having difficulties sleeping.

Using aids to make your daily activities easier and give you support. This may include **walking aids**, such as a stick or walking poles to give support when walking.

Knee braces / supports can be useful in some cases to help the joint feel more stable or reduce pain. It is important to seek advice to find the most appropriate one for you. You shouldn't use it all the time, try and only use it when doing more challenging activities that cause your knee to hurt more.

Managing a healthy weight can help to reduce stress on your joints. It is estimated that for every 1-pound of weight reduction there is a 4-pound reduction load through the knee. If this is something you have difficulty with you could speak to your GP/ Physiotherapist about weight loss programmes that may be suitable for you.

Knee exercises can help to reduce pain and increase function in your knee. You should start gently to avoid aggravating your pain. A small increase in pain while exercising is okay if it settles within 30 minutes and is not worse the next day. If you do get an increase in pain, don't worry, do fewer repetitions the next time and gradually build up again. Even if you only see slight improvements, keep doing the exercises. Often it can take a few months to get significant improvement in your pain and function.

Getting the most from your exercises

- Build them into your daily routine so you can do them regularly.
- Find time when you are not under pressure and can give the exercises your full attention.
- Try to do the exercises between 4 and 5 times per week.
- Start with 1 or 2 exercises and gradually build up to doing more.
- You may find it helpful to keep an exercise diary to record how many repetitions you have done and see how you are progressing.
- Your physiotherapist may recommend specific exercise for you that relate to your individual problems or will help with your daily activities.

Straight leg lifts.

- Sitting or lying down, rest the leg your leg with your heel on the ground/ bed. Push your knee straight then raise your heel off the floor. Slowly lower leg back down. This should be a slow movement.
- Repeat 8-12 times then rest for 1-2 minutes.
- Repeat 8-12 times more if able.



Knee extension

- Sitting in a chair. Slowly straighten the affected leg up into the air, as far as feels comfortable. Slowly lower back to the floor.
- Repeat 8-12 times then rest for 1-2 minutes.
- Repeat 8-12 times more if able.



Sit to stand

- Sitting in a chair (the higher the chair the easier it will be). Slowly stand up from the chair, without using your hands if you are able. Slowly return to sitting in the chair.
- Repeat 6-8 times then rest for 1-2 minutes.
- Repeat 6-8 times more if able.



Managing flare ups of pain

Most people with osteoarthritis will occasionally experience flare up. A flare up is a temporary increase in symptoms. This doesn't usually mean you have caused any damage to your knee (unless there has been a trauma, such as a fall). A flare up can be caused by over or underactivity, illness, fatigue, or stress. Often there is no clear reason for a flare up and it will usually settle within a few days. If this happens there are a few steps, you can take to help:

- Have a short period of **relative rest**. Reduce your exercises/ activity but keep your knee moving.
- **Review your medication** and increase for a few days if needed. Your GP or Pharmacist will be able to help guide this.
- Try using **heat** or **ice** as discussed previously in this leaflet.
- Gradually **return to normal activities** as the pain settles.

Other treatments that may be considered

Physiotherapy is the main treatment shown to be effective for knee osteoarthritis. However, if you find that this is not successful, there may be other management options available to you. Your GP or physiotherapist can advise on which may be suitable for you.

- In some cases, a corticosteroid injection may be considered for pain relief. This is carried out by some GP's or an advanced practice physiotherapist.
- In some cases, surgery may be appropriate.

Surgery

Referral for surgery is usually considered if other treatments have been tried and not been successful and your quality of life is adversely affected. It is important to exercise and consider lifestyle changes before surgery. The most common surgery for osteoarthritis is a **total joint replacement**, this is usually a combination of metal and plastic. Other (less common) types of surgery for osteoarthritis include partial knee replacement and osteotomies (to realign the bones).

Total knee replacement



Image available from:
https://commons.wikimedia.org/wiki/File:Replacement_surgery_-_Total_knee_replacement_-_Smart-Servier.png

Joint replacement is aimed to improve pain and mobility. If successful, this can lead to an improved function and better quality of life. Research shows that four out of five people are happy with their new knees. For those that are dissatisfied it is usually due to continuing pain. This is more likely if you have relatively minor joint changes (which may still cause severe symptoms) prior to the surgery. After the operation it can be common to experience clicking due to where the implants contact each other. You may also experience a small area of numbness on the outer side of your knee.

Recovery can be divided into short and longer term. Short term recovery is focused on reducing the need for walking aids (such as crutches) and managing pain and swelling. This often takes up to approximately 12 weeks. Longer term recovery focuses on increasing activity levels and returning to work and activities of daily living. This can often take between 3 and 6 months but can take longer in some cases such as up to a year. It is important to work hard on your exercises to regain movement and strength around the knee.

Risks of joint replacement can include a blood clot in the calf, infection, stiffness, loosening/failure, need for blood transfusion, damage to ligaments, nerve or blood vessels, fracture of the bone around the joint and death.

Further information

If you would like to seek the advice of a physiotherapist, there are a number of options within Wiltshire. Please speak to your GP practice about the ways you can be referred or visit <https://wiltshirehealthandcare.nhs.uk/physiotherapy/>

Useful resources

ESCAPE Pain provide information and support tools for people with hip and knee pain due to arthritis.

<https://escape-pain.org/>

Versus Arthritis (previously Arthritis Research UK);

→ Knee Osteoarthritis

<https://www.versusarthritis.org/about-arthritis/conditions/osteoarthritis-of-the-knee/>

→ NICE guidelines on OA

<https://www.nice.org.uk/guidance/ng226>

→ NHS Osteoarthritis information

www.nhs.uk/conditions/osteoarthritis

→ Managing weight/healthy diet

<https://www.bda.uk.com/resource/osteoarthritis-diet.html>

<https://www.nhs.uk/healthier-families/>

<https://www.nhs.uk/live-well/healthy-weight/>

<https://www.nhs.uk/conditions/obesity/>

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If you or your carer have any concerns regarding a child or adult's safety, please phone Wiltshire Safeguarding Team on 0300 456 0111 (Adult) or 0300 456 0108 (Child) (9am – 5pm Monday - Friday) or please call 999 if you feel they are in immediate danger.

Patient Advice and Liaison Service (PALS)

If you have any questions, or concerns, suggestions or compliments about our service, please speak to a member of staff.

This information sheet is available in other languages and formats. If you would like a copy, please contact us on 0300 123 7797 and whc.pals@nhs.net

Patient and Public Involvement

We value your opinions which will help us to further develop our services.

If you wish to provide feedback or get involved in our patient participation groups, please email the Patient and Public Involvement Officer at ask.wiltshirehealthandcare@nhs.net or telephone 01249 454386. Please scan the QR code below to access the Friends and Family Test survey.

