

# Osteoarthritis of the Knee



## Physiotherapy Department

This booklet aims to give you information on osteoarthritis and focuses on osteoarthritis of the knee joint and how it can be managed.

## What is Osteoarthritis?

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Osteoarthritis is a condition that affects your joints and is associated with symptoms of pain and functional day to day restrictions in normal activity. When pain is associated with X-rays confirming degeneration it is termed Osteoarthritis.

## What causes Osteoarthritis?

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Many factors can increase your risk of osteoarthritis. Typically it is a mixture that leads to the condition:

**Age** – normal joint changes start from your late 40s onwards. X-rays and MRI scans confirm osteoarthritis but not all patients present with pain or activity restriction.

**Gender** – osteoarthritis is more common in the knees and hands and found more in women than men.

**Obesity** – Being overweight is an important factor in causing osteoarthritis, especially in your knee.

**Joint injury** – injury or an operation to a joint may lead to osteoarthritis later in life.

**Genetic factors** –genetic factors play a small but still important part in osteoarthritis of the hip and knee.

## Which joints are commonly affected?

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The most commonly affected joints are:

- knees
- hips
- neck and back
- big toes
- hand's

## What are the symptoms of Osteoarthritis?

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The main symptoms of osteoarthritis are:

**Pain** – tends to be worse with movement or at the end of the day. Persistent pain can lead to changing behaviours and avoiding certain activities. Pain also affects mood and links have been found with osteoarthritis and mental health.

**Stiffness** – your joints may feel stiff after rest, but this usually wears off as you get moving, for example, gentle, repeated knee bending and straightening after a period of sitting can help ease stiffness.

**Added joint sounds (crepitus)** – your joint may grind or creak as you move. But added joint sounds can be normal and does not mean your doing any harm.

**Swelling** – swelling may collect around your knee.

**Movement** – your knee may not move as freely or as far as normal. This may affect your everyday function, for example walking or going up and down stairs. If your muscles weaken your knee may sometimes give way.

**Disturbed sleep** – in severe cases pain might not go away and it may affect your sleep but this varies from person to person.

Your symptoms may vary for no clear reason – some people find changes in the weather make the pain worse, especially damp weather. Others find the pain varies depending on how active they've been. Finding a balance in activity is best to help self-management. This idea supports the use of 'pacing'.

## How is Osteoarthritis diagnosed?

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**NICE guidelines** – factors for diagnosis of Osteoarthritis include:

- 45 years of age and over
- activity related joint pain
- morning related stiffness that eases within 30 minutes of rising

Osteoarthritis is usually diagnosed based on your symptoms and the physical signs found on examination:

- joint tenderness
- added joint sounds (crepitus)
- swelling
- reduced movement
- joint instability
- muscle wasting

## What tests are there for Osteoarthritis?

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**Blood tests** – may be used to rule out other forms of arthritis.

**X-rays** – most useful form of investigation although not always required as examination may be enough to confirm diagnosis. X-ray findings not always linked to pain or symptoms.

**MRI scans** – rarely used to confirm osteoarthritis but can be helpful to identify other joint problems causing knee pain.

## Core treatments and how can I help myself?

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- keep active
  - localised strengthening exercises of the thigh and buttock muscles will improve joint control, stability and provide joint protection.
  - evidence suggests the thigh muscles weaken in early osteoarthritis linked to pain and decreased physical activity.
  - general aerobic exercise includes walking, swimming or cycling. The benefits of which can improve sleep, general health and reduce knee pain.
  - general exercise guidelines suggest 3-5 times per week 20-30 minute moderate level exercise (aiming to raise heart rate and core body temperature).
- Use pain medication as prescribed by your GP or following discussion with a Pharmacist. Typically Paracetamol® and topical non-steroidal anti-inflammatories (NSAIDS) are used as first line treatment.
- TENS (transcutaneous electrical nerve stimulation) can be used for pain relief
- Use supportive footwear
- Being overweight (body mass index (BMI) >25) not only increases your risk of developing osteoarthritis but also makes it more likely to worsen with time. A balanced, reduced calorie diet combined with regular exercise would be recommended.
- Use a walking aid to “offload” your affected joint if required e.g. walking sticks

## What about surgery?

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Knee joint replacement may be recommended if your mobility or normal day to day activity is limited by pain and/or severe osteoarthritis.

## What are suitable forms of exercise?

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Any low impact exercise would be beneficial, for example

- walking
- swimming
- aqua aerobics
- cycling
- yoga
- Pilates

The exercises shown in this booklet promote lower limb muscle strength and have been found to improve knee pain. Exercise within your own pain levels, but you do need to feel slightly tired in you muscle to get strength changes.

Your physiotherapist will provide you with a more comprehensive programme specifically designed for your needs.

## Static quadriceps contraction

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Sit with your legs out in front of you. Tighten the muscles on the front of your thigh by pushing the back of your knee into the bed

Repeat 15 times, 3 sets



## Straight leg raise

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Sit with your legs out in front of you. Lift leg up keeping knee straight approximately 20 cm off the bed

Repeat 12-15 times, 3 sets



## Bridging

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Lie on a firm surface. Bend your knees  
lift your bottom up.  
Hold for 5 seconds  
Repeat 10+ times, 3 sets



## Range of movement

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Lie on your back. Bend and straighten  
your knee through a comfortable  
range of movement as pain allows.  
Repeat 20-30 times



## Calf

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Stand with one foot in front of the  
other. Keep your back knee straight  
and bend your front knee. Feel the  
stretch in the back of your calf.  
Hold for up to three minutes  
Repeat 3 times, 3 times daily



## Reference source(s)

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Cochrane Collaboration (2007) Aquatic Exercise for the Treatment of Knee and Hip Osteoarthritis (Review)

Cochrane Collaboration (2014) Self-Management Education Programmes for Osteoarthritis (Review)

Management of Osteoarthritis (2014) Clinical guideline. National Institute for Health and Care Excellence

Cochrane Collaboration (2015) Exercise for Osteoarthritis of the Knee (Review)

<http://www.arthritisresearchuk.org/arthritis-information / conditions/ osteoarthritis.aspx>



## Contact details

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For further information please do not hesitate to contact the Physiotherapy Department

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## PALS and Advocacy contact details

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Contact details of independent advocacy services can be provided by our Patient Advice and Liaison Service (PALS) who are located on the right hand side as you enter the main reception area. PALS are also your first point of contact for health related issues, questions or concerns surrounding RSCH patient services.

**Telephone:** 01483 402757

**Email:** [rsc-tr.pals@nhs.net](mailto:rsc-tr.pals@nhs.net)

**Opening hours:** 9.00am–4.00pm, Monday to Friday

If you would like information documents in large print, on tape or in another language or form please contact PALS.

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