NHS
Royal Berkshire
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Osteoarthritis of the hip

This leaflet gives information, advice and exercises on managing symptoms of osteoarthritis of the hip. It also outlines the main treatment options. If there is anything you do not understand or if you have any questions not answered in the leaflet, speak to your clinician or therapist.

What is osteoarthritis?

Osteoarthritis (OA) is the most common disease affecting joints. It is a degeneration (worsening) process that occurs in joints in varying degrees, most commonly in weight bearing joints. This condition involves the gradual roughening of the articular cartilage (surface that acts as a shock absorber and allows bones to glide over each other) covering the ends of the bones making up the hip joint. OA is associated with changes in the underlying bone, which may lead to pain and reduced function. These changes can be seen on an x-ray, but the changes seen and the amount of pain you feel may not always relate.

This condition does not follow the same course in everybody and there are certain things that you can do to help yourself and prevent problems in the future.

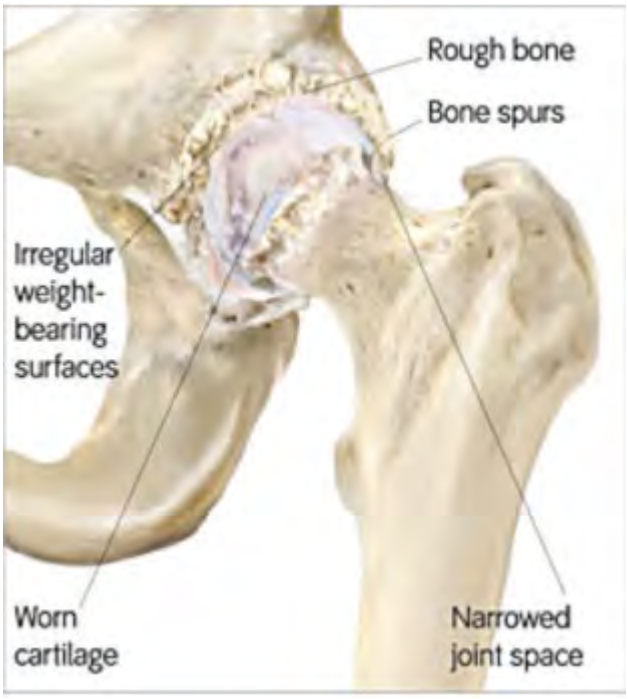
Basic anatomy of the hip

The hip joint is a ‘ball and socket’ joint. It allows movement between the thigh bone (femur) and the hip bone (pelvis). The pelvis contains the ‘socket’, which is called the acetabulum. The ball-shaped head of the femur (femoral head) fits into the acetabulum, forming a ball and socket joint, which enables the leg to have a wide range of movements.

The outer surface of the femoral head and the inside surface of the acetabulum are covered with cartilage. This cartilage is a very smooth material allowing the two surfaces to slide easily against one another during movement.

Movement of the hip joint is initiated and controlled by the thick muscles surrounding the hip joint.

The effects of OA



- The cartilage becomes thin and worn away, especially in areas bearing more weight.
- New bone forms at the edge of the joint, which can be quite rough (osteophytes).
- The joint space becomes narrower, allowing less space between the bones for movement.
- Cartilage may break up into loose pieces causing symptoms of locking or giving way of the hip.
- Increased stress/load on the ligaments, muscles and the capsule may lead to inflammation (swelling). The capsule (joint lining) may become thickened.
- The inflammation and swelling may cause pain.
- Decreased mobility due to pain/aching and fear of making the hip worse may lead to muscles wasting and weakening, leading to more stress and decreased protection to the hip joint.
- The hip becomes stiff as it is moved less through its available range of movement.

What causes OA?

Everyone's joints go through a normal cycle of damage and repair during their lifetime but sometimes, the body's process to repair our joints can cause changes in their shape and structure that affect the function. The exact cause of OA is not clear but may be associated with certain recognised factors such as:

- Age – OA usually starts from the late 40s onwards but is more common in woman over 50. It is more common in older people; this may be due to factors like weakening of the muscles, the body being less able to heal itself or gradual wearing out of the joints with time.
- Gender – OA of the hip is twice as common in women as in men.
- Being overweight. This puts extra stress on the hip joint and can increase the amount of pain you feel.
- After trauma (injury), e.g. an old injury or fracture.
- Family history – Genetic factors play a major part in osteoarthritis of the hip. If you have a parent, brother or sister with hip osteoarthritis, then you'll have a greater chance of developing it yourself. However, studies have not yet identified a single gene responsible.
- Overuse of the joint. Certain occupations, e.g. those that involve heavy lifting or long periods of standing, are associated with increased risk of developing hip osteoarthritis.
- Inflammation or infection of the joint in the past.
- Metabolic conditions, e.g. gout, which can affect the joint.
- Neuropathic conditions, e.g. diabetes.
- Hormonal or endocrine disorders.

Common symptoms of hip OA

- Aching in/around the joint.
- Pain – usually dull and achy but can be sharp with sudden movements. The pain may be worse at the end of the day or when you move your hip, and it may improve with rest. You may have pain at night that wakes you. The pain tends to be variable and you will have good and bad days. The painful areas are usually the lower back, buttocks and groin. Some people also have discomfort from the top of their thigh down to their knee. This is known as referred pain.
- Stiffness – especially on waking or after periods of rest, but this won't normally last for more than half an hour.
- Swelling.
- Joint deformity, due to the changing shape of the bones and muscle spasm.
- Limited movement.
- Muscle wasting, especially of the gluteal muscles (bottom muscles) and quadriceps (thigh muscles). As a result, they become weaker and tire more quickly. Your leg on the affected side may look thinner due to the muscle wasting.
- Crepitus (creaking) of the joint, as a result of the irregular joint surfaces rubbing together.

What can I do to help myself?

Some people only ever have mild symptoms which do not worsen. In unfortunate cases, the disease progresses more rapidly and the joint function deteriorates to such a degree that surgery may become necessary. However, many people are able to manage their OA themselves and with simple management may be able to decrease their pain, increase their activity and function, and reduce their need for painkillers.

The following advice may be helpful.

Exercise

Joints need to be exercised regularly to remain healthy. Whatever your fitness level, exercise can help the hip cope with normal daily activities again.

Exercise can help to strengthen the muscles around your hip, improve your posture and help you lose weight; all of which will help to reduce your symptoms.

- **Strengthening exercises:** Try to do strengthening exercises at least twice a week. A good way to strengthen your leg muscles is to work them against resistance. You could do this by walking laps in a shallow swimming pool.
- **Range of movement exercises:** These are good for posture and helping keep your joints flexible. These exercises can include stretches. Make sure you move your hip through a range of positions that comfortably stretch your hip out slightly further each time.
- Maintain joint stability and movement. **Non-weight bearing exercises** will help to build up the muscles so that the stress is reduced on the joint and surrounding soft tissues and can help to maintain the range of movement. This could include cycling outside or on a static bike. Ensure that the saddle is correctly adjusted and not too low. Avoid lots of hills as the extra stress may aggravate your hips. Do your exercises daily, 10-15 minutes is all that is needed.

- **Weight bearing exercises** can also be included if your symptoms are not aggravated by them. They can be incorporated into your activities of daily living, e.g. squats and climbing stairs.
- **Aerobic exercise** (any exercise that increases your heart rate and makes you a little short of breath) should also be included. Different types of aerobic exercise include cycling swimming and walking .It is good for your general health and wellbeing and can reduce pain by stimulating the release of endorphins (pain relieving hormones). It can also make you sleep better. You should aim to do 2 hours and 30 minutes of aerobic exercise every week. You do not need to do this all in one go.
- **Swimming and exercises in water** can help your joints as the water helps to support the weight of your body and reduces the stresses on your hips but allows you to keep moving. Be careful with breaststroke as the twisting action may aggravate your hip.

Weight management

- Avoid becoming overweight as this can lead to increasing stress on the hip and increased pain.
- If you are overweight, losing weight can help. For every one pound in weight lost, there is a six pound reduction in the load exerted on the hip for each step taken during daily activities.
- There is no special diet that will help with OA but if you need to lose weight you should follow a balanced, reduced calorie diet combined with regular exercise. Your GP should be able to advise you regarding diets and exercise that may help.

Reducing the stress on your hip

There are also a number of ways that can help you to avoid unnecessary stress on your hips:

- Avoid long periods of standing. If unavoidable, shift your weight from one leg to the other.
- Sitting for long periods may cause stiffness. Try to get up and walk around or change your position regularly, e.g. every 20 -30 minutes. Remain as active as you can and find the right balance between exercise and rest for your hip. Most people with OA find that too much exercise aggravates their hip, while too little makes their joints stiffen up.
- Pace your activities – don’t tackle all your physical jobs at once. Break the harder jobs into smaller chunks and do something lighter in between them. Keep using your hip even if it is slightly uncomfortable but rest before it becomes too painful.
- Avoid long, hilly walks on hard ground. Be careful and slow down when walking on uneven ground.
- Use the handrail for support when going up or down stairs. Go upstairs one at a time with your good leg first, but go downstairs with your bad leg first.
- Where possible, avoid carrying heavy loads. Balance loads between both hands and decrease the loads by increasing the number of journeys. Try to avoid carrying items just on the same side as your affected hip.
- Use a stick to reduce the stress on the joints when walking or standing for long periods. Hold it in the hand on the opposite side of the body to your affected hip.
- Try to wear sensible shoes that support your feet and have low heels, thick soles and enough room for your toes. Good shoes should reduce the shock through your hips by absorbing some of the impact when walking.

- If you need extra support for your feet or knees when you walk, insoles may help.
- When sitting, chairs should be firm and high enough so that your hips are slightly higher than your knees. Wedge shaped cushions or a folded towel could be used to correct the slope of a car seat. Try to avoid crossing your legs.
- Avoid lying on your affected hip.

Coping with low mood and sleep problems

You might find that your OA makes you feel depressed or anxious. Contact your GP if you are feeling low – they may be able to recommend talking therapies to help you, e.g. cognitive behavioural therapies (CBT) and stress relieving techniques.

If your sleep is disturbed because of your hip, this could make your pain feel worse. Things that could help which might help include:

- Keeping a sleep diary to work out if there are any patterns to your sleep problem.
- Sleep at regular times to get your body into a routine.
- Avoid phones and other screens in the bedroom to help you wind down before bed.
- For a more comfortable sleeping position, use a pillow between your legs when lying on your side, or use a pillow under your knees when lying on your back.

If you are still struggling with sleep, speak to your GP who may be able to give you other tips and techniques to try – known as ‘sleep hygiene’.

Pain relief

Pain relieving medication can be used to help ease pain and stiffness caused by OA but they will not prevent or cure the condition itself.

Some of the medications that you can try include:

- Painkillers – simple ‘over the counter’ painkillers such as Paracetomol or Codeine may help but your GP can prescribe stronger painkillers if necessary.
- Non-steroidal anti inflammatories (NSAIDs), e.g. Ibuprofen. A short course may help to reduce any pain, inflammation and swelling in your hip. These are not suitable for everyone, so check with a pharmacist or your GP first.
- Capsicum cream – a pain relieving cream made from the pepper plant may help if rubbed into the painful area. It is available on prescription.
- Intra-articular steroid injections – may provide short term pain relief .The effects can last for a variable length of time between a few weeks and a few months. Injections are generally limited to three injections for a weight bearing joint and should not be given within 3 months of potential surgery to the joint.

If you are taking ‘over the counter’ medications, make sure you are taking them safely as directed by your GP or follow the dosage recommendations on the patient information leaflet included in the packet. Make sure that whoever is treating you knows all the medication you are taking.

Other pain relieving methods:

- Ice – for 15-20 minutes. Place a dampened cloth over the hip and apply the ice pack over this to prevent an ice burn. Wrap the hip in a towel if necessary to keep the ice pack in place. Packets of frozen peas or crushed ice in a bag are the most convenient and re-usable although re-usable gel packs are also available. Repeat every 2-3 hours but avoid prolonged use, and check the skin for redness or numbness.
- Heat – a hot water bottle or heat pad is the easiest. Heat, is generally pleasant after having done your exercises. Wrap the hot water bottle / heat pad in a dry towel to prevent burning the area.
- Transcutaneous electrical nerve stimulation (TENS) – a small machine that changes the way that the nerves understand pain using tiny electrical shocks through pads placed on the knee may help. These can be purchased at most local and high street pharmacies.
- Manual therapy – consists of several techniques and stretches performed by a physiotherapist. Manual therapy can be an effective treatment to increase the quality and range of movement of the hip.

What are the possible treatment options for hip OA?

Although there is no cure, much can be done to help relieve some of the symptoms.

Physiotherapy (exercises)

This is only one part of your treatment. It will help to identify the main contributory factors for your pain and give you a specific targeted rehabilitation programme.

Exercises increase the muscle power in your bottom muscles and those at the front of your thigh, to help support the hip joint and to maintain range of movement and are one of the most important treatments for hip OA. They may help to ease pain and stiffness. Exercises targeted at the bottom muscles (glutes) can improve the control of single leg movements, e.g. climbing stairs and walking.

It is important to continue with your exercises even if your hip starts to feel better. Stopping or reducing the amount of exercise you do could cause your hip symptoms to come back. Try to build them into your daily routine.

The exercises advised by your physiotherapist should be completed every other day at least 3 times a week.

Surgery

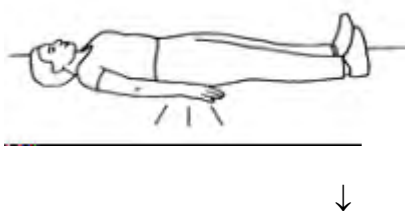
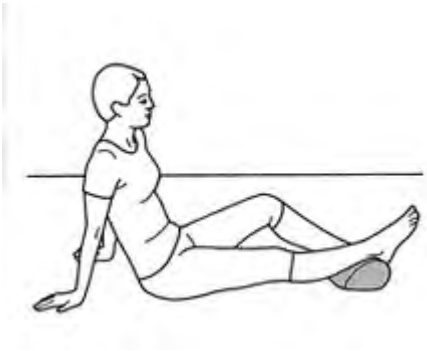
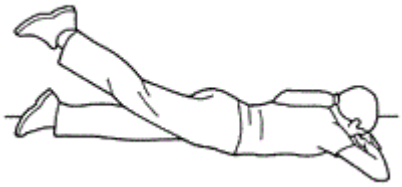
1. **Arthroscopy** – this is not routinely recommended under the Osteoarthritis Care and Management NICE guidelines (CG177) but may be beneficial if there is a clear history of mechanical locking in the hip.
2. **Hip resurfacing** – instead of replacing the whole of the hip, only the damaged surfaces are replaced. This type of operation removes less bone. However, it is usually only done on men who are active and have larger hips. This is a less popular operation than a total hip replacement, as there are worries over how the new metal surfaces could cause damage to the soft tissues that surround the hip.

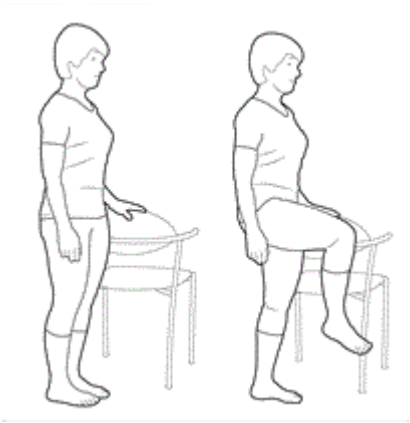
3. **Joint replacement** – a total hip replacement is a common type of surgery that involves replacing the head of the femur (ball) and the acetabulum (socket) with man-made components (prosthesis). Most hip replacements now last for at least 15 years.
   There are set criteria which need to be met for consideration for joint replacement surgery and include shared decision making (see NICE guideline CG177 Osteoarthritis: Care and Management).

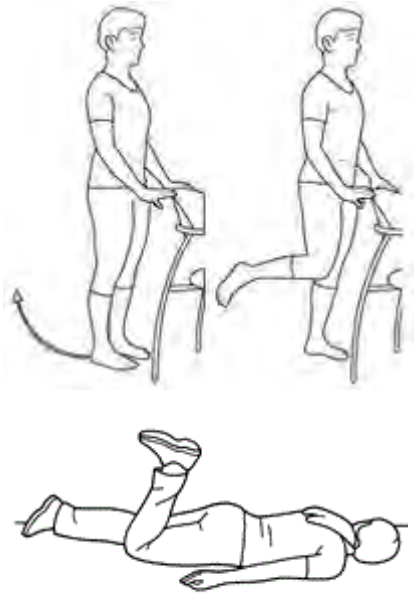
Your surgeon will be able to discuss which operation is best for you.

Exercises to do at home

	1. While sitting with your back supported and your legs straight out in front of you: • Bend your knee as far as possible. • Gently bend your knee a little more so that you feel a stretch in your bottom muscles. • Hold for 30 seconds. • Repeat 6 times.
	2. Lying with your knees bent and feet on the floor hip width apart: • Turn the soles of your feet to face each other and allow your knees to fall outwards. Feel the stretch in your groin. Keep your back flat on the floor during the exercise. It may help to rest your thighs on some pillows. • Hold for 30 seconds. • Repeat 6 times.
	3. Lying on your back with a cushion under your head: • Pull your knee up onto your stomach using your hands. • Push your other leg down towards the floor. You should feel a stretch in your bottom muscles. • Hold for 30 seconds. • Repeat 6 times.
	4. Lying on your back with knees bent and arms by your side: • Tighten your lower stomach muscles and press the small of your back against the floor. • Hold for 10 seconds. • Relax. • Repeat 8-10 times.

	5. Lying on your back with your legs straight out in front of you: • Tighten your buttocks so firmly that you lift off the support slightly. • Hold for 5-10 seconds. • Repeat 8-10 times.
	6. Lying on your back or sitting with your back supported and your legs straight out in front of you: • Place a rolled towel under your ankle. • Pull your feet up towards you. • Push your knee down firmly so that your thigh muscles tighten. • Try to touch the floor with the back of your knee. • Hold for 5-10 seconds. • Repeat 8-10 times.
	7. Lying on your back or sitting with your back supported and your legs straight out in front of you: • Pull your feet up towards you. • Push your knee down firmly so that your thigh muscles tighten. • Keeping your knee straight, lift your leg up to just clear the bed. • Hold for 5-10 seconds and lower slowly. • Repeat 8-10 times.
	8. Lying face down: • Squeeze your bottom and stomach muscles. • Lift your leg towards the ceiling to just clear the bed, keeping your knee straight. • Hold for 5-10 seconds. • Repeat 8-10 times.

	9. Lying on your back with your knees bent up and arms by your sides: • Tighten your lower stomach muscles and your bottom (gluteal) muscles. • Keeping your knees apart, lift your bottom up, aiming to make a straight line between your shoulder and your knee. • Hold for 5-10 seconds. • Repeat 8-10 times.
	10. Stand up straight holding on to the back of a chair: • Squeeze your bottom and stomach muscles. • Keeping your knee straight, bring your leg backwards. Do not lean forwards. • Hold for 5-10 seconds. • Repeat 8-10 times.
	11. Stand up tall and hold on to the back of a chair or similar (if necessary) to keep your balance: • Squeeze your bottom and stomach muscles. • Lift one knee keeping your pelvis level. • Return your leg to the starting position. • Repeat 8-10 times on each leg.
	12. Stand up straight holding on to the back of a chair: • Squeeze your bottom and stomach muscles. • Lift your leg sideways and bring it back, keeping your trunk straight throughout the exercise. • Hold for 5-10 seconds. • Repeat 8-10 times.



13. While standing, hold onto a support and bring one leg slightly backwards:

- Bend your knee and lift your foot off the floor, taking it towards your buttocks.
- Hold for 10 seconds.
- Repeat 10 times.

To make this exercise more difficult, you can put a small weight around your ankle.

If this is difficult to do while standing, this exercise can be completed lying on your front.
Lying face down with your hips straight and knees together:

- Bend your knee as far as possible, keeping your hip straight and your ankle flexed.
- Hold for 10 seconds.
- Repeat 10 times.

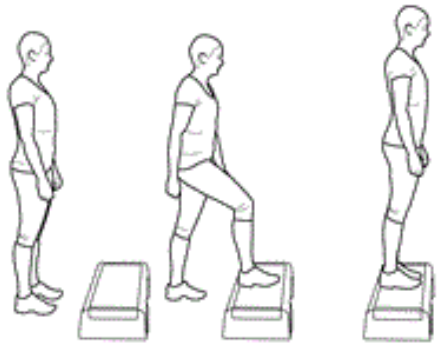
To make this exercise more difficult, you can put a small weight around your ankle.

14. From a sitting position:

- Squeeze your bottom muscles.
- Slowly lean forwards and stand up without using your hands, then slowly sit down again.
- You may need to use your arms to help at first. Try not to drop into the chair but try to control the movement.
- This can be made easier and more difficult by changing the height of the chair.
- Try to avoid letting your knees roll in to touch each other. It may help to place a resistance band around your legs to encourage you to keep your knees apart.
- Repeat 10 times.

15. Stand in front of a table or chair, holding on to the support with both hands:

- Slowly crouch down, keeping your back straight and your heels on the floor.
- Stay down for approximately 30 seconds and feel the stretching in your buttocks and the front of your thighs.
- Squeeze your bottom and thigh muscles to push back up into standing.
- Repeat 10 times.

	16. Stand up straight and try to balance on one leg: • If you are unsteady, rest your hand lightly on a nearby surface. • Try to hold this position for 5-10 seconds. Gradually increase the time up to 30 seconds as it becomes easier. • You can make this exercises more difficult by: o Closing your eyes. o Using a folded towel or cushion to stand on. o Tapping the toes of your non-weight wearing leg around the numbers of an imaginary clock face. Allow your weight bearing leg to bend slightly. • Repeat 5-10 times.
	17. Start by standing in front of a step or at the bottom of the stairs: • Step up onto the step and straighten the hip and knee. • Do not let your knees roll in – keep good hip-knee-ankle alignment. • Squeeze your bottom muscles as you push up onto the step. • Step down again. • Repeat x 5-10 times on each leg. • Repeat 2-3 sets.

Exercise pictures © Physio Tools Ltd.

Exercising in the gym

If you have access to a gym and they have a leg press machine and/or knee extension and hamstring curl machines, then these are also good exercises to do to strengthen your leg muscles.

Start with lower loads and gradually build up.

Speak to your physiotherapist if you have any questions regarding using these machines.

Please note: During the above exercises you should not push into pain but mild discomfort is acceptable. They are designed to stretch, strengthen and stabilise your knee.

As is usual with any new exercise, your muscles may ache and you may experience new aches and pains for a few days; these should settle. If they do not, try to identify the aggravating exercise that makes this worse and leave this out of your exercise programme for a few days before trying again. Carry on exercising even if your symptoms ease as exercising can help stop them coming back.

Further information sources

www.versusarthritis.org
https://www.nice.org.uk/guidance/cg177

Contacting us

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To find out more about our Trust visit www.royalberkshire.nhs.uk

Please ask if you need this information in another language or format.

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