



DynamicHealth

NHS

Advice and exercises for managing knee and hip osteoarthritis



Cambridgeshire Community Services NHS Trust: delivering excellence in musculo-skeletal services and pelvic health physiotherapy across Cambridgeshire and Peterborough

This advice and exercise booklet has been produced by senior physiotherapists working for DynamicHealth. It offers simple advice and exercises to help you safely manage your symptoms, often the right advice and exercises are all that is needed. This leaflet has been made available to your GP, who may ask you to try the advice and exercises prior to physiotherapy input.

What is osteoarthritis?

Osteoarthritis is a condition that affects the joints, and can cause pain and stiffness. This condition is also known as age related changes or wear and tear. It is the most common form of joint condition, with the knee most commonly affected.

What are the symptoms of Osteoarthritis?

Typical physical signs are:

- Tenderness over the joint
- Creaking of the joint
- Joint swelling
- Restricted movement
- Decreased joint stability
- Weakness of your thigh muscles.

How is Osteoarthritis diagnosed?

- Clinical diagnosis is made based on signs and symptoms.
- An x-ray may show the degree of Osteoarthritis.
- Blood tests may rule out other forms of Arthritis.

Top 5 tips for managing knee or hip osteoarthritis

1. Try to keep to a **healthy weight**, it will help to reduce pain and strain on your joints.
2. **Wear sensible, well-fitting shoes** (e.g. trainers) to cushion the impact of walking.
3. **Keep active but pace yourself** – don't overdo it on 'good' days and keep moving on 'bad' days by altering your activities.
4. **Apply a heat or ice pack to ease pain and stiffness**. Ensure you protect your skin to avoid burns or irritation. Do not use ice if you have poor sensation over the area, an infected wound, Raynauds Syndrome, or Cryoglobulinaemia.
5. **Don't stay in the same position for long periods of time (e.g. sitting, lying)**. If you are struggling to walk and need assistance, walking aids can be provided by the NHS. If you wish to purchase your own, please seek assistance in measuring to ensure the right fit.

How much exercise to do?

Please complete exercises once or twice a day, following the advice below.

- Aim to achieve within the middle range (5-7 out of 10).
- The exercises are generally in order of difficulty.
- Repeat the exercise until you feel you have achieved this level of intensity.
- If you feel you are working beyond this, it may be that the exercise is too difficult so you should return to the previous exercise.
- If you do not reach this, it may be that the exercise is too easy, so you may wish to progress onto the next exercise.
- The lying exercises can be done on the floor or on a bed - you can use a pillow.
- The standing exercises should be done with support available, should you need it.

This is a guide to measure how hard you feel your body is working during physical activity. You do not need to do a certain number of exercises but rather stop when you get above level 7 or cannot do anymore.

Rating of Perceived Exertion

	Level of Exertion	Description
1	Inactive/very light	Little or no effort at all. Anything other than sleeping or complete rest.
2-3	Light	Slow walking or jogging at your own very comfortable pace. Could maintain/keep going for hours, breathing easily and can carry a conversation.
4	Slightly more effort	Breathing heavier and heart rate a little faster, feeling warmer. Can hold short conversation.
5	Medium/somewhat hard	Still reasonably comfortable. You don't want to stop yet, but if you went much harder you'd be uncomfortable.
6	Moderate/hard	Breathing hard, sweating, hard to talk.
7	Hard/Vigorous	On the verge of becoming uncomfortable. Short of breath, but can speak a sentence.
8	Very hard	You can still go on, but you really have to push yourself. Breathing very hard, can only say a few words.
9	Extremely hard	Cannot sustain the effort for very long. Can barely breathe and speak a single word.
10	Hardest/Maximum effort/flat out	Feeling almost impossible to keep going. Completely out of breath, unable to talk. Your limit.

Simple exercises for knee and hip osteoarthritis

- See sections A-E for exercises to strengthen muscles around the hip and knee
- See section F for exercises to improve balance and mobility
- See section G for exercises to improve joint range of movement and stretches

It is advised that you pick **one exercise** from each section, unless stated otherwise by your physiotherapist.

Section A - Hip Extension



A) Bridge

1. Lie on your back with your knees bent as far as comfortable.
2. Tense your tummy muscles, clench your buttock muscles and lift your bottom off the floor or bed. Hold for several seconds before slowly returning to the starting position.
3. You can progress by transferring your weight onto one leg, to straighten the other, but make sure that your hips remain level (single-leg bridge).



B) Hip extension in standing

1. Stand with something to lean against.
2. Tense your tummy muscles and clench your buttock muscles to bring your leg backwards, keeping your knee straight. Try to keep your body upright. Hold for several seconds before slowly returning to the starting position.
3. If this is difficult, you can try doing it leaning forwards onto a firm surface, such as a table.
4. You can progress by adding resistance with an exercise band, which is tied around your ankle and anchored to a stable structure in front of you.



C) Backwards walking

1. Ensure that you do this in a safe environment, so that you have something to hold onto, should you lose your balance.
2. Slowly, repeatedly, place one foot behind the other to walk backwards. You can progress by wearing ankle weights.

Section B - Hip Abduction



A) Hip abduction in side lying

1. Lie on your side with the underneath leg bent and the upper leg straight.
2. Lift the upper leg straight up with the toes pointing forwards and the ankle leading the movement. Try to keep the leg in line with your body. Hold for several seconds before slowly returning to the starting position.



B) Hip abduction in standing

1. Stand up straight with something to lean against.
2. Lift your leg sideways with the toes pointing forwards and the ankle leading the movement. Try to keep your body upright. Hold for several seconds before slowly returning to the starting position.
3. You can progress by adding resistance with an exercise band, which is tied around your ankle and anchored to a stable structure out to one side, so that the band crosses in front of the opposite leg.



C) Side stepping

1. Ensure that you do this in a safe environment, so that you have something to hold onto, should you lose your balance.
2. Take one foot out to the side, leading with the ankle. Transfer your weight onto this leg and allow the other leg to come towards it. Continue to side-step in one direction, before repeating in the opposite direction.
3. You can progress by wearing ankle weights.

Section C - Hip External Rotation

Pick **one** exercise from this section.



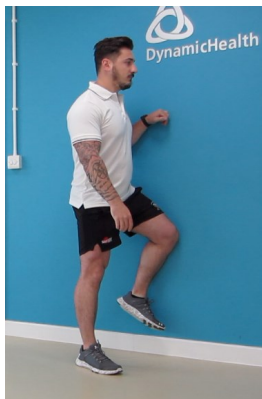
A) Clam

1. Lie on your side with your knees bent and feet together.
2. Rotate from the hip to lift your top knee up as far as you can, without letting your body follow the movement.
3. Try to keep your feet together and back straight during the exercise. Hold for several seconds before slowly returning to the starting position.
4. You can progress by raising your feet in the air, so that they are level with your spine, and hold them there throughout the exercise.



B) Standing clam

1. Stand with something to lean against. Transfer your weight onto one leg and tense your tummy muscles. Rest your foot against the inner side of the opposite knee.
2. Turn your bent knee out to the side by tightening your buttock muscles. Do not allow your body to twist. Hold for several seconds before slowly returning to the starting position.



C) Resisted hip external rotation in standing

1. Stand sideways against a wall. Slide one hip and knee along the wall up to a right angle.
2. Squeeze your buttock muscles and press your leg against the wall. Keep your back straight. Hold for several seconds before slowly returning to the starting position.

Section D - Knee Extension (non-weight-bearing)

Pick **one** exercise from this section.



A) Static quadriceps

1. Lie on your back with one knee bent and the other leg straight.
2. Pull your toes up and tense your thigh muscles to push your knee down into the floor or bed. Hold for several seconds before slowly relaxing.



B) Straight leg raise

1. Lie on your back with one leg straight and the other knee bent.
2. Pull your toes up, straighten the knee and lift your leg up off the bed or floor. Hold for several seconds before slowly returning to the starting position.



C) Knee extension in sitting

1. Sit on a chair.
2. Pull your toes up, tighten your thigh muscle and straighten your knee. Hold for several seconds before slowly returning to the starting position.
3. You can progress by adding weight/resistance with the opposite leg crossed over the leg that you are working.

Section E - Knee Extension (weight bearing)

Pick at least one exercise from this section.



A) Sit-to-stand

1. Sit on the edge of a chair. Place your feet hip-width apart with toes pointing forwards.
2. Lean forwards and stand up from the chair, keeping your knees hip-width apart and keeping your arms folded, if possible. Slowly return to sitting again.
3. Alternatively, you can stand behind the chair and use this to hold as you do a mini-squat. You can progress by stepping away from the chair and doing a full squat.



B) Single-leg knee dips

1. Stand with something to lean against.
2. Lift one foot off the ground and perform a small knee bend on your standing leg. Try to keep your weight backwards and your knee in line with your toes. Slowly return to the starting position.



C) Step ups and step downs

1. Stand facing a step. Step up several times with one leg leading and then the other.
2. Now try **step downs** - stand completely on a step, facing downwards. Step down with one leg leading and then the



Section F - Balance

Pick at least one exercise from this section.



A) Single-leg stand

1. Stand with something to lean against.
2. Lift one foot off the floor and balance for as long as possible.



B) Heel-toe walking

1. Stand and place one foot in front of the other.
2. Practice walking heel-to-toe, as if you are on a balance beam or tightrope.
3. Try to look straight ahead.
4. Alternatively, you can practice walking on your heels or on your toes.



C) Heel raises

1. Stand with something to lean against.
2. Push up on your toes. Hold for several seconds before slowly returning to the starting position.
3. You can progress by doing this on one leg.

Section G - Joint movement and stretching

Pick **one** exercise from this section



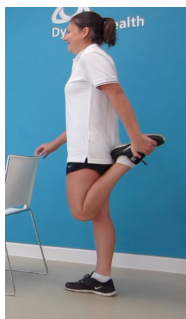
A) Knee flexion/extension

1. Lie on your back.
2. Bend your knee as far as is comfortable. Hold for several seconds before returning to the starting position.
3. You may wish to assist further using your hands or with a towel around your shin.



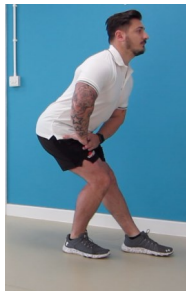
B) Knee hugs

1. Lie on your back with your knees bent.
2. Lift one knee up towards your chest. Hold for several seconds before returning to the sitting position.
3. You may wish to assist further using your



C) Quadriceps stretch

1. Stand with something to lean against.
2. Bend your knee as far as is comfortable. Take hold of your ankle with your hand and gently pull your foot closer to your buttock. Feel the stretch along the front of the thigh.
3. Hold for 20-30 seconds before slowly returning to the starting position.



D) Hamstring stretch

1. Stand with one leg out in front and the other knee slightly bent.
2. Keeping your back straight, bend forwards from the hips. Feel the stretch along the back of the straight leg. Hold for 20-30 seconds before slowly returning to the starting position.



E) Calf stretch

1. Stand with something to lean against.
2. Take one foot forwards and the other backwards. Keeping the toes pointing forwards and the heel of the back foot on the floor, bend the front knee. Feel the stretch along the back of the back leg. Hold for 20-30 seconds before slowly returning to the starting position.

What other help is available?

Steroid injections

- Steroid injections are mainly used for very painful Osteoarthritis.
- They are not clinically suitable for everyone but can help some patients significantly. The injection is given directly into your joint.
- It can start to work within a day or so and may improve pain for several weeks or even months.
- If successful the injection will provide short term relief but is not a fix.
- Reducing pain through exercises that stretch and strengthen joints, muscles, and other soft tissues will provide longer term relief.

Joint replacement surgery

- This may be considered as a suitable treatment option if you have or develop uncontrolled, intense, persistent pain resulting in substantial impact on your life. This means pain of almost continuous nature (e.g. pain when standing or walking on level surfaces for less than half an hour and requiring the use of walking aids).
- You may find you are having to continuously use anti-inflammatory pain-relief medication to control symptoms.
- There would be significant limitation of daily activities (e.g. you may be only being able to complete a few or none of your normal activities and self-care). However, it is important that you have had symptoms for at least 6 months and trialled conservative management (e.g. exercises, pain relief) for at least 3 months, as flare-ups of pain in osteoarthritic joints can settle within this timeframe.

How can I improve my general aerobic fitness?

In short anything that raises your heart rate.

Two main ways are:

1. Through activity - swimming, walking, cycling, fitness classes etc.
2. By adding a warm up to your strengthening exercises - marching on the spot, and seated marching on the spot.

You can find the latest information on local fitness schemes on our website -

<http://www.eoemskservice.nhs.uk/community> or by scanning the

QR code.



For further information about this service contact:

General Enquiries: 0300 555 0123

Physiotherapy Dept, Hinchingsbrooke Hospital, Hinchingsbrooke Park, Huntingdon, Cambs PE29 6NT

Physiotherapy Dept, Brookfields Campus, 351 Mill Road, Cambridge, CB1 3DF

Physiotherapy Dept, Princess of Wales Hospital, Lynn Road, Ely, Cambs, CB6 1DN

Physiotherapy Dept, Doddington Hospital, Benwick Road, Doddington, Cambs, PE15 0UG

Physiotherapy Dept, Rowan Lodge, North Cambs Hospital, The Park, Wisbech, Cambs, PE13 3AB

Physiotherapy Dept, City Care Centre, Thorpe Road, Peterborough, PE3 6DB

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