

Osteoarthritis – knee



What is Osteoarthritis?

Osteoarthritis (OA) is the most common form of arthritis. It is a progressive, degenerative condition affecting the smooth cartilage that normally protects the ends of the bone. This cartilage slowly becomes damaged and worn causing inflammation and pain.

What Causes OA of the knee?

The exact reason why the cartilage in the knee becomes damaged is not clear. Several factors may increase the risk of developing OA of the knee:

- ❑ **Trauma:** Previous injury to the knee.
- ❑ **Weight:** OA of the knee or hip are more likely to develop in obese people due to increased pressure on the joints.
- ❑ **Age:** OA is more common as age increases, possibly due to the reduced healing rate of the cartilage.
- ❑ **Family History:** Some people may inherit tendencies to develop OA knee.
- ❑ **Other Illness:** Repeated episodes of Gout or septic arthritis and some congenital conditions can also increase the risk of OA.
- ❑ **High Impact Sports:** Elite athletes are at increased risk of developing OA.
- ❑ **Repetitive Stress Injuries:** Those whose occupations involve kneeling, squatting or lifting regularly over a period of time are more likely to develop OA knee.

Who Gets Osteoarthritis?

Primary OA develops most commonly in people over 50 in joints that were previously healthy.

Secondary OA develops in people younger than primary OA, normally after injury or in joints that were previously abnormal.

What Are The Symptoms

1. Pain and limitation of knee movements
2. Stiffness – worse early morning
3. Swelling may occur
4. Poor mobility
5. Larger than normal looking knee joint
6. Disturbed sleep
7. No symptoms may occur but X-ray shows early OA changes
8. Severe symptoms but X-ray shows only mild OA changes

What will physiotherapy consist of?

An Exercise programme specifically designed for your knee will be shown to you by your physio, who will also instruct you on how to progress the exercises.

Gait re-education will be taught if you are struggling to walk or weight bear through the knee. This may involve using a walking aid which should then allow you to walk normally with reduced symptoms.

Mobilisation is a manual technique where the joint and soft tissues are gently moved by the physiotherapist to restore normal range, lubricate joint surfaces, and relieve pain.

Ultrasonic Therapy transmits sound waves through the tissues stimulating the body's chemical reactions and therefore healing process, just as shaking a test tube in the laboratory speeds up a chemical reaction. It reduces tissue spasm, accelerates the healing process and results in pain relief.

Interferential Therapy introduces a small electrical current into the tissues and can be used at varying frequencies for differing treatment effects. E.g. pain relief, muscle or nerve stimulation, promoting blood flow and reducing swelling/inflammation.

Massage encompasses a variety of techniques and is given with sufficient pressure through the superficial tissue to reach the deep lying structures. It is used to increase blood flow, decrease swelling, reduce muscle spasm and promote normal tissue repair.

Advice regarding lifestyle will be given in order for the balance between rest and activity to be applied.

Other treatments that may be used

Laser Therapy emits beams of light into the tissues of the body, stimulating chemical reactions and having a similar effect to ultrasound though using light energy instead of sound energy.

Acupuncture is an oriental technique of introducing needles into the skin to increase or decrease energy flow to promote pain relief and healing.

Injection Therapy is a specialist procedure, which needs the consent of your G.P. A non-harmful steroid and local anaesthetic are injected directly into the injured structure. It has a dramatic effect on removing inflammation and promoting healing.

Taping/Strapping to help support the knee

What should the patient do to help their condition?

Lifestyle changes– keep active but balance rest with activity. Even when having a “good day” do not be tempted to over do it, likewise on a “bad day” keep active within pain limits. Generally avoid activities that aggravate your condition such as kneeling.

Apply an ice pack - for a maximum of 20 minutes. A bag of frozen peas wrapped in a damp cloth works well because it moulds to the shape of the knee. Ensure that you do not apply ice directly to the skin as this can cause an ice burn.

Weight Control is important as being overweight puts the knee joints under more pressure than what they need to be.

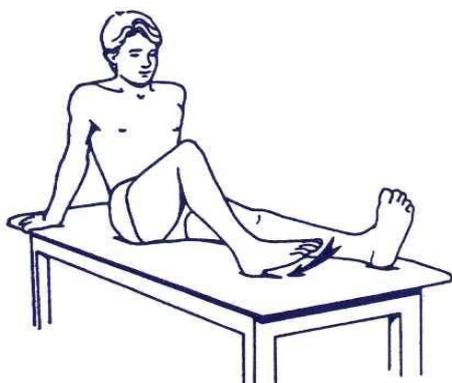
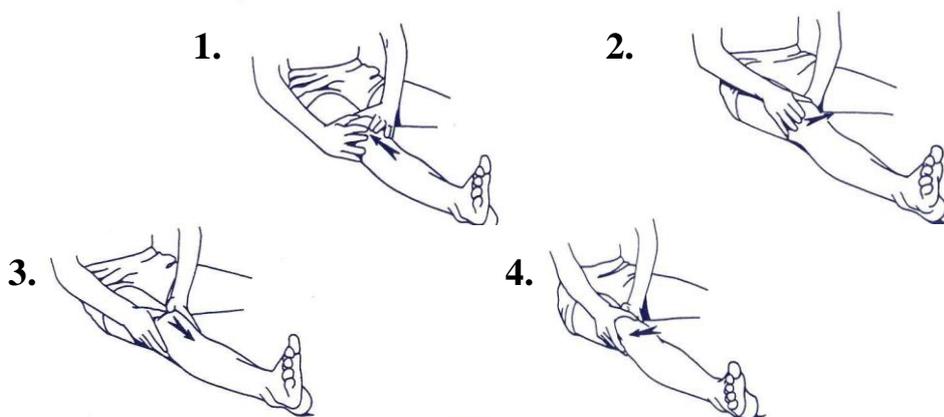
Non Steroidal Anti-Inflammatory Drugs (NSAIDs) / Analgesia – may be taken according to the directions on the packet and up to the maximum daily dose. It is not suitable for people who have a history of stomach ulcers, or for some people with asthma. If in doubt, ask your pharmacist or G.P. for advice.

Shoe insoles - may help to ease your symptoms during weight bearing.

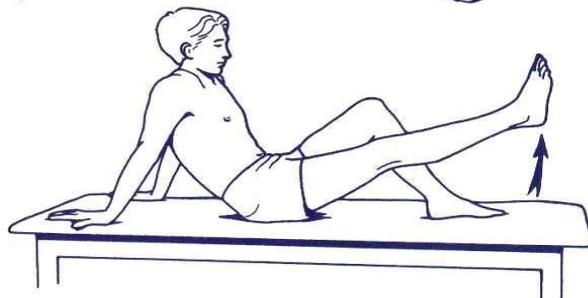
Glucosamine and Chondroitin- are supplements and not medication which are chemicals that are part of the make up of healthy cartilage. These are very popular and it is believed that they play a role in producing and maintaining new cartilage.

Exercise/Postural programme – comply with the prescribed exercise/postural programme. Your physio will instruct you as to which of the above exercises to begin with, when to add the others, as well as how to progress the exercises.

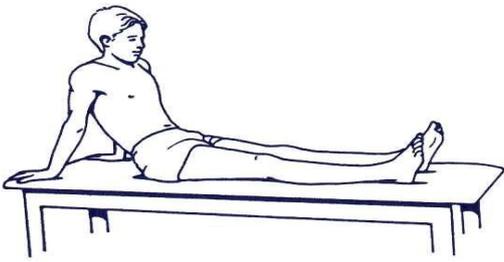
1. - 4. With your knee relaxed gently but firmly push the kneecap in the desired direction and hold for 30 seconds, during this period add gentle overpressures. Do 2–3 times daily. (Your Physio will instruct you on which of these to do)



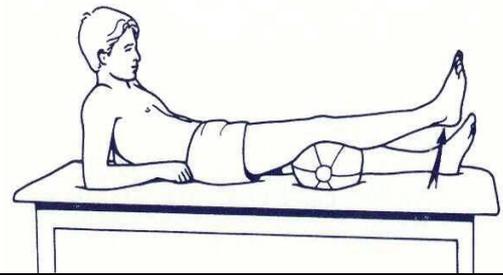
5. Maintain your knee range of movement by comfortably sliding your heel to bottom and bending your knee as much as possible. Then slide your heel away and straighten your knee as much as possible. Repeat 10 times, 3 times a day.



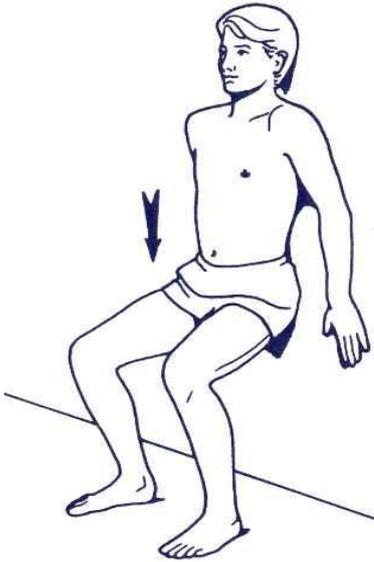
6. Straight Leg Raise - With your knee straight and toes pulled to you, slowly raise the straight leg 10 cm of the bed. Hold for 5 seconds. Repeat 5-10 times, 3 times a day.



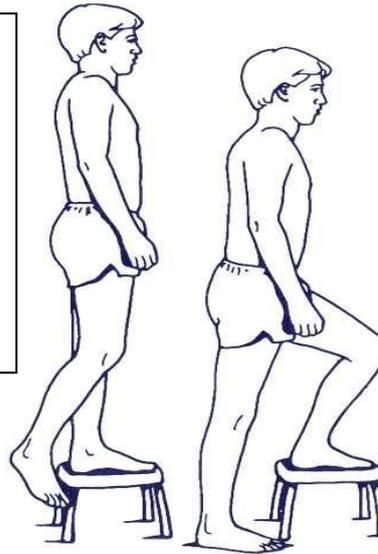
7. Static Quadriceps - Squeeze your thigh muscle and press the back of your knee down on to the bed, pulling your toes up at the same time. Hold for 5 seconds. Repeat 5-10 times, 3 times a day.



8. Inner Range Quadriceps - Squeeze your thigh muscle and press the back of your knee down onto a soft ball or rolled up towel. At the same time allow your heel to raise off the bed. Hold for 5 seconds. Repeat 5-10 times, 3 times a day.



9. Supported Mini Squats - Using the wall to lean on, slowly slide down bending your knees as far as comfortable. Hold for 5 seconds- return to the start. Repeat 5 times.

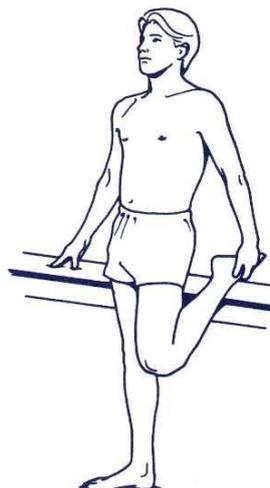


10. Step Ups - Using the bottom stair, step up and down 10 times leading with your right foot, then repeat leading with your left foot.

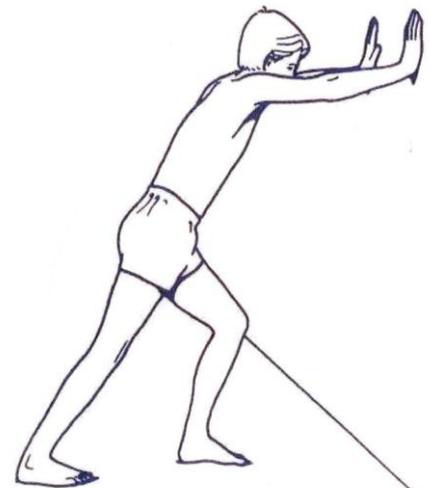
11.



12.



13.



11. Hamstring stretch

12. Quadriceps stretch

13. Gastrocnemius Stretch

Hold each stretch for 20-30 seconds and repeat 5 times on each leg.

What if physiotherapy does not help or resolve my condition?

If physiotherapy does not significantly improve this condition then in these cases a cortisone injection may be appropriate and in very extreme cases surgery is a possible option. These options can be discussed with your therapist if appropriate.