Osteoarthritis (OA) of the Knee
Management Options
Brief Decision Aid

There are many different options for the management of osteoarthritis. These can be split into **four** main groups. It is possible to try combinations of some options:

- Lifestyle changes – increasing exercise, weight loss (if overweight).
- Physical treatments – physiotherapy, shoe insoles, knee supports, walking aids, heat, TENS machine.
- Pain medication – tablets, creams/gels or injections into the joint.
- Surgery – arthroscopy, osteotomy, joint replacement.

You may hear about complementary treatments such as acupuncture, and dietary supplements such as glucosamine and rosehip extract. They may help some people, but evidence for their use is limited and they are not recommended by the National Institute for Health and Care Excellence (NICE).

In making a decision you need to ask yourself – What is important to me? This leaflet and your health professional can tell you the evidence and give their suggestions but you need to make a decision that is right for you. What are your preferences?

You might want to think about:

- Which option reduces pain the most effectively?
- Is improving mobility the most important thing for me?
- How likely is it that I will undertake the exercises recommended or lose weight?
- Do I need the support of a physiotherapist to 'get going' or can I motivate myself?
- Am I prepared to take tablets? Am I concerned about side effects?
- Am I concerned about which treatments reduce the chance of arthritis worsening?

Benefits and Risks of Lifestyle changes

Treatment option	Benefits	Risks/ consequences
General exercise (aiming for minimum 2.5 hours a week e.g. 5x30mins). **Knee exercises** (see physiotherapy).	Helps strengthen muscles and joints, to keep you fit, and maintain good range of joint movement. Reduces pain in arthritic joints. Can also help you lose weight. Knee exercise can help you walk further and faster. Knee exercises may protect the joint and slow down, but not stop, further arthritis.	Some people may find certain exercises increase the pain (although this may be improved by starting slowly and increasing exercise gradually but surely). Non-weight-bearing exercises may also be better e.g. cycling, swimming, aqua aerobics. Requires motivation to exercise regularly.
Weight loss (if you are overweight – BMI over 25).	In one study a 10% weight loss reduced pain and improved function (e.g. ability to walk and climb stairs) for 25 in every 100 patients who lost the weight. Reduces the risk of developing symptoms of arthritis in other weight-bearing joints.	Requires motivation and self-discipline, and is not easy to do for some people.

	Offers other health benefits include reduced blood pressure and may make you feel better about yourself. May slow progression of arthritis.	

Benefits and Risks or Consequences of Physical Treatments

Treatment option	Benefits	Risks/ consequences
Physiotherapy can offer various treatments including advice on exercises, stretching, manipulation, TENS[1], acupuncture and walking aids.	Advice can be given on specific knee exercises to help strengthen the main muscles that support your knees and maintain movement in your knee joints. This can make activities like walking easier (see lifestyle changes). Some of the other options offered by physiotherapists may help some people.	Requires time and effort from you, and repeated visits to physiotherapist, although what you do in between visits is the most important. Some people find motivating themselves to do exercises hard. Evidence of effectiveness of some physiotherapy options is mixed.
Shoe insoles and other devices. Sometimes with advice from a podiatrist (foot mechanics specialist).	Some people find that their symptoms can be helped by wearing a knee support or shoe insole.	These do not help everyone and can occasionally make things worse. You have to fit them to shoes and this may restrict the shoes you can wear.
Walking aids. Sometimes need to see a physiotherapist to get the right aid.	Can help improve walking rhythm for OA of knee and may help you walk faster and further.	Some people do not like the idea of being seen with a walking aid.
Heat/Cold packs e.g. wheat/lavender bags that can be heated in the microwave	Simple and easy to apply. Cold packs are often more effective when people are experiencing a 'flare up' of their arthritis. Some people find these helpful.	Not so useful in long term (chronic) pain. You need to be careful to avoid burning the skin if direct contact with excessive heat. Evidence of benefit is weak.

[1] A TENS machine is a small portable, battery-operated device which is worn on the body. The box is attached by wires to sticky pads stuck to the skin. Small electrical pulses are transmitted to the body, like little electric shocks.

Benefits and Risks of Pain Medication

All pain relieving medications help some people some of the time. Generally, for a particular person, any one medication either works quite well or not very well at all. You may need to find the one(s) that work best for you. It is important to stop medications that do not work well. The following table lists the medications and their side effects to help make decisions on which to try first.

Treatment option	Benefits	Risks/ consequences
Paracetamol. Take 2 tablets up to 4 times daily.	Easy to take with most other medicines and where you may have other health conditions.	Very small risk of side-effects e.g. indigestion. Not very effective in most people.
Topical NSAIDs (non-steroidal anti-inflammatory drugs). Usually apply 3-4 times daily.	Less risk of side-effects compared to oral NSAIDs.	Can (rarely) cause a skin irritation.
Oral NSAIDs. Taken with food 2 or 3 times daily depending on which drug is used.	Good option to use short-term for flare-up of pain therefore reducing risks of prolonged use.	Gut side-effects are common (other medication can be added to protect the stomach, and is recommended over the age of 65). Bleeding from the stomach is the most serious side-effect. Some people with asthma, high blood pressure, kidney problems and heart failure may not be able to take NSAIDs. Certain types of oral NSAIDs (full strength ibuprofen, diclofenac and celecoxib) when taken for prolonged period cause an increase risk of heart attacks (approx 3 extra heart attacks per 1000 patients on treatment for one year).
Opioid painkillers e.g. codeine. Usually taken 2-4 times daily or when pain severe.	May help with pain for some people.	23 in every 100 people report one or more side-effects such as nausea, vomiting, constipation, confusion, falls, dizziness, drowsiness. There is a small risk of becoming addicted.
Tramadol. Usually taken 2-4 times a day depending on preparation.	May help with pain for some people.	39 in every 100 people report one or more side-effects e.g. nausea, vomiting, dizziness, constipation, drowsiness, headaches. There is a small risk of becoming addicted.
Steroid injections. Single injection into knee often with some local anaesthetic.	Can be good for 'flare-ups' of pain but typically benefits last only 1-4 weeks, although sometimes they may last several months.	Risks are small but include infection, bleeding, bruising. Can affect diabetes control temporarily. There is no evidence of long term damage with steroids as long as you have no more than three injections a year.

NOTE: You may hear about other treatments such as capsaicin cream and hyaluronic acid injections. Evidence for their effectiveness is limited.

Benefits and Risks of Surgery

If quality of life significantly affected and other treatments failed to help then surgery could be considered

Treatment option	Benefits	Risks/ consequences
Arthroscopy. Looking inside the knee with a 'telescope'. Done under a general anaesthetic and usually as a day case. Recovery may take several days to 2 weeks.	Knee 'washouts' or debridements are not done routinely for osteoarthritis but may be considered if the knee locks. 70 in every 100 patients have improved symptoms if mechanical symptoms (such as locking) present.	Even if there is locking or giving way 30 in every 100 patients will not benefit. If no mechanical symptoms, only 50 in 100 patients improve following arthroscopy. Risks are very low but include infection, blood clots or prolonged knee swelling.
Osteotomy. The aim is to re-align the knee to off-load the worn-out part of the joint. It requires a general anaesthetic and maybe 1-2 days in hospital. Recovery takes several weeks.	This operation may benefit young (<55 yr old) patients in heavy physical employment who have knee arthritis. The aim is to delay the need for knee replacement surgery in younger patients – because knee replacements eventually wear out. 75 in every 100 patients have a good result at 5 years after operation.	May take up to a year to get full benefit. 25 in every 100 patients do not get good pain relief. The period of pain relief may only last a few years. Not suitable for patients with obesity (BMI<30). Risks are low but include infection, blood clots, nerve or vessel injury, or a failure of the osteotomy to heal (1-3 in every 100) which may mean a second operation.
Knee replacement. Aim is to replace the joint with an artificial joint. You will spend several days in hospital and require several months of physiotherapy and hard work to get maximum benefit.	80 in every 100 people are satisfied with the outcome following a knee replacement. It reduces pain and can improve mobility. 96 out of 100 knee replacements last for 15 years. The fitter you are before the surgery the more likely you are to do well from the surgery.	20 in every 100 people are not satisfied following a knee replacement. It does not always reduce pain or increase mobility. Replacement halts progression of arthritis but the new joint will also wear and may need replacement if it has been in a long time. Following knee replacement the new knee may only bend up to 90 degrees which makes kneeling difficult. 1-2 in every 100 people will develop either an infection, or a stroke, or a blood clot. 0.5-1in every 100 people will die from complications either during or within the first few weeks after a knee replacement.

Brief Decision Aids – are simple tools to help patients and professionals make better decisions together. Drawn from the PILS leaflets written by Patient UK – they are designed to answer three questions: Do I have options? What are the benefits and risks of these options, (and how likely are they)? How can we make a decision together (patient and professional) that is right for me?