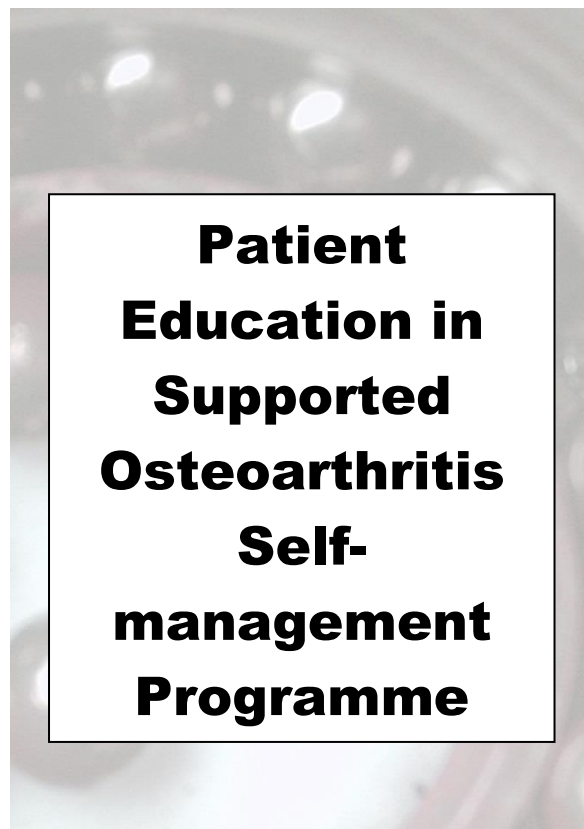


Supported osteoarthritis self-management programme

Material for participants



Better Care for Osteoarthritis Patients
(BOA)

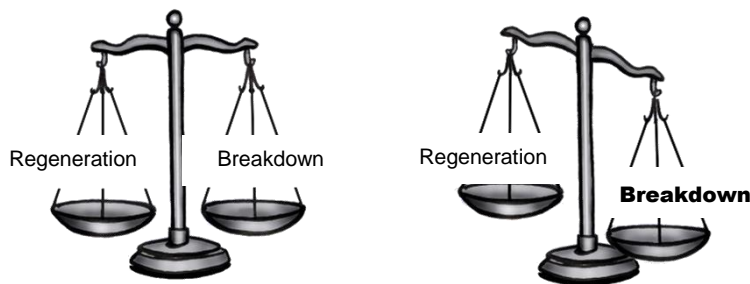


The supported osteoarthritis self-management programme is offered in collaboration with the Swedish Rheumatism Association



What is osteoarthritis?

Osteoarthritis is a very common disease. It affects the entire joint, but particularly the articular cartilage, which becomes thin and frail. This can either be because healthy cartilage has been subjected to excessive strain, or because the cartilage is diseased for some reason and unable to tolerate normal strain. Osteoarthritis has often been described as "wear and tear". This is a misleading term, since cartilage needs to be subjected to strain and can also regenerate, and since an imbalance between its building up and breaking down is not necessarily due to wear and tear of the joint in question. Osteoarthritis is better characterised as a process that can be influenced. There are many things you can do yourself for both your joint and your well-being when you have osteoarthritis.

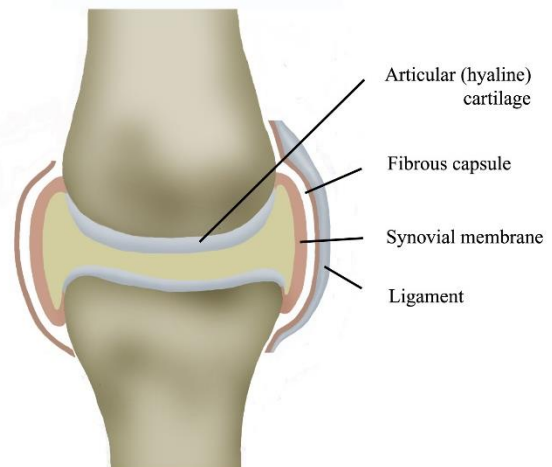


Osteoarthritis is the most common cause of functional impairment in elderly people, but it is also common in young and middle-aged people. Approximately 8% of the population in the 50-70 age group suffer complaints related to osteoarthritis, and the incidence increases in higher age groups. About one in four adults over the age of 45 in Sweden are diagnosed with osteoarthritis in one or more of their joints.

The healthy joint

A joint is a link between two adjacent bones. The ends of the bones are covered in cartilage allowing them to slide against each other. The joint is surrounded by a joint capsule that stabilises it and supplies it with synovial fluid. The synovial fluid serves as a lubricant and nourishment for the joint. Musculature surrounding the joint allows us to move it, and ligaments stabilise it.

The surfaces of the articular cartilage are smooth and glossy to minimise friction on movement, and the cartilage is elastic but firm in order to absorb shocks and distribute pressure across the surface of the joint when a load is applied. As far as is currently known, there are no nociceptors in cartilage, so no pain is felt there. Articular cartilage contains no blood vessels, instead it is nourished by the surrounding synovial fluid. Cartilage



can be likened to a sponge: under pressure, fluid and waste products are squeezed out of the cartilage tissue, and when pressure decreases, nutrients are again absorbed. This is what happens when we move and put a load on our joints – when walking, for instance. Putting a load on the joint is thus a prerequisite for healthy cartilage. A healthy joint is characterised by continuous breakdown and regeneration of cartilage cells, and by a balance between the two.

Changes to the joint from osteoarthritis

When you have osteoarthritis, an imbalance occurs between regeneration and breakdown of the cartilage in the joint, with breakdown factors increasing at the expense of regeneration. The cartilage becomes frayed and can develop cracks, and in later stages may disappear completely, so that bone rubs against bone. Swelling and heating are quite common symptoms in the afflicted joint, particularly in the early stages of the disease. The skeleton and soft parts around the joint may also be affected, tightening and causing pain.

Three joints that are often affected

Knee joint

The symptoms can be pain when applying a load, stiffness and instability. Osteoarthritis of the knee joint is often seen in people with deformities such as knock-knee (genu valgum) or bow-leggedness (genu varum). Crackling and clicking can be heard and felt on bending and stretching of the knee joint. These symptoms can lead to difficulties climbing or descending stairs and inclines, kneeling and squatting, and getting up from a sitting position.

Hip joint

In hip joint osteoarthritis, the pain is often in the groin, but may also be felt in the buttock and on the outside of the thigh. Sometimes there is no hip pain, and instead the pain is felt on the inside of the knee. Hip joint osteoarthritis often leads to reduced mobility of the joint, which can cause difficulties in getting in and out of cars, putting on socks, and picking up objects on the floor. It often also causes the sufferer to take shorter steps when walking.

Finger joint

The most commonly afflicted joints in the hand are the outer joints of the fingers and the base of the thumb. Fingers may feel stiff, become gnarled and sore, and minor deformities may occur. It is also quite common for hands to become debilitated, so that clasping hands together, carrying heavy loads, writing and using a pair of scissors are more difficult.

Osteoarthritis can occur in all joints with articular cartilage.

Why do we get osteoarthritis?

The causes behind osteoarthritis have not been fully established, but there are a number of known risk factors. Some of these we cannot influence, including

- *Age*

Osteoarthritis can occur as early as in a person's 30s, but incidence increases sharply after 50. One explanation for this is that cartilage, which is a living tissue, also ages and therefore loses some of the strength of its youth.

- *Gender*

Overall, osteoarthritis is slightly more common in women than in men. Distribution varies somewhat for hand, hip and knee osteoarthritis. Women more frequently have osteoarthritis in knee joints and hands, while hip osteoarthritis is more common among men.

- *Hereditariness*

A family history of osteoarthritis is a risk factor, as delicate articular cartilage is a heritable trait.

Risk factors that we can influence, to varying degrees, include

- *Obesity*

Obesity, particularly in younger people, increases the risk of developing primarily knee osteoarthritis because of the increased strain on the joints. It also increases the risk of hand and hip osteoarthritis, which suggests that there are other factors than strain involved.

- *Joint injury*

Half of all people who suffer an injury to the meniscus or cruciate ligament develop osteoarthritis 10-15 years later.

- *Considerable/Long-term strain in work or sport*

Too big a strain, without sufficient possibilities for recuperation, or a repetitive strain on joints can lead to osteoarthritis later in life. People in professions that involve considerable joint strain over a period of many years, such as farmers, firemen and shipyard workers, run an increased risk of developing hip osteoarthritis, while teachers run a slightly increased risk of developing hand osteoarthritis. Elite sports often involve considerable strain on the entire body, and insufficient time for the breakdown of cartilage to be fully compensated through regeneration.

- *Lack of physical activity*

Too low a strain on cartilage, on the other hand, means that regeneration of cartilage ceases, causing an imbalance as well. Cartilage needs to bear loads in order to remain healthy.

- *Muscle weakness*

If the musculature around the joint becomes weakened, this can increase the risk of knee joint osteoarthritis. This may be due to a reduction in the muscles' ability to stabilise the knee joint, meaning that the strain is transferred to parts of the articular cartilage that are not as tolerant of it.

How do you know that you have osteoarthritis?

New guidelines for diagnosing osteoarthritis recommend that the diagnosis be made with the help of examination and anamnesis, i.e. what the patient tells the doctor, and that X-rays should only be used in unclear cases or when surgery is being considered. These recommendations mean that adequate treatment can begin at a much earlier stage. It can take 10-15 years after the initial symptoms appeared before the disease can be seen on X-rays, but changes do occur joint before that. The choice of treatment should therefore be based on the patient's perceived symptoms rather than changes identified on X-rays. The changes that can be seen on X-rays are reduced joint space, osteophytes (bone spurs), cyst formation on the skeleton and increased bone formation under the articular cartilage. However, experience has shown that the correspondence between X-rays and perceived symptoms is low: many patients have considerable problems without visible X-ray changes, and vice versa. Diagnoses today still depend too frequently on X-ray results.

Magnetic resonance imaging (MRI) is an excellent method for establishing changes to the joint's various tissues, and is used primarily in research. The drawback of MRI is that it sometimes reveals changes that are erroneously seen as being related to the complaint in question, with a subsequent risk of unnecessary and misdirected treatment. Knee joint pain as in osteoarthritis can easily be mistaken for a sign of meniscus damage. Since the meniscus is not visible on X-rays, an MRI is often done when damage is suspected, but this will almost always reveal changes in patients over 35. This type of meniscus change always occurs in the early stages of osteoarthritis, but does not always produce symptoms and should not be treated with surgery unless joint locking or spasms are occurring. There is a very considerable risk that meniscus changes found in MRI will lead to arthroscopy (keyhole surgery). Unfortunately this will not bring any alleviation of the osteoarthritis. If the complaint is incorrectly assessed as meniscus damage rather than osteoarthritis, this will delay application of the most effective treatment against osteoarthritis: knowledge about self-management and adaptations in physical activity – as in the supported osteoarthritis self-management programme.

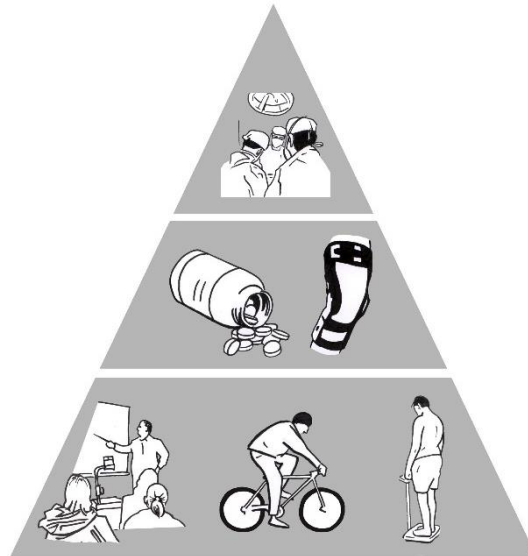
An early sign of osteoarthritis can be pain and stiffness in the morning or after sitting still for a period of time. Stiffness and reduced mobility can make it difficult to do things that you managed before, such as squatting, putting your socks on or gripping objects.

Osteoarthritis often begins in a single joint, with symptoms developing insidiously. Pain initially occurs with movement and strain on the joint, but as the disease progresses pain can also occur at rest. In most cases, the development of osteoarthritis is slow and may in some patients cease entirely, while others may deteriorate fairly quickly. A bad period may be followed by a better one, and it is currently not possible to make predictions regarding individual prognoses.

What can you do about osteoarthritis?

There is currently no treatment capable of preventing osteoarthritis from occurring, or of curing it. Treatment is therefore aimed at reducing symptoms and improving the function of the joint. Where applicable, treatment consists of influencing the risk factors.

Osteoarthritis treatment can be seen as a pyramid whose base is made up of information, weight reduction and exercise. This should be offered to anyone with osteoarthritis, as early as possible in the course of the disease.



Information

It is important that anyone with osteoarthritis receives fundamental information about known causes and about how they can influence their own situation. This is important in order to avoid anxiety and fear, to increase motivation for doing exercise and thus to improve one's perceived health. Patient education is a good option for improving knowledge and faith in one's own ability. The education also brings an opportunity to meet others in a similar situation and share experiences.

Weight reduction

Obesity is an ever more common problem, and a known risk factor for a number of diseases, including osteoarthritis of the hip, knee and finger joints. When walking, the actual load on the joint is two to three times one's body weight, meaning that even small differences in body weight can have a considerable impact on joint strain. Obesity most likely brings metabolism changes, which may explain the increased risk of finger joint osteoarthritis. Obesity is also linked to faster progression of the changes visible on X-rays. For obese patients, weight reduction is an important goal which can bring reduced pain and improved function.

Exercise

Exercise is the treatment with the best effects for most people with mild to moderate symptoms. It has been shown to reduce pain and facilitate everyday activities for people with osteoarthritis. A physically active lifestyle also has many other positive side effects, such as a stronger heart and improved physical fitness. Exercise can also facilitate weight reduction, which in turn reduces strain on the affected joint.

Daily activities

The medical profession recognises today that it takes a lot to damage joints and muscles. It is a good thing to be doing ordinary daily activities such as shopping, cooking and pottering in the garden. This can be seen as a way of keeping your body and soul fit. By sticking to leisure and social activities that give you pleasure, you can prevent depression. Doing something you enjoy and/or feel involved with can be a good strategy for diverting pain. Bear in mind, also, that it is generally better for your health to be working/active than to be on sick leave or sedentary. It is a good idea to think about how best to manage your situation so that you can be active or do the things you like. Maybe you can do things in a different way than you used to do them.

In those cases where these measures are insufficient, they can be supplemented with medication, aids such as walking aids, and orthopaedic measures. These treatments are in the middle of the treatment pyramid.

Medication

Paracetamol (e.g. Panodil, Alvedon, Reliv and Curadon) is usually the first-hand choice for alleviating pain from osteoarthritis. Paracetamol rarely causes side effects and is suitable for needs-based treatment. Do not exceed the prescribed dose as this can affect your liver.

NSAID/COX inhibitors (Brufen, Ipren, Pronaxen, Diklofenak, Orudis, Voltaren, Celebra etc.) are recommended when Paracetamol is not effective enough and if there are apparent inflammatory aspects to the complaint. These drugs alleviate pain, swelling and stiffness, but may cause gastrointestinal side effects and are therefore not suitable if you have had bleeding ulcers.

Attention has also been drawn in recent years to the possibility that some of these drugs increase the risk of cardiovascular disease.

Glucosamine is present naturally in the joints, and is metabolised from the food we eat. Glucosamine supplements *may* facilitate regeneration of the articular cartilage in a *minority* of people with osteoarthritis, but it is not currently known what characterises this group. Further research is required in this area. A simple recommendation for finding out if glucosamine will help you is to try it for 6 weeks and then pause the treatment. If your condition worsens during the hiatus and improves again when you resume the treatment, you can regard the treatment as having some effect.

Cortisone injections can be used if the joint has become inflamed, is swollen and feels warm. The treatment can alleviate pain for 1-4 weeks, but there is no research that indicates any long term effects.

Orthopaedic measures and aids

An orthosis is a brace fitted which is fitted around the joint to support and stabilise it, helping to improve its capacity to handle load. Examples include knee joint and wrist braces. It may be necessary in some cases to improve the load bearing pattern of a foot and/or knee joint by having shoe inserts fitted by an orthopaedic technician. It may be necessary periodically to use a walking aid in order to reduce load on the aching joint without limping and therefore overloading other joints. There are also various aids that can be beneficial for hand osteoarthritis sufferers. These are usually designed to give greater grip and avoid extreme positions that cause strain on the joints of the hand.

At the top of the pyramid are surgical interventions. Most people manage to live with their osteoarthritis with the help of other treatments, but if the pain becomes too much it may be necessary to have surgery. However, only about 10% of all people with osteoarthritis require surgery.

Arthroplasty

The diseased joint is wholly or partly replaced by an artificial joint made of metal and plastic. Surgery is most common on hip, knee and certain finger joints. The main benefit of the intervention is that pain is reduced or disappears entirely, while mobility in many cases remains limited even after surgery.

Osteotomy

For severe misalignments, when one of the two sides of the knee joint is in a good condition but the articular cartilage of the other has worn thin or gone completely, a surgical procedure called osteotomy can improve load distribution in the knee joint. A wedge-shaped piece of the lower bone (the tibia) is removed in order to transfer pressure to the side of the joint which is still relatively unaffected by osteoarthritis. During the healing process, the bone's angle is gradually adjusted using screws which are removed once the bone has healed fully.

Lifestyle changes

Introducing new everyday routines

Lifestyle changes, such as losing weight or starting a training programme, are hard to make and require patience, support from those around you, motivation and determination. Trying to change several things at once is likely to be asking too much of yourself. Decide what is most important for you and choose the thing that you believe yourself capable of changing. Take small steps, one at a time. If you want to become more active physically, take every opportunity to do some "stealth exercise" – walk a few extra steps when possible, park the car a bit farther away, take the stairs instead of the lift, hide the remote control and use the advertising breaks on TV to get up. When you begin doing exercise, choose one or two exercises and do a maximum of 15 repetitions – but make sure you turn it into a daily routine. It won't take you many minutes, but it will make a big difference.

Once you have decided to lose weight – try breaking the habit of weighing yourself. A fixation on the scales can make you less confident and make you feel like a failure. Those are not the right conditions. Eat the things you like, but eat less. Choose food that contains low levels of fat and sugar. Eat regularly and make fruit and vegetables a regular feature of your meals. Checking your waistline may be a better way of monitoring your progress than the scales.

It is worth bearing in mind that, from a health perspective, it is preferable to be overweight and in good physical condition than thin and inactive.

Success breeds motivation, and it is important to set yourself goals that you are capable of achieving within a reasonable period of time. It is also essential that you look back occasionally and make a note of the changes that have happened. Sometimes it is difficult to remember how it was before, and small steps can be hard to notice. By keeping a diary or making weekly notes, for example, you make it easier to measure your progress, or to notice a lack of it earlier and take remedial action.

Everyone benefits from healthy eating

Eating well is important for your health, irrespective of age and disease. Healthy eating habits are characterised by a lot of vegetables, legumes, fruits and berries, wholemeal products, fish, vegetable fats and low-fat dairy products, as well as a low consumption of salty or sweet foods, and drinks with added sugar.

More fruit and veg

Greens, root vegetables, legumes, fruits and berries contain many of the nutrients we need, including vitamins, minerals, antioxidants and fibre. 500 grams of fruit and veg per day reduces the risk of cardiovascular disease, obesity and some forms of cancer. This amount corresponds to three fruits and two generous handfuls of vegetables.

More fish

Eating fish two or three times a week provides a large proportion of the vitamin D, iodine, selenium and healthy fats we need. These are nutrients that many Swedes need to eat more of. It is a good idea to switch between fatty and lean fish, and shellfish. Fatty fish such as salmon, herring and mackerel also contain Omega-3 fatty acids which can help reduce the risk of cardiovascular disease. Children need Omega-3 fatty acids for normal development of the brain and eyesight, among other things.

More wholemeal

Bread, cereal, grain, pasta and rice with a high wholemeal content contain fibre and are a rich source of vitamins and minerals. Wholemeal can reduce the risk of cardiovascular disease and diabetes, and can also make it easier to maintain your weight.

Change to liquid fats or oils

Fat is an important source of energy, and the right sort of fat in reasonable amounts has a decisive influence on our well-being. The most important thing is to eat the right kind of fat. By exchanging saturated fat for polyunsaturated fat,

you reduce the risk of cardiovascular disease. Rapeseed oil, and cooking fats made from rapeseed oil, contain a lot of polyunsaturated fat.

Less salt

Too much salt can cause high blood pressure, which in turn increases the risk of cardiovascular disease. In Sweden we eat twice as much salt as we should. The recommended intake is about a teaspoon a day. Much of the salt we consume comes from ready-made food, bread, sausages and cured meats, and cheese. Salt used in cooking and table salt should be enriched with iodine.

Less sugary drinks, sweets, snacks and cakes

We move less and less, and therefore we use less energy. Most of us, therefore, need to cut down considerably on sweet and fatty foods such as sugary drinks, sweets, ice cream, salty and fatty snacks, cakes and buns, particularly in our daily habits. Special caution applies to soft drinks and other sugary drinks, since it is easy to drink large amounts without our body telling us we have had enough.

Everyone benefits from exercise

Exercise has many positive effects on your health.

Physical fitness

Your physical fitness, or your capacity to absorb oxygen, is a measure of your body's capacity to utilise the oxygen in the air you inhale. When you are fit, the perceived effort of physical exertion is less, and you recuperate faster after the exertion. Fitness depends largely on cardiovascular function and on the supply of oxygen to the muscles.

Heart and blood vessels

Exercise makes the heart stronger, and able to pump more blood with each beat. This means that a given physical exertion can be made with a lower pulse, and therefore with less strain on the heart. Exercise contributes to increasing the number of small blood vessels, lowering blood pressure and improving blood supply to the muscles, in turn allowing them to carry out work for longer periods of time.

Muscles

Exercise makes the nerve impulses between the brain and muscles increase in speed and become increasingly automatic. The muscle gradually activates increasing numbers of muscle fibres. This means that the muscles' capacity can be used more efficiently, and that your reactions become quicker. The muscles adapt to the increased load that exercise implies by increasing the size of the muscle fibres. Improved nerve impulse speed, greater numbers of muscle fibres being activated, and the increased size of each muscle fibre combine to give you improved strength and precision.

Skeleton

Bone is a living substance that reacts to load by strengthening, just like muscles. By regularly applying a load to the skeleton, you increase your bone density, and intensive physical exercise in your youth, when regeneration of

bones is at its highest, will give you a stronger skeleton throughout the rest of your life. Even in low-impact training such as swimming and pool workouts, your bone density can improve since muscles are contracting and therefore increasing the load on the skeleton.

Weight

Both your appetite and your body's energy use are affected by exercise. In order for exercise to increase the burning of fat, you need to do physical activity of a light to medium intensity for at least 45 minutes at a stretch. Fat weighs less than muscle, and since regular exercise often means an increase in muscle mass, your weight reduction may periodically be modest even though your fat mass is decreasing. Lower weight reduces joint strain in everyday activities and makes it easier to move. Weight loss also has other positive health effects, such as less strain on the heart and blood vessels and a lower risk of diabetes.

Pain relief

Exercise causes the body to release endorphins, which are the body's own form of morphine and happy pill. The release of endorphins leads to reduced pain and increased well-being. Exercise also stimulates other sensory systems via joints and muscles. It works in the same way as when you rub your skin after having hurt yourself: the brain becomes busy receiving impulses from joint and muscle nerves instead of impulses from nerve paths for pain, and the sensation of pain decreases.

Regular exercise furthermore makes you feel more alert and better able to cope with everyday life, improves your sleep and gives you a greater sense of well-being. The World Health Organisation recommends that everyone, irrespective of injury, illness or age, should be physically active for a total of 30 minutes a day, or 150 minutes per week, in an activity that makes them warm and slightly out of breath. This is needed to maintain good health and avoid diseases such as diabetes, some types of cancer, high blood pressure, and other diseases due to inactivity. This recommendation naturally applies also to people with osteoarthritis. Your optimal exercise regime is an individual matter, and depends on your age, previous exercise habits, degree of functional impairment, physical capacity and state of health. If you have never exercised before, it is a good idea to go easy at first in order to evaluate the effect, and then gradually step up your regime.

Exercise is good for your cartilage too

In addition to the generally positive effects of exercise, it also has specific positive effects for osteoarthritis.

When the cartilage is alternately under pressure and relieved of pressure, as in walking for example, it receives nourishment as synovial fluid is pumped in and out of it. The regeneration of cartilage is also stimulated, which improves its firmness.

Practice makes perfect, or at least better. By exercising you improve the movement of your joint, and it becomes easier to do things like putting your socks

on, getting up off the floor and in and out of a car. By exercising the strength of the muscles involved in climbing stairs, for example, or getting up from a sitting position, you make it easier to manage everyday activities. Coordination training, i.e. the use of the right muscle at the right time and with the right force, makes it easier to control movements such as when walking on an uneven surface.

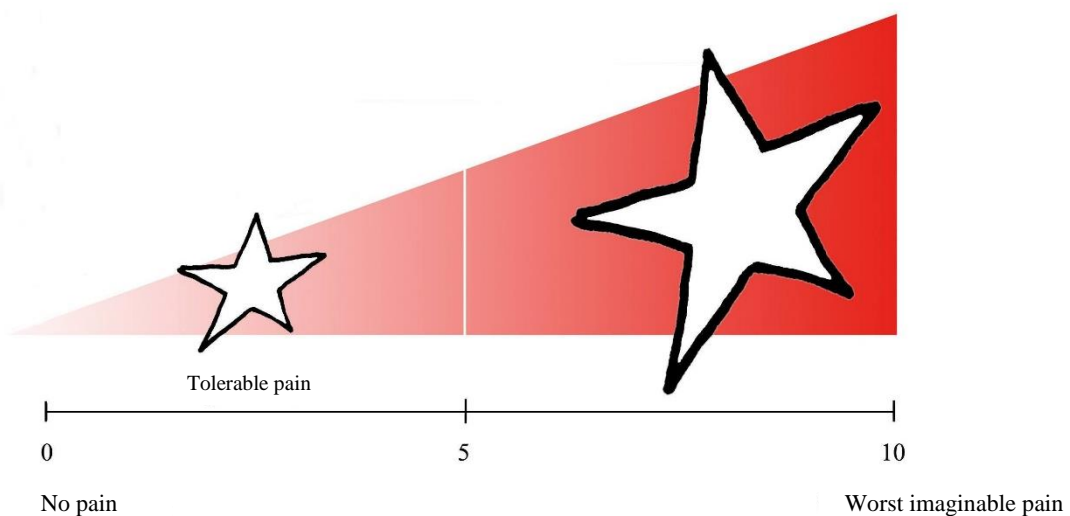
The positive effects of exercise disappear when you stop exercising. In order to maintain the positive effects, exercise has to be continuous. It is important, therefore, to choose a type of exercise that you find enjoyable and pleasurable. Equally important is to turn exercise into part of your daily routine. Examples of exercise/physical activities that often work well include walking, pole walking, flotation vest exercises, pool group workouts, dancing, cycling, hand exercises, aerobics and strength training.

Can I exercise when it hurts?

When you start exercising, the pain may temporarily increase. The natural reaction to pain is to avoid the thing that hurts. This reaction is important in the case of acute pain, to avoid injury – as when you accidentally lay your hand on a hotplate –, but in osteoarthritis the pain is more long term, and it is not dangerous to do physical movements even though it hurts.

Since we are all different, we also have different ways of reacting to pain. Some people stop doing activities that hurt, to remove the pain through rest. This often leads to ever greater functional impairment. Others completely ignore the pain as a warning signal, which often means that the pain gradually increases.

One model to use when exercising is to find the threshold level for *tolerable pain*. Pain when exercising is not dangerous as long as it doesn't exceed your perceived level of tolerable pain, and has gone within 24 hours. This level is individual, and may vary from one day or one week to the next. If pain while exercising exceeds your threshold for tolerable pain, or if it remains for an extended period, you should reduce the intensity of your exercises.



It is important to listen to your body and to find a balance in exercising, where your complaint does not get worse. By focusing on goals in your training programme rather than on the pain, you may perceive the pain less. Don't forget to enjoy yourself!

Physiotherapy and occupational therapy

Self-management is the most important part of the treatment of osteoarthritis. However, sometimes you may need a little extra help for a short period of time, or to move ahead with your training programme, and in those situations a physiotherapist can help you with:

- An individual assessment of your joint problems, your function and your level of activity, in order for you to get a treatment that suits you specifically.
- Exercise. The physiotherapist can help you find suitable forms of exercise and tailor your training programme to your specific needs.
- Knowledge. If you feel unsure about what to do or about how things should feel, you can get advice and support.
- Pain relief. The physiotherapist has several methods, such as TENS and acupuncture, for relieving pain in your joints and allowing you to do exercise.
- Aids. The physiotherapist can prescribe a walking aid, for example, if you need to take the pressure off an aching joint for a period of time.
- Inspiration and motivation. When it hurts, or when you haven't done exercise for a while, it can be hard to get going. Training with the physiotherapist for 6-8 weeks, while at the same time beginning other activities, can facilitate the transition to self-training.

The occupational therapist can help you with:

- An individual assessment of joint problems and function in your hand.
- Exercise. The occupational therapist can help you set up an individual hand training programme.
- Knowledge. If you feel unsure about what you can and cannot do, you can get advice about joint-sparing working methods.
- Aids. The occupational therapist can suggest aids that will facilitate hand function in your everyday life. There is also the possibility of getting individually adapted orthoses that support your hand and thus facilitate function.

Where to find further information

If you have internet access you can find more information at:

www.fyss.se FYsisk aktivitet i Sjukdomsprevention och Sjukdomsbehandling (Physical activity in the prevention and treatment of disease) – about the effects and possible side effects of physical activity for a number of illnesses, including osteoarthritis (part of the website has been translated into English).

www.reumatikerforbundet.org The patients' association for all rheumatics, their families and other interested parties (website in Swedish only).

www.apoteket.se Pharmacists' advice on health, self-management and drugs (website in Swedish only).

www.boaregistret.se A quality register for improved care of osteoarthritis patients (part of the website has been translated into English).

www.netdoktor.se Ask questions about osteoarthritis (the UK website is www.netdoctor.co.uk).

If you would like further information in your own language, please contact the Swedish Rheumatism Association. Address: Reumatikerförbundet, Box 12851, 112 98 Stockholm. Telephone: 08-505 805 00.