

OSTEOARTHRITIS

# An Information Booklet



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## Introduction

This booklet aims to help people who have osteoarthritis, and their families and friends. It helps you understand osteoarthritis – how it develops, and how to deal with it. It also puts to rest some of the myths about this common condition.

The booklet first explains the facts about osteoarthritis, and gives hints and advice on living with it more easily. It then answers some common questions. Three case histories give you an idea of how people usually manage with osteoarthritis.

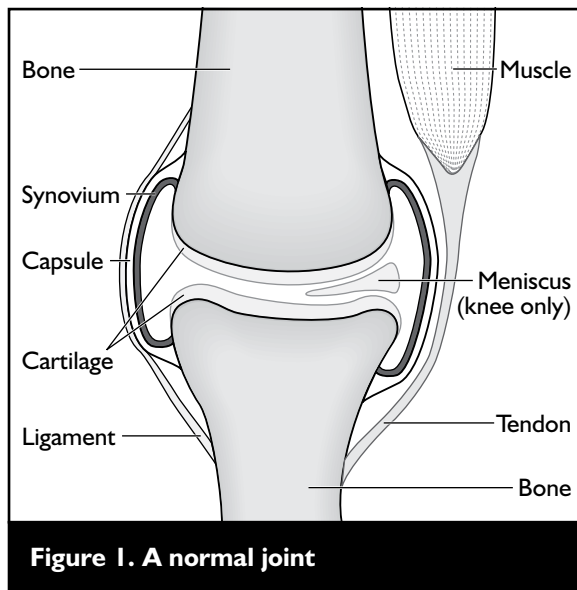
Near the end of the booklet you will find addresses of organisations that can offer further help, including information on how to contact the Arthritis Research Campaign (**arc**). There is also a brief glossary of medical words (like *cartilage*). We have put these in *italics* when they are first used in the booklet.

## What is osteoarthritis?

Osteoarthritis is a disease which affects joints in the body. The surface of the joint is damaged and the surrounding bone grows thicker. ‘Osteo’ means bone and ‘arthritis’ means joint damage and swelling (inflammation). Other words used to describe osteoarthritis are ‘osteoarthrosis’, ‘arthrosis’ and ‘degenerative joint disease’.

To understand how osteoarthritis develops, you need to know how a normal joint works (see Figure 1). A joint is where two bones meet. Most of our joints are designed to allow the bones to move only in certain directions. For example, the knee joint allows the leg to bend fully but only allows limited movement sideways.

The ends of the bones are covered by a thin layer of gristle called *cartilage*. This cartilage cushions the joint



**Figure 1. A normal joint**

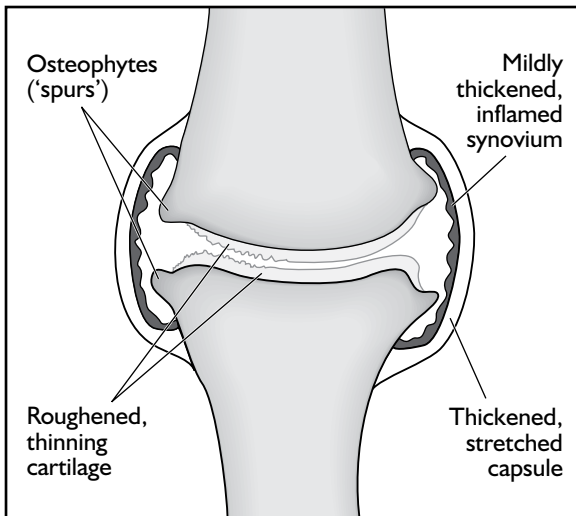
and spreads the forces evenly when you put pressure on the joint. The smooth, slippery cartilage surface also allows the bone ends to move freely.

The knee is the largest joint in the body, and it has extra pieces of gristle (each called a *meniscus*) between the cartilage layers – these are small rings of cartilage in the shape of washers.

The joint is surrounded by a membrane (the *synovium*) which produces a small amount of thick fluid (*synovial fluid*). This fluid helps nourish the cartilage and keep it slippery. The synovium has a tough outer layer called the *capsule* which stops the bones moving too much.

The bones are kept firmly in place on both sides of the joint by the *ligaments*. These are thick, strong bands which run within or just outside the capsule. Together with the capsule, the ligaments prevent the bones moving too much or dislocating.

The *tendons* are strong guiders that attach the muscles to the bones either side of the joint. They also help to keep



**Figure 2. A joint with mild osteoarthritis**

the joint in place. When a muscle contracts, it shortens and this pulls the bone and makes the joint move. Figure 2 shows what happens when a normal joint develops osteoarthritis.

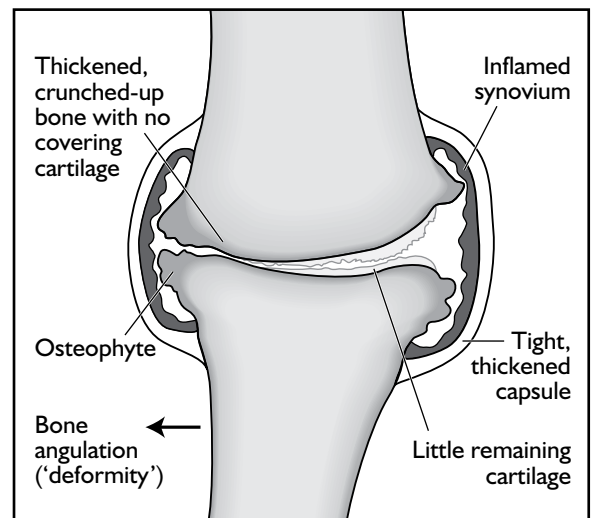
When a joint develops osteoarthritis, the cartilage gradually roughens and becomes thin, and the bone underneath thickens. The bone at the edge of the joint grows outwards (this forms *osteophytes* or bony spurs). The synovium swells slightly and may produce extra fluid, which then makes the joint swell slightly. The capsule and ligaments slowly thicken and contract, as if they were trying to stabilise the joint as it gradually changes shape. Muscles that move the joint may weaken and become thin or wasted.

When we look at osteoarthritic joints under a microscope, we see the joint is trying to repair itself. All the tissues of the joint are more active than normal. For example, new tissue is produced to try to repair the damage, such as the osteophytes. In many cases, especially in small

finger joints, the repair is successful. This explains why many people have osteoarthritis but experience few or no problems. However, sometimes the repair cannot compensate for the damage. Osteoarthritis may then seriously affect the joint, making it painful and difficult to move. This occurs particularly in large joints such as the knees and hips.

Osteoarthritis is a slow process that develops over many years. In most cases there are only small changes that affect only part of the joint. Sometimes, though, osteoarthritis can be more severe and extensive, and this is shown in Figure 3.

In severe osteoarthritis, the cartilage can become so thin that it no longer covers the thickened bone ends. The bone ends touch and start to wear away. The loss of cartilage, the wearing of bone, and the bony overgrowth at the edges can change the shape of the joint. This forces the bones out of their normal position and causes *deformity*.



**Figure 3. A joint which has been deformed by severe osteoarthritis**

A common complication is where chalky deposits of calcium crystals form in the cartilage (a process called *calcification* or *chondrocalcinosis*). These calcium crystals can shake loose from the cartilage, irritate the synovium and cause the joint to become hot, red and swollen (*pseudogout*). (See **arc** booklet ‘Pseudogout and Calcium Crystal Diseases’.)

## What causes osteoarthritis?

Like most other conditions, there are many factors that can increase the risk of getting osteoarthritis. Usually, several of these have to be present before osteoarthritis develops. These important risk factors include the following:

### Age

Osteoarthritis usually starts in the late 40s, 50s or 60s and is uncommon before the age of 40. We do not fully understand why it is more common in older people. It is probably due to several factors that accompany growing older – muscles become weaker, we put on weight, and our body is less able to heal itself.

### Sex

For most joints, especially the knees and hands, osteoarthritis is more common and severe in women.

### Obesity

For many people, this is an important factor in causing osteoarthritis, especially at the knee. Being overweight also increases the chances of osteoarthritis worsening once it has developed.

### Joint injury

A major injury or operation on a joint may lead to osteoarthritis at that site in later life. There are some abnormalities of the joint that you can be born with or

which develop when you are a child, such as *Perthes’ disease* of the hips, which also lead to osteoarthritis in later life.

Normal activity and exercise is good rather than bad for joints and does not cause osteoarthritis. However, very hard repetitive activity may injure joints. This explains why osteoarthritis is more common in people in some physically demanding jobs, such as farmers (osteoarthritis of the hip) and professional footballers (osteoarthritis of the knee).

### Heredity

There is one common form of osteoarthritis (*nodal osteoarthritis*) that strongly runs in families. This particularly affects the hands of middle-aged women. We do not know which inherited genes lead to nodal osteoarthritis, but we do think that a lot of genes will be involved, not just one (see ‘Will my osteoarthritis affect sex, marriage or my family?’).

In knee and hip osteoarthritis, heredity plays a smaller, though still significant, role. At these sites other risk factors such as obesity and joint injury become more important. There are some very rare but dramatic forms of osteoarthritis that start at a young age and run in families. We know these are linked with single genes that affect *collagen* – an essential component of cartilage.

### Other types of joint disease

Sometimes osteoarthritis is caused by injury and damage from a different kind of joint disease that occurred years before. For example, people with rheumatoid arthritis can develop ‘secondary’ osteoarthritis in those joints in which the rheumatoid inflammation has largely burnt out but where the joint remains damaged by the disease.

Of course there must be other causes, though we do not know what they are yet. However, we know enough

to correct some myths. Osteoarthritis is *not* caused by moderate exercise, by the weather or by a shock. It is *not* caused by specific items of diet, though it does not help to have poor nutrition as this is bad for muscles, cartilage and bone.

## How common is osteoarthritis?

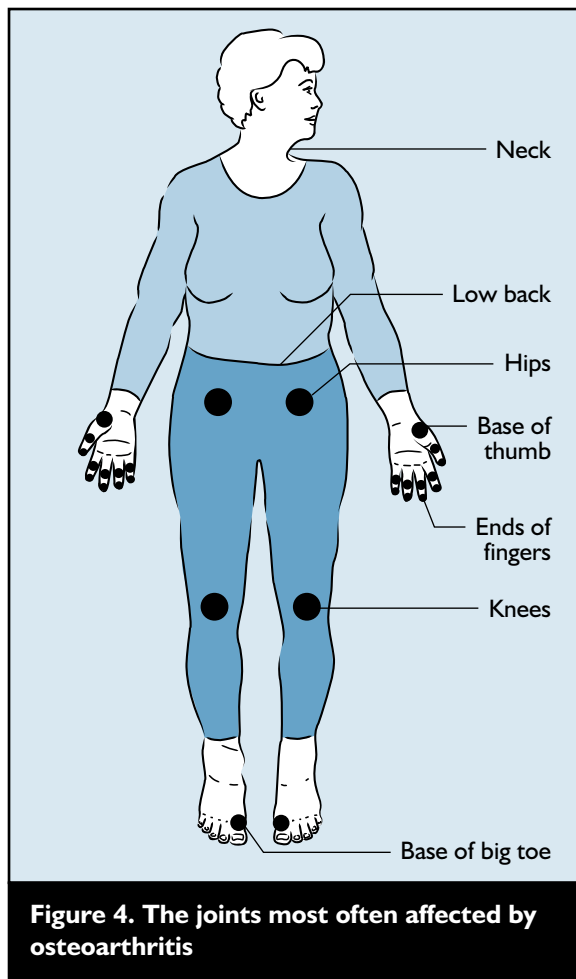
Osteoarthritis is by far the most common joint disease. Knee osteoarthritis is more common than hip osteoarthritis, but taken together they affect 10–20% of people aged over 65, becoming a major cause of pain and disability in the elderly. About 8 million people in this country are affected and about 1 million of these ask for treatment. Of the others, many never realise they have osteoarthritis, or suffer any pain, although it is very common to spot it on x-rays. Osteoarthritis occurs throughout the world, and has been common throughout history. All races are affected, though there are differences between races in how commonly the different joints are affected – for example, hip and hand osteoarthritis are common in Europeans and people of European descent but uncommon in people of Chinese and Afro-Caribbean descent.

## What are the different types of osteoarthritis?

Osteoarthritis is very variable. There are many different types, affecting different joints (see Figure 4). The knees, hips, hands, spine and big toes are most often affected.

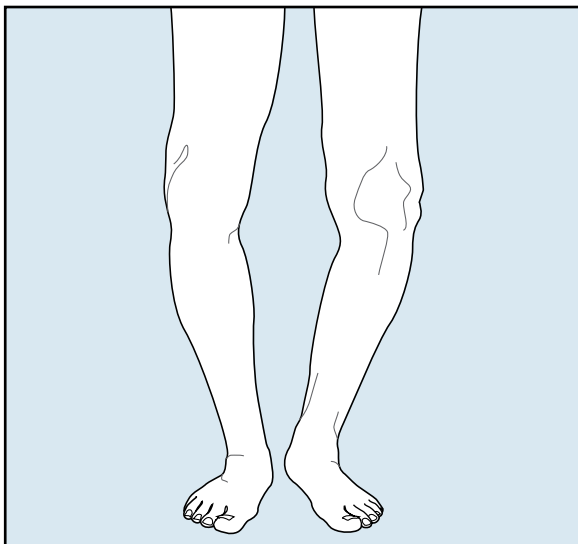
### Osteoarthritis of the knee

Osteoarthritis of the knee is more common in women than men and it usually affects both knees. It causes



**Figure 4. The joints most often affected by osteoarthritis**

most problems in the late 50s, 60s and 70s. Being overweight and having nodal osteoarthritis increase the risk of osteoarthritis of the knee in women. A previous sporting injury or operation (such as a cartilage being removed) are more common risks in men and may cause osteoarthritis of just one knee. Sometimes there is no obvious cause. Any pain is usually felt at the front and sides of the knee. In severe cases, the knees may become rather bent and bowed (as in Figure 5). (See **arc** booklet ‘Osteoarthritis of the Knee’.)



**Figure 5. Severe osteoarthritis of the knee causing 'bow-leg' deformity**

## Osteoarthritis of the hip

Osteoarthritis of the hip affects men as much as women and often starts in the 40s, 50s and 60s. It may affect one or both hips. The risk is increased in farmers. Sometimes hip problems at birth or childhood (congenital dislocation or abnormal development such as Perthes' disease) may later lead to osteoarthritis. However, in many people there is no obvious cause.

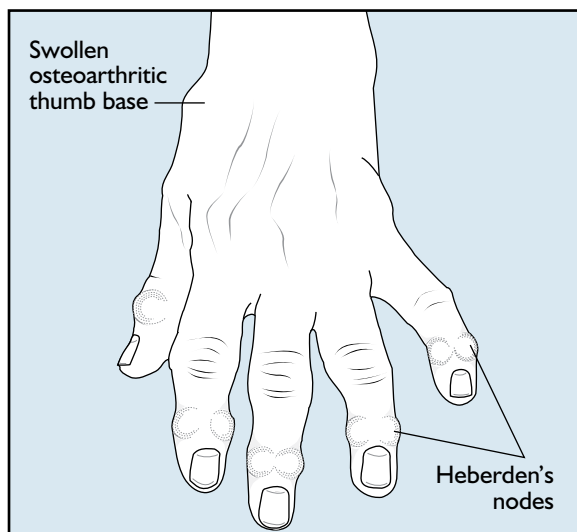
The hip joint is below the groin, and hip pain is usually felt mainly in the front of the groin, but sometimes around the side and front of the thigh, the buttock or down to the knee (so-called *radiated pain*).

In severe osteoarthritis of the hip, the affected leg may get a little shorter due to the bone on either side of the joint being 'crunched up'. As mentioned above, for some unexplained reason people of Chinese and Afro-Caribbean origin rarely get osteoarthritis of the hip joint. (See **arc** booklet 'A New Hip Joint'.)

## Osteoarthritis of the hands

Osteoarthritis of the hands usually occurs as part of nodal osteoarthritis. This mainly affects women, and often starts in the 40s and 50s, around the time of the menopause ('the change'). Most often it affects the base of the thumb and the joints at the end of the fingers. At times these joints become red, swollen and tender, especially when the condition first appears.

Gradually, over several years, firm knobby swellings form on the back of the joints (see Figure 6). These are called *Heberden's nodes* after the English physician, William Heberden, who first described them. Once the Heberden's nodes are fully formed, pain and tenderness often improve. However, the base joint of the thumb may continue as a persistent problem. Although the fingers are knobby and sometimes slightly bent, they work well and rarely cause long-term problems. However, having nodal osteoarthritis in middle age means you are more likely to develop osteoarthritis of the knee, and occasionally a



**Figure 6. Osteoarthritis of the hand with Heberden's nodes**

few other joints, as you get into your 60s and 70s. This is why it is sometimes called ‘generalised’ (widespread) osteoarthritis. Nodal osteoarthritis is mainly related to genes that are inherited and so it runs in families. It is almost completely confined to white people. (See also the x-ray shown in ‘What tests can show osteoarthritis?’ (Figure 8).)

### **Osteoarthritis of the neck and back**

Osteoarthritis of the neck and back is often called *spondylosis*. X-rays show that it is extremely common, but it often causes no trouble, and what is seen on the x-ray bears little relationship to pain or stiffness in the spine. About half the population gets back pain from time to time, but osteoarthritis is not the most frequent cause of this. (See **arc** booklet ‘Back Pain’.)

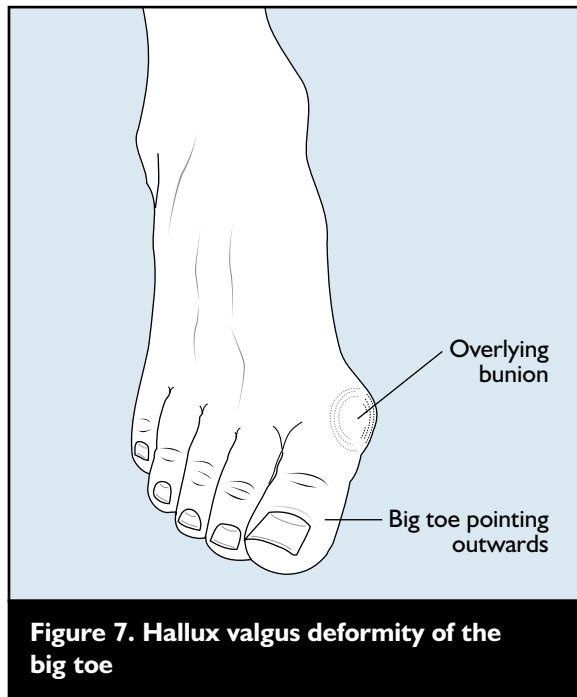
### **Osteoarthritis of the foot**

Osteoarthritis of the foot generally affects the joint at the base of the big toe. Eventually the toe may become stiff (*hallux rigidus*), which makes walking difficult, or bent (*hallux valgus*), which can lead to painful bunions (see Figure 7). (See **arc** booklet ‘Feet, Footwear and Arthritis’.)

### **Osteoarthritis with crystals**

Chalky deposits of calcium crystals can form in the cartilage in joints (a process called calcification or chondrocalcinosis). This calcification mainly occurs in the knee joint, especially in older people. It shows on the x-ray, and the crystals can be identified in synovial fluid which has been removed from the knee through a needle.

Because most of the crystals are made of calcium pyrophosphate, this form of osteoarthritis with crystals is often called *pyrophosphate arthritis* (or chronic pyrophosphate arthritis). It tends to be more severe and to progress more rapidly than osteoarthritis without crystals. Also,



**Figure 7. Hallux valgus deformity of the big toe**

the crystals can cause occasional attacks of very painful swelling (pseudogout, or acute pyrophosphate arthritis). (See **arc** booklet ‘Pseudogout and Calcium Crystal Diseases’.)

## **Does osteoarthritis vary for different people?**

Osteoarthritis occasionally develops in different joints from those already mentioned. Almost any joint can develop osteoarthritis, especially if it has been badly injured. Even for two people with osteoarthritis of the same joint, their osteoarthritis can affect them very differently. Some people have no problems, or just mild trouble. Pain is the main problem for some, while others find it difficult to move and use the joint. Some stay the same for years, others experience a lot of change.

Osteoarthritis is so variable it is difficult to generalise. So comparing yourself to someone else with osteoarthritis will not help much.

## What are the symptoms and signs of osteoarthritis?

Osteoarthritis tends to creep up on you, gradually increasing over months or years. Stiff and painful joints are the main symptoms. The pain tends to be worse on exercising the joint and at the end of the day. Stiffness after resting usually 'works off' in just a minute or two as the joint gets moving again. The joint may not move as freely or as far as normal, and often 'creaks' or 'cracks' when moved. Occasionally the joint seems to give way because of weak muscles or loss of stability. Muscle exercises can strengthen the muscle and help prevent this (exercises and other helpful hints are discussed later in this booklet).

Symptoms often vary for no obvious reason, with bad spells of a few weeks or months being broken by much better periods. Changes in the weather (especially damp and low pressure) can make joint pain worse for some people – others find it depends on how much physical activity they do.

Often the joint appears a little swollen, due to hard bony osteophytes, or extra synovial fluid (which will feel soft), while the muscles around the joint look a little thinner.

In some advanced cases, more severe and constant pain may develop and occur not only with or after exercise but even at rest or at night. Certain daily tasks and activities may then prove difficult, depending on which joint is affected. For example, osteoarthritis of the knee or hip may cause difficulties going down and up stairs, getting in or out of the car, getting up from sitting, or putting

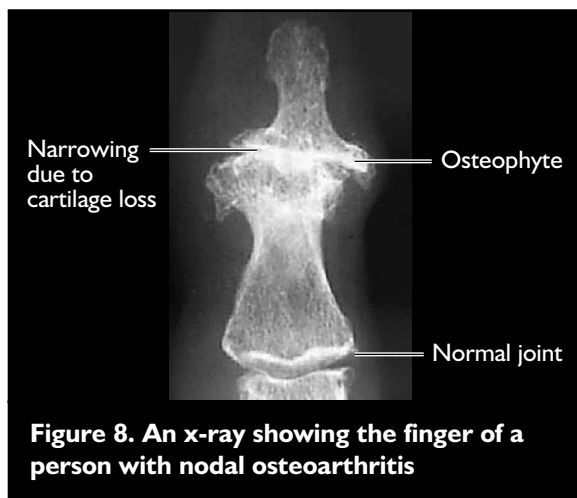
on shoes and socks. Mobility may be affected due to pain on walking. These difficulties can restrict what you can do and limit your independence.

## How does the doctor diagnose osteoarthritis?

It is usually the symptoms and signs mentioned above which lead your doctor to diagnose osteoarthritis. When your joints are examined, your doctor can feel the bony swelling and creaking of the joint and see any restricted movement. Your doctor will also be looking for tenderness over the joint, and any thinning muscle, excess fluid, or instability in the joints.

### What tests can show osteoarthritis?

There is no blood test for osteoarthritis, although blood tests are sometimes done to help rule out other types of arthritis. The x-ray is the most useful test to confirm osteoarthritis. Often it will show the space between the bones narrowing as the cartilage thins, and changes in the bone such as spurs. Calcification may also show up on knee x-rays. Although the x-ray helps the diagnosis,



**Figure 8. An x-ray showing the finger of a person with nodal osteoarthritis**

it does not predict the amount of trouble you will have. An x-ray that looks bad does not necessarily mean a lot of pain or disability.

## What are the prospects if I have osteoarthritis?

Osteoarthritis does not always get worse. Most people with osteoarthritis do not become severely disabled and they carry on a normal life. For many people, osteoarthritis reaches a peak a few years after the symptoms start and then either stays the same or gets a little easier. For others, one or more joints (especially a hip or knee) worsens as the years go by, and it may become painful and disabling.

Sometimes osteoarthritis gets better by itself, but this is unusual. Doctors cannot predict the outcome in individual cases. However, there are a number of treatments that can improve symptoms, and certain changes in lifestyle can greatly reduce the risks of osteoarthritis progressing. Regular appropriate exercise, reducing stress on the joints (see 'What can I do to help myself?'), and maintaining an ideal weight through healthy eating will all help. So to a certain extent the person with osteoarthritis is in control of his or her own outcome. (See **arc** booklet 'Diet and Arthritis' and leaflet 'Keep Moving'.)

## What can I do to help myself?

Although there is no cure for osteoarthritis, there are many ways in which you can relieve your symptoms and reduce the likelihood of things progressing. Doctors, nurses and therapists are there to guide you, but it is important that you get to know about osteoarthritis and its treatments so you can take the lead in looking after yourself and your osteoarthritis.

Two aspects of your daily routine and lifestyle may need to be changed. These can prove more important in the long term in helping your osteoarthritis than any tablet or medication.

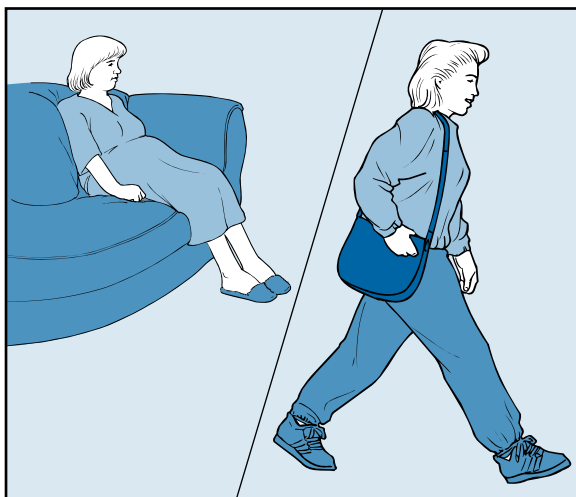
## Reduce stress on the joints

Firstly, you can reduce the stress on painful osteoarthritic joints. This can be done in a variety of ways:

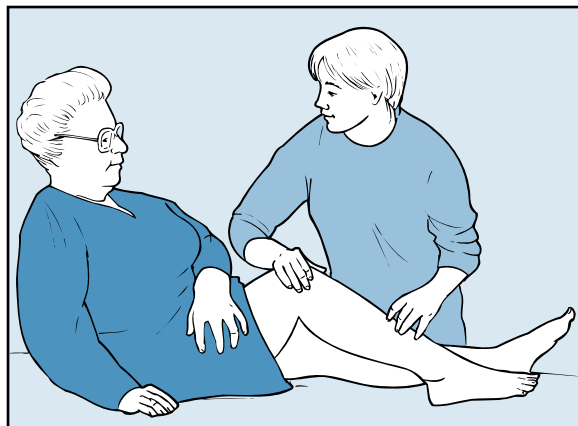
- **Keep to your ideal weight.** If you are overweight, losing even a few pounds will reduce the stress on your hips, knees and feet. Regaining your ideal weight is extremely important for your joints, but is difficult and you need to be determined. Combining regular exercise with a diet is often better than dieting alone. 'Dieting' means altering your eating habits forever, not just for a few months.
- **Pace your activities through the day.** Spread physically hard jobs (such as housework, mowing the lawn) at intervals through the day, rather than tackling them all at once.
- **Wear shoes with thick soft soles** that act as shock absorbers for your feet, knees, hips and back. Trainers with 'air' soles are ideal, but many fashion shoes now use these soles. For women it is also important to have flat heels. Raised heels alter the angle of the knee and hip and put additional strain on these joints.
- **Use a walking stick** to reduce the weight and stress on a painful hip or knee. A therapist or doctor can advise on the correct length of the stick and how to use it properly.
- **Protect your joints.** Avoid unnecessary activities that put a lot of strain on your joints. Think of modifying your home, car or workplace to minimise unnecessary stresses. If you find it hard to cope at home, an occupational therapist can give you advice on ways to protect your joints and improve the amount you can do. (See **arc** leaflet 'Occupational Therapy and Arthritis'.)

## Activity and exercise

Secondly, you need to keep your joints moving. There are two types of exercise that you need to do. Firstly, **strengthening exercise** will improve the strength and tone of the muscles that act over your osteoarthritic joint (for example, the front thigh muscle, or *quadriceps*, for knee osteoarthritis). This helps to stabilise and protect osteoarthritic joints and reduces the pain. Such strengthening exercise also reduces your risk of falling over, a common problem in older people. Secondly, any exercise that increases your pulse rate and makes you breathless (**aerobic exercise**) can also reduce your pain and allow you to do more. Regular aerobic exercise encourages a better night's sleep and is very good for your general health and well-being. Regularly undertaking both forms of exercise can greatly help people with osteoarthritis, and over several months can relieve pain and improve movement.



**Figure 9. Lifestyle changes can be good for osteoarthritic joints. Rather than being inactive, make sure you take regular exercise which will help you reach or keep to your ideal weight.**



**Figure 10. Strengthening and movement exercises are easy to learn and should then become a daily routine.**

A physiotherapist can teach the correct exercises, but then it is up to you to continue them as part of your daily routine, just like brushing your teeth. Appropriate exercises can be planned to fit the individual and can benefit anybody regardless of age. (See **arc** leaflet 'Keep Moving'.)

Learning how to relax your muscles and get the tension out of your body can also help enormously, especially when you are in pain. Physiotherapists and occupational therapists can give you advice on how to relax, how to overcome mobility problems, how to avoid joint strain and how to cope with pain. (See **arc** booklet 'Pain and Arthritis'.)

## Will any tablets or creams help?

Painkillers often help symptoms and make it easier to get about. They do not affect the arthritis itself, but take the edge off pain and stiffness. They are best used occasionally for bad spells, or when extra exercise is likely. Never take more than the recommended dose. **Paracetamol** is the simplest and safest painkiller and

is the best one to try first. **Combined painkillers** (e.g. cocodamol, codydramol) contain paracetamol and a second codeine-like drug. They may be stronger than paracetamol but are more likely to cause side-effects, such as constipation or dizziness.

Inflammation in the joint may contribute to the pain and stiffness so your doctor may prescribe a course of non-steroidal anti-inflammatory drugs (**NSAIDs**). These help some people more than paracetamol, but are more likely to cause side-effects such as indigestion, diarrhoea, ankle swelling and skin rashes. There is a small but significant risk of bleeding from the stomach and NSAIDs should not be given to anyone who has had stomach ulcers. A low dose of ibuprofen is the safest of these and the usual one to try first. Newer NSAIDs ('coxibs') are safer on the stomach and gut but can still cause the other side-effects of NSAIDs. 'Coxibs' have been linked with increased risks of heart attack and stroke and should not be given to people who have had either in the past, or to people with uncontrolled high blood pressure. (See **arc** leaflets 'Drugs and Arthritis', 'Non-Steroidal Anti-Inflammatory Drugs' and booklet 'Pain and Arthritis'.)

**NSAID creams and gels** often help, especially for knee and hand osteoarthritis. These are extremely safe – very little is absorbed into the bloodstream.

**Capsaicin cream** (made from capsicum, the pepper plant) is also an effective and safe painkiller. The first few times it is applied it may cause a warming or burning feeling, but this wears off with regular use. It needs to be regularly applied each day to be effective.

There are stronger painkillers (e.g. tramadol, nefopam, meptazinol) that may be required for people with severe pain that is unrelieved by the medications mentioned above. Unfortunately, although they are stronger pain-

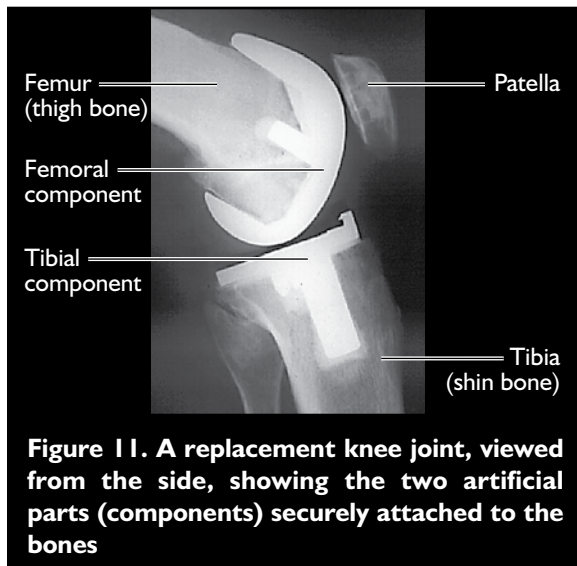
killers they commonly have side-effects, especially nausea, dizziness and confusion, and need to be taken carefully under regular supervision from your doctor.

Because these tablets and creams work in different ways it may be useful to combine them if each seems to work but is not strong enough on its own. Your chemist can advise you and offer paracetamol, and some low-dose NSAID tablets and creams without a prescription. However, you can only get capsaicin cream, most NSAID tablets and creams, and strong combined painkillers on prescription from your doctor.

Many people try **glucosamine and chondroitin tablets** that they buy themselves from health food shops and chemists. These products may also be available on prescription. The reason behind their use is that joint cartilage normally contains glucosamine and chondroitin compounds and taking supplements of these natural ingredients may help improve the health of damaged osteoarthritic cartilage. Current research is trying to establish whether this is true. Nevertheless, many people report them to be effective and at least they appear to be safe, although they should not be taken by people who have an allergy to shellfish. They may need to be taken for several weeks before any pain relief is apparent.

## How can severe osteoarthritis be treated?

A steroid injection into the joint may improve pain for several weeks, especially in a knee or thumb. This is mainly reserved for very painful osteoarthritis, and for attacks of pseudogout. It often works very well and very quickly (within a day). Some people may be helped by an injection of hyaluronan into their knee. Hyaluronan is similar to the thick, viscous component of normal



**Figure 11. A replacement knee joint, viewed from the side, showing the two artificial parts (components) securely attached to the bones**

joint fluid and is normally given as a course of injections once a week for 3–5 weeks. It takes longer to work than a steroid injection.

Surgery can succeed in the few cases where severe pain has developed and caused mobility to be limited in spite of other treatment. Hip replacement is very successful in bad cases. Knee replacement is now also successful in bad cases (see Figure 11). New types of surgery for knees and other joints are developing, and the success rate is improving all the time. (See **arc** booklets ‘A New Hip Joint’, ‘A New Knee Joint’.)

## What if I have difficulty with containers?

If you have difficulty opening childproof bottles you can ask the pharmacist to put your drugs in a more suitable container. Apply to **arc** for a special request card which you can hand to your pharmacist with your prescription.

## Some common questions answered

### What is the difference between osteoarthritis and rheumatoid arthritis?

Rheumatoid arthritis and osteoarthritis are quite different diseases. Whereas osteoarthritis rarely occurs before the age of 40, many people develop rheumatoid arthritis in their 20s or 30s. Many joints are involved – the synovium is badly inflamed and this damages all the tissues in the joint. The affected joints are painful, often very stiff, and appear warm, tender and swollen with fluid (not with extra bone growth). Blood tests show widespread inflammation that affects the body generally, often causing anaemia, weight loss and tiredness. X-rays show that the bones are thin and eroded, rather than the bony spurs and calcification that show up in osteoarthritis. (See **arc** booklet ‘Rheumatoid Arthritis’.)

### What does the future hold?

Although osteoarthritis is often painful and upsetting, it usually does not cause crippling arthritis or severe deformity of joints. For most people it will be more of a nuisance than a major problem.

It does not lead to rheumatoid arthritis or other forms of joint disease. It will not spread all over your body. It has no link with cancer or other serious diseases.

The pain sometimes gets easier as time goes by, and most people with osteoarthritis have little disability. Try not to fear the future unnecessarily as this can be worse than the actual arthritis. People with osteoarthritis can do a lot to help themselves and often only need occasional advice from doctors and therapists. Modern medicine and surgery have much to offer, particularly for the few who do get severe joint damage.

## **Can any special diet help?**

A large amount of research is being done on diet, nutrition and osteoarthritis. Many books, articles and advertisements claim benefits for particular diets or food supplements, but at the moment most are not supported by strong evidence.

There is, however, evidence that the supplement glucosamine can produce some improvement in osteoarthritis (see ‘Will any tablets or creams help?’ above). For information on other aspects of diet, including oily fish and fish oils, see the **arc** booklet ‘Diet and Arthritis’.

Particularly important in relation to diet is the fact that a great deal of evidence shows that being overweight increases the risk of developing osteoarthritis, especially of the knee. It also increases the risk of osteoarthritis progressing. Being overweight is also bad for your general health and increases the risk of developing heart disease, stroke and diabetes. So you should eat a balanced, healthy diet and keep your weight as close as possible to the ideal for your height and age.

## **Will rest or exercise help?**

Joints do not wear out with normal use. In general, it is much better to use them than not to! However, you must strike a sensible balance between too much activity and too much rest. Most people with osteoarthritis find that while too much exercise worsens their pain, their joints stiffen up if kept still for too long.

For most people with osteoarthritis, the best advice is ‘little and often’ – a little rest, followed by a little exercise. For example, do the housework or gardening in short spells interrupted by short rests. Avoid sitting in one place for too long – get up and stretch the joints from time to time. Break up a long car journey with frequent stops to walk around.

Activities that cause severe pain afterwards are probably best avoided. If for some special reason you do need to do a lot extra, it can help to take a painkiller before you start. Even if it does cause extra pain you are unlikely to damage the joint, but your doctor or therapist will give you more advice if you are worried. (See **arc** leaflet ‘Keep Moving’.)

## **Can swimming or pool treatment help?**

Swimming can be a very good way of exercising and keeping fit as it causes little pain. Water supports the body’s weight so that little force goes through the joints as you exercise. Also, warm water relaxes muscles and joints and is very soothing, allowing joints to move more freely. If you have osteoarthritis of the hip or knee you may find this particularly helpful.

Prescribed exercises in a hydrotherapy pool can help get muscles and joints working better, without undue pain. Supervised swimming in natural spa waters is an ancient treatment – it is the exercise that helps rather than any healing properties of the water itself. (See **arc** leaflet ‘Hydrotherapy and Arthritis’.)

## **Will my osteoarthritis affect sex, marriage or my family?**

Osteoarthritis is not catching and cannot be given to family or friends. It should not affect your marriage or partnership or your family. However, sexual intercourse may be painful, particularly for women with osteoarthritis of the hips. Using different positions can often help. If you have problems, consult your doctor and see also the **arc** booklet ‘Sexuality and Arthritis’.

If you have nodal osteoarthritis with knobbly fingers, your children have an increased chance of developing it in their middle life. This is particularly true for girls, who have about a 30–50% chance of inheriting it from an affected mother. There is a smaller risk of passing on

the tendency to develop knee osteoarthritis. No test can show whether you have inherited the tendency for nodal or knee osteoarthritis. However, if a parent has nodal or knee osteoarthritis, the children, especially the females, have an added incentive to exercise regularly and avoid getting overweight.

### **Does the weather really affect osteoarthritis?**

Painful joints are often sensitive to the weather. They tend to feel worse when the atmospheric (barometric) pressure is falling, such as just before it rains. This helps to explain how people with osteoarthritis can predict rain, and why joint pains seem linked with the damp.

However, there is no evidence that different climates have any long-term effect on osteoarthritis or its outcome. The weather may temporarily affect symptoms but not the arthritis itself. There is no point in moving to a different area in the hope of curing osteoarthritis. Osteoarthritis occurs all over the world, in all types of climate. (See **arc** booklet 'Introducing Arthritis'.)

### **Can heat help?**

Warmth applied to the affected area often relieves the pain and stiffness of osteoarthritis. Heat lamps are popular, but you can get a similar effect more cheaply with hot-water bottles (be careful, though – it is easy to burn yourself with either). There are also many creams, available at the chemist, which can produce localised heat.

These measures make no long-term difference to the disease, but they can give you temporary pain relief. Used carefully they are safe and soothing.

### **Are manipulations or complementary medicines worth trying?**

Back and neck pain are often helped by manipulation from chiropractors or osteopaths, although the use of manipulation for osteoarthritis in other areas is

limited. However, many people still seek advice from these practitioners, but you should make sure that the practitioner is fully trained and registered.

'Complementary' medicines seem to help some people with osteoarthritis. A few, like acupuncture, have a proven short-term pain-relieving effect. But many do no more than produce a 'placebo' effect (as when someone receiving a simple sugar pill actually believes it is making them better). There are many good complementary practitioners, but sadly a minority seem to exploit people's suffering. We have no proof that copper bracelets or other such measures can affect osteoarthritis, but faith in them seems to help some people. (See **arc** booklet 'Complementary Therapies and Arthritis').

### **Who should I listen to?**

Many well-meaning people offer advice. Magazines and the media are full of articles on arthritis and its treatment. Some offer 'new hope', others offer a special diet or medicine with 'miracle' properties. Unfortunately, there are no miracle cures or easy answers. Discuss things with your doctor and think about the advice in this booklet *before* spending money on new ideas.

## **Keeping your spirits up**

Depression, low morale and poor sleep can all make pain worse. They can all influence the way pain is experienced and lower your threshold to pain.

If someone is depressed, their pain often feels worse and they have more difficulty coping with it. They might go to their doctor and be given bigger doses of tablets to relieve that pain. But sometimes what the person needs is help for the depression and the demoralising effect of arthritis. If the depression is lifted, the pain often becomes less and the person is better able to cope with their osteoarthritis.



**Figure 12. Keeping your spirits up is important. Finding new hobbies or interests can help.**

A positive and hopeful approach is half the battle, though this is easier said than done. Make every effort to make life fuller and more interesting than before. Your morale will drop after too much rest and inactivity, whereas hobbies and interests take your mind off your problems. Sleep is important – it is best not to take naps during the day but to save all your sleep for night-time, taking a painkiller last thing if necessary. If you have previously enjoyed vigorous activity and sport you may have to develop less active pastimes, but there is no reason to let osteoarthritis get you down or stop you doing most everyday activities.

## Some case histories

Here are three case studies which show some typical patterns for people with osteoarthritis. Everybody's case is different, but these are typical experiences. They will give you an idea of how people manage with osteoarthritis.

**Mary is a 64-year-old housewife.** She remembers that her mother (who died a few years ago) had knobby fingers and sometimes complained of her rheumatism. When Mary was 52 she first noticed some discomfort and swelling in the joints at the ends of her fingers. For a few years several of these joints were quite painful and often red and tender. The base of her thumbs also became troublesome, and her knees became creaky and uncomfortable.

Her hands are much less of a problem now. They cause very little discomfort, although some fine movements (such as with buttons and needlework) are sometimes difficult and take a little longer to do. Her knees stiffen up in the evenings, and get uncomfortable after walking for too long. They give more trouble on some days than on others.

Mary occasionally takes paracetamol for her knees and is not on any other treatment. She regularly does the knee-muscle exercises which the practice nurse taught her, and she enjoys swimming with her neighbour twice a week. She describes her osteoarthritis as a 'bit of a nuisance', but it hasn't interfered with her life in any major way. She feels well and leads a full family and social life.

**John is a 68-year-old retired salesman.** When he was 25 he injured his knee playing football. It 'locked' and was very painful for several weeks. His doctor sent him to an orthopaedic surgeon, who removed part of John's damaged cartilage (meniscus). He still had quite a lot of pain and he had to have a second operation on the same knee a few years later (when he was 30). After that, John had no real problems for many years. His knee occasionally ached and was sometimes stiff, but it didn't stop him from doing anything.

About 10 years ago he noticed that the discomfort and the stiffness were getting slowly worse. As time went by the knee became quite painful on exercise and started to swell a little. By the time he was 64 (and coming up to retirement) it was getting difficult to climb stairs properly, and John couldn't walk more than about half a mile without a lot of pain.

*His doctor examined the knee, took an x-ray, and told John he had osteoarthritis with some calcium crystals in the joint, caused by his old injury and operations. He was given some pain-killing tablets (paracetamol) and NSAID cream which helped, and some physiotherapy to strengthen his weakened thigh muscles. This made walking and climbing stairs much easier.*

*Since his retirement John hasn't had to rush around so much, and is finding things easier. His many hobbies include gardening, which he manages, and some home decorating. He says it is fine as long as he 'takes it gently'. He uses the tablets and cream most days, and carries on with the regular exercises he was taught. John gets more pain on certain days, particularly when it is damp, and his knee often stiffens up if he sits in one place for too long.*

**Barbara is a sprightly 71-year-old.** *She is very proud of her 'new hip joint'. Her arthritis troubles started about 20 years ago, with an ache in her groin and the front of her right thigh. The thigh pain slowly got worse and her leg became stiffer. She started to limp and had some very bad days when both her right hip and knee felt very painful.*

*Barbara's doctor told her she had osteoarthritis of the hip and gave her some tablets, which didn't make much difference. He called in a physiotherapist who told her that, because of the arthritis, her right leg was shorter than the left. Barbara was given a walking stick and slight raise on the heel of her right shoe to compensate for the shortening of her leg. She also had some hydrotherapy. These measures made life a good deal easier and she was able to manage well for several more years. However, about 2 years ago the pain got worse again and started to disturb her sleep.*

*In spite of more tablets and physiotherapy, Barbara's pain became quite severe and she couldn't get to sleep at nights. Her doctor referred her to a surgeon who took some x-rays, said she had very bad hip osteoarthritis, and put her on the waiting list for a hip replacement. Barbara asked about the knee pain, but the surgeon explained that this was coming from the hip and that her knee joint was fine.*

*Several months later Barbara went into hospital. She was on her feet a few days after the operation and was out of hospital a week later. It took her about 6 months to fully get over the operation and realise how good she was going to be. Her pain has gone, and although she still has some stiffness in the hip and has to be a little careful, she tells us that she is a 'new woman'. She doesn't use a stick any more and is no longer having to take tablets.*

## What does research mean for the future?

We do not yet know the causes or the cure for osteoarthritis. However, recent research (much of it funded by **arc**) is uncovering the mechanisms which lead to joint damage as well as the factors which control the healing response. For example, we now know some of the chemicals which thin out the cartilage in osteoarthritis, and we are now testing new drugs that inhibit the actions of these chemicals.

Our research teams are also searching for the genes that may result in osteoarthritis. When these are identified we may be able to prevent or improve this common condition. We hope that ongoing work such as this will lead to new treatments to limit the processes that cause damage to the cartilage and improve natural healing.

Doctors and research workers have changed their attitude a great deal in recent years. They now see real possibilities of understanding and controlling osteoarthritis in the future. They no longer see osteoarthritis as an inevitable part of ageing or a 'wear and tear' disease, but more as a major challenge and an important problem that they can solve.

## Glossary

**Calcification** – deposits of calcium crystals in soft tissues.

**Capsule** – the tough, fibrous sleeve around a joint. Its inner layer is the synovium.

**Cartilage** – strong material on bone ends that acts as a cushion. Its slippery surface allows smooth movement between bones.

**Chondrocalcinosis** – calcification of cartilage.

**Collagen** – the main substance in the white, fibrous connective tissue which is found in tendons, ligaments and cartilage. This very important protein is also found in skin and bone.

**Deformity** – abnormal growth or swelling of a joint.

**Hallux rigidus** – osteoarthritis of the big toe joint with a stuck, rigid toe (often painful).

**Hallux valgus** – osteoarthritis of the big toe joint with angulation of the toe.

**Heberden's nodes** – firm swellings of the end joints of fingers, often painless when fully formed – the hallmark of nodal osteoarthritis.

**Ligaments** – tough, fibrous bands anchoring the bones on either side of a joint and holding the joint together.

**Menisci** (singular **meniscus**) – free rings of cartilage, like washers, lying between the cartilage-covered bones in the knee. Each knee has an inside (medial) and an outside (lateral) meniscus.

**Nodal osteoarthritis** – a form of osteoarthritis that often runs in families, characterised by knobbly finger swellings (Heberden's nodes) and a tendency to get osteoarthritis at several sites (especially knees, big toes).

**Osteophytes** – overgrowth of new bone around the sides of osteoarthritic joints, also known as 'spurs'.

**Patella** – the kneecap, a small bone that helps the front thigh muscles work the knee.

**Pertthes' disease** – inflammation at the head of the thigh bone (femur) which causes pain and limping, usually in boys aged 5–10 years. It can restrict blood supply to the bone leading to poor growth and deformity and can cause osteoarthritis to develop in later life.

**Pseudogout** – a sudden attack of a hot, painful, very swollen, red joint, caused by calcium crystals in the joint (mainly the knee).

**Pyrophosphate arthritis** – a type of osteoarthritis in which crystals of calcium pyrophosphate form in a joint (see calcification and chondrocalcinosis). The crystals can cause pseudogout.

**Radiated pain** – pain that is felt some way away from the joint causing the trouble (for example, pain in the thigh and knee from an osteoarthritic hip).

**Spondylosis** – osteoarthritis of small joints in the neck and back – commonly present in all of us, often without causing any symptoms.

**Synovial fluid** – the fluid produced by the synovium to nourish and lubricate the joint.

**Synovium** – the capsule's inner layer that produces synovial fluid.

**Tendons** – strong fibrous 'guiders' or cords that anchor muscles to bone.

## Useful addresses

### The Arthritis Research Campaign (arc)

PO Box 177  
Chesterfield  
Derbyshire S41 7TQ  
Phone: 0870 850 5000  
[www.arc.org.uk](http://www.arc.org.uk)

As well as funding research, we produce a range of free information booklets and leaflets. Please contact the address above for a list of titles.

### Arthritis Care

18 Stephenson Way  
London NW1 2HD  
Phone: 020 7380 6500  
Helpline (freephone): 0808 800 4050  
[www.arthritiscare.org.uk](http://www.arthritiscare.org.uk)

Offers self-help support, a helpline service, and a range of leaflets on arthritis.

### Disabled Living Foundation (DLF)

380–384 Harrow Road  
London W9 2HU  
Phone: 020 7289 6111  
Helpline: 0845 130 9177  
[www.dlf.org.uk](http://www.dlf.org.uk)

Offers advice and information on equipment to help you in daily activities.

### Dial UK (Disability Information & Advice Line)

St Catherine's  
Tickhill Road  
Doncaster DN4 8QN  
Phone: 01302 310123  
[www.dialuk.org.uk](http://www.dialuk.org.uk)

The helpline will put you in touch with a local office for information in your area.

## Arthritis Research Campaign



The Arthritis Research Campaign (**arc**) is the only major UK charity funding research in universities, hospitals and medical schools to investigate the cause and cure of arthritis and other rheumatic diseases. We also produce a comprehensive range of over 90 free information booklets and leaflets covering different types of arthritis and offering practical advice to help in everyday life.

**arc** receives no government or NHS grants and relies entirely on its own fundraising efforts and the generosity of the public to support its research and education programmes.

*Arthritis Today* is the quarterly magazine of **arc**. This will keep you informed of the latest treatments and self-help techniques, with articles on research, human interest stories and fundraising news. If you would like to find out how you can receive this magazine regularly, please write to: Arthritis Research Campaign, Ref AT, PO Box 177, Chesterfield S41 7TQ.





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