

## Rheumatoid arthritis

This booklet provides information  
and answers to your questions  
about this condition.

# What is rheumatoid arthritis?



Rheumatoid arthritis is a condition that mainly affects the body's joints, causing pain and swelling. In this booklet we'll explain what rheumatoid arthritis is, what the symptoms are and who gets it. We'll also look at how it develops and how it's treated, and we'll suggest where you can find out more.

At the back of this booklet you'll find a brief glossary of medical words - we've underlined these when they're first used in the booklet.

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# At a glance

## Rheumatoid arthritis

Rheumatoid arthritis is the second most common form of arthritis in the UK.

### What is rheumatoid arthritis?

Rheumatoid arthritis is an autoimmune disease that causes inflammation in your joints. The main symptoms are joint pain and swelling. It's the second most common form of arthritis in the UK. Research shows that the sooner you start treatment for rheumatoid arthritis, the more effective it's likely to be, so it's important to see your doctor if you have joint pain and morning stiffness.

### What are the symptoms?

Common symptoms of rheumatoid arthritis include:

- joint pain and swelling
- stiffness
- tiredness (fatigue), depression, irritability
- anaemia
- flu-like symptoms, such as feeling generally ill, feeling hot and sweating.

Less common symptoms include:

- weight loss
- inflammation in the eyes
- rheumatoid nodules
- inflammation of other parts of the body.

### How is it diagnosed?

No single test can give a definite diagnosis of early rheumatoid arthritis. Doctors have to arrive at a diagnosis based on your symptoms, a physical examination and the results of a variety of x-rays, scans and blood tests. Blood tests include:

- tests to measure inflammation:
  - erythrocyte sedimentation rate (ESR)
  - C-reactive protein (CRP)
- tests for antibodies called rheumatoid factor and anti-CCP
- tests for anaemia.

Other tests include:

- x-rays
- ultrasound scan
- magnetic resonance imaging (MRI) scan.

### 🗨️ What treatments are there?

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There are three main aspects to the treatment of rheumatoid arthritis:

#### Drugs

There are different types of drugs used to treat rheumatoid arthritis:

- painkillers (analgesics)
- non-steroidal anti-inflammatory drugs (NSAIDs)
- disease-modifying anti-rheumatic drugs (DMARDs), including anti-TNF and other biological therapies
- corticosteroids.

#### Therapies

Looking after your joints is very important in the treatment of rheumatoid arthritis:

- A physiotherapist can suggest different exercises that may help ease your symptoms.
- A podiatrist can give advice on how to look after your feet and what footwear might be suitable.
- An occupational therapist can suggest ways that you could do day-to-day jobs, both at home and at work, without putting too much strain on your joints.
- Hydrotherapy (exercises done in a special warm-water pool) may ease joint pain.

#### Surgery

Surgery is occasionally needed and can range from minor surgery (such as the release of a nerve) to major surgery (such as joint replacement).

### 🗨️ How can I help myself?

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The following are important things that you can do to help manage rheumatoid arthritis:

- Strike a balance between rest and exercise.
- Eat a balanced diet and keep to a healthy weight.
- Protect your joints from unnecessary strain.
- Get a good night's sleep to help with fatigue.
- Learn about your condition.



## What is rheumatoid arthritis?

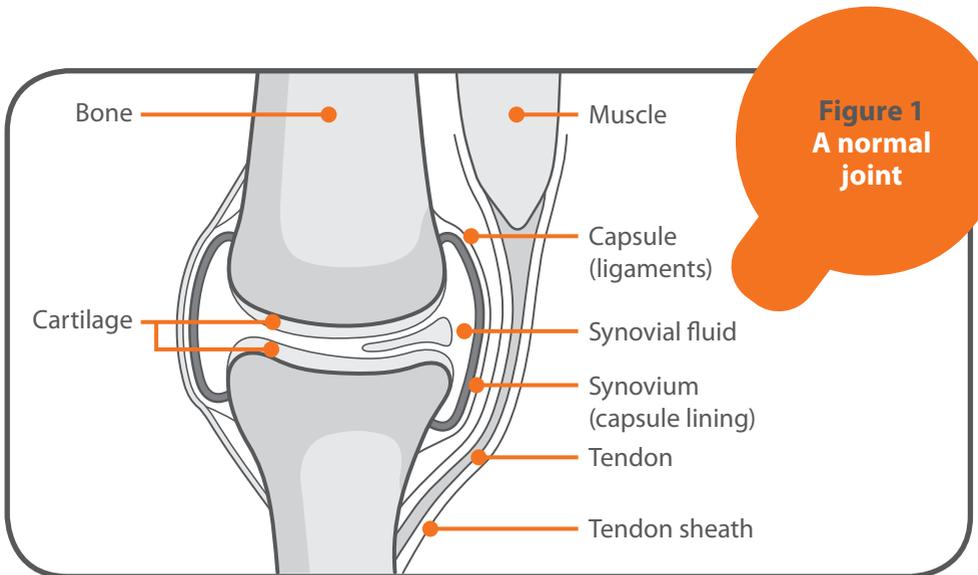
Rheumatoid arthritis is an autoimmune disease that causes inflammation in your joints. To understand how rheumatoid arthritis develops, it helps to understand how a normal joint works first.

### How does a normal joint work?

A joint is where two bones meet. Most of our joints are designed to allow the bones to move in certain directions and within certain limits. For example, the knee is the largest joint in the body and one of the most complicated. It must be strong enough to take our weight and must lock into position so we can stand upright,

but it also has to act as a hinge so we can walk. It needs to withstand extreme stresses, twists and turns, such as when we run or play sports.

Figure 1 shows a normal joint. The end of each bone is covered with cartilage that has a very smooth, slippery surface. The cartilage allows the ends of the bones to move against each other almost without friction. The joint is surrounded by a membrane (the synovium) that produces a small amount of thick fluid (synovial fluid) which nourishes the cartilage and lubricates the joint. The synovium has a tough outer layer called the capsule that, together with the ligaments, holds the joint in place and prevents excessive movement of the bones.



### What happens in a joint affected by rheumatoid arthritis?

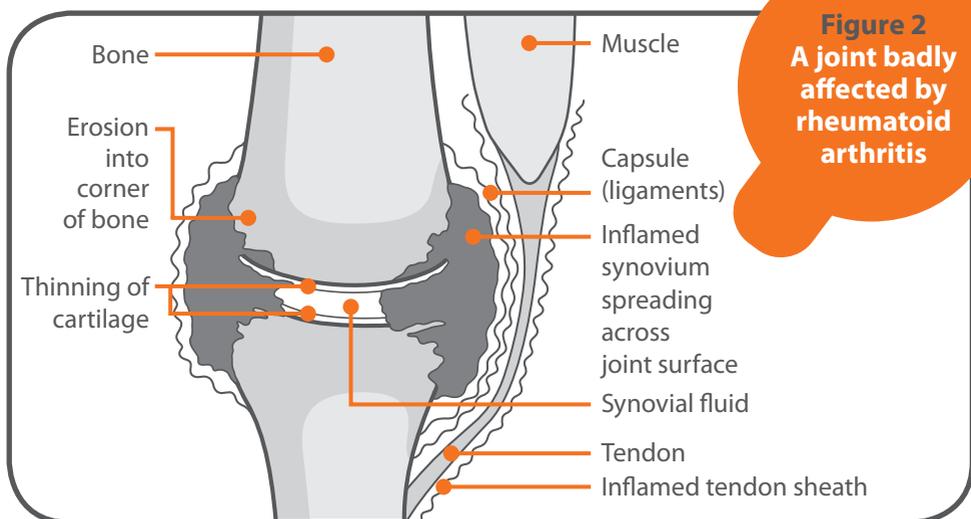
Figure 2 shows the changes that take place in a joint affected by rheumatoid arthritis. Inflammation takes place within the synovium. The result is very similar to inflammation that you may have seen if you've had an infected cut or wound – it goes red, swells, produces extra fluid and hurts. The redness is caused by the flow of blood increasing. As a result, the inflamed joint may feel warmer than usual. The inflammation is caused by a build-up of fluid and cells in the synovium. The joint hurts for two reasons:

- Nerve endings are irritated by the chemicals produced by the inflammation.
- The capsule is stretched by the swelling in the joint.

When the inflammation goes down, the capsule stays stretched and can't hold the joint in its proper position. This can cause the joint to become unstable and it can move into unusual or deformed positions. Some damage is done to the joints every time they're inflamed, and the joint can be worn away after repeated flare-ups (periods where your joints become inflamed and painful, sometimes known as flares).

### Is it the same as osteoarthritis?

Rheumatoid arthritis and osteoarthritis are two different conditions. Rheumatoid arthritis is caused by inflammation in the lining of the joint. Osteoarthritis is more like a wear process in which the cartilage in the joint can no longer withstand the loads placed on it.



Both conditions are called arthritis because it means 'inflammation of the joint'. Some inflammation does occur in osteoarthritis, but it's not the same as in rheumatoid arthritis. Some wear may take place in joints that have previously been damaged by rheumatoid arthritis, but this complication only occurs later in people with rheumatoid arthritis.

The conditions are quite different in their treatment and it's important not to confuse the two. If you have any doubt about which type of arthritis you have, ask your doctor.

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**i** See Arthritis Research UK booklets *Osteoarthritis; What is arthritis?*

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## What are the symptoms of rheumatoid arthritis?

Symptoms of rheumatoid arthritis tend to come and go. You may have flare-ups when your joints become more inflamed and painful. The joints that are most likely to be affected by rheumatoid arthritis are shown in Figure 3.

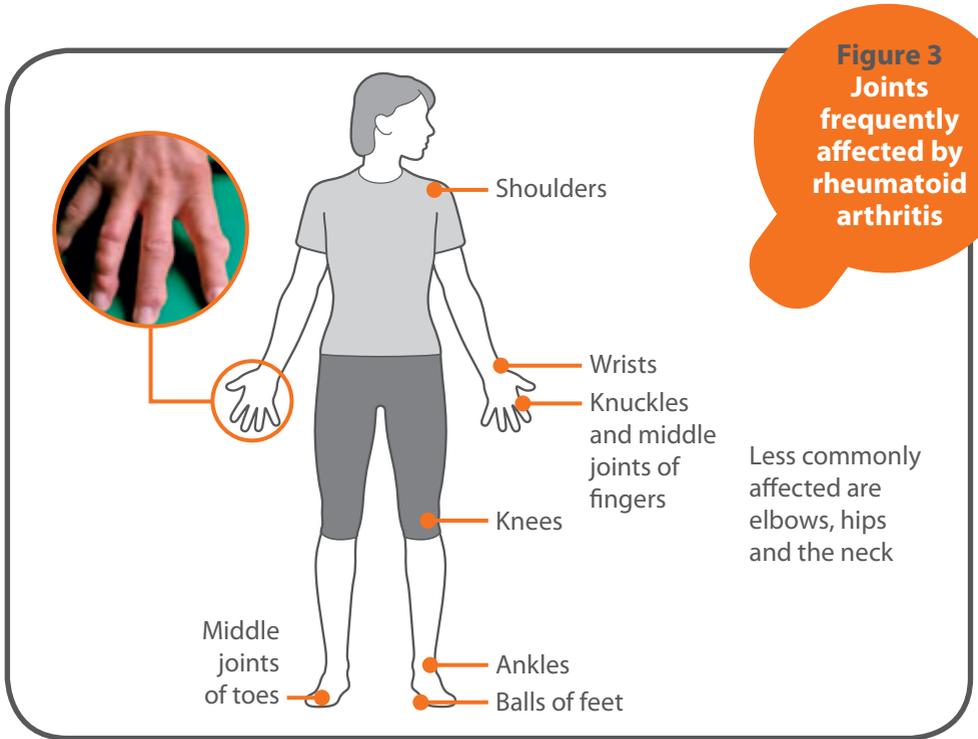
Common symptoms of rheumatoid arthritis include:

- joint pain and swelling
- stiffness
- tiredness (fatigue), depression, irritability
- anaemia
- flu-like symptoms, such as feeling generally ill, feeling hot and sweating.

Less common symptoms include:

- weight loss





Photography used with kind permission of Elsevier. © Elsevier 2011. Taken from *Rheumatology*, fifth edition. Edited by Marc C Hochberg, Alan J Silman, Josef S Smolen, Michael E Weinblatt and Michael H Weisman.

- inflammation in the eyes
- rheumatoid nodules
- inflammation of other body parts, e.g. lungs and blood vessels and the membrane around the heart, but this is rare.

Rheumatoid arthritis varies from person to person, but it usually starts quite slowly. A few joints – often the fingers, wrists or the balls of the feet – become uncomfortable and may swell. You may feel stiff when you wake up in the morning. For about 1 in 5 people with rheumatoid arthritis, the condition

develops very rapidly, causing pain and swelling in a lot of joints, severe stiffness in the morning and difficulty in doing everyday tasks.

Other common symptoms include feeling tired, depressed or irritable, even when your symptoms are very mild. Joint inflammation can make some people feel generally unwell, which can sometimes lead to overwhelming tiredness. This can be one of the most difficult symptoms to deal with. Feeling tired is a common symptom of rheumatoid arthritis but it's one that friends and family might find difficult to understand.

Anaemia (a lack of red blood cells) affects about 8 out of 10 people with rheumatoid arthritis. Occasionally this can be a side-effect of drug treatments, but it's more often caused by the condition itself. Some people with uncontrolled rheumatoid arthritis lose weight, and many complain of feeling hot and sweating because of the inflammation.

Although arthritis means inflammation of the joints, other parts of the body can sometimes be affected. Tendons have a lubricating system that's very similar to the joints, so it's not surprising that they can also be affected by rheumatoid arthritis. Some people have inflammation in the eyes, which can become dry and irritable.

A few people may have inflammation around their lungs, blood vessels and the membrane around the heart, but this is very rare.

Some people develop fleshy lumps called rheumatoid nodules. They usually occur just below the elbows but may develop on hands and feet too. If your doctor has any doubt that the nodules are caused by rheumatoid arthritis, they can check by removing a piece for examination under a microscope. This is called a biopsy.

### **When should I go to the doctor?**

If you have painful, swollen joints and stiffness in the morning that lasts for longer than half an hour, you should see your doctor. Research shows that the sooner you start treatment for rheumatoid arthritis, the more effective it's likely to be, so early diagnosis is important.

To help with this, some rheumatology departments have Early Arthritis Clinics, which aim to see people very quickly when they're referred by their GP. All consultants should have a fast response when possible rheumatoid arthritis referrals are made.

## **Who gets rheumatoid arthritis?**

Rheumatoid arthritis affects around 400,000 people in the UK. It can affect adults of any age, but it most commonly starts between the ages of 40 and 50. About three times as many women as men are affected.

Rheumatoid arthritis does seem to run in some families, but the genes we inherit from our parents don't cause rheumatoid arthritis on their own. Our genes may only affect our likelihood of developing the condition. Even the identical twin of somebody with rheumatoid arthritis only has a 1 in 5 chance of developing it too. The chances of your children not developing rheumatoid arthritis are greater than the chances of them developing it.

There are many possible causes of joint pain, so if someone in your family develops joint pain it doesn't necessarily mean that they have rheumatoid arthritis. Even where people in the same family develop rheumatoid arthritis, the severity of the condition can be very different.

There's some evidence that lifestyle may affect the risk of developing the condition.

## Arthritis Research UK

### Rheumatoid arthritis

Rheumatoid arthritis is more common in people who:

- smoke
- eat a lot of red meat
- drink a lot of coffee.

Rheumatoid arthritis is less common in people with a high vitamin C intake, and those who drink alcohol in moderation are at less risk than heavy or non-drinkers.

## What causes rheumatoid arthritis?

Rheumatoid arthritis is an autoimmune disease. This means that your immune system, the body's defence against disease, starts attacking the body's own tissues instead of germs, viruses and other foreign substances. This causes inflammation. Inflammation normally stops after the foreign substance has been removed, but with rheumatoid arthritis the inflammation is long-lasting (chronic). Finding out why autoimmune diseases develop is key to discovering a cure for them.

The genes you inherit from your parents don't cause rheumatoid arthritis but they may increase your chances of developing it.

## Does the weather cause rheumatoid arthritis?

Some people find that the weather can affect their symptoms, especially cold and damp conditions. The weather doesn't cause rheumatoid arthritis or affect its progression, although more severe cases are often found in northern Europe.

- ! If you're thinking of moving to a different climate, try the area in all seasons before you make your final decision. Weigh up the consequences of leaving your friends and family, as well as your familiar healthcare system.



## What is the outlook?

Because rheumatoid arthritis can affect different people in different ways, we can't predict how the condition might develop for you. However, a study of a large group of people with rheumatoid arthritis gave us some general guidelines (see Figure 4):

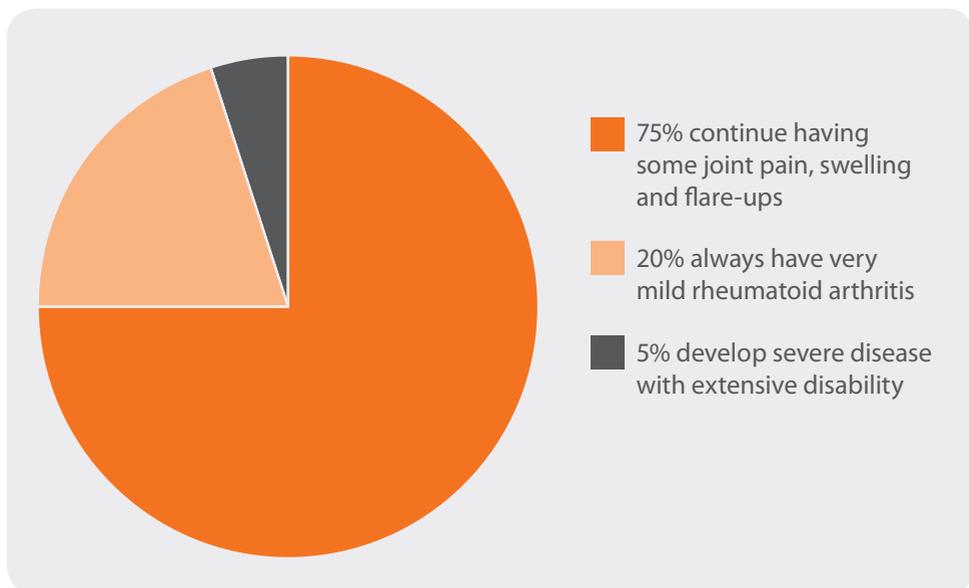
- Possibly as many as 1 in 5 people with rheumatoid arthritis always have very mild symptoms that cause few problems. They may have little or no damage to their joints, or suffer only very mild damage to a few joints.
- Most people with rheumatoid arthritis have some damage to a few joints.

- Only about 1 in 20 of those with rheumatoid arthritis have quite severe damage to a lot of their joints. The condition may become increasingly worse, often quite quickly. These people tend to have inflammation in other parts of their body besides their joints.

Blood tests and x-rays will help your doctor assess how fast your arthritis is developing and what your potential outlook for the future is. This will also help your doctor to decide which form of treatment to recommend.

Most people can have periods of months or even years between flare-ups, when there's little inflammation, although damage can still be caused in these

**Figure 4** How people with rheumatoid arthritis are likely to be affected



periods. However, most people, especially if they receive appropriate treatment, will have relatively few symptoms and will be able to lead full lives. The outlook for people with rheumatoid arthritis is improving all the time as new and more effective treatments become available.

❗ People with rheumatoid arthritis have a slightly greater chance of having a heart attack or stroke. It seems to be an effect of the inflammation, and the risk is probably reduced by controlling the disease, for example with drug treatments. Other factors such as high cholesterol and smoking increase the risk, so it's a very good idea to stop smoking if you have rheumatoid arthritis. Arthritis Research UK is currently funding research into the link between rheumatoid arthritis and heart attacks or strokes.

## How is rheumatoid arthritis diagnosed?

No single test can give a definite diagnosis of rheumatoid arthritis in the early stages of the condition. Doctors have to arrive at a diagnosis based on your symptoms, a physical examination and the results of a variety of x-rays, scans and blood tests.

Because rheumatoid arthritis can affect other parts of the body, it's important to tell your doctor about all the symptoms you've had, even if they don't seem to be related.

**It's important to tell your doctor about all the symptoms you've had, even if they don't seem to be related.**

Two kinds of tests may help in confirming the diagnosis. These are:

- blood tests
- x-rays and other scans.

### Blood tests

Blood tests may be used to detect changes in your blood that are produced by inflammation. The tests to measure inflammation are:

- erythrocyte sedimentation rate (ESR)
- C-reactive protein (CRP).

Both of these may show a high value when inflammation is present. Which test you have depends on the laboratory your doctor uses.

Blood tests can show if you're anaemic and may be used to detect rheumatoid factor. Rheumatoid factor is an antibody produced by a reaction in the immune system. The rheumatoid factor test is sometimes called the test for rheumatoid arthritis, but a diagnosis can't be made based on this alone.

About 8 out of 10 people with rheumatoid arthritis have positive tests for rheumatoid factor. However, about 1 in 20 people without rheumatoid arthritis have positive results as well, so having a positive rheumatoid factor test doesn't confirm that you have rheumatoid arthritis.

Only about half of all people with rheumatoid arthritis have a positive test for rheumatoid factor when the condition starts, so having a negative rheumatoid factor test doesn't confirm that you don't have rheumatoid arthritis. Some people with rheumatoid arthritis never develop rheumatoid factor.

A new antibody test known as anti-CCP (anti-cyclic citrullinated peptide) has recently become available. People who test positive for anti-CCP are very

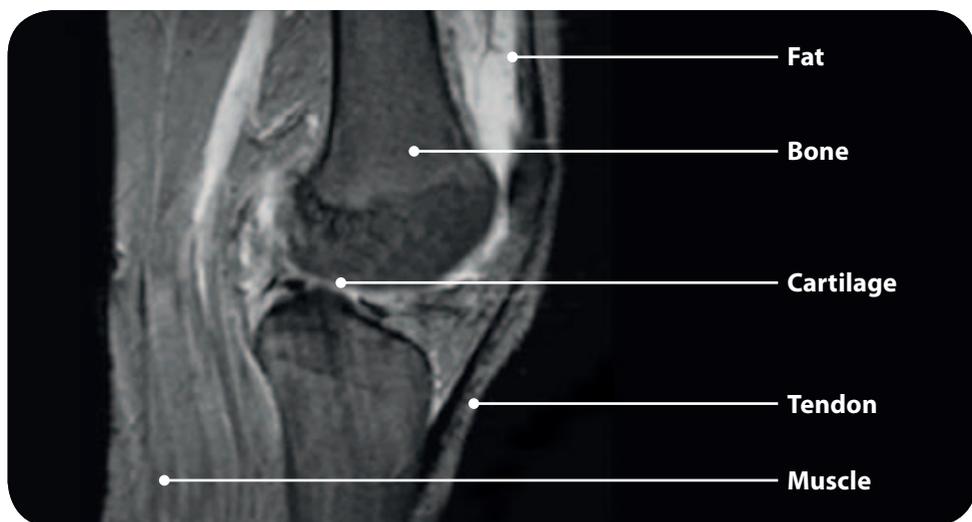
likely to develop rheumatoid arthritis. Those who test positive for both rheumatoid factor and anti-CCP may have more severe rheumatoid arthritis.

### **X-rays and other tests**

X-rays will show any damage caused to the joints by the inflammation in rheumatoid arthritis. These changes often show up in x-rays of the feet before they appear in other joints, so your doctor may want to x-ray your feet even if they're not causing you any problems.

Doctors are evaluating imaging techniques such as ultrasound scanning and magnetic resonance imaging (MRI) scans to see how useful they are for early diagnosis and monitoring the condition's progress (see Figure 5). They may be used more widely in the future.

**Figure 5** An MRI scan of a normal knee joint



Blood tests and x-rays are likely to be repeated from time to time to help your doctor assess how quickly your arthritis is developing and whether you need any changes to your medication.

When your diagnosis has been confirmed, don't be afraid to ask your doctor questions or mention any problems the condition causes in your daily life. You can use this booklet as a guide to help you discuss the condition. The more your healthcare team know about how arthritis is affecting you, the better they can tailor your treatment to your individual needs.

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**i See Arthritis Research UK booklet**  
*Meet the rheumatology team.*

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## What treatments are there for rheumatoid arthritis?

Although there's no cure for rheumatoid arthritis yet, a variety of treatments are available that can slow down the disease and keep joint damage to a minimum.

Once joints have been damaged by inflammation they don't heal very well. Because of this, modern treatment aims to suppress the inflammation early on in order to limit the damage that occurs. We know that the earlier treatment is started the more effective it's likely to be.

There are three main aspects to the treatment of rheumatoid arthritis:

- drugs
- physical therapies
- surgery.

## Drugs

Many people are worried about the possible side-effects of drugs. All drugs have side-effects, but for most people with rheumatoid arthritis the benefits of drug treatment far outweigh any possible side-effects. Treatment is more effective and drugs are checked for safety more carefully than ever. We would know if there was a drug-free, side-effect-free cure available for rheumatoid arthritis because we've done a lot of research into the condition. You should question anything that claims to be a cure, but you might still find something other than drug treatments that help to ease your symptoms (see the section Complementary medicine for more information).

There are four main groups of drugs that are used to treat rheumatoid arthritis. These are:

- painkillers (analgesics)
- non-steroidal anti-inflammatory drugs (NSAIDs)
- disease-modifying anti-rheumatic drugs (DMARDs)
- corticosteroids (usually referred to as steroids).

Many people with rheumatoid arthritis need to take more than one drug. This is because different drugs work in different ways. A common combination is a painkiller, an NSAID and one or more DMARD. This is recommended in the National Institute for Health and Clinical Excellence (NICE) guidelines. Taking two or more anti-rheumatic drugs is more

**A variety of treatments that can slow down the disease and keep joint damage to a minimum are available. You might be given a combination of drugs, for example a painkiller, an NSAID and one or more DMARD.**

**We know that the earlier treatment is started the more effective it's likely to be.**

effective than taking just one and there are no extra side-effects. Generally, the combination is methotrexate and another DMARD. You may also be given a steroid, which can dampen down the inflammation in your joints and ease your symptoms while the other drugs are taking effect.

Your drug treatments may also be changed from time to time depending on how active your arthritis is or in response to changing circumstances. Your doctor will review your medications for a number of reasons, for example if you develop another health problem or if you're going to have an operation. In some cases you may be advised to stop taking a particular drug, such as methotrexate, before having surgery. Steroids, in contrast, may be increased temporarily to help your body deal with periods of physical stress.

**!** Drugs may be available under several different names. Each drug has an approved (or generic) name but manufacturers often give their own brand or trade name to the drug as well. For example, Nurofen and Panadol are brand names for the ibuprofen and paracetamol respectively, which are the approved names. The approved name should always be on the pharmacist's label even if a brand name appears on the packaging, but check with your doctor, nurse or pharmacist if you're in any doubt. We'll use the approved names in the sections that follow.

### Painkillers

Painkillers alone aren't enough to treat rheumatoid arthritis, but they're useful for topping up the pain-relieving effects of other, more specific drugs. Paracetamol is most often used. It may be given alone, alongside other tablets or as a combination tablet in which it's added to codeine or other drugs (for example, co-codamol is a tablet that contains paracetamol and codeine). Some stronger painkillers such as tramadol are now available.

### What are the possible side-effects?

A common side-effect of painkillers that contain codeine (like co-codamol or co-dyramol) is constipation, which can occasionally be severe.

### Non-steroidal anti-inflammatory drugs (NSAIDs)

NSAIDs reduce pain and swelling without using steroids, and they start working within a few hours. The effects of some will only last for a few hours but others are effective all day. Your doctor will help you to find the preparation and the best dose for you. There are now about 20 different NSAIDs available, including ibuprofen, diclofenac and naproxen.

NSAIDs are usually taken as tablets or capsules but many are available as a liquid, a suppository or a cream or gel that you can apply directly to the painful area. Tablets and capsules should be taken with a full glass of fluid, with or shortly after food. They're often taken in addition to painkillers.

**DMARDs are slow-acting so it's important to keep taking them even if they don't seem to have any effect.**

### **What are the possible side-effects?**

Like all drugs, NSAIDs can sometimes have side-effects, but your doctor will take precautions to reduce the risk of these – for example, by prescribing the lowest effective dose for the shortest possible period of time.

NSAIDs can cause digestive problems (stomach upsets, indigestion or damage to the lining of the stomach) so in most cases NSAIDs will be prescribed along with a drug called a proton pump inhibitor (PPI), which will help to protect the stomach.

Although the increase is small, NSAIDs also carry an increased risk of heart attack or stroke. Your doctor will be cautious about prescribing NSAIDs if there are other factors that may increase your overall risk – for example, smoking, circulation problems, high blood pressure, high cholesterol or diabetes.

**!** Suppressing inflammation early is one of the important ways in which treatment of rheumatoid arthritis has advanced and is one reason why treatment is more effective than it used to be.

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**i** See Arthritis Research UK **drug leaflet** *Non-steroidal anti-inflammatory drugs*.

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### **Disease-modifying anti-rheumatic drugs (DMARDs)**

DMARDs act by altering the underlying disease rather than treating the symptoms. They're not painkillers, but they'll reduce pain, swelling and stiffness over a period of weeks or months by slowing down the disease and its effects on the joints.

There are two types:

- conventional DMARDs
- biological therapies.

These drugs are most effective when treatment is started early on in the disease. Most people with rheumatoid arthritis should expect to take them for many years or even for life. You'll need regular medical supervision when you're taking them, which may include blood and urine tests. This is to check for any possible side-effects but also to assess how well they're working for you.

### **Conventional DMARDs**

This group of drugs includes gold, hydroxychloroquine, methotrexate and sulfasalazine. They're slow-acting and can take several weeks to work, so it's important to keep taking them even if they don't seem to have any effect at first. If you don't respond well to one of these drugs, or if you develop any side-effects, then your doctor may try one of the others.

### Disease-modifying anti-rheumatic drugs (DMARDs):

#### Gold injections:

- are given into a muscle once a week to begin with, though it may be possible to take them less often after a time
- can be continued for life if they're helpful
- can cause side-effects including problems with the blood, kidneys or skin, so regular blood and urine tests are needed
- can sometimes cause an allergic reaction, which is slightly more likely if you're taking ACE inhibitors for heart disease or blood pressure.

#### Hydroxychloroquine (Plaquenil):

- is usually taken in tablet form with or after food
- is usually prescribed as a daily dose to begin with, though this may be reduced to 2–3 times a week when the disease is well controlled
- may not be absorbed into the body if you're taking indigestion remedies, so check with your pharmacist if in doubt
- may require you to have an initial blood test, but no regular tests are required
- may require you to have an eye test before you start taking it and at least once a year afterwards.

#### Methotrexate:

- is usually taken in tablet form once a week on the same day, though it may be given by injection if you have problems taking the tablets
- can affect the blood or the liver, so regular blood tests are required
- can cause some side-effects, for example nausea, so folic acid tablets may be recommended to reduce the risks of side-effects
- affects the immune system so you'll need careful monitoring
- can interact with alcohol and damage the liver, so drink only small amounts of alcohol.

#### Sulfasalazine (Salazopyrin EN-Tabs):

- is taken in tablet form with a glass of water
- is normally given in a low dose to begin with and is gradually increased over 4 weeks
- may alter the colour of your urine (orange) or tears (yellow), and it may stain soft contact lenses
- can affect the blood and the liver, so regular blood tests are required.

Some conventional DMARDs are called immunosuppressant drugs because they dampen down the immune system. They may cause side-effects, so you'll need careful monitoring when you're taking them. Azathioprine and leflunomide are immunosuppressant DMARDs which are used to treat rheumatoid arthritis.

Many of the immunosuppressant drugs can be used together. They have a greater effect on symptoms than a

single drug and combining them doesn't cause a large increase in side-effects. Your doctor may suggest that you take methotrexate and sulfasalazine or methotrexate and hydroxychloroquine, for example.

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**i See Arthritis Research UK drug leaflets** *Azathioprine; Drugs and arthritis; Gold injections; Hydroxychloroquine; Leflunomide; Methotrexate; Sulfasalazine.*

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### Immunosuppressant DMARDs:

#### **Azathioprine:**

- is taken in tablet form once or twice a day, with or after food
- can sometimes affect the blood or the liver, so regular blood tests are required.

#### **Leflunomide (Arava):**

- is taken in tablet form once a day, with or without food
- can affect the blood, blood pressure or liver, so regular blood tests and blood pressure checks are required.



## Arthritis Research UK

### Rheumatoid arthritis

#### Biological therapies

Biological therapies (also known as biologics) are newer drugs that have been developed in recent years as a result of research into the processes in the body that lead to inflammation and damage in the joints. Biological therapies target individual molecules involved in these processes and have proved very effective in the treatment of rheumatoid arthritis. They tend to work more quickly than conventional DMARDs.

Some biological therapies are called anti-TNF drugs. Anti-TNF drugs target a protein called tumour necrosis factor, which increases inflammation when excess amounts are present in the blood or joints. Other biological therapies target different proteins.

Biological therapies are only given to people who haven't responded to conventional DMARDs or who've had side-effects from them. Biological therapies are often given in combination with a conventional DMARD such as methotrexate.

#### Drugs licensed but not currently approved by NICE

You may read or hear about other biological therapies that are being used to treat rheumatoid arthritis, perhaps in other countries. There are two things that affect whether these drugs can be used in the UK.

Firstly, the drug must be licensed. This means that the Medicines and Healthcare Products Regulatory Agency (MHRA) or the European Medicines

Evaluation Agency (EMA) allows the manufacturer to market the drug in the UK. However, this doesn't mean that doctors can prescribe the drug to all patients. If a drug is new or expensive, or if the evidence that it works isn't convincing, some doctors and NHS trusts will decide not to prescribe the drug until national guidance on its use has been issued.

Secondly, the use of the drug must be approved by a national body responsible for this guidance. In England, guidance is issued by NICE. Wales usually follows NICE guidance, while in Northern Ireland it's adapted by the Department of Health, Social Services and Public Safety. In Scotland, guidance is issued by the Scottish Medicines Consortium (SMC). The drugs that have been licensed but haven't yet been approved by NICE are listed with the biological therapies below.

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**i See Arthritis Research UK drug leaflets** *Abatacept; Adalimumab; Certolizumab pegol; Etanercept; Golimumab; Infliximab; Rituximab; Tocilizumab.*

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**Drugs must be licensed and approved before they can become widely available.**

## Anti-TNF drugs:

### Adalimumab (Humira):

- is given by injection under the skin once every other week
- can be given alone or along with other drugs, including methotrexate.

### Certolizumab pegol (Cimzia):

- is given by injection under the skin every two weeks – this can be reduced to a maintenance dose after the first three injections
- is usually given with methotrexate but may be given on its own if you're not able to take methotrexate.

### Etanercept (Enbrel):

- is given by injection under the skin twice (or sometimes once) a week
- can be given alone or in combination with other drugs, including methotrexate.

### Infliximab (Remicade):

- is usually given by infusion (a drip into the vein) – the second infusion will be 2 weeks after the first, followed by a third one 4 weeks after that and then an infusion every 8 weeks
- is usually given in combination with methotrexate.

## Licensed but not yet approved:

### Golimumab (Simponi):

- is given once a month by injection under the skin
- is given in combination with methotrexate.

## Other biological therapies:

### Abatacept (Orencia):

- blocks a signal that activates T-cells (which are blood cells that normally fight infection but are also activated in rheumatoid arthritis)
- is given by infusion every 2 weeks to begin with, then once a month.

### Rituximab (Mabthera):

- targets molecules on the surface of B-cells (cells that produce antibodies, including rheumatoid factors)
- is given as two infusions to begin with, usually 2 weeks apart – can then be repeated when symptoms return, which can be anything from 6 months to 3 years
- is generally used for people who haven't benefited from other treatments.

#### Other biological therapies:

##### **Tocilizumab (RoActemra):**

- targets a molecule called interleukin-6 (IL-6), which plays a part in causing inflammation
- is given once a month by infusion
- can be used on its own or in combination with methotrexate.

#### Licensed but not yet approved:

##### **Anakinra:**

- suppresses one of the body's messengers, interleukin-1 (IL-1)
- is given by daily injection under the skin
- is used in combination with methotrexate when methotrexate by itself isn't effective enough.

#### What are the possible side-effects?

As with any drug, side-effects are possible. The side-effects of DMARDs can be more complex than with anti-inflammatory drugs, although most people will have only minor problems (if any) such as:

- nausea or stomach upsets
- skin rashes
- headaches
- dizziness.

When taking any of the biological therapies, you may also experience some of the following:

- sore throat
- fever
- wheeziness
- unexplained bruises, bleeding or paleness
- symptoms of infection.

Because a number of DMARDs affect the immune system, you'll be more likely to pick up infections. You can reduce the risk of food-borne infections by taking extra care with food and food preparation. If you develop chickenpox or shingles, or come into contact with someone who has chickenpox or shingles, you should see your doctor as you may need antiviral treatment.

DMARDs can sometimes affect the blood or the liver, and because of this you'll need regular medical supervision when you're taking them. This may include regular blood and/or urine tests. These tests are important for your safety. However, with careful supervision, these drugs are well-tolerated and very effective.

The biological therapies are all quite new drugs, so any long-term side-effects aren't yet known. The use of these drugs is monitored, and if they're given in combination with a conventional DMARD, that will also be monitored regularly.

## **Alert card – Biological Therapy**

**If you're being prescribed a biological therapy, it's recommended that you carry a biological therapy alert card, which you can obtain from your doctor or rheumatology nurse, or at [www.arthritisresearchuk.org](http://www.arthritisresearchuk.org). If you become unwell, anyone treating you will know that you're on biological therapy and that you're therefore at risk of its side-effects, including infections.**

**You should also carry an alert card if you're taking steroids. It records your dosage and how long you've been taking them.**

#### Do DMARDs affect immunisation?

Because taking DMARDs makes you more likely to pick up infections, your doctor may recommend that you have certain vaccinations. This may include the Pneumovax vaccine, which protects against the most common cause of pneumonia, and a yearly flu vaccine.

Live vaccines such as yellow fever aren't recommended, although a live vaccine against rubella (German measles) may be necessary for women of child-bearing age.

In some cases, it's advisable to have any vaccinations you may need before having a course of treatment – for example, if you're having rituximab infusions. Your doctor or rheumatology nurse will be able to offer advice on this.

! More detailed information on the side-effects of individual drugs can be found in the Arthritis Research UK drug information leaflets or in the information provided by the drug manufacturer.

#### Corticosteroids

Corticosteroids are often called steroids for short, but they're not the same as the steroids used by athletes to build up their body (anabolic steroids). Some steroids, like cortisone, are hormones that are produced naturally by the body. Cortisone was first used to treat rheumatoid arthritis in the 1950s. It had a very powerful effect on inflammation, and we now have man-made steroids that can help to control the symptoms

of rheumatoid arthritis. They don't cure the condition but will suppress it. It's also very common for steroids to be added to a combination of DMARDs when treatment is first started.

#### Steroids are used in three ways:

- by injection into the joint itself (intra-articular)
- by injection into a muscle (intramuscular) or vein (intravenous) – these are sometimes called pulses
- in tablet form.

#### What are the possible side-effects?

Steroid injections have few side-effects, but they may include:

- thinning and other changes in the skin at the site of the injection (atrophy)
- facial flushing
- interference with the menstrual cycle
- changes in mood, although this is more common in people with a history of mood disturbances.



## A physiotherapist can suggest exercises to help ease your symptoms and stretch your joints.

Steroid tablets tend to have more side-effects, particularly when they're used in high doses. These include the same side-effects as for the injections, but may also include:

- weight gain
- thinning of the bones ([osteoporosis](#))
- muscle weakness
- cataracts
- a rise in blood sugar or blood pressure
- increased vulnerability to infections.

Doses of steroid tablets are kept as low as possible to keep the risk of side-effects to a minimum. Your doctor may also advise that you take calcium and vitamin D supplements or drugs called bisphosphonates alongside the steroids to help protect your bones against osteoporosis.

- ❗ **You shouldn't stop taking your steroid tablets or alter the dose unless advised to by your doctor. It can be dangerous to stop steroids suddenly.**

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**i See Arthritis Research UK booklet and drug leaflets** *Osteoporosis; Local steroid injections; Steroid tablets.*

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### Physical therapies

Looking after your joints is very important in the treatment of rheumatoid arthritis. Exercise is an important part of this, and a physiotherapist can suggest different exercises that may help ease your symptoms, strengthen muscles and stretch your joints safely. They can also teach you about joint protection and can refer you to other health professionals if necessary.

A podiatrist can help with problems with your feet and ankles. They can advise you on how to reduce pain when you're standing or walking and can suggest appropriate footwear for both daily life and sport.

If you're having difficulty with day-to-day activities, either at home or at work, an occupational therapist can suggest ways that you could do them without putting too much strain on your joints. The occupational therapist will watch the way you work and advise on different ways you could do things, for example picking up a kettle with two hands rather than one. They can also give you information on splints if you need supports for your hands and wrists.

## Arthritis Research UK

### Rheumatoid arthritis

You may find that hydrotherapy helps to ease your symptoms. Hydrotherapy involves doing special exercises in a warm-water pool. It can help reduce the pain in your joints, improve joint mobility and strengthen your muscles, and you may also find it soothing and relaxing. You can ask your doctor or physiotherapist if they think hydrotherapy would be suitable for you.

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**i See Arthritis Research UK booklets**

*Feet, footwear and arthritis;  
Hydrotherapy and arthritis;  
Occupational therapy and arthritis;  
Physiotherapy and arthritis; Splints for  
arthritis of the wrist and hand.*

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### Surgery

Surgery is occasionally needed for rheumatoid arthritis. Minor operations can be very helpful to correct deformities of the hands and fingers, for example.

Badly damaged joints can be replaced with artificial joints, which will greatly reduce pain and help to restore the function of the joint. Hip and knee replacements are highly successful, and shoulder and elbow replacements are also well established.

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**i See Arthritis Research UK booklets**

*Foot and ankle surgery; Hand and wrist surgery; Hip replacement; Knee replacement; Shoulder and elbow joint replacement.*

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## Self-help and daily living

The symptoms of rheumatoid arthritis tend to come and go with no particular pattern, and you may have flare-ups. Sometimes flare-ups have an obvious cause, such as another illness or stress, but usually there's no obvious trigger. This unpredictability is frustrating and makes it difficult to plan ahead.

Because of this unpredictability, it's tempting to do all your jobs when you're having a good day. But overdoing it on the good days can cause a flare-up the next day. Pacing yourself is an important aspect of learning to live with rheumatoid arthritis. Make it clear to your family and

friends that not all days are the same. It's important they realise that activities you enjoy on a good day may be impossible on a bad one.

The effects of any condition can be mental as well as physical, and people with rheumatoid arthritis are more likely to experience depression. How you feel mentally can also affect how you feel physically, so if you feel down or depressed it can make your symptoms harder to cope with. Don't be embarrassed to talk about this with your doctor if you're feeling low – managing how you feel is as important as managing the physical symptoms. There are also support groups available if you want to meet other people who have rheumatoid arthritis, and you might find that information on pain management helps you to stay positive.

### Managing a flare-up

Over time, you may get better at noticing the early signs of a flare-up. Sometimes a few days rest are all you need, though it's important to do gentle exercise to help relieve stiffness. Some of the following tips will also help you to cope with a flare-up and to manage your symptoms in general. Don't forget that you can also take painkillers, and applying hot or cold pads to affected joints may ease pain too. Make sure you don't apply them directly to the skin to avoid injury.



If you're having regular flare-ups, you should mention this to your doctor. It may be that you need to review your treatment.

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**i** See **Arthritis Research UK booklet** *Pain and arthritis*.

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## Exercise

It's important to strike a balance between rest and exercise. Rest will make inflamed joints feel more comfortable, but without movement your joints will stiffen and muscles will become weaker. It's possible to exercise the muscles without even moving the joint by doing isometric exercises. These exercises are done in static positions so the joint angle and muscle length doesn't change. Many yoga positions are isometric exercises. A physiotherapist may be able to suggest some of this type of exercise. You'll need to find out for yourself what the right balance is for you.

Exercise is good for your general health, so use your muscles and joints as much as you can without harming them. If a particular activity causes one or more of your joints to become warm and swollen, or if it causes severe pain, stop and rest. If not, you should be fine to continue. If a particular activity always causes a flare-up of symptoms, it's probably best to avoid it and find another activity that you enjoy. See Figure 6 for a list of recommended exercises.

**Figure 6 Recommended exercises for people with rheumatoid arthritis**

Recommended	Not recommended
Low-impact sports e.g. <ul style="list-style-type: none"><li>• swimming</li><li>• cycling</li><li>• walking</li><li>• aquarobics.</li></ul>	Contact sports e.g. <ul style="list-style-type: none"><li>• rugby</li><li>• football.</li></ul> Vigorous, high-impact sports e.g. <ul style="list-style-type: none"><li>• squash</li><li>• step exercises.</li></ul>

Swimming is a particularly good way of exercising for people with rheumatoid arthritis. It exercises the whole body but puts minimal strain on your joints because the water supports your weight. Contact sports and vigorous types of exercise should be avoided. Whichever sport or exercise you do, make sure you warm up properly.

If you go to a gym or health club, tell the instructor about your condition so that they can draw up an appropriate exercise plan for you. Your physiotherapist can advise you about this too.

Take care when you choose footwear for sports. Good shoes with shock-absorbing soles are essential. A podiatrist will be able to advise you on suitable footwear if necessary.

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**i** See **Arthritis Research UK booklets** *Keep moving; Looking after your joints when you have arthritis*.

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**Whichever sport or exercise you do, make sure you warm up properly.**

### **Diet and nutrition**

You might see stories in the media about diets that claim to cure rheumatoid arthritis. Although a specific diet won't cure rheumatoid arthritis, there's some scientific evidence that certain diets may help ease the symptoms for some people.

The diets most likely to help are low in saturated fats and high in unsaturated fats, especially fish oils. Government recommendations suggest that you take 1.5 grams of fish body oil (not fish liver oil) per week. You can do this by eating oily fish, taking fish oil supplements or a combination of the two. Increasing your intake of vitamin C may also help.

There's some evidence that a very strict vegetarian diet can help to ease the symptoms of rheumatoid arthritis, although the reasons for this aren't clear. People who eat a lot of red meat may have a slightly increased risk of developing rheumatoid arthritis. Speak to your doctor or a dietician

before starting any strict diet as the disadvantages may outweigh the advantages.

Keeping to a healthy weight is strongly recommended. You put the equivalent of four times your body weight through your joints just walking, so keeping your weight down will help reduce the strain on your joints.

Occasionally some people with arthritis find that a specific type of food upsets them, but this is quite unusual. The foods that do this vary from person to person. If you think you may be intolerant of a particular food, try removing it from your diet for about 3–4 weeks and then reintroducing it. If you do have a food intolerance you'll notice a flare-up in your arthritis within a few days.

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**i See Arthritis Research UK booklet *Diet and arthritis*.**

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### **Complementary medicine**

Many people with rheumatoid arthritis try different types of complementary medicine. Most types haven't been proven effective in the treatment of rheumatoid arthritis, but there are a couple that have some scientific evidence to support their use, including fish body oil, which was mentioned above. Evening primrose oil and borage seed may also offer some benefit, although evidence for these is more limited.



Other types of complementary medicine that may ease your symptoms are acupuncture, which is generally available on the NHS, and massage. Massage is often soothing and relaxing, although there's little evidence that specific oils add any particular benefit. Homeopathy hasn't been proven to relieve the symptoms of rheumatoid arthritis.

Generally speaking, complementary and alternative therapies are relatively well tolerated, although there are some risks associated with specific therapies. Herbal remedies in particular may interfere with your medication, and you should discuss using any form of complementary therapy with your doctor before you try it. You should also think about what the potential side-effects might be.

In many cases the risks associated with complementary and alternative therapies are more to do with the therapist than the therapy. It's important to go to a legally registered therapist or one who's fully insured and has a set ethical code.

If you decide to try therapies or supplements, you should be critical of what they're doing for you, and base your decision to continue on whether you notice any improvement.

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**i See Arthritis Research UK booklet and special report** *Complementary and alternative medicine for arthritis; Complementary and alternative medicine for the treatment of rheumatoid arthritis, osteoarthritis and fibromyalgia.*

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### Supports, aids and gadgets

It's very important to protect your joints from unnecessary strain. There are different ways of carrying out many everyday activities, so use the methods that put the least strain on your joints. An occupational therapist can give you detailed advice about changing the way you do things to reduce strain and using simple aids or adaptations to make tasks easier.

A huge variety of gadgets is available to help with daily tasks, whether at work, around the home or in the garden. Help of this sort can often allow you to continue many activities.

### Sleep

You may find that one of the symptoms you experience is severe tiredness (fatigue). People with rheumatoid arthritis are also much more likely to suffer disturbed sleep than those who don't have arthritis. Lack of restful sleep can make it more difficult to cope with your symptoms. If you're not sleeping well, the first thing to do is to work out why:

- Are you being kept awake/woken up by pain and stiffness during the night?
- Are you finding it difficult to wind down?

If pain and stiffness are affecting your sleep, taking painkillers or having a warm bath before going to bed may help. Check that your bed is supportive and comfortable. If your neck and shoulders are stiff or painful, try experimenting with different pillows.

If you're having trouble winding down, try to establish a bedtime routine. Avoid eating, smoking and drinking tea, coffee and alcohol close to bedtime. Regular exercise should help you to sleep, but don't exercise within 3 hours of going to bed.

Discuss your sleep problems with your doctor or nurse specialist. Although doctors are reluctant to prescribe sleeping tablets for long-term use, they can be useful for short spells when a lack of sleep is a serious problem.

If you're stiff when you wake up, try these exercises while still lying in bed:

1. Bend one leg at the knee. Hold the other leg straight and lift the foot just off the bed. Hold for a slow count of 5 then lower. Repeat 5 times with each leg.
2. Lie on your back. Pull each knee to your chest in turn, keeping the other leg straight.
3. If you're able to, lie on your back, hands behind your head (or by your side if your shoulders are painful). Bend your knees and, keeping your feet to the floor, roll your knees to one side slowly. Hold this position for 10 seconds. Repeat this three 3 for each side.

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**i** See Arthritis Research UK booklets *Fatigue and arthritis; Sleep and arthritis*.

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### Sex and pregnancy

There's no reason why you should stop having sex. You may find that some positions are more comfortable,

so experiment to find suitable ones. Tiredness might affect your desire for sex, so talk to your partner. Good communication is the key to resolving any difficulties.

The contraceptive pill won't make a difference to your arthritis or its treatment, so it's fine to keep taking it. There's no reason why you shouldn't have a baby if you do want children, but it's important to make sure you're not taking any drugs that could harm them. Discuss your plans with your doctor well in advance as you may need to change your medications some time before you start trying. This is important for both men and women to do – if either partner is taking certain drug treatments prior to or during conception, it can affect the baby's development.

Most mothers with rheumatoid arthritis feel better during the pregnancy – though symptoms are likely to return once the baby is born. The reason for this isn't fully understood, but it seems that the mother's immune system is partially suppressed to tolerate the growing baby. As the

immune system is dampened down, so is the inflammation in the joints. Any flare-up of symptoms after the birth can usually be dealt with quickly.

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**i See Arthritis Research UK booklets**  
*Pregnancy and arthritis;*  
*Sex and arthritis.*

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## Work

With modern treatments it's usually possible to keep on working, unless your job involves a lot of manual labour, such as lifting heavy items. Help is available if your workplace needs to be adapted because of your condition. The employment service offers help if you do need to change your job or retrain – ask the Disability Employment Adviser at your local Jobcentre or Jobcentre Plus office.

Some employers worry that people with rheumatoid arthritis will have to take a lot of time off. This isn't usually the case. Although you may need some time off work to attend outpatient clinics and drug monitoring appointments, these can often be arranged for times that are convenient for you so that your work is disrupted as little as possible.

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**i See Arthritis Research UK booklet**  
*Work and arthritis.*

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**Most mothers  
with rheumatoid  
arthritis feel  
better during  
pregnancy.**



**Anti-TNF drugs were pioneered and developed by Arthritis Research UK.**

## **Research and new developments**

We now understand far more about the process of inflammation, and this understanding has led to new and better forms of treatment for rheumatoid arthritis. Some of these new treatments are already being tried, and you'll hear about them in publications such as Arthritis Today magazine. A lot of this research has been funded by Arthritis Research UK. Research is continuing – in particular, to find out what causes rheumatoid arthritis and how we can cure it.

## **Patient stories**

Some people with rheumatoid arthritis have told us about their experiences with the condition. Because the condition is so variable, we can't say they're typical and they don't necessarily suggest what will happen to you, but they may help you to understand some of the different ways rheumatoid arthritis can affect people.

### **Meera's story**

I've had rheumatoid arthritis for 24 years now. It started in my 40s and came on really quickly. At first I noticed swelling and stiffness in my hands, but soon it had spread to most of my joints. This was the hardest time for me; I felt rotten and very stiff a lot of the time, and I was scared about the future. Luckily, my doctor realised it was arthritis straight away. Because I was very active, I was sent for a short spell of intensive treatment in hospital and the condition slowly settled down.

Since then, I've developed a minor deformity in my hands and I've had an operation on my toes, which were damaged by the arthritis. I also use a wrist support in the kitchen and take tablets every day.

These days I'm doing great. I have to be careful about my arthritis, but I can still do the things I love and I have no trouble getting out and about. I still get pain and stiffness, but it's well controlled and I feel healthy. On the whole I'm just thankful that I can get on with my life and that the arthritis doesn't get in the way of me living my life to the full.

### **John's story**

My arthritis came on gradually when I was 42. I started to feel tired and unwell; I felt stiff in the mornings and ached all the time. Then one knee started to swell.

## Arthritis Research UK

### Rheumatoid arthritis

This started to take its toll on my everyday life; I was struggling at work and couldn't keep up with my kids at the weekends.

When I found out I had arthritis, I was devastated. At first I was really angry – why had this happened to me? But then I just felt depressed, as if I was finished and that all my hopes and expectations for the future were ruined.

The good news is that my arthritis improved a lot with treatment, although there have been tough times. At one point I had fluid in my lungs, and I've

developed some nodules on my elbow. But the pain has improved and, on the whole, I feel healthier.

Sixteen years on and I've managed to come to terms with my arthritis. I'm still working, and I can even kick a ball around with my grandchildren.



## Glossary

**Acupuncture** – a method of obtaining pain relief that originated in China. Very fine needles are inserted, virtually painlessly, at a number of sites (called meridians) but not necessarily at the painful area. Pain relief is obtained by interfering with pain signals to the brain and by causing the release of natural painkillers (called endorphins).

**Anaemia** – a shortage of haemoglobin (oxygen-carrying pigment) in the blood which makes it more difficult for the blood to carry oxygen around the body. Anaemia can be caused by some rheumatic diseases such as rheumatoid arthritis or lupus, or by a shortage of iron in the diet. It can also be a side-effect of some drugs used to treat arthritis.

**Antibody** – a blood protein that forms in response to germs, viruses or any other substances that the body sees as foreign or dangerous. The role of antibodies is to attack these foreign substances and make them harmless.

**Autoimmune disease** – a disorder of the body's defence mechanism (immune system), in which antibodies and other components of the immune system attack the body's own tissue rather than germs, viruses and other foreign substances.

**Capsule** – the tough, fibrous sleeve of ligaments around a joint, which prevents the bones in the joint from moving too far. The inner layer of the capsule (the synovium) produces a fluid that helps to nourish the cartilage and lubricate the joint.

**Cartilage** – a layer of tough, slippery tissue that covers the ends of the bones in a joint. It acts as a shock-absorber and allows smooth movement between bones.

**C-reactive protein (CRP)** – a protein found in the blood. The level of C-reactive protein in the blood rises in response to inflammation and a blood test for the protein can therefore be used as a measure of inflammation or disease activity.

**Disease-modifying anti-rheumatic drugs (DMARDs)** – drugs used in rheumatoid arthritis and some other rheumatic diseases to suppress the disease and reduce inflammation. Unlike painkillers and non-steroidal anti-inflammatory drugs (NSAIDs), DMARDs treat the disease itself rather than just reducing the pain and stiffness caused by the disease. Examples of DMARDs are methotrexate, sulfasalazine, gold, infliximab, etanercept and adalimumab.

**Erythrocyte sedimentation rate (ESR)** – a test that shows the level of inflammation in the body and can help in the diagnosis of rheumatoid arthritis. Blood is separated in a machine with a rapidly rotating container (a centrifuge), then left to stand in a test tube. The ESR test measures the speed at which the red blood cells (erythrocytes) settle.

**Homeopathy** – a complementary medicine that uses a dilute active substance which would normally cause symptoms similar to those being treated e.g. using a crushed bee sting to treat a bee sting.

**Hydrotherapy** – exercises that take place in water (usually a warm, shallow swimming pool or a special hydrotherapy bath) which can improve mobility, help relieve discomfort and promote recovery from injury.

**Immune system** – the tissues that enable the body to resist infection. They include the thymus (a gland that lies behind the breastbone), the bone marrow and the lymph nodes.

**Immunosuppressant drugs** – drugs that suppress the actions of the immune system. They're often used in conditions such as rheumatoid arthritis where the immune system attacks the body's own tissues.

**Inflammation** – a normal reaction to injury or infection of living tissues. The flow of blood increases, resulting in heat and redness in the affected tissues, and fluid and cells leak into the tissue, causing swelling.

**Ligaments** – tough, fibrous bands anchoring the bones on either side of a joint and holding the joint together. In the spine they're attached to the vertebrae and restrict spinal movements, therefore giving stability to the back.

**Magnetic resonance imaging (MRI)** – a type of scan that uses high-frequency radio waves in a strong magnetic field to build up pictures of the inside of the body. It works by detecting water molecules in the body's tissue that give out a characteristic signal in the magnetic field. An MRI scan can show up soft-tissue structures as well as bones.

**Non-steroidal anti-inflammatory drugs (NSAIDs)** – a large family of drugs prescribed for different kinds of arthritis that reduce inflammation and control pain, swelling and stiffness. Common examples include ibuprofen, naproxen and diclofenac.

**Occupational therapist** – a therapist who helps you to get on with your daily activities (e.g. dressing, eating, bathing) by giving practical advice on aids, appliances and altering your technique.

**Osteoarthritis** – the most common form of arthritis (mainly affecting the joints in the fingers, knees, hips), causing cartilage thinning and bony overgrowths (osteophytes) and resulting in pain, swelling and stiffness.

**Osteoporosis** – a condition where bones become less dense and more fragile, which means they break or fracture more easily.

**Physiotherapist** – a therapist who helps to keep your joints and muscles moving, helps ease pain and keeps you mobile.

**Podiatrist** – a trained foot specialist. The terms podiatrist and chiropodist mean the same thing, although podiatrist tends to be preferred by the profession. NHS podiatrists and chiropodists are state-registered, having followed a 3-year university-based training programme. The podiatrist or chiropodist can deal with many of the foot problems caused by arthritis.

**Proton pump inhibitor (PPI)** – a drug that acts on an enzyme in the cells of the stomach to reduce the secretion of gastric acid. They're often prescribed along with non-steroidal anti-inflammatory drugs (NSAIDs) to reduce side-effects from the NSAIDs.

**Rheumatoid nodule** – a small lump of tissue which forms under the skin. Nodules are most common on the elbows, where they're usually painless. Although they're less common on the feet they tend to be more troublesome when they develop there.

**Synovial fluid** – the fluid produced within the joint capsule that helps to nourish the cartilage and lubricate the joint.

**Synovium** – the inner membrane of the joint capsule that produces synovial fluid.

**Tendon** – a strong, fibrous band or cord that anchors muscle to bone.

**Ultrasound scan** – a type of scan that uses high-frequency sound waves to examine and build up pictures of the inside of the body.

## Where can I find out more?

If you've found this information useful you might be interested in these other titles from our range:

### Conditions

- *Osteoarthritis*
- *Osteoporosis*
- *What is arthritis?*

### Therapies

- *Hydrotherapy and arthritis*
- *Occupational therapy and arthritis*
- *Physiotherapy and arthritis*

### Surgeries

- *Foot and ankle surgery*
- *Hand and wrist surgery*
- *Hip replacement*
- *Knee replacement*
- *Shoulder and elbow joint replacement*

### Self-help and daily living

- *Caring for someone with arthritis*
- *Complementary and alternative medicine for arthritis*
- *Complementary and alternative medicines for the treatment of rheumatoid arthritis, osteoarthritis and fibromyalgia (80-page special report)*
- *Diet and arthritis*
- *Fatigue and arthritis*
- *Feet, footwear and arthritis*
- *Keep moving*

## Arthritis Research UK

### Rheumatoid arthritis

- *Looking after your joints when you have arthritis*
- *Meet the rheumatology team*
- *Pain and arthritis*
- *Pregnancy and arthritis*
- *Sex and arthritis*
- *Sleep and arthritis*
- *Work and arthritis*

#### Drug leaflets

- *Adalimumab*
- *Azathioprine*
- *Certolizumab pegol*
- *Drugs and arthritis*
- *Etanercept*
- *Gold by intramuscular injection*
- *Hydroxychloroquine*
- *Infliximab*
- *Leflunomide*
- *Methotrexate*
- *Non-steroidal anti-inflammatory drugs*
- *Rituximab*
- *Local steroid injections*
- *Steroid tablets*
- *Sulfasalazine*
- *Tocilizumab*

You can download all of our booklets and leaflets from our website or order them by contacting:

#### Arthritis Research UK

PO Box 177  
Chesterfield  
Derbyshire S41 7TQ  
Phone: 0300 790 0400  
[www.arthritisresearchuk.org](http://www.arthritisresearchuk.org)

**The following organisations may also be able to provide additional advice and information:**

#### Arthritis Care

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

**Assist UK** (national network for advice on independent living equipment)

1 Portland Street  
Manchester M1 3BE  
Phone: 0161 238 8776  
[www.assist-uk.org](http://www.assist-uk.org)

#### British Acupuncture Council

63 Jeddo Road  
London W12 9HQ  
Phone: 0208 735 0400  
[www.acupuncture.org.uk](http://www.acupuncture.org.uk)

#### British Holistic Medical Association

PO Box 371  
Bridgwater  
Somerset TA6 9BG  
Phone: 01278 722000  
[www.bhma.org](http://www.bhma.org)

**British Medical Acupuncture Society**

BMAS House  
3 Winnington Court, Northwich  
Cheshire CW8 1AQ  
Phone: 01606 786782  
[www.medical-acupuncture.co.uk](http://www.medical-acupuncture.co.uk)

**British Reflexology Association**

Monks Orchard, Whitbourne  
Worcester WR6 5RB  
Phone: 01886 821207  
[www.britreflex.co.uk](http://www.britreflex.co.uk)

**Brook** (young person's sexual health charity)

421 Highgate Studios  
53–79 Highgate Road  
London NW5 1TL  
Phone: 0207 284 6040  
Helpline for under 25s: 0808 802 1234  
[www.brook.org.uk](http://www.brook.org.uk)

**College of Sexual and Relationship Therapists (COSRT)**

(formerly British Association for Sexual and Relationship Therapy)  
PO Box 13686  
London SW20 9ZH  
Phone: 0208 543 2707  
[www.cosrt.org.uk](http://www.cosrt.org.uk)

**Complementary and Natural Healthcare Council (CNHC)**

83 Victoria Street  
London SW1H 0HW  
Phone: 0203 178 2199  
[www.cnhc.org.uk](http://www.cnhc.org.uk)

**Disability Information & Advice Line (DIAL UK)**

St Catherine's  
Tickhill Road, Doncaster  
South Yorkshire DN4 8QN  
Phone: 01302 310123  
[www.dialuk.info](http://www.dialuk.info)

**Disability Employment Advisers**

Your Jobcentre or Jobcentre Plus office can put you in touch with your local Disability Employment Advisor.  
[www.direct.gov.uk](http://www.direct.gov.uk)

**Disabled Living Foundation**

380–384 Harrow Road  
London W9 2HU  
Phone: 0207 289 6111  
Helpline: 0845 130 9177  
[www.dlf.org.uk](http://www.dlf.org.uk)

**Edinburgh Sleep Centre**

13 Heroit Row  
Edinburgh EH3 6HP  
Tel: 0131 524 9730  
[www.edinburghsleepcentre.com](http://www.edinburghsleepcentre.com)

**Employment Medical Advisory Service (EMAS)**

To find your local office, see the telephone directory under 'Health & Safety Executive'. The address and phone number should also be available in all workplaces. Alternatively, you can get this information from:  
HSE Infoline: 0845 345 0055  
[www.hse.gov.uk/contact/index.htm](http://www.hse.gov.uk/contact/index.htm)

## **Arthritis Research UK**

Rheumatoid arthritis

### **Federation of Holistic Therapists**

18 Shakespeare Business Centre  
Hathaway Close, Eastleigh  
Hampshire SO50 4SR  
Phone: 0844 875 2022  
[www.fht.org.uk](http://www.fht.org.uk)

### **Forum of Mobility Centres**

c/o Providence Chapel  
Warehorne, Ashford  
Kent TN26 2JX  
Phone: 0800 559 3636  
[www.mobility-centres.org.uk](http://www.mobility-centres.org.uk)

### **Hypnotherapy Directory**

Coliseum Riverside Way  
Camberley  
Surrey GU15 3YL  
Phone: 0844 803 0242  
[www.hypnotherapy-directory.org.uk](http://www.hypnotherapy-directory.org.uk)

### **Institute for Complementary and Natural Medicine (ICNM)**

Can-Mezzanine  
32–36 Loman Street  
London SE1 0EH  
Phone: 0207 922 7980  
[www.i-c-m.org.uk](http://www.i-c-m.org.uk)

### **Jobcentre Plus**

[www.direct.gov.uk/en/Employment/  
index.htm](http://www.direct.gov.uk/en/Employment/index.htm)

### **London Sleep Centre**

137 Harley Street  
London W1G 6BF  
Tel: 0207 725 0523  
[www.londonsleepcentre.com](http://www.londonsleepcentre.com)

### **Mobility Information Service**

20 Burton Close  
Dawley  
Telford TF4 2BX  
Phone: 01743 340269  
[www.mis.org.uk](http://www.mis.org.uk)

### **Motability** (car scheme)

Motability Operations  
City Gate House  
22 Southwark Bridge Road  
London SE1 9HB  
Phone: 0845 456 4566  
[www.motability.co.uk](http://www.motability.co.uk)

### **National Institute of Medical Herbalists**

Elm House  
54 Mary Arches Street  
Exeter EX4 3BA  
Phone: 01392 426022  
[www.nimh.org.uk](http://www.nimh.org.uk)

### **National Rheumatoid Arthritis Society (NRAS)**

Unit B4, Westacott Business Centre  
Westacott Way  
Littlewick Green  
Maidenhead SL6 3RT  
Phone: 0845 458 3969 or 01628 823524  
Helpline: 0800 298 7650  
[www.nras.org.uk](http://www.nras.org.uk)

### **Royal Association for Disability & Rehabilitation (RADAR)**

12 City Forum  
250 City Road  
London EC1V 8AF  
Phone: 0207 250 3222  
[www.radar.org.uk](http://www.radar.org.uk)

**Relate** (relationship support)  
Premier House, Carolina Court  
Lakeside  
Doncaster DN4 5RA  
Phone: 0300 100 1234  
[www.relate.org.uk](http://www.relate.org.uk)

**Ricability** (consumer research charity  
providing free reports for older and  
disabled people)  
Unit G03  
The Wenlock Business Centre  
50–52 Wharf Road  
London N1 7EU  
Phone: 0207 427 2460  
[www.ricability.org.uk](http://www.ricability.org.uk)

**Thrive** (charity that uses gardening to  
change the lives of disabled people)  
The Geoffrey Udall Centre  
Beech Hill  
Reading RG7 2AT  
Phone: 0118 988 5688  
[www.thrive.org.uk](http://www.thrive.org.uk)  
[www.carryongardening.org.uk](http://www.carryongardening.org.uk)





## We're here to help

Arthritis Research UK is the charity leading the fight against arthritis.

We're the UK's fourth largest medical research charity and fund scientific and medical research into all types of arthritis and musculoskeletal conditions.

We're working to take the pain away for sufferers with all forms of arthritis and helping people to remain active. We'll do this by funding high-quality research, providing information and campaigning.

Everything we do is underpinned by research.

We publish over 60 information booklets which help people affected by arthritis to understand more about the condition, its treatment, therapies and how to help themselves.

We also produce a range of separate leaflets on many of the drugs used for arthritis and related conditions. We recommend that you read the relevant leaflet for more detailed information about your medication.

Please also let us know if you'd like to receive our quarterly magazine, Arthritis Today, which keeps you up

to date with current research and education news, highlighting key projects that we're funding and giving insight into the latest treatment and self-help available.

We often feature case studies and have regular columns for questions and answers, as well as readers' hints and tips for managing arthritis.

### Tell us what you think of our booklet

Please send your views to [feedback@arthritisresearchuk.org](mailto:feedback@arthritisresearchuk.org) or write to us at:  
Arthritis Research UK, PO Box 177,  
Chesterfield, Derbyshire S41 7TQ.

A team of people contributed to this booklet. The original text was written by Dr David Walker, who has expertise in the subject. An **Arthritis Research UK** editor revised the text to make it easy to read, and a non-medical panel, including interested societies, checked it for understanding. An **Arthritis Research UK** medical advisor, Prof. Anisur Rahman, is responsible for the overall content.

## Get involved

You can help to take the pain away from millions of people in the UK by:

- Volunteering
- Supporting our campaigns
- Taking part in a fundraising event
- Making a donation
- Asking your company to support us
- Buying gifts from our catalogue

To get more **actively involved**, please call us **0300 790 0400** or e-mail us at [enquiries@arthritisresearchuk.org](mailto:enquiries@arthritisresearchuk.org)

**Or go to:**  
[www.arthritisresearchuk.org](http://www.arthritisresearchuk.org)



Providing answers today and tomorrow

**Arthritis Research UK**

Copeman House,  
St Mary's Court,  
St Mary's Gate, Chesterfield,  
Derbyshire S41 7TD

**Tel 0300 790 0400**

calls charged at standard rate

**[www.arthritisresearchuk.org](http://www.arthritisresearchuk.org)**

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