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**Opening Extract from...**

# Exercise Your Way to Health:

# Arthritis

Exercise Plans to Improve Your Life

Written by Paula Coates

Published by A & C Black Publishers Ltd

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# exercise your way to health: arthritis

exercise plans to improve your life

## dedication

For Rachel, Mavis and Mr. Cuddles.



# exercise your way to health: arthritis

exercise plans to improve your life

Paula Coates






**Note**
Whilst every effort has been made to ensure that the content of this book is as technically accurate and as sound as possible, neither the author nor the publishers can accept responsibility for any injury or loss sustained as a result of the use of this material.

Published in 2010 by
A & C Black Publishers Ltd
36 Soho Square, London W1D 3QY
www.acblack.com

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ISBN 978 14081 0702 7

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A CIP catalogue record for this book is available from the British Library.

**Acknowledgements**
Cover photograph © Shutterstock
Inside photographs © Grant Pritchard, except pp 4, 10, 20, 41, 43, 56, 77 Shutterstock, p80 iStockphotos.com
Illustrations by Jeff Edwards
Designed by James Watson
Commissioned by Charlotte Croft
Edited by Kate Turvey

This book is produced using paper that is made from wood grown in managed, sustainable forests. It is natural, renewable and recyclable. The logging and manufacturing processes conform to the environmental regulations of the country of origin.

Typeset in 9.25pt AGaramond on 12pt by Margaret Brain.

Printed and bound in China by South China Printing Co.

# contents


acknowledgements vi
foreword vii
endorsement viii
introduction 1
what can I do if I have arthritis? 3

**part 1: understanding arthritis 5**
osteoarthritis 5
rheumatoid arthritis 9
how are RA and OA managed? 15

**part 2: helping yourself to health 21**
where do I start? 21
your personal MOT 22
managing a flare-up 29
avoiding flare-ups: pacing yourself 36
self-help: healthy eating 39
self-help: stopping smoking 42
getting help 45

**part 3: the exercises 57**
where do I start? 57
before you start 59
checking your progress 62
steady beginnings: home routine 67
steady beginnings: walking 77
exercising in water 80
strengthening exercises 88

find out more 118

# acknowledgements

I would like to say a big thank you to all those who have given their time and support to me during the writing of this book – family, friends, and colleagues alike. A special thank you to all my patients who have been my greatest teachers and have allowed their experiences to be included in this book. Finally, a big thank you to Charlotte Croft and Kate Turvey at A&C Black, my models and Grant Pritchard for his photography.

# foreword

I have lived with severe rheumatoid arthritis (RA) for nearly 30 years. To say that this has been challenging and at times overwhelming is understating the impact that this painful, chronic and incurable disease can have on your life and the lives of your family, friends and colleagues.

However, I found that when I started to learn more about my disease and its complications and tried putting into practice various self-management and coping strategies, I felt more in control and more at ease with my problems, and more able to face whatever the future threw at me.

We now know from research that those who are positive in outlook and apply the principles of self-management, generally enjoy a better quality of life and achieve better long-term outcomes. With this in mind, learning more about your disease is a real investment in your health. Self-management helps you to manage your pain and flare-ups by strategies such as pacing, relaxation and goal-setting. Building suitable exercise into your normal routine is also extremely important and this book will give you lots of good information.

Today's therapies and approach to RA treatment are so much more effective than they were when I was diagnosed. I am sure you will find this book helpful. Good luck.

**Ailsa Bosworth**
Founder and Chief Executive
National Rheumatoid Arthritis Society

# endorsement

As a busy working GP and musculoskeletal specialist I can highly recommend this book as essential reading for patients and clinicians alike. This book is well researched, concise and up-to-date, and written by a first rate, highly experienced physiotherapist. It will give much needed and added support for patients diagnosed with either osteo-arthritis or rheumatoid arthritis who want to do all they can to understand and manage their condition.

**Dr Gregor McEwan MB BS Dip Sports Med Lon**

# introduction

The management of chronic conditions such as rheumatoid arthritis and osteoarthritis has been a part of my everyday working life as a physiotherapist for the past 14 years. I have specialised in caring for people with arthritis after working in some of the leading rheumatological units in the country, helping people manage their symptoms, return to work and improve their physical fitness. In this book I will tell you what I have learnt from my patients over the years and what I know will help you manage your joint pain, stay active and improve your health and fitness.

Osteoarthritis is extremely common, and can develop as part of the ageing process for all of us. About 1 per cent of the world's population is affected by rheumatoid arthritis and women are three times more likely to develop it than men. Whatever your diagnosis, you may be feeling anxious about what the future holds. All this is understandable and this book aims to help you pick up what you need to know about both these conditions, to allow you to make the choices that are best for you.

This book will:

- teach you the facts about osteoarthritis and rheumatoid arthritis
- dispel the myths about arthritis
- show you how to manage your arthritis in the flare-up and non flare-up phases
- give you an exercise programme to build into your lifestyle
- help you understand and avoid the stress and anxiety associated with chronic pain
- allow you to get on with your everyday life.

The book is split into three main parts. **Part 1** covers the basics that you need to know about your condition. It includes answers to all the questions you might wish you had asked the doctor, but didn't ask because you were busy taking on board the fact that you had just received your diagnosis. Once you know exactly what you are dealing with, it is much easier to manage and formulate a plan to move yourself forward with your life.

**Part 2** looks at what you can do to help yourself: the changes you can make to your lifestyle that will help you become fitter, healthier and in control of your own health. It is all too easy to feel out of control when you have just been diagnosed, and this book aims to help you get that control back. There is also information on the best places to go for such advice.

**Part 3** covers the exercises that you can use to strengthen your body, maintain full range of movement in your joints and help prevent further problems. Prevention is always better than cure, and usually much less painful. I will show you the exercises that will help you return to fitness no matter how unfit you are now. I will also show you how to monitor your own progress with simple tests that you can perform at home. When you see the results of adding exercise to your life you will wish you had done it sooner.

As you read through the book you will see I have used a traffic light system of treatment options. This is designed to make it easy for you to see the options available to you at a glance and to tell when you will need to see a specialist.

The traffic lights work as follows:

**Green**

**Go ahead:** you can start self treatment immediately to manage your disease and prevent it from becoming worse.

**Amber**

**Proceed with caution:** you may need assessment and treatments that a physiotherapist or health care professional may advise to manage your flare-up.

**Red**

**Stop!** Things are serious and need assessment to rule out complications and you may need to take advice on the best way to manage things this time.

## what can I do if I have arthritis?

Millions of people live with long-term conditions such as rheumatoid and osteoarthritis. Most of them lead a full and active life by adapting their lifestyles in response to their symptoms. By increasing your understanding of the condition and how you can help yourself to health, you can improve the quality of your life.

Arthritis can affect your health over a long period of time, possibly your entire life, and in many cases there is no cure. When you are first diagnosed it is easy to feel overwhelmed and as if the condition has taken over your life, especially if you need to take medication on a daily basis. It's important to understand that your condition can become a serious problem. However, you can take steps to control the negative effects of arthritis and inflammatory joint disease on your health.

One method of taking control is 'self-management'. Self-management allows you take responsibility for doing what it takes to manage your illness effectively. Your doctor, nurse and physiotherapist can make treatment recommendations, but they won't make a difference unless you choose to follow their advice. There is always more than one treatment plan, as what works best for one person won't necessarily work best for you. Talking about the different treatment options available will help you create and choose a plan that is right for you. If you take control in this way, you will start to feel motivated to make changes to your lifestyle and engage in active self-management. When you take care of your body, it will take care of you and help prevent problems in the future.



# part 1
# understanding arthritis

## osteoarthritis

### what is osteoarthritis?

Osteoarthritis is sometimes called 'wear and tear' or 'degenerative joint disease'. It is the most common form of arthritis and occurs when the cartilage in your joints becomes thinned over time, or extra bone is laid down around the joint in response to injury or strain. Osteoarthritis can affect any joint in your body, although it most commonly affects joints in your hands, hips, knees and spine. Typically it affects just one joint, but, as with arthritis of the fingers, several joints can be affected.

Osteoarthritis gradually worsens over time, and no cure exists. It is a natural side-effect of ageing, just like grey hair and wrinkles, and in the same way some people will be affected more than others. There are treatments that can relieve pain and help you remain active. By taking steps to exercise you can actively manage your osteoarthritis and gain control over the associated pain.

### signs and symptoms

The progression of the bony changes associated with osteoarthritis is slow. The symptoms also develop slowly and worsen over time. The list below outlines the most common symptoms and when you are most likely to notice them.

- **pain** in a joint during or after use, or after a period of inactivity.
- **swelling** – in some cases but not always.
- **tenderness** in the joint when you apply light pressure.
- **stiffness** in and around a joint, which may be most noticeable when you first wake up in the morning or after a period of inactivity.
- **loss of flexibility**, which may make it difficult to use the joint for normal functional tasks.
- **grating sensation** when you move the joint.
- **bone spurs**, which appear as hard lumps, can form around the affected joint and are seen clearly on X-rays.

Although most commonly felt in the hands, hips, knees and spine, it is possible to develop arthritis in other joints, especially if you have been injured or placed unusual stress on a joint. It is uncommon for osteoarthritis to affect your jaw, shoulder, elbows, wrists or ankles, but it is possible if you have sustained a fracture or played a sport that has increased the stress through a particular joint.

## what causes osteoarthritis?

Osteoarthritis occurs when the cartilage covering the ends of bones in your joints becomes thinner over time. The smooth surface of the cartilage becomes rough, causing irritation. Eventually, if the cartilage wears down completely, the surface ends of your bones become worn and your joints become painful. This additional pressure on the bones can make them swell.

In most cases it isn't clear what causes osteoarthritis, but research has shown that it's a combination of things, including being overweight, ageing, joint injury or stress, family history and muscle weakness.

The most likely causes are:

- **Age:** osteoarthritis typically occurs in older adults. People under 40 rarely experience osteoarthritis.
- **Sex:** women are more likely to develop osteoarthritis, though it isn't clear why.
- **Bone deformities:** some people are born with joint deformities or defective cartilage, which may increase the risk of osteoarthritis.
- **Joint injuries:** injuries that occur when playing sports, or from an accident, may increase the risk of developing osteoarthritis.
- **Obesity:** carrying more body weight places more stress on your weight-bearing joints, such as your knees.
- **Other diseases that affect the bones and joints:** diseases that increase the risk of osteoarthritis include gout, rheumatoid arthritis, Paget's disease of bone and septic arthritis.

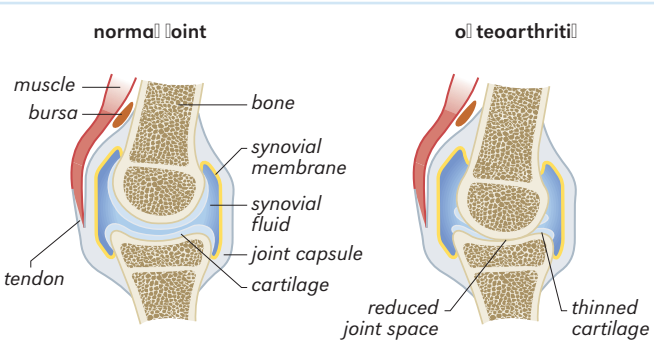



Figure 1.1 A normal knee joint compared to a knee joint with osteoarthritis – the thinning of the cartilage and the inflamed synovial membrane and how this creates swelling in the joint

**when to see medical advice**

If you have swelling or stiffness in your joints that lasts for more than two weeks, make an appointment with your doctor. If you're already taking medication for osteoarthritis, contact your doctor if you're experiencing side-effects from your arthritis medications. Tell your doctor if you experience side-effects such as nausea, abdominal discomfort, black or tarry stools, constipation, or drowsiness.

## screening and diagnosis

If your doctor suspects you have osteoarthritis, he or she will examine your affected joint and ask you questions about your joint pain. To find out more about what is causing your pain, your doctor may also recommend some tests:

- **X-rays:** X-rays of your joints may reveal a narrowing of the space within a joint, which indicates that the cartilage is thinning. An X-ray may also show bone spurs around a joint (see page 9).

- **Blood tests:** Blood tests may help rule out other causes of joint pain, such as rheumatoid arthritis or infection.

- **Joint fluid analysis:** Your doctor may use a long needle to draw fluid out of the affected joint. Testing the fluid can determine whether your pain is caused by gout (see box opposite) or an infection, or whether it is osteoarthritis or rheumatoid arthritis.

- **Arthroscopy:** In some cases, your doctor may refer you to a specialist for arthroscopy to see inside your joint. During arthroscopy, small incisions are made and a tiny camera is inserted to look inside your joint. The specialist watches a video screen to look for any abnormalities within your joint.

### what is gout?

Gout is a type of arthritis caused by having high levels of uric acid in your bloodstream. It is thought to be caused by consuming too much protein, fat and alcohol. Too much uric acid causes crystals to form in your joints, which leads to pain and swelling. The pain can usually be eased by a short course of anti-inflammatory painkillers (see page 50).

### will I need surgery?

The main complication that can result from severe osteoarthritis is joint replacement surgery. If the cartilage and bone become too damaged, your joints may become too painful or stiff to enable you to manage day-to-day activities. This is when a surgeon may become involved in your care and offer you a joint replacement. The most commonly replaced joints are the hip and knee. See page 53 for further information on joint replacement surgery and other surgical options.

## rheumatoid arthritis

### what is rheumatoid arthritis?

Rheumatoid arthritis (RA) is a serious disease. It is a chronic, progressive, auto-immune disease which is extremely painful, can cause severe disability, and ultimately affects a person's ability to carry out everyday tasks and their quality of life if it is undiagnosed or not treated effectively. RA can progress rapidly, but the speed of progression varies between individuals, and can cause swelling which damages the cartilage and bone around your joints. Any joint can be affected, but it is most commonly the hands, feet and wrists. It is a systemic disease, which means it can not only affect all the joints of the body but also the internal organs. This is not the case for everyone diagnosed with RA, but problems with the lungs, heart and eyes are all possible.

There are about 400,000 people in the UK with RA and overall it is the most common of the inflammatory diseases. In real terms about

12,000 people a year will develop RA. RA affects three times more women than men and onset is generally between 40 and 60 years of age, although you can get the disease at any age. There are around 12,000 children under the age of 16 with the juvenile form of the disease.

We're still not sure what causes RA. Unfortunately there is no cure, but much more is now understood about the inflammatory process associated with the disease and how it can be managed. This book aims to show you how with self-management you can help yourself, and minimize the impact of the disease on your quality of life.

The good news is that if you are diagnosed and treated early, your prognosis is significantly better than it was 20–30 years ago, thanks to research and the development of drugs which can modify the active disease process. Early diagnosis is critical, and research shows that a 3 month window of opportunity exists from onset of symptoms to starting treatment, which can prevent irreversible joint damage. Many people diagnosed now have a good quality of life in spite of having RA, and don't suffer the joint deformity that was once associated with the condition. Research also shows that in reality it can be up to a year between symptoms developing and the start of treatment. It is very important that people know how to recognise the symptoms and see their GP as soon as possible. GP education is also needed to ensure prompt referral for diagnosis and treatment.




Figure 1.2 X-ray of the hands showing the deformity associated with RA

RA: the outlook

- The prognosis for people diagnosed with RA today is dramatically better than even 10 years ago.
- With early, aggressive treatment, you can lead a more normal life and limit joint damage.
- There are very effective new drugs available if conventional treatment does not work for you.
- Many new drugs are undergoing trials and more worldwide research is happening than ever before.
- Knowing about your disease will help you to come to terms with it and to make the right decisions about your treatment.

## what causes RA?

People often ask, 'Why me?' Although the cause of rheumatoid arthritis is unknown, others in your family may have the condition too. It is not an inherited condition, but you can inherit a genetic predisposition to developing RA. Once you have developed rheumatoid arthritis it becomes a chronic disease and the body's own immune system attacks the lining of the joints.

## signs and symptoms

Symptoms may include:

- joint swelling
- pain
- early morning joint stiffness
- poor sleep
- fatigue

- loss of weight
- flu-like symptoms
- unpredictable 'flare-ups' of inflammation.

If untreated the resulting disability may lead to loss of mobility, function and independence. Psychological effects such as depression and anxiety may also result.

## how does RA differ from osteoarthritis?

The diagnosis of RA from the early symptoms can be very difficult. Joint swelling will be present in at least two joints, usually in the hands or feet. Along with this joint swelling, there is stiffness in the joints, particularly in the morning or after sitting for some time. This differs from osteoarthritis, which can also present with joint swelling and morning stiffness. But the morning stiffness in osteoarthritis usually only lasts 30 minutes, whereas in rheumatoid arthritis it is considerably longer. Patients with RA can also be woken in the night by joint pain and stiffness. This does not happen in osteoarthritis. Fatigue is

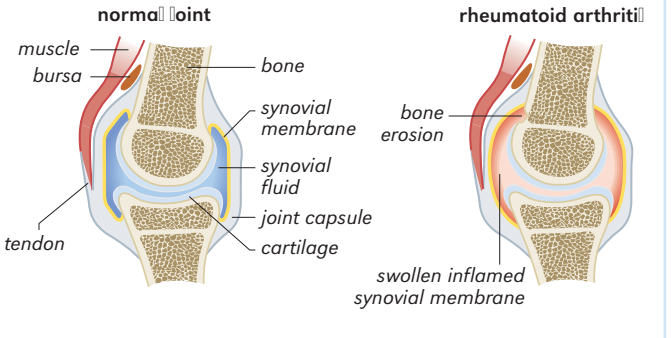



Figure 1.3 A normal knee joint compared to a knee joint with RA, showing the thinning of the cartilage and the inflamed synovial membrane which creates the swelling

pronounced in patients with RA and they may lose weight due to a poor appetite – again, this is not a feature of osteoarthritis.

## how does RA damage joints?

We may not know much about what triggers RA, but we do know a lot about the inflammatory process that leads to joint damage. All medical treatments for RA are directed at suppressing or stopping parts of the joint-damaging process which is controlled by your immune system.

A normal joint is a complicated structure that allows movement. It has several parts, as shown in Figure 1.4.

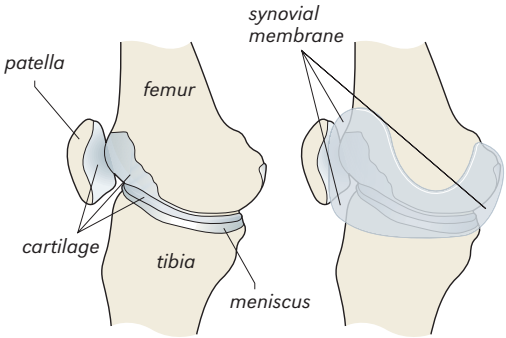



Figure 1.4 The components of the knee joint

Normal joints move painlessly, without you having to think about it. A joint needs adequate lubrication, just like the moving parts of an engine need oil. By understanding how a joint works it is easier to understand how it can go wrong. A joint is formed between two bones that move against each other. A good example is the knee. The ends of the bones in a joint are covered with smooth cartilage so that one surface can glide over the other. These gliding surfaces are within a 'joint capsule', which is a tough structure similar to a ligament, holding the joint together. The lining of the joint capsule is called the synovium or synovial

membrane, and this structure produces the joint fluid that acts as a lubricant. The normal joint lining is thin; it has very few blood vessels and there are no white blood cells in it.

In the inflamed rheumatoid joint:

- The lining is very thick and is crowded with white blood cells that have entered it via new blood vessels in the thickened lining.
- These white blood cells produce a large number of chemical substances that cause inflammation.
- The joint becomes swollen, hot and tender to the touch, and function becomes a problem.
- Unchecked, this inflammatory process causes damage to the cartilage and bone in the joint.
- The inflamed synovial membrane creates inflammatory chemicals that eat into the bone and cartilage. The damage to the bone is seen in an X-ray as erosion.
- The chemicals produced by the white blood cells in the joint lining are released into the bloodstream and cause fatigue and general feelings of being unwell.

Suppression of inflammation in order to prevent long term joint damage is the goal of every rheumatologist, and the earlier and more aggressively someone with RA is treated, the better the long-term prognosis. Remission of RA is now being discussed as a possibility and if caught early enough, this is theoretically possible.

Other symptoms of RA

- dry or inflamed eyes
- fluid, fibrosis, or nodules (rare) in the lungs
- skin nodules and ulcers
- heart problems
- anaemia.

It's important to remember that not everyone gets all of these symptoms, and some are more common than others. Symptoms that affect the heart and lungs are less common, so you should not worry that they will affect you. The sooner you are diagnosed and see a rheumatologist, the sooner you can start the treatment which can prevent many of these symptoms from ever developing.

## how are RA and OA managed?

### specialist help

Along with the medication you may need to take, there are many people who can help you to manage your RA or OA. It is unlikely that you will need the services of all these professionals at once, but it is essential to know who they are and how to access them when you need them. It's a good idea to keep all the phone numbers close at hand so you can find them as soon as you need them. Treatment makes an important difference to the symptoms of inflammation and damage to the joints for those with RA, and the ability to cope with arthritis in general.

- **The rheumatologist** will diagnose and manage your RA. He/she will request any tests that you need to diagnose and monitor your condition, prescribe medication and monitor how this controls your RA.

- **The nurse practitioner** works closely with the rheumatologist and will monitor you between visits to the specialist. He/she is one of the most important people for you to know and will often be key in providing support and teaching you about RA. They will also be able to arrange investigations and discuss any findings with your doctor to make sure you are getting the best care. In most units they also operate a nurse-led helpline.

- **The physiotherapist** provides important non-drug treatments for both osteoarthritis and RA, including exercise, acupuncture, and pain-relieving strategies that you can also use at home. Working with a physiotherapist will allow you to develop, maintain and restore movement and function during and after a flare-up of RA. If you have OA your physiotherapist will help you strengthen your joints and improve your self management and overall function.

- **The occupational therapist** works closely with you to provide resting and support splints for painful joints, and equipment to make day-to-day tasks easier. Resting splints are more commonly used for people with RA. Occupational therapists focus on helping people with arthritis to achieve independence in all areas of their lives in spite of their joint pain. They are really helpful in assessing your work place to make sure you can stay at work when you have RA. They work closely with physiotherapists to support overall treatment.

- **The podiatrist** studies and treats disorders of the foot, ankle and leg. Podiatrists work closely with physiotherapists in the management of arthritis and are the experts in biomechanical assessment, which involves looking at the posture and movement of your feet. They will prescribe custom-made insoles (orthotics) if you need help to control your foot position as a result of pain or joint damage. This can have a great impact on pain prevention and muscle imbalance.

- **Pain management clinics** have specialist doctors, nurses and physiotherapists who understand chronic pain and only work in this

area. Your doctor may refer you if your pain is difficult to control. These clinics can prescribe drugs to manage your pain and also offer cognitive behavioural therapy (CBT) which can be a great help in managing chronic pain (see page 46).

- **The pharmacist** is the best person to advise you on which medications can help you without a prescription. Use the same pharmacist for all your prescription and non-prescription drugs, as they can then monitor what you take and check for any unwanted interactions between different drugs.

- **Counsellers** can be really useful in helping you come to terms with the emotional difficulties of living with RA. Your GP can refer you to see someone who is best placed to help you (see page 48 for self-help advice).

- **NHS Direct** is a useful source of advice if you are concerned and unable to see your physiotherapist or GP. It can help you decide on the most appropriate management for your condition, and advise you who you should see if things become worse. The number for NHS Direct is 0845 46 47.

- **The dietician** can recommend foods to boost your immune system, or ensure your vitamin and mineral intake is maintained so that medication and reduced activity during a flare-up do not have too great an impact on your health. Most people would benefit from dietary advice, but as an arthritis sufferer it is easy to gain weight, as exercise may be limited when you are in pain. Simple advice can have a major impact on your weight and subsequently your pain.

- **The orthopaedic surgeon** has a role in the management of arthritis if all other measures have failed. Your doctor will refer you to a surgeon if necessary. Surgery to deal with structural change can be used if the joint becomes damaged, and this will aim to reduce pain and improve your function and independence. This is not

always as large scale as a joint replacement. Small procedures can be performed with the use of a small camera (arthroscopy) which can be very helpful in reducing pain and improving movement in a joint.

- **Voluntary organisations** such as NRAS, ARC and AC offer support and information. Find their contact details in the back of this book.

## effective medication

Effective and early treatment of RA makes a big impact on the course of the disease by improving quality of life, preventing joint damage and reducing the need for surgery. Treatment should, in an ideal world, begin within three months of the onset of symptoms, so seeing your doctor as soon as possible is important. Getting a diagnosis can sometimes take a lot longer than six months, depending on your symptoms and how they affect you. If the initial course of medication does not help to reduce your symptoms, then it should be changed as soon as possible to prevent irreversible joint damage. It can sometimes take more than one attempt to find the most effective medication for you, but this is part and parcel of having and managing RA.

Your doctor can prescribe different kinds of drugs, both to suppress the inflammation and to prevent the joint damage caused by the disease process. The drugs used to treat RA fit into four main categories:

- painkillers and non-steroidal anti-inflammatory drugs (NSAIDs)
- disease modifying anti-rheumatoid drugs (DMARDs)
- steroids (tablets and injections)
- biologic agents (given directly into the bloodstream in a drip).

It is known that DMARDs and biologic treatments slow down or even stop joint damage. NICE (National Institute for Health and Clinical Excellence) are advocating multiple therapy at the onset of RA to improve outcome and limit joint damage. See pages 51–52 to find out more about these drugs and what they do.

Research is constantly producing new treatments for RA, and you can keep in touch with all new developments and research on the National Rheumatoid Arthritis Society (NRAS) website (www.rheumatoid.org.uk).

The good news is that effective treatments for RA are reducing the need for surgery. Many rheumatology centres are now reporting that the number of patients needing orthopaedic surgery over the last 10 to 15 years has significantly declined.

**when to see your doctor**

The golden rule is that if you have swelling of more than two joints and stiffness in the joints in the mornings for longer than half an hour, you should go and see your doctor.