



Understanding Rheumatoid Arthritis



Contents

Introduction 3

What is rheumatoid arthritis? 4

Symptoms of rheumatoid arthritis 5

What causes rheumatoid arthritis? 10

The role of genes and family history 11

Environmental factors 12

Treatment options 13

Medication..... 15

Living with rheumatoid arthritis..... 18

Psychological effects 18

Living better with rheumatoid arthritis 19

Resources..... 24

Introduction

Around 445,000 Australians (2%) live with rheumatoid arthritis.¹

Rheumatoid arthritis is a complex disease with an unknown cause. Scientists are still researching the role of the immune system in the development of rheumatoid arthritis.

As with any long-term condition, it is important that you work with your doctor to find the treatment that works for you.

This booklet has been prepared to help you:

- understand your condition and the different treatments available
- work with your healthcare team to reduce symptoms
- identify ways to assist you in managing your rheumatoid arthritis and living a full and balanced life.

Remember that the information provided in this booklet is general in nature and not intended to replace professional medical advice. If you have any further questions about your condition or treatment, please contact your healthcare professional.

We hope you will find this booklet useful in your journey with rheumatoid arthritis.

1. Australian Institute of Health and Welfare 2015 Musculoskeletal fact sheet: rheumatoid arthritis. Arthritis series no. 24. Cat. no. PHE 188. Canberra: AIHW. Available at: www.aihw.gov.au/WorkArea/DownloadAsset.aspx?id=60129551056 Accessed: August 2016.

What is rheumatoid arthritis?

Rheumatoid arthritis is the most common form of inflammatory arthritis, and affects around 445,000 Australians (2%).¹ The general term 'arthritis' itself means inflammation of the joint and refers to over 100 conditions.²

Rheumatoid arthritis can occur at any age but is more common in people over the age of 35 years.^{1,3} It affects more women than men.¹

4

You may be all too familiar with the common symptoms of rheumatoid arthritis: long-term pain and stiffness due to inflamed joints. Without effective long-term management, rheumatoid arthritis may affect basic daily activities depending on the joints affected.

Most people with rheumatoid arthritis experience intermittent periods of intense disease activity (flares) and periods of having no symptoms at all (remission). However, in some cases, the disease is continuously active and may worsen over time. Research has shown that early diagnosis and treatment to achieve remission is the best way to avoid irreversible joint damage, organ damage and disability.³

Symptoms of rheumatoid arthritis

The symptoms of rheumatoid arthritis vary from person to person. Rheumatoid arthritis is primarily a joint condition, but can cause inflammation in other areas of the body including tissues surrounding the heart and lungs as well as the whites of the eyes. While rheumatoid arthritis is a chronic illness (meaning it can last for many years), patients may experience long periods without symptoms.



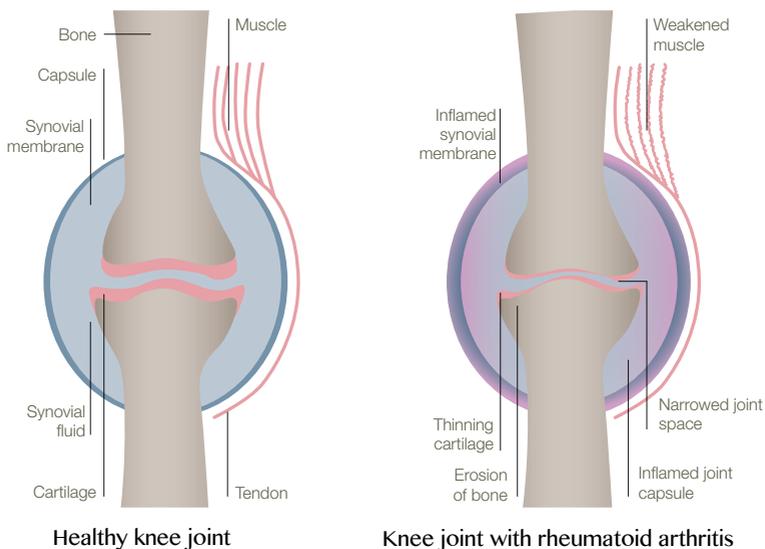
1. Australian Institute of Health and Welfare 2015 Musculoskeletal fact sheet: rheumatoid arthritis. Arthritis series no. 24. Cat. no. PHE 188. Canberra: AIHW. Available at: www.aihw.gov.au/WorkArea/DownloadAsset.aspx?id=60129551056 Accessed: August 2016.
2. Arthritis Australia: What is arthritis? Available at: <http://www.arthritisaustralia.com.au/index.php/arthritis-information.html> Accessed: September 2016.
3. Arthritis Australia. Taking control of your Rheumatoid Arthritis. Available at: www.arthritisaustralia.com.au/images/stories/documents/booklets/2016/ArthAus_Rheumatoid_screen.pdf Accessed: August 2016.

How does rheumatoid arthritis affect the joints?

Rheumatoid arthritis is symmetrical, meaning if a joint on one side of the body is inflamed then the corresponding joint on the other side of the body is also inflamed.

When the disease is active, joints frequently become red, swollen, painful and tender. Stiffness in the joints may be especially noticeable in the morning. These symptoms occur because tissue lining the joint (known as the synovium) becomes inflamed, resulting in the production of excessive joint fluid (synovial fluid, Figure 1). Inflammation of the joint capsule is known as synovitis.

Figure 1: Effects of rheumatoid arthritis on a joint



Adapted from the Australian Institute of Health and Welfare 2009. A picture of rheumatoid arthritis in Australia. Arthritis series no. 9. Cat. no. PHE 110. Canberra: AIHW. Available at: www.aihw.gov.au/WorkArea/DownloadAsset.aspx?id=60129551056 Accessed: August 2016.

Without treatment, disease progression can lead to structural changes and deformity in joints (Figure 1), leading to restricted movement and disability. Muscles can waste without normal use and the altered forces on tendons can cause deformity.

The most common symptoms of rheumatoid arthritis are:

- joint pain, swelling and tenderness
- stiffness in the joints, especially in the morning
- symmetrical appearance – the same joints on both sides of the body are usually affected.

How does rheumatoid arthritis affect other parts of the body?

Rheumatoid arthritis can affect the whole body, so it is described as a systemic disease. Rheumatoid arthritis is also classified as an autoimmune disease because the immune system attacks its own tissues, which can result in progressive and irreversible joint damage. This can lead to problems not only with the joints but also with the skin, eyes, nerves, and the tissues surrounding the lungs and heart. People with rheumatoid arthritis may also feel fatigued, experience anaemia and loss of appetite, and generally feel unwell.

Skin



In around one quarter of people with rheumatoid arthritis, painless lumps develop just under the skin. These are known as rheumatoid nodules and can range in size from as small as a pea to as large as a walnut. While their cause is unknown, it is thought that they may be due to inflammation of the small blood vessels under the skin.¹

Eyes

A decrease in tear production can cause the eyes to become dry. This can also occur with other types of arthritis, though is more common in rheumatoid arthritis.¹



The nervous system

Inflammation and swelling of joints and tendons affected by rheumatoid arthritis can cause nearby nerves to become compressed. Nerve compression most commonly affects the hands, wrists and ankles and can result in weakness and the sensation of pins and needles.



Lungs



Rheumatoid arthritis-associated inflammation of the lining of the lung (called pleuritis) can cause chest pain with deep breathing, shortness of breath or coughing. The lung tissue itself can also become inflamed and scarred (pulmonary fibrosis), though these conditions are usually mild and may cause no symptoms at all.

Heart



The outer lining of the heart may also become inflamed (called pericarditis). This may occur in up to 30% of people, though symptoms are usually mild.¹

¹. Australian Institute of Health and Welfare 2009. A picture of rheumatoid arthritis in Australia. Arthritis series no. 9. Cat. no. PHE 100. Canberra: AIHW. Available at: www.aihw.gov.au/WorkArea/DownloadAsset.aspx?id=60129551056 Accessed: August 2016.

What causes rheumatoid arthritis?

Rheumatoid arthritis is an autoimmune disease, meaning that the immune system attacks its own body tissues. While the exact cause of rheumatoid arthritis is currently unknown, the result is an immune system that promotes joint inflammation. In some instances, inflammation may occur in other organs, such as the heart, lungs and eyes. In these areas of inflammation, immune cells (lymphocytes) are activated producing chemical messengers (called cytokines).

Lymphocytes are types of white blood cells that are involved in recognising and responding to infection and inflammation.

Cytokines are chemical messengers released from lymphocytes that regulate the body's response to disease and infection. Some cytokines reduce inflammation while others interact with the immune system to promote inflammation.

Conditions such as psoriasis, rheumatoid arthritis, ankylosing spondylitis, psoriatic arthritis, Crohn's disease and ulcerative colitis are associated with an overproduction of lymphocytes and cytokines that promote inflammation. This can cause tissue damage.

One of these cytokines is a protein called tumour necrosis factor alpha (TNF- α). TNF- α plays a central role in orchestrating an immune response against infection and tissue damage, which results in inflammation.

The immune system is then counter-balanced by other cytokines that normalise the inflammatory response.

In conditions such as rheumatoid arthritis, the inflammatory response is magnified due to an over-expression of TNF- α which, along with other inflammatory cytokines, is responsible for increasing inflammation of the tissue lining the joints (called the synovium), resulting in stiffness and swelling commonly associated with the disease. Scientists believe that inherited genes and environmental factors have a role in triggering the development and progression of rheumatoid arthritis.

The role of genes and family history

People with rheumatoid arthritis often have family members or close relatives who also have the disease. In fact, if one member of a family has rheumatoid arthritis, then other family members are three to four times more likely to develop the disease when compared with the general population.¹

While no specific gene has been attributed to causing rheumatoid arthritis, several gene markers predict whether an individual's likelihood of developing the condition is increased. For example, people with rheumatoid arthritis are more likely to express certain types of HLA (human leukocyte antigens) genes, which are associated with a variety of autoimmune processes.¹

1. Australian Institute of Health and Welfare 2009. A picture of rheumatoid arthritis in Australia. Arthritis series no. 9. Cat. no. PHE 100. Canberra: AIHW. Available at: www.aihw.gov.au/WorkArea/DownloadAsset.aspx?id=60129551056 Accessed: August 2016.

Environmental factors

A genetic tendency in an individual alone is not sufficient for that person to develop rheumatoid arthritis. It is thought that certain infections or environmental factors may contribute to the development of rheumatoid arthritis. For example, smoking tobacco has been shown to increase the risk of developing rheumatoid arthritis.¹

Key statistics

- Rheumatoid arthritis affects around 445,000 Australians (2%)¹
- If one family member has rheumatoid arthritis, then other family members are three to four times more likely to develop the disease than the general population²



1. Australian Institute of Health and Welfare 2015 Musculoskeletal fact sheet: rheumatoid arthritis. Arthritis series no. 24. Cat. no. PHE 188. Canberra: AIHW. Available at: www.aihw.gov.au/WorkArea/DownloadAsset.aspx?id=60129551056 Accessed: August 2016.
2. Australian Institute of Health and Welfare 2009. A picture of rheumatoid arthritis in Australia. Arthritis series no. 9. Cat. no. PHE 100. Canberra: AIHW. Available at: www.aihw.gov.au/WorkArea/DownloadAsset.aspx?id=60129551056 Accessed: August 2016.

Treatment options

Rheumatoid arthritis is a chronic disease which cannot be cured. However, there are many treatment options available that can ease the symptoms of rheumatoid arthritis and even slow its progression to limit joint damage and disability.



Your doctor will work with you to decide which treatments are most suitable for you. This will involve considering factors such as your disease activity and the types of joints involved, as well as your general health and lifestyle.

The optimal approach to managing rheumatoid arthritis usually involves a combination of medications, physical therapy including joint-strengthening exercises, rest and, if required, joint surgery. Education about the condition is also an important component. Working closely with your healthcare team is the best way to help ensure that you get the most out of your treatment plan.



Treatment of rheumatoid arthritis should start as early as possible to:¹

- reduce pain and stiffness in affected joints
- prevent joint damage
- minimise disability caused by pain, joint damage or deformity
- increase likelihood of achieving disease remission
- improve quality of life.

1. Australian Institute of Health and Welfare 2009. A picture of rheumatoid arthritis in Australia. Arthritis series no. 9. Cat. no. PHE 100. Canberra: AIHW. Available at: www.aihw.gov.au/WorkArea/DownloadAsset.aspx?id=60129551056 Accessed: August 2016.

Medication

Medications used to treat rheumatoid arthritis can be divided into two groups:

1. Those that help relieve symptoms and reduce inflammation (non-steroidal anti-inflammatory drugs [NSAIDs] and corticosteroids)
2. Those that can modify the disease or can achieve remission (disease-modifying anti-rheumatic drugs [DMARDs] and biologic agents).

All medications can have side effects and it is important to discuss the risks and benefits of any treatment with your doctor. Always speak with your doctor about any concerns you have about the medications you are prescribed, or if you experience any side effects.

Pain relievers and anti-inflammatories

Non-steroidal anti-inflammatory drugs (NSAIDs)

As the name suggests, NSAIDs reduce pain and inflammation. NSAIDs are used to treat a very broad range of conditions.

Corticosteroids

Steroids are naturally produced by the body to be used in many normal body processes. Chemical corticosteroids alleviate joint pain, swelling and other symptoms of rheumatoid arthritis by blocking the production of substances (such as prostaglandins) that promote inflammation or trigger allergic responses. Possible side effects with longer term use may include weight gain, brittle bones and osteoporosis, glaucoma, cataract, increased risk of infection, high blood pressure, fragile skin and onset or worsening of type 2 diabetes. For this reason, corticosteroids are usually prescribed for a short period of time.



Disease modifiers

Disease-modifying anti-rheumatic drugs (DMARDs)

DMARDs are a group of unrelated drugs with different modes of action that collectively slow the progression of rheumatoid arthritis or even enable disease remission. DMARDs are known to modulate the immune system and hence reduce inflammation. Your doctor can advise you if these agents may be appropriate for you.

Biologics

Biologic response modifiers (biologics) work by targeting specific biological proteins involved in chronic inflammation. In rheumatoid arthritis, biologics such as anti-TNFs work by helping to reduce the excess TNF- α levels produced during the inflammation process. The biologic attaches to TNF- α and stops the activity that is driving the disease process.



Talk to your doctor about any concerns you have about the medications you are prescribed or if you experience any side effects.



Living with rheumatoid arthritis

The effects of rheumatoid arthritis are more than just physical. Living with rheumatoid arthritis can have an impact on your life socially, psychologically and even financially.

Psychological effects

Everyone responds differently to challenges. If you experience emotional reactions such as anger, frustration, helplessness or anxiety in relation to your rheumatoid arthritis, you are far from being alone.

If you feel depressed, it is important to talk to someone you trust, such as a family member, close friend or a healthcare professional. There are ways to help you manage the emotional challenges of living with rheumatoid arthritis.

To find out more about depression and its symptoms, visit Beyond Blue: www.beyondblue.org.au



Living better with rheumatoid arthritis

Living with any long-term health condition is difficult. Taking medication helps your disease but you need to take care of yourself too. There are things that you can do to help you cope more positively, beyond taking your medications as prescribed.



Things you can do for yourself

- Learn about your condition and take an active role in its management. A good place to start is by talking to your doctor and visiting the websites provided in the resources section of this booklet.
- Make time for physical activity. Physical activity is crucial in maintaining joint movement and muscle strength – it also has great mental health benefits such as relieving stress.
- Eat a healthy, well-balanced diet. While what you eat does not cause rheumatoid arthritis, it may affect the way you feel. A good diet and an active lifestyle will reduce the risk of gaining weight and will keep your joints in motion, which may assist in the management of your symptoms. Your doctor or a dietitian may be able to help you with individual dietary advice to suit your needs.



- Don't smoke – cigarette smoking is associated with rheumatoid arthritis progression and severity. Quitting smoking can be a challenging but important step to help your rheumatoid arthritis. If you would like advice on how to quit smoking, you can talk to your doctor or other healthcare team members, call the Quitline on 13 18 48 or visit www.quitnow.gov.au

- Use assistive devices. Many devices are available to help people with rheumatoid arthritis manage their everyday activities. These range from small everyday helpers like jar grippers, to walking canes and braces for painful joints. Your doctor can refer you to an occupational therapist. Occupational therapists are able to provide advice on how to reduce joint strain and pain. They can also suggest changes that can be made in your house or recommend an assistive device that would best help you.
- Apply heat to affected areas. Heat application can help ease pain, relax muscles and increase blood flow. It is particularly useful before exercise, but should not be used on joints that are already hot and swollen.



- Apply cold to affected areas. Cold treatments can help ease joints that are hot and swollen.
- Educate your friends and family about rheumatoid arthritis. This way they can better understand what you are going through and provide you with support if needed.
- If you are comfortable, talk to your employer about rheumatoid arthritis and discuss your abilities, noting any constraints or concerns you may have.
- Get in touch with other people living with rheumatoid arthritis. Feeling connected with others who are going through the same thing as you can make a huge difference. Consider joining a support group – a good place to start is by contacting Arthritis Australia: www.arthritisaustralia.com.au



Resources

Australian Rheumatology Association (ARA) www.rheumatology.org.au

An association that provides information for patients on the different treatments available for rheumatoid arthritis.

Arthritis Australia www.arthritisaustralia.com.au

A national not-for-profit organisation that provides information about rheumatoid arthritis and the support available. It promotes awareness of the challenges facing people with arthritis across the community, including leaders in business, industry and government.

Empowered – Arthritis Australia <http://empowered.org.au>

Bringing together people living with arthritis, their rheumatologists, general practitioners and allied health supporters to share knowledge on how to manage, survive and thrive with arthritis.

Always discuss any issues relating to your treatment with your doctor or a member of your healthcare team.

These websites are provided for your information only. The sites may contain content that the sponsor of this booklet does not endorse. The sponsor is not responsible for the validity of the information on these sites. Websites may contain or link to information that is not consistent with the way medicines are used in Australia.

©Janssen-Cilag Pty Ltd 2016. Janssen Cilag Pty Ltd, ABN 47 000 129 975. 1–5 Khartoum Road, Macquarie Park NSW 2113 Australia. Phone 1800 226 334

MKT-SIM-AU-0073 JANS1674/EMBC Date of preparation: October 2016