

# RHEUMATOID ARTHRITIS

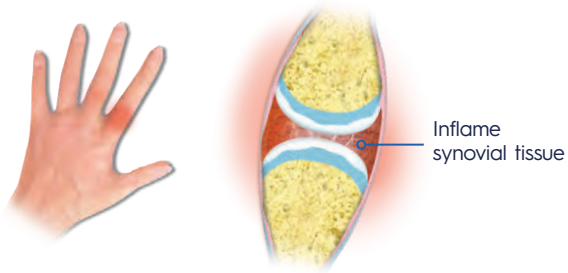


# What is Rheumatoid Arthritis?

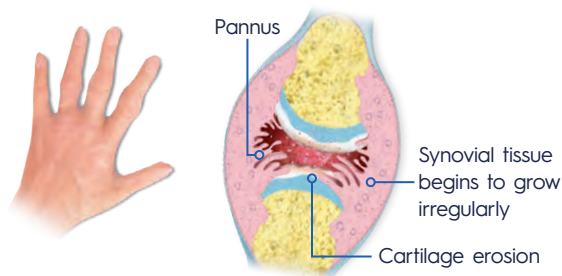
Rheumatoid Arthritis (RA) is a **chronic autoimmune inflammatory disease**. The cause of RA is unknown<sup>1</sup>.

In a joint with RA, **the lining of the joint becomes inflamed** causing damage to joint tissue. This tissue damage can cause long-lasting or chronic pain, unsteadiness and deformity<sup>1</sup>.

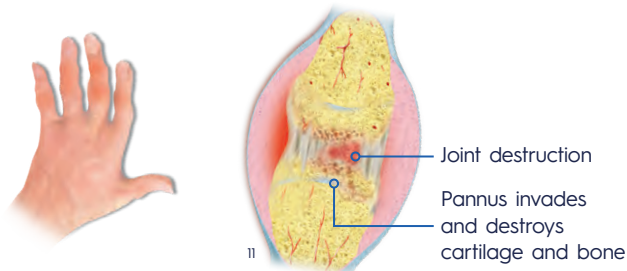
## Synovitis<sup>2,11</sup>



## Synovial hyperplasia<sup>2,11</sup>



## Joint destruction<sup>2,11</sup>

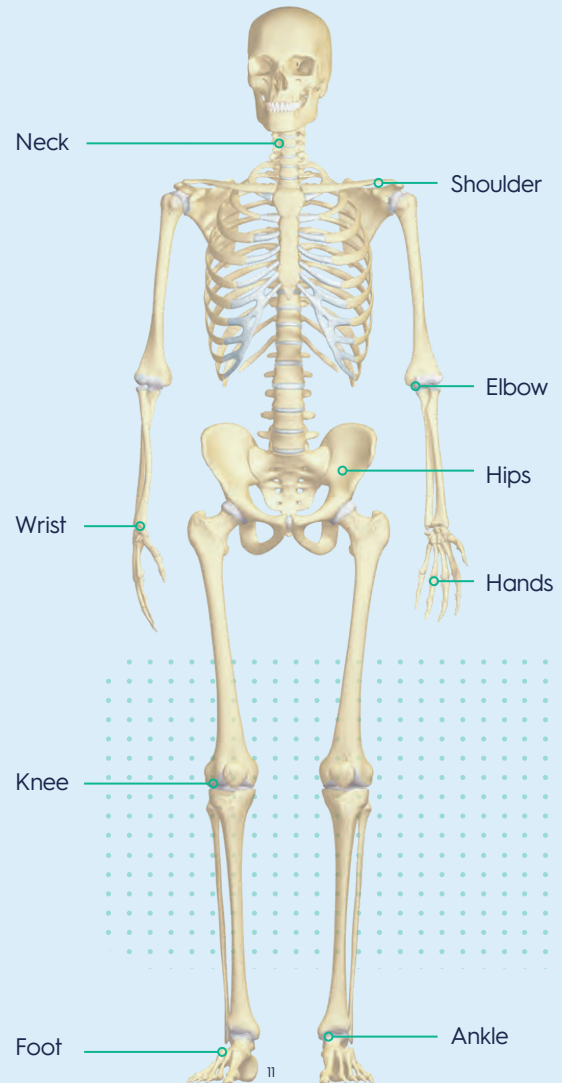


Pathology of Rheumatoid Arthritis (RA)<sup>11</sup>

# Which joints are affected by RA?

RA mainly **attacks the joints, usually many joints at once**, but it can also affect other parts of the body<sup>1,3</sup>.

Joints that may be affected include<sup>4</sup>:



# What are the signs and symptoms of RA?

With RA, there are times when **symptoms get worse, known as flares**, and times when **symptoms get better, known as remission**<sup>1</sup>.

In most cases, **symptoms come on gradually**<sup>3</sup>:

## Early symptoms<sup>1,2,4</sup>:

- ✓ Fatigue
- ✓ A low-grade fever
- ✓ Weight loss
- ✓ Swollen and tender joints
- ✓ Morning stiffness



Early RA tends to affect smaller joints first, particularly hands and feet. As the disease progresses, symptoms often spread to the larger joints such as wrists, knees, ankles, elbows, hips and shoulders<sup>4,5</sup>.



# What are the causes and risk factors for RA?

Although the specific cause of RA is not known there are **some factors that can increase the risk** of developing the disease<sup>1</sup>:



**Age.** RA can occur at any age, but the risk increases with age. The onset of RA is highest among adults in their sixties<sup>1</sup>.



**Gender.** Women are affected two to three times more often than men<sup>2</sup>.



**Genetics/family history.** A family history of RA increases the risk to develop the disease three to five times<sup>2</sup>.



**Cigarette smoking**<sup>1,6</sup>.



**History of live births.** Women who have never given birth may be at greater risk of developing RA<sup>1</sup>.



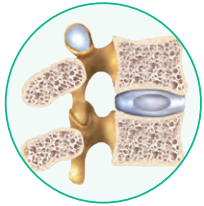
**Stress.** Some people report emotional stress or trauma before the onset of RA<sup>6</sup>.



**Obesity.** Being obese can increase the risk of developing RA. The more overweight a person is, the higher the risk of developing RA<sup>1,6</sup>.

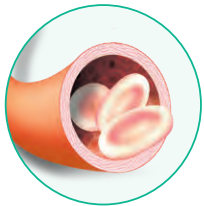
# What are the complications of RA?

During the clinical course of RA, **up to 40% of people may develop extra-articular manifestations<sup>5</sup>**:



## **Osteoporosis<sup>7</sup>**

Decrease in bone quantity and quality results in fragile bones and an increased risk of fractures.



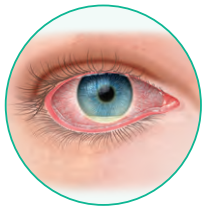
## **Anaemia<sup>5,8</sup>**

Anaemia, a lower than normal number of red blood cells, is seen in most patients with RA.



## **Rheumatoid nodules<sup>4,5,8</sup>**

They are firm and painless lumps beneath the skin.



## **Eye inflammation<sup>8</sup>**

It can cause redness, pain, and vision problems.

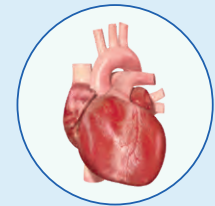
## **Inflammation of the lung<sup>8</sup>**

It may cause shortness of breath and a dry cough.



## **Pericarditis<sup>8</sup>**

Inflammation can damage the heart muscle and the surrounding areas.



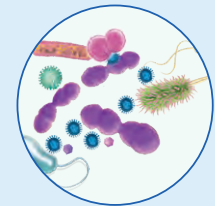
## **Sjögren's syndrome<sup>5</sup>**

It causes dry eyes and dry mouth.



## **Infections<sup>4</sup>**

Patients with RA are at an increased risk for infections. Such risk is further increased by some therapies.



# How will my doctor diagnose my disease?

The diagnosis is based upon multiple factors including<sup>8</sup>:

- Person's medical history
- Physical examination
- Results of blood tests
- Results of imaging tests

Signs and symptoms of RA are not specific and can look like signs and symptoms of other inflammatory joint diseases<sup>1</sup>.

A **classification criteria** is used as an aid for diagnosis of RA and includes<sup>4</sup>:

- ✓ **Signs of inflammation in 3 or more joints**, lasting for 6 weeks or longer<sup>4</sup>.
- ✓ **Diagnostic antibody blood tests:** rheumatoid factor and/or anti-citrullinated peptide/protein antibody<sup>2,8</sup>.
- ✓ **Elevated blood levels of C-reactive protein or the erythrocyte sedimentation rate**, markers that reflect the level of inflammation in the body<sup>2,8</sup>.

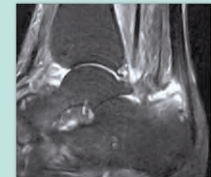
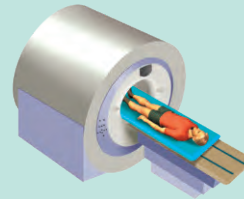
Timely and precise diagnosis is of high importance in RA treatment, since early diagnosis can arrest disease in many patients, thereby preventing or slowing disease progression, irreparable joint damage, and disability in up to 90% of RA patients<sup>2</sup>.

## Imaging tests

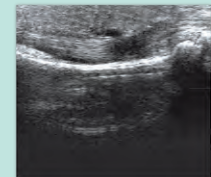
Even though **X-rays** are still used as a diagnosis technique of late changes in the joints and monitor disease progression, it has limitations for early diagnosis of RA<sup>9</sup>.

Both **ultrasound and magnetic resonance imaging (MRI)** are recommended for diagnosing and monitoring disease activity in RA patients<sup>2</sup>.

### MRI



### Ultrasound



### X-rays



# What are the treatment options for RA?

The aim of RA treatment is to either **reach full remission or at least significantly lower disease activity** to control symptoms, prevent joint damage, and maximize patient's quality of life and ability to function<sup>2,8</sup>.

The available therapeutic drugs include **non-steroidal anti-inflammatory drugs (NSAIDs), immunosuppressive glucocorticoids, and disease-modifying anti-rheumatic drugs (DMARDs)**. Drug treatment is typically supplemented by non-pharmacological treatment which includes physical therapy to sustain joint mobility, patient counselling to slow down disease progression, and surgery in cases of severe stages of RA which provide pain relief and restore the function of joints<sup>2,9</sup>.



## Rheumatoid Arthritis

### NSAIDs<sup>2</sup>

- ✓ Only symptom improvement (pain and stiffness) but no influence on disease progression
- ✓ Only used as a symptomatic treatment until diagnosis is established

### Glucocorticoids<sup>2</sup>

- ✓ Non-specific immune suppression
- ✓ Rapid systemic disease-modifying effects
- ✓ But long-term side effects

### Non-pharmacological treatment<sup>2</sup>

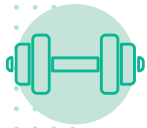
- ✓ Physical therapy
- ✓ Patient counselling (lifestyle, smoking, exercise, ideal bodyweight, drug adherence)
- ✓ Surgery

### DMARDs<sup>2</sup>

- ✓ Medicine that interferes with signs and symptoms of RA
- ✓ Target inflammation
- ✓ Prevent further joint damage

# What can I do to manage my disease?

There are self-care measures that can help manage the signs and symptoms of RA<sup>8</sup>:



## Exercise regularly<sup>5</sup>

Exercise and physical activity improve muscle strength and perceived health status.



## Apply heat and cold<sup>6</sup>

Heat treatments can help to relax stiff joints and tired muscles. Cold is best to reduce pain and inflammation.



## Stop smoking<sup>1</sup>



## Reduce stress<sup>8</sup>

There are different ways to relax and stop focusing on pain. They include meditation, deep breathing, guided imagery and massages.



## Healthy dietary habits<sup>10</sup>

They can be a useful tool in reducing the risk of RA, related comorbidities, RA progression and disease activity. Mediterranean diet is the most encouraged dietary pattern.



## Maintain a healthy weight<sup>1</sup>



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