

# Blood tests and pathology tests for arthritis and other autoimmune disorders



## ARTHRITIS INFORMATION SHEET

Before any tests are done, the doctor will ask you about your symptoms and will often examine you for signs of arthritis or other autoimmune features. Then tests may be done. Your symptoms and signs on physical examination are more important for making a diagnosis than the results of the tests.

### What are blood tests and pathology tests used for?

- Confirming a diagnosis of arthritis or autoimmune disorder
- Monitoring disease activity and response to treatment
- Checking for side effects from medicines

### Are all types of arthritis diagnosed by blood tests?

Most forms of arthritis can be diagnosed by blood tests. The doctor may use blood tests to provide support for the diagnosis made on the symptoms and signs, or to help rule out other types of arthritis or conditions that cause similar symptoms. No blood or pathology tests may be required to diagnose some conditions such as osteoarthritis or chronic back pain.

### BLOOD TESTS

**Erythrocyte Sedimentation Rate (ESR):** ESR tests measure the level of inflammation in the body. However, the test does not reflect exactly where in the body the inflammation is or what is causing it. ESR can also be affected by other conditions besides inflammation, so it is used alongside other tests.

**C-Reactive Protein (CRP):** CRP tests measure the level of inflammation in the body by measuring the amount of C-reactive protein in the blood. The test is not specific enough to diagnose a particular type of arthritis or disease, so it is used alongside other tests.

**Rheumatoid Factor (RF):** The RF test is commonly used to help diagnose rheumatoid arthritis (RA). However, a positive RF test does not always mean a person has RA, as there are several conditions that give positive RF results. Healthy people without RA can also test positive for RF, particularly older people. This does not mean they will develop the condition.

**Anti-Cyclic Citrullinated Peptide antibody (antiCCP):** Anti-CCP antibodies (proteins made by the body's immune system) are commonly present in people with rheumatoid arthritis (RA). This test is useful in the early stages of RA or in borderline

cases, as it is a stronger indicator of RA than the rheumatoid factor test. As not all people with early RA test positive, the doctor will use other blood tests, in addition to antiCCP, and examinations so the diagnosis is more reliable.

- **Antinuclear Antibody (ANA):** The ANA test is used to screen for autoimmune disorders. In particular, almost 100% of people with systemic lupus erythematosus (SLE) have a positive ANA test. The ANA test may also be positive in other conditions, such as Sjögren's syndrome, scleroderma, Raynaud's disease and rheumatoid arthritis. A positive ANA test result may suggest an autoimmune disease, but further testing, along with the patient's symptoms and signs, is usually needed to make a final diagnosis.
- **Anti-dsDNA test:** This test helps diagnose and monitor SLE. It is ordered after a positive ANA test to confirm a diagnosis of SLE.
- **Extractable Nuclear Antigen Antibodies (ENA) panel:** This test comes after a positive ANA test to help diagnose a specific autoimmune disorder. The number of tests done on the blood sample will depend on the clinical symptoms and the doctor's assessment.

**HLA typing:** This test looks for the presence of certain genetic markers in the blood that are associated with an increased risk of developing certain types of arthritis.

**Uric Acid test:** Levels of uric acid in the blood are measured to test for gout. However other tests may be required to confirm gout in a patient (arthrocentesis, X-ray and ultrasound). High levels of uric acid can occur in people without gout.

It is important to note that some blood tests are not routinely repeated to monitor disease activity i.e. there is no reason for most patients to repeat testing for RF, antiCCP, ANA, ENA, HLA-B27.

### OTHER PATHOLOGY TESTS

Arthrocentesis: (Synovial fluid aspiration) is the process of removing some fluid from a joint, usually

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using a needle and syringe. Although infections can be identified with a blood test, arthrocentesis, if possible, is usually better. It is also the most specific test for gout.

- The fluid is cultured to check for an infection.
- The fluid is observed under a polarised microscope to look for uric acid crystals to check for gout.

## FORMS OF ARTHRITIS DIAGNOSED BY PATHOLOGY TESTS

### AUTOIMMUNE DISORDERS

**Rheumatoid arthritis (RA):** A common inflammatory form of arthritis that causes pain and swelling of the joints and other organs in the body, such as the lungs and skin. In RA, the immune system attacks healthy tissues, specifically the lining of the joints, causing inflammation and joint damage.

**Spondyloarthritis:** Includes inflammatory diseases that involve both the joints and the entheses (the sites where the ligaments and tendons attach to the bones; for example, around joints, at the edges of the vertebral bodies of the spine and where tendons attach to the heel bone).

**Ankylosing spondylitis (AS):** The most common symptoms of AS are chronic pain and stiffness in the lower back, buttocks and hips. AS usually develops slowly over several weeks or months.

**Reactive arthritis:** Reactive arthritis follows certain infections. The most common symptoms are inflammation in the joints, eyes and urethra (the tube that helps remove urine from the body). Mouth sores and skin rashes sometimes occur.

**Psoriatic arthritis (PsA):** Approximately 30% of people with psoriasis (a skin condition characterised by itchy, scaly rashes and crumbling nails) also develop PsA. The symptoms of PsA include joint pain and stiffness, skin rashes, nail changes, fatigue, eye problems, and swelling and tenderness in fingers and feet. PsA may be indistinguishable from other types of arthritis, except that the patient has psoriasis.

**Systemic lupus erythematosus (SLE):** The immune system attacks healthy tissues, including the joints and skin. In some people, the lungs, kidneys, blood vessels, brain or other parts of the body are also affected.

**Sjögren's syndrome:** Abnormal dryness of the mouth, eyes and/or other tissues. Around half the people who have Sjögren's syndrome also have another form of arthritis.

**Scleroderma:** Scleroderma affects the connective tissues of the body (tissues that hold together joints, muscles, blood vessels and internal organs), causing skin thickening. Many different areas of the body can be affected. Raynaud's phenomenon is common in people with scleroderma.

**Raynaud's disease:** Raynaud's phenomenon is a condition that can cause discomfort as the blood supply to the fingers and toes becomes reduced. When this happens, the person's fingers or toes change colour. It can happen in cold temperatures or emotionally stressful situations.

## INFLAMMATION AND OTHER FORMS OF ARTHRITIS

**Septic arthritis:** Some infections can lead to joint destruction and this occurs much quicker than with other forms of arthritis. It is crucial to rule out an infection when arthritis affects a single joint.

**Gout:** A common and painful condition that affects the joints and tendons. Small crystals of uric acid form in and around the joint which causes inflammation, pain and swelling. An attack of gout usually comes on very quickly, often overnight. The joint becomes red, swollen and painful. It often affects one joint at a time, such as the big toe.

**Inflammation:** A localised physical condition in which part of the body becomes reddened, swollen, hot, and often painful. Inflammation is a common feature of arthritis, and is the cause and the result of all forms of arthritis.

**This information sheet has been reviewed by Dr David Liew (Medical Director, Arthritis Australia).**



### FOR MORE INFORMATION

#### Websites:

Arthritis Australia [ArthritisAustralia.com.au](https://www.arthritisaustralia.com.au)

Australian Rheumatology Association – information about medicines and seeing a rheumatologist  
[www.rheumatology.org.au](https://www.rheumatology.org.au)

American College of Rheumatology  
[www.rheumatology.org](https://www.rheumatology.org)

Arthritis Foundation (US) [www.arthritis.org](https://www.arthritis.org)

Pathology Awareness Australia  
[www.knowpathology.com.au](https://www.knowpathology.com.au)

