PATHOLOGY TESTS EXPLAINED

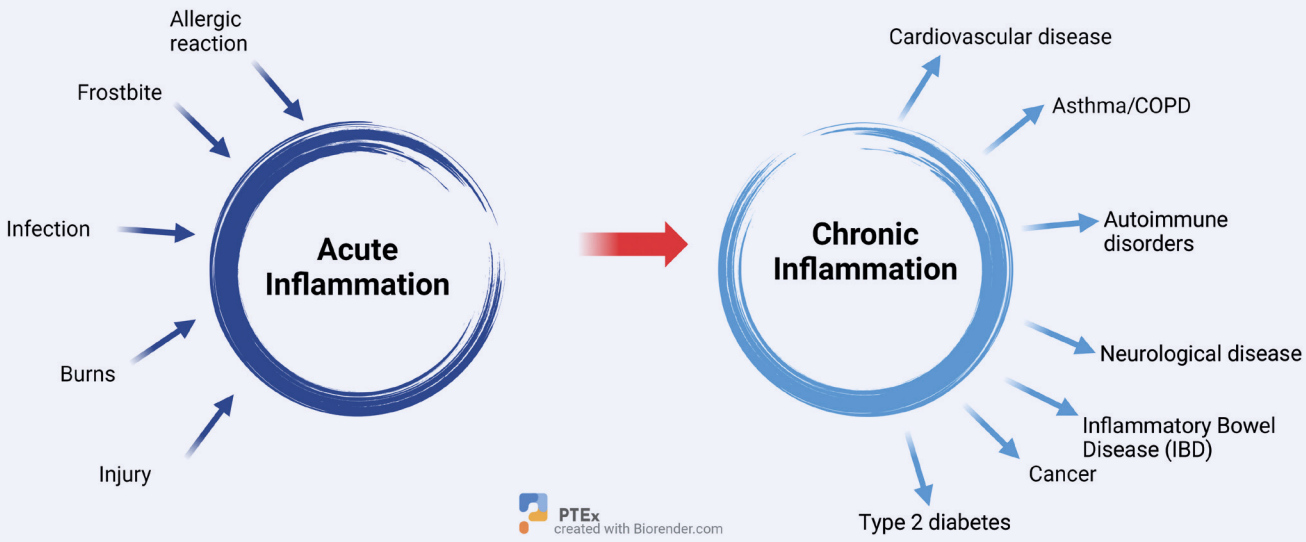
Information about pathology tests to help everyone take control of their health and make the right decisions about their care.

WHAT YOU SHOULD KNOW ABOUT YOUR **TESTS FOR INFLAMMATION**

Inflammation is a vital part of your immune system's response to injury and infection. It helps start the healing process by increasing blood flow to the affected area. This causes redness, warmth and swelling.

Inflammation can be a sign that you have a health problem somewhere in your body, and it occurs in many different illnesses. Tests for inflammation are among some of those most often used in medical care.

These tests can show if inflammation is present and how severe it is, but they are not specific enough to diagnose a particular health condition on their own. They do not show where the inflammation is in your body. Rather, they can give your doctor evidence that further testing may be needed. They are also useful in making sure that any treatment you are having for inflammation is working.



Acute and chronic inflammation

There are two types of inflammation: acute and chronic. In acute inflammation, such as when you have an injury or an infection from a virus or bacteria, your immune system sends out chemical messengers and releases white blood cells to protect the affected area. When the wound or infection has cleared up, your body goes back to normal. In chronic inflammation, your immune system keeps sending out chemical messengers and white blood cells over a long time and in some situations can start attacking nearby healthy tissues and organs.

Tests for inflammation

Two of the most common tests for inflammation are C-reactive protein (CRP) and the erythrocyte sedimentation rate (ESR). They both measure proteins in the blood that are created by inflammation.

Your doctors may order CRP and ESR together. ESR is not as accurate as CRP in most situations. However, because ESR is an easily performed test and requires only relatively simple equipment, many doctors still use it as an initial test when they think a patient may have inflammation.

Tests for inflammation

CRP

CRP is a protein made by the liver and released into the blood in response to inflammation. Levels of CRP start to rise soon after inflammation – such as through an injury or an infection – affects the body. CRP levels can increase many hundred-fold and then drop quickly as soon as the inflammation passes. This makes CRP a useful test to monitor the effectiveness of treatment.

You may need a CRP test if your doctor suspects you have rheumatoid arthritis, lupus or another autoimmune disease, or if it is possible you have an inflammatory bowel disease such as Crohn's disease or ulcerative colitis. CRP is also used to look for possible infection, such as in monitoring people after surgery.

A more sensitive form of the test, C-reactive protein high sensitivity (hsCRP), is used to assess your risk of heart disease.

ESR

The ESR test measures how fast red blood cells settle to the bottom of a tall tube of blood. Inflammation causes red blood cells to stick together and form clumps. Being heavier, the clumps fall to the bottom of the tube faster than other red blood cells. If there is inflammation, the red blood cells will clump together and fall quickly to the bottom of the tube.

Both CRP and ESR give similar information. However, CRP appears and then disappears sooner than changes in the ESR. Your CRP level may fall to normal if you have been treated successfully but your ESR might still be abnormal for a while longer.

CRP is not affected by as many things as is ESR, which can be affected by periods and pregnancy as well as some medications. This makes CRP a better test for some types of inflammation.

Other tests you may need to get a full picture of your health

Your health team may request a group of tests together, including CRP, ESR, Liver Function Tests and a Full Blood Count among others. Tests specific to your symptoms may also be ordered such as the ANA (antinuclear antibody) and RF (rheumatoid factor) for autoimmune diseases. If it's possible you have an infection, cultures will sometimes be ordered to identify the type of bacteria.

What are reference intervals (reference ranges)?

Your results are shown in your report as a comparison against a set of numbers called reference intervals or reference ranges. This is the range of test results considered 'normal' for the general population. If a result in your report is outside this range it can be flagged as high (H) or low (L). This does not necessarily mean that anything is wrong and depends on your personal situation. They need to be interpreted by your doctor.

What can your results tell you?

An abnormal result may not mean you have anything to worry about. Inflammation test results can be affected by many conditions. Talking with your doctor about what your results mean for you is important.

CRP	
High CRP	This suggests that you have an infection or inflammation - most infections and inflammation result in CRP levels above 10 mg/L.
Falling CRP	Inflammation is reducing.

A CRP test can be useful to tell the difference between bacterial and viral infections. A very high CRP level is more likely to occur in a bacterial rather than a viral infection. A normal CRP level is unlikely if there is a bacterial infection.

ESR	
High ESR	This suggests inflammation somewhere in your body.
Falling ESR	Inflammation is reducing.
Low ESR	Although a low ESR is not usually important, it can be seen with polycythaemia (your body makes too many red blood cells), leucocytosis (too many white blood cells), heart failure and certain kidney and liver problems.

If your ESR results are not normal it does not mean you have a medical condition. ESR results can be affected by many things – pregnancy, periods, aging, drinking alcohol and certain medications and supplements can all affect your ESR results.

For more detailed information on these and many other tests go to **pathologytestsexplained.org.au**

PATHOLOGY TESTS EXPLAINED

www.pathologytestsexplained.org.au

Please use this QR code to access more information

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My Health Record

You'll find a direct link to the Pathology Tests Explained website embedded in the pathology results pages of your My Health Record and the my health app.

Click on the link to find information about what your tests are investigating or measuring and what your results can tell your doctor.