

Inflammatory Marker Tests – Which to use and when

The CRP test measures the level of one specific protein, whereas the ESR/PV takes account of many proteins.

Test		When to use
CRP	<p>CRP is an acute phase reactant, used to assess the progression of inflammation and infection. It is a surrogate measure of Interleukin-6 produced in the liver by hepatocytes, but can also be generated by adipocytes in obese individuals, causing low level elevations (<20 mg/L). Equally in liver failure levels may be unexpectedly low. It is useful as it rises rapidly following an insult e.g. infection or inflammation within 48 hours and responds rapidly to treatment. Care should be taken as CRP may be normal in myeloma and in patients with active connective tissue diseases</p>	<p>Use CRP first in primary or secondary care unless monitoring connective tissue diseases, myeloma and haematological malignancy</p>
ESR	<p>The ESR measures the rate at which the red blood cells separate from the plasma and fall to the bottom of a test tube. The rate is measured in millimetres per hour (mm/hr). This is easy to measure as there will be a number of millimetres of clear liquid at the top of the red blood after one hour.</p> <p>If certain proteins cover red cells, these will stick to each other and cause the red cells to fall more quickly.</p> <p>Levels of ESR are higher in females, increase with age and are influenced by lipids and glucose levels. It is slower than CRP to respond to insult and may take seven days to peak. As such it is less helpful in acute diagnosis and monitoring response to treatment of acute inflammatory disorders or infection.</p> <p>ESR is a good measure of immunoglobulin load and therefore is of use in conditions such as connective tissue diseases, myeloma and some other haematological malignancies.</p>	<p>For routine use only in monitoring connective tissue diseases, myeloma and haematological malignancy</p>
PV	<p>The conditions which the ESR test monitors can also be monitored by the PV test. It is another marker of inflammation. However, it is more difficult to perform and is not as widely used as ESR testing.</p> <p>PV can be used to aid diagnosis for many conditions associated with acute and chronic inflammation.</p>	