

C-reactive protein test

C-reactive protein (CRP) is a protein made by the liver. CRP levels in the blood increase when there is a condition causing inflammation somewhere in the body.

A CRP test measures the amount of CRP in the blood to detect inflammation due to acute conditions or to monitor the severity of disease in chronic conditions, it is non-specific indicator of inflammation, that means that it is released into the blood within a few hours after an injury, the start of an infection, or other cause of inflammation. The level of CRP can jump as much as a thousand-fold in response to bacterial infection, and its rise in the blood can precede pain, fever, or other signs and symptoms. **CRP** may sometimes be ordered along **with** an erythrocyte sedimentation rate (**ESR**).

Uses of CRP Test

- 1- CRP may be used to detect or monitor significant inflammation in an individual who is suspected of having an acute condition, such as serious bacterial infection like sepsis, a fungal infection and Pelvic inflammatory disease (PID).
- 2- The CRP test is useful in monitoring people with chronic inflammatory such as arthritis and Autoimmune diseases, such as lupus or vasculitis.
- 3- The determination of the CRP-level is useful to monitor the therapy.
- 4- It is done to check for infection after surgery. CRP levels normally rise within 2 to 6 hours of surgery and then go down by the third day after surgery. If CRP levels stay elevated 3 days after surgery, an infection may be present.

When is it ordered?

- 1- In serious bacterial infection based on your medical history and signs and symptoms like: Fever, chills Rapid breathing Rapid heart rate

2- It is also ordered and monitored after surgery to ensure that you are free of post-surgery infection.

Principle of CRP Test

The C-Reactive Protein test is based on the principle of the latex agglutination. When latex particles complexed, human anti-CRP are mixed with a patient's serum containing C reactive proteins, a visible agglutination reaction will take place within 2 minutes.

Materials Required:

1. CRP Reagent: A stabilized buffered suspension of polystyrene latex particles coated with goat IgG anti-human CRP.
2. Positive Control: Human serum containing known CRP
3. Negative Control: Human serum containing 0.1% sodium azide as preservative.
4. Sufficient disposable pipettes.
5. Glass test slide

Procedure of CRP Test

1. Bring all reagents and serum sample to Room Temperature and mix latex reagent gently prior to use. Do not dilute the controls and serum.
2. Place 1 drop of Serum, Positive control and Negative control on separate reaction circle on glass slide.
3. Then add 1 drop of CRP latex reagent to each of the circles.
4. Mix with separate mixing sticks and spread the fluid over the entire area of the cell.
5. Tilt the slide back and forth slowly for 2 minutes observing preferably under artificial light.

6. Observe for visible agglutination.

