

November 5, 2014

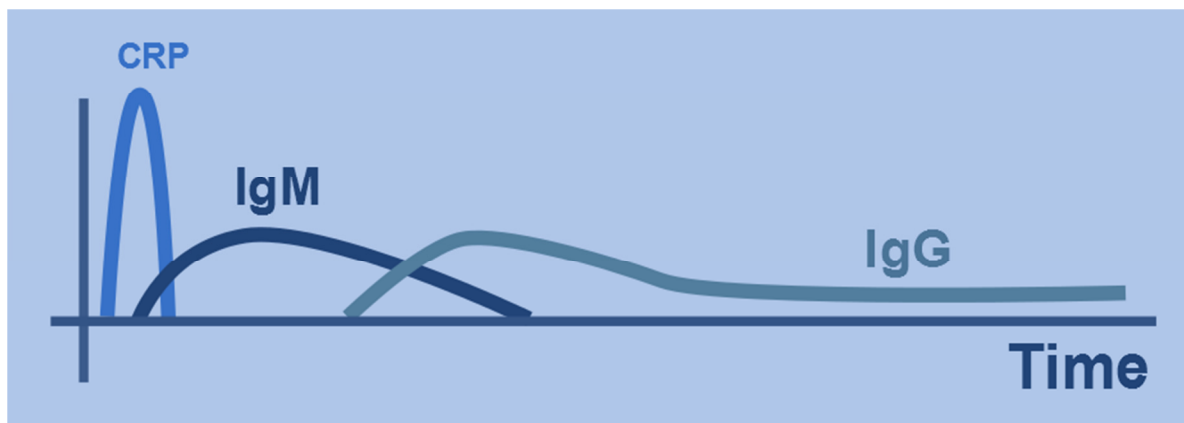
CRP & ESR testing: When to use which?

An often heard question refers to the differences between ESR testing and CRP testing. With the medical facts in mind, here is a brief comparison of both tests and their respective uses.

The C-Reactive Protein or CRP is one of the acute phase proteins. Its level rises in response to inflammation and peaks in 48 hours. This makes CRP a fast-response indicator of inflammation. However, with a half-time of only 48 hours, CRP testing is less suitable and less preferable to assess inflammations older than two days.

On the other hand, ESR values are informed by several proteins in the blood. Here, an infection leads to increased fibrinogen and immunoglobulin (especially IgM and IgG), the values of which depend on the time passed between onset and measurement. ESR is a good and affordable measure of infections that have progressed beyond the initial acute phase lasting two days. Additionally, you can use it to monitor chronic infections like arthritis and for excess of blood proteins that are related to leukemia. Whereas CRP is unable to test for certain infections such as Crohn and Lupus, ESR tests are.

In some cases, CRP and ESR are both measured to assess the stage of the infection. For example, in case of appendicitis it is crucial to determine the phase it is in. Acute appendicitis (less than two days old) is operable, whereas older appendicitis is not. The latter requires antibiotics instead. It follows the characteristics of both tests that operable appendicitis is indicated by high CRP and normal ESR values, whereas older appendicitis can be identified by slightly elevated CRP and high ESR values.



A schematic graph of CRP time lapse versus those of IgM and IgG



RR Mechatronics
Masters of Measurement

RR Mechatronics B.V.

P.O. Box 225, 1620 AE Hoorn, The Netherlands

Tel: + 31 229 291 129, Fax: + 31 229 241 534

E-mail: sales@rrmechatronics.com, Internet: www.rrmechatronics.com