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HIGH-SENSITIVITY CRP TESTING AVAILABLE AT DANBURY HOSPITAL

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We are pleased to announce the availability of in-house testing for High sensitivity C-reactive protein at Danbury Hospital Laboratory. The test will be performed in the Immunology section of the Laboratory with a turn around time of 72 hours.

C-reactive protein (CRP) is an 'acute phase' protein that increases in the blood when inflammation is present. Used for many years as an indicator of infection and inflammation associated with diseases such as rheumatoid arthritis, CRP is synthesized in the liver and is normally present as a trace constituent in serum. Atherosclerosis, fatty build-up in artery walls called "hardening of the arteries", also an inflammatory process, exhibits a low level of chronic inflammation that produces only small amounts of CRP. A newly developed test, known as high-sensitivity CRP (hs-CRP) is now used for the measurement of inflammation due to atherosclerosis, since detection of the small increases of CRP requires higher sensitivity than previous tests could provide.

hs-CRP screening may add value to the assessment of other established risk factors for predicting increased coronary risk, according to a statement published in the Jan 27, 2003 issue of *Circulation* and issued by the American Heart Association and the Centers for Disease Control and Prevention. The following are some important points obtained from that article:

- Evidence suggests that hs-CRP has the ability to predict cardiovascular risk over and above that of major risk factors and that increased hr-CRP levels predict increased incidence of cardiovascular risk.
- As yet, there are no studies that reflect evidence that hs-CRP levels can effectively alter therapy.
- Other risk factors need to be measured so that appropriate interventions can be made. Clinicians should follow National Cholesterol and National Blood Pressure Guidelines for management rather than rely on an hs-CRP level only.
- The test should be performed on a metabolically stable person without an obvious inflammatory or infectious condition.
- The test should not be performed on all patients, nor should it substitute for measurement of other risk factors. It is most useful in patients of moderate risk in whom a treatment decision needs to be made.
- Initial testing should include two determinations (fasting or non fasting), two weeks apart; an average of the two results should be calculated.
- Based on 40,000 subjects hs-CRP values of ≤ 1 mg/L predict low cardiovascular risk, 1 to 3 mg/L predict average risk, and greater than 3 mg/L predicts high risk.
- From the tertile for lowest risk to the tertile of highest risk, overall risk of cardiovascular disease increases by a factor of 1.5 to 2.0 fold. If a patient is in the high-risk tertile for hs-CRP, more consideration for treatment should be given even if other risk factors are in the borderline range.

SPECIMEN REQUIREMENTS:

Suitable assay specimen is serum, minimally 1 mL (red or SST tube).

EXPECTED RESULTS:

Expected values for healthy individuals as noted in the literature are typically ≤ 3 mg/L. The cutoff points of low risk (<1.0 mg/L), average risk (1.0 to 3.0 mg/L) and high risk (>3.0 mg/L) correspond to approximate tertiles of hs-CRP in the adult population.

Increases in CRP values are non-specific and should not be interpreted without a complete clinical history. When using CRP to assess the risk of cardiovascular and peripheral disease, measurements should be compared to previous values. Recent medical events resulting in tissue injury, infections or inflammation that may cause elevated CRP levels should also be considered when interpreting results.

TEST REQUESTS:

Hs-CRP may be ordered as an individual test or as a CRP/Cardiovascular disease assessment package (CCD). The CCD package will include a total cholesterol, HDL and a total cholesterol:HDL ratio as well as the hs-CRP.

CRP results are reported in mg/L and appropriate risk assessment data will be reported with each result.

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ANA TESTING:

The process utilized for testing for the presence of antinuclear antibodies (ANA) has changed. All requests for ANA testing will now be performed employing an enzyme immunoassay (EIA) methodology. The immunofluorescence assay (IFA), used as the standard method of detecting antinuclear antibodies, is laborious when testing large numbers of patient samples and is subject to errors from human interpretation, which are subjective. EIA is a qualitative immunoassay intended to screen for the presence of antinuclear antibodies in human sera. Sensitivity and specificity is comparable with the IFA. The EIA system used by our institution is a completely automated system and efficiently screens large numbers of patient samples to reduce the amount of human interpretation required. All positive samples by EIA will be confirmed with the IFA methodology so that a titer and pattern can be provided.

EIA testing is performed twice per week and IFA testing is performed once per week.

Sample requirements - 3mL serum (red or SST tube)

