

## New MSP Laboratory Medicine Funding Agreement

In order to meet the MSP expenditure targets for laboratory investigations established by the BC Medical Services Branch and the BCMA, a number of revisions to the laboratory medicine and pathology fee schedule have been made effective 2010 October 01. These revisions can be summarized as follows:

### Delisting of selected fee items

1. Red cell and serum folate
  - Given the widespread food fortification with folic acid and the laboratory data which shows that more than 99% of serum folate results are within or above the normal range, these tests are no longer considered to be necessary except in some extremely rare circumstances
2. Creatine Kinase MB fraction
  - An obsolete test which has been replaced with troponin
3. Glucose - 2hour, post-75 g
  - An obsolete test replaced with a glucose tolerance test
4. Hemoglobin only; platelet count only and white cell count only
  - Since the cost of producing single test parameters is essentially the same as for a full hematology profile, these "single test only" fees have been delisted
  - Orders for a single test will be converted to and billed as a hematology profile

### Fee reductions for selected fee items

- Fees for a number of items on the fee schedule have been reduced

### New billing rules for selected fee items

#### 1. Erythrocyte sedimentation rate (ESR) versus C-reactive protein (CRP)

MSP has established a new billing rule whereby claims for an erythrocyte sedimentation rate (ESR) and a C-reactive protein (CRP) will not be accepted if conducted simultaneously on specimens collected on the same day. The new billing rule directs laboratories receiving requests

for an ESR and CRP to delete the ESR and only perform the CRP. This rule only applies to ESR and CRP ordered simultaneously and not if the tests are ordered on specimens collected on different days.

In general, CRP is the preferred test for evaluating patients with suspected infection or inflammation:

- CRP shows a rapid response to infection/inflammation, increasing within hours of stimulus and rapidly returning to baseline levels following resolution
- ESR increases after several days following stimulus and slowly returns to baseline levels after several weeks
- CRP, unlike ESR, is **not** affected by conditions such as anemia, pregnancy and plasma protein changes
- CRP is the preferred marker to follow early in the treatment course when assessing **if** a patient is responding to current therapy; while the ESR may be preferred to follow a patient later on chronic antibiotic therapy for certain infections [e.g. osteomyelitis] to help determine **when** to discontinue antibiotics
- CRP is a slightly less expensive test compared to the ESR (\$10.22 vs \$10.52). In addition, because it is an automated assay, CRP is subject to volume discounting, leading to a reduction in MSP expenditures if a CRP, rather than an ESR, is performed

The following is adapted from a publication produced by the Best Practices Advisory Committee in New Zealand (*CRP vs ESR, Assessing and measuring the inflammatory response*. [www.bpac.org.nz](http://www.bpac.org.nz)).

#### In this issue:

- New MSP Laboratory Medicine Funding Agreement

*cont'd on page 2*

## The acute phase response

A series of complex reactions, known as the acute phase response, occur following infection, trauma or surgery in an effort to limit tissue injury and to activate repair mechanisms. Tissue macrophages and blood monocytes release cyto-kines which mobilize leukocyte migration into tissues and stimulate hepatic synthesis of various proteins including CRP, haptoglobin, ferritin, fibrinogen etc.

## ESR

When a column of blood is allowed to sit undisturbed, the red cells slowly settle and separate from the plasma. The gravitational force of the red cell's mass is counteracted by the buoyant force of the red cell's volume. Increased plasma proteins (e.g. as seen in the acute phase response), reduces the repulsive forces between red cells, promoting red cell aggregation which in turn leads to a higher mass, allowing the red cells to settle more quickly. Increases in fibrinogen and  $\alpha$ - and  $\beta$ - globulins are the major determinants of the ESR. Because these proteins have half-lives of days to weeks, there is a lag time between the onset and resolution of the clinical stimulus and changes in the ESR.

## CRP

C-reactive protein was discovered in 1930 and named because it reacts with the somatic C polysaccharide of *Streptococcus pneumoniae*. CRP plasma levels rise within 4-6 hours following an acute inflammatory stimulus. As the half-life is 5-7 hours, the levels quickly fall after resolution of the stimulus. The level of CRP may provide a general guide to the severity of the condition:

### CRP as an indicator of severity

CRP mg/L	Interpretation
10 – 40	Mild inflammation, viral or bacterial infection
40 – 100	Moderate inflammation, viral or bacterial infection
100 – 200	Marked inflammation, bacterial infection
➤ 200	Severe bacterial infection, vasculitis, severe arthritis ( <b>but see practice points below</b> )

## Choosing CRP or ESR

There are few studies comparing the clinical utility of the CRP versus the ESR. This table is derived from the Best Practices Advisory Committee cited above:

Clinical Question	CRP	ESR	Comments
Screening asymptomatic patients?			Not useful
I know patient is ill but I don't know why.	✓		Level of CRP may be helpful
Does patient have a significant bacterial infection?	✓		CRP good, ESR slow response
Has the infection responded to this antibiotic?	✓		CRP good, ESR slow response
Is this patient responding to a trial of steroid therapy?	✓		CRP good, ESR slow response
Does this patient have polymyalgia rheumatica (PMR)?	✓	✓	PMR with a normal ESR occasionally occurs
Monitoring PMR	✓		CRP more sensitive indicator of activity
Does the patient have temporal arteritis/giant cell arteritis?	✓		GCA with a normal ESR occasionally occurs
Monitoring temporal arteritis/giant cell arteritis	✓	✓	CRP more sensitive indicator of activity
What is the cause of this/these inflamed joints?	Little use	???	Must be interpreted in clinical context
Monitoring rheumatoid arthritis	✓		CRP better measure of disease activity
Cardiovascular risk assessment	???		Role not clearly established

### Practice points:

- **Choose CRP over the ESR**
- **The CRP should not replace clinical acumen and the need for empiric antibiotic therapy for suspected infections. Given the delay in response of the CRP to infection, rapidly life threatening infections may be missed or considered to be mild-moderate if the CRP result is interpreted in isolation of the history and physical findings**

*cont'd on page 3*

**Practice points (cont'd):**

- **If you order CRP and ESR on the same requisition, only the CRP will be performed**
- **If you order an ESR as the only test, please remember to provide the clinical indication as required by MSP. Failure to do so will mean that the test will not be collected.**

Please direct any questions or concerns to any member of the Medical Biochemistry or Hematopathology Groups at 604-507-5000.

**2. IgA quantitation and IgA anti-tissue transglutaminase (anti-TTG) ordered together**

IgA anti-TTG is generally considered to be the test of choice to screen patients for celiac disease (see [Physicians' Newsletter April 2002](#)) because of its sensitivity (>90-96%) and specificity (>95%). Selective IgA deficiency, which is more common in celiac disease patients than the general population (1 in 40 vs. 1 in 400), may lead to false negative IgA anti-TTG tests. Many, but not all, IgA deficient patients can be identified using the optical density of the IgA anti-TTG result such that low optical density results suggest the possibility of IgA deficiency. BC Biomedical Laboratories will continue with the practice of reflexing an IgA quantitation on samples with a low optical density anti-TTG result. However, since this protocol will only identify about 90% of IgA deficient patients, physicians should be aware that some IgA deficient celiac patients may still be missed. The IgA quantitation will not be billed to MSP as the new billing rule does not allow submission of simultaneous claims for both tests collected together.

Please direct questions or concerns to any member of the Hematopathology Group at 604 507-5000.

**3. Serum amylase and lipase ordered together**

As noted in a previous issue ([Physicians' Newsletter January 2009](#)), Lipase is more specific than amylase in acute pancreatitis and is the preferred test. Note that both lipase and amylase are usually normal in chronic pancreatitis and neither test is useful for this diagnosis. The new MSP billing rule does not allow submission of claims for both lipase and amylase at the same encounter. If both tests are ordered at the same time, BC Biomedical Laboratories will cancel the order for the amylase and only perform and bill for a lipase.

Please direct questions or concerns to any member of the Medical Biochemistry Group at 604-507-5000.

**4. Apolipoprotein B (Apo B) and other lipid tests ordered together**

Please note that all orders for Apo B, when ordered with cholesterol, HDL cholesterol or triglycerides, require that a relevant diagnosis be provided in the "Diagnosis and Indications..." section of the laboratory requisition. Apo B testing will not be performed if one or more of these lipid tests are also ordered but a diagnosis has not been provided on the requisition.

Please direct questions or concerns to any member of the Medical Biochemistry Group at 604-507-5000.

**Thank you for your help in adhering to these new MSP billing rules!**



*Owned & Operated by Dr. C.J. Coady Associates*

7455 - 130th Street  
Surrey, BC V3W 1H8  
Telephone: 604-507-5000  
Toll Free: 1-800-565-1441



DAP  
Accredited

