



# Pathology Newsletter

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## NEW FACILITIES AT COBRAM

We are very pleased to welcome Craig Jackson back as our Cobram Lab Manager.

Craig has been very busy since his return in May, facilitating the Laboratory relocation. Our new premises are located within the newly built extension of the Cobram Medical Super Clinic. We would welcome a visit from any of the local GP's to view our new facilities.

## Testing for Free and Total PSA (PSA fractionation) is Age Dependent

Following changes to the Medicare Benefits Schedule earlier this year, the criteria for processing Free and Total PSA (PSA fractionation) has now changed. As a result there will be times when having made a request for Free and Total PSA, you will receive a Total PSA result only. This is because Medicare will only allow the measurement of PSA fractions as indicated in the graph below.

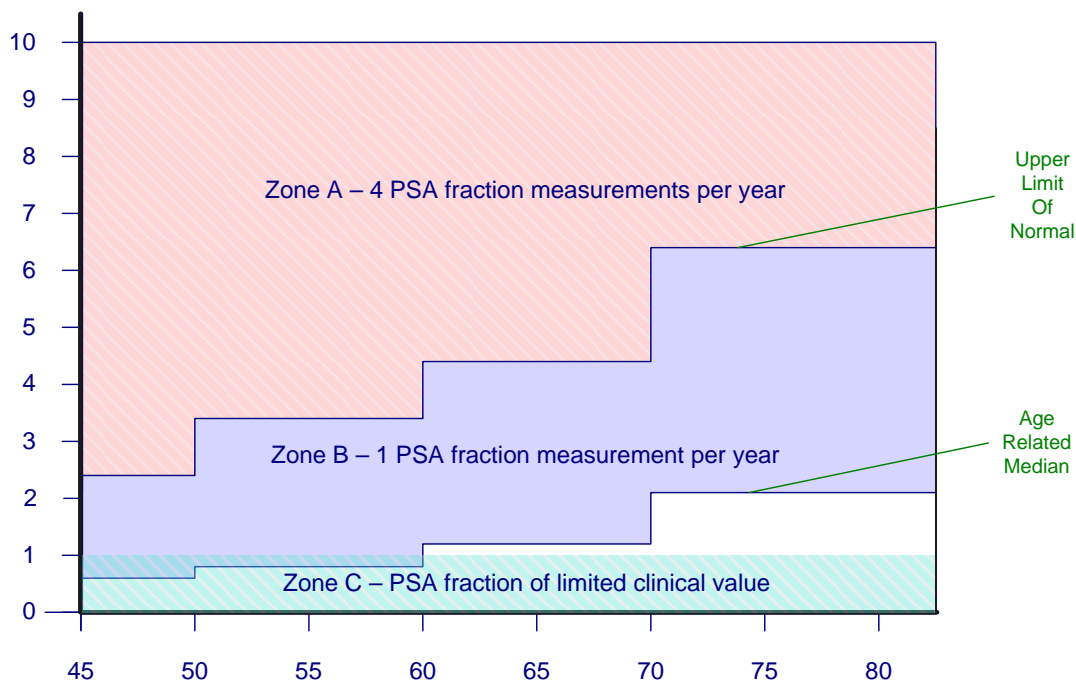
There are four important zones:

**A) Very low PSA.** The measurement of free PSA is technically difficult and of limited clinical value if the total PSA is low (zone C). An example might be someone with total PSA 0.5 ug/L. Free PSA cannot be measured accurately at these low levels.

**B) High normal PSA.** If a man has a PSA between the median and upper limit of normal for their age they can have free PSA measured once per year (zone B). There is a Medicare rebate for this test. An example might be a 65 year old man with a total PSA of 2.0 ug/L. This result is above the median for this age group.

**C) Raised PSA.** Free PSA can be measured four times each year in men with total PSA concentrations above the normal limit for their age so long as the PSA is less than 10 ug/L (zone A). There is a Medicare rebate for these tests.

**D) PSA greater than 10 ug/L.** There is no Medicare rebate for PSA fractions when the total PSA is greater than 10 ug/L.



\* Information supplied by Dorevitch Pathology

## **Bone Marrow Aspirates & Trepine Biopsy**

Bone Marrow aspirates and trephine biopsy are performed by a pathologist or haematologist on referral from a specialist physician or oncologist. Please contact pathology on 53322352 to discuss the request and to arrange an appointment. Please do not send the patient or requests direct to the lab or Elective Admissions Office.

## **Fasting Requirements for GCT & GTT**

Just a reminder of the different fasting requirements for the Glucose Tolerance Test and the Glucose Challenge Test.

### **GCT (Glucose Challenge Test) for Pregnant Women -**

The patient must not have anything to eat, drink or smoke for at least one hour prior to the test; however it is essential that they have eaten within three hours prior to the test. The patient will be in pathology for approx 1¼ hrs.

### **GTT (Glucose Tolerance Test) -**

The patient must not have anything to eat, drink or smoke from 10pm the night before the test. The patient will be required in pathology for approx 2¼ hrs.

## **Medicare Australia Approved Pathology Tests**

Occasionally we receive requests for items not included on the Medicare Approved Test List, so here are a few suggestions -

There is no accepted abbreviation for a "Haemolysis Screen" in the approved test list. We suggest that when clinically indicated, an unexplained anaemia could be investigated with:

FBE, Reticulocyte Count, Total and Indirect Bilirubin, DAT, LDH, Haptoglobin and possibly Urinary Haemosiderin.

There is also no accepted abbreviation for a "Lupus Screen" in the approved test list, however we suggest:

ANA, ds DNA and possibly ENA.

## **Collections for Homocysteine Testing & Cold Agglutinins**

Patients requiring Homocysteine Testing will need to present to the Graham St laboratory, Shepparton for specimen collection. This is due to the fact that the specimen must be spun and frozen within 30 minutes, and if it is taken at another collection centre there is the potential for defrosting in transit.

Cold Agglutinin titres also need to be collected at the Graham St laboratory (Monday to Friday) due to the need for the sample to be separated at 37°C.

The presence of cold agglutinins in the blood is indicated in the FBE and a positive anti complement DAT. A titre value of >1/16 is considered significant.

## **HAEMATOLOGY NEWS**

### **Detection of Foetal Red Cells in the Maternal Circulation**

We are still able to provide the Kleihauer stain; however because of its well known world-wide poor performance in sensitivity and reproducibility, we prefer to refer samples off for Flow Cytometry.

We refer samples if requested or if the Kleihauer stain result indicates the need for more than the standard 1 vial of anti D immunoglobulin. If you require Flow Cytometry please state this on your request.

### **Cell Surface Markers**

Cell Surface Markers are normally performed where there is a persistent unexplained lymphocytosis or for monitoring existing lymphoid malignancies. This testing is referred on & to maintain the integrity of the specimen, it must be received in the Shepparton laboratory before midday on Thursdays, and not collected on Fridays or weekends.

The use of Cell Surface Markers as a screening test for lymphoma is not recommended and the reference laboratory will usually decline to perform these tests without clinical indications stated on the request.

### **Hereditary Spherocytosis**

We no longer perform saline fragility tests, but confirm the diagnosis of (DAT negative) Hereditary Spherocytosis (HS) with a referred Eosin-5-melemide (E5M) test. This tests requires 2mL of EDTA blood

### **Paroxysmal Nocturnal Haemoglobinuria**

Tests for Paroxysmal Nocturnal Haemoglobinuria (PNH) should include Flow Cytometry for CD 55/59. This test requires 2mL of EDTA blood

### **Mean Cell Volume**

A normal Mean Cell Volume (MCV) on the FBE usually excludes almost all thalassaemias and haemoglobinopathies. The one significant abnormality with a normal or near normal MCV is sickle cell haemoglobin (HbS).

### **Clotting Abnormalities**

Except for patients with known Haemophilia or von Willebrands disease it is usually sufficient to screen for clotting abnormalities with an APTT/INR and if normal do not proceed with a factor VIII or IX assay. Suspected Von Willebrands should also have specific antigen and platelet tests.

## **Coeliac Disease & HLA Association**

In response to queries & coinciding with an update of the HLA result interpretation to include the calculation of relative risk, this information has been provided from the VTIS (Victorian Transplantation & Immunogenetics Service).

### **Why HLA?**

Genes in the HLA region (e.g. DQA1, DQB1) code for molecules (e.g. DQ2) present on the cell surface that are intimately involved in the presentation of foreign antigen to the immune response. In the case of coeliac disease this may mean that the HLA molecules present gluten related antigen that leads to an immune response.

### **Which HLA?**

There are many different HLA genes & HLA types (alleles) but it appears only a few are associated with the presence of coeliac disease. HLA DQ is an HLA molecule that is coded for by two genes; DQA1 and DQB1. A large international study (n = 1008) and a local study (n = 261) performed in collaboration with the Royal Melbourne Hospital have shown coeliac disease to be exclusively associated with the combined presence of DQB1\*02 and DQA1\*05 alleles (collectively referred to as DQ2 and present in more than 90% of patients) or DQB1\*0302 (also referred to as DQ8). In the absence of these combinations coeliac disease was observed only in the presence of DQA1\*05 or DQB1\*02 in the international study or DQB1\*02 alone in the local study.

### **How do I use the HLA results?**

The association of coeliac disease with these combinations of HLA alleles may serve to exclude a diagnosis of coeliac disease when considered in conjunction with the results of other tests - the presence of these alleles alone does not confer a diagnosis of coeliac disease.

By comparing the frequency of these HLA combinations in a local coeliac disease population to a local population we are able to calculate the relative risk i.e. disease frequency compared to control frequency, for each combination of HLA alleles associated with coeliac disease.

For more information please contact: Grant Mraz or Michael Varney (Senior Scientists), Victorian Transplantation & Immunogenetics Service. Ph 03 9694 0277 or 9348 1966

## **Surgical Meetings**

Did you know surgical meetings to review interesting cases are held by our pathologists every Thursday at 8.30am? The meetings are conducted in the Elsie Jones Education Centre (GV Health) & are always informative. All surgeons, registrars & residents are welcome to attend.

If you would like a case reviewed, please submit it to the Histology department by Tuesday to allow for preparation / research time before the meeting.

## **ON-LINE COLLECTION MANUAL**

Our collection manual is now available via the internet & internal intranet, with details of individual specimen requirements listed alphabetically. The link to access the collection manual is <http://pathology.gvhealth.org.au/>

The collection manual is being continually updated and feedback is welcome. To leave feedback, go to <http://www.gvhealth.org.au/AboutUsOurServices/DepartmentsServices/Pathology.aspx> and follow the 'Provide Feedback about the Online Collection Manual' link.