Welcome to the winter edition of the ACT Pathology newsletter, which is dedicated to the many faces of academics within ACT Pathology.

Besides the core work in providing services through performance and reporting of laboratory tests and interacting with clinicians, pathology staff plays a key role teaching and research. They are committed to their work with the Australian National University Medical School in developing and revising curriculum, delivering the pathology content as well as examining students. Teaching of registrars within individual disciplines is an integral part of ACT Pathology work as all departments have anywhere from 1-3 registrars/fellows undergoing training under the auspices of the Royal College of Pathologists of Australasia. Exam times between June to August each year are certainly times of increased stress! Involvement in research is apparent at multiple levels with small and big research projects undertaken/supervised by staff, collaborations across multiple disciplines and an active publication and grant record. A number of staff including myself have completed or are working on PhD degrees within ACT Pathology. Most staff members have a deep understanding of the role of a questioning attitude and a research bent of mind in progressing medical science and driving service work.

In this issue, we have a number of articles that will hopefully highlight the breadth of academic activity within ACT Pathology. We have Prof. Jane Dahlstrom providing an insight on the value of medical students’ electives in Pathology. Mr. Gus Koerbin, the principal scientist for ACT Pathology highlights the current workforce crisis in Pathology and how it has driven the redevelopment of the University of Canberra degree in bachelor of medical science. The role of ACT Pathology staff in developing the curriculum and delivering the content is highlighted. We also have a year 2 ANU medical student, Ms. Sheila Rahman, walk us through her experience in ACT Pathology as a first time clinical researcher.

The scientific article for this issue is provided by Dr. Paul Russo from the department of Immunology. There is a quiz linked to the article and the first correct entry returned by email to actpathology@act.gov.au or via snail mail will receive a $30 gift voucher. Congratulations to Dr. Lincoln Ratnasingham for winning the last quiz on vitamin D.

Happy reading!

Dipti Talaulikar
MBBS PhD FRACP FRCPA GradCertHE
Clinical haematologist
Editor

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**Editorial**

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From the Executive Director

This edition features some of the research undertaken in ACT Health. It is most timely and happy coincidence as the annual meeting of CHARM (Canberra Health Annual Research Meeting) is currently underway at Canberra Hospital.

We are all very apt to take for granted Medical Science and the advances afforded. We talk a lot about the evidence base which we now require (or should) to underpin our practice, in whatever area or discipline we spend our professional lives. And of course, we are all very short of time with many heavy demands on our professional services. The variety, depth and excellence of the offerings in the CHARM meeting show me once again that while we continue to nurture our students, scientists and clinicians, their productivity is limited only by their imagination and intellectual curiosity. This does not in any way down play the importance of financial support and infrastructure, but the presentations have brought into focus the value of cooperative ventures, persistence and skills. Whilst the key note speakers came from backgrounds as diverse as translational research, clinical medicine, psychiatry and sports physiology, the essential integration and many faceted contributions shone through time and again.

I am grateful to all the presenters in their teams for which they were spokes persons for sharing the outcomes and triumphs (and tribulations) of some of their work with us all. And in addition it was fabulous entertainment. My congratulations to the organising team.

Julia M Potter
Executive Director ACT Pathology
B Med Sc, MB BS, PhD, FRCPA
Professor of Pathology, ANU Medical School
A medical elective program run by ACT Pathology allows Canberra medical students a firsthand look into the world and work of a Pathology Department. The elective program, which has been running for the past five years, provides students with the opportunity to observe, and to participate in, the day-to-day work of a pathology laboratory. During the elective, the students are exposed to the varied and interesting lives of technicians, scientist and pathologists.

Students of the program have indicated that the elective gives them a greater understanding of the important role that pathology plays in the hospital and in patient care. One elective student wrote of her experience, “During my time in the Pathology Department, I further understood the importance of providing accurate and detailed clinical history in pathology request forms. This helps to ensure that each patient receives the appropriate tests and does not have any unnecessary tests, as well as helping the pathologists to accurately interpret the results.”

During the course of the elective, students spend time in all seven areas of pathology- Anatomical Pathology (histology, cytology, electron microscopy and autopsy pathology), Chemical Pathology, Cytogenetics, Hematology, Immunology, Microbiology and Molecular pathology. The students observe and also participate in various activities during their elective. One student wrote, “As a (previous) research scientist, I had been exposed to many of the techniques and it was fascinating to see these same techniques used in the clinical laboratories. The scientists were very knowledgeable and it was very interesting talking to them about the uses of the techniques for clinical application.” Another elective student wrote of the opportunities that the program afforded her, “As a student with a limited science background, this (elective) provided an excellent opportunity to ask questions of subject experts in all these areas, and to expand my knowledge and understanding of their role in patient care. As a future clinician, it gave me a valuable insight...
into the time and work involved in obtaining a result from some tests, and will enable me to have a realistic expectation of when results will be available. A third student wrote “By experiencing the different labs first hand I was able to more fully grasp the work and effort that goes into producing a ‘lab-result’. What was also quite striking to me was the importance of understanding the clinical history of each case when producing a result and interpreting a lab study, whether that be a blood result or a histology slide.”

Student feedback indicates that the elective is particularly valuable to those interested in a career in pathology as it exposes students to the broad range of career options available in pathology. It also gives insight into the broad applications of pathology, and the interface between pathology and other branches of medicine. As one elective student wrote “In the purely clinical side of medicine it is often too easy to assume that pathology is an entirely separate world from the clinical sphere, and that quite simply is not true.” Another wrote “I could see that the pathologist has an extremely interesting career with time spent in the laboratory as well as using the microscope. However, this role is not just limited to this but includes meeting with patients, being active in community and medical school teaching and consulting with doctors of various disciplines. A career in pathology is something I am considering after this experience.”

For more information about medical student electives in pathology please contact Professor Jane Dahlstrom on 6244 2867.
Addressing the workforce crisis in Pathology

Gus Koerbin
Principal Scientist, ACT Pathology
Adjunct Professional Associate, University of Canberra

Statements by Michael Legg and Associates in their report to the Department of Health and Aging (DOHA) such as “Workforce shortages in pathology are not new” and “there are difficulties in attracting recruits because suitable education is not available”, or “there are too few work placements opportunities” and “industry need and course content have not always been aligned” are some of the drivers in the redevelopment of the bachelor of medical science degree course at the University of Canberra (UC).

With staff from ACT Pathology and UC rewriting the curriculum incorporating:
• a work placement (professional practice) program using ACT Pathology and Siemens Healthcare Diagnostic facilities
• online web based exercises and tutorials created by Siemens for training within the laboratory environment
• and redesign of the clinical chemistry and haematology programs

students will benefit from both improved academic appropriateness of study options and “real life” experience within the diagnostic laboratory coupled with “state of the art” technology training provided by Siemens that is the same as offered to scientists working in diagnostic laboratories

The first of the new modules offered by the University of Canberra commenced in 2009 and is entitled “Introduction to Medical Laboratory Science”. ACT Pathology staff provided lectures and practical supervision with Siemens Healthcare Diagnostics provided the on line learning modules (web exercises). Interest in this course has been good with over 20 students undertaking this unit in 2009 and currently in 2010.

The content of the revised Professional Practice module is provided equally by ACT Pathology and Siemens Healthcare Diagnostics. Students attend both ACT Pathology’s laboratory facilities and the Sydney laboratory facilities of Siemens to undertake training.
A redesigned clinical chemistry program has commenced providing students with two full semester units of clinical chemistry. In 2010 these subjects have been taught through the alternative delivery mode of online presentations with three face to face tutorial days and three days of intensive practical tuition at ACT pathology.

A redesigned haematology program with a similar delivery mode to that of clinical chemistry is due to commence in 2011.

ACT Pathology staff is involved in the design and curriculum development of proposed Graduate Certificate and Graduate Diploma programs in Laboratory Diagnostics. It is hoped that these programs will be presented to University authorities for consideration later this year.

Diagnostic laboratories and the in-vitro diagnostics industry are equally affected by the workforce shortages in Pathology. To address this crisis not only in Australia but globally, a cooperative and supportive approach between universities, the clinical laboratory and companies such as Siemens Healthcare Diagnostics to the education and training of undergraduates in laboratory diagnostics must be forthcoming. ACT Pathology, the University of Canberra and Siemens Healthcare Diagnostics are doing this and the benefits of this cooperation will progressively be seen over the next few years.
Research in Pathology at the Canberra Hospital: A Student’s Perspective

Sheila Rahman, Year 2 MBBS  College of Medicine, Biology and Environment Australian National University, Canberra

Supervisor: Dipti Talaulikar, Department of Haematology

As part of the compulsory course requirements for the ANU Medical Program in 2009, all first year students were required to undertake a short research project spanning at least 80 hours starting from August 2009 and culminating in a written research paper by August 2010.

Having a previous research background in neuroscience and cancer cell biology, both with a strong focus on laboratory-based work, I decided to be adventurous and opted for a research project that was more clinical-driven and based on a discipline completely different to my previous background. During my first year in the medical program, I was exposed to a number of pathology lectures and practicals, and found these to be highly stimulating and interactive. The emphasis on normal human anatomy, histology and physiological function during these sessions gave me a strong appreciation for how these were disrupted in certain pathologies, as well as how one could anticipate the potential clinical presentation of an affected patient.

Based on these early experiences, I sought and secured a research project in the discipline of Haematology, supervised by Dr. Dipti Talaulikar. My research project focused on a retrospective audit of patient records for information relating to bone marrow examinations that had been performed in the haematology department over the last 13 years. As many discrepancies have been described in the marrow reporting process, this has been followed by the recent implementation of international consensus guidelines that pertain specifically to the components of a written marrow report. We aimed to track changes in the method of reporting over the last 13 years and assessed how well the current reporting practices (as of 2009) adhered to these recent guidelines.

After my supervisor obtained ethics approval for the project, she provided me with some key references and asked me to do a literature review. We then decided on the variables to record from each patient record, and the laboratory manager, Kerrie Andriolo helped me
with the initial data extraction from the laboratory information system. I started sorting through the data and eventually read over 2000 individual reports for the audit. This was a painstaking process; however, a systematic approach to reading records and easy access to my supervisor helped me to familiarise myself with components of standard BM report and the terminology which I also encountered in some key readings. Multiple Myeloma, Lymphomas and Acute Myeloid leukaemias were among the diseases I frequently encountered in the patient records. I became familiar with the clinical presentations and some characteristic features of these diseases. This proved advantageous when I encountered Haematology and Oncology in my second year as it made lectures easier to follow.

I had the opportunity to observe laboratory scientists during the audit as much of the data collection was conducted inside the haematology laboratory, and I was introduced to the laboratory staff and encouraged to interact with them.

It was obvious that haematology relied on more than standard microscopy techniques; it depended largely on genetics, molecular biology and immunological studies in order for an adequate diagnosis to be issued. These and the audit information also reinforced the importance of taking a sound clinical history before launching into investigations which might otherwise prove meaningless. The haematologists were involved not only in diagnosing and managing patients with true haematological disorders, but also those presenting with haematological abnormalities despite having a non-haematological condition such as liver failure. Furthermore, they also played a role in blood transfusion services. Thus, haematology appeared to be a complex, fast-paced discipline involving a strong integration of clinical and laboratory sciences, multidisciplinary care and good communication skills.

Even more crucial to the background of the laboratory project was the opportunity to observe a bone marrow aspiration and biopsy being performed by a registrar. The standard bone marrow biopsy involved a patient lying in a prone position, given local anaesthetic and some sedation to induce relaxation during an otherwise painful procedure. It was important to talk to the patient and explain the steps of the procedure – this also distracted them from the discomfort they were feeling. This proved to be a valuable lesson not only in how the actual biopsy is performed, but also in terms of patient communication and maintaining empathy whilst examining or subjecting a patient to a particular procedure.

Auditing proved to be a painstaking process; whilst it did not directly involve laboratory sciences, it has a strong clinical value in showing where marrow reporting standards may require further standardisation as this will allow for better consistency in diagnoses, patient treatment and ultimately a better quality of care. I believe we were successful in identifying key areas for improvement in reporting bone marrow biopsies. I’ve come to appreciate that a retrospective audit is thus a highly valuable research tool, without which poor or suboptimal clinical practice is harder detect and improve.

I was actively encouraged to submit an abstract for poster presentation, my first, at the CHARM conference in May/June; this allowed me to present statistically validated findings of such an important audit to other medical students, practitioners and researchers. I was pleased to receive a commendation prize for the poster.

Overall, pathology research is a highly stimulating and diverse field that not only draws on laboratory science, but also has a strong clinical value in terms of highlighting the areas of clinical practice that could be modified as well as ultimately influencing the quality of patient care. The experience was also beneficial in terms of actively reinforcing the pathology that I had learned during lectures and also emphasised the importance of history taking in making a diagnosis despite the availability of many investigations.
**Antiphospholipid antibody syndrome**

Paul Russo, MBBS

Immunology registrar

**Introduction**

Antiphospholipid syndrome (APS) is an autoimmune disease characterised by the association of arterial or venous thrombosis and/or recurrent foetal loss with the presence of a number of circulating autoantibodies, collectively referred to as ‘antiphospholipid antibodies’. APS may occur in the apparent absence of another autoimmune disease, in which case it is known as ‘Primary’ antiphospholipid antibody syndrome. Alternatively, it may be ‘secondary’ – found in association with another autoimmune disease, particularly systemic lupus erythematosus.

Thrombosis and recurrent foetal loss can occur for many reasons other than APS. Antiphospholipid antibodies themselves may be transient (often detected in association with infection) but without the associated clinical complications of APS. To save confusion and to attempt to delineate those patients who do in fact have a high risk of morbidity associated with the persistence of these antibodies, international classification criteria have been established.

**Diagnostic criteria**

The Sapporo criteria for APS were established in 1999 and until recently reflected an international consensus statement for establishing the diagnosis of APS. However, these criteria lacked sensitivity and specificity, especially in ageing patients and amongst those with common risk factors for cardiovascular disease and thrombosis. In an attempt to address this and to include more recent developments in understanding immunopathology of phospholipid antibodies (particularly in the identification of anti-β2-GP1 specific antibodies), new criteria were formulated in Sydney in 2006.

The Sydney criteria for APS are divided into clinical and laboratory criteria. The diagnosis requires the presence of one of the clinical criteria and one of the laboratory criteria.
The clinical criteria are summarised as follows:1

- One or more episode of venous, arterial or small vessel thrombosis and/or morbidity with pregnancy
  - ‘Thrombosis’: unequivocal imaging or histological evidence of thrombosis in any tissue or organ.
  - ‘Pregnancy morbidity’: unexplained foetal death at ≥ 10 weeks gestation with a morphologically normal foetus.
- One or more premature births before 34 weeks gestation due to eclampsia, pre-eclampsia or placental insufficiency
- Three or more consecutive embryonic (<10 weeks gestation) abortions with maternal anatomic or hormonal abnormalities and paternal and maternal chromosomal causes excluded.

A number of other clinical manifestations have been associated with APLS, although they are not included in the diagnostic criteria. These include autoimmune mediated thrombocytopenia and haemolytic anaemia. A number of atypical manifestations have been ascribed, including a wide range of neurological symptoms not easily explainable by arterial or venous thrombosis, as well as non-infective Libman-Sacks endocarditis, livedo reticularis, hypertension, haematuria and thrombotic microangiopathy.

In rare situations, a catastrophic antiphospholipid syndrome may occur (with mortality close to 50%). Manifestations include both arterial and venous thrombosis, renal failure, intra-alveolar haemorrhage, pulmonary embolism, skin necrosis, adrenal necrosis/haemorrhage and myocardial dysfunction.

The incidence of clinical symptoms as defined by the Sydney criteria is high, increasing the risk of over diagnosis. Therefore the diagnosis of APS also requires a laboratory criterion.

- Presence of antiphospholipid antibodies (aPL) on two or more occasions 12 weeks apart & no more than five years prior to clinical manifestations, as demonstrated by one or more of:
  - IgG &/or IgM aCL in moderate-high titre (>40 units IgG/IgM or >99th percentile for the lab)
  - Antibodies to β2-GP1 (IgG or IgM), titre >99th percentile for the lab
  - Lupus anticoagulant (LA)

**Laboratory diagnosis of APS**

Antiphospholipid antibodies were initially believed to be directed against phospholipids; however it is now known that they are directed against plasma proteins with an affinity for anionic phospholipids. Antibodies against only two plasma proteins have been found in a high enough frequency to be suspected of having a direct pathophysiological role in the syndrome: anti-β2-glycoprotein 1 (anti-β2-GP1) and anti-prothrombin.

Adequate laboratory detection of aPL is critical in preventing false diagnoses and inappropriate anticoagulation strategies. aPL are polyclonal and there is no ‘gold standard’ assay. This makes it difficult to create an international standard for the laboratory diagnosis of aPL. Clinicians are therefore reliant on their laboratory’s quality control procedures and the interpretation of those results by experienced specialists prior to the issuing of clinical reports. Inter-laboratory variation in test results is a significant issue, particularly with low-titre antibodies and therefore interval assessments in antibody titre should be performed by the same laboratory.2

**The assays**

The LA assay detects polyclonal aPL and has a strong association with thrombosis and pregnancy-related morbidity. Antibodies that contribute to a positive ‘LA’ include anti-β2-GP1, -prothrombin and -annexin V. LAs, despite the name, block in vitro assembly of the prothrombinase complex, resulting in procoagulant properties. Given that no single screening test is 100% sensitive in detecting LA, two separate assays are used at ACT Pathology: the dilute Russel viper venom time (dRVVT) and the Kaolin Clotting Time (KCT). The dRVVT uses direct activation of factor X while the KCT uses
activation of the intrinsic pathway.3 Particular care must be taken in both the handling and preparation of plasma samples for LA determination. LA cannot be tested for reliably when patients are receiving anticoagulants such as warfarin or heparin.

The aCL assay detects more than just antibodies to cardiolipin. Depending on the commercial assay chosen, antibodies may also be detected to β2-GP1, phosphatidylserine, phosphatidylinositol, phosphatidylglycerol, prothrombin and annexin V. Current commercial assays are saturated with β2-GP1, but there is no standardisation, resulting in significant inter-laboratory variation. In addition, none of the currently available commercial assays include a control, allowing differentiation between anti-β2-GP1 specific antibodies and antibodies directed against the phospholipids themselves. β2-GP1-independent aCL do not portend increased thrombotic risk and are mainly found in association with infections.2 The clinical relevance of current commercial aCL assays has been questioned, despite inclusion of the test in the Sydney criteria.

The 45kDa plasma β2-GP1 (apolipoprotein H) has been ascribed both pro- and anti-coagulant functions. It is considered the main antigenic target in APS. Low-avidity antibodies to β2-GP1 are common in the community and may be found in patients with atopic dermatitis and some infectious diseases.3 There is evidence to suggest that high affinity anti-β2-GP1 antibodies associated with APS target a conformational epitope on domain 1 that is revealed when β2-GP1 binds to phospholipids.3 β2-GP1 has been described to bind to negatively charged phospholipids such as phosphatidylserine and phosphatidylinositol, inhibiting both contact activation of the clotting cascade and the conversion of prothrombin to thrombin.2

Patients with APS have a large number of autoantibodies to β2-GP1 and most of these only have low to moderate affinity for β2-GP1. There is accumulating evidence that only high affinity IgG antibodies are clinically relevant.2 Despite this, both IgM and IgG isotypes of anti-aCL and anti-β2-GP1 are included in the Sydney criteria for APS. Antibodies of IgA isotype have been determined to have little or no contribution to APS.2 Assays for antibodies of IgM isotype may be subject to interference from cryoglobulins and rheumatoid factors. Transient IgM aCL in the absence of increased thrombotic risk are sometimes found in association with infections such as HIV, malaria, HCV and HTLV-1.

Although antibodies to β2-GP1 appear to offer greater specificity than aCL, performance of both assays will be required at least until the sensitivity of anti-β2-GP1 assays in APS is determined.2 As with aCL, there is conflicting data in the literature regarding the clinical relevance of anti-β2-GP1 antibodies. Nevertheless, the β2-GP1 (and possibly the aCL) assay is useful in patients receiving anticoagulation (for whom the LA assay may not be performed reliably). In addition, an increased risk of thrombosis may be inferred when more than one type of assay returns a positive result.

### Management of APS

When confronted with a patient suspected of having APS, initial investigations should include the LA, aCL and β2-GP1 assays. In considering the possibility of secondary APS, one should also consider requesting an ANA, anti-dsDNA, ENA, C3 and C4. Other conditions predisposing to either venous or arterial thrombosis also need to be considered, including non-autoimmune inherited thrombophilia, haematological and solid organ malignancies, nephrotic syndrome, atherosclerosis, embolic disease, heparin-induced thrombocytopenia, dysfibrinogenaemia, thrombotic thrombocytopenic purpura/haemolytic uraemic syndrome, polyarteritis nodosa and decompression sickness. The clinical scenario will dictate the extent and direction of investigations to exclude differential diagnoses.

Initial treatment of venous thrombosis in APS is the same as in patients without aPL. Intravenous unfractionated heparin or subcutaneous low-molecular weight heparin (LMWH) followed by
warfarin. Current evidence suggests a target INR of 2-3.4. Unless there is a high risk of bleeding, therapy should be continued lifelong due to the high risk of recurrent thrombosis. The highest risk of recurrent thrombosis is within the first six months of discontinuing anticoagulation.

The majority of patients who encounter arterial thrombosis suffer either a stroke or transient ischaemic attack. Secondary prophylaxis for these patients can prove challenging, particularly in the setting of recurrent thrombosis. The most significant evidence-based contribution to current management comes from a study published in 2005. This randomised trial of 109 patients with APS according to the Sapporo criteria found no advantage in high intensity warfarisation (INR 3.0-4.5) as compared to moderate intensity (INR 2.0-3.0).4

Management of recurrent pregnancy loss associated with aPL was examined in a Cochrane review in 2005. Thirteen randomised or quasi-randomised studies were identified (849 participants), however the quality of the studies was determined to be poor. The review concluded that unfractionated heparin plus aspirin may reduce pregnancy loss (RR 0.46, 95% CI 0.29-0.71). There is little evidence available to determine a variable benefit between unfractionated and LMWH. A number of studies have included women with aPL as well as those without aPL, making strong conclusions difficult to achieve. For example, a recent randomised controlled trial examined women with recurrent pregnancy loss and either autoantibodies or a coagulation abnormality (aPL were detected in 42/88). No difference in rates of successful pregnancy was seen comparing aspirin with or without LMWH.

There is little evidence to support other modalities of treatment in APS. Case series and reports have supported the use of plasmapheresis in catastrophic APS. Recurrent thrombosis despite anticoagulation poses a problem that has not been solved by clinical trials. Mechanistically, in the case of recurrent thrombosis and persistent high titre aPL, there is theoretical support for immunosuppression in addition to anticoagulation. Unfortunately, as long as the phenotype of this disorder remains under discussion, evidence supporting management strategies is likely to lag behind.

Key References
5. Empson M, Lassere M, Craig J & Scott J. Prevention of recurrent miscarriage for women with antiphospholipid antibody or lupus anticoagulant. Cochrane Database of Systematic Reviews (Online) 2005 Apr 18; CD002859.

Antiphospholipid Antibody Quiz
1) In which city were the new diagnostic criteria for APS formulated in 2006?
2) Name the two clinical criteria for diagnosis of APS.
3) What laboratory criteria are required for a diagnosis of APS?
4) What is the antiphospholipid antibody directed against?
5) What is the target INR recommended for treatment of APS associated venous thrombosis?

The first person to send in a correct entry via snail mail, or email at actpathology@act.gov.au will receive a $30 gift voucher. Don’t forget to include your postal address when you write in with the answers!
Fine Needle Aspiration (FNA) is a simple procedure facilitating rapid and accurate diagnosis of palpable superficial masses.

FNAs are performed by experienced pathologists at The Canberra Hospital. The advantages in having a FNA performed by ACT Pathology include:

- Procedure performed in a quiet and comfortable environment
- Minimal pain or discomfort to the patient
- Immediate assessment of specimen adequacy, and triage for adjunctive testing, preventing delays in diagnosis
- Ready access to adjunctive tests, including full panel of tumour markers and flow cytometry
- Rapid feedback, by telephone and in print, to doctors and specialists

ACT Pathology Bulk Bills all FNA procedures for Medicare-eligible patients.

FNA procedures are performed at ACT Pathology Outpatients Centre (Building 10 Level 1) at the Canberra Hospital, as shown below.

FNA procedures are by appointment only. To book, please ring 6244 2875 or 6244 2876 between 8.30am and 5pm weekdays. We offer same day appointments wherever possible.
ACT Pathology
Extends an invitation to all General Practitioners to attend a clinical update on:

“The Value of Fine Needle Aspiration Cytology in the Management of Palpable Lumps”

This clinical update is kindly sponsored by:

Roche  Ventana

Speaker  Dr Huw Llewellyn: Senior Pathologist, ACT Pathology

Date  Wednesday 30 June, 2010

Time  6.00pm for 6.30pm start. Finish 8:00pm
Light refreshments will be provided between 6.00 – 6:30pm

Where  The Canberra Hospital Clinical School
(Via Main Hospital Lift)
Building 1, Level 7
The Canberra Hospital, GARRAN

RSVP  Friday 25th June
Mark Morey
phone 6244 4146 fax 6244 2815, or return this form with your pathology courier

I will / will NOT be attending the ACT Pathology clinical update on 30 June 2010.

NAME………………………………………………………………………………………………………………………………………………

SURGERY…………………………………………………………………………………………………………………………………………
Changed car parking at the Canberra Hospital Pathology Collection centre from June 2010

To allow for construction of the new Women’s and Children’s Hospital, a public car park near the existing Maternity and Pathology buildings at Canberra Hospital will be closed from early June 2010.

A pick up and set down area will be available immediately outside the Pathology Collection centre however patients are advised to seek longer term parking in alternative parking areas on the campus.

A shuttle bus service will operate to assist patients to and from their vehicles.

Suggested alternative pathology collection centre- located in Deakin.

To assist with reducing parking congestion and to avoid delays you might like to consider using our expanded collection centre nearby in Deakin.

John James Medical Centre
Suite 8, ground floor
175 Strickland Crescent, Deakin ACT.

Hours of business: 7:30am-4:30pm Phone: 6281 0786
There is ample free parking and easy access to this collection centre.

ACT Pathology provides bulk billing diagnostic pathology services

Our other collection centres:

Calvary Hospital
Ground Floor, Marian Building
7:30am - 5:30pm Mon to Friday
9:00am - 12:00 Saturday

The Tuggeranong Health Ctr
cnr Anketell & Pitman Sts
Tuggeranong
8:00am - 5:00pm Monday to Friday

Macquarie Medical Centre
Macquarie Place
Opposite Macquarie Shopping Centre
7:30am - 4:30pm Monday to Friday.

Lyneham Medical Centre
Unit 2/62 Brigalow St
Lyneham
7:30am - 4:30pm Mon to Friday

Gungahlin Collection Centre
115a Anthony Rolfe Ave
Gungahlin
7:30am-4:30pm Mon-Frid
8:30am-12:30pm Sat

www.actpathology.act.gov.au

Customer Service ring 6244 2932