

# ACB News

The Association of Clinical Biochemists • Issue 438 • 20th October 1999



**Clinical  
Waste  
Disposal  
Guidelines**

**Focus 99  
Workshop  
Reports**

**Harrassment  
at Work**

**The  
Professors  
Answer Back -  
Letters**



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The monthly magazine  
for Clinical Science

The Editor is responsible for the final content. Views expressed are not necessarily those of the ACB.

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### Front cover:

Li Ping was the first ACB member in China. She recently spent a year at the Royal Berkshire Hospital, Reading.

Photo: Gordon Challand

**Pathology**  
**2000**  
BIRMINGHAM 15-17 MAY

For details of Pathology 2000 please contact the Congress office:

Tel: 01223-516103

Fax: 01223-500978

email: [office@pathology2000.org](mailto:office@pathology2000.org)

[www.pathology2000.org](http://www.pathology2000.org)

## Thank You ACB from Li Ping

Li Ping is Head of Laboratory Medicine at the First University Hospital and School of Medicine, Chengdu, Sichuan Province, and was the ACB's first member from the People's Republic of China. She is spending a sabbatical year at the Royal Berkshire hospital, and has attended Focus 99 and WorldLab 99 in Florence. She writes:

“ Recently I was lucky to get educational bursaries from the Education Committee and from the Southern Region of the ACB, as well as support from the IFCC, in order to attend great Congresses – the Focus Meeting in Manchester, the XVI IFCC Congress in Italy and the associated Sino-European meeting. I also had the opportunity to spend a week in the San Raffaele Hospital in Milan. The huge amount of information: hot topics ranging from quality control, robotics, accreditation, point of care testing, and information systems to cases for comment, genetic diseases, molecular biology, evidence-based medicine and clinical governance; and the glimpse of how well-equipped and organised the routine, special and molecular biology laboratories are in the San Raffaele Hospital has made me think about Chinese laboratory medicine – where we are, where we should go.

Yes, like advanced countries, the great achievements of laboratory medicine in China have been mainly in the areas of instrumentation and the development of new methods. As well as its own problems, China faces similar problems of increase in expenditure and health care reform. For Chinese laboratory medicine, we must think about how to begin clinical laboratory accreditation, how to play the role of the laboratory in evidence-based medicine and in clinical



Li Ping at work in the Royal Berkshire Hospital, Reading

governance, and how to develop research in order to sort out our problems, to shorten the gap between China and advanced countries, and to do not only things right but also the right things. Management, quality, information, and education are now the greatest challenge for the Chinese. ■

”

## SAS Handbook “Biochemical Markers of Bone Turnover”

There is increasing interest in the measurement of markers of bone metabolism in the diagnosis and management of metabolic bone disease. Four laboratories were designated by the SAS to provide a service for bone markers (Northern General Hospital, Sheffield, Tel: 0114-271-4716; Royal Liverpool University Hospital, Tel: 0151-706-4247; St Bartholomew's and The Royal London School of Medicine and

Dentistry, London, Tel: 0171-377-7241; St Mary's Hospital, London, Tel: 0171-886-1097).

Details of the service and a lot of useful information about bone markers are contained in the SAS handbook “Biochemical Markers of Bone Turnover”.

Copies were distributed to laboratories through NEQAS. Additional copies can be obtained from PRU Publications, Department of Immunology, PO

Box 894, Sheffield S5 7YT at a price of £10.00 which includes postage and packing. Please make cheques payable to “Northern General Hospital NHS Trust”. Email: Books@immqas.org.uk. Further details of the bone markers group in the SAS are available from Dr T.A. Gray, Department of Clinical Chemistry, Northern General Hospital, Sheffield S5 7AU. Tel: 0114-271-4309. ■

## Clinical Waste Disposal

New guidance on complying with environmental as well as health and safety legislation relating to the handling, storage, transport and disposal of clinical waste has been published by the Health and Safety Commission.

The new guidance has been produced jointly by the Health and Safety Commission's Health Services Advisory Committee (HSAC) and the Environment Agency. It takes into account changes in legislation, in particular those relating to the transport, packaging and labelling of dangerous goods. The major legislative changes include The Carriage of Dangerous Goods (Classification, Packaging and Labelling) and Use of Transportable Pressure Receptacles Regulations 1996, The Carriage of Dangerous Goods (by Road) Regulations 1996, and the Transport of Dangerous Goods (Safety Advisers) Regulations 1999.

The document is relevant to the full range of health services activities, from the large and complex NHS hospital trust to smaller employers, such as those in general practice and dentistry. It is also relevant to those who are responsible for transporting and disposing of the waste.

John Cullen, Chairman of HSAC, pointed out that since guidance was last produced in 1992 there have been four major pieces of legislation which affect the way companies deal with clinical waste. The safe handling of clinical waste is a serious issue for staff's health and safety but it is also an area which overlaps environmental concerns. He considered that managers and safety representatives would welcome this single

guidance to cover all aspects.

Around 200,000 tonnes of clinical waste are produced each year by NHS Trusts in the UK. This estimate derives from a study produced for the Environment Agency in 1998 by M.E.L. Research entitled 'Improved Data on Clinical Waste'. This evaluated that NHS Trusts in the UK produced 193,000 tonnes of clinical waste per year, with other sources combined (private, GPs, dentists, nursing homes etc.) producing almost the same quantity. ■



Brian Bird surrounded by clinical waste at Sandwell Hospital

## New Books for Biomedical Science at just £19.99

Four new books in the series *Biomedical Sciences Explained* have recently been published by Butterworth Heinemann. These books are targeted at the undergraduate student studying in pathology. Many of the contributing authors are lecturers at the University of the West of England in Bristol.

These are easy to read and very well presented books that will certainly find a place in many, if not most, departmental libraries. However, the books are well priced at

less than £20 and many students will certainly wish to have their personal copies. There are now a total of nine books in the series, which is certainly offering a comprehensive coverage of the pathology disciplines at the undergraduate level.

For further information on the books or to place orders contact: Heinemann Publishers Oxford, PO Box 382, Halley Court, Jordan Hill, Oxford OX2 8RU. Tel: 01865-888180. Fax: 01865-314091. Website: [www.bh.com](http://www.bh.com) ■



# Invitation to Pathology 2000



The full scientific programme of Pathology 2000 is now available in the Invitation to Participate. The brochure features 'The River' on the front cover. This remarkable piece of Birmingham public art is by Royal Acamedian Dhruva Mistry and is found right in the heart of Birmingham. The brochure includes the full scientific programme, details of the exhibition and social events. Abstract and registration forms are also to be found in the brochure.

## Abstract Submission Deadline is 14 January 2000

The meeting is going to give a unique snapshot of scientific endeavour in clinical laboratories at the close of the 20th century and a very large number of abstracts are expected to be submitted for review. Although an abstract form can still be submitted by post the preferred route of submission is by the Pathology 2000 website at [www.pathology2000.org](http://www.pathology2000.org)

## Jam on Down at Jools' Palace

Pathology 2000 is going to be a very busy three days of science and exhibition. However, there will also be time to relax with colleagues with a number of social events planned. Make sure that you book early for the Pathology 2000 Jam Session which takes place on the Sunday evening.

The venue is the Jam House, Jools Holland's prestigious club at No 1 St Paul's Square, right in the heart of Birmingham. The live music will be brought to you by pathology department staff. The venue has a 650 capacity and it is expected that this event will be oversubscribed. It is vital that you register early for Pathology 2000 to secure your place at the Pathology 2000 Jam. If you want to participate in the music then do contact Dr Rick Jones at Chemical Pathology, Leeds General Infirmary. Tel: 0113-233-5677. Fax: 0113-233-5672. Email: [R.G.Jones@Leeds.ac.uk](mailto:R.G.Jones@Leeds.ac.uk)

## Help Spread the Word

Received more than one copy of the PATHology 2000 Invitation to Participate? Good! Please help spread the word and pass copies on to staff in your laboratory who may not have one at all. This is a meeting for everyone in Pathology. The organisers have worked hard to ensure that everyone is on the database but time has been short. We would appreciate your help in spreading the word throughout your hospital laboratories. If you require more copies of the Invitation to Participate please contact: Pathology 2000 Office, PO Box 409, Cambridge CB1 4QD. Tel: 01223-516103. Fax: 01223-500978 Email: [office@pathology2000.org](mailto:office@pathology2000.org) [www.pathology2000.org](http://www.pathology2000.org) ■



# Of CRP, Coin Tossing, and Lots More . . .

By Richard Spooner, Glasgow

**W**ith only a day at Focus this year I plumped for the cardiac markers workshop, fascinated by the fact that this was still an agenda item 4 years after I last attended a similar workshop. It was comforting to find others trapped, like ourselves, in a financial time warp unable to introduce a comprehensive troponin service having made our savings a decade ago switching from 3x enzymes to CKMB mass.

Thanks again to those who responded to my request for reports which, as always, made fascinating reading. Henry Chandler's report on CRP surprised me. Our own workload jumped 50% last year and now exceeds thyroid requesting. In a sister hospital one CRP is requested for each 3 sodiums!

## PSA Revisited

by Robert Hill, Sutton in Ashfield

A brisk 10 minute walk in the Manchester sunshine took me from my hotel room to the magnificent converted Victoria Railway Terminus which is the G-Mex Centre. Opposite, in the old Midland Railway Hotel, the breakfast workshops were starting.

In 1993 I had attended a PSA workshop in Melbourne, another city famous for its trams, during the IFCC meeting. Since that time, equimolar assays for free and total PSA had become well-established and advice against using PSA to screen for prostate carcinoma had been issued in the UK. My own department had started recently to provide a PSA service to a population of approximately 300,000. Until this year the service had been provided by a reference laboratory on a very restricted basis, samples being posted via the Haematology Department. I was interested to hear both expert opinion and a wide range of experiences from non-specialist centres. I felt that I had an opportunity to check that we had set up a service which discouraged inappropriate testing while facilitating interpretation.

Michael France led the workshop and began by giving an informative overview of the basic science of PSA measurement. We then turned to the clinical setting. Using PSA measurements to screen for prostate carcinoma had been rejected by both a systematic review and a *Health Technology Assessment* 1997 **Vol.1**: No.2). The workshop, therefore was to concentrate on using PSA to detect prostatic carcinoma in patients with clinical symptoms of prostate disease and on monitoring established carcinoma.

### PSA and the Diagnosis of Prostatic Carcinoma

The main decision facing a GP, who has been given a "raised" serum PSA result, is whether to refer his patient to an urologist. It follows, therefore, that when interpreting results, the laboratory must understand which patients the urologist wishes to see. There was general agreement that the urology/laboratory interface was a crucially important one. Many participants were using total PSA in this situation. Measurement of free/total or bound PSA was thought to be helpful in cases where total PSA is in the range 4-10 ng/mL.

### Biological Variation and Sequential Serum PSA Measurements

Dr France was particularly interested in the effect of biological and analytical variation on the interpretation of PSA measurements. The literature suggests that an increase between

2 consecutive PSA levels that is less than 20-30% may be due to the combination of biological and analytical variation. To take this into account, the mean of 3 or 4 measurements taken within a few days could be subtracted from a similar mean taken a year later. Alternatively, single samples collected every two months over a year would yield an estimate of the rate of PSA increase. A PSA doubling time of 52 days indicates a high probability that a prostatic carcinoma is present and may be helpful in distinguishing carcinoma from benign prostate disease where serum PSA concentration usually fails to increase at a similar rate, and may decrease.

### **Pre-analytical Sources of Variation in PSA Measurement**

When looking at the literature, older studies, which were carried out using non-equimolar assays for free PSA, need to be viewed with caution. In general, procedures which are non-invasive (digital rectal examination (DRE), trans rectal ultrasound, cystoscopy and ejaculation) tend not to have clinically significant effects on serum total PSA concentration; whereas needle biopsy, TURP and prostatic massage result in significant increases which make total PSA measurements difficult to interpret. There are, however, studies which document changes in free PSA/total PSA ratio in equimolar assays following DRE. The size of DRE-associated changes appears to vary between assays. The exact significance of these observations is unclear.

## **Cardiac Markers and Financial Concerns**

**by Margaret Sinclair, York**

Charles van Heyningen opened this workshop by giving a brief review of the role of cardiac markers in determining the best and most cost-effective strategy in the diagnosis of chest pain. He identified their use in risk stratification and the resulting cost implications caused by an increased number of positive results. He outlined briefly the finding from the twenty or more posters on cardiac markers, on display the previous day. The majority of the papers described studies on the troponins: their use in ruling out myocardial infarctions, thus allowing for early discharge; difficulties in interpreting troponin results if other disease states co-existed, such as renal or thyroid disease: the importance of the timing of samples and the financial implications of introducing more costly analyses into the laboratory's repertoire. A study in Texas, published recently in *Circulation*, had compared TnT, TnI, CKMB, CKMB%, CKMB isoforms and myoglobin by measuring all these markers at 6 and 18 hours. CKMB isoforms and myoglobin were shown to be most sensitive at 6 hours and the troponins were more sensitive at 18 hours, with TnI 100% specific at 18 hours and TnT 80% specific at 18 hours.

### **NPT Troponins**

The participants at the workshop were then invited to present their experiences of cardiac markers, both old and new. All possible cardiac markers from AST to the troponins were in use at the various laboratories. However, the majority of those who spoke were using one of the troponins. The general opinion was that as the timing of samples was critical, it was important to adhere to a strict protocol and to discuss requests with the laboratory. One laboratory had experience of a bedside Troponin T analyser being used by the ward staff, but that they had reported they were disappointed with the results, viewing the analyser as a random number generator, producing both false positive and false negative results. This was probably a result of operator inexperience though, as the analyser functioned satisfactorily in the laboratory. Some participants reported problems with sample stability and heterophilic antibodies to TnI. Concern was expressed at the likely increased financial

implications. Experience has shown that the anticipated increase in costs could be offset by reduced bed stay on a coronary care unit and also one troponin analysis replacing a series of three CKs and a CKMB assay.

The reason for introducing these highly specific and sensitive markers is to distinguish patients with acute MI and also the high-risk patients with unstable angina, from all other cases of chest pain. Only 25% of patients presenting with chest pain have MI, so if a highly specific cardiac marker is negative the patient can be discharged from a high cost bed on CCU. The troponins could be used for risk stratification in the unstable angina patients. None of the markers described can be used to determine whether thrombolytic agents should be administered; that decision should be made in response to ECG changes.

No real conclusion was reached about the best protocol to adopt but possibly a six-hour myoglobin followed by a 12-hour troponin was favoured. It is certain that those of us using the CKMB immunoinhibition assay should mend our ways! The IFCC has recently recommended the use of an early marker, reliably increased in blood within 6 hours of symptoms onset, followed by a definitive marker which is highly specific and sensitive, is increased in blood after 6-9 hours, and remains raised for several days. For those considering changing to troponin analysis, there is an EQA scheme run from the Victoria Infirmary, Glasgow.

## Biochemical Markers of Cardiac Damage

by Charles van Heyningen (Workshop Convenor)  
and David Wile, Aintree

The topic was introduced by referring to questions raised following a European Expert Panel meeting on cardiac markers held last July in Italy. Novel markers raised questions about:

- The best and most cost-effective diagnostic strategy in chest pain
- The remaining role of cardiac enzymes
- Assay standardisation
- Effects of renal failure
- Comparative efficiency of new markers for risk stratification
- Therapeutic consequences of a positive result

Some of the posters, presented the previous day, were reviewed. These included the use of an imperfect reference standard for diagnosis, findings of CKMB mass being sensitive up to 6 hours but unreliable in inflammatory muscle disease and CKMB% activity being inadequate to separate skeletal from myocardial damage. Most posters were about troponin measurement. This test can allow early patient discharge by ruling out MI. On admission TnI is only 40% sensitive but next morning reaches 100% sensitivity. Others have found TnI 95% sensitive for MI at 12 hours post-pain and TNT 90% sensitive at 12 to 20 hours post-pain. Raised TnT in renal failure indicates a poor prognosis, and mild elevations have been found in hypothyroidism and after coronary artery bypass grafting. In unstable angina, troponin levels were not related to coronary lesion morphology. One department has found TnT testing less costly than a previous policy using CK isoforms and total CK.

### The Definitive Work?

A recently published paper (in *Circulation* 1999; **99**: 1671-1677) on a multi-centre evaluation of new cardiac markers has found CKMB subforms showing greatest sensitivity at an early stage (6 hours) whereas TnI and CKMB mass or activity derived from subforms

were most sensitive later (at 18 hours).

In the ensuing discussion, participants described their experience with the new markers. One hospital used C-reactive protein and total CK as first-line tests and, after the ward round the next morning, provided TnT if requested via the duty biochemist. The high cost of introducing troponin testing was described and in response it was suggested that “winter pressure money” could be sought to cover this and allow better bed usage. Another unit described an evaluation of TnI giving 100% sensitivity for MI at 12 hours but found a “grey area” in unstable angina where raised values probably represent microinfarcts. A research study with TnI found two patients with persistently elevated levels believed to be a result of heterophilic antibody interference. Concern was expressed about the reliability of point-of-care TnT or myoglobin devices.

A Canadian hospital provides total CK and CKMB every 6 hours after chest pain as well as TnI on admission and 6 hours later; no troponin values were found to be normal when CKMB was raised.

Raised troponin was described in pregnant women and neonates. There is evidence from molecular genetic studies that the foetal cardiac TnT genes may be switched on in neonatal skeletal muscle through a process of isoform switching.

In summary, there appears to be a widespread desire to introduce new, improved cardiac damage markers but the questions raised at the beginning of the workshop have not yet been fully answered to allow this for all.

## Applications of Mass Spectrometry

by Emily Armstrong, Belfast

This was my first Focus and consequently my first experience of the workshops. I had no idea of the size or format of these workshops but was determined to get as much out of Focus as I could. I saw the workshops as an opportunity to learn about subjects in which I had an academic interest but no practical expertise. I imagined myself slipping quietly into a room of enthusiasts and experts to unobtrusively observe and learn from their discussions. The reality was at first daunting but then ultimately more rewarding.

### Theory

For the workshop on “Applications of Mass Spectrometry” there were 11 participants. I use the term “participants” loosely as my ability to participate actively was limited to passing pens to those out of reach. Despite my ignorance of the subject I was never made to feel uncomfortable, as joining in the discussions was purely on a voluntary basis.

### Practice

Norman Roberts conducted the workshop in a quiet and relaxed manner, which set the tone for the whole session. Leading a workshop was not an easy task to perform! Even though the numbers were few, the range in abilities was immense. There were people like me, who had an uneducated interest in the subject and others who obviously used their MS daily. He began by introducing mass spectrometry in relatively simple terms and suggesting a suitable reading list. He broke down the technology into its fundamental components, describing the methods of sample presentation, the vacuum systems, the quadrupole/ion trap, the detector and computer analysis. He described the numerous applications and gave an overview of the various techniques that may be employed, including schematics of the ‘hardware’ when he thought necessary. For the uninitiated, such as myself, all that was very useful and I can genuinely say I learned a few things. Later on the subject was open for discussion and from that point I report as an observer rather

than a participant. The debates covered the advantages and disadvantages of each type of component available. The sample ionisation can be done by various techniques, electrospray ionisation had been used by the speaker and allowed direct sample injection. The Z spray ionisation (so-called because of the shape of the path taken by the sample) and others also featured in the discussion. The sensitivity of the ion trap over the quadrupole was balanced by its relatively higher cost.

### **Applications**

I followed the debate with interest as it gave an insight into the varied applications of MS – from inborn errors to the purification of pepsin. Peptide sequencing, which takes days using conventional methods, can be done in minutes. A point highlighted by the speaker struck a personal chord. He said that sequences of all manufactured peptides for use in antibody production should be checked by MS. I had previously wasted months immunising with a peptide fragment that still had t-bocs attached – a fact later discovered by an hour's work on the MS. Impressed as I was with the knowledge and experience of the majority of the participants, I was comforted to find that even the most informed resorted to the “black box” mentality, occasionally whereby they followed the manufacturer's protocol without knowing the exact technology behind it.

I found the workshops enjoyable and enlightening and well worth the early morning wake-up call. They were just a small part of an extremely well-planned and executed conference. My thanks and appreciation go to the Focus 99 organisers.

## **Benchmarking . . . What Does it Mean?**

**Dr Iain Brown, Kirkcaldy**

Jeff Seneviratne opened this workshop by giving us the straight dictionary answer to the question in the title. The Chambers Dictionary defines benchmarking as a “surveyor's mark” or “something taken or used as a point of reference or comparison”. However, it is clear that rather like the concept of clinical governance, benchmarking has developed a life of its own and includes a whole range of concepts perhaps not envisaged when first used.

Benchmarking now has its own International Benchmarking Organisations and its own gurus. Its philosophy in industry involves looking for best practice, superior performance, admitting others might do things better, moving from where we are to where we want to be and perhaps the idea most likely to appeal to NHS managers: “a pragmatic solution to the dilemma of cutting costs while improving quality”.

So what does this mean for NHS laboratory services? The Clinical Benchmarking Company Ltd (CBC) was set up by the NHS Confederation in order to gather benchmarking information across a broad spectrum of health service activities. Under the auspices of CBC, pathology has been reviewed annually for the past 4 years by the Clinical Management Unit at Keele University. However, both the concept of benchmarking laboratory services and the process itself are not uncontentious. Who is it for and what is its real purpose? Does it encourage laboratories to improve their performance, as the gurus would have us believe, or is it a mechanism for strengthening central control, ensuring conformity and generating cost savings? What should we be measuring for benchmarking purposes? There are still real difficulties in knowing what parameters to use, how they should be defined and how we can ensure that we have a basis for making genuine comparisons between both similar and different types of laboratories and hospitals. Indicators relating to workload, staffing facilities, productivity, costs and prices have all been set up with varying degrees of success but what about quality? How can that be measured? How do you benchmark the added value of interpretative reports? How do you resolve the paradox that a discretionary approach to

requesting and effective demand management will inevitably cause a fall in productivity? The CBC approach is, however, evolving and continues to look at ways of improving the utility of the information passed back to laboratories.

### **An 8 test U&E – Own Up!**

There are now just over 100 clinical biochemistry laboratories in the UK participating in this exercise. Many interesting bits of information came out during discussion of the results. How is it possible for a “urea and electrolyte” profile to vary from 4 up to 8 tests across the country? This delegate finds it difficult to conceive even what these 8 tests might be!

Hospitals are put into groups according to size and whether teaching or non-teaching. Despite this, there is still wide variation in request and test numbers which can be a reflection of factors such as the specialist nature of a laboratory, the extent to which tests are self-generated, cross-discipline working and external referral of work.

The reports which laboratories receive are deliberately non-judgemental and it appears that there are pressures to conform since there is evidence that some laboratories have made changes bringing them more in line with the majority. Should this process be made compulsory? It was felt probably not if the acceptance of the profession was wanted. Certainly, there should be professional involvement and the CBC Expert Panel includes representatives from the RCPATH, ACB (Jeff Seneviratne) and IBMS. It was also felt that there was a need to treat the laboratory less in isolation and to link its benchmarking with the similar work being done in other areas of the hospital services so as to get perhaps a better overall picture of performance locally.

This review workshop was a very useful source of information for delegates unfamiliar with the concept of benchmarking in clinical biochemistry. It is perhaps a pity that such a potentially important developing area did not attract a greater audience.

## **Does CRP Reliably Detect Infection?**

**by Henry Chandler, London**

Prior to the meeting, requests for material for presentation and discussion were circulated by David Isherwood to those booked to attend this workshop. As a consequence several attendees brought prepared information and overheads. In general, this initiative improved the interaction within the workshop.

The structure, production and control of CRP were covered in the opening part of the workshop. One of the interesting features that emerged was that CRP is quite an old molecule that appear early in evolution. This was followed by a review of CRP levels in a variety of conditions, including some data that reinforced the “well known fact” that CRP tends not to rise as high in viral as in bacterial infection.

A show of hands was called for to find out firstly whose laboratories measured it and secondly if its measurement was allowed “on-call”. The response was mixed. The large majority at the workshop came from laboratories that now measured CRP, some having recently taken the assay over from other departments, mainly Haematology.

Several allowed the assay to be done on call without any comment, others only did it in the next normal working period and others only through a request to the duty biochemist/chemical pathologist. The usual “urgent” clinical requirement was to expose suspected, but covert, infection often in a patient about to undergo surgery. Some examples of this last were discussed. At least one attendee’s laboratory used an assay with a lower level of detection than the “usual” of about 1-4 mg/L. However, there seemed very little interest in these more sensitive assays.

Whilst not strictly to the point of the workshop, one of the attendees showed that the attempt to promote CRP as an acute diagnostic marker for acute myocardial infarction was, to say the least, foolish. Results from about 120 consecutive admissions to an acute coronary care unit gave ROC Curves that at time zero were worse than a form of coin tossing but improved to very slightly better than the diagonal 48 hr post-admission.

### ESR Versus CRP

This discussion was spiced by one of the attendees who came from a company that produced automated ESR equipment. There is a considerable amount of comparison data, particularly showing ESR to be better in monitoring autoimmune disease. However, the consensus was that there was no satisfactory answer to a current problem which is: "With the increasing re-combining of Clinical Chemistry and Haematology Departments, plus the need for economy, is it time to ditch the ESR for the cheaper, better-controlled and quicker CRP measurement?"

In summary, CRP measurements reliably detect the acute phase reaction. However, this reaction may occur when there is no infection and it also will be variable in intensity in different types of infection in different individuals. There needs to be rigorous work done to establish properly the place of both ESR and CRP estimations. This is becoming quite important in the light of an increasing request rate for CRP and the lack of criticality of requesting clinicians about the results.

## Use and Abuse of Gonadotrophin Measurement

by Laila Tibi, Hemel Hempstead

This interesting and informative workshop was presented by Mary Stewart (Chemical Pathologist) and John Kane (Principal Biochemist) from Hope Hospital, Salford. Mary opened the workshop by summarising the clinical details given on gonadotrophin requests at Hope Hospital. As one would expect, the largest single group (40%) was related to the menopause. Investigation of patients with amenorrhoea, infertility or polycystic ovary syndrome formed a further 25% of requests. 20% of requests were related to hormone replacement therapy (HRT).

She outlined menopause-related situations when gonadotrophins are useful:

- To identify premature menopause
- To assess the need for contraception in women of menopausal age (but not on their own)
- To assess the need for HRT
- In patients with menorrhagia

John Kane then described the isoforms of FSH and LH. The carbohydrate chains are not required for receptor binding or activation but do affect the half life of the molecule in serum. The isoform pattern differs in pituitary, serum and urine and, more importantly, differs in disease.

### "Trying to conceive"

The last part of the workshop involved active participation by workshop attendees. Mary Stewart presented 5 case histories with results obtained and asked us how we would have interpreted the results in each case. The first case was a request for FSH and LH measurements in a 26 year old female. Clinical details on the request card were "Secondary amenorrhoea. Trying to conceive". Results were LH 21.5 U/L, FSH 76.6 U/L. The general consensus was that the tests should be repeated in 8 weeks time. We were then asked about a 35 year old female (with no clinical details on the request card – not an unusual occurrence!) with an LH < 1.0 U/L, FSH < 1.0 U/L, TSH 4.7 mU/L. We were in agreement that serum HCG

should be done to exclude pregnancy and if this was excluded we would check whether the patient was on the oral contraceptive pill.

The third case generated a lot of discussion. This was a request for LH, FSH, and oestradiol on a 48 year old female who was on HRT and was tired and weepy. Results were as follows: LH 45.11 U/L, FSH 81.0 U/L, oestradiol 140 pmol/L. In general it was felt that only FSH should have been measured. Oestradiol should have been done only after checking the HRT formulation. Oestradiol is useful in patients with implants (if the level is less than 250 pmol/L, the implant needs to be replaced). We then had an example of a request which is familiar to us all – a 38 year old female, clinical details ?menopausal. Results were: FSH 21.7 U/L, LH 15.9 U/L. We all agreed that the results were biochemically consistent with the perimenopause but that a repeat follicular phase FSH was required.

## **Electronic Laboratory Handbooks**

**by Ian Bailey, Bromley**

This workshop led by Rick Jones consisted of demonstrations, discussion of handbooks and some very helpful discussion of technology. It was general, very helpful and informative, with a view on the future.

Current practice for laboratory handbooks was similar amongst the participants, - paper based, with different handbooks for different groups of users, highlighting the limitations and difficulties of maintaining up-to-date copies.

Electronic handbooks appear to be in several guises, on Laboratory Information Systems, word processors, spreadsheets or databases. There are then difficulties of distribution, floppy disks, files being sent electronically rather than sharing of information. Technology is changing to enable easier sharing of information, internet or intranet, which is independent of software used for accessing information, or the hardware which is being used.

### **GP Net**

£40 million has been invested to get every GP practice “on-line”, giving each an Integrated Services Digital Network (ISDN) line, Simple Mail Transfer Protocol (SMTP), e-mail and web browser. Full GP electronic data interchange (EDI) which includes the electronic transmission of results and requests, for every practice has been delayed.

### **Hypertext**

Hypertext allows “linking” of information in a non-linear format. That is, you can branch to relevant pages, and return as necessary. MTML (hypertext markup language) files can be produced by conversion from word processor files.

### **Demonstrations**

We had a demonstration of Barry Sampson’s trace metals handbook at: <http://home.clara.net/sampson1/html/assays.html> and an excellent demonstration of glucose meter QC scheme in Bradford, where end ward users are able to enter results and view their performance, and all password protected.

### **Need for Standards**

It was agreed there was a need for standards “coding” for tags, and kite marking for good sites, but the profession does need to be aware of content of “poor sites”.

It has been proposed that there should be an annual IT training day. ■

# Glycated Haemoglobin: Promises & Problems

By Sarah Davie, Kingston

**G**lycated haemoglobin has been known for many years to be a useful long-term indicator of glycaemic control in diabetic subjects. Since the Diabetes Control and Complications Trial (DCCT) this measurement has also become the cornerstone for guiding treatment. However, there are still a number of unresolved issues concerning its clinical utility and methods of analysis, some of which were addressed and debated in this interesting and stimulating workshop led by Eric Kilpatrick.

After a brief overview of the historical aspects, the formation of glycated haemoglobin was described. This is the well-known non-enzymatic reaction between glucose and haemoglobin amino groups in which the labile Schiff's base is initially formed before being finally converted to stable glycated haemoglobin. Glycation occurs at the N-terminal valine of the  $\beta$ -chain (HbA1c), at the N-terminal of the  $\alpha$ -chain and at the  $\epsilon$ -amino groups of the  $\alpha$ - and  $\beta$ -chains.

Glycated haemoglobin has been shown to correlate with the mean blood glucose control over the preceding 6-8 weeks. Models have been developed to try and relate the level to the blood glucose level, however, these do not take into account the large intra- and inter-individual variation of glycated haemoglobin. This means for a given glycated haemoglobin level, the mean blood glucose level may vary considerably (e.g. for a glycated haemoglobin of 8%, the mean blood glucose level may vary between 5.5-9 mmol/L). This may be partially explained by different rates of glycation between different individuals.

There have been many studies to investigate the measurement as a screening test for diabetes. However, the meta-analysis of 34 studies comparing glycated haemoglobin to the oral glucose tolerance test showed glycated haemoglobin to have a sensitivity of 66% and specificity of 98%. It is found that a large number of subjects with impaired glucose tolerance or diabetes have normal glycated haemoglobin levels. This may also be explained by both its intra- and inter-individual variation.

The DCCT study showed that improved glycaemic control reduced the risk of microvascular complications. Glycated haemoglobin was used as the cornerstone of treatment evaluation. From this a target of 7% was recommended by the American Diabetes Association for reducing the risk of long-term complications. This target is obviously based on measuring glycated haemoglobin by the method used in the study (ion-exchange chromatography calibrated using DCCT standards).

## Standards and confusion

The methods of analysis and equipment available for measurement were briefly described with the issue of standardisation creating most debate. It is well known that different methods of analysis measure different glycated haemoglobin species, leading to a variety of reference ranges and problems in comparing results from different laboratories. Since the DCCT study, it is now possible for many of the methods to be calibrated using DCCT standards. This not only allows the DCCT HbA1c targets for treatment to be used, but should also overcome the problem of interlaboratory variation. However, the situation is not that straightforward. The IFCC Working Group for Standardisation is developing a different standard using HPLC-MS and purified HbA1c and HbA0. The HbA1c level for this standard is likely to be lower. It is not known when this standard will become available. If previously DCCT calibrated methods are recalibrated with the IFCC standard much confusion is likely to arise: the obvious problem being a change of target level for HbA1c to adjust treatment and monitor control in diabetic patients. There were certainly some attending the workshop who strongly felt we should use the IFCC standard when it becomes available as it will be the first 'true' reference material for HbA1c, despite the fact that targets for treatment would have to be re-evaluated. HPLC-MS studies on glycated haemoglobin have demonstrated the heterogeneity of the glycated species which we are measuring as 'HbA1c' using ion-exchange chromatography. It is therefore likely that more specific methods for glycated haemoglobin will eventually become available and hopefully elucidate some of the unresolved issues discussed in this workshop.

The final conclusion was that the measurement of glycated haemoglobin has definitely benefited the treatment of diabetic subjects, but that we should be aware of some of the pitfalls of its use and not rely too much on using it as the only means of assessing glycaemic control. ■

## Reproductive Medicine

**Mount Pleasant Hotel, Doncaster  
20th January 2000**

*Morning Chair: Dr Ian Barnes, Leeds*

10.30-11.10 Puberty *Dr J K H Wales, Sheffield*

11.10-11.50 Endocrine Aspects of Pregnancy *Dr P M S Clark, Birmingham*

11.50-12.30 hCG Assays: An Overview *Dr C E Wilde, Doncaster*

*Afternoon Chair: Dr Mike Toop, Harrogate*

14.00-14.30 Driving Diagnostic Directions *Mr A Trinder, Olympus*

14.30-15.10 Biochemical Complications of the Newborn *Dr M J Henderson, Leeds*

15.10-15.50 The Menopause: A Clinician's View *Dr A Beardsworth, Sheffield*

There will be a dinner at 6pm for 6.30pm in the Mount Pleasant Hotel, in honour of Colin Wilde, at £20 per head. Rooms for the night are available at special rates.

Please contact the hotel on 01302-868-219. The meeting is free for ACB members.

Non-members pay £10 (includes lunch). Please make cheques payable to Yorkshire-Trent ACB.

Contact: Steve Goodall, Clinical Biochemistry & Immunology, Leeds General Infirmary, Leeds LS1 3EX.

Tel: 0113-392-3691. Fax: 0113-233-5672. Email: stevego@pathology.leeds.ac.uk

# Harassment at Work

By Alan Penny, Chairman, Federation of Clinical Scientist

## Introduction

The caseload of the FCS offices now maintains a rapidly rising number of cases where harassment is the main feature or a secondary feature to a proposal for redundancy. Members are finding themselves involved as victims, as the accused and as witness called during an investigation. It is therefore appropriate to provide an explanation of the current situation relating to harassment issues.

## Definition and Scope

Within employment law originally harassment was introduced as a subset of direct discrimination on the grounds of sex or race. It was dealt with internally by employers under equal opportunities policies and externally by Industrial Tribunals (now called Employment Tribunals) under the Sex Discrimination Act (1975) and the Race Relations Act (1976). Under these, much higher awards of compensation were permissible than for unfair dismissal.

The European Commission now has a clear definition of sexual harassment at work:

*Unwanted conduct of a sexual nature, or other conduct based on sex affecting the dignity of women and men at work.*

Replacing sexual and sex by racial and race provides a good working definition of Racial Harassment.

Similarly, harassing a disabled person because of a disability will almost always amount to a detriment under the Disablement Discrimination Act (1995). This is direct discrimination.

Over the years case law in the UK and in Europe has extended the scope of harassment issues under the umbrella of Health and Safety at work legislation. There is now a much wider definition generally accepted:

*Unwanted conduct affecting the dignity of women and men at work.*

This now includes all forms of bullying: either physical or verbal abuse, intimidation, unfair treatment etc. These can be direct or indirect acts (e.g. through a third party) and can be perpetrated by superiors, subordinates or colleagues of equal status.

## Policies and Redress

All employers should now have a policy to combat harassment which includes bullying not related to race, sex or disability. Employees may raise a complaint under this policy. Definitions of bullying may be even wider in these than above as a result of local staff side negotiations, but cannot be more restrictive than legally accepted definitions.

The definition is usually extended from the use of strength or power to coerce others by fear, to include offensive, intimidating, malicious, insulting or humiliating behaviour, abuse of power or authority which attempts to undermine an individual or group of employees to cause them to suffer stress.

Detrimental treatment of an employee who raises a complaint under an anti-harassment policy, or any other procedure or who acts as a witness to an investigation, is a separate offence, victimisation.

Allegations of bullying (not related to sex, race or disability) can now be brought to Employment Tribunals (ET) but only through the unfair dismissal legislation. This requires that the victim resigns and claims constructive dismissal on the grounds of intolerable working conditions making the working environment unsafe. Compensation in these cases is relatively low and restricted by the same limits that apply in other unfair dismissal claims e.g. unfair selection for redundancy.

In extreme cases, harassment can be a criminal offence and prosecution may be brought by the police if they become involved. Restraining orders can also be sought prohibiting further occurrences. Breaking these orders could lead to immediate arrest and prosecution.

## Complaints and Investigation

Complaints of harassment (of any form) are difficult to substantiate and written evidence or witnessed events are usually required. They are also very difficult to defend against and must be thoroughly and

exhaustively investigated. Failure of an employer to take a complaint seriously or to conduct a fair and thorough investigation are themselves offences – failing to ensure a safe working environment in breach of HSAWA (1972).

Before an ET will consider hearing a complaint it usually expects that the internal procedures, including appeals, have been utilised fully. The evidence and witness statements collected by an internal enquiry are admissible as evidence at an ET (but not a criminal prosecution because of the rules of evidence).

## Criteria for Assessment

Whether a complaint has been taken up under the internal procedures or at ET, it has to pass objective and subjective tests of validity:

- Certain actions or words (if substantiated) are so outrageous that they would be unacceptable to any reasonable person. These can have no excuse and are automatically accepted as harassment
- One incident is sufficient to prove the case. Examples are physical or sexual assault, blatant tirades of verbal abuse.
- However, in more subtle examples, it is necessary that the offence is repeated despite notification that it is not acceptable to the victim. This can be done directly or through an intermediary (colleague, staff representative, personnel officer, staff counsellor).
- Generally the actions or remarks should not be reciprocated. Harassment is difficult to prove if you give as good as you get, unless it results in a tangible detriment e.g. being overlooked deliberately for promotion or study leave or always getting the worst sessions of a rota.
- Managers have a right to manage and legitimate management decisions, unless discriminatory, are not harassment.
- Managers have the right to be respected by their staff as much as staff have the right to be treated fairly. Managers should use the disciplinary procedure to counter insubordination and unacceptable behaviour of staff. Retaliation may lay the manager open to a charge of harassment.
- Genuine apologies must be considered seriously by the aggrieved person and will be taken into account.
- Intent is very important, but the effect upon the victim is usually more important – provided the

effect has been notified.

- Other factors such as general work pressures and tension between staff groups should be considered to put individual actions into context. Although these do not excuse unacceptable behaviour.
- Genuine attempts must be made on all sides to resolve the problems amicably and restore mutual respect and good working relationships. If a complaint goes to ET then ACAS will often become involved in this process – despite the wishes of individuals that ‘someone must pay’.

The conduct of an investigation must be rigorous and will necessarily be unpleasant at times for the victim, the accused and any witness who may feel forced to take sides between two colleagues who are personal friends or for whom they have great respect and loyalty. In order to ensure fairness, witnesses should not be permitted to opt out except on medical certification. It is recommended that any employee involved as a complainant, an accused or a witness should be accompanied during an investigation interview.

## Outcome

If the investigation concludes that there is a case to answer, the disciplinary procedure must be followed.

If the investigation concludes that there is no case to answer, the victim has the right to use the grievance procedure against the decision.

If the conclusion is that the case has no credibility at all, the accused may issue a counter complaint of harassment or use the disciplinary procedure, as making malicious unfounded accusations is a disciplinary offence of vexatious allegation.

## Advice

This complex situation explains why it is recommended by the ET, by ACAS and by FCS that every effort should be made to resolve issues informally before embarking upon a bitter dispute from which both sides suffer great anguish.

Any member wishing to read more about the subject are referred to an excellent book ‘Harassment at Work’ by Edmunds V, Hopkins M, Williams A; published by Jordan’s 1998; ISBN 0 85308 524 2.

For a book written by solicitors this is relatively easy reading ■



# Letters

## Readers speak out

### Develop the System to Achieve Goals

The Association of Professors of Clinical Biochemistry is a group of Heads of Academic Departments mainly from teaching hospitals, affiliated to the Association of Clinical Professors and have met regularly over the past 25 years to discuss issues relevant to the specialty. The group has recently been expanded to include personal chair-holders and deputy heads from these departments. Coming from a wide variety of backgrounds the group provides much of the academic and intellectual drive to the profession. The report of the Annual Away Day reflects the consensus views of the Group.

To address the key issues raised, Professor Reynolds seems to have missed the point with respect to both the position of the MRCP as a postgraduate qualification and its relevance to the practice of the modern day chemical pathologist. In addition, he fails to make the connection between postgraduate training, the assessment of that training (by whatever means) and the importance of accreditation to practice.

It is now well accepted that the role of both the chemical pathologist and the clinical biochemist must be directed, more and more, toward the practice of clinical biochemistry outside the laboratory (in the clinic, on the ward, in the community). This is supported by recommendations of both the Audit Commission review of pathology services (Critical Path) and the Department of Health's Strategic Review of Pathology Services. The College has been leading the initiative to bring pathology closer to the patient, including making the training more clinically orientated and developing a stronger clinical role for medically qualified consultants. There is an argument for having a distinct MRCPPath examination for medically compared to non-medically qualified candidates – to reflect the direct patient care element of the role. This initiative spans not only clinical biochemistry but also haematology, microbiology, virology and immunology.

There is no doubt that the future of pathology lies closer to the patient and to clinical practice - as against the subject becoming fossilised in purely

laboratory practice. There are many other initiatives that encompass this more patient-focused view – including evidence-based medicine, NICE, NEAT and the newer approaches to medical education.

In order to develop sufficient clinical competence an additional period of training is important. The assessment of competence at the end of that training leads to MRCP, an exam with both written and clinical components – but it is the training and experience, and its objectives, that should be highlighted – not the style of the examination.

A similar approach should be taken to the MRCPPath – the objectives of training and the competencies gained – not the style of the examination. Training objectives and competence to practice are vital aspects to developing and maintaining a high quality pathology service as is the close integration of pathology into direct patient care. Let's not knock the system but rather work to develop the vision and achieve the goals.

**Christopher P Price, Past Secretary**

**Timothy J Peters, Past Chairman**

Association of Professors of Clinical Biochemistry

### MRCP and Chemical Pathology

We have considerable sympathy for Tim Reynolds' *cri de cœur* (ACB News, 20th July 1999) concerning the training needs of the current generation of chemical pathologists, but are also conscious of changing professional pressures and expectations. Nowadays there is less scope in the laboratory for method development and there is a general move to investigate and treat more patients with metabolic/biochemical problems as outpatients or in the community. Clinical governance and revalidation also mean that all health care workers not only have to be competent but also have to be able to demonstrate their competence. These pressures, and the need to demonstrate to Chief Executives that a newly appointed Chemical Pathologist will both fulfill the traditional laboratory role and also make a clinical impact in at least some of nutrition, lipids, adult inborn errors, bones and stones and diabetes, have

led many trainees to do two or three years of general professional training and take the MRCP.

We are members of the Metabolic Medicine Working Group, a joint RCPATH and RCP committee whose remit includes review of the clinical training of chemical pathologists. We remain firmly convinced that the chemical pathologist should still be based in the laboratory and able to take management responsibility for the service, in addition to giving advice about the interpretation and appropriateness of biochemical investigations. However, the 'added value' that a newly appointed consultant can bring to a hospital as a result of conducting outpatient clinics and, for example, being a member of the nutrition team is a very useful adjunct. Our dilemma, clearly articulated by Professor Reynolds, is to decide whether the extra clinical training required for this expanded role can be organised and delivered through the traditional route resulting in the MRCPATH, or whether we should require trainees to undergo the general professional training and exposure to acute medicine culminating in the MRCP, before they begin higher specialist training in chemical pathology. There is no doubt that possession of the MRCP testifies to an adequate General Professional Training, and gives a stamp of clinical credibility recognised by other consultant physicians.

These days about a third of all candidates for consultant chemical pathologist posts have the MRCP in addition to the MRCPATH. They feel that this increases their likelihood of getting a job, and signals that they are capable of independent clinical practice. Arguably, in view of changing laboratory practices, this is at least as important as a basic qualification in biochemistry and would make for a better match with the complementary skills of a clinical scientist. In addition the haematologists and immunologists have gone down this route as are increasing numbers of microbiologists.

These issues were discussed at Focus 99 at the trainees' meeting and at a Workshop. A variety of views were expressed and our feeling is that there is not yet a clear consensus within the profession that this is the way forward. Many, including ourselves, are anxious to ensure that chemical pathologists with a particularly strong laboratory interest, who might well be future academic leaders of the profession, are not excluded from the profession by the lack of the MRCP. On the other hand, our clinical colleagues and colleagues in the other clinical pathology disciplines cannot understand why we seem to be dragging our

feet. Tim Reynold's views on the necessity of obtaining the MRCP may be tempered by the fact that he is in the fortunate position of holding a consultant post. We feel that possession of the MRCP is likely to become the norm for the chemical pathologists and would urge trainees to consider investing the two years effort usually needed to acquire it.

A number of complex issues need to be considered in this debate, and we would be grateful for the views of established consultants and trainees either directly to one of us, or through the columns of the ACB News.

**Professor Alan Shenkin**

**Chairman, Metabolic Medicine Working Party**

Department of Clinical Chemistry  
Royal Liverpool University Hospital  
Liverpool L69 3GA and

**Dr David Stansbie**

**Chairman, SAC in Chemical Pathology**  
Department of Chemical Pathology  
Bristol Royal Infirmary  
Bristol BS2 8HW

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## The Use of Various Forms of hCG as Tumour Markers

Several letters in recent issues of the ACB News have concerned the limitations of assays for intact hCG for monitoring of patients with nontrophoblastic tumours. The examples presented show that many such tumours produce hCG-like immunoreactivity that is detected by assays measuring "total" but not intact hCG. As demonstrated by Tony Everett, and by several earlier studies<sup>1-4</sup>, this immunoreactivity consists of the free beta subunit of hCG (hCG $\beta$ ), which can be measured by the DELFIA assay for simultaneous determination of hCG $\beta$  and AFP (now also available as a single analyte Free hCG $\beta$  kit) but not by the DELFIA hCG assay or other assays for intact hCG<sup>4</sup>. The expression of hCG $\beta$  by nontrophoblastic tumours is actually quite common and, when measured by highly sensitive and specific assays, elevated serum levels are detected in 20-80% of patients with tumours of various origin. However, in a majority of the patients, the levels are below the detection limit of most presently available assays<sup>4</sup>. Furthermore, low levels of intact hCG and hCG $\beta$  occur in serum from normal men and non-pregnant

women<sup>5</sup>. When expressed in molar units, the background level of hCG is 15 pmol/L (corresponding to 6 IU) while that of hCGβ is only 2 pmol/L. Therefore, the serum concentration of hCGβ has to increase above the upper reference limit by 5- to 8-fold before it causes an elevation of total hCG immunoreactivity<sup>5</sup>. We therefore recommend the use of hCGβ DELFIA assay for monitoring of patients with nontrophoblastic tumours expressing hCG immunoreactivity. Although optimised for screening of Down's syndrome rather than for determination of very low levels of hCGβ, this assay is quite useful for monitoring of hCGβ-producing cancers. The detection limit of this assay is 0.1 µg/L, which corresponds to about 5 pmol/L. This is one third of the upper reference limit for total hCG, and thus this assay can detect elevated hCGβ concentrations much earlier than assays for total hCG. Because expression of intact hCG by nontrophoblastic cancers is rare, the hCG DELFIA assay for intact hCG is not useful for monitoring of these tumours.

The combination of specific assays for intact hCG and hCGβ is of value for differentiation between trophoblastic and nontrophoblastic tumours. This is especially valuable when the origin of the primary tumour is unknown, which is not uncommon in patients with choriocarcinoma. In women, an hCG value which clearly exceeds that of hCGβ is a very strong indicator of trophoblastic disease. Furthermore, if the proportion of hCGβ comprises more than 5% of the sum of hCG and hCGβ (expressed in molar units) it is very likely that the trophoblastic tumour is malignant, i.e. a choriocarcinoma<sup>6</sup>. In men an elevated hCG level in serum is a very strong indication of a nonseminomatous testicular cancer. As demonstrated by the case presented by Dr Vivienne Lyfar, and earlier by Saller et al,<sup>3</sup> seminomas occasionally produce hCGβ but not intact hCG.

Based on the arguments presented above, Wallac deliberately decided to develop an hCG assay that specifically detects intact hCG and another one specific for hCGβ. A further argument for this decision was that total hCG assays are very hard, if not impossible, to standardise properly. Although the use of separate assays for hCG and hCGβ is more cumbersome than using a total hCG assay only, we think that the use of two specific assays is justified because of both analytical and clinical advantages.

**Timo Reisto**  
EG&G Wallac

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## Much Too Radical to Fly

I thought that as one of the last of the real Mohicans, there are very few of us left and you can tell us by the lack of hair these days, that I was qualified to poke my oar in on the MRCPPath Part 1 issue. Most of my career has been spent as that nearly extinct breed, a "General Pathologist", despite not having done the MRCPPath Part I but wishing I had. Over the last decade or so I have firstly watched and read the arguments about the future of the whole specialty in, by and around the IBMS/ACB/ACP/RCPPath. Secondly, I have observed the actual changes that have taken place in the practice of Pathology (which for this observation equals Laboratory Medicine minus Histo/Cyto/Morbid



## South Thames (East) Quality Assurance Liaison Group Annual Meeting

<b>Postgraduate Centre, Kent &amp; Sussex Hospital Tunbridge Wells Friday 19th November 1999</b>	13.00-14.00 Lunch	
	14.00-14.45 A National Survey of Glucose Meter Quality Assurance Mr I Barlow	
10.00 Coffee and Registration Chairman: Dr G Lawson	14.45-15.00 Urine Bile Pigment Survey Mr S Rogers	
10.30-11.15 Glycaemic Control in Diabetes: Is it Necessary? Dr D Barnes	15.00-15.40 Carboxyhaemoglobin: Theory and Practice Ms J Mazurkiewicz	
11.15-11.30 Glycated Haemoglobin Measurement: Local Practice Dr G Lawson	15.40-15.55 Porphyrin External Quality Assurance Ms T Teal	
11.30-12.15 Generic Haemoglobin A1c Standardisation Dr J Middle	15.55-16.40 Angiotensin Converting Enzyme, a DGH Assay Whose Time Has Come – and Gone? Dr B Muller Tea/Discussion/Close	
12.15-12.30 A Survey of "Microalbuminuria" Testing Dr E Lamb		Registration is £10 inclusive of lunch. Cheques should be made payable to South Thames QA Group.
12.30-13.00 Urine Albumin: Is the Evidence There to Support it's Utility as a Screening Test for Diabetic Complication? Dr D Newman		For further information contact Dr Graham Lawson, Department of Clinical Chemistry, Kent & Sussex Hospital, Tunbridge Wells TN4 8AT

## Clinical Biochemistry: Past, Present and Future

**Birmingham Children's Hospital  
Thursday 2nd December 1999  
West Midlands ACB 50th Anniversary Meeting**

12.30-14.00	Registration, Posters and Buffet
14.00-14.15	Chairman's Introduction Dr D J Worthington
14.15-15.00	The Growth Curve of Paediatric Clinical Biochemistry Dr A Green
15.00-15.45	Testing at the Point of Care Professor C P Price
15.45-16.15	Tea and Poster Display
16.15-17.00	Diabetes Dr M Natrass
17.00-17.45	An American Perspective on the Direction of Clinical Chemistry Dr P Wilding
17.45-17.50	Closing Remarks
19.00-19.45	Reception at the Royal Angus Hotel
19.45	Dinner, Royal Angus Hotel

The scientific programme has been approved for CPD by the RCPATH.

Entries are invited for the poster display. The entry may be clinical, scientific, philosophical, historical or simply entertaining and could describe any work done over the last 3 years. A prize will be given for the best entry. Entries must be made on the form provided and must be in the name of one person only who must certify that the work, or a substantial and clearly defined part of it, is his/her own. Any co-authors should be clearly identified. An abstract of up to 400 words should accompany the entry form. The closing date for entry is Friday 5th November.

Registration for the Scientific Meeting is £10.00. The Gala Dinner at the Royal Angus Hotel is £15.00 for members and £20.00 for non-members.

If demand for the dinners exceeds the quota, preference will be given to those attending the scientific meeting.

Cheques should be made out to the ACB (West Midlands) and full payment enclosed with this form and returned to Mr E F Legg, Department of Clinical Biochemistry, Heartlands Hospital, Bordesley Green, Birmingham B9 5SS

*Dewsbury Health Care NHS Trust*

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**LOCUM CLINICAL  
BIOCHEMIST**

*Clinical Scientist Grade C  
10 sessions per week*

*Job Ref: 2034*

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A suitably qualified or experienced Biochemist is required from mid-October 1999 (or as soon as available) until the end of March 2000 to cover for sickness. This short-term contract or secondment will offer you the opportunity to develop your skills and expertise as head of the clinical chemistry service, in a friendly and supportive environment.

Telephone enquiries in the first instance, or to arrange an informal visit, to Mr P Beckett, Pathology Services Manager on 01924 512000 ext. 3208 (direct line 01924 816227).



**The North West London Hospitals **  
NHS Trust

## Senior Biochemist (Higher Specialist Trainee)

Grade B Points 10-12  
Ref INV297P

Applications are invited for the established post of Senior Biochemist in the department of Clinical Chemistry of The North West London Hospitals NHS Trust. This Trust was formed on 1 April 1999 by the merging of Northwick Park and St Mark's NHS Trust and the Central Middlesex Hospitals NHS Trust. This post is based at the North West London Hospitals NHS Trust's laboratories. For this trainee post there are opportunities for secondment to other hospitals for specialised training appropriate to the individual's needs.

You will have general experience in clinical biochemistry and have completed an ACB recognised training scheme or possess a relevant postgraduate qualification. The post is offered on a fixed term contract for 5 years and you will be expected to study for Membership of the Royal College of Pathologists. Opportunities also exist for registration for a part time PhD.

Further details from Dennis J Wright Tel 020 8869 2121.

**For an application form and job description, please contact Human Resources Department, Northwick Park and St. Mark's NHS Trust, Watford Road, Harrow, Middlesex HA1 3UJ. Tel: 0181 869 2184 (24 hour answerphone), quoting the reference number.**

E-mail: [admin@personnelnet.co.uk](mailto:admin@personnelnet.co.uk)

Internet: [www.personnelnet.com](http://www.personnelnet.com)

Closing date: 5th November 1999.

*Working Towards Investors in People  
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**PILGRIM AND ASSOCIATED HOSPITALS NHS TRUST**  
**PRINCIPAL CLINICAL BIOCHEMIST**

**Grade B, full time**  
**Spine points 17-24 (depending on qualifications and experience)**

Applications are invited for the post of Principal Clinical Biochemist in this well-equipped District General Hospital department which serves a population of 210,000 in a geographically large rural area. The department is fully CPA accredited and a participant in the Lincolnshire pathology consortium. You will be qualified to at least DipRCPath level and have considerable previous experience in all areas of Clinical Biochemistry. He/she will be responsible for supporting the Head of Department in day-to-day running of the department; clinical liaison; development of both scientific and clinical aspects of the service in accordance with best practice; some teaching duties; registered for and participate in CPD. There is some scope for development of special interests commensurate with the needs of the department.

**For further information or to arrange an informal visit please contact Mr P Hyde (Consultant Clinical Biochemist) on 01205 364801 ext. 3339. An information pack can be obtained from the Personnel Directorate on 01205 364801 ext. 2283.**

**CAREERS  
IN GOOD  
HEALTH**

**Closing date for completed applications:  
November 15th 1999.**



We operate  
a no smoking policy.

**To advertise your vacancy contact:**

**Dr Simon Olpin, Neonatal Screening Laboratory, Pathology Block,  
Sheffield Children's Hospital, Western Bank, Sheffield S10 2TH  
Tel: 0114-271-7267**

**Deadline: 26th of the month prior to the month of publication**

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