

# ACB News

The Association of Clinical Biochemists • Issue 462 • 20th October 2001



**Focus  
Breakfast  
Workshops**

**Thyroglobulin  
Abberations**

**Letter from  
Philadelphia**

**Not Just  
Anoraks in  
Bradford**

**Loads More**





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for Clinical Science

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# ACB News

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Front cover:

*A friendly Highland cow poses for the ACB News photographer on the Isle of Skye!*

**fOCUS2002**  
GLASGOW • SCOTLAND • 21-24 MAY  
**The Association of Clinical  
Biochemists National Meeting**

**SECC, Glasgow**

**Tel: 01223 404830 Fax: 01223 404841**

**Email: [info@focus-acb.org](mailto:info@focus-acb.org) Web: [www.focus-acb.org](http://www.focus-acb.org)**

## Glasgow Beckons Once Again

Next May the annual meeting of the Association returns to the Scottish Exhibition and Conference Centre in Glasgow. The invitation to participate has been distributed with this ACB News mailing. In the brochure are full details of the scientific programme.

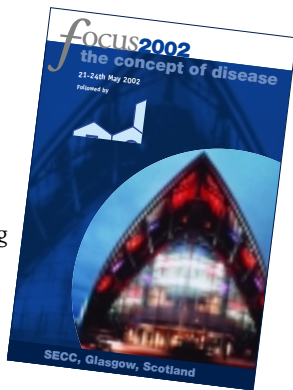
Please take note of some key deadlines:

**Last day for abstract receipt:  
18th January 2002**

**Close of discounted  
registration bookings:  
1st April 2002**

If you need more copies of the Invitation to Participate, then please contact the Focus 2002 office:  
Tel: 01223-404830  
Fax: 01223-404841  
Email: [info@focus-acb.org](mailto:info@focus-acb.org)

Full details of the meeting are also to be found on the Focus 2002 website at [www.focus-acb.org](http://www.focus-acb.org)



ACB News hopes to bring you further details of different aspects of the meeting in the coming months. Richard Spooner is the Chairman of the meeting organising committee. At a previous Glasgow Focus Richard used images of Highland cattle as his theme - this even extended to two animals being brought along to the SECC. Hence our front cover, which was an animal that the editor befriended on his rather wet



## Supra-Regional Assay Service Expansion

The Management Executive of the Supra-Regional Assay Service is looking to expand its services to the NHS. The needs of two areas of clinical investigation have been identified.

Applications are therefore invited for the provision of consultative and analytical services covering

- Cardiovascular Disease
- Tests of Neurometabolism

Applications and queries should be sent to:  
Dr M J Wheeler, Secretary - SAS Management Executive,  
Department of Chemical Pathology, St Thomas' Hospital, London, SE1 7EH. Tel: 020-7928-9292  
Ext 2387. Fax 020-7928-4226.  
E-mail: [mike.wheeler@kcl.ac.uk](mailto:mike.wheeler@kcl.ac.uk) ■

## Focus 2002 and UKNEQAS Participants' Meeting

As well as the evolving changes to Focus, there is another development in Glasgow at Focus 2002 with the linking to UKNEQAS, who will be holding their participants' meeting as a satellite to Focus 2002.

This meeting, which would normally have been in Edinburgh shortly before Focus, will now begin on Friday 24th May, the last day of Focus and continue through to Saturday 25th May.

Jeff Seneviratne, National Meetings Secretary, comments that "This welcome cooperation, rather than competition, will be of benefit to both organisations and also, most importantly, to delegates". ■

## Still Time to Book for . . .

### Pathology: A Value-Added Service

St Bartholomew's Hospital, London

Thursday 8th November 2001

A meeting organised jointly by The Association of Clinical Biochemists and The Healthcare Finance Management Association

This meeting will address the issues surrounding:

- The role of diagnostic tests in decision making
- The current problems of resource allocation
- The meaning of value and how to assess it
- The role of NICE

And will include some case studies.

Who should attend:

- Chief Executives, Purchasers and Providers
- Trust Finance Directors
- General Managers
- Laboratory Directors
- Laboratory Managers

The cost is £235 (£200 for members of the ACB or HFMA). To register for the meeting please contact: ACB Office, 130-132 Tooley Street, London SE1 2TU. Tel: 020-7403-8001. Fax: 020-7403-8006. ■

## Workers' Web Page Launched by H&S Executive

The Health & Safety Executive 'Workers' Web Page' covers the roles and responsibilities of employers and workers, problems in the workplace, making complaints including whistle blowing, reporting accidents, contact points and further information. There are links to the TUC web site and to HSE's InfoLine contact centre - both important sources of workplace safety information.

The "Workers' Web Page" puts access to relevant information at everyone's finger tips. Modelled on the Occupational Safety and Health Administration (OSHA) site in the United States, it is designed to improve the way in which HSE communicates with the workforce and their representatives. The site marks the first stage in a programme to create access points on the web site to meet the individual needs of HSE's customers. This follows research commissioned by HSE which discovered that it helps users if access to relevant information is available in a single click from HSE's home page.

See the Workers' Web Page at: [www.hse.gov.uk](http://www.hse.gov.uk) ■

## Nominations for Association Awards for 2003

Nominations are invited for the three awards to be presented at the Focus 2003 meeting in Manchester.

### The ACB Foundation Award

The ACB Foundation Award is to acknowledge an outstanding contribution to clinical biochemistry by an Association member, who is normally resident in the British Isles. The recipient will deliver the Foundation Award Lecture, which will be of a specific nature, reflecting the state of the art in one area of clinical biochemistry.

Nominations may be made by any three members of the Association (excluding elected members of the council) and **should be submitted via a Regional Secretary.**

### The Konelab Lecture

The Konelab Award is given to honour a clinical scientist whose work has been of major importance to clinical biochemistry in practice, research or education, leading to improved international co-operation between workers in speciality, particularly those within

Europe. The Konelab Award comprises finance for the Konelab Lecture to be delivered at the National Meeting, and is usually awarded to a practising clinical biochemist from outside the UK.

Nominations should be made by three members of the Association (but excluding certain ACB Officers).

### The Roche Diagnostics Award (formerly the Boehringer Mannheim Award)

The Roche Diagnostics Award is used to finance the visit of an international lecturer to give the Roche Diagnostics Award Lecture at the National Meeting.

Nominations may be made by any three members of the Association.

Full details of the nominations procedure for each of the three awards will be found in the current ACB Members Handbook. Nominations should be sent before 31st January 2002 to: Mr C J Seneviratne, National Meetings Secretary, Biochemistry Department, Manchester Royal Infirmary, Oxford Road, Manchester M13 9WL. ■

## Use of Members E-mail Addresses for ACB Communications

Like many similar organisations, the Association occasionally wishes to contact its members rapidly with items of news or requests for information.

To this end, we are compiling members' e-mail addresses into a e-mail database, so we can send important or urgent messages by e-mail. The list will not be used indiscriminately, and will not be made available to commercial companies for promotional or other purposes.

When the list is operational, a test email will be sent to all members whose e-mail addresses are on the membership database. If you do not wish the Association to use e-mail to contact you under any circumstances, then simply reply to the e-mail requesting your name be removed from the electronic

mailing list (it will still appear in the Members' Handbook).

Conversely, if your e-mail address does not appear in the Members' Handbook (or it is incorrect in the Handbook) and you would like to be able to receive urgent communications from the Association in this way, then please contact the Administrative Office (acbadmin@compuserve.com), specifying whether you just want to be added to the electronic mailing list or whether you also wish to have the address included in the next edition of the Handbook.

Thanks for your help. ■

**Mike Hallworth**  
ACB Chairman

## Humorous Lines . . . Appraisal Blues

### Quotations taken from employee annual appraisal forms in a large US Corporation

*"He doesn't have ulcers, but he's a carrier."*

*"I would like to go hunting with him sometime."*

*"He's been working with glue too much."*

*"He would argue with a signpost."*

*"When she opens her mouth, it seems that it is only to change feet."*

*"He sets low personal standards and then consistently fails to achieve them."*

*"This employee is depriving a village somewhere of an idiot."*

*"This employee should go far, . . . and the sooner he starts, the better."*

*"Got a full 6-pack, but lacks the plastic thing to hold it all together."*

*"A gross ignoramus - 144 times worse than an ordinary ignoramus."*



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# **National Guidelines for the Performance of the Sweat Test for the Investigation of Cystic Fibrosis**

**Presentation of Draft Recommendations  
10am-3.30pm on 13th November 2001  
Postgraduate Centre, University Hospital Birmingham**



A multi-disciplinary group, under the aegis of the Royal College of Paediatrics & Child Health, the Association of Clinical Biochemists, the Royal College of Pathologists, the Cystic Fibrosis Trust, the British Thoracic Society and the British Paediatric Respiratory Society, has been working on producing draft guidelines on how to perform the sweat test for the purposes of investigation of cystic fibrosis in the UK.

This initiative arose from the Specialist Advisory Group for Paediatrics of the National External Quality Assessment Scheme (NEQAS). The group is keen to ensure there is full and open discussion about the recommendations being proposed and, in order to aid this process, NEQAS is organising a meeting on November 13th 2001 in Birmingham. The aim of the meeting is to consult widely about the guideline draft recommendations and to get feedback from a wide range of healthcare professionals and patients. The meeting is open to all professionals and patient group representatives. The cost is just £15.00 including lunch.

To attend please contact:

Mrs Mary Dowling, Department of Clinical Chemistry, Birmingham Children's Hospital  
Steelhouse Lane, Birmingham B4 6NH

Tel: (0121) 333 9916 Fax: (0121) 333 9911

Email: [secretary.anneg@bhamchildrens.wmids.nhs.uk](mailto:secretary.anneg@bhamchildrens.wmids.nhs.uk)



# A Scottish Spoonerism!

# Website of the Month: National Electronic Library for Health

By Ian Godber, Nottingham City Hospital

<http://www.nelh.nhs.uk>

The National Electronic Library for Health (NELH) is a national web-based information library for the NHS and the UK public. Log on to this site and you'll find everything from links to databases on clinical guidelines to specific zones dedicated to various clinical conditions. Links to other favourites such as Medline and the Cochrane Library aren't hard to find either.

A particular favourite of mine is the 'Hitting the Headlines' feature, which scours the popular press for health-related issues, then provides a summary of the topic and links to other sites. Other recent highlights include access to free software for NHS users such as Anatomy.tv, the world's first resource of 3D images of human anatomy. Overall, an easy to use site which appears to be expanding with information by the day.

If you wish to suggest a site for the 'Website of the Month', please submit a short review (~150 words) to Ian Godber at Nottingham City Hospital ([igodber@ncht.trent.nhs.uk](mailto:igodber@ncht.trent.nhs.uk)) ■



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# Deacon's Challenge

## No. 8 Answer

While trying to follow the National Service Framework guidelines for coronary heart disease, a doctor prescribed a statin to lower the cholesterol of a patient with coronary heart disease. The patient's original cholesterol level was 5.8 mmol/L and at the next visit the doctor was delighted to find that it was just below the target level of 5.0 mmol/L at 4.9 mmol/L and discharged the patient. The patient, a statistician, was less sure the treatment had been responsible. Given that the physiological coefficient of variation for cholesterol is 6% and the analytical coefficient of variation is 3%, calculate the least significant change (at  $p < 0.05$ ) in cholesterol as a percentage at his original level, and determine whether the second measurement was significantly different from the first.

(MRCPath Nov 2000)

The total CV is the square root of the sum of the squares of the physiological and analytical CVs:

$$\begin{aligned}\text{Total CV(\%)} &= \sqrt{((\text{Analytical \%CV})^2 + (\text{Physiological \%CV})^2)} \\ &= \sqrt{(3^2 + 6^2)} = \sqrt{(9 + 36)} = \sqrt{45} = 6.7\%\end{aligned}$$

Next calculate the SD:

$$\text{CV(\%)} = \frac{\text{SD} \times 100}{\text{Mean}} \quad \text{therefore} \quad \text{SD} = \frac{\text{CV(\%)} \times \text{mean}}{100}$$

Substitute CV = 6.7% and the original level (5.8 mmol/L) as the mean:

$$\text{SD} = \frac{6.7 \times 5.8}{100} = 0.389 \text{ mmol/L}$$

For two results to be significantly different (at  $p < 0.05$ ) they have to be at least 2.8 SDs apart.

(The derivation of this can be found on p 105 of *Clinical Investigation and Statistics in Laboratory Medicine* by Richard Jones and Brian Payne, Venture Publications 1997).

Therefore the least significant change is  $2.8 \times 0.389 = 1.09$  mmol/L

Which expressed as a percentage of the original measurement is  $\frac{1.09 \times 100}{5.8} = 18.8\%$

Next calculate the difference between the first and second measurement as a percentage of the first measurement:

$$\frac{(5.8 - 4.9) \times 100}{5.8} = 15.5\%$$

which is less than 18.8% so that the change in cholesterol is not statistically significant. ■

## Question No. 9

The absorbance of a solution containing NAD and NADH in a 1 cm light path cuvette were 0.337 at 340 nm and 1.23 at 260 nm. The molar extinction coefficients are:

|       |                              |                                |
|-------|------------------------------|--------------------------------|
| NAD:  | $1.8 \times 10^4$ at 260 nm, | $1.0 \times 10^{-3}$ at 340 nm |
| NADH: | $1.5 \times 10^4$ at 260 nm, | $6.3 \times 10^3$ at 340 nm    |

Calculate the concentrations of NAD and NADH in the solution.

(MRCPath Nov 1995)

# Clinical Biochemistry Audit in Wales

**By Dr David Oleesky, Secretary, All Wales Clinical Biochemistry Audit Group  
University Hospital of Wales, Cardiff**

**T**he All Wales Clinical Biochemistry Audit Group continues to go from strength to strength under the direction of its chairman, Dr K Griffiths (Ysbyty Gwynedd). Several excellent meetings have been held in the last 18 months in conjunction with the ACB Wales Region:

## Spring 2000 at Ysbyty Glan Clwyd, Bodelwyddan, near Rhyl

- Audit of CSF xanthochromia testing  
presented by Mr P Thomas, Royal Gwent Hospital, Newport
- Presentation of draft standards for biochemical markers of myocardial damage and the use of automated immunoassay analysers

## Autumn 2000 at the new Royal Glamorgan Hospital, Llantrisant

- Audit of Investigations for Renal Stone Disease  
presented by Dr C Williams and Mr G Davies, Ysbyty Maelor, Wrexham
- Presentation of draft standards for the investigation of paraproteins (based on an audit undertaken by the late Dr R Fifield) and CSF xanthochromia testing.

## Spring 2001 at the Vale of Glamorgan Hotel, Hensol

- Audits of the investigation of short stature and of macroprolactinaemia  
(presented respectively by Dr C Evans and Dr R John, University Hospital, Cardiff)
- Re-audit of screening for Cushing's syndrome  
presented by Dr G Read, University Hospital, Cardiff and Ms A Owen, Ysbyty Gwynedd, Bangor
- Presentation of draft standards for porphyrin investigations.

## Forthcoming meeting at Ysbyty Bronglais, Aberystwyth on Thursday 18th October 2001

This will follow on from an ACB Wales meeting, for which the theme will be the NSF for Coronary Heart Disease. The programme for the audit meeting will be as follows:

|             |  |                                    |
|-------------|--|------------------------------------|
| 14.40-15.00 | Audit of Lipid Reporting                               | Dr D Oleesky, Cardiff & Caerphilly |
| 15.00-15.20 | Standards for Investigating Renal Stone Disease        | Dr C Williams, Wrexham             |
| 15.20-15.40 | Audit of Ammonia Analyses                              | Miss H Losty, Cardiff              |
| 15.40-15.55 | Standards for the Investigation of Macroprolactinaemia | Dr R John, Cardiff                 |
| 15.55-16.10 | Standards for Thyroid Function Testing Strategies      | Mr I Hanning, Hull                 |

Please contact Mr Gethin Roberts, Department of Biochemistry, Ysbyty Bronglais, Aberystwyth, SY23 1ER (email: [gethin.roberts@ceredigion-tr.wales.nhs.uk](mailto:gethin.roberts@ceredigion-tr.wales.nhs.uk)) for details of the ACB Wales meeting.

## Web site

The audit group now has its own web page (<http://www.acb.org.uk/welshaudit>), created by Dr J Wassell (email: [wasselljj@cardiff.ac.uk](mailto:wasselljj@cardiff.ac.uk)). Finalised standards are displayed in full and the site also includes other information about the group and details of future meetings. ■

# Thyroglobulin Abberations . . .

By **Geoff Beckett**, Clinical Biochemistry, The Royal Infirmary, Edinburgh, **Penny Clark**, University Hospital, Birmingham and **Finlay MacKenzie**, UK NEQAS, Birmingham

**M**ay we continue the debate started by Rhys John and Carol Evans (July ACB News) concerning thyroglobulin (Tg) measurements and the methods used to identify assay interference? Interference is clearly an important problem for Tg assays. A recent clinical audit reported that negative interference in the Tg assay by thyroglobulin autoantibodies (TgAb) was probably the reason why 12 of 13 patients with recurrent thyroid cancer failed to show an apparent increase in Tg concentrations<sup>1</sup>.

It is widely held that endogenous thyroglobulin autoantibodies (TgAb) are a major contributor to such interference and up to 30% of thyroid cancer patients have such antibodies. A number of approaches have been taken to recognise interference in a sample. Recovery experiments are advocated by a number of manufacturers of assay kits though the source of Tg provided for this is often not stated (it is usually a kit standard) and full experimental details may not be given. Spencer and colleagues have shown that in a number of immunoassays, the recovery of exogenous Tg is dependent on the amount added, along with the tissue source and iodine content, of the exogenous Tg. The incubation time allowed after addition of exogenous Tg was also important, with higher recoveries being obtained if the spiked samples were analysed immediately<sup>2</sup>. Thus users should be aware that recovery methods might not be as robust as would appear on first inspection. Indeed, the poor between laboratory agreement for the recovery data found in the recent UK NEQAS Tg scheme has highlighted a potential major problem with recovery<sup>3</sup>.

## TgAB Levels Not the Answer

The measurement of TgAb concentration by a sensitive and robust assay to detect possible interference is widely recommended. However, Spencer and colleagues have clearly shown that the absence of detectable TgAb does not exclude the possibility of assay interference and conversely, that it may be possible to produce accurate Tg results in samples with very high TgAb concentration<sup>2,4</sup>. Again the UK NEQAS data has highlighted problems with TgAb assays and illustrated the need for an EQA scheme to monitor performance<sup>3</sup>.

Interference by TgAb will tend to give a falsely low result by immunometric assay (IMA) and falsely elevated results by RIA. This has led to the suggestion that discordance between IMA and RIA results provides good evidence for the presence of assay interference from TgAb<sup>2,4</sup>. Thus if results obtained by IMA and RIA show good agreement, then there is a high probability that the result is accurate and the clinician can be reasonably confident with the result. On the other hand if marked discordance is seen between the two methods, then the clinician can be alerted to the fact that neither result may be reliable and a more detailed clinical work-up may be initiated. Although this approach is expensive it has formed the basis of the routine service to the Endocrine Unit in Edinburgh Royal Infirmary since August 1999. For this service a Tg result by both RIA and IMA is obtained from external laboratories. A recent internal audit of our patients comprising 245 specimens showed IMA/RIA discordance in 23% of samples but poor recovery in the IMA assay was not strongly associated with the discordant results.

## Relevant to Everyone . . .

The problems of Tg measurement highlighted by the recent UK NEQAS survey are relevant to all UK laboratories that report and interpret thyroglobulin result regardless of whether the analysis is performed on site or in other laboratories. The first distribution in the UK NEQAS scheme comprised 5 specimens taken from single donations of patients with papillary carcinoma. Clinical details were available for each of the specimens. Sixteen laboratories took part (fourteen using IMA and two using RIA) using 8 methods. Five laboratories measured TgAb status and recovery experiments were performed by only two laboratories each of which used the Sanoffi Pasteur assay. The results from the scheme highlighted the following problems.

- Considerable disagreement between Tg values reported by different methods even in samples considered to be at low risk of assay interference.
- The minimum detection limit (MDL) reported by laboratories varies considerable ranging from 0.2-5 µg/L but it is not clear if such MDLs have been derived from functional sensitivity which would be desirable.
- Poor agreement between laboratories as regards TgAb status of the distributed samples. There was also poor agreement between the two laboratories that performed recovery experiments even though the same Tg method was used.

Finally, the current National Academy of Clinical Biochemistry draft guidelines for Tg measurement appear to be against the use of recovery tests and in favour of TgAb measurement<sup>5</sup>. They state that serum Tg recovery tests do not reliably detect TgAb and are unnecessary. The guidelines also suggest that manufacturers should not recommend exogenous Tg recovery studies in preference to quantitative TgAb measurements by immunoassay but should check their method for IMA:RIA discordances.

We hope that the development of this new UK NEQAS initiative into a “full blown” scheme for Tg will answer some of these analytical problems.

### References

1. Hjiyiannakis P, Mundy J, Harmer C. Thyroglobulin antibodies in differentiated thyroid cancer. *Clin Oncol* 1999; **11**: 240-4
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# Islets Don't Answer Back!

By Dr Ewan Bell

Here I am sitting in our 'house-with-a-basement' in the suburbs of the City of Philadelphia, typing this article on my laptop. I am dripping sweat in temperatures of 90 degrees Fahrenheit and the air-conditioning is turned on full blast. It is difficult to believe that it was during a cold Scottish winter 2 years ago that I had initially considered working in the States.

I had written speculatively to Professor Donald Young of the University of Pennsylvania (UPenn), who had written an article for the *Annals of Clinical Biochemistry*, asking if I could come to the US and work in his lab. To my surprise he passed my request and CV to his colleague, Professor Bryan Wolf, who replied and said 'yes'.

It is now 10 months since my wife Gillian, 2-year-old son Keir and I arrived at Philadelphia International Airport to start a great new adventure living and working in America. It has been a long 10 months in many ways, but very exciting. I must have filled in more forms than the average UK GP does in a lifetime, but that is just the way things are done over here.

## Diabetes Research

For the first 2 weeks, we stayed with my boss and his family and during this time I had to organise accommodation, a social security number, health insurance, bank accounts and numerous other logistical nightmares. Thereafter, I was gently eased into my new job, as a post-doc fellow in Bryan Wolf's Diabetes research lab in the Department of Pathology and Laboratory Medicine in the School of Medicine at the University of Pennsylvania, where he has tenure. Working in a research lab, practising real science with no clinical interruptions was a challenge I was looking forward to and, so far, I have been on a very steep learning curve and have enjoyed the experience tremendously.

UPenn is one of six Ivy League Universities in the US and the first US University to establish a School of Medicine in the mid-1700s. Indeed Philadelphia boasts many medical US firsts including the first Hospital, first Women's Medical School and first Children's Hospital. Many of the first University of Pennsylvania Professors of Medicine trained at Edinburgh University. Born and bred a Glaswegian I couldn't fail to be unimpressed by this.

The Hospital of the University of Pennsylvania (HUP), a large teaching hospital solely owned and managed by UPenn (imagine that) received funding from the Juvenile Diabetes Foundation International (JDFI) to set up a human islet transplantation program, based on the successes of the Edmonton group. My role as a JDFI fellow is to develop tests to assess the quality of donated human islets and thence to develop



*Dr Ewan Bell starts a series of reports on his experiences in Philadelphia*

a quality index to correlate with the clinical success or otherwise of the transplanted human islets, initially into mice and thereafter into humans. As you can imagine the prospect of being involved in this kind of groundbreaking work engendered considerable excitement. Furthermore, I don't have to see any patients – islets don't answer back – they just secrete insulin.



## Computer-Literate Research

In view of my limited experience working in UK research labs it would be unfair to compare US with UK research labs. However, during my first working day I quickly realised that I was a computer illiterate compared to my fellow co-workers. Having grown up with primitive computers such as the VIC20 and computer games such as Space Invaders I accepted that those younger than me would know more than me about computers. I didn't appreciate quite how much. Every worker in the research labs has their own computer, internet access, their own email address and access to a well organised and detailed University and Hospital intranet service (which rarely crashes and almost always works).

In order to gain an insight into the workings of the Hospital's Clinical Laboratories for the purpose of writing this article, I have organised visits to different sections of the laboratory over the next few weeks. Larry Kricka and Pete Wilding have kindly offered to show me round. I have also organised to shadow a Pathology and Laboratory Medicine Resident and the Chief of Pathology and Laboratory Medicine (who also happens to be my boss) at the Children's Hospital of Philadelphia. Over the next few months I will try to describe the differences and similarities between clinical labs in the US and UK and point out the different difficulties faced by medics and scientists in the US.

Enjoy – as they say in Philadelphia. ■

# Not Just Anoraks in Bradford . . .

Reported by Miranda Jones and Rachel Carling

*The second  
report on  
the Point of  
Care Testing  
Meeting held on  
Monday 21st  
May in Bradford*

The afternoon session on the Clinical Aspects of Data Management looked at practical aspects of point of care testing (POCT) including how we ensure good practice and address clinical governance issues. Jonathan Berg got the afternoon off to an interesting start with the results of the 2001 West Midlands audit on POCT. His presentation was made all the more interesting by his PowerPoint presentation being somewhat wider than the screen! In February 2001 Jonathan, from Sandwell NHS Trust in West Bromwich, carried out an audit on the management of extra-laboratory blood gas analysers. A questionnaire based upon the guidelines laid out by the current Joint Working Group on point of care testing (POCT), was sent to all laboratories in the region. Satisfaction with issues such as strategic planning, training, maintenance, QC and QA were all addressed and an impressive response rate was achieved. Unfortunately, the audit results themselves were not so encouraging: 95% of laboratories did not have a committee for NPT and only 25% actually had a written strategy for POCT. Furthermore, only three of the laboratories had an inter-departmental approach to POCT and 20% were not even part of an external quality assessment scheme for blood gas analysis. As a result of this audit, laboratories in the West Midlands now have three clear objectives for POCT that they should implement by January 2002:

- To produce a written strategy agreed by their trust for POCT
- Participation in an EQA blood gas scheme
- To have some discussion with the Haematology Departments about a uniform approach to POCT.



Miranda Jones and Rachel Carling

## Clinical Governance and POCT

David Rowe, Departmental Director of Chemical Pathology at Southampton General Hospital, then discussed the implications that the seven key points of Clinical Governance will have on POCT data integration: clinical audit, evidence-based medicine, user involvement, clinical risk management, research and development, lifelong learning and using information. He focussed specifically on the benefits that can be achieved with POCT, in particular faster turn around times due to the introduction of side room analysers and in vivo monitoring giving real-time blood gas results. David had similar problems to the previous speaker with his PowerPoint presentation but in the best tradition carried on regardless.

## All OK With a Mac

“If this meeting had been held a year ago only anoraks would have turned up!” This was the opening comment from Dr Jonathan Kay, Chairman of the Informatics Committee of the RCP and consultant chemical pathologist at Oxford John Radcliffe Hospitals. He was clearly impressed by the number of delegates who attended the meeting (anoraks and otherwise) and he talked about how improved information management systems were vital if the obvious benefits of POCT are to be realised. Jonathan’s PowerPoint presentation worked fine and he put this down to the superiority of his MAC laptop over the previous speakers’ PC versions. Jonathan also spoke about his experiences of data integration and knowledge management in POCT, with specific reference to the evaluation of the iStat system in his A&E department. The evaluation was one of human factors not biochemical ones and highlighted the following areas as barriers to progress: training, team building, information flow and data capture, financial analysis, organisational change, laboratory management and knowledge management. As Jonathan said, “where there is ignorance there is hope, where there is stupidity there is none...”.



## View from General Practice

Aram Rudenski provided some light relief from all the information technology when he injected a little bit of biochemistry into his talk. A case report of a patient with acute chest pain was used to illustrate a discussion of Data Integration with respect to cardiac markers. POCT can provide clinicians with such results almost immediately and the diagnostic and prognostic information obtained from cardiac markers can be central in determining patient management. Whilst the advantages of such a service are self-evident the potential for errors needs to be minimised and Aram explored the areas in which IT could be used to do so.

The meeting was concluded by Mark Atkinson, a GP from Leicester City West Primary Care Trust, who spoke to delegates about the community-based anticoagulation monitoring service that has recently been established in Leicester. The project enables deep vein thrombosis (DVT) to be managed in the community using POCT D-dimer and INR in conjunction with computer-assisted decision support for the introduction of anticoagulants. A dosing database has been successfully established which can be remotely accessed from the community and also via the laboratory mainframe. The audience was then shown the wonders of modern technology first hand, as Mark bravely decided to demonstrate how the database could be remotely accessed. Fortunately, a connection was made within minutes and accessible information included patient demographics, current dosage records and details of future clinic appointments. All in all this was a fitting end to the meeting as it successfully demonstrated what can be achieved when POCT is effectively integrated with clinical information and data management systems. ■

# Workshops Irresistible Once Again . . .

**Brought to you by Dr Richard Spooner, Associate Editor**

Once again the workshops proved irresistible to Focus delegates, covering a wide range of topics pertinent to those with both a service and a research interest in the subject. All Focus committees innovate and the Focus 2001 Committee was certainly no exception. However, the construction of what became known as the “rabbit hutches” built in the exhibition hall proved to be too noisy and required a timely transfer to more conventional space from Focus Wednesday.

Charging for workshops and reviews had no discernible effect on numbers booked. Nor did it affect the conscience of the no-shows! Shame on the five absentees who left Jennifer Brady with a one to one with Joe Lunec!

Workshop reports are always eye openers. For example I deliberately chose the gut hormone session to broaden my own knowledge of Chromogranin A+ B. In return, I find there are even more hormones to add to the repertoire.

Thanks again to all those who sent in reports. ■

## Gut Hormones

**Reported by Hannah Delaney, Sheffield**

This workshop was held by Dr.L.R.Ranganath from Clinical Chemistry at the Royal Liverpool University Hospital. He concentrated on two gut hormones, glucagon-like peptide-1 (7-36) amide (GLP-1) and glucose-dependent insulinotropic polypeptide (GIP).

GIP and GLP-1 are both potent insulinotropic peptide hormones. Of late, there has been a considerable amount of interest in their role in commonly occurring diseases such as diabetes mellitus and obesity. Their possible therapeutic potential in the treatment of these disorders is an exciting area of ongoing research.

In normal subjects, IV glucose administration will lead to an increase in insulin secretion from the pancreatic beta-cells. This is known as the incretin concept and is mediated by ATP-sensitive potassium channels and  $Ca^{2+}$  influx into the beta-cell.

McIntyre et al<sup>1</sup> found that, when glucose is administered by intra-jejunal infusion, the insulin response is much greater compared with IV. This is explained by the fact that gut glucose stimulates both neural signals and GIP/GLP-1 endocrine signals. The binding of GIP and GLP-1 to receptors expressed on the pancreatic beta-cell leads to activation of cAMP-signalling pathways. Subsequent phosphorylation of potassium channels leads to an increased influx of potassium into the cell and a resulting increase in insulin release.

GIP (also known as gastric inhibitory polypeptide) is a 42 amino acid peptide hormone synthesised in and secreted from K cells in the intestinal epithelium. These K cells are found mainly in the proximal small bowel.

Besides the pancreas, other target sites are the stomach and adipose tissue.

In the stomach, GIP exerts an inhibitory effect on gastric acid secretion and motility. Wolfe *et al*<sup>2</sup> described the enhancement of gastric acid secretion in rabbits following the neutralisation of GIP by antibodies. In the adipose tissue, GIP stimulates lipogenesis.

In the fasting state there are very low circulating levels of GIP (<25 pM). Postprandial levels rise to 200pM, which can be sustained for 6 hours.

GIP is secreted in response to the ingestion of nutrients, particularly fats.

N-terminal cleavage produces inactive GIP (3-42). This is under the rapid control of the enzyme DPIV (dipeptidyl peptidase). Various studies have shown that, in GIP receptor knockout mice, diabetes is induced and in DPIV enzyme knockout mice, glucose tolerance is improved.

In type 2 diabetics there is impaired plasma GIP response to oral glucose with a defective incretin effect<sup>3,4</sup>.

The plasma insulin response to GIP intravenous infusion in type 2 diabetics is actually reduced<sup>4</sup> and therefore GIP has no therapeutic role in the treatment of diabetes.

Biologically active GLP-1 is synthesised in the intestinal endocrine cells (L cells) in two principal molecular forms: GLP-1(7-36) and GLP-1(7-37). The large N-terminal extended forms of GLP-1 i.e. (1-37) and (1-36), are generally devoid of biological activity. An increased specificity of antibody is therefore needed to measure the active peptide.

GLP-1 is secreted in response to nutrient ingestion. Unlike GIP, fat is a poor stimulant of its release.

## GLP-1 Infusions

As well as inducing an incretin response in normal subjects, it uniquely inhibits glucagon secretion. As with GIP, GLP-1 receptor knockout mice develop diabetes. In type 2 diabetics, GLP-1 infusions have been shown to normalise blood glucose levels. It has also been suggested that GLP-1 may restore beta-cell sensitivity. In experiments on rats, GLP-1 was shown to increase beta-cell mass<sup>5</sup>. It therefore has the exciting potential for a therapeutic role in the treatment of diabetes.

It also exhibits a possible role in the treatment of obesity. GLP-1 is involved in the control of food intake, both peripherally and centrally. It inhibits gastric emptying thereby causing abdominal distension and thus decreasing food intake. Glucose-lowering effects of GLP-1 have been shown to be comparable in both lean and obese patients with type 2 diabetes. This suggests that GLP-1 receptors function normally in the obese. Administration of GLP-1 could therefore act to normalise the accelerated gastric emptying in the obese.

Furthermore, Exendin-4, a naturally occurring DPIV-resistant GLP-1 analogue found in lizards, has been shown to induce weight loss in rats<sup>6</sup>.

The major drawback in the use of GLP-1 in the treatment of type 2 diabetes and obesity, is its short circulating half-life (approx. 1.5 minutes). Oral formulations are therefore ineffective. Current research is based on drugs that will augment endogenous GLP-1 excretion.

## References

1. McIntyre *et al*, *Lancet*, 1964; **11**: 20-2.
2. Wolfe *et al*, *Gastroenterology*, 1983; **84**: 941-948.
3. Nauck *et al*, *Diabetologica*, 1986; **29**: 46-52.
4. Nauck *et al*, *J Clin Invest*, 1993; **91**: 301-307.
5. Perfetti *et al*, *Endocrinol*, 2000; **141**: 4600-5.
6. Szayna *et al*, *Endocrinol*, 2000; **141**: 1936-41 ■

# Macroprolactin

Reported by Graham Beastall, Glasgow

**M**ike Fahie-Wilson is recognised as the UK expert on this topic. Therefore, I expected the workshop to be authoritative – and I was not disappointed!

Macroprolactin is simply normal monomeric prolactin that is bound in blood to high molecular weight proteins. The main class of binding protein is IgG but it is clear from gel chromatography that more than one protein is likely to be involved. The binding is of relatively low affinity compared to functional antibody-antigen binding.

Macroprolactinaemia occurs in about 2% of the population. The protein-bound prolactin has a long half-life compared to its monomeric form and seems to have little or no influence on the homeostatic mechanisms, which are intact and control the monomeric component in a normal manner. Consequently, the total amount of prolactin in the plasma from these patients is increased, although the macroprolactin component will be detected to differing extents with different assay systems.

Acute stimulation of prolactin secretion (metoclopramide, TRH etc) results in the predicted rise in monomeric prolactin without any effect on macroprolactin in the short term. However, with time, an increase in macroprolactin does also occur. Conversely, suppression of prolactin secretion (bromocriptine, cabergoline etc) reduces monomeric prolactin first, with a slower reduction of macroprolactin. These data are consistent with any 'free' and 'bound' hormone system.

## 20% of hyperprolactinaemia

Macroprolactin becomes a problem in patients (mainly women) with symptoms that could be explained by true hyperprolactinaemia. A serum prolactin result of >700 mU/L suggests hyperprolactinaemia but in up to 20% of such cases (depending on the assay used) macroprolactin is the main reason for the result. There is little or no evidence that the macroprolactin has any clinical effects in these patients and so it is important to be able to distinguish between macroprolactinaemia and true hyperprolactinaemia, which requires treatment.

There are several ways to identify and/or remove macroprolactin. Gel filtration remains the gold standard but the use of 25% PEG to precipitate the macroprolactin is simple and effective. Mike recommends that PEG precipitation be performed on all serum samples that yield a prolactin result of >600 mU/L. A low recovery of prolactin (<40%) in the supernatant following PEG precipitation is evidence of macroprolactin. Mike also recommends that we should adopt a practice of reporting the monomeric prolactin result in such samples, whilst acknowledging the presence of macroprolactin.

The greatest confusion with macroprolactin lies in its variable cross-reaction with prolactin immunometric assays. No assay is currently able to measure only monomeric prolactin in the presence of macroprolactin. Cross-reactivity is clearly influenced by the epitope specificity of the antibodies used in the assay but the precise form of macroprolactin present and the dilution in which the assay is performed also influence it. We must work with the manufacturers to understand how macroprolactin influences the assay that we use and agree protocols to investigate possible macroprolactinaemia.

This was an excellent workshop – in the very best traditions of Focus. Thanks Mike. ■

# Letters

## Readers speak out

### Succinct Middle Ground Supported

We would like to support the cogently reasoned and succinct letter of Dr Jonathon Middle regarding the standardisation of HbA1c. We hope that those laboratories in the UKNEQAS which are not 'DCCT aligned by choice', will continue to adopt the sound analytical and scientific principles so eloquently debated in the pages of the *News Sheet*.

**Edward Legg and Bill Bartlett**

**Consultant Clinical Scientists**

Department of Clinical Biochemistry and Immunology  
Heartlands Hospital  
Birmingham B9 5SS

### Tietz Pioneer from Shrewsbury

It was good to see an acknowledgement of the death of my former boss at Shrewsbury, John Becker. Perhaps you could also mention the death of his predecessor Dr Gregor H. Grant who died a year or two before him. Educated at Eton and Balliol he was an early pioneer of immunoassays in clinical chemistry and contributed a chapter in the first edition of Tietz.

**Bill Hood**

Tameside General Hospital  
Fountain Street  
Ashton-Under-Lyne

## Biochemical Investigations in Laboratory Medicine

With the November *ACB News*, members of the association will receive a copy of *Biochemical Investigations in Laboratory Medicine*. This is the latest book in the *Laboratory Medicine Series* from *ACB Venture Publications*. This book has been written by Julian Barth, Gary Butler and Peter Hammond from Leeds Teaching Hospitals and Harrogate Healthcare Trust. Publication has been aided by educational grants from Bayer Diagnostics, DPC and Nichols Institute.

This is a practical guide to the investigation of biochemical disorders focusing on major metabolic disorders. For each disorder, there is an algorithm guiding the reader through logical diagnostic pathways with up-to-date key references and web addresses. This book will be an invaluable companion to clinical biochemists and medical staff alike. Additional copies can be ordered from the *ACB* office - see contact details on page 3 of *ACB News*, or from any bookshop.

### **Biochemical Investigations in Laboratory Medicine**

**Authors: Barth, Butler & Hammond**

**ISBN 0 902429 34 5 £24.00**

**Published by the Association of Clinical Biochemists**

### **New CD-ROM to come on Diabetes**

Interactive computer-aided learning tool with cumulative assessment scoring system - ideal for undergraduates and postgraduates. This CD-ROM is also qualified for CPD and CME points.

## New Developments in Clinical Biochemistry and Pathology & Geoffrey Walker Award

Postgraduate Medical Education Centre

York District Hospital

Thursday 25th October 2001

ACB Trent, Northern & Yorkshire Regional Meeting

10:00-10:30 Registration and Coffee

Morning Chair: Dr H Wilkinson, York

10:30-11:10 Securing Pathology EDI

Dr J O'Connor, Eastbourne

11:10-11:50 Capillary Zone Electrophoresis

Mr C Webster, Nottingham

11:50-12:30 Commercialisation of a New Technology

Speaker tbc, Randox

12:30-13:30 Lunch

Afternoon Chair: Dr W Brown, Harrogate

13:30-14:10 "Accepted Wisdom" or

"Evidence-Based" Requesting

Dr J McIlroy, Leeds

### Geoffrey Walker Award

Chair: Dr W Brown, Harrogate

14:15-14:30 Telomeres and Why We Age

Dr R Raynor, Sheffield

14:30-14:45 Study of Porphyrin Metabolism in

Cultured Lymphocytes

Miss M Jones, Leeds

14:45-15:00 An Approach to Reduce Interference

In Immunoassay

Mrs N Jassam, Leeds

15:00-15:15 Protein Can Finish You Off

Dr S Heap, Sheffield

15:15-15:30 Longitudinal Changes in Serum Markers

of Bone Turnover in Pregnant Women

Dr I Godber, Nottingham

15:30-15:45 Drug Interferences in

Amino Acid Measurements

Mr G Armstrong, Leeds

15:45 Tea, followed by Presentation of

Geoffrey Walker Award

This meeting is kindly supported by The NHS

Information Authority Pathology Messaging

Implementation Project.

CPD Accredited by the Royal College of Pathologists (4 points). IBMS CPD accreditation applied for.

ACB Members: Registration Fee £10.00. Non-members: Registration Fee £15.00 (includes lunch) Please make cheques payable to Yorkshire-Trent ACB.

To register 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](mailto:stevego@pathology.leeds.ac.uk)

## South Thames QA Group Annual Meeting

Postgraduate Centre

Kent & Sussex Hospital

Tunbridge Wells

Friday 23rd November 2001

10.00 Coffee and registration

10.30-13.00 Local presentations from members of QA groups in Thames regions

10.30 How laboratories record errors and recommendations

Teresa Teal

11.00 Creatinine clearances

John Morton

11.20 Returning EQA electronically

John Morton

11.40 Use of fluoride oxalate tubes for glucose analysis

Fiona Egan

12.00 Macroamylasaemia?

Graham Lawson

12.20 Rhabdomyolysis

Mike Fahie-Wilson and Robert Beetham

12.40 Discussion

13.00 Lunch

14.00 QA scheme for urine porphyrins

Annette Thomas (WEQAS)

14.45 Survey of urine dipstick testing in hospital and the community

Phil White

15.15 Clinical incident reporting

Martin Glasspool (MDA)

15.45 Experiences with 100 'cases for comment'

Gordon Challand

16.30 Tea and depart

Registration for this meeting is only £10, inclusive of lunch and refreshments. The meeting is free for trainee clinical scientists and BMS staff.

To reserve a place, please contact: Dr Graham Lawson, Clinical Chemistry Department, Kent & Sussex Hospital, Tunbridge Wells, Kent. TN 24 8AT. Telephone: 01892-526111. X 2368.

## Foetal and Maternal Medicine & Junior Members' Papers

Postgraduate Centre  
Southmead Hospital  
Bristol

**Tuesday 6th November 2001**  
ACB South West and Wessex Region

- 10.00-10.30 Registration and Coffee  
**Junior Members' Papers (Bayer Award)**
- 10.30-10.50 An unusual case of mineralocorticoid hypertension  
Ms G Harrison, Southmead Hospital
- 10.50-11.10 Problems with visual examination and spectrophotometry for the detection of xanthochromia in cerebrospinal fluid  
Ms N Marden, Bristol Royal Infirmary
- 11.10-11.30 A successful rescue by the renal team  
Dr J Jeffery, Derriford Hospital
- 11.30-11.50 The development of multiplex PCR for the determination of zygosity  
Dr L Reeve, Southmead Hospital  
**Foetal and Maternal Medicine**
- 11.50-12.20 Seven years experience of dual testing for Down's syndrome  
Dr J Beaman, Department of Clinical Chemistry, Southmead Hospital
- 12.20-13.30 Lunch
- 13.30-14.15 New developments in screening for Down's syndrome  
Mr K Spencer, Clinical Biochemistry, Harold Wood Hospital
- 14.15-15.00 Bile acids and cholestasis of pregnancy  
Dr I Walker, Dept of Clinical Biochemistry, Wexham Park Hospital
- 15.00-15.30 Tea
- 15.30-16.15 Current practice in gestational diabetes  
Dr F Dunne, Department of Medicine, University of Birmingham

- 16.15-17.00 Pre-eclampsia  
Dr P Kyle, Foetal Medicine Unit, St Michael's Hospital

This meeting is CME & CPD accredited.  
Grateful thanks to our sponsors - Bayer Diagnostics Division & Randox Laboratories.

Registration fee £15, payable to South West and Wessex ACB by 31st October. Further details from Dr Paul Thomas, Chemical Pathology, Bristol Royal Infirmary, Bristol, BS2 8HW, Tel 0117-9282828 or paul.thomas@ubht.swest.nhs.uk

## Contemporary CSF Analysis


Institute of Neurology  
Queen Square  
London

**Tuesday 6th November 2001**

Programme:

- 9:30-10:00 Registration & coffee
- 10:00-10:45 The CSF Laboratory: A Paradigm Back to the Future  
Dr Geoff Keir, Department of Neuroimmunology and The CSF Laboratory, NHNN
- 10:45-11:30 CNS Cell Markers in CSF and Plasma: A Neurosurgeon's Perspective  
Mr Andrew Kay, Department of Neurosurgery, Southern General Hospital, Glasgow
- 11:30-12:15 The Investigation of Dementia  
Dr Nick Fox, Dementia Research Group, Institute of Neurology
- 12:30 Lunch
- 14:00-14:45 CSF Neurotransmitters  
Dr Simon Heales, Neurometabolic Unit, NHNN
- 14:45-15:30 CSF Analysis in CNS Infections  
Dr John Hartley, Department of Microbiology, Great Ormond Street Hospital
- 15:30-16:15 Specific Oligoclonal Band Responses  
Prof E J Thompson, Department of Neuroimmunology and The CSF Laboratory, NHNN

Enquiries to: Dr G Keir, Department of Neuroimmunology, Room 917, Institute of Neurology, Queen Square, London WC1N 3BG.  
Tel: 020-7837-3611 ext. 3814. Fax: 020-7837-8553.  
e-mail: gkeir@ion.ucl.ac.uk

**Mid Essex Hospital Services** 

NHS Trust

**Broomfield Hospital, Chelmsford, Essex**

*Department of Clinical Biochemistry*


▶ **CLINICAL BIOCHEMIST**

**Grade B (Spine Points 8 - 16)**  
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*(depending on experience and qualifications)*

Our Trust, a large District General Hospital with a nationally acclaimed Centre for Plastic Surgery & Burns, an income of £115m and 800 beds has recently been successful in gaining approval for the centralisation of its services on to one site through a major PFI scheme.

Applicants must have completed Grade A training and be actively working towards or hold MRCPATH. The successful candidate will be expected to play a full part in the department's service provision and service development, as well as take responsibility for near-patient testing and overseeing of the Down's Syndrome Screening Service.


Chelmsford, the county town of Essex, is in an ideal location - close to the Essex countryside, the coast, the M25, Stansted Airport and only 30 minutes by train from London. It has a developing town centre with its own university and an impressive variety of cultural, recreational and shopping facilities. There are a number of excellent state and independent schools locally.



*For further information or to arrange a visit please telephone Mr J Slater, Consultant Clinical Scientist and Head of Department on 01245 442700.*

*An application form and job profile are available by telephoning our Job Vacancy Line on 01245 514847 quoting reference number 1764R.*

*Closing date for receipt of completed applications: Friday 2 November 2001.*

**Guy's and St Thomas' Hospital** 

NHS Trust

**Department of Chemical Pathology**

**Grade B Clinical Scientist 8-20**

**Starting salary and grade will be dependent on qualifications and experience.**

**Whitely Council Conditions apply**

The department is situated on both the Guy's and St Thomas' Hospital sites and provides specialist services in bone, hormone, lipid and paediatric biochemistry as well as a comprehensive routine service. There is a vacancy for a Clinical Scientist to work in the Paediatric Section situated at Guy's Hospital. The section, which is equipped with GCMS and tandem mass spectrometers, provides a wide range of specialised tests on specialised equipment. There is close collaboration with the Departments of Paediatrics and Metabolic Medicine.

This offers an excellent opportunity for a clinical scientist who is interested in specialising in paediatric biochemistry and there are excellent opportunities for research and development. Where required there will be general training for those wishing to pursue additional professional qualifications.


For further information or to arrange an informal visit, please contact Professor R Swaminathan at St. Thomas' Hospital on 020 7928 9292 ext 3542.

**For an application pack, contact the Recruitment Centre, 1st Floor, Counting House, Guy's Hospital, London SE1 9RT. Tel: 020 7955 5000 ext.5284 (answerphone), or e-mail: Jennifer.Freeman@gstt.sthames.nhs.uk quoting reference number C246.**

**Closing date: 2nd November 2001.**

**For more information on the Trust please visit our website: [www.hospital.org.uk](http://www.hospital.org.uk)**

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## ROYAL BERKSHIRE &amp; BATTLE HOSPITALS NHS TRUST

**Consultant Clinical Biochemist  
Grade C**

Applications are invited for this new post. The appointee will be one of three Consultants in the Clinical Biochemistry Department, sharing responsibility for providing general Clinical Chemistry Services across West Berkshire. Headship of the department will rotate between the consultants.

Housed with other Pathology disciplines in the Royal Berkshire Hospital, the Department provides a wide range of investigations including country-wide services for neonatal screening and toxicology. Fully accredited, it has a good reputation for teaching and staff include both a Higher Specialist Trainee and a Grade A Trainee. Pathology is an Associate Department of the University of Reading and staff are encouraged to participate in both University teaching and joint research projects.

The Trust has a wide range of clinical specialities including oncology and nephrology; and a major building programme at the Royal Berkshire is currently underway, after which services at the Battle Hospital will relocate to the Royal Berkshire Site.

The successful appointee will be an experienced State Registered Scientist with appropriate professional qualifications: an interest/expertise in IT would be welcomed.

To arrange an informal visit, interested applicants are encouraged to contact Dr Gordon Challand (Tel: 0118-987-7700) or Dr David Williams (Tel: 0118-987-7709). For an application form and job description, please contact Jackie Sturge, Pathology Laboratory, Royal Berkshire Hospital, Reading, Berkshire, RG1 5AN (Tel: 0118-987-8852). The closing date for completed applications is 30th November 2001.

## The Royal Oldham Hospital Grade B Clinical Scientist

*Spine points within the range 17-24 (Depending on experience)*

Applications are invited for the post of Principal Biochemist to work alongside Dr D Bhatnagar, Consultant/Senior Lecturer in Metabolic Medicine and Clinical Biochemistry in the Department of Clinical Biochemistry & Metabolic Medicine at The Royal Oldham Hospital. The department is fully accredited by CPA, and is housed in a modern, recent, purposely built laboratory that services all major specialities in a hospital with 840 beds and health services in the community. The laboratory, which deals with about a million tests a year, has made major strides in organisation and service delivery in the last 5 years, and was one of the first to adopt CPP. There are 12 well-motivated BMS staff including the laboratory manager, and 3 MLAs, but the laboratory has been without a Clinical Biochemist for a decade. The successful candidate will, therefore, have ample opportunities to establish a role within the laboratory and contribute towards enhancing particular areas of the laboratory e.g. the GCMS in the drugs of abuse service. Dr Bhatnagar has major research interests in the areas of diabetes and cardiovascular medicine with substantial external grant income. There are close research links with Clinical Research Division II at the University of Manchester, and you will be expected to participate and contribute towards developing further research projects. Those with a track record wishing to pursue their own other interests are also most welcome. The starting salary will depend on the candidate's qualifications and experience.

Please contact Dr Deepak Bhatnagar on 0161 627 8384 or by email (d.bhatnagar@man.ac.uk) for an informal visit or further information.

A job description and an application form are available from Pathology Central Services, The Royal Oldham Hospital, Rochdale Road, Oldham OL1 2JH or by telephoning 0161 627 8386 (Mrs Jean Lindley).

Closing date for applications 5 November 2001.

Oldham NHS Trust is an equal opportunity employer,  
positive about disabled people and a no smoking organisation.



Oldham **NHS**  
NHS Trust

## NOTTINGHAM CITY HOSPITAL (TEACHING) NHS TRUST CLINICAL CHEMISTRY DEPARTMENT

The Clinical Chemistry Department of Nottingham City Hospital NHS Trust is inviting applications for a vacant Trainee Grade B (3year) post. Ref F:142: Clinical Scientist Grade B Training Post (3 year fixed term).

Starting salary between Clinical Scientist B points 8 to 16, dependent upon the qualifications and experience of the successful candidate.

The successful candidate will spend 50% of their time undertaking collaborative research, and 50% training towards sitting the DipRCPath or MRCPPath. He/she will be expected to hold a higher degree (e.g. PhD) and to have already undertaken basic training in a recognised department.

This is a large, well-equipped CPA-accredited Department with an excellent reputation in training Clinical Scientists. There are strong Research and Teaching links between the Department and the University of Nottingham. The City Hospital has many specialised Clinical Units, including Oncology, Endocrinology and Mineral Metabolism and will provide successful candidates with various opportunities for collaborative research.


Nottingham City Hospital NHS Trust is an equal opportunities employer. All posts will be considered for job-share.

If you wish to discuss these posts informally, please contact Dr Christine Marenah, Consultant Chemical Pathologist and Head of Department (01159691169 Ext 45085) or Dr Nigel Lawson, Consultant Biochemist (01159691169 Ext 45079 or E-mail: - nlawson@ncht.trent.nhs.uk).

For an application form and further information about the Hospital and Department please contact: The Department of Human Resources, Nottingham City Hospital NHS Trust, Hucknall Road, Nottingham NG5 1PB. Telephone 0115 9627672 (24 hour voicemail recruitment line).

Closing Date for Applications: Friday 16th November 2001

Projected Interview Date: TBD

Royal Shrewsbury Hospital   
NHS Trust

### Department of Pathology **Principal Clinical Biochemist** Grade B17-24 (full time)

Applications are invited for this new post of Principal Biochemist in this large District General Hospital with laboratories on three sites - Royal Shrewsbury Hospital, Princess Royal Hospital, Telford and Robert Jones & Agnes Hunt Orthopaedic Hospital, Oswestry. The post is based at the Royal Shrewsbury Hospital, but will involve duties at the other hospitals as required.

The Department provides a wide range of biochemistry services to a substantial area covering Shropshire and parts of mid-Wales. You will play a key role in the service provision and development of the laboratory. Wide experience of clinical biochemistry is required, and a special interest would be useful. You should hold DipRCPath or MRCPPath for appointment to the Principal Biochemist post, although in exceptional circumstances appointment of a candidate without DipRCPath to a Senior Biochemist (Grade B14-16) post would be considered. Training progression to MRCPPath will be encouraged and supported.

**For further information or to arrange an informal visit, please contact Mr Mike Hallworth, Consultant Biochemist on (01743) 261157 or email: mhallworth@compuserve.com).**

**Application forms and job description are available from Mrs D Hill, Department of Pathology, on: (01743) 261000 ext. 3515 or fax: (01743) 261159.**

**Closing date for completed applications is 16th November 2001.**

**www.nhs-shropshire.com**

The Royal Shrewsbury Hospital is committed to Equal Opportunities and is the holder of the disability symbol. A non smoking policy is in place.



Pinderfields and Pontefract Hospitals   
NHS Trust

Department of Clinical Biochemistry

Clinical Biochemist – Grade B

Ref. PT204

Pinderfields and Pontefract Hospitals NHS Trust provides acute hospital care to a population of 317,000 with a budget of £116m. It has over 1100 beds on two main sites in Wakefield and Pontefract at present, although approval has been given for a new hospital on the Wakefield site, with Pontefract as a diagnostic and day care unit.

Applications are invited for the post of a Grade B Clinical Biochemist based initially in the Departments of Clinical Biochemistry at Pontefract General Infirmary in Pontefract and at Pinderfields General Hospital in Wakefield. Both sites are well equipped and are fully computerised with ward reporting available via the Trust Intranet.

You will participate fully in all aspects of the department's service, including interpretation and validation of reports, clinical liaison, audit, troubleshooting, teaching and service development.

Recent experience and a good general knowledge of Clinical Biochemistry are required. You should possess the DipRCPath and be on the Register of Clinical Scientists. Whilst MRCPPath would be an advantage, consideration will be given to those studying towards it and such study would be actively encouraged. An area of special interest would be welcome.

For further information or to arrange an informal visit, please contact Dr Marieke Jordaan, Consultant Chemical Pathologist on (01977) 606238 or Dr Adel Ismail, Consultant Biochemist on (01924) 814824.

Application information is available from the Human Resource Management Department, West Cottage, Pinderfields General Hospital, Aberford Road, Wakefield, West Yorkshire WF1 4TU or telephone (01924) 212718 (24 hour answerphone).

Alternatively, email: [trust.feedback@panp-tr.northy.nhs.uk](mailto:trust.feedback@panp-tr.northy.nhs.uk)

Closing date: 9 November 2001.



*Pinderfields & Pontefract Hospitals NHS Trust is an equal opportunities employer and operates a no smoking policy.*

**BIRMINGHAM WOMEN'S HEALTH CARE NHS TRUST  
DEPARTMENT OF CLINICAL CHEMISTRY**

**DIRECTOR of the WEST MIDLANDS  
ANTENATAL SERUM SCREENING SERVICE**

An exciting opportunity has arisen at Birmingham Women's Hospital for an enthusiastic Clinical Scientist/Epidemiologist or other appropriately qualified professional, wishing to play a key role in the management, organisation and development of one of the largest serum screening programmes in the UK. The appointee will be responsible for providing leadership and direction for this service.

An experienced, state registered Clinical Scientist with MRCPPath or MCB, or a suitably qualified academic in a relevant discipline is required.

Birmingham Women's Health Care NHS Trust is a major specialist hospital sited on the Queen Elizabeth Campus, adjacent to the University Hospital Birmingham NHS Trust and close to the Birmingham University Medical School. The Trust offers a complete range of Obstetric and Gynaecology services as well as housing the Regional Neonatal, Genetics and Fetal Medicine Units. We are also a tertiary referral centre for Obstetrics and Gynaecological Oncology.

Informal enquiries and visits are welcome, please call Mrs Val Davison, Director of the Regional Genetics Programme on 0121 627 2644. To obtain an application form and job description contact the Human Resource Department, Birmingham Women's Hospital, Edgbaston, Birmingham B15 2TG, telephone 0121 607 4774 (24 hours).

Closing date for completed applications 5th November 2001; please quote ref: 19.

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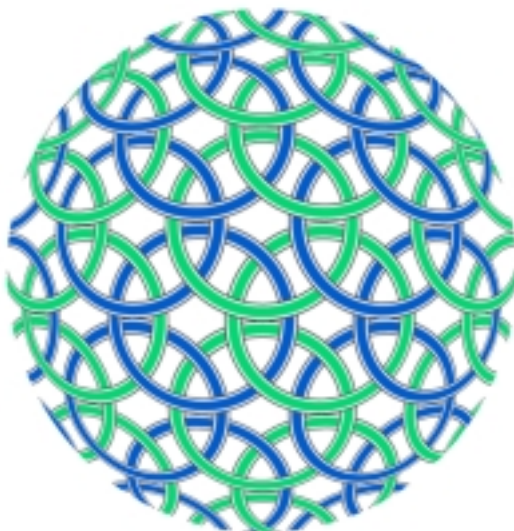


**To advertise your vacancy contact:**

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