EuroMedLab in Photos - Part I

Supersize Me and the Fats of Life

Mass Poisoning and More in Belfast

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Strong Showing for 2005

Bayer Award

No, not the Irn-Bru Challenge but the presenters of the Bayer Award. Left to right: Julie Stinson, Sadie Marsh, Swati Bhat, Susan Vickery, and Funmi Awopetu.

This year’s Bayer Award was again strongly contested. Congratulations go to Susan Vickery who was judged to have presented the best paper with her work looking at BNP and n-terminal proBNP in patients with chronic kidney disease.

Trainee Representative Required

The ACB Trainees Committee is looking for a new representative on the ACB Workforce Advisory Committee. This interesting role will involve attending meetings of both committees (around 4 meetings a year) and disseminating information between the two groups. The position is open to anyone currently in training (below scale point 16).

The ACB Trainees Committee consists of representatives of each ACB region and has representatives on ACB Council, ACB Education, Regional Tutors and Workforces Advisory Committees, in addition to the Federation of Clinical Scientists Committee. Our role is to represent the views of trainees within the ACB and to help inform trainees of ACB matters.

The Workforce Advisory Committee reviews propose strategies and monitor workforce levels and changes in employment of Clinical Biochemists. It is responsible for formulating a workforce planning strategy for the ACB Council and closely monitors trainee numbers. The Committee regularly reviews the workforce database and thus is able to update succession planning requirements.

The Committee works closely with the Royal College of Pathologists in producing a joint manpower policy and with the DOH in healthcare science development.

Contact Steph Barber (Chair, Trainees Committee) by email on chair.traineecom@ACB.org.uk or Tel: 0121-607-3261. Deadline Monday 8th August.

XXXIII Meeting of the ISOBM

Rhodes, 24th-29th September 2005

The ISOBM is the leading society for scientists, clinicians and company members developing and validating assays for tumor diagnostics and management of cancer therapy. The scientific programme will present new discoveries in the research of tumor cell biology as well as clinical applications of tumor markers for tumor diagnostics and therapy guiding for various cancers. A special session will be devoted to Proteomics and medical bioinformatics. The cancer treatments session will provide insight into new approaches including immunotherapy, gene therapy, vaccines and stem cells.

For further information please go to the website at www.isobm2005.org.
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Beastall Wins FESCC Award

Congratulations to Graham Beastall who was awarded the FESCC-Roche Award at EuroMedLab 2005. The award is presented to honour an individual who has contributed to the promotion and understanding of Laboratory Medicine throughout Europe.

Holt Receives IATDMCT Pippenger Prize

Well done to David Holt who was awarded the International Association of Therapeutic Drug Monitoring & Clinical Toxicology’s 2005 C E Pippenger Award for outstanding contribution to therapeutic drug monitoring. Longstanding ACB Member David is well known for his TDM and forensic toxicology work at St. George’s. The award was presented at the recent meeting of IATDMCT held in Louisville, Kentucky.

ACB Trainees Website Editor

The ACB Trainees Committee is looking for an enthusiastic member (below scale point 16) to edit its part of the ACB website. This position will require some experience with web editing (HTML knowledge desirable), but you will have support and training. The role will probably involve attendance at the Trainee Committee meetings (twice a year) and some free time to maintain and improve the website.

Contact Steph Barber (Chair, Trainees Committee) by email chair.traineecom@ACB.org.uk or on Tel: 0121-607-3261. Deadline Monday 8th August.

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GREAT YEARS OF PATHOLOGY LABORATORY INVENTIONS - 1901, SCOTLAND

IT'S MEANT TO BE A SCIENTIFIC REAGENT, HAMISH
— NOT A BLOODY DRINK ... AND LEARN TO SPELL!
Association of Clinical Biochemists (Wales Region)

Autumn Scientific Meeting
The Imperial Hotel, Llandudno
7th-9th November 2005

Monday 7th November
15.00 Registration at The Imperial Hotel
19.00 Evening Buffet at the Imperial Hotel

Tuesday 8th November
09.15-09.30 Introduction and Welcome
09.30-10.15 A Rheumatologist’s View of Autoimmunity
Professor Peter Maddison (Bangor)
10.15-11.00 Laboratory Investigation of Complement Disorders
Professor Paul Morgan (Cardiff)
11.00-11.30 Coffee and Exhibition
11.30-12.15 Anaphylaxis
Dr Graham Wild (Sheffield)
12.15-13.00 Possible Developments in Clinical and Laboratory Diagnostic Immunology Over the Next 10 Years
Dr Paul Williams (Cardiff)
13.00-14.15 Lunch and Exhibition
14.15-14.45 An overview of Pharmacogenomics
Mr Mike Hallworth (Shrewsbury)
14.45-15.15 Establishing and Maintaining a Service for Thiopurine Methyltransferase
Dr Jonathan Berg (Birmingham)
15.15-15.45 Prescribing Azathioprine - An Example of Applied Pharmacogenomics
Dr Andy Macfarlane (Bangor)
15.45-16.15 Tea and Exhibition
16.15-17.15 Bayer Members Award
19.30 for 20.00 Conference Dinner - followed by music and dancing

Wednesday 9th November
09.30-10.15 Renal NSF - Clinical Aspects
Dr Mahdi Jibani (Bangor)
10.15-11.00 Renal NSF - Laboratory Aspects
Dr Tony Avades (Cardiff)
11.00-11.30 Coffee and exhibition
11.30-13.00 Debate on Modernisation: This House Believes that Modernisation Through Networking is the Only Way to Provide Effective NHS Pathology Services for the 21st Century
Mr Mike Hallworth (Shrewsbury) and Dr Emyr Benbow (Manchester)
13.00-14.00 Light lunch
14.00-15.30 All Wales Clinical Biochemistry Audit Group

The approximate cost of the full meeting will be £265.00 to include accommodation. Day rates will be available. If you require any further information please contact: Eileen Smith on Tel: 01248-384 259. Email: eileen.smith@nww-tr.wales.nhs.uk
Deacon’s Challenge
No. 52 Answer

If the pH of urine is 4.5 and of blood 7.40, what is the gradient of hydrogen ion concentrations across the tubular cell walls?

\[ \text{pH} = - \log_{10} [H^+] \]

Swapping these terms to opposite sides of the equation gives:

\[ \log_{10} [H^+] = - \text{pH} \]

Taking antilogs gives an expression for determining hydrogen ion concentration (in mol/ L) from pH:

\[ [H^+] = \text{antilog}_{10} (- \text{pH}) \]

For urine substitute pH = 4.5:

\[ [H^+] = \text{antilog}_{10} (-4.5) = 3.16 \times 10^{-5} \text{ mol/ L} = 31600 \text{ nmol/ L} \]

(Multiplication by \(10^9\) converts from mol/ L to the more familiar nmol/ L

i.e. \(3.16 \times 10^{-5} \times 10^9 = 3.16 \times 10^{-5+9} = 3.16 \times 10^4 = 31600\))

For blood substitute pH = 7.40:

\[ [H^+] = \text{antilog}_{10} (-7.40) = 3.98 \times 10^{-8} \text{ mol/ L} = 40 \text{ nmol/ L} \]

Gradient = \[
\frac{[H^+] \text{ in urine}}{[H^+] \text{ in blood}} = \frac{31600}{40} = 790:1
\]

Question 53

A woman had a beta hCG concentration measured at 265 IU/ L and 11 days later, following some abdominal pain, it was 820 IU/ L. Assuming hCG rises exponentially in early pregnancy, what has been the doubling time over this period? What is the significance of the result you obtain?

MRCPath, May 2005
Super-Size Me and the Fats of Life: The Obesity Epidemic

Reported by Alexandra Oliver, Truro

Whilst the rest of the country struggled with snow and ice, most members of the South West and Wessex ACB region, made the long trip southwest to blue-skied, sunny Derriford Hospital, Plymouth. The meeting covered a large range of obesity related subjects ranging from bariatric surgery to inherited syndromes of insulin resistance.

The day started with Dr John Gregory from University Hospital of Wales, who had kindly interrupted his paternity leave to give a fascinating talk into exaggerated adrenarche, and the links with child growth. He presented an overview of the adrenarche (unique to humans), stressing that although it leads to pubarche, no genital maturity is seen, and although there is an increase in growth velocity between the ages of 6-8 years there is very little effect on adult height.

Dr Gregory then presented work on the links between intra-uterine growth retardation, the “thrifty phenotype” hypothesis, resulting in high levels of DHEAS, and a greater risk of premature adrenarche and metabolic syndrome in later life. Post menarche patients who developed premature adrenarche were more likely to have been born with low birth weight, were more likely to have a higher concentration of insulin and triglycerides in later life, suggesting that it may be a forerunner for metabolic syndrome.

Earlybird Strategies

Insulin resistance in children was also discussed in Professor Terry Wilkin’s review of the interesting findings from the on going EarlyBird study. In 2000 they enrolled 300 children aged 5 years and will study them annually until 16 years of age, primarily looking into factors that cause NIDDM in the young. Presently they measure a plethora of different blood analytes (with all samples stored for retrospective analysis) alongside other factors such as physical activity, measured by the rather excitingly named accelerometer, which cleverly measures intensity and duration of any movements made by the child throughout the day. Even in the first five years the EarlyBird study is producing a variety of interesting observations, linked with the development of Type 2 DM in young adults. By the age of five, girls show more evidence of insulin resistance than boys, but as children approach puberty insulin resistance falls but glucose levels increase, due to a reduction in β-cells.

They also manage 96% success rate in collecting blood from their study children!

HOMA Explained

The EarlyBird study uses the HOmeostasis Model Assessment (HOMA) to calculate percentage β-cell function and insulin sensitivity. Dr Sue Manley from Selly Oak Hospital explained how the mathematical HOMA model works and its clinical uses. Insulin assays variability hindered the clinical and research use of the HOMA model.
To combat this problem, Dr Manley and her team compared 10 widely used insulin assays. This work should be published shortly and they hope their results will overcome the problem of different insulin assays giving different HOMA scores.

Dr Robert Semple from the University of Cambridge gave us a comprehensive insight into clinical signs and the molecular biology seen in syndromes of severe insulin resistance. Clinically these patients often present with fasting or reactive hypoglycaemia, PCOS, impaired linear growth and acanthosis nigricans. They can also present with lipodystrophy, dyslipidaemias, and steatohepatitis.

Studying potential candidate genes involved in these rare inherited syndromes of insulin resistance, may give us a broader insight into the more common Type 2 diabetes.

He left us with a short appeal that, if as biochemists we came across, results that may be suggestive of a severe insulin receptor defects, as defined by the criteria:

- Fasting plasma insulin ≥150 pmol/L
- Peak plasma insulin ≥1500 pmol/L
- Insulin requirement >250IU a day
- But a BMI <30.

to contact him for further discussion.

On either side of a delicious lunch, we were presented with lectures by Dr Jon Pinkney (University Hospital Aintree) on bariatric surgery, followed by Dr Carel Le Roux on how the gut talks to the brain.

Dr Pinkney gave an eye opening talk on the different methods of bariatric surgery, and gave quite a convincing argument for it being used in the treatment of diabetes. He pointed out the remarkable reduction in insulin resistance on patients that lose weight due to bariatric surgery compared to diet and exercise, and argued that treatment of Type 2 diabetes is “too HbA1c orientated”, and the option of bariatric surgery should be considered in cases where BMI is >35-40 and the patient is at high risk due to diabetic complications.

Dr Pinkney’s argument was emphasized even further by Dr Carel Le Roux from Hammersmith, whose talk expressed how gut hormones, particularly PYY (peptide YY) regulate appetite and satiety. Levels of PYY have been shown to be lower in obese patients, hence meaning levels of satiety are reached after a greater calorific load. Dr Le Roux showed data from patients who had undergone a Roux-en Y gastric by-pass; PYY concentrations increased post surgery, and patients reached satiety after a smaller calorific load, hence aiding their weight loss, and reducing their insulin resistance.

**Obesity Throughout the Ages**

The whole day was brought to a close by an entertaining and thought provoking summary by Dr Ruth Ayling, who also arranged the programme meeting. Dr Ayling discussed obesity throughout the ages and its economic cost, at both laboratory and social level. This was followed by open discussion, before all delegates not attending the AGM then made their long journey home.

I am sure all who came to the first meeting to be held in Plymouth would agree that it was great success, very informative (and worth the drive!).
Meeting Reports

Mass Poisoning and More in Belfast . . .

Reported by Jennifer Cundick, Royal Victoria Hospital, Belfast

The 2005 annual Spring joint meeting of the Northern Ireland Region of the ACB and the Association of Clinical Biochemists in Ireland (ACBI) was held in the Undergraduate Lecture Theatre of Belfast City Hospital. The Organising Committee, including Dr Peter Sharpe, Dr Mark Lynch and Dr Martin Healy, never fail to organise an interesting programme of impressive speakers covering a wide range of relevant clinical and scientific topics. This year was no exception with several well-known presenters giving us the benefit of expertise in their respective fields.

The meeting started with a presentation from Professor Ian Young from the Royal Victoria Hospital, Belfast, an authoritative figure in the area of lipidology. An introduction covering the basic features of the atherosclerotic disease process ensured that trainees, as well as more senior staff members, were able to absorb his comprehensive review of lipid-lowering trials. Findings from these trials were used as an evidence-base for new more stringent UK guidelines on total cholesterol and LDL cholesterol target levels to be published later this year, with recommended maximum levels of 4.0 and 2.0 mmol/L respectively. Professor Young also quoted some interesting anecdotal evidence in support of lower optimal lipid levels, explaining that various remote rural tribes, with the physically active lifestyles and low fat diets our own ancestors were accustomed to, had been found to have total cholesterol levels of 2-3 mmol/L and LDL levels of 1-2 mmol/L. Similar levels had been observed in higher primates and other mammals, suggesting that today’s sedentary lifestyles and energy-dense diets may have given us a skewed idea of a ‘normal’ lipid profile. The presentation ended with an outline of more aggressive lipid-lowering strategies required to achieve such ideal lipid levels in patients—indestructible advice in the land of the ‘Ulster Fry’!

Renal Failure Epidemic

Our next speaker was Dr John Harty from Daisy Hill Hospital in Newry, who gave us an excellent synopsis of recent advances in renal medicine. He explained that secondary hyperparathyroidism leads to calcific deposits in arteries, and how this may explain the high incidence of coronary heart disease in this condition. We were told that new hope for sufferers exists in the form of a drug, Cinacalcet. This drug binds the calcium sensing receptors found on parathyroid cells, the primary regulators of serum calcium levels. This binding triggers suppression of PTH release. Dr Harty had performed a study on his patients, demonstrating significant
decreases in serum PTH, calcium, and phosphate levels, but emphasised that the long-term benefits in terms of decreases in coronary heart disease mortality were yet to be proven for this expensive treatment.

The modern epidemic of chronic renal failure was also examined and how diabetes and hypertension were key contributors. 'Nature' as well as 'nurture' was suggested to play a role in the increased incidence of renal disease. Publications by Keller et al, 20031 and Ingelfinger, 20032 on effects of nephron number were discussed. Research indicated that subjects with lower numbers of nephrons at birth were more likely to suffer kidney disease due to extra stress and hence damage to these nephrons. Increased life expectancies giving a longer time for 'nephron endowment' to exhibit effects were theorised to account for increasing importance of this factor.

Lastly, the Modification of Diet in Renal Disease (MDRD) equations for estimated glomerular filtration rate (eGFR) and their interpretation were discussed, a popular topic among those keen to eliminate unreliable 24 hour urine collections.

The morning session ended with a presentation by Dr Michael Trimble on 'Chemical Incidents and Mass Poisoning'. This title was not, as one cheeky wag suggested, related to the following lunch provided by the Belfast City Hospital Catering Department, which was delicious as usual! Dr Trimble gave us a general overview of the subject, of increased importance in this post-9/11 era. We were given advice on containment procedures and also an informative classification of possible toxidrome types and characteristics.

Review of Services in Northern Ireland

The afternoon session commenced with a presentation from Dame Ingrid Allen, Chair of the Northern Ireland Pathology Services Review Committee. We eagerly, and not without some personal interest, awaited her discussion of the review. Dame Allen explained how the Committee had come to the decisions in its interim report based on extensive research during dialogue with hospital management, laboratory personnel, discipline-specific focus groups, and during site visits to Northern Ireland and other UK laboratories. She then summarised findings in the interim report, relating to laboratory service centralisation and rationalisation, and suggested that Chemical Pathologists and Clinical Scientists should play an increased role in management of services within an integrated multidisciplinary network. We heard that a formal consultation process was to follow and that culmination of the review would involve implementation of pilot changes in a live developmental process to be reviewed as the project progresses.

The final presentation was given by Dr Maurice O’Kane, Altnagelvin Area Hospital, Londonderry. It was an interesting discussion on the role of self blood glucose monitoring in Type 2 diabetes. The massive increase in incidence of this condition, coupled with strong evidence for the health benefits of optimal glycaemic control, lent weight to the issue. Dr O’Kane debated the pros and cons of self-monitoring in an attempt to determine whether the high cost of such devices is
warranted. He reviewed various published studies on the subject with conflicting findings and informed us of ongoing research being performed in Northern Ireland in the ‘Efficacy of Self Monitoring’ (ESMON) Study.

The meeting was a great success, and the Organising Committee wish to extend particular thanks to the various companies who were kind enough to sponsor the event, and to our speakers for making it such an enjoyable and informative day.

References


CPA Trust Funding

The CPA Trust, a registered charity, was set up in 2004 to support the development of improvements in the quality of medical laboratory services. Up till now this support has taken the form of funding EQA pilot schemes. However, the Trustees have been considering other possible avenues for promoting quality in medical laboratories.

With this in mind the Trustees have decided to extend the funding to other projects or supporting bursaries to individuals working in the medical laboratory environment. These would be described in broad terms as likely to lead to improvements in the quality of laboratory services. Such projects could be research projects or audits and may be being undertaken by biomedical scientists, clinical scientists or medical graduates as part of their preparation for higher qualifications. The Trustees have agreed to support a small number of applications up to a maximum of £5,000 per application in the coming year on a trial basis.

Applications are now invited for:
• the ninth round of pilot funding for EQA Schemes, such bids being welcome from established providers or newcomers to the field
• the new CPA bursaries.

Application forms for both types of funding are available from the CPA office at:

CPA (UK) Ltd
45 Rutland Park
Botanical Gardens
Sheffield S10 2PB
Tel: 0114 251 5800 Fax: 0114 251 5801
Email: office@cpa-uk.co.uk

Applications should be returned by Friday 28th October 2005
The Fats of Life:
Obesity and Lipids

Reported by Sarah Knowles, Derby Hospitals

The morning session began with Dr Bill Richmond’s comprehensive review of the role of lipid, apolioporotein and lipoprotein measurements in CHD risk prediction, reminding us that HDL was the most important single risk factor. He continued to discuss the accuracy base for total cholesterol and triglyceride assays with their roots traced back to isotope dilution GC/ MS and identified lack of certified primary reference methods or materials for HDL cholesterol.

Dr Dermot Neely followed answering the question ‘What does the lipid clinic need?’ He presented the results of a survey of 112 lipid clinics asking what tests they would like access to. The study has led to the creation of an SAS lipid service for new and rarely required tests, available from April 2005. Centres will be in Glasgow, Guildford, London (Royal Free), London (Guys and St Thomas’) and Newcastle, providing assays for Apo A1, A2, B, C2, E isoforms, homocysteine, LCAT, Lipoprotein lipase activity, Lp (a), Sterol profile and ultra centrifugation.

After a hearty lunch Mr Gilbert Wieringa discussed the impact of the new pharmacy contract to be introduced in April 2005, which passes greater responsibility to the high street pharmacy in to provide management for long-term conditions such as diabetes, CVD and INR monitoring. It seems more pharmacies will be conducting POCT and it is up to us to become involved by providing operating policies and quality control strategies, clinical guidelines and developing a good working relationship between the pharmacy and the laboratory.

As our lunch was settling Dr Eric Kilpatrick gave an excellent overview of obesity, reminding us that sitting down for long periods of time and eating large buffet lunches was an ideal combination to become obese. Luckily for us he was swiftly followed by Dr Julian Barth with options available to the obese to loose weight! He described how pharmacotherapy achieves little that lifestyle changes and dietetic support could not and should only be considered after these have failed.

The afternoon was concluded by Dr Stuart Smellie, who described changes imposed at his laboratory to aide the interpretation of lipid tests and reduce the number of referrals to lipid clinic. This included the introduction of diagnosis based scheduling codes for lipid testing - i.e. primary/secondary prevention, or medication/no medication and coded comments for the report generated according to the diagnosis code. They also discussed referrals at meetings with GPs. These changes led to more clinical details supplied on both request forms and referral letters. A significant number of cases are now advised upon without requiring a clinic appointment - reducing both clinic time and waiting lists.

A report from the ACB Trent Northern and Yorkshire Regional Meeting held on 17th March 2005
The use of biomarkers to study changes in bone turnover
Professor Philip Jakeman, University of Limerick

Androgens and the ageing male
Dr Mike Wheeler, St Thomas’ Hospital, London

What is the evidence base for biochemistry testing?
Professor Andrea R Horvath, University of Szeged, Hungary

The increasing role of point-of-care testing in healthcare
Professor Chris Price, President, ACB

The vascular system and ageing
Professor Declan Lyons, Professor of Medical Science and Consultant Physician, Limerick

Metabolic and regulatory roles of human adipose tissue
Dr Simon Coppack, St Bartholomew’s Hospital, London

Common mechanisms underpinning obesity, diabetes and cardiovascular disease: are there implications for laboratory medicine?
Dr Marek Dominiczak, Gartnavel General Hospital, Glasgow

Cancer in Ireland: recent trends
Dr Harry Comber, National Cancer Registry, Ireland

Palliative medicine: an overview
Dr Sinead Donnelly, Consultant in Palliative Medicine, Limerick

Fluid and electrolytes: getting the balance right
Dr Peter Gosling, Selly Oak Hospital, Birmingham

Interpretation of thyroid function tests
Dr Colin Dayan, Bristol Royal Infirmary

Traceability of free thyroid hormone measurements: the whole truth and nothing but the truth?
Professor Dr Linda Thienpont, University of Gent, Belgium

Further information is available from:
Dr Ned Barrett, Chairman ACBI 2005 Conference Committee, Clinical Biochemistry Department, Mid-Western Regional Hospital, Dooradoyle, Limerick, Ireland
Tel: +353 61 482264  Fax: +353 61 482362  E-mail: ned.barrett@mailh.hse.ie

Ms Maire Oakley, Conference Secretary, Heronford House, Heronford Lane, Shankill, Co Dublin, Ireland
Tel and Fax: +353 1 2888503  E-mail: moakley@eircom.net

Additional Conference Programmes and Booking Forms may be downloaded from the ACBI website (www.acbi.ie) or the ACB’s Republic of Ireland website (www.acbroi.org.uk)
Visit www.dpcweb.com or call 01286 871872 for more details.
Living La Vida Loca!

By Piscator on the Road

Piscator has spent the last year on the road and what an interesting aquatic experience it has been. A combination of going with the flow and swimming upstream. It is not for the faint-hearted – particularly those who prefer the comfort of their own hearth and home to another suitcase in another hall. In fact there are several similarities between this type of locum work and repertory theatre. Don’t cry for me Aberystwyth tra, la, la. However, as a way of getting a bit of va, va voom back into the daily toil, acquiring shed loads of varied experience and the opportunity to meet some wonderful new NHS professionals - don’t knock it until you have tried it.

However, in these anticlimatical dog days, post-EuroMedLab 2005, I want to extol the attributes of my current posting in order to encourage younger Clinical Biochemists with aspirations to Consultant status to seriously consider coming to work here when my locum contract is completed.

Where is Here?

Well, here is located in the county of birth of David Beckham, Alison Moyet and the current consort of the small screen’s best loved paediatrician – Dr Doug Ross. Clue no. 2: The first is in sun and not in bun . . . well the local climate does boast unrivalled days of summer sunshine. Clue 3: It is a former watering hole for the huddled masses providing respite from the smog and fog of inner city living and twinned with the Polish seaside resort of Sopot. Sure it may have seen better days but there is the anticipation of regeneration in the air. Clue 4: It boasts the longest pier in Britain and offers a variety of nocturnal entertainment to suit everyone. Nor is it outwith the purchasing power of the first time housebuyer as there are streets of old Victorian terraces waiting to be rediscovered and gentrified. Clue 5: and all within commuting distance of Bow Bells. Clue 6: East is estuarine and south is the gateway to the Channel ports and the orchards of Kent. West has one of the largest shopping malls outside London and for the more discerning (obviously with access to a second income) are the designer boutiques of the surrounding market towns. And contrary to public opinion the only gilt ankle bracelet I have spotted was on a pensioner trying to catch up with fashion trends. And the white stilettos? . . . on the feet of a charge nurse in drag for Red Nose Day. North is the fens and flatlands of East Anglia which is fantastic for cycling (with or without stabilisers) and between here and the University spires of Cambridge are delightful villages and steepled churches where opportunities abound for bell-ringing. If you are into fishing and ornithology there are plenty of fish to be caught and rare species to spot including birds of a feather. And the local...
football team – the Shrimpers - have seen good form this last season though it is fair to say that they will never be able to afford the services of the county’s star player Beckham. OK. I will admit that if you get your kicks from Alpinism there will be little here to tempt you unless you like climbing gas towers or industrial chimneys or window cleaning tower blocks as a recreational pursuit.

What a Place to be a Locum!

So far, so good, tourist pitch, but it is the workplace in this little gem which has made the biggest impression on me as a locum. The Clinical Biochemistry lab is part of an integrated Pathology department which serves a foundation status hospital (that is a minimum of 3 stars to you Celts with your own devolved healthcare). The hospital has Associate University Teaching Hospital status and there is an active post-graduate teaching programme and departmental education programme with access to numerous other IT and professional development courses. The laboratory workforce is young and enthusiastic and this is not surprising as the hospital takes the workplace environment seriously and retention of a happy staff a priority. Equipment and information technology in the laboratory are state-of-the-art. In addition to the established core biochemistry repertoire there is opportunity to dabble in the esoteric with a GC-MS with 2 detectors FID and MS and to develop gel filtration methods because this is the home of discovery of some Big, Big molecules. The hospital’s case mix reflects the aspirations of the foundation of the NHS – from the cradle to the grave with all specialities of clinical medicine and surgery represented by at least 1 consultant. As for most DGHs there is a significant workload from Primary Care and I have seen some of the most expeditious diagnoses and cures in my working life thanks to the support the laboratory gives primary and secondary care. At the time of the hospital outpatient appointment, the results of the tests pre-ordered in advance via Primary Care are available for consultation thereby reducing the number of times the patient has to attend hospital.

Sprightly Old Bird Will Travel

Otherwise the year’s experiences have been many and varied. There I was thinking that locumming (does a verb exist?) up in West London lent me a certain metropolitan cachet only to be spectacularly up-staged by a colleague from Haematology who commuted from New York! I encountered her whilst the romcom NY-LON was screened on television last autumn and wondered if there would be any mileage in my screen play for RED-CAR or even CAR-LON. One piece of advice she imparted to me “Dahling, you will start using your car as your wardrobe”. I took it that on her salary we were not talking a 2-door but more of a stretch limo. And I never did find out if she travelled Concorde. Rather than contribute further to emission gases from my 2-door with all the extra commuting, I have tried to rediscover other forms of transport which give me more exercise than provided by swivelling around in the locum hotseat. Like Shank’s pony or that quaint old throwback to childhood of the local bus service. I now have a subsidised bus-pass and no I am not a pensioner. Grey-haired maybe but a sprightly old bird all the same. Or the bicycle - or there again
perhaps not. It was coming off the latter at speed one night in the dark that made me wonder if I was not perhaps too old to be riding 2 wheels without stabilisers. What is that old feminist tirade about men, fish and bicycles...?

One thing I have become very familiar with is the ID badge – there was one appointment where the hospital ID badge took on the equivalence of a dog-tag. You couldn’t move through a single doorway without swiping in. I ended up sleeping with it round my neck so that I could get to the toilet – it was a hospital which took security very seriously and I never discovered why?

So where am I now and could this be your next and best career move? The first 5 respondents to contact Piscator via the Editor with expressions of interest will have my location identified by the stick of rock they will receive.

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Also a few monograms on lipid related topics, list available

*If you are interested then please contact Nina Polanska on Email: npolanska@aol.com or Tel: 0191-281-6064*
Keep sane at coffee time with the ACB News Crossword. Always relating to the science and practice of Clinical Chemistry, you will never cease to be astounded by the convoluted mind of the ACB News Crossword compiler.

Prizes for your department: The first five correct solutions to appear on the ACB News fax machine (Fax: 0121-765-4224) will receive a copy of the new edition of Clinical Chemistry by William Marshall and Stephen Bangert. Please state clearly the name and address of the Department that is entering the competition.

Remember that ACB News appears first as a PDF on www.ACB.org.uk around the 7th of each month.

Crossword set by Rugosa

Across
1 Has this eremitus historian's truth probe gone awry? (5, 9)
10 Rare outcome of pregnancy: quick start, then contractions end (5)
11 Splits about wizard taking my turn - cleaners in tears (9)
12 Can determine nature of any salt mixture (7)
13/17 The MOH waited about for this luminary (3,9)
14 One of two seafarers in a green boat (3)
15/2 Midlands hospital described as the second in England (5,9)
17 See 13
20 Starting a cholesterol acid type of jaundice (9)
21 Gives reference for situations? (5)
22 Gershwin's first organization? (3)
23 Harridan is back in our organization (3)
26 Real mess after non-GI surgical specialty is involved with the gut (7)
29 Like flour additives, they are getting better (9)
30 Describes capital charged form (5)
31 Finally R L Stevenson's unpleasant changeling produced allergy mixture although not proud it tasted sweet (14)

Down
2 See 15
3 Try writing about something (5)
4 Charming young woman lacked energy but wrote about sound building (4,5)
5 Start among film scenery? (5)
6 Viewers round up about a thousand; they force up house price (9)
7 Rate of post-mortem potassium changes (5)
8 Baby milk manufacturer and distributor start a cozy arrangement (7)
9 Line up and take turn in self-help organization for drink (4)
10 Climbers' lifeline - rely on no part starting to break (5, 4)
11 More disturbing noise about at the wicket (9)
12 W hat happened to 15, 2 over 50 years ago? Damaged her tendon! (9)
13 Getting up a revolution (7)
14 Job seekers do rub it in (5)
15 Great all-round film actress's first name (5)
16 Temperature raised in part of limb? (5)
17 Ye leave old servant without (4)

Answers to Last Month's Crossword
Across: 6 Caudate, 7/5 Alarm call, 9 Bloc, 10 Salicylate, 11 Acidosis, 13 Triage, 15 Oral, 17 Panic, 18 Line, 19 Papyri, 20 Cot-death, 23 Toxicology, 26 Iron, 27 Titre, 28 Scorers

Down: 1 Suicidally, 2/6 Causes colic, 3 Deal, 4 Narcotic, 8 Mutagen, 12 Sonic, 14 Ill-defined, 16 Readout, 17 Poisoned, 21 Thymol, 22 Trots, 24 Iota, 25 Oast

Lucky Winner . . .
Jacqueline McGuire, Hairmyres Hospital, East Kilbride
EuroMedLab was Fun . . . Part I
Peter graduated from University College London in 1942. After obtaining his PhD and working for five years at The National Institute for Medical Research at Mill Hill, he moved to The Courtauld Institute of Biochemistry at The Middlesex Hospital Medical School and worked on the synthesis of serum albumin by liver cells, and was the first person to demonstrate the synthesis of serum albumin by a cell-free cytoplasmic preparation.

In 1967 he moved to the University of Leeds to be Head of the Department of Biochemistry and he was responsible for the pre-clinical teaching of biochemistry to medical students as well as for the undergraduate course in General Biochemistry. His research into protein synthesis was now enhanced by the newly developed techniques of molecular biology. In 1975 he returned to the Middlesex Hospital to succeed Professor Robert Thompson as Director of the Courtauld Institute. He continued his researches into the synthesis of milk proteins and established a Medical Molecular Biology Unit to support the application of recombinant DNA technology to other medical problems. He established a Sub-Department of Chemical Pathology within the Institute, and gave us unprecedented autonomy. He retired in 1987 after the merger of The Middlesex with University College, but remained professionally active.

Peter was Secretary of the Biochemical Society from 1959 – 64 and played an important part in the formation of the Federation of European Biochemical Societies (FEBS). He chaired the Education Committee of the International Union of Biochemistry and Molecular Biology (IUBMB) and started the journal Biochemical Education. With Tony Smith he wrote a student textbook, Biochemistry Illustrated, translated into seven languages, and had recently completed the fifth edition. He travelled extensively and his experiences in Eastern Europe and in developing countries led him, through FEBS, to establish SARS (Scientific Apparatus Recycling Scheme) by which redundant but serviceable scientific equipment could be sent to less well-endowed laboratories overseas. He continued to work on this project right up until the end. He wrote of himself, “I am not ashamed to be called ‘the social worker’ of FEBS”. Underlying his distinguished academic career was a hidden compassion that showed itself in a concern for individuals and that reached out across the world. Perhaps this was his finest and most enduring attribute.
Readers speak out

A Clinically Significant Change Explored

I write, with some hesitation, to state that the answer to Deacon’s Challenge No 48 given in ACB News Issue 503 March 2005, pp8-9, is wrong. More importantly, the reason for this is, that in my view, the statement that “for two results to be significantly different (at p<0.05) they must be at least 2.8 SDs apart” (p8, lines 5 and 6 up) is at best misleading. Since this statement is derived in an ACB Venture publication (Jones and Payne 1997, p105, Fig 3.29), you will appreciate my apprehension in writing.

The above statement is only true for two results (a, b) when their SDs are equal, and it refers to 2.8 times either of the two equal standard deviations (SDa, SDb), and not to 2.8 times the total standard deviation (SDab). I attach an explanation of the reasons for my view.

The total standard deviation (SDab) for the difference in two results, meana - meanb, is given by:

$$SD_{ab} = \sqrt{SD_a^2 + SD_b^2} \quad \ldots \ldots (1)$$

If, SDa = SDb, then

$$SD_{ab} = \sqrt{2(SD_a^2)} = \sqrt{2(SD_b^2)} \quad \ldots \ldots (2)$$

and

$$SD_{ab} = \sqrt{2 \times SD_a} = \sqrt{2 \times SD_b} \quad \ldots \ldots (3)$$

The significance of the difference, meana - meanb is obtained from a “t” test in which

$$t = \frac{(\text{mean}_a - \text{mean}_b)}{\sqrt{(SE_a^2 + SE_b^2)}} \quad \ldots \ldots (4)$$

where SE is the standard error. Since we have only two single observations (N=1), and since

$$SE = SD/\sqrt{N}$$

equation (4) may be written as

$$t = \frac{(\text{mean}_a - \text{mean}_b)}{\sqrt{SD_a^2 + SD_b^2}} \quad \ldots \ldots (5)$$

substituting for \(\sqrt{(SD_a^2 + SD_b^2)}\) from equation (1) gives

$$t = \frac{(\text{mean}_a - \text{mean}_b)}{SD_{ab}} \quad \ldots \ldots (6)$$

Since t = 1.96 for a significant difference in results meana - meanb at p<0.05, equation (6) may be rearranged to calculate the minimum significant difference at p<0.05

$$(\text{mean}_a - \text{mean}_b) = 1.96 \times SD_{ab} \quad \ldots \ldots (7)$$

However, if SDa = SDb then substituting from (3) above we have,

$$(\text{mean}_a - \text{mean}_b) = 1.96 \times \sqrt{2 \times SD_a} = 1.96 \times \sqrt{2 \times SD_b} \quad \ldots \ldots (8)$$

or,

$$(\text{mean}_a - \text{mean}_b) = 1.96 \times SD_{ab} = 2.8 \times SD_a = 2.8 \times SD_b \quad \ldots \ldots (9)$$

But it is not true that for p<0.05, that

$$(\text{mean}_a - \text{mean}_b) = 1.96 \times \sqrt{2 \times SD_{ab}} = 2.8 \times SD_{ab}$$

Consider an example when the SDs of both results are equal.

Let SDa = SDb = 0.05 (i.e 5%), then

$$SD_{ab} = \sqrt{SD_a^2 + SD_b^2} = \sqrt{(0.0025 + 0.0025)} = \sqrt{(0.005)} = 0.0707 \text{ or } 7.07\%$$

also, $$SD_{ab} = \sqrt{2 \times SD_a} = \sqrt{2 \times SD_b} = \sqrt{2 \times 0.05} = 0.0707 \text{ or } 7.07\%$$

and for p<0.05, $$(\text{mean}_a - \text{mean}_b) = 1.96 \times SD_{ab} = 1.96 \times \sqrt{2 \times SD_a} = 1.96 \times \sqrt{2 \times SD_b} = 1.96 \times 0.0707 = 0.139, \text{ or } 13.9\%,$$

and also

meana - meanb = 1.96 x 0.0707 = 0.139, or 13.9%,

and also

meana - meanb = 1.96 x 0.0707 = 0.139, or 13.9%,

but a valid meana - meanb is not obtained from

$$2.77 \times 0.0707 = 0.196 \ (19.6\%).$$
In the example in Deacon's Challenge No 48, $SD_a$ does not equal $SD_b$

$$SD_a = 0.024 \text{ (analytical precision)} \quad \text{and} \quad SD_b = 0.047 \text{ (intra-individual precision)}$$

Then, the pooled $SD$, $SD_{ab} = \sqrt{SD_a^2 + SD_b^2} = \sqrt{(0.00058 + 0.00221)}$

$$SD_{ab} = \sqrt{0.00279} = 0.0528, \text{ or } 5.28\%$$

and for $p<0.05$, $(\text{mean}_a - \text{mean}_b) = 1.96 \times 0.0528 = 0.103, \text{ or } 10.3\%$

A $10.3\%$ fall in cholesterol from 6.9 mmol/L is $0.103 \times 6.9 = 0.71 \text{ mmol/L}$

**therefore, a fall in serum cholesterol from 6.9 to 5.9 mmol/L is statistically significant at $p<0.05$.**

It is incorrect to calculate for $p<0.05$ the value of $\text{mean}_a - \text{mean}_b$ from $2.77 \times 0.0528$ which gives $0.148 (14.8\%)$, and conclude that the $14.5\%$ fall in cholesterol was not quite statistically significant, as was reported in ACB News March 2005, pp8-9.

**Expensive Window Dressing Taking Over at CPA**

The laboratory in which I work has recently submitted its quality documents to CPA in advance of a forthcoming assessment, which is our first under the new standards, and failed to 'meet the requirements' for the 'Quality Manual'. I also know that other laboratories have had a similar problem. Since on previous inspections we were complimented on the quality of our documentation we were perhaps a little over-confident but, nevertheless, considered our quality document to meet the requirement of describing 'the scope, purpose, organisation and management of the laboratory'.

Some of the criticisms seemed rather trivial, e.g. failure to provide cross references to other policies even though those policies were included with the documentation. Nobody doubts the need to demonstrate the ability to provide safe results in a safe environment but if a laboratory has a stated commitment to providing a quality service, with the procedures demonstrably in place to achieve and maintain that commitment then anything else is, surely, not just window dressing but window dressing costing significant resources to the laboratory, to Trusts, to the DOH and ultimately to the tax payer.

Whilst I believe that CPA used to fulfil its function admirably it now seems that it has reached a stage where it is soaking up increasing amounts of money and other resources, both directly and indirectly, but without additional tangible benefit. The perception is that it has now become a means unto itself rather than a means to an end.

Am I the only person to hold this view?

**Mr Tony Briddon**
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NHS Trust

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A Locum Consultant or Principal Biochemist is required for a period of six months to cover maternity leave based at King George Hospital.

The key duties will include the duty biochemist rota, clinical liaison, audit and quality assessment. You will be part of a team of Clinical Biochemists, but will also be expected to take responsibility for certain areas of the Scientific Service.

You will be expected to be a State Registered Clinical Scientist with the MRCPath and have a broad experience of Clinical Biochemistry. King George Hospital is a busy District General Hospital and works in conjunction with laboratories at Harold Wood and Oldchurch Hospital. The Trust is one of the largest in the country. A new pathology IT system has just been implemented as a lead site with the Local Service provider.

For an informal discussion or to arrange a visit, please contact Mike Waterson, Clinical Lead for Biochemistry on 01708 708226 or email mike.waterson@bhrhospitals.nhs.uk

To apply online and for further information about the Trust, please visit www.bhrhospitals.nhs.uk/jobs or contact Paul Dwyer, Recruitment Department on 01708 306284.

Following adoption (from 1st December 2004) of new national terms and conditions of service across the NHS, these will become applicable to this post although, initially, existing terms will apply until the post is assimilated onto the new arrangements.

Closing date: 2nd August 2005.

We reserve the right to bring forward the closing date, should we have an overwhelming response.

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Barking, Havering and Redbridge Hospitals
NHS Trust

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Consultant Clinical Biochemist - Grade C+3

£47,996 - £65,063 p.a. inc.

Ref: 162-1236

Barking, Havering and Redbridge NHS Trust is one of the largest Acute Trusts in England employing around 5,000 staff across four main sites at Barking, Harold Wood, King George and Oldchurch Hospitals. The Trust serves a population of around 700,000 people. A wide range of specialities including a Cancer Centre, Regional Neurosurgery and a dialysis unit are provided. A new 859-bed state-of-the-art healthcare facility is being built in Romford. Construction is on schedule and the new hospital will open its doors in late 2006.

An exciting opportunity has arisen for a Consultant Biochemist to lead the development of the Clinical Biochemistry Service at Harold Wood Hospital and across the Trust. The CPA accredited services are currently offered from three sites, which will decrease to two when the new hospital opens. Procurement for a range of new equipment is in progress, and you will have a major role in the choice of equipment. A new pathology IT system has just been implemented as a lead site with the local service provider.

There are three Consultant Biochemists within the Trust (including this vacancy) and four other Biochemists. You will be asked to be temporary Clinical Lead (with enhanced payment of two increments plus £2,500) until the return of a colleague from maternity leave. Arrangements for the position of Clinical Lead will then be reviewed.

The area offers easy access to Central London and to major regional shopping centres; a good range of state and private schools and a range of housing opportunities, including rural Essex.

Applications are invited from B Grade Scientists and C Grades wanting to broaden their experience. You will be expected to be a State Registered Clinical Scientist with the MRCPath and have a broad experience of Clinical Biochemistry, including audit and service development.

For an informal discussion or to arrange a visit, please contact Dr Peter Tanner, Clinical Director for Pathology on 020 8970 8418.

To apply online and for further information about the Trust, please visit www.bhrhospitals.nhs.uk/jobs or contact Paul Dwyer, Recruitment Department on 01708 506284.

Following adoption (from 1st December 2004) of new national terms and conditions of service across the NHS, these will become applicable to this post although, initially, existing terms will apply until the post is assimilated onto the new arrangements.

Closing date: 22nd August 2005.

We reserve the right to bring forward the closing date, should we have an overwhelming response.

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PARTNERSHIP PATHOLOGY SERVICES
Department of Clinical Biochemistry

Grade B Clinical Scientist
Scale points 8-16
£22,857 - £31,279 pa

Applications are invited for this challenging post in the Department of Clinical Biochemistry. The Department is a recognised centre for specialist analytical and clinical services and is a Supra-regional Assay Service Laboratory for Trace Elements, Peptide Hormones and Cardiovascular Biomarkers. It provides specialist drug analysis and External Quality Assessment Schemes for trace elements, peptide hormones, drugs and Point of Care Testing. It also supports the PaSA Guildford Medical Devices Evaluation Centre for point of care and major analyser evaluation. The Department works closely with the Centre for Clinical Science and Measurement at the University of Surrey, a new multi-disciplinary research and development laboratory which brings together a variety of analytical and clinical groups within the University and NHS.

The post holder will be employed by the Royal Surrey County Hospital but will be required to perform duties at Frimley Park Hospital and in the Centre for Clinical Science and Measurement. The major responsibilities of the post holder will be to contribute to the clinical support activities of the hospital departments and to participate in clinical audit, quality assurance and method development. He/ she will assist in the provision of EQAS services and will support the specialist analytical services. The successful candidate will be encouraged to develop an area of specialist interest and to participate in Continuing Professional Development including, where appropriate, preparation for MRCPath.

Scale point up to 16 depending on qualifications and experience.

For further information or an informal visit please contact Stephen Halloran on Tel: 01483-464121 or Paulette Cusick on Tel: 01276-604395.

Please apply online at www.jobs.nhs.uk, job advertisement reference number 384-CP1077. Alternatively, please contact Emily Allaway, HR Officer, on Tel: 01483-406744 for an application form and job description.

In order to streamline recruitment within our Trust some of our vacancies may expire prior to the advertised closing date. This is in line with the Department of Health’s policy.

Closing date: 9th September 2005
Training Posts: When applying for such posts you should ensure that appropriate supervision and training support will be available to enable you to proceed towards state registration and the MRCPath examinations. For advice, contact your Regional Tutor.

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