ACB News

The Association for Clinical Biochemistry & Laboratory Medicine | Issue 679 | October 2022

UKMedLab22

London • 7-9 November

We are delighted to announce that booking for UKMedLab22 is now open. Our National Meeting will be held right in the heart of London in the Royal College of Pathologists' fabulous new purpose-built venue, Events @No 6. Featuring internationally renowned speakers, national experts, discussions and debates for senior laboratory professionals, this will be a much needed opportunity to reconnect with colleagues in person.

In this issue

The ACB's National Meeting is now open for booking

Find out more at www.faecal-immunochemical-test.co.uk

Faecal Immunochemical Testing (FIT)

A framework of recommendations for maximising the benefits of FIT

Based on evidence, updated recommendations for FIT by the Association of Coloproctology of Great Britain and Ireland and the British Society of Gastroenterology (BSG) (2022), offer guidelines for identifying patients requiring further investigation for bowel disease*.

- FIT to stratify patients younger than 50 years with bowel symptoms suspicious of CRC
- FIT to be used as triage tool for further colorectal investigation at primary care level
- FIT threshold of fHb ≥10 μg Hb/g for urgent referral for CRC investigation
- Safety-netting for symptomatic patients if fHb <10μg Hb/g
- FIT to be used for people with iron deficiency anaemia within primary care
- Counselling to encourage completion of FIT tests
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* Source: https://gut.bmj.com/content/early/2022/07/25/gutjnl-2022-327985

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ACB News

The bi-monthly magazine for clinical science

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The Association for Clinical Biochemistry & Laboratory Medicine

Better Science, Better Testing, Better Care

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Message from the President

Time to reflect, time to plan for the future

The recent passing of Queen Elizabeth II has touched us all in many different and personal ways. For some of us it's memories of events, meetings or visits by the Queen that we have attended; for others it's simply reflecting on the massive service she has given to our country. Even those who are more Republican in their views still reflect on this momentous historical event, with some even shedding a tear or two. We all of course have something in common with the Queen, and that is our dedication to public service. This is the driver that keeps us going when days are gloomy, and it's what gives us inspiration to find new future solutions.

We also have a new Prime Minister, Cabinet and of course Health Secretary (England). It remains to be seen just how capable they will be at dealing with the considerable healthcare problems existing across the UK but we must work with them, lobby them and stand up and call them out when we feel wrong decisions are being made – this is an important role for the ACB and other professional organisations.

It will soon be FRCPath exams time again and so good luck to those members sitting this time. Having just stepped in at the last minute to become the new Panel Chair for Clinical Biochemistry, I realise the huge efforts many colleagues make in being examiners, especially those that we now have leading the different parts and modules. I also see how the understaffed RCPath exams team juggle the complexities of 17 different specialty exams, each with multiple and very different components. So, it's not always flawless, but we are looking to fix and improve to ensure we have exams that are suitable, relevant, and aligned to actual work Consultants and senior scientists do. Watch this space . . .

UKMedLab22 will soon be upon us and hopefully many of you will be able to participate in this, our first face-to-face national meeting for over three years. We have a great programme with training days, audit meeting, scientific symposia, industry workshops and of course the chance to network and socialise with colleagues. The additional Freddie Flynn day provides further content to supplement the meeting.

So new Government, new King, new NHS? Time to drop the 'same old' and take the time to explore and share new innovative ideas that highlight and showcase laboratory medicine's role in healthcare. The ACB is 70 years old next year – time to change . . .

Bernie Croal, ACB President

CEO Update

As Summer comes to an end and Autumn looms into view there's a renewed flurry of activity at Tooley Street.

On August 15th, we completed the sale of our 4th floor office and thanks must go to Cheryl Taylor for all her diligence and hard work over the past year progressing the sale. It is substantially more complex than selling a house. Read more about the sale and what we plan to do with the proceeds on **page 15.**

With UKMedLab only six weeks away we're finalising the finer details of the meeting and are delighted to see bookings streaming in. Capacity is limited at the Royal College of Pathologists so we are encouraging members to book as soon as they can to be sure of a place. We've been delighted with awards entries this year, particularly the new ACB Impact Award which exceeded our expectations in both quality and quantity. We look forward to hearing from the winner as part of the UKMedLab22 programme.

Our strategic partnership with Abbott continues to grow and we were delighted to share stories and insights from the winners of the UNIVANTS of Healthcare Excellence Awards at a recent webinar. If you want to know more and find out how to enter **visit the website**. Our next event with Abbott will be a webinar on 'Proactive inclusion as an aid to find talent' featuring EDI experts from amongst our membership on 6th October. **We hope to see you there.**

We are also excited to roll out our renewed membership offer with a new, simplified structure from 1st January 2023.

See **Mike Lester's article on page 12** for more details. Mike is also making himself available for a couple of online drop in sessions to answer any questions you may have.

We are now in the planning cycle for next year's business plan with a series of meetings with the Executive Committee, Council and the ACB staff team to build and cost our plans for 2023. These plans will include how we mark our 70th Anniversary and a focus on involving our members around the UK in this celebration.

And finally, work continues on Lab Tests Online and how we can reimagine and relaunch this ground-breaking and unique service for patients using the latest technologies to grow its reach and impact and raise the profile of laboratory medicine with the public.

Looking forward to meeting more members at UKMedLab22 in November.

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ACB Webinar with NHS England for Corporate Members – Understanding the Net Zero Roadmap

11th October 2022 3pm-4pm
MS Teams

Chair: Rob Shorten, ACB Sustainability Champion and Chair of Microbiology Professional Committee

Speakers: Lisa Dittmar, Head of Sustainable Supply Chain, NHS England
and Ben Calder-Travis, Net Zero and Sustainability Project Manager

Join NHS England for a look at their Net Zero Supplier Roadmap. The session will cover a detailed look at several of the roadmap milestones, including the net zero and social value model and an overview of the Evergreen supplier sustainability assessment. The session will focus on the introduction of carbon reduction plan requirements from the April 2023 and 2024 milestones of the roadmap, leaving plenty of time to answer your questions during the session. You can learn more about the Net Zero Supplier Roadmap before the session **here**.

This webinar is free to ACB Corporate Members and will be of interest to sustainability leads and teams, business development and NHS relationship holders and those responsible for tender and bid writing for NHS England contracts.
Click here to book. ■

Sudoku

This month's puzzle

I		R		C		H		E
Y		M		T		C		S
	M		Y	H	S		I	
H		I				T		R
		E	I		M	R		
		S	R		T	Y		

Solution for August

I	M	H	E	T	R	S	C	Y
Y	R	E	H	S	C	M	T	I
S	T	C	I	Y	S	R	E	H
M	S	R	C	H	E	Y	I	T
T	C	Y	M	I	S	H	R	E
H	E	I	T	R	Y	C	S	M
C	H	T	R	M	I	E	Y	S
R	Y	M	S	E	T	I	H	C
E	I	S	Y	C	H	T	M	R

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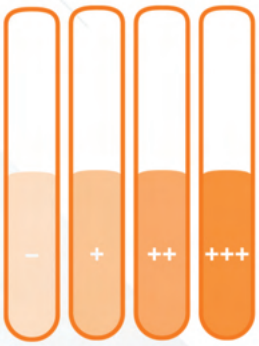

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Meet our new President Elect, Katharine Hayden FRCPath CSci EuSpLM BSc

I am delighted and truly honoured to have been appointed President Elect of the Association for Clinical Biochemistry and Laboratory Medicine.

I am a Consultant Clinical Biochemist and Honorary Senior Lecturer at Manchester University NHS Foundation Trust and have been working as a Clinical Scientist in Biochemistry in the NHS for over 34 years. Over that time I have seen both the job and the environment in which we work change enormously with every department I have worked in undergoing significant change or merger.

Following training in South Manchester, I moved first to a Principal Biochemist post and then Consultant post at University Hospital Aintree in Liverpool, overseeing significant advances in analytical technologies, point of care testing in hospital and community settings, and developing a specialist interest in endocrinology and quality, before moving onto my current post at MFT.

In the previous 4 years my role as Clinical Head of Division for Laboratory Medicine at MFT has been hugely interesting, with the last two years during the COVID-19 pandemic by far the most challenging period including clinical leadership of COVID-19 testing and working to set up the Nightingale Hospital NW. As for other colleagues around the country, I took on the role as Pathology Incident Director for Greater Manchester (North 5) working closely with colleagues from all GM Trusts, NHSE/I, GM Test and Trace, PHE and DHSC. By far the most rewarding aspect of this time was what we were able to achieve collaboratively across the country by setting aside traditional barriers to implement change at a rapid pace, testament to what we can all achieve given the right environment.

Throughout my career the ACB has been a constant, providing what I needed at each stage, beginning with training and a scientific scholarship for my research, to attending scientific meetings, gaining experience of committee meetings and wider networks, and it remains a huge resource for scientific, clinical and professional materials and advice. My first role in the ACB was as the Junior Rep on the ACB Regulating Committee (later the Federation of Clinical Scientists) before taking up roles as Secretary and Chair of the Trainees' Committee, Focus (now UKMedLab) organising committees, and a number of roles on the North West Regional ACB committee including as Regional Tutor and I am still passionate about training and education of Clinical and Healthcare Scientists.

It is going to be a really interesting period for the ACB and our members over the next couple of years as we emerge from COVID-19 and the impact it has had on our services and the NHS, whilst adjusting to any changes from the new political landscape we find ourselves in. It really is an opportunity to get back to the science which is at the core of what we are about, and I am looking forward to working with Bernie, Jane and the ACB staff team to contribute to the current ACB projects and promote the ACB as a leader of developments in Clinical Biochemistry and Laboratory Medicine both nationally and internationally. ■

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New membership model from 1st January 2023

Mike Lester, Membership Manager

At this year's Annual General Meeting, the Company Secretary outlined our new, improved membership offer, launching in the new year.

The aims are to simplify the membership structure, engage with members from a diverse range of institutions, deliver high-value services and offer greater flexibility for subscription payment.

We're really excited for this change to take place and, over the coming months, you will be getting regular communications from the staff team highlighting the variety of benefits on offer.

Our first communication focuses on scientific content and events, and this will be followed by updates on our education and training offerings, grants and awards, and leadership and representation.

Changes to categories of membership

On 13th July 2022, the voting members at the AGM agreed Council's recommendation to simplify the membership structure to Student, Member and Retired. The categories of Emeritus, Fellow and Honorary remain unchanged. Federation membership (offering Trade Union support only) also remains unchanged for existing members, however the Federation category will be closed to new member applications, instead offering those seeking Trade Union support the full Member category with access to all of the benefits members enjoy. Membership will no longer carry additional labels such as Ordinary or Overseas Ordinary, and (what was Ordinary membership) will no longer be split into separate subscription bands.

This change will simplify the pricing structure. With a Member's subscription, you'll have access to all benefits – including Trade Union membership. You'll be able to pay for your subscription monthly, as well as annually or bi-annually.

Read the full update on the new membership structure here.

New pricing structure summary

Category	Full subscription fee	Discounted subscription fee*
Student	Free	–
Member	£240	£150
Retired	Free	–

*The discounted fee applies to those in their first 5 years of membership. Those with an existing Ordinary band 1 membership are eligible for the discounted fee for five years, starting 1st January 2023. For all other existing subscription bands, we consider the five years commencing from the date they first joined. Members of the Association of Clinical Biochemists in Ireland would also be entitled to the discounted subscription.

To help explain these improvements, what this means for you and to answer any questions you might have I am running some Membership Enquiries Drop In Sessions (below) by MS Teams which you are very welcome to join. There is no need to register or to stay for the full hour – just drop in when convenient to ask any questions.

- **Monday 17th October 12.30pm-1.30pm**
  Click here to join the meeting
- **Friday 25th November 12.30pm-1.30pm**
  Click here to join the meeting ■

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*Alinity i TBI is used in conjunction with other clinical information.

REFERENCES: 1. Alinity i TBI H22974R01. Instructions for use. Abbott Ireland Diagnostics Division. Sligo, Ireland; October 2021. **2.** Data on file at Abbott. **3.** Bazarian JJ, Biberthaler P, Welch RD, et al. Serum GFAP and UCH-L1 for prediction of absence of intracranial injuries on head CT (ALERT-TBI): a multicentre observational study. *Lancet Neurol*. 2018;17(9):782-789. doi:10.1016/S1474-4422(18)30231-X **4.** Wang KKW, Kobeissy FH, Shakkour Z, Tyndall JA. Thorough overview of ubiquitin C-terminal hydrolase-L1 and glial fibrillary acidic protein as tandem biomarkers recently cleared by US Food and Drug Administration for the evaluation of intracranial injuries among patients with traumatic brain injury. *Acute Med Surg*. 2021;8(1):e622. doi:10.1002/ams2.622 **5.** Bazarian JJ, Welch RD, Caudle K, et al. Accuracy of a rapid GFAP/UCH-L1 test for the prediction of intracranial injuries on head CT after mild traumatic brain injury. *Acad Emerg Med*. 2021;10.1111/acem.14366. doi:10.1111/acem.14366 **6.** Michelson EA, Huff JS, Loparo M, et al. Emergency department time course for mild traumatic brain injury workup. *West J Emerg Med*. 2018;19(4):635-640. doi:10.5811/westjem.2018.5.37293

For In Vitro Diagnostic Use.

I remember when . . .

by William Marshall

For a long time, the measurements of biologically active steroids was a challenge for clinical chemists. The species involved, particularly cortisol, aldosterone, corticosterone and gonadal steroids, share many structural features, which made it difficult to devise analytical methods using purely chemical reactions of acceptable specificity, let alone sensitivity, especially given that they are normally present in body fluids in only nanomolar amounts.

Bioassays had been rendered obsolete even before I began working in clinical biochemistry, but the interested reader will find that they have a long history. Indeed, there are descriptions of an ancient Egyptian procedure involving a woman passing urine over wheat and barley seeds. If the barley seeds sprouted, the baby would be male; if wheat, female; if neither, she was not pregnant. More recently a widely used bioassay was to infer the presence of human chorionic gonadotrophin (and thus pregnancy) by injecting a woman's urine into an immature mouse; if oestrous developed, it implied the presence of hCG, and thus pregnancy. Such assays were, however, time-consuming and of variable reliability.

Early chemical estimations (in the 1950s) of cortisol were based on the Porter-Silber reaction for total 17-hydroxycorticoids (principally cortisol, 11-deoxycortisol and 17-hydroxyprogesterone) or the measurement of the individual species after chromatographic separation. These tests required at least 5 mL of plasma for a single estimation and were far too laborious for routine clinical use.

Many workers applied themselves to developing simpler and more accurate methods and in 1962, Dr (later Professor) David Mattingly published his seminal paper 'A simple fluorimetric test for the estimation of free 11-hydroxycorticoids [essentially cortisol and corticosterone] in human plasma' (*J Clin Path* 15:373-379). (What was regarded as 'simple' in those far off days would certainly not be considered so now.)

Plasma samples were first extracted into methylene chloride (perhaps familiar to some readers for its use in paint strippers); the extract was then treated with a fluorescence reagent comprising methylene chloride and concentrated sulfuric acid, and the fluorescence was measured after 13 minutes exactly. And of course a blank and series of standards was subject to the same procedure. The time was chosen to reduce the interference from non-specific fluorescence and to allow the analyst to process up to six samples in one run. This method measured both cortisol and corticosterone (both 11-hydroxysteroids) and although a method had been developed for the separate measurements of these two species, it was generally held that this was clinically unnecessary.

In one of my early posts as a registrar, I had to perform this procedure once, when the consultant, whose personal analytical fiefdom this was, was on leave. I don't remember whether the result I generated was in line with the clinical findings, but I do recall the consultant repeating the test when she returned from leave, and getting a figure that was not far off mine. But now, of course, we have relatively specific

radioimmunoassays for cortisol in plasma and for adrenal corticosteroids.

Hands up who remembers urinary 17-oxosteroids and 17-oxogenic steroids and their measurement by the Zimmerman reaction? Perhaps one or two of our senior members. I remember struggling to understand steroid metabolism when I was studying for an MSc and later the MRCPath exams. In essence, 17-oxosteroids are derived from the adrenals and gonads, whereas 17-oxogenic steroids are products of the cortisol pathway, and their measurement was considered to be of value in the investigation of congenital adrenal hyperplasia.

Now, of course, we have urinary steroid profiling and genetic confirmation of diagnosis.

Fifty years or more ago, modern diagnostic laboratory practice could hardly have been conceivable: now it is universal, at least in the so-called developed world. Would anyone like to bet on what clinical biochemistry labs will look like fifty years hence if, indeed, they exist at all, their function having been superseded by some presently undreamed-of technology? ■

WJM 30.viii.2022

Investing for impact

August saw the long-awaited completion of the sale of the fourth floor at Tooley Street. A canny investment in 2000, the space was no longer needed for ACB business as the staff team spent the past two years rationalising and repurposing the third floor space to fulfil our needs.

ACB President, Bernie Croal, and ACB Finance Director, Ben Nicholson (pictured below) signed on the dotted line to complete the sale on 15th August to a local Bermondsey business.

The proceeds of the sale have substantially increased the ACB's reserves. As part of a broader drive on sustainability, Council expressed a wish to align our investment policy with the mission and work of the organisation by opening an account with specialist impact investment firm Tribe Impact Capital.

Tribe Impact Capital is the UK's first dedicated impact wealth manager offering discretionary and advisory portfolio management. Set up with a clear goal: to help those who invest with them to achieve financial returns but also to bring about positive change for people and planet, Tribe only run portfolios for positive, sustainable impact. Its portfolios are made up of well-run businesses that are solving big social, environmental and economic challenges. It believes these are the businesses that will succeed now and in the future. Tribe is also a proud certified B Corps which means everything they do balances purpose and profit.

Tribe uses the United Nations Sustainable Development Goals as a framework for investment and the ACB portfolio will aim to deliver impact broadly across all 17 goals whilst also supporting the growth and income requirements of the organisation.

We are very excited see the impact our investments will have on people and planet as well as delivering great financial return for the Association. ■

Equality, Diversity and Inclusion – update on Prizes, Awards and Grants

Rachel Wilmot: Equality, Diversity and Inclusion Champion

As you may be aware, the ACB, through its affiliation to the Science Council, has now participated in two EDI Benchmarking exercises against our peer organisations. The process whereby we judge and bestow our Prizes and Awards and agree on Grant provision was somewhere we recognised we could and should be more proactively inclusive and broaden their relevance across the whole of our membership.

Our stated aim was to ensure we had the data to identify gaps and build an action plan for the future to include blind application processes, more outreach for applications, more diverse judging and to ensure we were inclusive of the whole of our membership. This article is an update on the steps and progress we have made so far, with Alex providing us with a more detailed insight into why change was necessary and the outcome of that change with respect to the process for allocating the Research and Innovation Grants.

The first step, as always, was and is ensuring robust and reliable EDI data was collected and tracked to enable us to identify gaps and build our action plan for improvement. Historical data on recipients was extremely limited, often confined to a name. However, for the first time, we now have a system that allows us to track the diversity of our Awardees and, where relevant, Applicants. This is in large part due to all the work that went into the building of the new website and the systems supporting that – we owe a huge thanks to the work Mike Lester put in on this.

Previously our Awards have concentrated on rewarding and encouraging early career members, both regionally and nationally and rightly rewarding the tremendous scientific achievements of our most established, nationally and internationally recognised members.

This has left a gap whereby much of the excellent everyday translation science carried out by all our members was not getting recognition. We were also cognisant that many of our Awards, in keeping with the nature of the organisation at the time, were recognising contributions solely to biochemistry and not reflecting the embracing of newer members across laboratory medicine. Sarah Robinson, Director of Conferences and Events, and her UKMedLab team have therefore this year launched the IMPACT AWARD. This was an opportunity for members of the Association working in laboratory medicine to showcase and be recognised for an initiative they have delivered, either as an individual or group, which has resulted in positive change in one of a number of areas. The new award appears to have been well received amongst our members, as 20 applications of excellent quality across a really broad range of work were received. You can look forward to hearing the winner(s) present at UKMedLab22 in November.

The establishment of this Award also allowed us to ensure the principles of accessibility and inclusion guided the whole process. Members were invited to

submit their own work for consideration via a defined application template. Those submissions were then blinded by the removal of all identifying names and organisations before they were sent out to a large and diverse team of people who independently scored them against a set of predefined metrics, the winner being the submission with the largest overall score.

As well as looking at our Awards and Prizes, the Scientific Affairs and Clinical Practice Committee under the guidance of our Director of Scientific affairs, Alex Yates, has been looking at the process surrounding our awarding of the Research and Innovation Grants. Below is her account of the thoughts behind and the changes made to their procedures.

Research and Innovation Grant evolution – a personal view

The Research and Innovation Grants (formally the Scientific Scholarships) have always been one of the highlights of my role on the Scientific Affairs & Clinical Practice Committee. It has always been equally interesting and inspiring to review the research and innovation our membership lead.

Previous to our improvements and adaptations to the submission process, committee members reviewed the application, with information that included applicant and supervisor name, sex, workplace and even age at one point (during our scoring of grants we would ask those with a conflict of interest to leave during discussion of that particular grant but this was as far as adaptations to ensure fairness went).

In 2020, in line with the ACB five-year strategy around Inclusion, I proposed to the Committee that with the advent of an electronic platform for grant submission we could take this as an opportunity to blind the Committee to key demographic information. Therefore hopefully minimising any bias, (either conscious or unconscious) on our independent scoring and subsequent group discussion around the application.

We looked to source information around the demographics of past recipients of the grants. Unfortunately, the data was not as complete as we would have liked to make a firm decision but it was obvious that despite the applications reflecting the makeup of Ordinary members (currently 63% female, 36% male), over the past five years male applicants had been more successful. It was therefore decided that we should redact applicant demographics from all but an ACB Staff Team member (who receives the applications, liaises with applicants for any missing or unclear information, then sends the redacted submissions to the Committee) and the Deputy Director of Scientific Affairs, who leads on the research and innovation grants process.

Although not a protected characteristic the Committee were also aware that we can all be influenced by our past experience of working with applicants, their supervisor or our knowledge of the institution they work at. This was a more difficult decision to make as redacting this information means we lose some information on the applicant and institution's experience in the area and proven research and innovation track record, both of which are required in our scoring criteria. After discussion we agreed to redact institution information also.

2021 was the first year we redacted demographics and institutional information and we have continued with this for the 2022 Research and Innovation Grants.

My personal reflections on the new process is that it requires a different way of thinking which I found challenging, especially around institution, as I'm aware that in the past I would have made assumptions that a Trust known for

specific expertise/techniques was going into scoring with an advantage over a Trust without these attributes.
On comparison to my previous scoring, it was obvious that redaction of applicant details resulted in more critical scoring from myself, as any bias I had around the institution's prestige or knowledge of the applicant/supervisor was no longer applicable.

The main reason for the change was to try and stop any unconscious bias that has been shown to exist and around assumed sex and ethnicity from knowing the applicant's name. However, we have only done this for one year, so unfortunately no conclusions can be made from this small data set.

At the time of writing we are due to review a field of 15 applications for the 2022 Research and Innovation Grants and once this is awarded I intend to circulate to ACB Council the demographics surrounding the Research and Innovation Grants over the past two years.

As we move forward with the ACB's inclusivity vision, I hope to look in more detail at the demographics and protected characteristics of our applicants and recipients, and if a pattern emerges look to put tools in place to help all applicants. However I do strongly believe that the steps we have put in place are strong first steps in ensuring that grants are awarded purely on the merit of their application.

Equity and inclusivity is an ever evolving, multifactorial area and one solution will not fix the problem but I believe this initiative and others outlined in this article are a start. The whole ACB Council team welcome input from the membership on EDI matters, either directly to the appropriate ACB Council members or by Rachel as EDI Champion. ■

UKMedLab22

London • 7-9 November

We're back in person!

We're delighted to announce our 2022 National Meeting will be back in person – and right in the heart of London in the Royal College of Pathologists' fabulous new purpose-built venue: Events @ No 6.

UKMedLab22 will feature internationally renowned speakers, national experts, discussions and debates for senior laboratory professionals – and be a much needed opportunity to reconnect with colleagues!

Monday 7 November

- Biochemistry Training Day
- Microbiology Training Day
- National Audit Meeting

Tuesday 8 November & Wednesday 9 November

- Science & Education and Leadership & Management conference streams

CPD accreditation applied for

Look out for more details at:
bit.ly/UKMedLab22

The Association for Clinical Biochemistry & Laboratory Medicine

ACB webinar: UNIVANTS 2021 UK winners

On 7th September, we held a webinar with the most recent UNIVANTS UK awardees. The session was moderated by Alex Yates, Chair of the ACB Scientific Affairs and Clinical Practice Committee.
The speakers were:

- **Leslie Perry**, Consultant Clinical Biochemist, Croydon University Hospital *(UNIVANTS Global Award winner)*
- **Ian Cormack**, Consultant in Genitourinary Medicine, Clinical Lead HIV Medicine, Croydon University Hospital *(UNIVANTS Global Award winner)*
- **Lisa Berry**, Consultant Clinical Scientist in Virology, University Hospitals Coventry and Warwickshire NHS Trust *(UNIVANTS Recognition of Distinction)*
- **Dimitris Grammatopoulos**, Professor of Molecular Medicine and Consultant in Clinical Biochemistry, University Hospitals Coventry and Warwickshire NHS Trust *(UNIVANTS Recognition of Distinction)*
- **Kirsty Gordon**, Consultant Clinical Scientist, Hampshire Hospitals NHS Foundation Trust *(UNIVANTS Recognition of Achievement)*

Get inspired for your UNIVANTS application by **watching the webinar in full**. You'll hear detailed accounts of how each team managed their projects and solved challenges, as well as their process when applying to UNIVANTS.

Summary: UNIVANTS application tips and award benefits

The speakers offered the following advice to prospective applicants:

- Track and present the before-and-after data for your initiative
- Highlight the outcome when writing your abstract
- Think carefully about which metrics you're measuring and submitting in your application
- Emphasise the importance of inter-disciplinarity in your initiative.

They also mentioned these top benefits of being a UNIVANTS 2021 finalist:

- Getting free access to AACC conference
- Getting recognition for outstanding team efforts
- Gaining international exposure for the individuals and their employers, for example through speaker opportunities
- Potential for career advancement in the field.

Summary: the winning teams' projects

Croydon University Hospital
Sustained 97% opt-out HIV testing in the Emergency Department: getting to zero AIDS

The multidisciplinary care team decreased mortality from 23% to 0% over an 18-month period in its Emergency Department, leading to:

- Improved patient wellness, safety, experience
- Increased clinical satisfaction
- Enhanced reputation
- Decreased healthcare costs.

UHCW NHS Trust and Warwick Medical School
Addressing COVID clinical and translational challenges via multidiscipline integrated diagnostics networks

The team established a new dedicated laboratory, delivering more than 3,000 UKAS-standard PCR tests per day in order to meet the capacity demands, including a strict KPI for test turnaround times of less than 24 hours for patients in hospital and care homes, leading to:

- Improved patient safety and infection control

- Enhanced clinical satisfaction and confidence
- Enhanced reputation

Hampshire Hospital NHS Foundation Trust
Improved patient pathway for diagnosis, follow up and monitoring of Multiple Myeloma (MM); a multi-disciplinary collaboration to improve the pathway from the initial request to long-term monitoring

The team reviewed the current diagnostic pathway from start to finish, leading to all urgent positive patient results being reviewed by haematology within 24 hours of result generation for same day intervention, and achieving:

- Reduced patient wait time
- Improved clinical satisfaction and confidence
- Reduced healthcare costs. ■

UNIVANTS Awards open for applications

We are encouraging members to **apply to UNIVANTS of Healthcare Excellence 2022.**

The Awards seek to recognise elite teams, from all over the world, that strategically mobilised insights from Laboratory Medicine into greater outcomes and overall patient care. The main eligibility requirements are:

- You are part of an integrated team that has advanced care in a clinical practice.
- Your team is comprised of members from at least three different disciplines, including Laboratory Medicine.
- Outcomes have demonstrated measurable impact to patients, payors, clinicians and health systems/administrators with at least two quantitative key performance indicators.

Read the **full applications guidance** and get inspired by **the projects delivered by this year's winning teams.**

The deadline for applications is 15th November 2022. ■

UNIVANTS™
OF HEALTHCARE EXCELLENCE

ACB/Abbott EDI webinar: proactive inclusion as an aid to find talent

6th October 2022 3pm-4.30pm on MS Teams

We've partnered with Abbott to deliver an interactive online session centering on Equality, Diversity and Inclusion (EDI) in the context of healthcare recruitment.

This session is facilitated by Mark Powell, who is the Country Manager for Point of Care at Abbott and senior sponsor for the UK chapter of Abbott's Ethnic Employee Network and includes the following speakers:

- Chris Chase – former Network Education and Training Lead, Scarborough, Hull and York Pathology Service
- Joe Teape – COO, University Hospital Southampton NHS Foundation Trust
- Dilini Peiris – Senior Clinical Scientist, Clinical Biochemistry, University Hospital Southampton NHS Foundation Trust and ACB EDI Champion.

Click here to book. ■

ACB new Members 2022

The ACB is proud to introduce you to our new Members who have joined us since the last edition of *ACB News* and we hope everyone will extend a warm welcome to:

Stephanie Laba, Trainee Clinical Scientist, James Cook University Hospital
Georgia Conrich-Wilks, Trainee Clinical Scientist, Glasgow Royal Infirmary
Rebecca Jones, Senior Clinical Biochemist, Shrewsbury and Telford Hospital NHS Trust
Ryan Enness, STP Clinical Scientist Trainee, King's College Hospital
Lynsey Burke, Trainee Healthcare Scientist, Leicester Royal Infirmary
Shamsudeen Alabi, Student, Ahmadu Bello University
Prafullaben Chauhan, Senior Biomedical Scientist, Ross Hall Hospital
Nadar Genedy, Medic ST3, University of Wales
Eloise Walker, Trainee Clinical Biochemist, University Hospitals Coventry and Warwickshire NHS Trust
Nadia Dehghan, Trainee Clinical Scientist, The Doctors Laboratory
Adam Hawker, Trainee Clinical Scientist, Manchester University NHS Foundation Trust
Gary Roulston, ST3 Chemical Pathology, Belfast Health and Social Care Trust
Rajeev Daniel, BMS Specialist, Barking, Havering and Redbridge University Hospital NHS Trust

Corporate Members
LumiraDX, UK
Diaqual Ltd, UK ■

Trade Union annual return statement to Members

The statement to Members issued in connection with the Union's annual return for the period ended 31st December 2021, as required by Section 32A of Trade Union and Labour Relations (Consolidation) Act 1992, can be **viewed here**. ■

Publication Deadlines

To guarantee publication, please submit your article by the 1st of the preceding month (i.e. 1st November for December 2022 issue) to:
editor.acbnews@acb.org.uk
We try to be as flexible as possible and will accept articles up to the 20th to be published if space allows. Otherwise they will be held over to the next issue. If we are aware that articles are imminent, this gives us more flexibility and we can reserve space in anticipation.
If in doubt, please contact Gina Frederick, Lead Editor, via the above e-mail. ■

LAB TESTS ONLINE UK

Your Trusted Guide

Peer Reviewed • Non-Commercial • Patient Centred

Produced by The Association for Clinical Biochemistry & Laboratory Medicine

With support from The Royal College of Pathologists — Pathology: the science behind the cure; IBMS

Lab Tests Online-UK is a non-commercial website written by practising laboratory medics and scientists with lay editorial review of content to ensure its suitability. The aim of the website is to help patients and the public, including healthcare professionals, understand the many clinical laboratory tests that are used in diagnosis, monitoring and treatment of disease.

LTO-UK fact of the month

Now most social distancing rules are no more, we're continuing to spread the word about LTO with clinicians at face-to-face events nationally. In June we were at the joint RCGP and WONCA (an international organisation for family doctors) Conference at the ExCeL in London. We attended the RCPath Open Day at the College main offices in September, and the Best Practice Show at the NEC in Birmingham in October. We're also going to be at UKMedLab22 in November at the Royal College of Pathologists.

Meet the Lab Tests Online-UK Board

CEO of ACB, Jane Pritchard

As CEO of the ACB, Jane Pritchard works with the Lab Tests Online UK Board to raise the profile of LTO within the ACB membership and with external stakeholders and influencers. In the past year Jane has helped to renegotiate the LTO licensing arrangement with the US owners to give the UK Board complete control over its future development. Jane is now driving a transformation programme on behalf of the Board with support from the IBMS and the Royal College of Pathologists to develop a future version of LTO. An early-stage vision and development plan has been developed and fundraising sources are being identified to bring this plan to fruition.

Jane moved to live in London a few years ago after her children left home and she makes the most of living in the capital with regular visits to comedy gigs, opera and theatre. When not in London, her favourite place in the world is Rhossili Bay on the Gower Peninsular.

The times they are a changin'

As alluded to in Jane's bio above, there are likely to be some changes to LTO in the coming months as the transformation project begins to bear fruit. Watch this space!

How to get involved

Join the editorial team

If you are interested in contributing to the vital work of the editorial team to keep the website up-to-date and to introduce new material please contact us for more information.

Become a Lab Tests Online-UK champion

Join our army of Champions and promote LTO-UK locally and nationally. Champion packs provide a great starting point with ideas and marketing materials, for more information or to join our champions please contact us.

Promote LTO at national events

We're also on the lookout for people to represent LTO-UK at conferences to speak to delegates and let them know how great the website is for the patients they care for, or indeed as a resource for their own education. If you're interested, please contact the LTO Office at the email below.

Email: **labtestsonlineuk@acb.org.uk** Website: **labtestsonline.org.uk** Follow us

The ACB National Audit Meeting at UKMedLab22

Dr W S Wassif, ACB National Clinical Biochemistry Audit Group Chair

This year, the UK's biggest audit event – the ACB National Audit Meeting – takes place a day before the UKMedLab22 Conference, on 7th November 2022 at the Royal College of Pathologists' headquarters in London.

Register now for the National Audit Meeting and get back into the excitement of face-to-face discussions and the excellent networking opportunities they provide.

You will hear about both national and local audits carried out recently by scientists and medical staff working in laboratory medicine. In addition, there will be opportunities to network with your colleagues, interact with key opinion leaders, and ask questions and debate on burning topics in the field of Endocrinology. Come and learn first-hand about practice challenges and controversies.

The programme will cover clinical perspective on hyperaldosteronism and adrenal vein sampling, as well as thyroid dysfunction in paediatrics and pregnancy, with high profile speakers from these specialist areas.

Primary aldosteronism: the dawn of a new era?

Mark Gurnell is Professor of Clinical Endocrinology at the University of Cambridge and is the clinical lead for adrenal and pituitary services at Addenbrooke's Hospital and the East of England. He serves on the Council of the Society for Endocrinology and is Co-Founding Editor of Endocrinology, Diabetes and Metabolism. His research focusses on the development of novel

approaches to the investigation and management of adrenal and pituitary disorders. He co-directs a national and international referral service for patients with complex and atypical thyroid function tests.

Thyroid dysfunction in children

Dr Renuka Dias is a Consultant Paediatric Endocrinologist at Birmingham Women's and Children's Hospital (BWCH), the clinical lead for diabetes and obesity services at BWCH and co-leads the National Highly Specialised Service for Wolfram Syndrome in Birmingham. She has a particular clinical and research interest in disordered metabolism and growth, including thyroid dysfunction, obesity and diabetes mellitus.

Thyroid dysfunction tests in pregnancy

Professor Kristien Boelaert is a Professor of Endocrinology at the University of Birmingham and a member of the Society for Endocrinology Council. She is the clinical lead for the NICE Guidelines on Thyroid Disease, the National Consensus Statement on Management of Thyroid Cancer and the RCOG Green Top Guidelines for Management of Thyroid Disease in Pregnancy. She is a senior editor for Endocrine Connections and BMC Endocrine Disorders and serves on the editorial board for several endocrine journals including Lancet Diabetes and Endocrinology. Her clinical research interests include the management of thyroid dysfunction, nodules and endocrine disorder in pregnancy. ■

National audits presented at the meeting

Primary aldosteronism and adrenal vein sampling

Ms Sarah Davies, Principal and HSST Clinical Scientist, will present findings from a recent national audit carried out on primary aldosteronism.

Thyroid function tests in paediatrics and pregnancy

Mr Finlay Mackenzie, NEQAS Director and Consultant Clinical Scientist, will present findings from a recent national audit carried out on thyroid function tests.

Faecal Immunochemical Testing

Dr Natalie Hunt, Consultant Clinical Biochemist, East Lancashire Hospitals NHS Trust.

Criteria for telephoning results from Biochemistry

Miss Mary Stapleton, Consultant Clinical Biochemist, Royal Devon University Healthcare NHS Foundation Trust and Jamie West.

I look forward to welcoming our ACB colleagues, as well as these eminent speakers with international reputations. I am sure we will all benefit from their expertise, knowledge and experience, and set out to further develop our own services as a result.

Register now for the National Audit Meeting

Book your place for UKMedLab22 now

The Association's flagship National Meeting, UKMedLab22, is now open for booking.

We are incredibly excited to collectively celebrate achievements in the laboratory medicine sector with our members and the industry between 7th and 9th November at the Royal College of Pathologists' headquarters in London.

We're inviting our members to book their tickets for three days full of in-person talks, interactive sessions and networking and training opportunities – as well as a bonus event organised by the Royal College of Pathologists, the Freddie Flynn Symposium, on 10th November.

The UKMedLab Conference on 8th and 9th November has been accredited by the Royal College of Pathologists for up to 11 CPD points.

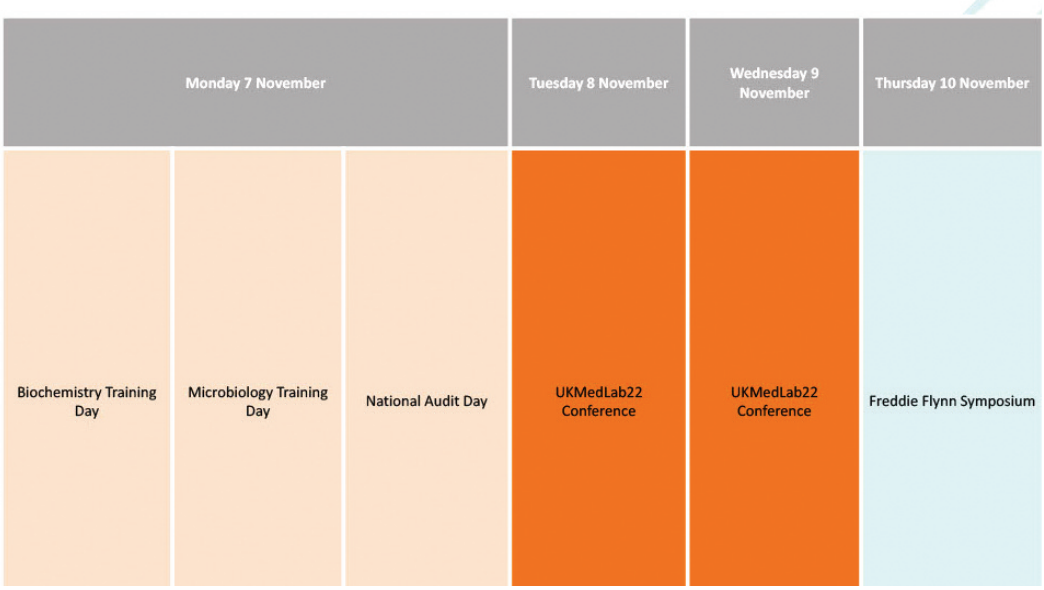
A glimpse at the Conference agenda (8th-9th November)

The two conference days will include internationally-renowned leaders in the field such as EFLM President Tomris Ozben and healthcare award winners including Neil Anderson and AACC President Shannon Haymond.

Here are some of the highlights:

Tuesday 8th November

- **Foundation Award Lecture:** Bowel Screening Services (Judith Strachan)
- **Build Back with labs – the importance of labs in recovery** (Bernie Croal)
- **The future delivery of lipid services and the role of Laboratory Medicine** (Kevin Deans, Jaimini Cegla, Shonagh Haslam, Anne-Marie Kelly, Lisa Ayers)



- **Poster viewing**
- **The Transatlantic Award Lecture:** A call to action for Clinical Laboratorians to build data literacy and analytics skills (Shannon Haymond)
- **Future biomarkers** (David Gaze, Cameron Hall, Amanda Helsgrave, Sofia Cerdeira)
- **Medal Award presentations** (finalists to be confirmed)

Wednesday 9th November

- **The Impact Award lecture** (winner to be announced)
- **Maintaining quality in the changing face of service delivery** (David Ricketts, Rachael Liebmann, Jane Mills, Stuart Jones, Danielle Freedman)
- **Innovations in cancer** (Issac Garcia-Murillas, Michael Husbank, Masood Moghu, Kevin Boyd)
- **Poster viewing**
- **Industry-sponsored workshops**
- **The International Award Lecture** (Tomris Ozben)
- **Interactive clinical cases**
- **How can the laboratory medicine profession contribute to Net Zero?** (Lisa Dittmar, Helen Dent, James Connelly, Sheri Scott)
- **Past, present and future of Renal Medicine: the key role of the laboratory** (Rupert Major, Rachel Marrington, Javeria Peracha, Anna Barton)

Two parallel Training Days (7th November)

The Biochemistry Training Day and the Microbiology Training Day have been designed by our committees to give Trainees both theoretical and practical insight into their respective area.

With a day-long intensive programme,

each Training Day will be highly focussed and feature many leading figures in the field as facilitators.

Biochemistry Training Day

- **Real-world POCT: Come and get stuck in** (Katy Heaney, Fiona Riddoch, Bethan Phillips)
- **OSPE update: content and preparation** (Tim Lang)
- **Mock OSPE** (Anna Milan, Andrew Davidson, Christopher Boot)

Microbiology Training Day

- **Interactive Case Discussions**
  Virology (Lisa Berry)
  Mycology (Alireza Abdolrasouli)
  Parasitology (Claire Rogers)
  Infection control (Naomi Gadsby)
  Travel Health (Jane Osborne)
- **Medical learning**
  Medicine for Clinical Scientists (Charlotte Brookfield)
  Imaging/Radiology for Clinical Scientists (John Cain)
- **Exam preparation**
  Part 1 and Part 2 recent Trainee experiences (Stephen Kidd and Zoie Aitken)
  MCQ practice session (Naomi Gadsby)

Ticket types

- You can book to attend just one day of the Conference or get the full two-day ticket.

- A Conference two-day ticket enables you to book the RCPath Freddie Flynn Symposium on 10th November.
- You can book a ticket for the Biochemistry Training Day, Microbiology Training Day or National Audit Meeting on its own or in conjunction with any of the Conference tickets.

ACB Members can purchase UKMedLab22 tickets at a sizeable discount. **In addition, if you purchased a Full Meeting Access ticket at UKMedLab21, you're entitled to a £50 discount on the Conference two-day ticket** – email us at **enquiries@acb.org.uk** to get your voucher code.

See our UKMedLab22 ticket information section for more details on ticket types, including how to book via purchase order.

More information

Read more and book a ticket for UKMedLab22 **here**.
UKMedLab22 is organised under the auspices of the EFLM.

EFLM
EUROPEAN FEDERATION OF CLINICAL CHEMISTRY AND LABORATORY MEDICINE

Ticket Type	Full Price	ACB Member Price
Biochemistry Training Day ticket, 7 November	£150	£100
Microbiology Training Day ticket, 7 November	£150	£100
National Audit Meeting ticket, 7 November	£150	£100
Conference – two-day ticket, 8-9 November	£550	£399
Conference – day ticket, 8 November	£450	£230
Conference – day ticket, 9 November	£450	£230
RCPath Freddie Flynn Symposium ticket, 10 November (only with Conference two-day ticket)	£50	£50

Register now for UKMedLab22

Deacon's Challenge Revisited

No 22 - Answer

A urine collection was handed in by a patient which he said he had collected over the previous day. Calculate the creatinine clearance given that the sample was found to have a creatinine concentration of 7.2 mmol/L in a volume of 3.2 L. The serum creatinine concentration taken during the collection was 94 µmol/L. Give the most likely cause for this result.

MRCPath, November 2002

In principle, this problem is simple to solve substituting values into the well-known equation:

$$\text{Clearance} = \frac{U \times V}{P}$$

Where U = concentration in urine
V = rate of formation of urine
P = concentration in plasma

However, difficulties frequently arise since the units of the three parameters are often not compatible. These difficulties can be overcome if the calculation is carried out starting from basic principles.

The creatinine clearance is the rate of clearance of creatinine from plasma i.e. the volume of plasma from which creatinine is completely removed in a given time period. Conventionally creatinine clearance is expressed in **ml/min**. Urine is collected continuously over a timed period (usually 24 h), its volume (V) measured in litres and the concentration of creatinine measured in an aliquot of the collection (U). The total amount of creatinine excreted is calculated by multiplying the creatinine concentration by the volume:

Creatinine excreted in 24h = Creatinine concentration (U) x 24 h urine volume (V)

Creatinine concentration in urine (U)	=	7.2 mmol/L
24h urine volume (V)	=	3.2 L
Therefore creatinine excreted per 24 h	=	U x V
	=	7.2 x 3.2
	=	23 mmol (2 significant figs)

Note that the volume of the urine collection must be in the same units as the volume term in the concentration (i.e. litres).

The volume of plasma cleared of creatinine in 24 h will be the volume of plasma that contains 23 mmol creatinine. Therefore division of the amount of creatinine excreted in the urine by the plasma concentration of creatinine will give the volume of plasma which contained the excreted creatinine i.e. the volume cleared:

$$\text{Volume of plasma cleared} = \frac{\text{Amount excreted in the urine } (U \times V)}{\text{Plasma concentration } (P)}$$

It is important that the units of the amount excreted in urine (in this case 23 **mmol**) and the plasma concentration (in this case 94 **µmol/L**) are the same. Multiplication of the creatinine excreted in the urine by 1000 converts it from mmol/L to µmol/L, which is compatible with the plasma concentration (expressed in µmol/L).

$$\text{Volume of plasma cleared in 24h} = \frac{23 \times 1000}{94} = 245 \text{ L}$$

This is the creatinine clearance expressed as L/24 h. It is usual to express the result as ml/min. Therefore the clearance is multiplied by 1000 (to convert from L to mL) and divided by the number of minutes in 24 h (i.e. 60 x 24):

$$\text{Clearance (ml/min)} = \frac{245 \times 1000}{24 \times 60} = \mathbf{170 \text{ ml/min}}$$

The expected clearance for a normal individual is 80-130 ml/min. A value of 170 ml/min seems unlikely. The most likely cause is apparent on inspection of the urinary creatinine output (largely dependent upon lean body mass) which, at 23 mmol/24 h, is improbable. The large 24 h urine volume (3.2 L) is also unlikely. It is more likely that the urine was collected over a longer period than 24 h, possibly 2 x 24 h.

It cannot be emphasised too strongly that the largest potential source of error in a urinary clearance measurement is the accuracy of the timed urine collection. Accuracy is unlikely to exceed two significant figures and so there is no point in expressing the plasma and urine concentrations to a greater degree of accuracy. The final calculated result (which is even less precise since it is derived from three individual measurements) should only be expressed to two significant figures. This is easier if the clearance is expressed in L/min rather than ml/min i.e. the above result would become 0.17 L/min. ■

Question 23

A new method for hCG in urine is being evaluated. The concentration in a sample from a pregnant woman is measured at 8,240 IU/L. A 50 µL aliquot of an international standard containing 50,000 IU/L is added to 450 µL of the same urine sample and the sample mixed. On measuring the mixed sample, the new concentration is found to be 12,100 IU/L. What is the recovery of HCG by this method?

MRCPath, Spring 2002

The Diggle Microbiology Challenge

These multiple-choice questions, set by Dr Mathew Diggle, are designed with Trainees in mind and will help with preparation for the Microbiology Part 1 FRCPath exam.

Question 32 from August's ACB News

Regarding rash illnesses:

A. Varicella-zoster virus (VZV) infection may cause a vesicular rash.
B. Parvovirus B19 is commonly referred to as Beta 19 disease.
C. There are 3 mammalian Herpesviridae subfamilies known as alpha, beta and gamma-herpesviridae.
D. Monkeypox does not spread from person to person.
E. Chickenpox has been easily distinguishable from smallpox since the early 19th century.

Answers:
True – A & C: *Varicella-zoster virus (VZV) causes chickenpox and herpes zoster (shingles). Varicella is characterized by a pruritic, maculopapular, vesicular rash that evolves into noninfectious dried crusts over a 3- to 7-day period. It is estimated that they arose approximately 180 to 220 million years ago. VZV belongs to the Alpha subfamily (Ĩ±-herpesviruses) along with herpes simplex 1 and herpes simplex 2.*

False – B, D & E: *Parvovirus B19 is a common childhood viral illness. It is also called fifth disease, "slapped cheek" or erythema infectiosum. It got its name because it was fifth in a list of historical classifications of common skin rash illnesses in children. Monkeypox virus can spread from person to person; however, it is not easily transmitted person to person. The virus is transmitted by respiratory droplets during direct and prolonged face-to-face contact (within a 6-foot radius for >3 hours). In addition, it is possible for Monkeypox to spread by direct contact with body fluids of an infected person or with virus-contaminated objects, such as bedding or clothing. VZV was finally isolated from vesicular fluid of chickenpox and zoster lesions in 1954, leading ultimately to the varicella vaccine (Varivax) that was licensed for use in the United States in 1995. Two shingles vaccines are available to reduce the risk of herpes zoster.*

Question 33

The following are true or false questions related to Poliomyelitis, also known as polio or infantile paralysis:

A. Polioviruses are small single-stranded DNA viruses that belong to the Enterovirus subgroup of the family Picornaviridae.
B. Humans are the only reservoir for polio virus.
C. Poliovirus type 3 has historically been the predominant cause of poliomyelitis worldwide and continues to be transmitted in endemic areas.
D. The virus is transmitted via droplets or aerosols from the throat and by faecal contamination of hands, utensils, food and water. The majority of transmissions occur via person-to-person contact or the faeco-oral route, although the oro-oral route is also possible.
E. The incubation period is approximately 7-10 days (range 4-35 days) and about 25% of infected individuals develop mild clinical symptoms including fever, headache and sore throat. Infected persons are most infectious from 7-10 days before and after the onset of symptoms. However, poliovirus is excreted in the stools for up to six weeks.
F. Immunisation is the cornerstone of polio eradication. Two types of vaccine are available: an inactivated poliovirus vaccine (IPV) and a live attenuated oral polio vaccine (OPV).

The answer to Question 33 will appear in the next issue of ACB News – enjoy! ■

24th European Conference of Endocrinology, Milan, Italy

Jonathan Atkins, Year 2 STP Trainee, Wythenshawe Hospital

Each year, clinical, scientific and health-profession colleagues from Europe and beyond meet to present and discuss the latest developments in endocrinology. Following two years of online meetings, May 2022 saw the 24th European Conference of Endocrinology (ECE) return to a face-to-face format, hosting over 4,000 delegates in the sunny city of Milan. As a second-year Trainee, I was most fortunate to attend my first international conference, alongside enjoying the attractions of this wonderful city, well known for hosting Italy's largest football stadium, the San Siro, excellent food and fashion alike and the famous Duomo di Milano.

With a four-day schedule full of wall-to-wall plenaries, symposia, rapid presentations and posters, this conference promised an opportunity to hear from world-renowned experts in endocrine clinical practice, research and innovation.

Jonathan and his ePoster

Saturday

Following a relatively smooth flight, the first pizza of the weekend and afternoon registration, we were welcomed to the conference with the European Journal of Endocrinology Award lecture by Professor Ronald Stimson (University of Edinburgh, UK). Professor Stimson outlined his group's work looking at the protective role of brown adipose tissue from the cardiometabolic burdens of obesity. They have observed a relationship between brown adipose tissue activity and serotonin, and have identified a potential mechanism for selective serotonin reuptake inhibitor-induced weight gain. The Transatlantic Alliance Award Lecture followed this, where Dr Shlomo Melmed (Cedars-Sinai Medical Centre, USA) discussed the double-edged role of growth hormone in health: crucial for development and maintenance, but also a key factor in DNA damage and cell senescence. In the final talk of the evening, Professor Morris Brown (Queen Mary University of London, UK) gave a plenary lecture. Professor Brown highlighted the profound under-diagnosis of primary hyperaldosteronism in hypertensives, and went on to talk about the utility of genetic analysis of

aldosterone-producing adenomas in predicting the likelihood of their cure through surgery. The evening concluded with a final welcome by the local organising committee and some songs played by a string quartet.

Sunday

Day two started bright and early with a 'Meet the Expert' session from Dr Dimitra Vassiliadi of Evangelismos Hospital, Athens. Dr Vassiliadi offered an interesting insight into the pitfalls of the single-sample investigations currently used for the biochemical investigation of Cushing's disease. The group at Evangelismos Hospital have found that these issues may be circumnavigated by using a continuous subcutaneous tissue-sampling microdialysis device to obtain 24-hour steroid hormone profiles and observe deviations from normal circadian patterns. Following this, the second plenary lecture was given by Professor Pura Muñoz-Cánoves from Universitat Pompeu Fabra, Barcelona. Professor Muñoz-Cánoves introduced her group's work characterising the pro-inflammatory role of senescent cells following muscular injury and the detrimental effect they have on tissue regeneration during aging. Her laboratory has also identified rejuvenating strategies, 'senolytics', to increase the aging muscle's regenerative capacity. Following a brief pastry and espresso intermission, we attended the first of four nurses' sessions taking place that day, on the topic of functioning adrenal tumours. Three talks were included in this session, the first being a whistle-stop tour of advances in the assessment and management of aldosterone-, catecholamine- and cortisol-secreting adrenal tumours by Professor Martin Fassnacht (University of Würzburg, Germany). Second was Professor Alfredo Berruti (University of Brescia, Italy), who discussed the current challenges in treating and managing patients with adrenal cortical carcinomas. Finally, an interesting case of metastatic adrenocortical carcinoma, with a very large 22 cm left adrenal mass, was presented by Miriam Asia, a senior Clinical Nurse Specialist in Endocrinology (University Hospitals Birmingham NHS Foundation Trust, UK).

The day continued with the first of the rapid oral communication sessions. These were an exciting chance to hear about the work of several researchers in a compact and concise format. Each speaker was given a two-minute slot, in which a pre-recorded talk was played, with opportunities to ask questions in person at the end. Out of a selection of diabetes, obesity, metabolism and nutrition, thyroid, and pituitary and neuroendocrinology, we attended the adrenal and cardiovascular session. Of particular interest was a talk by Dr Soraya Puglisi (University of Turin, Italy) discussing the efficacy of abiraterone acetate in the management of advanced adrenocortical carcinoma (DOI: 10.1530/endoabs.81.OC2.6). This has the benefit of also decreasing adrenal steroid over-production, reducing the patient's hirsutism.

To complete our adrenal-themed day at the conference, we attended a symposium discussing the role that adrenal steroids play in a variety of diseases. Firstly, Dr Jani Liimatta (University of Bern, Switzerland) went over the effect of adrenal steroids in polycystic ovary syndrome. Then Dr Henrik Olsen (Lund University, Sweden) discussed the frequency of adverse cardiometabolic events in mild autonomous cortisol secretion (MACS). Dr Barbara Altieri (University of Wuerzburg, Germany) delivered the closing talk for the symposium, describing the alterations in adrenal steroidogenesis that take place in patients with prolactinomas. Our day at the conference ended with the launch

of the new European Women in Endocrinology Group (EUWIN), created by Dr Cynthia Andoniadou (Kings College London, UK), Professor Wiebke Arlt (University of Birmingham, UK) and Professor Jenny Visser (Erasmus University Rotterdam, the Netherlands), to improve and provide opportunities for women working in endocrinology.

After a long day we enjoyed a meal out in Milan, which happened to coincide with the final, and deciding, game of Italy's premier football league, Serie A. AC Milan came out victorious by three goals to nil and secured their 19th season at the top of the league. Witnessing the infamous passion of the Italian football fans first-hand was quite an experience to round off the day. The celebratory sounds of Italian chanting and Vespa horns continued late into the evening.

Monday

It felt fitting that Monday began with the launch of the first ever European Hormone Day, created to build hormonal health awareness in both the general public and politicians. Following on from this were a series of industry-sponsored hub sessions. We attended the talk led by Professor Wiebke Arlt. She discussed the benefits of using Efmody, a modified release hydrocortisone designed to mimic natural diurnal cortisol patterns, relative to traditional treatment for patients with congenital adrenal hyperplasia.
By providing a more natural cortisol concentration throughout the day and night, Efmody can reduce the accumulation of adrenal steroid precursors, limiting androgen-overproduction and improving the patient's fertility, hirsutism and amenorrhea. Next, I was interested to hear about the different impacts of various sugars in the development of obesity, insulin resistance and non-alcoholic fatty liver disease, in a symposium dedicated to this topic. Of note was Dr Philipp Gerber's (University of Zurich, Switzerland) talk describing the greater effect of fructose, relative to glucose, in sugary drinks causing *de novo* lipogenesis in the liver.

Monday also saw another rapid oral communication session take place, this time pertaining to the pituitary and to neuroendocrinology. The talk I was most interested to hear within this session was given by Fideline Bonnet (Institut Cochin, Paris, France), regarding the different steroid precursor profiles in ACTH-dependant Cushing's patients on Metyrapone and Osilodrostat. Fideline's work suggests differing inhibition affinities of steroidogenic enzymes, producing different steroid profiles in the two patient groups, which has further knock-on effects. This work has been published, so more detail can be found there (DOI: 10.1530/EJE-22-0208).

Another highlight of the day was an industry-sponsored satellite symposia on managing patients with Cushing's syndrome. The panel consisted of Professor John Newell-Price (University of Sheffield, UK), Dr Irina Bancos (Mayo Clinic, Rochester, USA) and Professor Antoine Tabarin (University of Bordeaux, France). Each panel member presented highly interesting cases and posed questions to the audience regarding management and treatment strategies at key points in their patients' journeys.

Tuesday

To make the most of our final day at the conference, we got to an early start with a 'Meet the Expert' session by Professor Richard Auchus (University of Michigan, USA). Dr Auchus delivered a fascinating talk about the fine line between under- and over-treatment of congenital adrenal hyperplasia and avoiding the complications associated with both. He described the requirement to

slightly over-dose glucocorticoids in order to allow fertility in patients wanting to have children and discussed general best practice, using cases as examples. The talk was so popular that, on slightly over-running, delegates in the audience verbally requested he continue at the expense of their coffee break, in a sort of endocrinology encore!

Next, we attended the 4th plenary lecture of the conference, delivered by Cliff Rosen (Maine Medical Centre Research Institute, USA). He described his group's work looking at the peculiar observation that bone marrow adipocytes recruit fatty acids for storage during calorific restriction. His group suggest that this counter-intuitive response is protective of the bone stem cell niche during injury caused by fasting.

Unfortunately, due to covid-related airport strain, we had to leave after this lecture to ensure we arrived at the airport three hours before our flight home. But I left the conference having enjoyed meeting scientists and clinicians from around the world, learning about new and interesting areas of endocrinology and experiencing a major international conference in a wonderful location. Overall, it was an extremely positive experience and one that I believe I learned a lot from. I was also very fortunate to be able to present work of my own in the form of a poster.

I compared the performance of serum cortisol immunoassays to that of a mass spectrometry assay during dexamethasone suppression tests for Cushing's syndrome. I found the immunoassays had variable performance. If you are interested, more detail can be found at DOI: 10.1530/endoabs.81.EP105.

Next year's conference will be held in Istanbul, Turkey from the 13th-16th May. For anyone with an interest in furthering their understanding of endocrinology, I would recommend attending if you are able to. ■

ACB Retired Members' Group

Mrs Ruth Lapworth MBE

The first hybrid meeting of the group was held on 25th April. We were delighted that two international experts in their fields, Dr Michael Cornes and Professor Paul Collinson, had taken time to join half a dozen participants and myself in the new ACB meeting room at Tooley Street. The small group enjoyed catching up on news before the virtual audience joined us for the two presentations via Microsoft teams.

Dr Michael Cornes shared his wealth of knowledge and experience gained from 10 years involvement with the EFLM Working Group on Pre-analytic testing. He began his presentation titled "Challenges and solutions in the pre-analytic phase" by describing the brain-to-brain loop of the test requesting process and the goals of the Working Group which are to address the high percentage of laboratory errors known to occur in the pre-analytical phase.

The presentation was divided into 17 sections covering different aspects of the pre-analytical process. Dr Cornes began with the subject of test ordering. He described how rates of inappropriate requesting vary in European laboratories. Various UK initiatives to standardise both requesting protocols and retest intervals are not used in other European countries although some test profiles are in use. Mike's view is that adoption of standardised clinical condition specific profiles (care sets) will resolve this issue.

He then focused on patient preparation and the variability as well as lack of information given to patients in advance of sample collection, particularly where fasting is required. This has been addressed by publication of a paper prepared by the Working Group on the standardisation of collection requirements for fasting samples.

In 2013 the Working Group published results of a survey of national guidelines for education, training and phlebotomy in 28 European countries. Mike explained that venous blood sampling is a difficult issue to address as there is variation in the legalities of blood collection across Europe. He has observed blood collection in a variety of settings and the highest risk is associated with tube labelling that is not carried out in the presence of the patient. It is hoped that this issue will be addressed through information on the EFLM website, posters and training tools.

There are many opinions on the impact the order-of-draw and the effect EDTA contamination has on some laboratory measurements. Mike's view is that unfortunately there is no way to prove how this occurs as ethical approval for these studies is not possible. On a more positive note he stated that the European Group is to produce a check-list on how to report factors affecting sample stability.

Dr Cornes reported that future work starting with surveys into the practice of paediatric and neonatal sampling is required. Although WHO and CLSI guidance exists, very little is known about this pre-analytical area. He then addressed the issue affecting the various types of transport used to convey samples to the laboratory. These include more traditional methods such as post, vans, cars and pneumatic tubes but also drones and

robots. His view is that each transport type must be verified as fit for purpose and secure sample containers with complete traceability must be used.

Other areas included in Mike's comprehensive talk included the management of unsuitable specimens, standardisation of colour coding of tubes, quality indicators, management of transgender patients in laboratory information systems and clinical trials.

The title of Professor Collinson's presentation was 'The fall and rise of troponin biomarkers – how troponin conquered the (cardiac) world'.

Prof Collinson gave a superb overview of the role of troponin in the diagnosis of myocardial infarction (MI). He set the scene by presenting a timeline of MI from Jane Austen to the present day. This was followed by a definition of biomarkers, confirmation of the essential role of ECG in diagnosis of an acute MI and an historical perspective on laboratory tests (aspartate transaminase, lactate dehydrogenase and creatine kinase) that have been used as biomarkers.

Professor Collinson described the major changes that took place in cardiology during the 1980s in terms of the understanding of the pathophysiology of acute coronary syndromes (ACS) and subsequent treatment of STEMI and NSTEMI. This led to the introduction of rapid serial enzyme measurement for patient triage followed by the introduction of troponin testing. Paul presented data from 1996 showing the advantage of cTroponin over other biomarkers. He also described some evidence relating specific treatments to troponin elevation.

In 2000 a joint consensus document by European and American cardiologists redefining the diagnosis of MI resulted in the dominance of cTroponin over and above all other cardiac biomarkers. Paul's view was that this led to 'troponitis' i.e. widespread over/inappropriate use of the test as well as the issue of interpretation of positive troponin results outside ACS.

Professor Collinson and Dr Michael Cornes

A fourth universal definition of MI detailing the concept of ischaemic and non-ischaemic myocardial injury was published in 2018. This led to further changes in the way cardiac biomarkers are used. Professor Collinson showed data demonstrating the use of high sensitivity troponin measurements in patients with a suspected diagnosis of ACS. He described how rapid serial measurements over one to two hours can now be used to rule in or rule out patients with acute myocardial injury. Paul ended his presentation by describing the role of troponin in risk stratification and showed data supporting the use of troponin in predicting death from MI and coronary heart disease at five and 15 years post event.

The next meeting of the Retired Members' Group will be held on Tuesday 6th December at the ACB Office. ■

Industry Insights

Doris-Ann Williams, Chief Executive, BIVDA

So, I'm writing this just as the Government are going into party conference season – feels like we've been in a policy holding pattern for a while now! Legislation continues to be the main concern for industry – just before I wrote this I heard there were 570 pieces of EU legislation which are being scrutinised by DEFRA and while most of these won't affect the IVD sector, we need to go through them to ensure we don't miss something that turns out to be critical. We are also working with UKAS and Dr David Ricketts to support updating ISO standards and we have an ongoing programme on sustainability to ensure products will meet the requirements of the NHS for this.

And all change with Secretaries of State and the Junior Ministers again, so back to square one to engage and inform them regarding all things laboratory medicine and the IVD sector of the life science industry. It does sometimes feel like two steps forward and a couple to the side at least but I am convinced that on the whole, the public, including those working in policy, are much better informed about diagnostic testing so we can start to build on this.

There is a lot of 'excitement' on the policy side about the use of testing in the community and increasing use of testing by the public to build on their experience with COVID-19 tests. As many people know, I am a keen supporter of point-of-care testing providing it is done for the right reasons and not just because it is possible. BIVDA is part of a group working on a specific diagnostics strategy so we will be feeding this sort of message ina s well as the necessity for any testing done in primary care, whether in a community diagnostic centre, in pharmacy, in GP practice or wherever, to be supported with expertise from the local pathology service. We are also stressing that any self-testing for triage purposes also needs to have the right tests chosen for use to minimise false positives and negatives. But I am confident that this can be achieved and will helpfully relieve pressure eventually on workload for labs from primary care as well as offering a different career path potentially for laboratory professionals to work outside the laboratory in a different setting to the traditional one.

BIVDA has seen a surge in membership over the last year and we now have 236 members which is fantastic. Many of these are new to the sector so we have implemented a specific programme we have called Springboard, to run over the next six months for a first cohort of 10 companies to help get them up to speed with all the things they'll need to know to be able to bring a product to market and start to get it adopted.

BIVDA is celebrating 30 years of 'life' this year with a combined event and dinner on 12th October and I think 2023 will see some great changes for laboratory medicine while retaining the partnership between our sector of industry and our valued customers to benefit UK patients. ■

ACB News Crossword

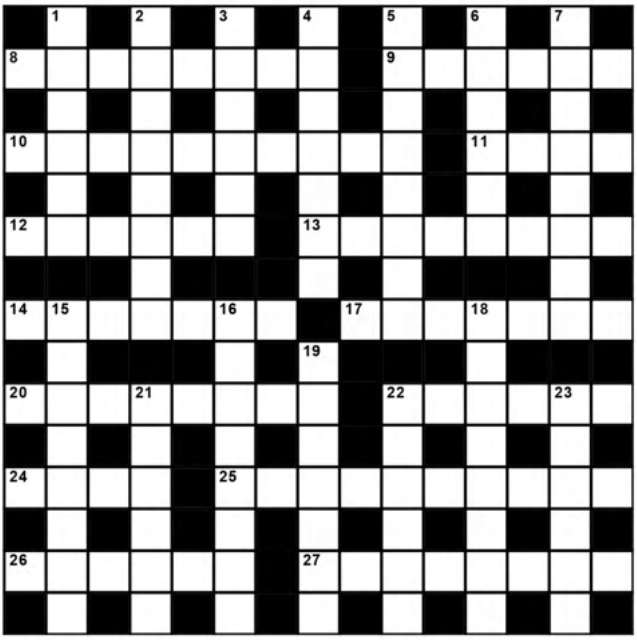
Set by Rugosa

Across

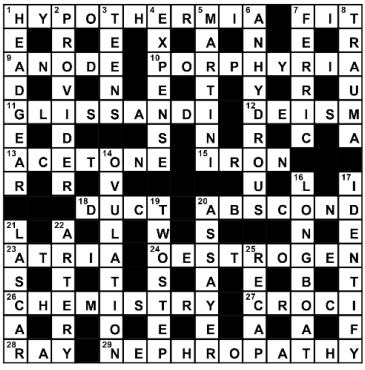
8 Elemental combining capacity two, but possibly ten valid (8)
9 Measure of time and distance (6)
10 Mistakenly incinerate diagnostically useful metabolic end product (10)
11 Pastoral life: missing a daily broadcast (4)
12 A judicial procedure re ancient Roman domestic courts (6)
13 Identification of energy store using only gas chromatography, for example (8)
14 Following first anatomy dissection learn about a gland (7)
17 Cardiac structure of self-regulating operation that bars surging (7)
20 Face fine for distribution of a stimulant drug (8)
22 After no end of thought, the under surface of the foot was described as flat (6)
24 Information exploring first nuclear structure (4)
25 Noted one clue misconstrued a structural subunit in all cells (10)
26 Unable to sort out whether in front of your eye or at a great distance (6)
27 Carrier modification for car OK (4-4)

Down

1 Carbamoylurea disorientated tribune who lost bearing (6)
2 A position below average for cadger (8)
3 Central situation: medical retirement of a large number (6)
4 Conditions for some of the orchestra (7)
5 Stevenson character going after corrupt deal for chemical (8)
6 Lack of ante for new, innovative site where tests may be conducted (2,4)
7 Vehemently dismiss small potential problem for polythene source (8)
15 Current debates about a metabolic problem (8)
16 Distressed groan, in bad pain, no initial response – test for acidosis (5,3)
18 Crack car future less acceptable as hybrid (8)
19 One element jolly about another (7)
21 Mid-evening femur fracture limits tongue wagging (6)
22 Lister's antiseptic unhappily no help (6)
23 Compound movement to the midline (6)



Solution for August Crossword



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Better Science, Better Testing, Better Care

Develop your career and support your profession

ACB welcomes applications for membership from health professionals and corporate bodies from the whole spectrum of laboratory medicine and healthcare science around the world. We are the representative voice for laboratory medicine and an established scientific authority.

ACB members have access to:

- a unified community platform to share best practice in laboratory medicine
- support from the recognised trade union for clinical scientists in the UK
- an internationally peer reviewed journal – Annals of Clinical Biochemistry
- news and updates on current issues and development opportunities in pathology through a regular newsletter and digital communications
- a programme of CPD accredited national and regional education and training events at discounted rates
- grants, bursaries and scholarships to support scientific research and innovation
- the opportunity to contribute to the profession and build your profile through committee engagement, peer reviews and expert representation.

To find out more about the benefits and eligibility for membership please contact Mike Lester: mike@acb.org.uk or +44(0)20 4542 6044

The Association for Clinical Biochemistry & Laboratory Medicine