

# ACBNews

The Association for Clinical Biochemistry & Laboratory Medicine | Issue 664 | April 2020



In this issue

Coronavirus/  
COVID-19  
Update

Focus 2020  
postponed

Women in  
Science

UNIVANTS of  
Healthcare  
Excellence  
Awards

Analyte  
Monographs –  
Past, Present  
and Future

Farewell to  
Mick and Julian





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# ACB News

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Message from the President	page 4
Coronavirus/COVID-19	page 6
General News	page 11
Microbiology News	page 18
Deacon's Challenge Revisited	page 20
Meeting Reports	page 22
ACB News Crossword	page 32



The Association for  
**Clinical Biochemistry &  
Laboratory Medicine**

*Better Science, Better Testing, Better Care*

Front cover: Laboratory worker (Source: 'The NIHR and the ACB membership' article, ACB News, August 2018)

# Message from the ACB President

As you are aware the Government has advised everyone not to leave home unless absolutely necessary in order to slow the progress of the COVID-19 pandemic and allow the NHS time to build its capacity. This has had a dramatic effect on ACB Members and the running of the ACB.

As already announced, we have taken the difficult decision to postpone Focus 2020 scheduled for 13-15th May 2020 to a new date of 10th-12th March 2021. This will allow us to transfer all existing bookings to the new date or make refunds if necessary. Delegates and speakers should by now have been contacted by CPI, our conference organiser, to make the necessary arrangements and to offer advice regarding travel and accommodation bookings. All shortlisted entries for awards and prizes and accepted posters are carried over to the new date.

Committee Chairs are postponing meetings up to the end of May 2020 or running them remotely by telephone or online. The ACB Office team is supporting the facilitation of this.

We will continue to monitor the situation and will determine the status of meetings between June and September in due course. We expect to make a decision regarding these meetings by the end of May 2020. We are also making alternative arrangements for the ACB and FCS AGMs.

The ACB Office has closed and the land line number is not operational so we would ask that you use email as much as possible to access services for the time being.

To make communications easier we have listed below direct email addresses and telephone numbers for the ACB team and areas of responsibility over the coming months:

- ◆ **Jane Pritchard – CEO** – jane@acb.org.uk and +44(0)7785 313053
- ◆ **Mike Lester – Membership Communications, Committee Meetings, AGM** – mike@acb.org.uk and +44(0)1732 369733
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The Executive, Council, the ACB team and I will ensure over the coming weeks that you continue to receive a first class membership service and are kept informed of developments. We continue to drive forward on major projects such as the new website and membership system and are on track to have this work completed towards the end of the summer.

We will stay in touch through the *ACB News*, social media and Mailbase and would welcome hearing from you, whether it is about the excellent service you are providing, your experience of self-isolation or to alert fellow members of publications and commentary around COVID-19. Finally, I am sure you will join me in recognising the remarkable efforts of our members who are such a critical part of this huge effort to keep the nation well.

**Professor Neil Anderson** ■

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# COVID-19: Royal College of Pathologists Resources Hub and Network Service

**Dr Rachael Liebmann, Vice President for Communications & Dr David Jenkins, Chair of the Medical Microbiology and Virology Specialty Advisory Committee**

The College has launched a resources hub on their website: <https://www.rcpath.org/profession/coronavirus-resource-hub.html> with the latest College information and guidance related to COVID-19, as well as relevant links to Public Health England and the Department of Health and Social Care.

They have also hosted a forum group on NHS Networks to help members stay connected in matters related to COVID-19. The members-only group has three forums, through which you can share and discuss information related to COVID-19.

If you would like to join, please visit <https://www.networks.nhs.uk/nhs-networks/rcpath-covid-19> and click 'Apply to join'. The College will verify your membership of the College and grant you access to the forums within 24 hours.

Please note: you will need to be logged into an NHS Networks account to view and join the group. If you do not have an account on NHS Networks, please follow these steps:

1. Go to: <https://www.networks.nhs.uk/register>
2. Fill in the personal details fields – name and email (please register using your RCPATH website login email address as this will make it easier to verify your College membership) – and decide whether you would like to receive the

NHS Networks newsletter. You must check the box stating that you have read and agree to abide by the terms and conditions of NHS Networks membership.

3. Click on the sign up button and an email will then be sent to you, containing a link back to the networks site. When you get the email, click on the link. If you haven't received an email, please check your junk/spam folder.
4. Clicking on the link takes you to a page with your email filled in, and two password boxes where you set your own password. Fill in your password and confirm it, and click the 'Set my password' button.
5. Your account is now activated. Click the link on the next page to log in with your email and password.
6. Visit the RCPATH forum page and click 'Apply to join'.

NHS Networks offers further guidance on how to register and join networks on its website: <https://www.networks.nhs.uk/help-1>

If you have any queries or questions, you can email the College at: [covid-19@rcpath.org](mailto:covid-19@rcpath.org) ■

# Statement from UK Chief Allied Health Professions Officers and the Health and Care Professions Council

## **The following statement regarding returnees to the HCPC Register to respond to the coronavirus demand was released on 19th March 2020:**

The coronavirus has united the nation in our efforts to delay the spread of the virus and support vulnerable members of our communities.

Health and social care services will be under increasing pressure as the number of cases increase.

We are proud that many Allied Health Professionals (AHPs) who have recently left the HCPC Register have expressed a willingness to come back and help during the national emergency. We thank you for this and are keen to ensure your temporary return is as smooth as possible.

For this reason, we have agreed to automatically re-register all AHPs who have voluntarily left the HCPC Register over the last three years onto a temporary COVID-19 Register once the government has passed its emergency legislation.

The HCPC will be contacting former registrants over the coming weeks to explain this process. There will also be more detailed information about HCPC's policy, guidance to those who choose to return, and FAQs at [www.hcpc-uk.org/covid-19](http://www.hcpc-uk.org/covid-19).

Being placed on this temporary Register does not assume any obligation to offer support as we appreciate not everyone will be able to do so for a variety of reasons.

To everyone who does offer to help in this time of crisis we would like to express our sincere appreciation. ■

*Suzanne Rastrick, Chief Allied Health Professions Officer, NHS England; Jennifer Keane, Chief Allied Health Professions Officer, Department of Health Northern Ireland; Carolyn MacDonald, Chief Allied Health Professions Officer, Scottish Government; Ruth Crowder, Chief Therapies (Allied Health Professions) Adviser, Welsh Government; John Barwick, Chief Executive and Registrar, Health and Care Professions Council* ■

# Coronavirus and COVID-19: An Update for ACB Members

**Dr David Gaze, Lecturer in Clinical Biochemistry, University of Westminster; and Dr Adele McCormick, Senior Lecturer in Molecular Biology, University of Westminster, on behalf of the ACB Scientific Committee**

In recent weeks we have witnessed an unprecedented global outbreak of a novel coronavirus causing severe acute respiratory syndrome (SARS). This is the 7th coronavirus known to infect humans. The virus named SARS-CoV-2 (previously HCoV-19) causes the disease COVID-19. With the outbreak occurring in Wuhan, China in late 2019, it has spread globally and has been designated as a pandemic viral infection by the World Health Organisation (WHO). At the time of writing (18/3/20, 14:00) the live situation dashboard of the WHO reports 194,029 cases and 7,873 deaths in 164 countries, areas or territories; with 1,954 confirmed cases and 60 deaths in the United Kingdom. SARS-CoV-2 likely originated by natural selection in an animal source, with SARS-CoV-2 demonstrating similar genetics (86% based upon WGS analysis) to bat SARS-CoV like coronaviruses. There is however, no evidence of direct bat to human transmission<sup>1</sup> suggesting an intermediate host may be involved. This follows similar zoonotic infection routes of other coronaviruses into the human population.

## Incubation and transmission

The incubation period has been suggested to be 5 days<sup>2</sup>. Transmission is dependent on variable individual infectiousness, population density and spatial distance. The virus can be transmitted in respiratory aerosols and by direct surface contact. Recent data suggests the stability and decay of the virus is variable in aerosols

and on different surface materials<sup>3</sup>; with the virus detectable in aerosols for 3 hours and longer on surfaces such as copper (4 h) cardboard (24 h) and on plastic and stainless steel up to 48 hrs and 72 hours. SARS-CoV-2 can be detected in saliva, urine and the gastrointestinal tract so other modes of transmission are possible and need to be investigated.

## Clinical presentation

The clinical presentation and severity of symptoms is case dependent. The clinical characteristics in the Chinese population have been documented from 1099 cases<sup>4</sup>. The virus has infected more males than females. The common symptoms are fever and a persistent non-productive cough, although many present without fever. The vast majority (>85%) do not demonstrate radiographic abnormalities in the lung but ground-glass opacity and bilateral shadowing has been demonstrated on computer tomography in severe cases<sup>4</sup>.

## Laboratory findings

From the Chinese population, lymphocytopenia was observed in 83% of cases, with thrombocytopenia in 36% and leukopenia in 34%. Biochemically, patients demonstrated high concentrations of CRP, less common elevations of AST, ALT, CK and D-dimer. Furthermore, in a systematic analysis of 11 PUBMED articles, Giuseppe Lippi and Mario Plebani have documented laboratory abnormalities reported in cases of COVID-19<sup>5</sup>. In addition to the findings

above from the Chinese cohort, patients may also present with decreased albumin, or increases in LDH, total bilirubin, creatinine, procalcitonin and also cardiac troponin and natriuretic peptides. The latter occurs in the more severe presentations of COVID-19 and is reflective of a cardio-inflammatory response and has been reported in fulminant myocarditis, successfully treated with glucocorticoid and human Ig<sup>6</sup>. Cardiac biomarkers could be utilised as a repeated metric of a worsening clinical scenario or an improving response due to Cardioprotective intervention.

### Developing diagnostic tests for COVID-19 infection caused by SARS-CoV-2

There has been a rapid response of the IVD industry to develop assays for SARS-CoV-2. Luckily these have migrated into the UK laboratories at a much faster rate (50,442 tests on 18/3/20) than in the US due to stringent Food and Drug Administration regulations. Real-time RT-PCR is used for SARS-CoV-2 RNA viral detection in upper and lower respiratory specimens and serological analysis of anti-COVID-19 antibodies by automated immunoassays can be used for disease surveillance. The preferred testing is by molecular diagnosis of COVID-19 by real-time RT-PCR, such as RdRp gene assay, which amplifies a conserved region of the RNA dependent RNA polymerase gene that is specific to SARS-CoV-2, which has been used for confirmation of this disease by PHE laboratories. In addition, oligonucleotide primers and probes selected from regions of the virus nucleocapsid (N) gene are also included in the panel. In confirmed COVID-19 cases, the laboratory testing should be repeated to demonstrate viral clearance prior to healthcare discharge.

You will appreciate this is a dynamic situation changing both globally and nationally. As more information becomes

available, please see the ACB Twitter feed (@TheACBNews), shared experience on the ACB Mailbase and the ACB website, which will help with the ever-changing information.

### Resources

A number of national and international organisations have dedicated online resources for healthcare professionals relating to SARS-CoV-2 and COVID-19:

- ◆ **Public Health England:** [www.gov.uk/government/organisations/public-health-england](http://www.gov.uk/government/organisations/public-health-england)
- ◆ **Royal College of Pathologists:** [www.rcpath.org/profession/coronavirus-resource-hub.html](http://www.rcpath.org/profession/coronavirus-resource-hub.html)
- ◆ **World Health Organisation:** [www.who.int/emergencies/diseases/novel-coronavirus-2019](http://www.who.int/emergencies/diseases/novel-coronavirus-2019)
- ◆ **New England Journal of Medicine:** [www.nejm.org/coronavirus](http://www.nejm.org/coronavirus)
- ◆ **CDC:** [www.cdc.gov/coronavirus/2019-nCoV/index.html](http://www.cdc.gov/coronavirus/2019-nCoV/index.html)

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5. Lippi G, Plebani M. Laboratory abnormalities in patients with COVID-2019 infection. *Clin Chem Lab Med* 2020 March; DOI: 10.1515/cclm-2020-0198.
6. Hu H, Ma, F, Wei X, Fang Y. Coronavirus fulminant myocarditis saved with glucocorticoid and human immunoglobulin. *Eur Heart J*, ehaa190, March 20; doi:10.1093/eurheartj/ ehaa190 ■

# New COVID-19 test to differentiate between lethal and non-lethal infections

**This is a copy of a Press Release from Randox Laboratories which Members may find interesting. Please see [www.randox.com](http://www.randox.com) for the current situation.**

A ground-breaking test for the potentially fatal COVID-19 strain of coronavirus is available at global health diagnostics company Randox Laboratories.

The test, developed on Randox's patented Biochip Technology, is an enhanced multiplex array which includes tests for COVID-19 and nine other respiratory viruses which can display the same symptoms.

The new enhanced Biochip therefore allows clinicians to quickly and efficiently differentiate between potentially lethal and non-lethal infections.

Dr Peter FitzGerald, Managing Director of Randox Laboratories, commented:

*"Current technologies for the diagnosis of coronavirus are designed simply to detect the presence or lack of COVID-19, and therefore neglect to differentiate between this strain and other respiratory infections. We have*

*therefore developed an extended Viral Respiratory Infection Array that tests simultaneously for COVID-19 and nine other viruses. This will eliminate the need for multiple back-and-forth tests before the root cause of symptoms is found, and empower clinicians to make fast and informed decisions."*

The test is available on the Randox Evidence Investigator with a turnaround time of 5 hours.

## Benefits of the new Randox COVID-19 test

- ◆ Quick Turnaround Times (5 hours on Evidence Investigator)
- ◆ Multiplex array differentiates between mild and serious infection
- ◆ Automated and semi-automated options available
- ◆ Medium to high throughput (54 samples in 5 hours)

The Biochip tests simultaneously, from one patient sample, for the viruses below:

- ◆ COVID-19 (previously named 2019-nCoV)
- ◆ Coronavirus 229E/NL63

For more information email: [marketing@randox.com](mailto:marketing@randox.com) or visit: [www.randox.com](http://www.randox.com) ■

## Reduction in planned HCPC registration fee increase

The ACB are pleased to inform the membership that the Health & Care Professions Council (HCPC) has decided to reduce the planned increase in registration fees (<https://www.hcpc-uk.org/news-and-events/news/2020/update-on-our-new-fee-proposals/>).

The ACB sent HCPC a letter of opinion advising against the increase (<http://acb.org.uk/docs/default-source/uk-organisations/acb-response-to-hcpc-consultation-on-fees-dec-2018>). The planned increase was £16 but has now been reduced to £8.12 and HCPC will be retaining the 50% discount for graduate applications received for the first two professional years of registration.

*"...many professionals' salaries have not increased substantially for some time, so as a result we are finding new*

*ways of working as well as continuing to manage our costs to minimise the burden on our registrants.*

*This rise will still allow us to invest in smarter technology to help us support registrants and the public we protect. It will also allow us to prepare for the Government reform of regulation, resulting in an improved approach to fitness to practise and greater work with stakeholders on how to prevent harm before it takes place."* –

statement from HCPC announcement

HCPC works to protect the public by regulating 15 health and care professions, including those in the healthcare laboratory profession. Healthcare laboratory professionals must be registered with HCPC to practice under their professional title. ■

## Sudoku

### This month's puzzle

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

### Solution for February

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

## Women in Science celebrated with ACB Members interviewed by Science Council

Alexandra Yates, ACB Member and ACB Director of Scientific Affairs, and Dr Elaine Cloutman-Green, ACB Member and ACB Microbiology Professional Committee member, took part in a podcast series by Science Council in celebration of International Day of Women and Girls in Science on 11th February 2020 and International Women's Day on 8th March 2020.

Their interviews cover a range of topics from what they love about their work, the importance of diversity, advice for girls wanting to become scientists and the challenges of not having role models early on in their career.

*"I love science because you're always learning...I am lucky that in my career it is healthcare related so you feel like you're making a direct difference to patients." – Alexandra Yates*

*"I don't want to be 'the scientist', I want to be Elaine and Elaine comes with passion and expertise and joy with what she is doing...I feel sometimes in STEM we think that*

*scientists and other academics should just be the professional face and then we don't get people bringing their whole selves to the role and until that happens we won't make the most of what they're capable of." – Elaine Cloutman-Green*

Both Alexandra and Elaine saw the call for interviewees by the Science Council on Twitter and cite it as a great place to link up with like-minded people and stay on top of updates to help with Continuing Professional Development.

- ◆ Listen to Alexandra's interview: [soundcloud.com/user-801113867/alexandra-yates](https://soundcloud.com/user-801113867/alexandra-yates)

Follow Alexandra Yates on Twitter: [twitter.com/alex79yates](https://twitter.com/alex79yates)

- ◆ Listen to Elaine's interview: [soundcloud.com/user-801113867/dr-elaine-cloutman-green](https://soundcloud.com/user-801113867/dr-elaine-cloutman-green)

Follow Elaine Cloutman-Green on Twitter: [twitter.com/girlymicro](https://twitter.com/girlymicro)

- ◆ Listen to the full podcast series: [soundcloud.com/user-801113867](https://soundcloud.com/user-801113867) ■

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## ACB Retired Meeting Postponed

We regret to inform you that due to the COVID-19 outbreak we have taken the decision to postpone the ACB Meeting for Retired Members. This was due to take place on 27th April 2020. We will be sending further details in due course regarding alternative arrangements.

For those who have registered, reimbursement of delegate fees is

available through the ACB Office. We ask for all those with travel expenses already booked to make every effort to seek refunds or ticket deferments from their travel company before contacting the ACB.

We apologise for any inconvenience this has caused and hope that you agree that this is the most sensible course of action in the current circumstances. ■

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## Lab Tests Online-UK Editors needed

Lab Tests Online-UK invites interested Healthcare Scientists, doctors and recently retired Fellows to join the voluntary team of editors for [www.labtestsonline.org.uk](http://www.labtestsonline.org.uk)

Lab Tests Online-UK (LTO-UK) is written by practising laboratory professionals to help the public understand the many clinical laboratory tests that are used in diagnosis, monitoring and treatment of disease. It is supported by the Association for Clinical Biochemistry and Laboratory Medicine (ACB), the Institute of Biomedical Science (IBMS) and The Royal College of Pathologists, and is entirely dependent on the efforts of unpaid volunteers. It is non-commercial and is consistently rated highly by patient associations and GPs

as a trusted website.

Editing pages is interesting and plays an important role in helping patients understand the tests we perform. CPD points can be claimed as self-accredited points under the RCPATH CPD scheme.

Your role as an editor would involve the review of new and existing pages on the website about specific tests and conditions and the contribution to the articles for news feed. All specialties are welcomed to apply and we have a particular shortage of editors with haematology, genetics and microbiology/virology expertise.

Please contact: [labtestsonlineuk@acb.org.uk](mailto:labtestsonlineuk@acb.org.uk) for more information. ■

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## Condolences

It is with regret that we must inform you of the sad news of the death of Retired ACB Member Graham Rex Shuttleworth who died just before Christmas. ■

## Publication Deadlines

To guarantee publication, please submit your article by the 1st of the preceding month (i.e. 1st May for June 2020 issue) to:

[editor.acbnews@acb.org.uk](mailto: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 Ian Hanning, Lead Editor, via the above e-mail. ■

# UNIVANTS of Healthcare Excellence

**Ian Young, Queen's University, Belfast**

In 2019, the ACB was delighted to support the inaugural UNIVANTS of Healthcare Excellence Awards hosted by leading professional healthcare societies, institutions and associations. This is intended to be an annual award which will recognise interdisciplinary care teams around the world who have achieved measurable, innovative impact within the healthcare system. It is hoped that the award winners – and participants – will provide models to inspire continued solutions within healthcare that will positively affect patients, clinicians and health systems globally.

It was particularly pleasing that two of the three winners in the first year of the awards – which were open to global participants – were from the UK, reflecting the strength of laboratory medicine in the UK and the strong collaborations which exist between laboratory professionals and clinicians. The awards were presented during the AACC Meeting in Anaheim in 2019 and subsequently celebrated at events in Oxford and Dundee.

A multidisciplinary team from Oxford University NHS Foundation Trust evaluated the use of new diagnostic tests for

pre-eclampsia to help improve outcomes and reduce readmissions, leading to increased patient satisfaction and lower costs. A team from the University of Dundee and Ninewells Hospital developed a novel approach to improve the diagnosis and management of liver disease using an intelligent algorithm, called iLFT (intelligent liver function test). The iLFT system offers real-time decisions about testing results, generating a follow up plan that is sent to the primary care physician in as little as four hours. A pilot of the test at the University of Dundee found that iLFT helped increase diagnoses from 41 to 93%, and use of the algorithm could provide improvements in the patient's quality of life while reducing the number of follow-up visits.

Representatives of both teams were due to be presented at Focus 2020 in Belfast in May to discuss their innovative approaches.

The UNIVANTS 2020 Awards are now open for entry with a deadline of 31st August. Further details can be found at: <https://www.univantshce.com/> It would be great to see more ACB success this year! ■



*Dundee Team from left to right: Elizabeth Furrrie, Ian Kennedy, Jennifer Nobes, Michael Hugh Miller, John Dillon, and Ellie Dow*



*Oxford Team from left to right: Guy Checketts, Tim James, Julia Eades, Manu Vatish, Matthew Covill (missing from this photo is: Sofia Cerdeira)*

*Photos courtesy of Lisa Harrison, Abbott*

# Analyte Monographs – Past, Present and Future

Gina Frederick, AMALCs Editor-in-Chief

## Past

Analyte monographs alongside the laboratory medicine catalogue (AMALCs) were originally conceived as an extension of the laboratory medicine catalogue (LMC). The plan was to write and publish a series of monographs that included all the information required for both providers and users of laboratory tests in all disciplines, essentially to act as an encyclopaedia to something that was called 'The Laboratory Medicine Catalogue'. The LMC was a project initiated by the DoH and funded by them. The LMC fell by the wayside, but the ACB thought that the idea was still good and AMALCs were continued. A long-term ambition was to extend the content beyond clinical biochemistry to immunology, haematology and microbiology.

Dr William Marshall was appointed as the original Editor-in-Chief of the AMALCs over 10 years ago, his role being to edit and supervise the process and to write several of the early monographs to give prospective contributors an idea of what was required. William stepped down from this role in May 2019.

## Present

- ◆ AMALCs are a fantastic resource. They provide a detailed summary of the nature and use of individual assays, and provide clinical and analytical information for laboratory staff and users, including a description of the analyte, details of analytical methods, uses, causes, follow-up of abnormal results, and any guidelines and systematic reviews.

The screenshot shows the website header for 'The Association for Clinical Biochemistry and Laboratory Medicine' with the tagline 'Better Science, Better Testing, Better Care'. The navigation menu includes Home, What we are, What we say, What we do, Links, Members, and Publications. A search bar is located on the right. Below the navigation, there is a 'what we say' section. The main content area features a 'Quick Links' sidebar with categories like Science, Best Practice Guidelines, Audit, Special interest groups, Scientific scholarships, Mailbase, and Analyte Monographs. The 'Further Links' section includes Standards for Microbiology Investigations. The main content area is titled 'Science: Analyte Monographs alongside the National Laboratory Medicine Catalogue' and contains a table of analytes with download links and author names.

Analyte	Author(s)
Download 5-Hydroxyindoleacetic acid	Dr Ryan Cooper
Download 17-Hydroxyprogesterone	Dr Edmund Wilkes and Miss Ellen Sargeant
Download Adrenaline	Dr Kate MacLagan
Download AFP2	Dr Alana Burns
Download Albumin	Dr William Marshall
Download Alkaline Phosphatase	Dr William Marshall
Download ALT	Dr William Marshall
Download Ammonia	Dr Louise Hawke
Download Amylase	Ms Sophie Hepburn
Download Anti-Müllerian Hormone	Dr Allen Yates and Dr Helen Jopling
Download Aspartate Aminotransferase	Dr William Marshall
Download Bilirubin	Dr William Marshall
Download Bilirubin (CSF)	Dr Sally Hanton

- ◆ More importantly, they are peer-reviewed and can therefore be included in publication lists on CVs.
- ◆ They are an educational activity and attract five CPD points.
- ◆ Trainees may write them under the supervision of a more senior colleague.

The Analyte Monographs can be found under the publications section of the ACB website: <http://acb.org.uk/whatwedo/science/AMALC.aspx>

There is also a link to some of the analyte monographs from Lab Tests Online-UK.

### Future

Although there is an extensive selection of analyte monographs available, there are many gaps, including some of the more routine tests e.g. LH/FSH. Currently there are no entries for Immunology and Haematology tests. Microbiology has its own version of the monographs. They are an excellent resource but are under-utilised and under-publicised.

Plans for the future include:

- ◆ Commissioning of new AMALCs.
- ◆ Extending the content beyond clinical biochemistry to immunology and haematology, starting with some of the cross-specialty tests such as immunoglobulins and complement.
- ◆ Initiating a review process for existing AMALCs.
- ◆ Giving them a more 'corporate' look such as including the ACB logo.
- ◆ Updating the 'Writer's Pack'.
- ◆ Updating the web-page.
- ◆ Publicising!

We would encourage members of all grades to contribute to this project. It is an excellent activity for Trainees to get involved in, and a great revision exercise. And good for your CV! And you may even get a mention in the new edition of Tietz as we have been approached about the possibility of including a link to the AMALCs!

As well as the analyte monographs listed on the website, the following are in progress: Caeruloplasmin, LDH, Troponins, NSE, Prolactin, Bicarbonate, Vitamin B12, and TSH.

If you wish to write an analyte monograph, and require a 'Writer's Pack', or for any further information, please do get in touch, via email at:

[AMALCs@acb.org.uk](mailto:AMALCs@acb.org.uk)

Finally, we would like to thank William Marshall for creating and maintaining the AMALCs over the last decade. ■

# Summary of Results from the ACB Microbiologists' Survey



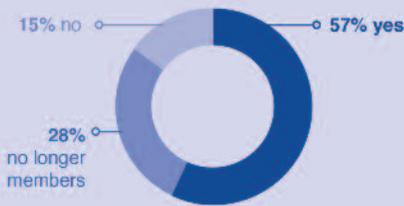
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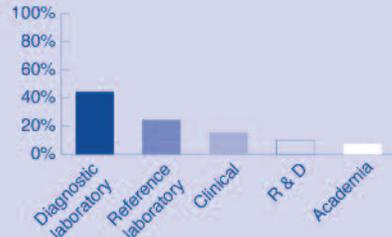
## What do microbiologists think of the ACB?

Source: ACB 2019 survey results.

### Were microbiologists who responded ACB members?



### Most respondents worked in laboratories



## Microbiology Professional Committee

### Top 3 most important roles

- 1 Supporting career development post-registration
- 2 Supporting career development pre-registration
- 3 Contributing to Clinical Scientist training via NSHCS & AHCS

### What could be improved?\*



\*large font size = themes most mentioned

## How can the Microbiology Professional Committee help you?



### Education

We provide formal and informal support, training and education for all levels and for those in formal training posts and those progressing via equivalence.



### Professional

We advocate for Clinical Scientists and Microbiology & Virology within ACB Council and other national professional bodies.



### Scientific

We support Clinical Scientists in research, inform best practice, and provide a conduit for comment on guidelines and issues.

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# Deacon's Challenge Revisited

## No 7 - Answer

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

$$\begin{array}{ll} \text{NAD:} & 1.8 \times 10^4 \text{ at } 260 \text{ nm,} & 1.0 \times 10^{-3} \text{ at } 340 \text{ nm} \\ \text{NADH:} & 1.5 \times 10^4 \text{ at } 260 \text{ nm,} & 6.3 \times 10^3 \text{ at } 340 \text{ nm} \end{array}$$

Calculate the concentrations of NAD and NADH in the solution.

MRCPath November 1995

Both NAD and NADH absorb at the two wavelengths used (260 nm and 340 nm). Absorbances are additive, therefore at either wavelength:

$$\text{Total absorbance} = \text{Absorbance of NAD} + \text{Absorbance of NADH}$$

At any wavelength the absorbance of NAD or NADH is given by:

$$\text{Absorbance} = \text{Molar extinction coefficient} \times \text{Molar concentration} \times \text{Cell path}$$

Therefore for each wavelength equations can be set up relating measured total absorbance to the sums of the individual absorbances of NAD and NADH:

$$\text{Measured absorbance} = (\text{NAD}_{\text{Conc}} \times \text{NAD}_{\text{Coeff}}) + (\text{NADH}_{\text{Conc}} \times \text{NADH}_{\text{Coeff}})$$

$$\text{At 340 nm: } 0.337 = 1.0 \times 10^{-3} [\text{NAD}] + 6.3 \times 10^3 [\text{NADH}] \dots\dots\dots(i)$$

$$\text{At 260 nm: } 1.23 = 1.8 \times 10^4 [\text{NAD}] + 1.5 \times 10^4 [\text{NADH}] \dots\dots\dots(ii)$$

(The cell path is 1 cm and can be ignored)

These form a pair of simultaneous equations that can be solved for [NAD] and [NADH] in the usual manner. However, solving a set of simultaneous equations can be a lengthy process and it is worth remembering that these calculations are designed to be simple! Therefore we should look for approximations and short cuts. In this particular example it is possible to considerably simplify the calculation. The molar extinction coefficient of NAD at 340 nm is much lower than that of NADH (by a factor of approx.  $10^{-6}$ ) so that the contribution of NAD to absorbance at this wavelength can be ignored. Equation (i) can then be simplified to:

$$0.337 = 6.3 \times 10^3 [\text{NADH}]$$

$$[\text{NADH}] = \frac{0.337}{6.3 \times 10^3} = 5.35 \times 10^{-5} \text{ M} = 53.5 \mu\text{mol/L}$$

[NAD] can be calculated by substituting [NADH] =  $5.35 \times 10^{-5}$  into equation (ii):

$$1.23 = 1.8 \times 10^4 [\text{NAD}] + (1.5 \times 10^4 \times 5.35 \times 10^{-5})$$

$$1.23 = 1.8 \times 10^4 [\text{NAD}] + (8.03 \times 10^{-1})$$

$$1.8 \times 10^4 [\text{NAD}] = 1.23 - (8.03 \times 10^{-1}) = 0.427$$

$$[\text{NAD}] = \frac{0.427}{1.8 \times 10^4} = 2.37 \times 10^{-5} \text{ M} = 23.7 \mu\text{mol/L}$$

## Question 8

A patient receiving total parenteral nutrition is receiving 11.8 g nitrogen/24 h as amino acids. Urinary urea excretion is 580 mmol/24 h.

Indicating what assumptions you make, calculate whether she is in positive or negative nitrogen balance.

*MRCPath November 1999*



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# Frontiers in Laboratory Medicine Report: Day 1

Niamh Horton, Trainee Clinical Biochemist, Mid Cheshire NHS Foundation Trust



This year's FiLM conference was again held at Austin Court in Birmingham and brought together Scientists and Clinicians from several Pathology specialisms. This year I was lucky enough to attend as part of the Emerging Leaders Programme, with innovation in Pathology the focus of the first day.

The conference was opened by the ACB President, Neil Anderson, who emphasised that Pathology has already made many advances and improvements in recent years. Neil reiterated that we all have the ability to be innovators, with laboratories becoming more automated providing an opportunity for staff to become involved in taking Pathology directly to the user.

The changing role of Clinical Scientists, and the pathology workforce as a whole, was a running theme throughout the day.

It was fascinating to hear from Dr Bill Morice, who gave his personal view from the Mayo Clinic and Pathology in the USA. Bill discussed how several innovation projects have been implemented in the Mayo Clinic, and whilst much of it was on a large scale, the procedures enabling innovation at the Mayo Clinic are still very relevant to Pathology within the UK. Bill summarised the drivers of innovation and stated it was always important to identify the barriers of entry and the rate of change which often become the major determinants of the success of innovation.

Following this, Andy Howlett discussed the NHS Improvement project. Andy discussed how NHSI aims to improve the care and efficiency within the NHS, and showed some preliminary data highlighting how the large-scale project has improved productivity within Pathology. Andy also discussed the role we all play within the project and



Dr Bill Morice

promoted the potential for the development of new roles for current NHS staff as a result of NHSI.

The second session of the day focused upon innovating technology and was opened by Sheryl Warttig who gave a really informative overview of the role NICE play in the innovation pathway. Sheryl explained how NICE are actively involved with supporting the development and adoption of new health technologies. Sheryl discussed HealthTech Connect, a new tool developed by NICE aimed specifically for innovation. Sheryl discussed how it was becoming more difficult to identify non-drug technology, and therefore HealthTech Connect aims to act as a repository and it can assess evidence and provide support for innovators.

To put this innovation into context, a team from Nottingham, Consultant Haematopathologist David Clark and Consultant Breast Pathologist Dr Gurprit Atwal, presented their experience of implementing digital pathology. They discussed how this was implemented and how digital pathology has innovated the cellular pathology reporting practices in Nottingham, improving patient care. It will be really interesting to see how widely this technology is adapted, especially in other areas of Pathology. This technology was also found to help with the recruitment issues, which whilst focused upon a specific area, are a widely reported national issue. The team has highlighted how digital pathology enabled real time collaboration with colleagues. During the panel discussion, some audience members questioned if digital pathology altered the relationship between colleagues. However, the team confirmed that they saw this technology as having huge benefits and helping to alleviate the current unmet need with regards to the limited number of Histopathologists.

Jo Martin, President of the RCPATH, focused upon the relationship between



*Dr Marion Wood, GIRFT Pathology*

innovation and quality and gave a very refreshing view of audits! Jo highlighted that quality is never an accident and should not be taken for granted, and reiterated that we spend a lot of time undertaking compliance audits rather than risk based audits. Jo challenged us all to think about audits and identify the opportunities for shared learning from each audit. Jo specifically commented on the number of audits on water that she sees and questioned us to think about what we want to achieve when we undertake an audit.

The afternoon started with a session on GIRFT showing the progress made by the GIRFT Pathology team, comprised of Dr Martin Myers, Dr Tom Lewis and Dr Marion Wood. Some of the initial data was fascinating, and this is being used to compare departments nationally but also within Pathology networks. I found the variation in Primary Care particularly interesting, for example, initial data shows a large inter-seasonal variability in the number of hyperkalaemic results. Whilst this data may not be overly surprising, the team highlighted how the data allows quantifiable measures of issues commonly discussed in Pathology. The data also enables such issues to be addressed as a whole Pathology Network, enabling corrective actions to be implemented,

for example focusing upon pre-analytical issues with sample transport. This issue may be commonly identified in Biochemistry, but corrective action requires involvement from several departments. The data from GIRFT was shown to enable such conversations to take place.

During the panel discussion, profile based testing was also discussed at length. It was suggested that symptom based requesting may be an alternative to reduce some of the unnecessary test requesting identified using the GIRFT data. I think this would be a really interesting option to discuss with local Primary Care clinicians, and to involve them in some of the innovations that arise from the GIRFT Pathology projects.

The first day finished with examples of innovation projects from the NHS in England. Clare Ford discussed the implementation of High-sensitive Troponin and the role of the Biochemistry Department in the development of a chest pain pathway, linking the front line clinicians directly to the laboratory. The project involved a large implementation team involving both clinical and laboratory staff. Implementing the new method enabled patients to be discharged earlier, and reduced the mean length of stay from 23 to 9.6 hours, resulting in an estimated annual saving of £788,000.

Professor Tony Fryer gave an overview of Lab4i, a project currently being developed in collaboration with UHNM and external partners. Tony highlighted the shared purpose aspect of the NHSE change model and emphasised the importance of using the expertise of Scientists. The extended roles of Scientists has previously been highlighted by the AHCS, and Lab4i showed a novel aspect of a possible extended role. Lab4i aims to improve scheduled testing of patients with chronic conditions, which currently forms a huge part of the laboratory workload.

With Scientists leading the project, this large workload could be realigned to make it more predictable for the laboratory. This project not only maximises the potential of laboratory staff by extending their roles, but also aims to improve patient outcomes by improving chronic disease monitoring. Current data suggests that only 50% of HbA1c requests are performed at the recommended frequency. Differing repeat testing intervals was also highlighted by the GIRFT Pathology team as an area which requires harmonisation.

Kerry Roulston finished the session by discussing her evaluation of a new system for rapid identification of antimicrobial susceptibility testing. Kerry highlighted that despite the large initial work required, this innovation reduced the time taken for an accurate susceptibility result to be reported. Implementing the new system had several positive downstream effects and significantly reduced the time required for a patient to be started on the optimum therapy. Kerry highlighted that during this project it was important to have an auditable clinical outcome which was successfully achieved.

Day 1 highlighted that innovation does take time and effort and can cause disruption. However, this is proportional to the gain from such innovation, not just financially, but for other clinical staff and most importantly, for patients.

FILM was fascinating and very informative, and I returned to my department with several new project ideas! I would recommend FILM to early career scientists who can gain an invaluable insight into many of the changes occurring in Pathology in the UK. ■

- ◆ The second day of FILM will be reported in the next issue of *ACB News* by Gemma Reidy, Senior Clinical Biochemist, UHCW NHS Trust

# Mick's Festschrift

Divya Patel and Roger Bramley, Leeds Teaching Hospitals NHS Trust

Dr Mick Henderson, Consultant Clinical Scientist in Biochemistry, retired in January 2020. Mick was Head of the Biochemical Genetics and Newborn Screening Laboratory at Leeds Teaching Hospitals, where he had worked for 36 years. From 2014 to 2019 Mick was also Head of the Biochemical Genetics Laboratory at the Willink Laboratory in Manchester. Many of us have received invaluable expert advice from Mick in the investigation of Inborn Errors of Metabolism (IEM). Mick has always had a passion for teaching and he has provided specialist training in this field to local, regional and national Trainee Scientists and Clinicians, many of whom have spent time in the Leeds and Willink labs under Mick's leadership. It is largely due to Mick's determination that the National School for Healthcare Scientists agreed in 2004 to fund ten Higher Specialist Trainee posts in Biochemical Genetics, thus creating the next generation of experts in the field. To celebrate Mick's career, a Festschrift was held in his honour on the 23rd January 2020 at the Thackray Museum in Leeds.

The meeting was chaired by two of Mick's close colleagues at Leeds Teaching Hospitals – Mr Robert Barski and Dr Carys Lippiatt.

## Science, medicine, serendipity, the Australian bottle-brush plant and the importance of stuff

Professor John Walter, recently retired Consultant in Inherited Metabolic Disease at the Royal Manchester Children's Hospital, presented the first talk of the meeting. He met Mick in Bristol, where Mick worked as a Trainee Clinical Scientist and later worked with Mick again at the Willink Laboratory. Professor Walter's talk highlighted the 'firsts' in the field of



*Mick Henderson and Carys Lippiatt*

Inborn Errors of Metabolism by bringing focus to the phenylalanine oxidation pathway. We were reminded of the work of the pioneer in the field, Dr Archibald Garrod, whose investigation of infants with brownish-black stained nappies led to the discovery in 1902 of the first condition determined to be an inherited metabolic disorder, alkaptonuria.

Another disorder within the same pathway was identified in 1934 by Dr Asbjørn Følling. Using a classical organic chemistry approach, Følling showed that children with severe mental retardation excreted high amounts of phenylpyruvic acid in their urine; he named the disorder phenylketonuria (PKU). This became the first form of mental retardation to have an identifiable chemical abnormality. In the 1960s, Dr Robert Guthrie realised that prompt diagnosis of PKU could facilitate treatment early enough to prevent irreversible neurological damage. PKU was the first disorder to be screened for in newborn infants, using Guthrie's bacterial inhibition assay.

In keeping with the theme of 'firsts', Professor Walter then spoke of the

discovery of the herbicide nitisinone, a chemical derived from a natural phytotoxin obtained from the Australian bottlebrush plant. It is used to treat a third disorder of the pathway, tyrosinaemia type I, and is the first treatment to be based on a weed killer. The talk concluded with a reflection on the role of serendipity in each of the above scientific discoveries and a video of Dr Følling talking about his discovery of “stuff” (phenylketones). Professor Walter thanked Mick for all his years of measuring various “stuff” for clinicians!

### **Newborn screening for severe combined immunodeficiency in the UK: Clinical cases and conundrums**

Dr Leslie Tetlow, Consultant Clinical Scientist and Lead of the Newborn Screening Laboratory in Manchester, has collaborated with Mick over many years. Dr Tetlow spoke about the highly anticipated newborn screening pilot for severe combined immunodeficiency disorder (SCID), which comprises a group of rare inherited disorders that affect the development of functional T cells and B cells in infants. SCID screening will be based on PCR amplification of T-cell receptor excision circle (TREC) DNA, which serves as a marker for the number of mature T cells. Low TRECs are expected in infants with SCID but may also be seen in other immunodeficiency disorders or due to an underdeveloped immune system seen in prematurity.

Dr Tetlow highlighted various obstacles to screening, including the identification of T-cell lymphopaenias due to other primary and secondary disorders. For instance, there is the potential to miss infants with delayed onset SCID who may have detectable (or even elevated) T cell numbers due to a partial defect. This has implications for the BCG vaccination since babies with severe immunological deficiencies are at considerably higher risk



of developing severe side effects following vaccination. In addition, there is a need to establish a suitable cut-off and screening protocol.

### **ERNDIM: the ultimate in networking**

Professor Brian Fowler, a long-standing colleague of Mick's through ERNDIM, travelled from Switzerland to speak. Professor Fowler described the humble beginnings of ERNDIM in 1991 and its development from a European initiative to a Worldwide EQA provider, offering 16 EQA schemes for laboratories investigating Inborn Errors of Metabolism for 408 participating laboratories spanning 63 countries. Mick succeeded in introducing an EQA scheme for white cell cysteine, what was initially felt to be 'an impossible task'. He also organised and continues to deliver scientific training for the study of IEMs through the SSIEM's (Society for the Study of Inborn Errors of Metabolism) Academy.

Professor Fowler ended the talk by presenting Mick with a certificate to grant him membership of the highly selective senior SSIEM (aka SSSIEM who lunch)!

### **Primary hyperoxaluria**

Dr Eric Finlay, a Consultant Paediatric Nephrologist at Leeds, has worked alongside Mick for 15 years. He highlighted how the paediatric lab under Mick's leadership had facilitated the



diagnosis of primary hyperoxaluria in children, due to close collaboration with the Paediatricians and scientific vigilance in the interpretation of urine organic acid chromatograms. The Leeds renal team is responsible for the management of the third largest cohort of primary hyperoxaluria patients in the UK. Dr Finlay described emerging novel treatments for hyperoxaluria and some of the clinical trials that Leeds patients have been recruited into.

### **The revolution in gene testing – will it make Biochemistry unnecessary?**

Dr Angus Dobbie is a Clinical Geneticist at LTHT who trained as a Biochemist alongside Mick at Southmead Hospital in Bristol about 40 years ago. He switched to a medical career in Clinical Genetics and later followed Mick up north to Leeds. As with many stories about Mick, this talk began with a conversation in the pub with Mick and Angus discussing how developments in the field of Clinical and Laboratory Genetics may or may not put Biochemists out of a job. Dr Dobbie discussed how genetics has changed over the course of their careers, highlighting the human genome project which took 20,000 staff 19 years at a cost of \$3,000,000,000 and how, less than 20 years later, a genome can be sequenced by one staff member in a matter of days costing around \$1,000. This has led to an explosion

in the amount of data available, and the interface between clinicians, geneticists and biochemists is more important than ever to ensure that a patient's genetic information is appropriately interpreted in parallel with the biochemical information about their phenotype. Finally, Dr Dobbie considered recent interesting progress in genomics and how free foetal DNA allows prenatal whole genome sequencing.

### **Unravelling metabolism with Mick**

Professor Simon Heales, Head of the GOSH Biochemistry Laboratory and Director of the Neurometabolic Laboratory at UCL, presented the last talk of the day discussing his 25 year history of working with Mick. Professor Heales framed his talk around an acrostic from Mick's name: "Metabolism" highlighting the many areas where Mick has expert knowledge; "Imparting" listing the many educational bodies Mick has worked with and helped to develop over the years; "Collaborative" demonstrating links between labs and individuals that Mick has helped to build. Emphasised through a case of Aromatic Acid Decarboxylase (AADC) deficiency diagnosed in record time through joint work by the Leeds and UCL labs. Finally, he postulated that not a single member of the audience could disagree that Mick wasn't "Kool!"

Mick thanked everyone for coming and highlighted the importance of collaboration not just between laboratories and clinicians but also collaboration between labs. It was a testament to Mick's countless successful collaborations that so many scientists and clinicians from all over the UK and beyond attended this excellent meeting to celebrate his career.

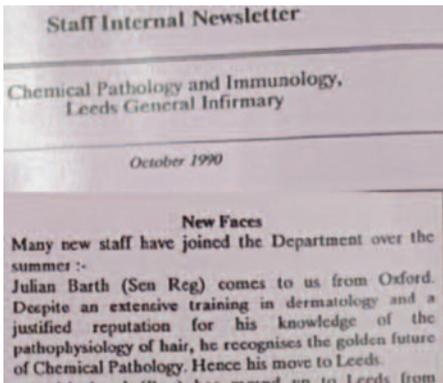
All of us here at Leeds and I'm certain all of those who know him will wish Mick a very happy and well deserved retirement, with five grandchildren it certainly won't be a quiet one! ■

# The End of an Era – Farewell Dr Julian Barth

Stephen Gibbons, Divya Patel & Carys Lippiatt, Leeds Teaching Hospitals NHS Trust

It truly is the end of an era. The man, the legend, Dr Julian Barth, Consultant Chemical Pathologist, has retired from Leeds Teaching Hospitals Trust after over 30 years' service.

Julian entered the world of Pathology many moons ago, after starting his medical career in the world of dermatology; particularly that of the follicularly challenged. His early research focused on the pathophysiology of hair. His decision to embark on a career change was made after 'recognising the golden future of Chemical Pathology'; as this excerpt from the 1990 Leeds Pathology Newsletter shows.



Julian's publication record is nothing short of remarkable and includes more than 200 peer reviewed journal articles (and still rising!) as well as the indispensable 'red book' (*Biochemical Investigations in Laboratory Medicine*). His interests are wide ranging and include endocrinology of hair loss and hirsutism, adrenal and pituitary diseases and their investigation, porphyria, statistics and

laboratory methodology and novel biomarkers. He also has a great interest in the pathophysiology and management of obesity and collaborated with the British Obesity and Metabolic Surgery Society to establish nutritional guidelines for patients following bariatric surgery. His clinical practice included lipid clinics, porphyria clinics and obesity clinics.

During his career, Julian held several eminent positions including President of the Association for Clinical Biochemistry, Editor-in-Chief for the *Annals of Clinical Biochemistry* and Honorary Reader in Chemical Pathology and Metabolic Medicine at the University of Leeds. As his colleagues and friends alike will testify, he is a true ambassador for our profession.

To celebrate Julian's career, a Meeting of the Trent, Northern and Yorkshire Region was held at The Old Medical School in Leeds on the 21st November 2019, chaired by Dr Carys Lippiatt.

## Lipid management in high risk patients

Dr Hannah Delaney, Consultant Chemical Pathologist and Clinical Lead at Sheffield Teaching Hospitals, gave a talk on lipid management in high risk patients. Dr Delaney presented a series of clinical cases that demonstrated challenges in lipid management, including statin intolerance, which results in some patients suffering from statin induced musculoskeletal symptoms that resolve after stopping the medication. For patients with primary hypercholesterolaemia or mixed dyslipidaemia, with a high risk of



*Dr Hannah Delaney*

cardiovascular disease, and in whom cholesterol levels cannot be managed through diet and statin treatment, NICE recommends the use of proprotein convertase subtilisin kexin type 9 inhibitors (PCSK9i) such as Alirocumab and Evolocumab. These monoclonal antibodies block PCSK9 binding to low density lipoprotein (LDL) receptors, decreasing their hepatic degradation and increasing their availability to clear LDL from the blood. Despite the benefits conveyed by PCSK9 inhibitors, Dr Delaney highlighted that uptake is low, largely due to inadequate referral of eligible patients to specialist centres. However, access to these medications should improve thanks to the work of the NHS Accelerated Access Collaborative to establish centralised PCSK9i services.

Dr Delaney also described the under diagnosis of familial hypercholesterolaemia (FH), a common and treatable disease, and the commitment of the NHS long term plan to reduce cardiovascular events by expanding access to genetic testing for FH to identify at risk patients.

## A career bookended

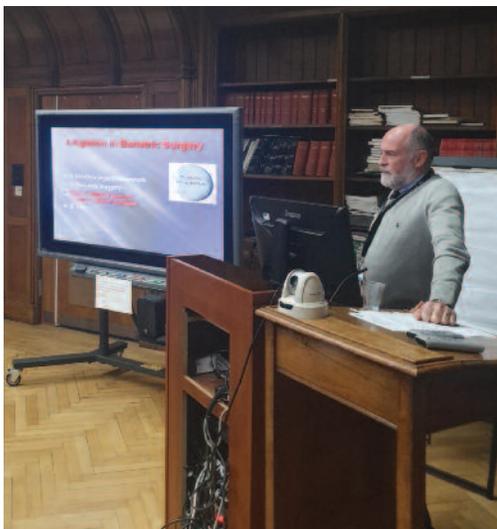
Dr Steve Orme, Consultant Endocrinologist at LTHT, provided us with an insight into how our understanding of the pathophysiology of acromegaly has improved since this disease was discovered in 1886. He discussed a common manifestation of acromegaly; bitemporal hemianopia, which is caused by pressure on the mid-optic chiasm, and showed how surgical resolution of this can be demonstrated with the Goldman's visual field test. An interesting yet unresolved theory for increased cancer incidence in patients with acromegaly was discussed; Dr Orme's view is that this is likely to be directly related to the effects of excess circulating growth hormone. Published data (Orme *et al*, 1998) revealed correlations between post treatment GH levels and all cause/cardiac/cancer mortality. He concluded his talk with a note that research (and life) is becoming more complex but does help to refine treatment goals, in the case of acromegaly ensuring post treatment GH levels are not raised.



*Dr Steve Orme*

### Litigation in bariatric surgery

Professor Stephen Pollard, Consultant Surgeon at LTHT, gave a fascinating overview of litigation in bariatric surgery. To introduce this unfamiliar theme Prof Pollard provided an overview of the medico-legal framework, including some key legal judgements. The story of the Paisley snail from 1928, where a lady contracted gastroenteritis from drinking contaminated ginger beer (Google it...!), marked a legal precedent and the start of negligence lawsuits. He went on to discuss the landmark case in 2015 (Montgomery v Lanarkshire) which changed the historic position of consent. Prior to this, doctors only needed to discuss the common risks of a procedure; following the Montgomery verdict, it was ruled that doctors should provide patients with a comprehensive list of possible risks regardless of rarity. As we might expect, there has been an almost exponential rise in bariatric surgery, which alongside cosmetic surgery has the highest insurance premiums amongst surgical specialities. Indeed, he stated his last annual premium was in excess of £30k! Prof Pollard ended the talk by discussing some of the issues



*Professor Stephen Pollard*

faced when surgery is carried out in the private sector, for example lack of MDT to support decisions and lack of critical care/imaging facilities.

### From thyroid to cardiometabolic research: fibrin, glucose, life and death

Professor Ramzi Ajjan, Consultant in Diabetes and Endocrinology at Leeds Teaching Hospitals Trust, gave a talk which began with Dr Ajjan recalling his own career journey and how this led to him meeting Julian. He started with his exploration of correlation in research whilst studying at university, describing the correlation that he observed on campus between fashion and coolness/attractiveness in the general student population! To gain further research experience he set out on a brief visit to the UK, which resulted in him completing a 4 year PhD at the University of Sheffield, after which he completed his clinical training in Diabetes and Endocrinology at Leeds. Here, his path crossed with Julian's and together they have collaborated on several exciting research studies and publications.

Dr Ajjan's initial research direction started with the thyroid, where he established a Chinese hamster ovary cell line to express the human Na<sup>+</sup>/I<sup>-</sup> symporter, which transports iodine into the thyroid. However, due to concerns regarding funding for thyroid research, he shifted his focus into diabetes and cardiovascular disease research. Following the publication of 3 papers, he applied and was successfully awarded a Clinician Scientist Award from the National Institute for Health Research UK in 2005 to further his research interests in glycaemia and thrombosis. Notably, he found that both hyperglycaemia and hypoglycaemia have prothrombotic effects, delaying fibrin clot lysis which is an independent predictor of cardiovascular mortality. With an aim to

reduce cardiovascular morbidity and mortality in individuals with diabetes, he developed a treatment strategy termed the 'triangle of diabetes care' for optimal glycaemic management.

During his talk he credited Julian as the 'voice of reason' during endocrine meetings, for educating the group about the accuracy of laboratory tests, showing flexibility as well as credibility in his research as well as demonstrating that high quality research and clinical work can be combined.

### **Celebrating Julian: measurement and the man**

Professor Alistair Hall, Consultant in Cardiovascular Epidemiology at LHTH, concluded the meeting with an excellent overview of recent developments in his field, including exploring modifiable barriers to the prevention of coronary artery disease and loss of cardio-protective effects at the ADAMTS7 locus due to



*Professor Alistair Hall*



*Carys Lippiatt presents Julian with a book of memories*

gene-smoking interactions. Professor Hall also provided some insight into Julian's working lunches and how he will miss their regular catch-ups.

At the conclusion of the meeting Julian was presented with a book of memories by Carys Lippiatt, which contained over one hundred personal farewell wishes and memories from colleagues far and wide who have appreciated Julian's support and benefitted from his teaching, mentoring and collaboration in the shaping of their own careers.

Following the meeting the delegates departed en masse to a local eatery to enjoy canapés and a well-deserved cold beverage. Julian has inspired so many in our field and we wish him a happy and healthy retirement. ■

# ACB News Crossword

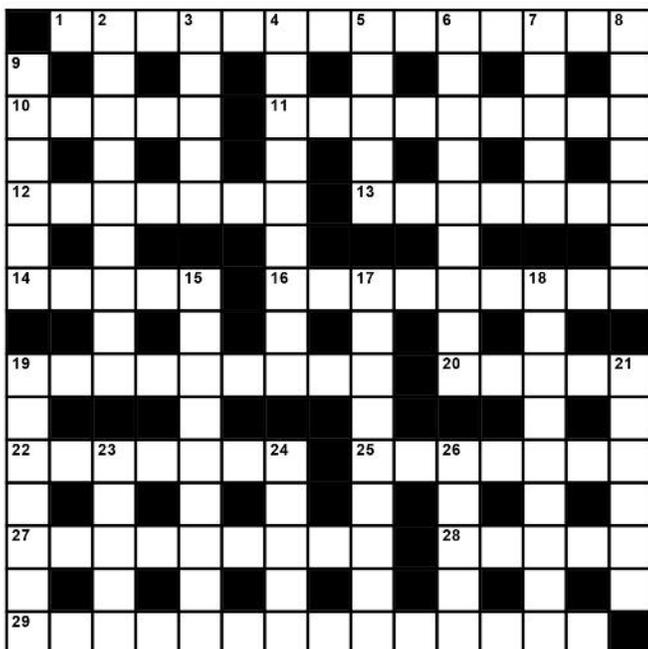
Set by Rugosa

## Across

- 1 Not forgotten, new thumbnail memento for a protein complex (14)
- 10 Explain away deceptively attractive appearance (5)
- 11 Perfect examples of complicated probability diagrams (9)
- 12 Doctors like worker bees and ants (7)
- 13 Test of student given an easy problem (7)
- 14 Chemistry group oral examination precludes relaxation (5)
- 16 A sage errs about some elements (4,5)
- 19 Still part of ridiculous number censored (9)
- 20 Some people's terminology for an organic compound class (5)
- 22 Stop until green light, go after amber changes (7)
- 25 Elaborate details about General (7)
- 27 On trial: US innovative dielectric (9)
- 28 Some of many synonyms: approach, cast, erect, incline, rock (5)
- 29 Academics honour non-University development of a biochemical class (14)

## Down

- 2 Uprising, lacking resistance, makes progress (9)
- 3 Doctor hates expedition (5)
- 4 Views revelations (9)
- 5 A technical assistant holds gold vessel (5)
- 6 Splatter over garbed leg, make wet and dirty (9)
- 7 Damp and warm (5)
- 8 Upset, resents American squatters (7)
- 9 Programme amendment guaranteed? Not true (6)
- 15 Distressed lovers rue reverses (4-5)
- 17 One of 17 that are rather unusual (4,5)
- 18 Drenched – I'm put out, upset, traumatised (9)
- 19 First group member renders music around A&E (7)
- 21 After reflection, return sound again (2-4)
- 23 Component of use to plumb a sink (5)
- 24 Measure of vision (5)
- 26 Infected person returns reject (5)



## Solution for February Crossword





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AACC is closely monitoring the Coronavirus situation as to whether this meeting proceeds