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THE ENDOCRINOLOGIST

THE MAGAZINE OF THE SOCIETY FOR ENDOCRINOLOGY

Successfully building YOUR CAREER IN ENDOCRINOLOG

Special features **PAGES 6-22**

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A word from THE EDITOR...



Welcome to our career-themed issue of The Endocrinologist, which encompasses many career stages in our field! You will find short articles from previous recipients of summer studentships (pages 6-7) and early career grants (pages 8-9), as well as updates and opportunities in clinical training and academic pathways (pages 10-12 and 16). There are interviews with colleagues in industry (page 21) and endocrine nursing (page 22). On pages 14-15, Lewis Mattin and Sara Rankin talk about how neurodiversity has been a part of their career success stories.

Putting this issue together has made me reflect on my career 'journey' (yes, the 'J' word!) and experiences to date that have shaped this. One important aspect has been the sense of community that derives from being a member of the Society for Endocrinology and other learned societies. The Society's November meeting (now rolled into the SfE BES conference) was the first conference I attended as a PhD student. I vividly remember the excitement of seeing (and having a glass of wine with) 'real scientists' whose names I had seen in journal articles, and hearing the latest updates in the wider endocrinological field. The Society's annual meetings soon became my scientific home, and the support network and friendships I have made along the way have been invaluable

Building on 'What I wish I had known...' (pages 18-19), my one piece of advice would be to network! Put yourself out there - say hello to your peers, introduce yourself to the person and people whose papers you have been reading. These are the people who will become your collaborators, your peer reviewers for grants and journal articles and, for at least some, your friends. With SfE BES 2022 fast approaching, there's no time like the present to try it!

Best wishes

KIM JONAS

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Become a contributor... Contact the Editorial office at endocrinologist@endocrinology.org

The Society welcomes news items, contributions, article suggestions and letters to the Editor. We would also like to hear your feedback on this issue of the magazine.

Deadline for news items for the WINTER 2022 issue: 30 September 2022.

SHARE OUR VIDEO ON THE MENSTRUAL CYCLE

Our fun, educational, animated video on the menstrual cycle is available on our public information website, You and Your Hormones. The site is a collection of useful and accessible resources for schoolchildren and the general public.

The Public Engagement Committee oversaw production of the video, to help achieve the Society's key aim of engaging the public with the importance of endocrinology and its impact on their health.

Spread the knowledge by sharing the video with your family, friends, school contacts, students and colleagues. Watch it and other videos at **www.yourhormones.info/videos**.



MENOPAUSE PRACTICE STANDARDS PUBLISHED

These new standards (**doi.org/10.1111/cen.14789**) have been published by the British Menopause Society, Royal College of Obstetricians and Gynaecologists, Society for Endocrinology, Faculty of Sexual and Reproductive Health, Faculty of Pharmaceutical Medicine and the Royal Pharmaceutical Society. They aim to provide evidencebased recommendations and guidance on best practice to support healthcare practitioners delivering menopause care, in line with current national and international guidelines and recommendations.

2022 STUDENT VIDEO AWARD WINNERS

Watch the winning videos from our 2022 round. Entrants are challenged to bring endocrinology to life in a short video, aimed at engaging the general public.

Review these and previous years' winners in the You and Your Hormones digital library at www.yourhormones.info/digital-library.

NEW EDITOR-IN-CHIEF AT ENDOCRINE ONCOLOGY

Join us in welcoming Justo P. Castaño from the University of Cordoba and Maimonides

Biomedical Research Institute of Cordoba, Spain.

Endocrine Oncology is an open-access, peer-reviewed journal publishing basic, translational and clinical research and reviews on the interplay between hormones and cancer, and related topics.



Justo P. Castaño

CONGRATULATIONS TO OUR 2022 EARLY CAREER PRIZE LECTURERS

These prize-winning lectures will both be presented at SfE BES 2022 in Harrogate.

Karla Jade Suchacki Science Lecture The diverse and distinct roles of adipose tissue on metabolic heath

Catherine Lovegrove Clinical Lecture Central adiposity raises serum calcium concentrations and increases risk of kidney stone disease

DISCOVERY OF ALDOSTERONE COMMEMORATED

A plaque commemorating James and Sylvia Tait's work on the discovery of aldosterone has been installed on the site of the former Middlesex Hospital Medical School in the Fitzrovia area of London. The plaque was funded by your Society and guests at the unveiling ceremony included members of the Taits' family.





VIRTUAL COFFEE CHATS

These informal sessions enable Early Career Nurse Members to learn and connect with nurse colleagues online. They are hosted by senior Nurse Members on Microsoft Teams and explore different topics related to endocrine nursing.

Find out more and see the sessions that are coming up at **www.endocrinology.org/vcc**.



19 September 2022 CLINICAL SKILLS WEBINARS: Implementation of Defining the Future of Endocrinology Recommendations Online

20 September 2022 NATIONAL TRAINING SCHEME FOR THE USE OF RADIOIODINE IN BENIGN THYROID DISEASE Birmingham, UK

3 October 2022

CLINICAL SKILLS WEBINARS: Managing Menopause From An Endocrine Perspective Online

19 October 2022 CLINICAL SKILLS WEBINARS: New Opportunities And Changes In Specialty Education Online

14–16 November 2022 SfE BES 2022 Harrogate, UK

www.endocrinology.org/ events for full details

SOCIETY-ENDORSED EVENTS

19 September 2022 IMPERIAL PITUITARY MASTERCLASS London, UK

22-23 September 2022 OXFORD ENDOCRINOLOGY MASTERCLASS Oxford, UK

GRANT AND PRIZE DEADLINES

21 September 2022 PUBLIC ENGAGEMENT GRANT 26 October 2022 PDACTION SKILLS

PRACTICAL SKILLS GRANT

9 November 2022 EARLY CAREER, ENDOCRINE NURSE, AND EQUIPMENT GRANTS

23 November 2022 MEETING SUPPORT GRANT

30 November 2022 TRAVEL GRANT

www.endocrinology.org/ grants for full details of all Society grants and prizes

HOT TOPICS

SOCIETY FOR ENDOCRINOLOGY OFFICIAL JOURNALS

Society members have free access to the current content of *Journal of Endocrinology, Journal of Molecular Endocrinology, Endocrine-Related Cancer* and *Clinical Endocrinology* via the Members' Area on the Society website, **www.endocrinology.org**. *Endocrine Connections, Endocrinology, Diabetes & Metabolism Case Reports* and *Endocrine Oncology* are open access and free to all. Publishing in *Endocrine Oncology* is currently free.

JOURNAL OF ENDOCRINOLOGY

Probiotic protection against castration-induced bone loss

Osteoporosis is a progressive weakening of bone strength. It increases the likelihood of fracture and is compounded by a complex mixture of endocrine and immune inputs. However, bone-strengthening treatments are available, and the transit from bone loss (osteopenia) to osteoporosis is not 100%. There is a wide appreciation that women are at an elevated risk of osteoporosis compared with men. Because of this, there is limited understanding of how osteoporosis in men manifests and progresses.

This recent study by Lawenius *et al.* draws a link between bone loss in males, shifts in hormone concentrations, and the gut microbiota. They evaluated the impact



of a probiotic mixture on the levels of bone loss experienced during sex steroid deficiency. To study these variables, they utilised an orchiectomised mouse model, treating 10-week-old mice with vehicle or probiotic mixture for 6 weeks.

After treatments, they found bone mineral density to be improved in the trabecular region of the femur in probiotic-fed mice. Moreover, there was an elevation in short chain fatty acids (SCFA) in the caecal content of these mice, indicating that bone protective impacts were being measured; this may be related to the ability of tissues to regulate SCFA levels. This work indicates that treatment with probiotics to preserve bone mass may be useful in this patient cohort. Read the full article in *fournal of Endocrinology* **254** 91–101



JOURNAL OF MOLECULAR ENDOCRINOLOGY

miR-146a, toll-like receptor 4 and diabetic wound healing

MicroRNAs (or miRs) represent a family of small non-coding regulatory RNAs which play a major role in the control of gene expression by altering protein synthesis at the post-transcriptional level. miR-146a has long been associated with the presence of diabetic foot ulcers.

In this new study, Peng *et al.* discovered a reduced level of miR-146a in the macrophages of diabetic patients, and that this miR negatively regulates toll-like receptor 4. Through a series of experiments, the group revealed that miR-146a can enhance wound healing in diabetic ulcers through inhibition of the toll-like receptor axis, highlighting a potential new therapeutic target.

Read the full article in *Journal of Molecular* Endocrinology **69** 315–327

ENDOCRINE-RELATED CANCER

Diagnostic scans in management of intermediate risk thyroid cancer

Diagnostic whole body scanning is widely used to establish the indication and administration activity for radioiodine therapy in intermediate risk differentiated thyroid carcinomas. However, its predictive value is not universally accepted. In this retrospective study, Danilovic *et al.* analysed pre-therapy stimulated thyroglobin levels combined with diagnostic whole body scanning and post-therapy whole body scanning findings and compared these with outcomes.

Diagnostic whole body scanning identified 10.6% of patients with functioning metastases and led to modified patient management in 8.3%.

The authors ultimately concluded that a stimulated thyroglobin level <1ng/ml in combination with a negative diagnostic whole body scan is highly suggestive of the absence of remaining malignant disease, leading to a much more patient-centred approach to care.

Read the full article in Endocrine-Related Cancer 29 475-483



ENDOCRINOLOGY, DIABETES & METABOLISM CASE REPORTS

Another case of milk-alkali syndrome or a learning opportunity? Bondje *et al.* report a case with useful learning points for both endocrinology and general medicine teams. A 72-year-old woman presented with a short history of acute confusion, abdominal pain and constipation. Her past medical history included osteoporosis and chronic kidney disease. She was found to have significant hypercalcaemia (adjusted calcium 3.77mmol/l) on admission, a low parathyroid hormone level and metabolic alkalosis. Treatment included intravenous fluids and bisphosphonate. Extensive investigation for the cause of hypercalcaemia (imaging, myeloma screening, vasculitis screening, serum angiotensin-converting enzyme, bone marrow biopsy) did not find a culprit pathology. When the patient's confusion resolved, she reported having taken over-thecounter antacid medication in the weeks preceding her admission. This had been taken alongside her prescribed calcium carbonate/cholecalciferol tablets. The maximum recommended dose of the antacid medication contains an amount of elemental calcium in excess of the recommended daily allowance for older adults. The authors suggest that education of patients and healthcare professionals, in addition to better warning information on over-the-counter preparations, would help reduce instances of excessive calcium ingestion and subsequent milk-alkali syndrome, particularly in older patients who have additional risk factors. Read the full article in *Endocrinology, Diabetes & Metabolism Case Reports* doi: 10.1530/EDM-21-0151

ENDOCRINE CONNECTIONS

Glucocorticoid metabolism in childhood obesity-associated hypertension

Stress and stress-related alterations, including hypothalamic-pituitary-adrenal axis activation, are associated with childhood obesity and related co-morbidities. However, very little is known about the sequence of events that underpin obesity-associated conditions in children.

A recent study by Finken *et al.* tested the hypothesis that glucocorticoids have a role in this and are central in the development of childhood hypertension. The group collected spot urine samples from overweight hypertensive, overweight non-hypertensive and non-overweight non-hypertensive populations. Urine spots were

subject to gas chromatography-mass spectrometry for cortisol and corticosterone metabolites.

These data showed that the different patient groups had no sex-specific patient outcomes. Also, they demonstrated that the overweight hypertensive cohort showed elevations in the excretion of 5α -reduced metabolites when compared with the overweight non-hypertensive subjects. This work supports a model in childhood obesity-associated hypertension that is dependent upon the increased metabolism but impaired clearance of glucocorticoids.

Read the full article in Endocrine Connections 11 e220130

ENDOCRINE HIGHLIGHTS

A summary of papers from around the endocrine community that have got you talking.

Preconception treatment with metformin or exenatide in PCOS

Polycystic ovary syndrome (PCOS) is a common cause of anovulation and a frequent cause of subfertility. Additionally, it is associated with metabolic complications such as insulin resistance. Metformin is an insulin sensitiser, acting through several mechanisms including inhibition of gluconeogenesis and lipogenesis, reduction in hepatic glucose output and optimisation of insulin-mediated skeletal muscle glucose uptake. Exenatide is a glucagonlike peptide-1 receptor agonist that reduces hepatic gluconeogenesis and augments skeletal muscle glucose uptake, thereby reducing insulin resistance.

Li and colleagues report long term outcomes from a singlecentre, randomised controlled trial. Here, 160 overweight patients (body mass index>24kg/m²) with PCOS, who were aged 20–40 years and had a history of two years of anovulatory infertility, received either metformin or exenatide for 12 weeks. All patients then continued on metformin alone and were advised to attempt spontaneous conception. If this did not occur within a further 12 weeks, patients were offered assisted reproductive technology until the end of 64 weeks. The primary outcome was pregnancy rate.

Preconception treatment with 12 weeks of exenatide resulted in more spontaneous pregnancies compared with metformin, and exenatide was associated with greater improvement in insulin resistance as determined by HOMA-IR. These findings are interesting, but further research across more sites is needed before they can be generalised.

Read the full article in Archives of Gynecology and Obstetrics doi: 10.1007/s00404-022-06700-3

Half-lives of FSH and LH glycoforms during GnRH receptor blockade

The human pituitary-derived heterodimeric glycoprotein hormones, folliclestimulating hormone (FSH) and luteinising hormone (LH), are key hormones that play important roles in reproduction. FSH and LH consist of a common a-subunit and a hormone-specific β -subunit that can be differentially N-glycosylated. This gives rise to FSH and LH glycoforms that are either low or fully N-glycosylated, which has important functional consequences, affecting receptor binding and ultimately signal pathway activation. Hormone clearance rates determine how long hormones remain circulating and, ultimately, the bioactivity of the hormone.



Wide *et al.* therefore utilised gonadotrophin-releasing hormone (GnRH) blockade to estimate the clearance rates of endogenous human FSH and LH glycoforms. The results show that fully glycosylated FSH had a longer circulating half-life than low glycosylated FSH, with differences in the length of half-life depending on whether GnRH blockade was administered during the early follicular phase or mid-cycle. Interestingly, fully glycosylated FSH had a longer half circulating half-life than LH glycoforms, suggesting different functional roles of these glycoforms in modulating ovarian function.

Read the full article in Journal of Clinical Endocrinology & Metabolism doi: 10.1210/clinem/dgac434

LAYING FOUNDATIONS FOR THE FUTURE: SOCIETY SUMMER STUDENTSHIPS

Society Summer Studentships fund 10-week placements for life sciences undergraduates. These provide hands-on lab experience and encourage them to choose careers in research related to endocrinology. We caught up with some of our 2021 awardees to find out more about their projects and what they're doing now.



ZICHENG WANG was supervised by Kevin Murphy at Imperial College London. He is now planning to study global health policy, to diversify his knowledge.

I conducted a series of independent and assisted experiments to investigate the release and actions of neurotensin in the gastrointestinal tract. I learned a number of laboratory techniques that I will probably use in my future research, including radioimmunoassay, tissue culture, quantitative polymerase chain reaction and calcium imaging of cultured mouse neurones. In addition, I gained valuable experience in experimental design.

'I really enjoyed my time there, and I'm still considering working in a similar lab in the future.'

The Studentship gave me a useful insight into the environment of a research lab. What I enjoyed most was the culture of collaboration in Professor Murphy's lab. Every colleague in the team was happy to show me new techniques and give me much needed career advice. I was never afraid to ask for help. It was the first time I had been immersed in lab life. I really enjoyed my time there, and I'm still considering working in a similar lab in the future.

It was through conducting my literature research on diabetes and obesity that I learned about the prevalence of non-communicable diseases, which inspired me to explore the field of global health. It was a fantastic experience.



VALENTINA ABBA recently completed a BSc in biological sciences and has been accepted for an MSc course on human biology at the University of Copenhagen, Denmark. She was supervised by Craig Beall at the University of Exeter.

My project investigated the intrinsic regulation of pancreatic α -cell glycolytic metabolism by AMP-activated protein kinase and macrophage migration inhibitory factor. While I obtained some interesting results, the COVID-19 pandemic limited my time and therefore my experiments, so there is still scope for further work to be carried out.

I highly enjoyed the freedom I was given to carry out independent laboratory work and the fact that I was always encouraged to participate in lab discussions, to talk about my own research and to suggest ideas for future work.

As a result of the Studentship, I also received a grant to attend the Society for Endocrinology BES conference 2021 in Edinburgh. It was a very exciting experience as, aside from being my first conference, I got to attend talks given by experts in the field on all aspects of endocrinology, as well as to network with fellow researchers.

Being able to work alongside and learn from highly skilled researchers greatly improved my confidence in the laboratory. Participating in journal clubs, presenting my own research and discussing ideas with other members in the group allowed me to develop communication and data-presenting skills. I would definitely consider carrying out a Master's project in an endocrinology-related field!

I greatly enjoyed my research project and working with the group. Getting hands-on experience, carrying out advanced laboratory techniques and learning from experts in the field are valuable opportunities which I would highly recommend to other students.

MAGDALENA KOWALSKA is currently completing the fourth year of her medical degree. She was supervised by Mark Russell at the University of Exeter.

My project investigated β -cell heterogeneity in type 1 diabetes at the Exeter Centre of Excellence for Diabetes Research. I learnt new techniques and focused in particular on using Exeter Archival Diabetes Biobank pancreas samples, a PhenoImager HT digital pathology imager for special phenotyping, and InForm trainable software for visualising and quantifying biomarkers and phenotyping cells. One of the most interesting things I looked at was the relationship between inflammatory cell expression in the islets and the degree of damage of insulin-producing cells and the expression of other mediators, to try and find a pattern.

'The studentship is a great opportunity to get exposed to as much research as possible!'

I still work closely with the team to manage the analysis of my work, but I found that this project made me really appreciate the complexity of type 1 diabetes. I very much enjoyed being integrated as part of a research team and taking an active role in their research. I felt I could be quite independent and direct my interests in the project. My favourite part was looking at the stained samples under the microscope and mapping the individual stains. I produced the most beautiful photos of my samples!

I think the Studentship gave me the opportunity to work with state-ofthe-art equipment and to develop my independent researcher skills. Although I'm a medical student, I want to pursue research alongside my practice, and I'm considering specialising in endocrinology. I'm soon starting my final year of medical training and I hope to continue working with the research team remotely, to stay updated on the progress of the project.

I would advise future participants not to be limited by the initial outline of their project. The path of your project may change and you need to be flexible, to adapt and follow new tangents which interest you. I also shadowed other lab members working on different projects. The Studentship is a great opportunity to get exposed to as much research as possible!

JOSEPH TONGE is in the final stages of his medical degree and will graduate in 2023. He was supervised by Richard Ross at the University of Sheffield.

I developed a novel salivary collection technique for use in very young children, using a salivary steroid swab and pacifier modification (SaliPac). We demonstrated a close and reliable relationship for salivary cortisol and cortisone when collected with the SaliPac and the two current standard collection techniques. The Studentship enabled me to assess the usability, acceptability and tolerability of the new collection technique in a small patient cohort, in both hospital and home settings. This proved hugely successful. The work is currently being reviewed by *Journal of Clinical Endocrinology & Metabolism* and the data are being presented at the European Society for Paediatric Endocrinology Meeting in Rome, Italy.

'The Summer Studentship gave me such an invaluable experience, which stands out on my CV.'

I loved the opportunity to prepare for and run my own clinical study. This gave me enormous insight into the workings of a clinical study in a paediatric setting. I also particularly enjoyed creating a method which could potentially be used in the evaluation of paediatric adrenal function in the future. Furthermore, I felt humbled to be supervised by experts in their field guiding me and providing advice.

It has certainly solidified my desire and passion to pursue a career in academic endocrinology in the future. The skills I learned to publish and present my work will be invaluable for my future academic career. It has also strengthened my application for the Academic Foundation Programme. I'm still active in endocrine research and hope to be in the future.

The Summer Studentship gave me such an invaluable experience, which stands out on my CV.

Find out more about summer studentships at endocrinology.org/ grants-and-awards

ADVANCING SCIENTIFIC DISCOVERY WITH EARLY CAREER GRANTS FOR YOUR RESEARCH PROJECTS

Our Early Career Grants of up to £10,000 aim to support Early Career Members to undertake research. With multiple grants awarded at each of the two annual deadlines, many of our members have taken advantage of this funding to get their research careers off to a flying start. We caught up with three of our 2021 grant awardees to learn how the funding has helped their careers.

ROBERT ALLAN University of Central Lancashire



THE PROJECT

The influence of acute and chronic low temperature on local bone mineral density and systemic markers of bone health

My aim was to examine the influence of cold temperatures on markers of bone health, both locally on bone mineral density and systemically via targeted humoral analysis. The funding enabled me to secure necessary equipment for this and future research.

Despite some unexpected setbacks, namely a global pandemic, I expect to complete my data collection very soon, with the ultimate hope of using it to support my further work in this area and assist in future grant capture.

It may be too early to tell the full impact that this grant has had on my career, but I have already seen greater recognition for my work within my institute. Offers I've had to present my research plan, contribute to research communities and become involved in collaborative projects have certainly increased. The grant has already opened doors and I have a strong feeling that may continue.





'The grant allows for an excellent learning experience along the path towards becoming an independent researcher. I learned processes around building an application and co-ordinating it with the funder. It has provided me with the confidence to write and submit future grants.'

The next Early Career Grant application deadline is **9 November 2022** Find out more and apply at **www.endocrinology.org/ECGrant**

MILANO MUSO Institute of Metabolic Science, Cambridge

THE PROJECT

Testing deleterious *SIRT6* variants for effects on glucose uptake and IGF-1 levels in humans

My aim was to identify carriers of deleterious mutations in *SIRT6*, using UK Biobank data, to investigate their associations with ageing and metabolic phenotypes.

Most of the funding has been used on reagents and assay development. Some funds have been reserved for a future RNA-seq experiment. Although I've met some of the funding aims, developing the assays and identifying mutations of interest, more investigation is still needed to confirm or reject our hypothesis.

I've also been able to divert some of the funds to a related project which is investigating dominant negative mutations in *PPARD* and low density lipoprotein–cholesterol levels.

Although not yet resulting in a publication, this grant has taught me a lot about planning experiments and, most importantly, allowed me to explore a new field – the biology of ageing. I hope to continue in this research area and, through this project, I have developed a better idea of the most promising questions to address in my future research.



'The application process is great practice for experiment and cost planning for larger grants. £10,000 is sufficient to validate one or more hypotheses and one year is a good time to generate solid results.

PHYLLIS PHUAH Imperial College London



THE PROJECT

Investigating the role of the coeliac-superior mesenteric ganglia in pancreatic hormone release and glucose homeostasis

I aimed to investigate the role of gut sympathetic neuronal populations in pancreatic hormone release and glucose homeostasis by establishing targeted modulation of coeliac–superior mesenteric ganglia activity in rodent models, using chemogenetic techniques.

Although the project has involved more optimisation than anticipated, I am generating pilot data to support future studies and hopefully an eventual publication. As a final year PhD student, there are few grants that I am eligible for, so the opportunity to apply for and manage this Early Career Grant has been great for my professional development.

The grant has funded me to develop microsurgical skills and provided me with a track record of winning competitive funding, as well as developing my project management skills. Through this project, I have also been able to network with other researchers in the field, which has been helpful in my search for post-doctoral researcher positions.



'As a final year PhD student, there are few grants that I am eligible for, so the opportunity to apply for and manage this Early Career Grant has been great for my professional development.'

OPPORTUNITIES FOR CLINICAL ACADEMIC TRAINING

WRITTEN BY EDOUARD G MILLS AND WALJIT S DHILLO



The healthcare landscape is undergoing a major transformation. As a result, it's an exhilarating time to be involved in clinical research. Indeed, there is a strong academic culture in diabetes and endocrinology, with numerous opportunities for clinical academic careers. Here, we provide an overview of these potential opportunities for trainees.

So, why do research during your clinical training? Clinical research is vital for evidence-based medicine and for developing new therapies. The third defining principle in the NHS Constitution states its 'commitment to the promotion, conduct and use of research to improve the current and future health of the population'.¹ In fact, an emerging body of evidence demonstrates that research-active hospitals have better patient outcomes.²

At a personal level, doing research makes you a better clinician (by developing the skills necessary to appraise evidence) and is good for your future career (remember, the best jobs are competitive). Importantly, clinical research is fun and interesting!

A plethora of clinical academic training opportunities is available, from Foundation Training to the Certificate of Completion of Training (CCT). Options are summarised in the Figure. Several of these allow trainees to gain experience in clinical research while continuing to acquire their clinical training competencies, whereas others require time out of programme.

SPECIALISED FOUNDATION PROGRAMME

Formerly called the Academic Foundation Programme, this programme gives foundation doctors an early opportunity to gain experience in research, leadership, management or medical education, in addition to the competencies included in the Foundation Programme Curriculum.³

NIHR POSTGRADUATE CERTIFICATE AND MASTER OF RESEARCH PROGRAMMES

A new initiative, this partnership between the National Institute for Health and Care Research (NIHR) and the Academy of Medical Royal Colleges aims to provide a range of researcher development programmes for healthcare professionals starting their clinical research careers.⁴ The courses give clinicians the essential knowledge and skills required to work in clinical research delivery.

TOP TIPS

- Find a mentor who has been through the process and can offer impartial advice on your career progression.
- Build your CV.
- Find an important area that you are interested in and identify a clinical academic working in this area: email them/find them at a meeting.
- Apply for funding.
- Remember: you have nothing to lose good luck!

NIHR ASSOCIATE PRINCIPAL INVESTIGATOR SCHEME

This six-month in-work training opportunity offers practical experience for healthcare professionals who are new to clinical research under the mentorship of a local principal investigator.⁵ On completion, healthcare professionals are issued with a certificate confirming Associate Principal Investigator status, which is endorsed by the NIHR and Royal Colleges.

ONE-YEAR FELLOWSHIPS

These can be undertaken at several training stages (e.g. before or during specialist training) to carry out full-time clinical research. Funding can be obtained from a range of sources, including local and national charities. Trainees may also choose to undertake a one-year Master's in clinical research alongside the fellowship, to provide formal recognition of training.

NIHR ACADEMIC CLINICAL FELLOWSHIPS

An Academic Clinical Fellowship provides up to nine months of protected research time over three years during clinical training (starting in internal medicine training years 1-3).⁶ It is designed to allow specialist trainees dedicated lab time to generate pilot data, forge a relationship with a supervisor and prepare an application to an external funding body for a PhD fellowship.

DOCTORAL RESEARCH TRAINING FELLOWSHIPS

Specialist trainees can apply to the deanery for permission to take time out of programme to complete a PhD. The PhD years (typically three years) provide a strong and dedicated platform for developing research skills, receiving bespoke mentoring and learning to become a clinician scientist. You will also be afforded the opportunity to disseminate data to the wider scientific community through publications and presenting at

Possible opportunities for trainees to gain experience in clinical academic training. Associate PI, associate principal investigator; FY 1/2, foundation years 1/2; iBSc/iPhD, intercalated BSc/PhD; IMT 1-3, internal medicine training years 1-3; MRes, Master of Research; NIHR PGCert, NIHR Postgraduate Certificate; ST4-7, specialty training years 4-7.



scientific conferences. At present, there are various external funding bodies, which (depending on the specific award) can cover your basic clinical salary and PhD fees, as well as allowances for consumables, equipment and travel:

- Wellcome Clinical PhD Programmes: potential applicants apply directly to funded universities, with the project decided after award.
- MRC Clinical Research Training Fellowships: research proposals are assessed considering the track record of the candidate, the importance of the research question, the candidate's choice of sponsor and what the institution has to offer.⁷
- NIHR Fellowship Programmes: these are designed to support trainees looking for a career in health and social care research methodology.⁸ Like MRC Clinical Research Training Fellowships, these are personal awards, with applications assessed considering the person, project and place.
- Alternative funding sources: these include charities and local department research funds.

'Doing research makes you a better clinician and is good for your future career. Importantly, clinical research is fun and interesting!'

NIHR ACADEMIC CLINICAL LECTURESHIPS

These are post-doctoral awards which provide a clinical and academic training environment for specialist trainces to establish themselves as independent researchers.⁹ The standard duration is four years (or until CCT) and allows clinicians to spend 50% of time in specialist clinical training (supernumerary) and 50% of time in research or educational training.

IN SUMMARY

Across the clinical spectrum, there are many opportunities for trainees to gain experience in clinical academic training. Importantly, these opportunities continue beyond CCT, providing NHS Consultants and healthcare professionals with dedicated research time. Being a clinical academic is like being a child in a sweetshop – you can do clinical work, research and teaching all in one job and be paid for it – who could ask for more!

EDOUARD G MILLS

MRC Clinical Research Fellow, Imperial College London Specialist Trainee in Endocrinology

WALJIT S DHILLO

Professor of Endocrinology & Metabolism, Imperial College London Dean of the NIHR Academy

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A TRAINEE'S JOURNEY IN CLINICAL RESEARCH

WRITTEN BY CHIOMA IZZI-ENGBEAYA



I have had an interesting journey: from 17-year-old Nigerian immigrant to clinical academic in endocrinology. My intercalated BSc in endocrinology confirmed that this was the right field for me. I began my specialist training in diabetes and endocrinology in 2008. After having my second child in 2010, I returned to work as a less than full-time trainee.

Flexible training enabled me to have the best of both worlds, but it also presented some challenges. These included ensuring continuity of care for patients on my non-work days, and exposure to learning opportunities that were scheduled on my non-work days.

However, with the support of excellent clinical and educational supervisors, an amazing training programme director (Professor Karim Meeran), a lot of organisation, meticulous record-keeping and clear communication with other trainees and consultants, I was able to experience the breadth of general and specialty medicine in my district general hospital placements and continue to enjoy family life.

GAINING RESEARCH EXPERIENCE

In the latter half of my training, my rotations included a teaching hospital. It became apparent that it would be beneficial to gain some research experience, especially as I was working in a very research-active centre. I had my first taste of translational clinical research in Professor Waljit Dhillo's lab, initially as a volunteer and subsequently as an National Institute for Health and Care Research (NIHR) Academic Clinical Fellow in endocrinology and diabetes.

This was a major turning point, as I had ring-fenced blocks of time dedicated to research. It was exciting to learn a new set of skills, which I was eager to develop further. Under the guidance of Professor Dhillo (and with support from his team), I was subsequently awarded a one-year Imperial Health Charity Fellowship. This gave me additional time to write papers, generate pilot data and prepare applications for PhD funding.

My initial PhD funding applications were unsuccessful, but support from close colleagues (especially those who had experienced similar rejections) and my family, as well as my strong desire to undertake a PhD, kept me going.

I was awarded an MRC Clinical Research Training Fellowship in 2014, and I had my third child in 2015. The Section of Endocrinology and Investigative Medicine at Imperial College, where I undertook my PhD, is a very supportive environment, where it is commonplace for people to take maternity leave or paternity leave at any stage in their research careers and continue to make excellent progress afterwards.

During my PhD, I developed an interest in the roles that hormones play in the interactions between reproductive and metabolic conditions. I enjoyed my time in the lab and I wanted to pursue an academic career. Supported by NIHR Biomedical Research Centre (BRC) funding, I was able to continue my research activities when I rejoined my training rotation as a flexible trainee. Subsequently, I obtained my Certificate of Completion of Training (CCT) in 2019, and I was awarded an Imperial–NIHR BRC Post-doctoral Post-CCT Research Fellowship, which provided muchneeded bridging funding.

THE IMPACT OF COVID

Everyone has been affected by the COVID pandemic. In the midst of the heart-breaking events that occurred, I was privileged to work with healthcare providers from all disciplines, to care for patients in familiar and unfamiliar settings. The dissemination of knowledge about this new condition, and the rapid development, testing and deployment of vaccines and medicines to combat COVID, are a testament to what can be achieved when the skills and knowledge acquired in clinical practice, basic science and clinical research are combined with collaborations between academia, industry, healthcare providers and governments. More than ever, we need people with both clinical and research expertise to combat common and rare health conditions worldwide.

A lot of my research activities were halted during the early stages of the COVID pandemic, but I wanted to continue to be academically productive. I applied my skills and examined our Trust's data and published papers on diabetes-related outcomes following COVID infection. In order to accomplish this, I was open-minded when ideas were proposed and collaborated with other clinicians, a statistician and medical students. In time, I was able to continue the translational studies that had been suspended, and my funders generously extended my funding. I have started several new projects and I am applying for further funding.

A DIVERSE CAREER

When people ask me what I do, the most accurate description is 'a little bit of all the things I enjoy'. I help care for patients in bariatric medicine, lipid and endocrinology clinics. I am developing collaborations to undertake research focused on obesity-related co-morbidities and improving outcomes of people with obesity. I teach, supervise and examine undergraduate and postgraduate students. Additionally, one of my roles at Imperial College School of Medicine is to foster an inclusive environment, where students can be educated in an academically rigorous and supportive setting.

I feel very fortunate. Not only do I enjoy what I do, I have had the opportunity to learn a wide variety of research techniques and conduct basic science and clinical studies, care for patients, contribute to the training and development of clinicians and academics, and be a very hands-on mum to my children.

'When people ask me what I do, the most accurate description is "a little bit of all the things I enjoy".'

I have travelled around the world, presented my work and interacted with leading experts in endocrinology. I have benefited from amazing sponsorship and mentorship, personally and professionally, within the NHS and Imperial College London. I am grateful to the Society for Endocrinology for investing in my development by giving me a Leadership and Development Award, which has provided me with networking and leadership opportunities. My journey would have been more difficult without my supportive husband and my colleagues, who have become friends. They have encouraged me when there have been setbacks and challenged me to aim higher.

As novel agents expand the treatment options for endocrine and metabolic disorders, and so many important research questions remain unanswered, I am excited about the future and the next phase of my journey.

CHIOMA IZZI-ENGBEAYA

Consultant Endocrinologist, Imperial College Healthcare NHS Trust



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SUCCEEDING IN SCIENCE WITH NEURODIVERSITY

Having struggled at school due to their learning differences, Lewis Mattin and Sara Rankin overcame the early challenges. Here, they share their stories of playing to one's strengths to thrive in research.

LEWIS MATTIN

I was diagnosed with dyslexia at the age of five years, which is extremely young for a diagnosis. This subsequently led, from that point onwards, to every teacher I encountered just labelling me as a disruptive, lazy, 'waste of space' child: to quote one teacher in particular, "You will never make

own name."

anything of yourself, you can't even spell your

So, the day I received my letter from Nottingham Trent University, which informed me I had been accepted onto the BSc degree course on exercise, nutrition and health, was one of my proudest days. I did not look at the TEF (Teaching Excellence Framework) or the REF (Research Excellence Framework) and can't even say I had ever picked up *The Times* newspaper before I went to university – and I can certainly say that no one in my family had.

All that mattered to me was "Is there a swimming pool?" so I could follow my dream of becoming an Olympic 10K open water swimmer. Inevitably, this dream failed, but it opened the door to where I am now. I still believe the drive and determination to succeed came from the hour after hour spent swimming up and down a swimming pool, morning after morning, night after night.

Nevertheless, my academic studies gave me a new form of focus, when it came to my final year dissertation. I always feel undergraduate students underestimate how important their final year dissertation is. Apart from providing 40% of my final degree grade, it literally shaped the academic I am today. I am still researching and publishing journal articles with my undergraduate supervisor: amazing! The final point I wanted to make was the transition into my PhD journey. I did not get the first one I went for. I actually interviewed for seven and, yes, I did think about if this was the right path for me. I stuck with it and eventually I connected with my PhD supervisor at Manchester Metropolitan University. He has helped me grow from strength to strength, guiding me towards becoming a fantastic academic. Over the years, he has never given up on me, even with my stubborn attitude and my ability to jump into a situation with my mouth open before thinking of the consequences of my actions. He always stayed calm and collected, which has allowed me to start my journey in academia as a lecturer with a balanced head on my shoulders.

'My biggest career advice would be remember to look back at what you have achieved, before being over-critical about where you're going.'

In summary, my biggest career advice would be remember to look back at what you have achieved, before being over-critical about where you're going. I have always had an internal drive to continue learning and to stretch my knowledge, with the added bonus of feeling a slight nervousness about standing still. Maybe this is a feeling all academics have in common, or maybe it's just me. Who knows? What I can say is, if I had listened to the hierarchy that was presented to me during my school years, I would not be where I am today. Believe in yourself, it goes a long way.

LEWIS MATTIN

Lecturer in Physiology, University of East Anglia

SARA RANKIN

LEARNING HOW TO LEARN

Sara Rankin found school a challenge. Struggling with reading and writing, she was made to feel slow and lazy. It was humiliating and frustrating.

But what she lacked in literacy skills, Sara more than made up for with her determination to succeed.

G I knew I wasn't stupid, I understood everything. It was just a matter of finding out for myself how I could learn and memorise. I have good problem-solving skills and I applied that to my own learning; using a lot of mnemonics and visual stuff.

Armed with these personal strategies, Sara thrived. Decades later, she discovered why she needs them, and why reading and writing are so challenging.

SPARKED BY SCIENCE

While studying for her GCSEs, it was science – biology in particular – that fired Sara's imagination. This didn't go unnoticed, and her teachers began encouraging her towards medicine. Hating the sight of blood, she knew that wasn't the career for her, but had no idea what else you could do with the subject. Then, through a charity for which her mum volunteered, Sara visited a cancer research lab.



With her destination clear and GCSEs in the bag, Sara set off on her academic journey through a BSc and PhD in pharmacology at King's College, London. Always studying with her own tried and tested methods.

I would revise by drawing things, and used lots of colour. I had to make it into something visually interesting. My professors at university were really interested in it, and would ask to use my visuals in their lectures.

Postdoctoral positions in California and London followed, with Sara eventually joining the National Heart and Lung Institute (NHLI), Imperial College London, as a research fellow in 1995. She has remained at NHLI ever

since, rising to her current position of Professor in Leukocyte and Stem Cell Biology in 2010.

THE PENNY DROPS

While the qualifications and job titles suggest a familiar trajectory, dig deeper into Sara's CV and you uncover a varied working life, enriched by a busy timetable of outreach activities.

Most researchers get into a field and stay there for their entire career. I get bored very easily and I think that's why I do so many different things and work with all sorts of different people and across disciplines. I haven't stuck to one area. I've worked in atherosclerosis, cancer, inflammation, blast injuries and tissue regeneration – it's quite unusual.

After two decades in research, Sara was well aware of the fact that her changing and collaborative working life, and her learning style, were different to most of her peers. But in 2011, aged 47, she suddenly came to understand why.

Her son was having difficulties at school, and was assessed by an educational psychologist. As they described her son's challenges to Sara, she found they were also describing her at his age. Her son was diagnosed with dyslexia, and Sara decided to find out more. At a course about neurodiversity accredited by the British Dyslexia Association, she identified with the characteristics of people with both dyslexia and dyspraxia, which is a disorder that affects physical co-ordination.

The descriptions rang true with me. I had thought it was all about spelling and slow reading, and that I was just clumsy. Actually, there are processing differences in the brain, and that fascinated me. As a scientist, I have obviously researched the subject myself. It's clearly genetic and I discovered I have other dyslexic and dyspraxic relatives.

This realisation helped Sara understand her challenges in time management, organisation of thought, grant and paper writing, and reading long texts. Importantly, it also helped her identify her skills in creative thinking, innovation, big picture thinking and having the ability to link disparate ideas.

66

There are such negative connotations associated with having dyslexia, I hadn't realised there were pluses.

ADAPTING TO NEURODIVERSITY

Having lived, unknowingly, with neurodiversity most of her life, Sara has developed everyday strategies and work-arounds, and uses assistive technologies.

My electronic diary is absolutely crucial and I use mindmapping software to organise my thoughts if I have to write a report. To stay up-to-date in my field I attend conferences, because I prefer to receive my information visually, and discuss new ideas faceto-face. When I do read papers, I skip straight to the figures and make my own judgement – I'll only read the other sections if I have to.

'I get bored very easily and I think that's why I do so many different things and work with all sorts of different people and across disciplines.'

PLAYING TO YOUR STRENGTHS

Sara passionately believes that her learning differences have benefited her career in science, which is an increasingly multidisciplinary endeavour.

I'm able to link disparate ideas, so it makes sense to me to work across disciplines in the sciences as well as the arts.

In fact, her non-linear thinking put her ahead of the pack when it came to applying for the Wellcome Trust's coveted Investigator Awards, when they launched in 2011.

C Unlike traditional highly detailed grant applications, Wellcome wanted applicants to communicate the big picture, their vision and their approach in broad terms. That was really challenging for a lot of people, but it was the easiest grant I've ever written. I was one of the youngest women to be awarded in the inaugural round. It was very satisfying, particularly as I had been advised by more senior men not to bother applying.

In 2017 Sara launched 2eMpowerUK, a project running STEM workshops for neurodiverse teenagers, to give them the confidence to embrace and capitalise on their learning differences.

G I feel that if young people identify as having these differences, they can start making career choices based on their strengths. Good scientists are innovative and creative, and that's how people would describe me, and I believe that that is down to my neurodiversity. I definitely see it as a strength and not a disability.

SARA RANKIN

Professor of Leukocyte and Stem Cell Biology, Imperial College London

Sara Rankin's article originally appeared on The Royal Society's website (www.royalsociety.org/topics-policy/diversity-in-science/ scientists-with-disabilities/sara-rankin). It is republished in The Endocrinologist by permission of The Royal Society and Sara Rankin.

ENDOCRINOLOGY AND DIABETES ADVANCES IN TRAINING



WRITTEN BY ANTONIA BROOKE

The new Endocrinology and Diabetes Specialist Training Curriculum, developed by Asif Ali and the Specialist Advisory Committee, went live in August. It is a necessary change to meet the needs of an ageing population with a range of complex comorbidities. The new curriculum is more patientfocused and generalist in the early years, whilst including recent developments within the specialty.

CHANGING WITH THE TIMES

Since COVID-19, care has radically shifted and is being delivered differently. Challenges in the medical workforce have been widely reported and are likely to continue. The new curriculum has a strong emphasis on the development of essential human skills, such as leading and managing multidisciplinary teams. These skills will be essential for working with our specialist nurse colleagues, primary care and allied specialties for future care.

Training now needs to reflect our practice, with remote consultations, along with robust advice and guidance. A core skill of current trainees is confidence in educating non-specialist colleagues and patients in selfmanagement, which will strengthen care overall within our population.

TIME TO CHANGE 'THE NOISE' AROUND OUR SISTER SPECIALTY?

General and acute medicine has been notoriously tough in the last few years, particularly at medical registrar level. This has repeatedly been cited as a reason not to pursue our specialty. These challenges still remain, but the tide is turning. With the introduction of Internal Medicine Training Year 3 (IMT3), and additional specialties required to dual-train in general medicine, the registrar rotas have a chance to fill properly and allow some leeway to lessen the burden on our trainces.

We offer a diverse curriculum which is fit for the future priorities of population health, general medicine and superspecialty expertise.'

Moreover, general medicine is exciting and gives us an opportunity to be 'in charge' of the hospital. As a registrar, your opinion is listened to. You get to work through the most challenging cases and really save lives. Medical registrar training is for a short period (compared with a long career as a consultant). As generalists come through, there will be less acting down at consultant level. We can't pretend that doing a medical registrar shift doesn't sometimes come with anxiety and tension, but it also comes with interesting pathology, the ability and chance to make a real difference and lead a team. And as a specialty that looks after the whole system, we are in an excellent position to be highly skilled for this role.

WHAT ARE THE CHALLENGES?

Training remains precarious in a post- (or peri-)COVID-19 world. Some trainees have suffered with their own health, or have missed training opportunities and had to extend their training. In addition, we have the challenge of delivering the same curriculum along with more substantial internal medicine training requirements in four years rather than five. As a specialty, we have always played an important role in supporting general (and acute) medicine, but this has meant that specialty training has been sacrificed for service requirement. Many people entering at ST4 level will have had only limited experience in outpatients and no experience in specialty, meaning that they take time to be able to expand to see a whole clinic list confidently.

As an indicative number, we have recommended that trainees should be attending three clinics a week over the four years. When this is averaged out, and including time in acute medicine, there will need to be weeks devoted to specialty (and many more clinics) to be able to achieve this.

BALANCING GENERAL MEDICINE WITH SPECIALTY TRAINING

We have campaigned for some time to protect specialty training from the impact of internal medicine service requirements, and have asked for this within the new curriculum, but this needs to be delivered locally. We want deaneries to ensure parity across all specialties. Our outpatient experience is our 'procedure'. Now is the time for all of us (trainees and educators) to talk to our Trusts and explain our positions and need for parity with other specialties.

Alongside better staffed medical rotas, we can offer training to some of the registrars who may need more general medicine exposure (such as rheumatology or palliative care trainees). We can offer a different way of working: for example, covering stress points such as early evening, setting up a formal admission prevention service, covering more inpatient specialty to reduce length of stay, increasing weighting of rotas to winter. Encouraging less than full-time trainees to consider endocrinology is another opportunity to strengthen our recruitment.

HOW IS THE NEW CURRICULUM DIFFERENT?

One of the key developments is the introduction of capabilities in practice (CiPs) which are higher level evaluations of capabilities rather than atomised competencies. There are CiPs for internal medicine which are common across all group 1 curricula, and seven CiPs which are specific to endocrinology and diabetes. Areas of development include genetics, gender medicine and diabetes technology.

In addition, there is encouragement towards new ways of learning through simulation training, multidisciplinary teams, advice and guidance. The educational supervisor will be the key conductor, to ensure the training runs smoothly, and they will be responsible for a holistic assessment of outcomes.

WHY SHOULD TRAINEES CHOOSE ENDOCRINOLOGY AND DIABETES?

We offer a diverse curriculum which is fit for the future priorities of population health, general medicine and superspecialty expertise. Endocrinology and diabetes often acts as a springboard for research, leading teaching and management.

It is no surprise that the workforce survey shows that many endocrinologists have other strings to their bows. Often our role is to be a strong advocate for patients and to explain complex conditions, understand the subtleties that make diagnostics a challenge and negotiate the path for patients. A perfect combination and opportunities for whatever portfolio you wish to develop.

ANTONIA BROOKE

Chair of Specialist Advisory Committee (Endocrinology and Diabetes), and Honorary Clinical Senior Lecturer, University of Exeter, Clinical Lead Endocrinology, Diabetes and Metabolism, Royal Devon and Exeter Hospital A NEW AND INNOVATIVE ORAL DIAGNOSTIC FOR ADULT GROWTH HORMONE DEFICIENCY (GHD) 1.3



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WHAT I WISH I HAD KNOWN...

In this special issue on careers, we talk to a range of people working in the field, to find our what career advice they would give their younger selves if they had the chance.

DOUGLAS GIBSON Sir Henry Dale Fellow,

Centre for Inflammation Research, Edinburgh

Appreciate freedom when you have it

First, appreciate how much freedom you have as an early career researcher. It's the best time to explore, investigate, test hypotheses and challenge dogmas without the extra responsibilities that come with time. Expect things to fail to work, even if you think they will be a sure thing, while others will work when you least expect it.

Children are wonderful but massively disruptive; they force you to be more resourceful with your time and make you weep for the hours you wasted before they came along. Be understanding of the challenges that they bring for your own sake and for others.

RACHEL TRIBE

Professor of Maternal and Perinatal Science, School of Life Course and Population Sciences, King's College London

Speak up more and worry less. I assumed that working hard and producing good research was enough, but you really need to sing your own praises to get noticed. Also, find a mentor outside of your immediate supervisory team or principal investigator group: you need impartial advice. The other thing is to get out there and create your own networks as soon as you can. And, whatever you do, always be kind, supportive of others, and act with integrity – the best research partnerships are based on friendship and trust. Sing your own praises



ROWAN HARDY

Lecturer in Steroid Metabolism and Signalling, University of Birmingham

Make friends with everyone and learn what they do. Knowing who does what, who to ask for advice and who you should find next to address a new problem saves literally weeks of time. Ideally befriend the finance and admin teams as quickly as possible, if you need to manage grants and get contracts up and running.

Make sure you're doing the stuff you actually enjoy. If you like bench work stay active in the lab; if it's the teaching you love, make sure you put time aside to do it properly and be engaged in the wider process. The quality of work is always better when you focus on the stuff you actually enjoy.



SHANTA PERSAUD Professor of Diabetes and Endocrinology, King's College London

Be confident in your own abilities - recognise that you're very good at what you do, and that you'll be able to convince fellowship and lecturer interview panels of this.

AYLIN HANYALOGLU Reader in Cell Biology, Imperial College, London

Be kinder to yourself. When I became a mother, the guilt level of feeling you're not doing enough at work or with family was even higher, but all of that is your internal voice. Take time to do something for you, and remember to celebrate all the small wins.

Realise that everyone's journey is generally not very linear, and that's OK, as there are always other paths that can lead to unexpected, amazing opportunities. There have been times when I was devastated not to get the grades I needed, or not to be offered the PhD project I applied for. Those rejections were an equally important part of any successes.

Rejection is part of success

MARK TURNER

Assistant Professor, Research Centre for Sport, Exercise and Life Sciences, Coventry University

Keep it simple. It can be very easy to over-complicate things and try to do too much. Create a clear plan with targets you want to get to: ones that are achievable and others that are more ambitious. Stick to the plan and have confidence in it and in yourself.

Do not panic! Take a step back and a deep breath and, if someone will let you, vent your frustration to them, and then get back to getting the job done. To help with this, give yourself plenty of time. Things can take a lot longer than you expect.





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Loved the upbeat style of this show. Great to listen to. It's so nice to have some real science of hormones being discussed as a counterpoint to all the unscientific hormone chat out there." Apple podcast listener

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AN INTERVIEW WITH... NIKOLAOS NIKOLAOU

Have you ever wondered about a research career in industry? Here, Jane Shepley talks to Nikolaos Nikolaou, who recently left the academic life for a commercial role, about why he made the change, and what he has found different.

Tell us about your career so far

I graduated with a BSc in biology from the University of Patras, Greece, in 2011, before moving to the Centre for Endocrinology, Diabetes and Metabolism of the University of Birmingham, UK, as an MSc student. After finishing my MSc, I worked as research assistant at the University of Birmingham for a couple of years, before moving to the Oxford Centre for Diabetes, Endocrinology and Metabolism for my DPhil, under the supervision of Jeremy Tomlinson and Leanne Hodson. When I completed that, I remained at the University of Oxford as postdoctoral researcher for four more years, before moving to the Department of Pathology, University of Cambridge, for a postdoctoral research associate position.

My research has centred on the role of steroid and bile acid metabolism in non-alcoholic fatty liver disease and hepatocellular carcinoma. Soon after I moved to Cambridge, I was approached by a recruiter looking for senior postdocs with hepatocyte experience. I had been applying for fellowships without great success, and I was concerned about my future career steps, so I made a change.

What is your new role?

In May 2022, I took up the post of Senior Scientist at DefiniGEN Ltd. The company is a spinout from the University of Cambridge, founded by Professor Ludovic Vallier, to provide optimised human cell products to the scientific community. We offer human, induced, pluripotent stem cell-derived (hiPSC) hepatocytes to pharmaceutical clients and academic partners for disease modelling research and drug discovery. We also carry out contract research services, including drug safety and efficacy screens. My role is to direct the development of the company's disease model portfolio, support phenotypic assays, mentor junior scientists and represent the company at client meetings and scientific conferences.

'In academia, as a PhD student or postdoc, you are usually working on one, maybe two, projects, with all your energy and focus. Here it is multiple projects, which is quite exciting.'

Had you considered working in industry before?

Not at all – I surprised myself. When I finished my DPhil, I was crystal clear that I wanted to pursue a career in academia, become a principal investigator and establish my own research group. But I soon realised that was tough: getting fellowships is highly competitive, and fixed term contracts were stressing me out. The opportunity came up at the right time and was highly relevant to my research background, so the decision was not difficult.

Has moving to industry been a big culture change?

The company is a spinout from the University of Cambridge, so academics have played an important role, and the environment is not as different as



people might expect. The team is highly collaborative, I am still reading papers, staying informed about the literature and applying that knowledge in the lab. We are also encouraged to attend conferences and publish. The biggest difference has been the number of projects that I am simultaneously working on. In academia, as a PhD student or postdoc, you are usually working on one, maybe two, projects, with all your energy and focus. Here it is multiple projects, which is again quite exciting.

What are the advantages of working in industry?

I was tired of moving around and stressed by having to apply for grants every few years. This has given me the stability I wanted.

We are based on the Babraham Research Campus, which provides many opportunities for collaboration. The campus also maintains cuttingedge science facilities that we can use alongside our own, and that allows exposure to lots of new methods that can advance your skillset. Often in academia, if you want to learn a new technique, you need travel to another lab to find it.

The salary has made quite a difference in my life. I do not feel the academic postdoc salary fairly reflects the skillset, years of experience and hard work that you have put in.

The working pattern is also less intense. As a postdoc I was basically working 24/7, but it came with the benefit of flexibility. Here things are more fixed around core hours of 9–5, Monday to Friday, though there is some flexibility. However, I admit I have not adjusted yet – I still stay late for my reading.

Is there anything you miss about academia?

I sometime miss the scientific discussions over coffee breaks: generating new ideas by chatting with other early career scientists and having the freedom to go and test a new idea in the lab. In industry, your portfolio is fixed, so you do not have that kind of scope to try everything out.

Would I ever cross back? Who knows?! I never close any doors and it is impossible to say what will happen in the years to come.

CAREER SPOTLIGHT CONSULTANT NURSE

Philip Yeoh is a consultant nurse in endocrinology at The London Clinic. He set up the hospital's endocrinology service about 21 years ago, and now also manages the diabetes team.

Tell us about your career path so far

I have been a consultant nurse in endocrinology at The London Clinic for eight years. I'm part of a multidisciplinary team, which works closely with our consultants who specialise in endocrinology and diabetes. The London Clinic is the UK's largest independent charitable hospital, with over 170 beds and 10 theatres. The hospital has been situated in London's Harley Street area for 90 years, and we treat patients with a wide variety of complex health conditions.

Prior to my role at The London Clinic, I was an endocrine research charge nurse at St Bartholomew's Hospital, London. After I qualified, I worked in neurology and neurosurgery for 10 years.

What are you most proud of in your career?

The best thing has been seeing progress in endocrine nursing over the years. When I first started as an endocrine nurse, there weren't many resources, career pathway options or academic opportunities for us. I was actually only the second consultant nurse in endocrinology in the UK when I first took on this role.

Now, the need for endocrine nursing is expressed more vocally. We're gaining better recognition and our voices are being heard. Endocrine nursing also brings different paradigms and perspectives into endocrinology, especially for those caring for people with rare, complex and challenging conditions.

There are more of us, and we're not just working in quantitative research. We're bringing qualitative insights and perspectives to enrich the understanding of endocrinology as a whole.

How did you become interested in endocrinology?

When I worked in neurosurgery, we were doing four transsphenoidal hypophysectomies (TSS) a week, over the course of five to six years. I was fascinated by the endocrine sequelae following a TSS. After I finished my MSc in neurorehabilitation, I looked for a research position and luckily found one at the Endocrine Unit at St Bartholomew's Hospital. This careerchanging opportunity opened the doors to endocrinology for me.

Today, I find endocrinology so diverse and interesting. There are many subcategories of the specialty to work in, and so much to learn.

What have been your biggest career challenges?

When I worked in neurosurgery, I had very little understanding of endocrinology, and decided I wanted to know more about it. This led to my decision to pursue a career in the discipline. It was a shock, moving from an inpatient-based neurosurgery unit to the mainly outpatient-based St Bartholomew's Endocrine Research Centre. I had to acquire new skills, knowledge and understanding.

The next phase of the challenge was when I was invited to set up a new endocrine service at The London Clinic, back in 2001. At that time, there were hardly any independent endocrine units around, so I had to build it from scratch, by borrowing what I had observed and learned. This involved first finding a physical space within The London Clinic, and then working with a project team and architect to decide our unit's specification.

Initially, the team consisted of just me, four consultants and a secretary. Gradually, we attracted more endocrine and diabetes consultants and nurses. Now the unit has a team of six endocrine and diabetes nurses, plus a team of endocrine and diabetes consultants. The main thing I have learned over the years is to work closely with your team. Once the team is strong, efficient and effective, then branch out. It is only through increased referrals and workloads that you start to gain more confidence, experience and expertise in your clinical work.

My career journey has also included volunteering for various endocrine societies, to support the development of endocrinology. For instance, I was an early committee member of the European Society of Endocrinology (ESE) from 2010 to 2017. Today, ESE has a strong presence of endocrine nurses.

It was challenging to get started in the beginning, but it's been rewarding to pave the way for future endocrine nurses to take the baton and build on the progress that has been made.

Who were your mentors and how have they helped you?

My mentors at the beginning were Professors Michael Besser, John Monson, Pierre Bouloux, Shern Chew and Ashley Grossman. I also worked with Professor Márta Korbonits on her research projects in the early days.

They were kind, patient and generous, and they opened the doors for me in endocrinology. I am eternally grateful for the opportunity.

I have a different mentorship team now, but the main drive continues to be working together to find ways to improve the diagnosis, management and outcomes of endocrine patients.

Do you enjoy being a mentor for early career nurses?

I have mentored several nurses early in their careers, both in our department and in the wider endocrine nursing community. One thing I have learned is to be kind, patient, generous and supportive of your early career nurses, and encourage them to take time to learn and develop.

My advice to those mentoring others is to remind people that endocrinology is a complex area and that a mentee may initially find that a lot of information flies over their head! They need time to absorb the skills and knowledge, so it's important that they're supported during their journey.

What do you like most about your work?

I enjoy working closely with my current team and, most importantly, with our patients. They bring different dimensions to our clinical work and it is very important that their voices are heard.

I also enjoy working with patient support groups, particularly with the Addison's Disease Self-Help Group, where I was a trustee from 2016 to 2019. I network closely with the Society for Endocrinology, particularly the Nurse Committee and working groups. I find these activities rewarding.

Finally, I am currently the President-Elect of the Federation of International Nurses in Endocrinology, a cohesive group of endocrine nurses who work closely with the International Society of Endocrinology to support the development of endocrine nursing around the globe. We hosted a session for nurses during the virtual International Congress of Endocrinology 2022 in August.

What advice would you give new endocrine nurses?

Build a sound, knowledgeable and highly skilled foundation in endocrine nursing. Then, put yourself forward for work with endocrinology societies, communities and working groups.

Be kind, generous, patient and supportive to others and yourself. If you have the energy, share your time with various national or international endocrine societies. The main thing is to enjoy your work and create a great rapport with your team – precious and wonderful moments at work don't last forever, so it is important to make the most of those.



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Tell us your priorities FOR CHANGE IN ENDOCRINOLOGY

The Future of Endocrinology working group is continuing its essential work to steer the evolution of our field. Find out what progress is being made and how you can help provide valuable information.

COVID-19 has clearly been an enormous concern over the last two years. However, even before that, the Getting it Right First Time (GIRFT) review visits in endocrinology (carried out in 2018-2019 and published in 2021) gave us food for thought.

There were real concerns about the viability of endocrinology services in the UK, with increasing referrals, pressures on clinic capacity, referral for





It was against that background that, over the period of lockdown, the Society set up a working group to examine these pressures. This was initially in response to COVID-19, but with a wider remit to look at the changes that would help the specialty to adapt and develop. The resulting report was entitled 'Defining the Future of Endocrinology' (DfE), and was presented at the Society for Endocrinology BES conference in Edinburgh in November 2021.

The Society's Clinical Committee has set up a working group of clinicians in primary and secondary care and tertiary centres, to see how we move

forward to make the most important changes that we need for the specialty. From GIRFT and DfE there are over 40 wide-ranging recommendations.

We have an opportunity to use what we have learnt (through the pandemic) and create endocrine services which place our patients firmly at the centre of what we do.

ATTEND THE WEBINAR

Join our Clinical Skills Webinar on Implementation of Defining the Future of Endocrinology recommendations, live on 19 September or watch later in the Members' Area.

It's clear we need to focus on those which are the most relevant and pressing.

WE NEED YOUR HELP

Your assistance, as members of the Society, is crucial in enabling us to assess what endocrine services across the UK are doing already. SHARE YOUR FEEDBACK

Watch out for our survey, coming very soon, where you can send us your views and comments on this project.

We also need to know what you find to be the most challenging issues, and where there may be resistance to change from your employers. Most of all, we need to know what you feel are the most important priorities for us to develop for the specialty.

Endocrinology services must be transformed to make them more patient centric and safe whilst delivering the highest quality in clinical care and training.

To gather this information, we are circulating a questionnaire to all members this autumn. Our aim is to get a baseline, invite comments and understand where we need to go with this important work, to address your needs. We will be able to discuss our progress at SfE BES 2022 in Harrogate this November. The Society is also hosting a webinar as part of the clinical skills series on 19 September, where clinicians will discuss the issues around outpatient transformation that they have identified in making changes to improve services.

A BROADER PICTURE

On the wider stage, we are working with the Clinical Reference Group and our peer review process to get an overview and to support services in making the changes that they feel are necessary for their local circumstances. We are liaising with NHS England and with the other UK nations, to ensure that we have a means to influence policy around our specialty. There are joint webinars promoted by NHS England to cover this area, and jointly approved documents around outpatient transformation. We are also in discussion with the Royal College of General Practitioners to support our primary care colleagues, allowing us to promote good management of endocrine problems in our local populations.

Going forward, we will continue to report on progress and take feedback from all clinicians in endocrinology, to ensure that the specialty remains relevant and flourishing for the future.

DOUG ROBERTSON

Consultant Endocrinologist, Mid Cheshire Hospitals NHS Foundation Trust; Chair, Defining the Future of Endocrinology Implementation Working Group; Member, Society for Endocrinology Clinical Committee

Clinical Skills WEBINARS



19 September at 17.00-18.45
Implementation of Defining the Future of Endocrinology recommendations
Speakers: Dr Rupa Ahluwalia and Dr Colin Perry
Chairs: Professor Kristien Boelaert and Dr Douglas Robertson
3 October at 17.00-18.00
Managing menopause from an endocrine perspective
Dr Annice Mukherjee

19 October at 16.00-17.00 New opportunities and changes in specialty education Dr Antonia Brooke

Register now at **www.endocrinology.org/clinical-skills-webinars-2022** You can join webinars live or catch up later by logging into the Members' Area.

Equality, diversity and inclusion **WORKING GROUP**



One outcome of the Society's recent governance review was an acknowledgement of the importance of equality, diversity and inclusion (EDI) in the organisation's future activities.

Council agreed to set up a member-led working group, to look at the specific EDI recommendations. This will ensure a culture of open and



Society, which will make certain that all members feel that they belong, are represented in the organisation's activities and benefit from its work, regardless of their location and/or experience.

Council member Channa Jayasena is leading this important project. Following an open call to the membership in June, the working group was assembled and held its initial meeting in July.

The aim is to consult with the wider membership as appropriate during the autumn, and develop the recommendations, which will be delivered to Council early in 2023. The Society is **our** community, providing fantastic opportunities for career development, networking and leadership to its members. However, some facets of our community do not fully benefit from these opportunities; reasons include lack of awareness of opportunities, imposter syndrome ('why would they want me?'), or perceiving elitism. This EDI group will ensure that every member has the same opportunities, regardless of where they work, their gender, or background. Importantly, the key decisions and recommendations are being made by a brilliant, cross-section of our community listed below. Channa Jayasena

The working group members are:

- Miss Leanne Delbene Musgrove Park Hospital, Taunton
- Dr Taha Elajnaf University of Oxford
- Dr Anneke Graf, Princess Alexandra Hospital, Harlow
- Dr Kagabo Hirwa, University Hospital Plymouth
- Dr Nauman Jadoon, University Hospital Crosshouse, Kilmarnock
- Dr Mamta Joshi, St Helier's Hospital, Sutton
- Dr Li Kang, University of Dundee
- Dr Ashutosh Kapoor, Northwick Park Hospital, London
- Dr George Lam, Frimley Park Hospital
- Dr Sath Nag, South Tees Hospitals NHS Foundation Trust, Middlesbrough
- Dr Cristina Perez Ternero, Queen Mary University of London
- Dr Kiserah Philip, William Harvey Research Institute, London

Spotlight on SOCIETY JOURNALS

Publish your next article in a Society journal to achieve the recognition you deserve!

ENDOCRINOLOGY

3.522

Our official journals publish cutting-edge research and best practice in endocrinology, contributing to our key aim of promoting advances in the field.

4.669

PUBLISH WITH GREATER IMPACT!

The latest Journal Citation Reports[™] were announced in the summer and it's great news for your Society journals.

Journal of Endocrinology has seen a substantial increase in Journal Impact Factor from 4.286 to **4.669**, with the Five-Year measure also increasing to its best-ever score at **5.533**. The journal now ranks 57 out of 146 journals in the 'Endocrinology and Metabolism' category.

Endocrine-Related Cancer has an increase in Impact Factor to **5.900**. The journal now ranks 35 out of 146 journals in the 'Endocrinology and Metabolism' category, and also 72 out of 245 in the 'Oncology' category.

Journal of Molecular Endocrinology has achieved an Impact Factor of **4.869**, ranking 50 out of 146 journals in the 'Endocrinology and Metabolism' category. The Five-Year Impact Factor has increased to its highest-ever level at **5.532**.

Endocrine Connections has received an Impact Factor of **3.221**, with the Five-Year Impact Factor rising to **3.635**. The journal ranks 101 out of 146 journals in its category.

Clinical Endocrinology received an Impact Factor of **3.522**, ranking 93 out of 146 journals in the 'Endocrinology and Metabolism' category.

Journal Impact Factors are calculated by Web of Science and published each year in the Journal Citation Reports. They are often used as a tool for evaluating a journal's quality. The 2021 Impact Factor takes into account citations in 2021 for papers published in 2019 and 2020.

3.221

4.869

The Society's owned publications, *Journal of Endocrinology*, *Journal of Molecular Endocrinology*, *Endocrine-Related Cancer* and *Endocrine Connections* are published by our wholly owned trading subsidiary, Bioscientifica, which redistributes its profits back to the Society.

The Society would like to thank our Editorial Boards, authors and reviewers for their tremendous hard work and dedication, and all of our journal readers who use and cite articles. Together, you ensure that the Society's journals continue to be influential publications that help us to advance scientific and clinical research in endocrinology for the public benefit – one of the Society's key aims.

Members enjoy free online access to our subscription journals through the Members' Area of our website, and benefit from reduced rates on print subscriptions and discounts on open-access publication fees.

Learn more about online access to our journals and review the new impact factors at **www.endocrinology.org/publications**.

CONGRATULATIONS TO OUR 2022 JOURNAL AWARD WINNERS!

5.900

Our Journal Awards recognise authors for excellence in research focus and practice and their contribution to the wider biomedical field. The highest ranked papers from each of the Society-owned journals are reviewed by the Editorial Boards to select the winning articles. The awards will be presented to the article authors at SfE BES 2022.

Journal of Endocrinology

Early or delayed time-restricted feeding prevents metabolic impact of obesity in mice – **Prashant Regmi** et al.

We demonstrated the modification of peripheral circadian rhythm by meal time as a strategy for the prevention and therapy of obesity and associated metabolic disorders.

Journal of Molecular Endocrinology

Diversification of mineralocorticoid receptor genes in a subterranean rodent, the naked mole-rat - Kaori Oka *et al.*

G It's a great honour to receive the Society Journal Award. I hope that you will be interested in the mysterious endocrine system of naked mole-rats with various attractive features.

Endocrine-Related Cancer

Developmental role of *PHD2* in the pathogenesis of pseudohypoxic pheochromocytoma – Luise Eckardt *et al.*

G Our research has shed light on the developmental origins of inherited cancers carrying mutations in the HIF pathway. This work has important implications for clinical strategies to prevent or treat these rare cancers, and we are honoured that our work has been recognised with this award.

Endocrine Connections

Phaeochromocytomas overexpress insulin transcript and produce insulin – **Ivar Følling** *et al.*

The award came as a big surprise. The article describes
primarily basic science, presenting new details of the biology of
tumours in the adrenal medulla. In addition we discuss possible clinical
implications of our findings.

Clinical Endocrinology

Cardiac phenotype in familial partial lipodystrophy – Abdelwahab Jalal Eldin *et al.*

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Innovative developments in **EDUCATION AND TRAINING**

Education and training have always been, and will always continue to be, a big focus for the Society. Each of the Society's Clinical, Nurse and Science Committees has education and training embedded in its remit, to ensure all our member groups have access to the training and professional development they need, either directly from the Society or from elsewhere.

The Society's recent governance review concluded that it would be beneficial for the Committees to be more joined up around education and training. In this way, the Society's portfolio of events, tools and resources can be strategically developed, by identifying common challenges, gaps and opportunities.

EVOLVING EXPECTATIONS

As we emerge from the pandemic, training needs and expectations have changed. An increase in virtual clinical service models means that training must also evolve, and people expect to be able to do more training online, but still want face-to-face networking opportunities. Secondly, the Society, like most organisations, is having to work 'smarter and harder' within the resources that we have. We need to examine everything we are doing, making sure that we are offering the best value to our members, and meeting as many of those members' needs as possible. This, in itself, is a challenge, since the Society represents such a wide spectrum of professionals at different career stages.

In this context, it is more important than ever to strategically develop our education and training offering. A cross-Committee group met during the summer to start to do exactly that. The group started by discussing the training challenges that currently face our members.

'As we emerge from the pandemic, training needs and expectations have changed.'

TRAINING CHALLENGES

Time and funding for training are challenges for scientists, clinicians and nurses alike. This pressure on resources has only increased since the onset of the pandemic. For clinicians, finding the balance between specialty training and service provision for general medicine is difficult. There are also large regional differences in training provision across the UK. For researchers, support and training at mid-career level are often lacking, for instance tailored management and leadership training or funding for visits and sabbaticals.

Endocrine nurses throughout the UK are very, very diverse in terms of the areas in which they work, the patients that they see and the medical teams that they work alongside. Some nurses work almost in isolation, away from the major centres. Nurses may move from other roles into endocrinology, with no formal training, and so would really benefit from practical work-based experience and rapid engagement with a support network of experienced nurses and clinicians.

POTENTIAL DEVELOPMENTS

The group discussed some potential developments that can be made to our current portfolio of events and training. These might include making National Clinical Cases a hybrid event to extend its reach, expanding the capacity and content of Clinical Update and Endocrine Nurse Update, and redeveloping our Career Development Workshop for new consultants and mid-career scientists. Moving some of the lecture content online could free up in-person time to focus on small group discussion or practical training.

Over the last two years, the Society has built up a considerable bank of recorded webinars and conference sessions, hosted on its website. It is clearly important to improve their visibility, search functionality and categorisation, so that these resources are more accessible to the members who would most benefit from them.

Collaborating with other societies is often an effective way to offer more to our members. The Society has already trialled different ways of working on joint events with the Royal Society of Medicine and the Biochemical Society. Exploring different ways of working with other partners, including the Association of British Clinical Diabetologists and Diabetes UK, and those within industry, is likely to offer more training opportunities to our members without the Society 'reinventing the wheel'.

We have already found new online solutions to some training challenges. For example, gathering small groups of early career nurses together online, to allow them to network and ask questions of a more senior nurse who 'hosts' the session, has been a really successful way to facilitate networking and informal training for very little cost. This programme of 'virtual coffee chats' is soon to be expanded to scientists and clinicians.

If you have further ideas for how the Society could better meet the training needs of its members, please do get in touch with me at **laura.udakis@endocrinology.org**.

LAURA UDAKIS Director of Membership Engagement



FEATURE

FRANK CUNNINGHAM 1933-2022

It is with great sadness that we report the death of Emeritus Professor Frank Cunningham, who passed away peacefully on 24 June, aged 88, after a short illness.

Frank was born in Bootle, Liverpool, in 1933. Having spent some of his childhood as a wartime evacuee up the coast in Southport, he returned to study at St Mary's Catholic Grammar School and then enrolled on a dentistry course at the University of Liverpool. However, he soon realised that dentistry was not his true calling and transferred to a degree in physiology and biochemistry.

After graduation, Frank moved to Birmingham where he gained an MSc and PhD in the emerging field of reproductive endocrinology, under the supervision of Wilfred Butt and Carl Crooke. His research involved the development of methods for the purification and assay of gonadotrophins extracted from human urine and pituitary glands. This work made a vital contribution to the development of new ways to treat female infertility, and paved the way for assisted reproductive technology procedures, such as in vitro fertilisation, that rely on purified gonadotrophins to stimulate multiple follicle development.

After joining the University of Reading in 1964 as a lecturer in physiological chemistry, Frank's research focus shifted away from human hormones to the reproductive endocrinology of farm animals. This change of focus aligned his research better with the agricultural/animal science work which was ongoing at the university. In later life, Frank expressed some regrets that he had moved away from biomedical research. Nonetheless, over the ensuing decades, his group made many telling contributions to animal science, particularly on the neuroendocrine regulation of gonadotrophin-releasing hormone and gonadotrophin secretion in domestic fowl, and seasonal breeding in sheep.

Frank was a highly entertaining and popular lecturer, with a gift for explaining complex ideas to students in an accessible and humorous manner.'

He rose through the ranks of academia, being promoted to a readership in 1976 and a professorship in 1987. Frank supervised at least 16 PhD students from around the globe, won a steady stream of research grants and published more than 80 papers, reviews and book chapters.

Frank served as inaugural Head of the University's School of Animal and Microbial Sciences. This was a challenging role, requiring great tact and diplomacy. It saw the merger, in 1988, of three separate departments that each had its own head, team of clerical and technical staff and way of doing things. Somehow, Frank managed to build bridges and bring everyone together in an amicable and co-operative way, to ensure the success of the new School. He also served as Warden of one of the University's halls of residence (Wessex Hall) from 1981 to 1991, a role he enjoyed greatly.

Frank was a long-standing member of the Society for the Study of Fertility/ Society for Reproduction and Fertility, Society for Endocrinology and European Society for Comparative Endocrinology (ESCE), and was a regular attendee and contributor to their meetings. He served on the



Courtesy of Professor Cunningham's fami

council of management of each of these societies, including a six-year term as Secretary of the ESCE (1977-1983). He also served on the editorial boards of the journals that these societies published (Journal of Reproduction & Fertility, Journal of Endocrinology and General & Comparative Endocrinology).

Frank was a highly entertaining and popular lecturer, with a gift for explaining complex ideas to students in an accessible and humorous manner. At research conferences, he also had an uncanny ability to ask the speaker a pertinent question, despite having seemed to nod off for most of the presentation, in synchrony with the dimming of the houselights.

As a PhD supervisor, Frank's approach was to give his students freedom to develop their own ideas. He didn't try to micromanage, but was always there to offer guidance and advice, and to open the right doors to allow planned research to go ahead. As a former PhD student and colleague, it has been a true privilege to become acquainted with him, and I am forever grateful for his inspiring mentorship and enduring friendship over so many vears.

Above all, Frank was a warm and sociable person with a colourful and magnetic personality, and a characteristic laugh and twinkle in his eye. He loved meeting and engaging with people from all walks of life - not just endocrinologists and fellow Everton supporters! He was a good talker and enjoyed lively discussions on all manner of topics.

After retirement, Frank and his wife moved to Henley on Thames, where they greatly enjoyed walking, socialising and making many new friends in the town and its beautiful surroundings. Frank held a strong religious belief throughout his life, but he was not at all sanctimonious.

He is survived by his wife Rita, one son, two daughters, three grandchildren and one great grandchild. He will be missed greatly.

PROFESSOR PHIL G KNIGHT School of Biological Sciences, University of Reading

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IMPROVING FUTURE PATIENT CARE: THE PITUITARY FOUNDATION'S PATIENT CARE SURVEY

In 2021, The Pituitary Foundation ran the most extensive patient care survey undertaken in the UK. It asked patients to consider their experience in the past three years, to encompass pre-pandemic events.

There were 982 responses; 98% of those who returned a survey had received NHS endocrine care in the past 3 years. The free text comments given by 700 participants articulate a challenging landscape for patients.

OVERVIEW

Amongst examples of good experiences, there are many examples where care has fallen below a standard that should be expected, with potentially life-threatening consequences. The survey results highlight some significant issues in the systems that patients navigate, and three steps have been identified for all professionals working in endocrinology to improve patient care (see below).

There is a need for immediate remedial action and improved communication. The good news is that The Pituitary Foundation believes this to be achievable in the short and medium term. There is a clear urgency to raise awareness and increase education around pituitary conditions in GP, emergency and non-endocrine settings. Within endocrinology, patient experiences are patchy. It is interesting that this is often due to communication – simple, and arguably easy to remedy.

Professor of Endocrinology and Consultant Endocrinologist, John Newell-Price, Chair of The Pituitary Foundation Medical Committee, emphasises this, saying:

This is an urgent call to arms for all of us working in endocrinology. The Pituitary Foundation, in conversation with NHS healthcare staff, has outlined three simple steps which we can all take to health-check our services to patients and improve communication.

KEY THEMES OF THE FINDINGS

Overall patient experience is patchy

There were comments about services in secondary and tertiary centres across the UK. In some cases, when discussing the same centre, one patient was positive while another was negative. For example, in longer term care of patients, 67% had problems accessing an endocrine consultant or team; however, accessing endocrine nurses was easier, with only 34% having problems accessing a nurse.

Regarding routine follow-up appointments, 72% felt that the endocrinologist leading their care understood their condition fully; 28% felt that the endocrinologist did not.

Comments related to endocrine units, as well as A&E and non-endocrine settings:

C I have definitely felt like the condition isn't quite understood by my endocrinologist. I usually leave appointments feeling under-heard and disheartened.



My endocrine team are fantastic. However, when I have been admitted for emergency care (i.e when I broke my ankle) I had to personally contact my consultant through her secretary, as the medical teams refused. I was treated as an inconvenience, not given hydrocortisone appropriately, my diabetes insipidus ignored and almost taken to surgery with no endocrine input. My life was put at risk. My consultant was on the ward within 30 minutes of me contacting her and swiftly took over my care, thankfully. This terrifies me and I am now scared to attend hospital, even though I have an emergency care plan in place now.

Communication is vital

The negative experiences were predominantly around communication. In some cases, patients were not educated about their condition, in others they were not listened to by medical staff. For example, 75% of patients with cranial diabetes insipidus were not given written information about desmopressin, such as doses, sodium and fluid balance. This, of course, can lead to hyponatraemia and hospital admission.

There is a significant lack of communication around hydrocortisone, with around 40% of patients not receiving relevant information. This leads to patients not understanding sick day rules, and prompts adrenal crises, again with hospital admissions.

Patients have told us:

I collapsed twice without fully understanding sick day rules.

It did take 3 years and 10 months to be offered a hydrocortisone emergency pack, and that was only fter I mentioned it having read about it on The Pituitary oundation website.

COVID is not all bad

The pandemic has, of course, had an impact, but it has not been all bad. If the parity of virtual or face-to-face consultations can be made clear to patients, this flexibility can be a benefit. Long term, while 51% of patients would prefer to always have a face-to-face appointment, 45% would prefer to have a mixture of virtual and face-to-face.

There is an urgent need to support GPs

There is a lack of awareness at GP level that leads to delayed diagnosis and a lack of continuing support for patients. This will disproportionately affect patients for whom English is a second language or those of a lower socioeconomic status.

I wish GPs were more aware of pituitary conditions. It seems GPs have not received any updates on pituitary conditions since I was diagnosed in 2006, and this was picked up by an optician.

THREE STEPS WE CAN TAKE

The Pituitary Foundation believes that patient care can be dramatically improved through increased awareness, education and communication. All healthcare settings are encouraged to consider how they could health-check their settings against these steps.

Step 1: Increase awareness and education regarding pituitary conditions

Increasing awareness at an emergency level, as well as amongst GPs, is vital. This is especially true for diabetes insipidus and adrenal insufficiency. Existing, excellent resources published by The Pituitary Foundation, the Society for Endocrinology and other patient charities can be used to support this.

There are some simple (and free) steps that endocrinologists can take. These include, for example, including the web addresses of The Pituitary Foundation GP Factfile and Society for Endocrinology resources on referral letters to GPs.

It is also worth checking that all patients are aware of the support offered by endocrine nurses, and that patients are aware of the steroid emergency card, and where they can get one.

Endocrine units can also encourage peer-to-peer education. For instance, could endocrine nurses deliver a training session for non-endocrine nurses on adrenal crisis?

A large number of patients are anxious about visiting hospitals on general wards, or in emergency contexts, because of the lack of understanding of their condition outside endocrinology. With more awareness of pituitary conditions in wider hospital settings, these issues that are experienced by patients could be massively reduced.

Step 2: Emphasise the importance of communication Communication goes two ways. A patient must be informed and educated about their condition, especially around hydrocortisone and

WHAT THE FOUNDATION IS DOING

At The Pituitary Foundation, we will work with peers and partners to achieve positive outcomes for patients. In particular, we are collaborating with the Society for Endocrinology's Future of Endocrinology working group, with whom we share common aims and outcomes.

These are some of the practical steps that we at The Pituitary Foundation are taking to raise awareness of pituitary conditions and highlight our services to patients:

- running a campaign to highlight the importance of the steroid emergency card to patients
- working with our Medical Committee to establish best practice benchmarks for emergency settings
- ensuring all NHS and patient web pages related to pituitary conditions have a link to The Pituitary Foundation
- linking with professional bodies to raise awareness of pituitary conditions amongst non-endocrine medical professionals
- developing a resource about the role of endocrine specialist nurses for patients.

We welcome all thoughts on how we can work with healthcare providers to practically support patients in their endocrine care. sick day rules. But also, and more often in the case of a less common condition, a patient must be listened to. Endocrine specialists should be contacted routinely if required. Appointments should be provided, where possible, in the format preferred by the patient.

A large number of patients were unaware of endocrine specialist nurses, and ensuring that this fantastic support is available is an easy step to take.

Step 3: Signpost support from charities

The pressure upon the NHS is well understood and documented. The role that The Pituitary Foundation and other peer-patient-led charities offer is increasingly a vital part of the patient journey, and must be signposted to patients at every stage of their experience.

The Pituitary Foundation, as well as other patient charities, has a range of resources to support your clinics and patients. The Pituitary Foundation's Endocrine Clinic Packs contain a huge range of our booklets from those that are condition-specific to others for relationship and communication support. These can be displayed in your clinics.

The Pituitary Foundation's Endocrine Nurse Helpline offers patients support when they may not be able to access endocrine clinics, and is especially useful to newly diagnosed patients. The charity has support groups across the country, providing an opportunity for people to engage with others with pituitary conditions and also create links with their local endocrine units.

There is also a range of practical advice on The Foundation's website, such as guidance for travelling with a pituitary condition and on well-being support. The Patient Information and Support Helpline is operated by volunteers who are all pituitary patients, and they can give a range of support to your patients using their lived experience of a pituitary condition.

By endocrine specialist clinics working together with patient support organisations, we can ensure that every patient gets access to the support they need, and improve patient care.

The report with the full findings of the survey is available on The Pituitary Foundation's website (**www.pituitary.org.uk/news** or use the QR code).



The Pituitary Foundation is the UK's representative for pituitary patients. Established in 1994, it is recognised as one of the global leaders in its field. We run an Endocrine Nurse Helpline, responding to around 900 calls annually from patients unable to get support through the NHS. We have a world class Medical Committee informing our research and support.

Twitter: **@Pituitary_org** Instagram: **@pituitaryfoundation** LinkedIn: **The Pituitary Foundation** Facebook: **The Pituitary Foundation (UK)**

Although the condition might be rare...



...the features are common

Perhaps it's Cushing's syndrome, perhaps it's something else? If you connect any of these dots within a patient, consider referring them to a specialist endocrinologist.

For a clinician's guide to recognising Cushing's syndrome's signs and features, email **cushings@connectthedots.health** and help shine a light on this rare condition.





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