

# THE ENDOCRINOLOGIST

THE MAGAZINE OF THE SOCIETY FOR ENDOCRINOLOGY



## Education and Careers

Securing your dream job in endocrinology

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## A WORD FROM THE EDITOR...



Welcome to this grass roots edition of *The Endocrinologist*, which covers the subject of how to navigate a career in endocrinology. At every stage we all need career progression, no matter how junior or senior we are. There have been numerous changes to clinical training (not all good), and there are serious workforce issues in hospital medicine. Having a senior mentor to guide us through our career is vital, and this seems to be increasingly difficult to achieve. There are career challenges to basic scientists too, and we have included several articles that hopefully will give good advice and ideas for self-progression.

This edition also covers the broad subject of education. We have a great introductory article by Steve O'Rahilly, our President, which is well worth a read. Our new Chief Executive, Ian Russell has kindly written an article introducing himself to us – we will get a chance to meet him at the Society for Endocrinology BES conference, which is in Edinburgh this November. On the subject of education, our interview for this edition is with Dame Professor Lesley Rees, who has made a major contribution to medical education and also has an amazing personal life story.

So, as we look forward to the Rugby World Cup and plan which hotel we are going to stay in for the SfE BES conference, please enjoy this edition of *The Endocrinologist*. We hope it's helpful to all members, right up to the most senior. Thanks again to all who have contributed this time round and have a good autumn – see you in winter (my last edition as editor!).

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**Become a contributor...** Contact the Editorial office at [endocrinologist@endocrinology.org](mailto: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 Spring 2016 issue: **1 December 2015.**

Front cover image ©SHUTTERSTOCK

## SOCIETY WELCOMES NEW CE



Ian Russell

We are delighted to welcome Ian Russell to the post of Chief Executive of the Society. Ian joined the organisation on 6 July 2015 from his position as Editorial Director at Oxford University Press and also assumes the role of Managing Director of the Society's trading company, Bioscientifica. You can read more about Ian in his column on page 18.

## MAKING AN IMPACT

The 2014 journal impact factors were released earlier in the summer. With strong results across all titles, we thank our authors, editorial boards and reviewers for their fantastic contribution and hard work that makes these journals a success.



*Journal of Endocrinology's* impact factor increased to 3.718, the second highest ever received! The updated 5-year impact factor of 3.896, its greatest to date, reflects the consistent publication of high quality research and reviews.

*Endocrine-Related Cancer* received a strong impact factor of 4.805, reinforcing its standing as the leading journal linking oncology and endocrinology.

*Journal of Molecular Endocrinology's* impact factor now stands at a solid 3.081. The underlying 5-year impact factor, which provides a longer-term measure of the journal's quality, is 3.439.

*Clinical Endocrinology*, the official clinical journal of the Society, continues to stand strong with an increased impact factor of 3.457.

## NEW EDITOR-IN-CHIEF

Dr Sofianos Andrikopoulos has been appointed as the new Editor-in-Chief of *Journal of Endocrinology* and *Journal of Molecular Endocrinology*, which are governed by a joint Editorial Board. He has served as the journals' Deputy Editor since 2012. Dr Andrikopoulos is a National Health and Medical Research Council of Australia Senior Research Fellow, Head of the Islet Biology Research Group at the University of Melbourne and President of the Australian Diabetes Society. With this experience and subject expertise he is well positioned to continue the journals' development and success.



S Andrikopoulos

The Society thanks retiring Editor-in-Chief Professor Adrian Clark for his excellent leadership of the journals.

## CONGRATULATIONS



Waljit Dhillon

We congratulate Waljit Dhillon (London), who has been awarded a prestigious NIHR Research Professorship. This scheme aims to fund leaders in the early part of their careers to lead research, promote effective translation of research, and strengthen research leadership at the highest academic levels. Waljit is the first endocrinologist to receive this award.

## PRIZE LECTURES 2015

Congratulations to the two members who have been awarded this year's Early Career Prize Lectureships. They will give their lectures at 17.30 on Monday 2 November at the Society for Endocrinology BES conference in Edinburgh.

The Basic Science Prize was won by Bryn Owen (London) for 'FGF21: a fasting hormone and anti-obesity drug candidate'.

The Clinical Prize winner is Alexander Comninos (London) for 'KNDy neurones: orchestrating reproduction and hot flushes'.



A Comninos



B Owen

## THANK YOU

A big thank you extends from us to all of you who completed our recent members' survey. The results will form an important part of our strategy for the future. We will report our findings in a future issue of *The Endocrinologist*.

## SOCIETY CALENDAR

2-4 November 2015  
**SOCIETY FOR ENDOCRINOLOGY BES CONFERENCE 2015**  
Edinburgh

2 February 2016  
**NATIONAL CLINICAL CASES**  
London

26-28 February 2016  
**CAREER DEVELOPMENT WORKSHOPS**  
London

see  
[www.endocrinology.org/meetings](http://www.endocrinology.org/meetings) for full details

## GRANT AND PRIZE DEADLINES

27 NOVEMBER 2015  
**EARLY CAREER GRANTS**

27 NOVEMBER 2015  
**EQUIPMENT GRANTS**

30 NOVEMBER 2015  
**THEMED SCIENTIFIC MEETING GRANT**

15 DECEMBER 2015  
**TRAVEL GRANTS**

11 FEBRUARY 2016  
**UNDERGRADUATE ESSAY PRIZE**

16 MARCH 2016  
**SUMMER STUDENTSHIPS**

see  
[www.endocrinology.org/grants](http://www.endocrinology.org/grants) for full details of all Society grants

## WITH REGRET

We are sorry to announce the deaths of Bruno Allolio of the University of Würzburg, Germany and Cephas Musabayane of the University of Kwazulu-Natal, South Africa. Obituaries will follow in a future issue.

## 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 home page, [www.endocrinology.org](http://www.endocrinology.org). *Endocrine Connections* and *Endocrinology, Diabetes & Metabolism Case Reports*, the Society-endorsed case reports publication, are open access (OA) and free to all.



### JOURNAL OF ENDOCRINOLOGY

#### All in the brain: the birth of neuroendocrinology

Within the introduction to a talk, one expects a road map, giving a high level view of the region under study. All neuroendocrinologists have their cartoon version of the hypophyseal portal system, within which to frame the subsequent data.

Within a celebratory thematic review section of August's *Journal of Endocrinology* comes a timely reminder that what we now hold as established endocrine tenets did not emerge fully formed on tablets of stone, but rather were the result of hard-won, rigorous scientific endeavour. Focusing on developments in reproductive endocrinology and the work of Geoffrey

Harris, George Fink elegantly guides the reader through a dynamic period when the anterior pituitary found itself "relegated from ... 'conductor of the endocrine orchestra' to being the 'second fiddle of the hypothalamus'".

We are introduced to the complex characters of the time and shown that a clear mechanistic and anatomical understanding of a system has the power to move a field of study in diverse and highly rewarding directions.

Read the full article in *Journal of Endocrinology* **226** T13–T24 (OA)

### JOURNAL OF MOLECULAR ENDOCRINOLOGY

#### Glucocorticoid disruption of WNT signalling in bone

Increased bone fragility and osteoporosis are common side-effects of glucocorticoids (GCs). It is generally understood that GCs interfere with osteoblast proliferation, and so reduce bone formation. Although the molecular mechanisms are not yet understood, mRNA processing and microRNAs are possible candidates.

Using mouse models of osteoblast cells, Shi *et al.* demonstrated that a dexamethasone-induced reduction in osteoblast proliferation was mirrored by an induction of miR199a-5p. Transfection studies confirmed that miR199a-5p not only reduced osteoblast proliferation but also reduced

expression of *Runx2* and *Osterix* (osteogenic marker genes). Bioinformatics identified WNT2 and FZD4 (WNT signalling components) as putative miR199a-5p targets. Further studies showed that miR199a-5p not only reduced both WNT2 and FZD4, but also  $\beta$ -catenin, indicating that one way in which GCs interfere with osteoblast proliferation is by targeting WNT signalling.

This is significant as there is great interest in developing drugs that target antagonists of WNT signalling as anti-osteoporotic treatments. This study suggests that these may prove particularly effective in GC-induced bone loss.

Read the full article in *Journal of Molecular Endocrinology* **54** 325–337

### ENDOCRINE-RELATED CANCER

#### TFF3 as a biomarker of endocrine response in metastatic breast cancer

As a secreted protein, serum trefoil factor 3 (TFF3) has been reported to be a biomarker of several malignancies. It is present in breast tumours and cell lines, and elevated protein expression is associated with lymph node involvement and local metastasis.

May & Westley validated breast cancer tissue microarrays and demonstrated that TFF3 is regulated by oestrogen and associated with oestrogen receptor alpha expression. They further evaluated TFF3 as a biomarker of endocrine response and investigated TFF3 function. Results demonstrated that TFF3 is a

specific and sensitive predictive biomarker of response to endocrine therapy, and degree and duration of response, in unstratified metastatic breast cancer patients.

Furthermore, TFF3 expression is associated with response to endocrine therapy, and outperforms oestrogen receptor alpha, the progesterone receptor and TFF1 as an independent biomarker, perhaps via the mediation of the malign effects of oestrogen on invasion and metastasis.

Read the full article in *Endocrine-Related Cancer* **22** 465–479 (OA)

### ENDOCRINE HIGHLIGHTS

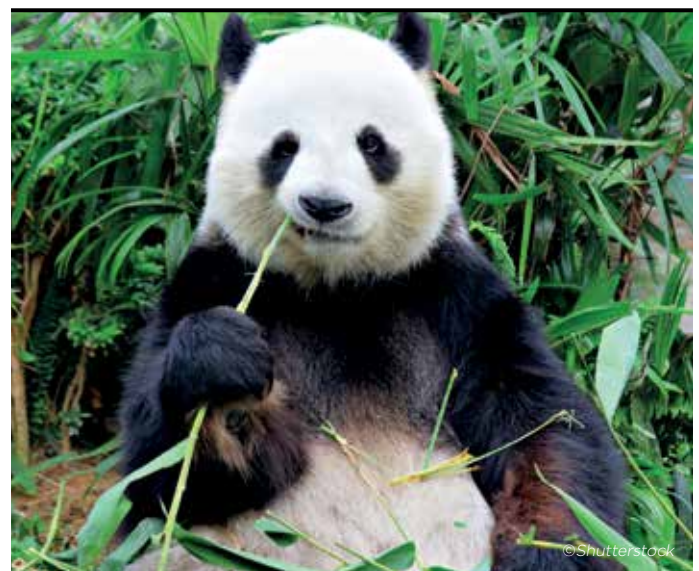
A summary of papers from around the endocrine community that have got you talking.

#### Pandas and bamboo: balancing the energy budget

Ever wondered how a giant panda gets by when all it does is eat shoots and leaves? Nie *et al.* have undertaken detailed phenotyping of both captive and wild pandas, and highlighted a suite of adaptations that enable a large mammal with a short carnivoran alimentary canal to survive almost solely on bamboo.

Measurements using a doubly labelled water method revealed a daily energy expenditure less than half that predicted for a mammal of its size, with figures resembling those of a 92kg reptile rather than a homeothermic terrestrial mammal. Giant pandas appear to be wholly inactive for more than half the day, and even when they do forage their mean speed is only 15m/h. A reduction in the sizes of metabolically demanding organs such as the brain, liver and kidneys also contribute to this low energy state. Maintenance of a core body temperature is helped by the panda's deep, insulating pelage. Finally, their circulating levels of thyroxine (T4) are lower than those in hibernating black bears, linked to a unique mutation in the *DUOX2* gene, which catalyses a key step in T4 and tri-iodothyronine synthesis. So now you know.

Read the full article in *Science* **349** 171–174



## CLINICAL ENDOCRINOLOGY

### Personalised and predictive medicine in acromegaly

There is perhaps no such thing as a standard patient with acromegaly, and to see this review which considers an individualised approach to both medical and surgical management is very welcome.

Tumour resection was traditionally felt to be the first line of therapy, with drug treatment an adjuvant consideration for residual disease post-operatively, but things have changed considerably over recent years. Somatostatin analogue (SSA) therapy is used increasingly pre- and post-surgery, and is considered a cornerstone of patient management in acromegaly.

However, the percentage of patients on SSA therapy experiencing treatment failure is 'remarkably high', according to the author, Domingo. It may well be that the increasing use of biomarkers and imaging markers in the future will help to identify and select those who respond better to treatment. This may ultimately help improve the clinical decision-making process.

Read the full article in *Clinical Endocrinology* 83 3–14 (OA)

## ENDOCRINOLOGY, DIABETES & METABOLISM CASE REPORTS

### Post-thyroidectomy hypocalcaemia exacerbated by chyle leak

Hypocalcaemia following thyroidectomy is one of the most common calls answered by the inpatient endocrine team, with damage to the parathyroids or interruption of their blood supply the main culprit.

Alzaman *et al.* describe a case of total thyroidectomy complicated by thoracic duct injury, and suggest that calcium and vitamin D losses via a leakage of chyle contributed to a prolonged hypocalcaemia. Their patient required extensive neck dissection for medullary thyroid carcinoma, which put both the parathyroids and the thoracic duct in increased jeopardy.

An increase in chyle output from the damaged thoracic duct was contemporaneous with a dramatic fall in ionised calcium, despite aggressive calcium and vitamin D replacement, and necessitated admission to intensive care. The chyle leak was managed with subcutaneous octreotide and the initiation of a medium chain fatty acid diet. Calcium levels returned to normal as chyle output fell.

Vitamin D is fat soluble, and oral absorption is partially chyle-dependent. Clinicians should be aware of this when post-thyroidectomy hypocalcaemia does not respond as anticipated.

Read the full article in *Endocrinology, Diabetes & Metabolism Case Reports*, 3 doi: 10.1530/EDM-14-0110 (OA)

## ENDOCRINE CONNECTIONS

### Quality of life after surgery in primary hyperparathyroidism

People with primary hyperparathyroidism (PHPT) frequently suffer from impaired health-related quality of life (HRQoL), but it is unclear what role surgery plays in improving this parameter.

Studying a cohort of 124 patients, Ryhänen *et al.* assessed HRQoL both before and after surgery using the 15D instrument (a questionnaire designed to measure 15 dimensions of quality of life). Using a comparable sample of the general population as a control ( $n=4,295$ ), their aim was to assess whether the 15D instrument could reliably measure HRQoL in these patients and whether surgery had any effect.

Before surgery, patients with PHPT had significantly lower 15D scores than controls, with excretion, mental function, discomfort and symptoms, distress, depression, vitality and sexual activity among the most impaired factors. Patients' mean 15D scores were significantly improved 6 months after surgery, with this improvement still sustained at 1 year post-operation. The 15D appears to be a sensitive tool for assessing HRQoL and recognising patients likely to benefit from surgery.

Read the full article in *Endocrine Connections* doi: 10.1530/EC-15-0053 (OA)

### Conversion of abiraterone to D4A drives anti-tumour activity in prostate cancer

Prostate cancer is driven by androgens, particularly  $5\alpha$ -dihydrotestosterone ( $5\alpha$ -DHT). Therapeutic options include systemic androgen deprivation therapy to limit  $5\alpha$ -DHT availability. However, many prostate tumours develop resistance to this line of therapy, as they can synthesise their own androgens to maintain growth. Abiraterone (Abi) inhibits  $17\alpha$ -hydroxylase/17,20-lyase (CYP17A1), a key enzyme in androgen synthesis, and has shown significant clinical promise.

Li *et al.* have demonstrated that the more active D4A, a metabolite of Abi, also inhibits CYP17A1 along with two additional enzymes,  $3\alpha$ -hydroxysteroid dehydrogenase and  $5\alpha$ -reductase, responsible for androgen synthesis. Furthermore, D4A also blocks the androgen receptor, thus rendering existing androgens inactive. Twelve patients on active Abi therapy had detectable serum levels of D4A. D4A levels varied among patients, however, suggesting that individuals may differ in their metabolism of Abi to D4A.

These findings suggest that the clinical success of Abi might be explained by its metabolism to D4A. Thus, use of D4A as a direct treatment may provide greater benefit to prostate cancer patients compared with Abi alone.

Read the full article in *Nature* 523 347–351



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### Cost savings of iodine supplementation

The health benefits to both mother and child associated with pregnant women having adequate iodine levels are well documented. Severe iodine deficiency during pregnancy can lead to substantial cognitive impairment and delayed development in children, resulting in a lower IQ score and consequently lower educational attainment and earning potential. Monahan *et al.* set out to investigate the cost effectiveness of an iodine supplementation programme for pregnant women in a mild to moderately deficient population such as the UK.

Using data from a systematic search of the available literature, they developed a model that indicated iodine supplementation led to an average IQ increase of 1.22 points per child. They calculated that, in monetary terms, this increase in IQ would lead to a saving for the National Health Service (NHS) of £199 per child throughout his/her lifetime, with monetary benefits to society calculated at £4,479 per child.

The authors conclude that providing iodine supplementation to pregnant women in the UK could have significant cost-saving benefits to the NHS through its impact on IQ scores, in addition to the known health benefits associated with pregnant women and children having adequate iodine nutrition.

Read the full article in *The Lancet Diabetes & Endocrinology* doi:10.1016/S2213-8587(15)00212-0

### FTO variants in the circuitry of obesity

Body mass index has a strong genetic component. Energy balance is modulated through calorie intake, physical exertion and the dissipation of heat energy by way of thermogenesis in mitochondria-rich brown fat. The *FTO* gene is perhaps the most commonly recognised and strongly associated with human obesity. However, how this acts at a metabolic level and its impact on such factors as adipocyte thermogenesis have not previously been fully clear.

Claussnitzer *et al.* used multiple techniques to examine the connection between variants in the *FTO* gene region and the regulatory circuitry of obesity. The findings suggest 'the causal variant rs1421085 can disrupt ARID5B repressor binding; this disruption results in derepression of *IRX3* and *IRX5* during early adipocyte differentiation. This process could lead to a cell-autonomous shift from white adipocyte browning and thermogenesis to lipid storage, increased fat stores, and body weight gain.'

Interestingly, manipulation of the uncovered pathway had a significant effect on obesity phenotypes in experimental models.

Read the full article in *New England Journal of Medicine* 373 895–907

# HOLD BACK THE PROGRESSION

in gastroenteropancreatic neuroendocrine tumours (GEP-NETs)



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**Date of preparation:** September 2015.

**UK/SOM08947(1)a**

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## Endocrine NETWORKS

Enabling communication, collaboration and knowledge sharing

Endocrine Networks provide dedicated forums across specialty areas within endocrinology. The Networks enable you to communicate with members with similar interests, share best practice, exchange ideas and collaborate on cross-disciplinary research initiatives in Endocrinology.



## Grow your NETWORK

### Current Networks

- **Reproductive Endocrinology and Biology** - network leads are Professor Stephen Franks and Dr Andrew Childs
- **Metabolic and Obesity** - network leads are Dr Barbara McGowan and Dr Kevin Murphy
- **Adrenal and Cardiovascular** - network leads are Professor Jeremy Tomlinson and Professor Eleanor Davies
- **Bone and Calcium** - network leads are Professor Duncan Bassett and Professor Colin Farquharson
- **Endocrine Neoplasia Syndromes** - network leads are Professor Raj Thakker and Dr Paul Newey
- **Neuroendocrinology** - network leads are Professor Waljit Dhillon and Dr Giles Yeo
- **Thyroid** - network leads are Dr Petros Perros and Dr Carla Moran

Join your network online  
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# EDUCATION AT THE HEART OF ENDOCRINOLOGY

WRITTEN BY STEPHEN O'RAHILLY



I am delighted that the Editor has asked me to introduce this special issue of *The Endocrinologist*, which focuses on education. Education is at the heart of all we do as a Society, whether we give an undergraduate the chance to be inspired by a summer research project or help a patient's self-management by providing well-designed educational material.

My personal perspective is inevitably influenced by the fact that I trained as a physician in the 'dark ages' before formal educational theory had penetrated medical training. At this time, one's teachers were a motley crew of the wonderfully inspirational and the utterly dire. Recently, colleagues with a particular focus on pedagogy have developed medical education into a recognised discipline. The rapid expansion of UK medical schools in the 1990s generated a great demand for such individuals, with their expertise in designing and delivering curricula. The resulting cadre of safe and kind doctors is a testament to the efforts of those dedicated educators.

## RISKS AND BENEFITS

However, it is my view that putting control of medical education largely in the hands of those for whom it is a full time activity does run certain risks. It can lead to a growing obsession with the process of education itself, rather than the knowledge and spirit of enquiry that needs to be imparted. The medium can risk becoming the message and formulaic box-ticking can begin to prevail. The second risk is homogenisation: the Procrustean attempt to deliver to every trainee an idealised version of a 'safe and complete' education.

The sins of box ticking and homogenisation contribute to a third – namely the infantilisation of trainees. I can't be the only person who, on their (in my case increasingly rare) periods back on the wards reflects that house officers now operate like medical students, senior house officers (SHOs) – sorry, core medical trainees – like house officers and registrars like SHOs.

*'Medical students have been encouraged to be more patient-centred, and are better communicators. These advances are entirely compatible with a scientifically rigorous training.'*

I am, of course, susceptible to romantic, rose-tinted false memories of a golden era. However, it is worth pointing out that, 25 years ago, those who had committed to a career in academic clinical endocrinology could reasonably expect to be running a fully independent research laboratory and taking responsibility for patients at an honorary consultant level by their early to mid-30s. Today, colleagues are not infrequently 40 or older before they reach that stage. That is quite daunting for a graduate, now often with a substantial loan to repay. Clinical academics may only make up a small proportion of our membership, but what would a Society for

Endocrinology look like in the face of a dwindling body of physician-scientists?

My personal perception is that the rise of 'medical educationalism' in undergraduate medical training has been, on balance, a positive one. Medical students have been encouraged to be more patient-centred, and are better communicators. These advances are entirely compatible with a scientifically rigorous training. A programme which did not provide medical students with sufficient grounding in human biology and pathology on which to base their future clinical practice would be selling those students (and their patients) dangerously short. A kind doctor who communicates well is no substitute for a doctor who is skilled and knowledgeable enough to correctly make a challenging diagnosis.

It is in the sphere of postgraduate education where we must be particularly vigilant in resisting the drift to box ticking, homogenisation and infantilisation. This risk is not simply theoretical. Several prominent educationalists were leading culprits in the 2008 debacle that was the Medical Training Application System. This was a chilling example of what happens when systems are put ahead of people and the aspirations of young doctors are made subsidiary to the national implementation of beguilingly neat but fatally flawed solutions.

*'We will ensure all our key committees include people with a high level of educational expertise.'*

## EMBRACING EDUCATION IN THE SOCIETY

Several Society members have a passionate commitment to education and have asked whether the Society should have a committee dedicated to the topic. I believe that education suffuses all we do: our annual meeting and clinical updates, our journals, undergraduate prizes, summer studentships, career development workshops, online education, patient information, public engagement and advocacy. If one looks at an agenda for any of our major committees, at least 50%, sometimes far more, has a major educational aspect. In my opinion, it is best to ensure all our key committees include people with a high level of educational expertise, and that we ask them to bring that knowledge to bear on all our activities.

As an example, our Clinical Committee's recently revised remit asks it to focus on three major themes. In addition to clinical care and clinical research, we have established a theme of recruitment, retention and career development in clinical endocrinology. This effort is initially aimed at medical students and early career doctors. We will ensure that the Clinical Committee always includes members with specialist expertise in medical education. I can envisage considerable expansion of the Committee's work on this theme in future years, particularly as specialist 'post-CCT' (certificate of completion of training) credentialing becomes more prominent. We are making similar plans to build educational expertise into our other major committees.

Education is at the heart of all we do. It is so important that we must integrate, not ghettoise, it.

STEPHEN O'RAHILLY  
President, Society for Endocrinology

# A SCIENTIFIC CAREER IN ENDOCRINOLOGY



WRITTEN BY ANNE WHITE

For non-clinical scientists, the career pathway into endocrinology is often varied – mine was no exception. My PhD involved making hybridomas from normal and malignant cells in order to study cell adhesion in tumours. This gave me the skills to take on a postdoc position focusing on the generation of hybridomas secreting monoclonal antibodies to steroid and peptide hormones, and it was there my career in endocrinology began.

## SETTING OUT

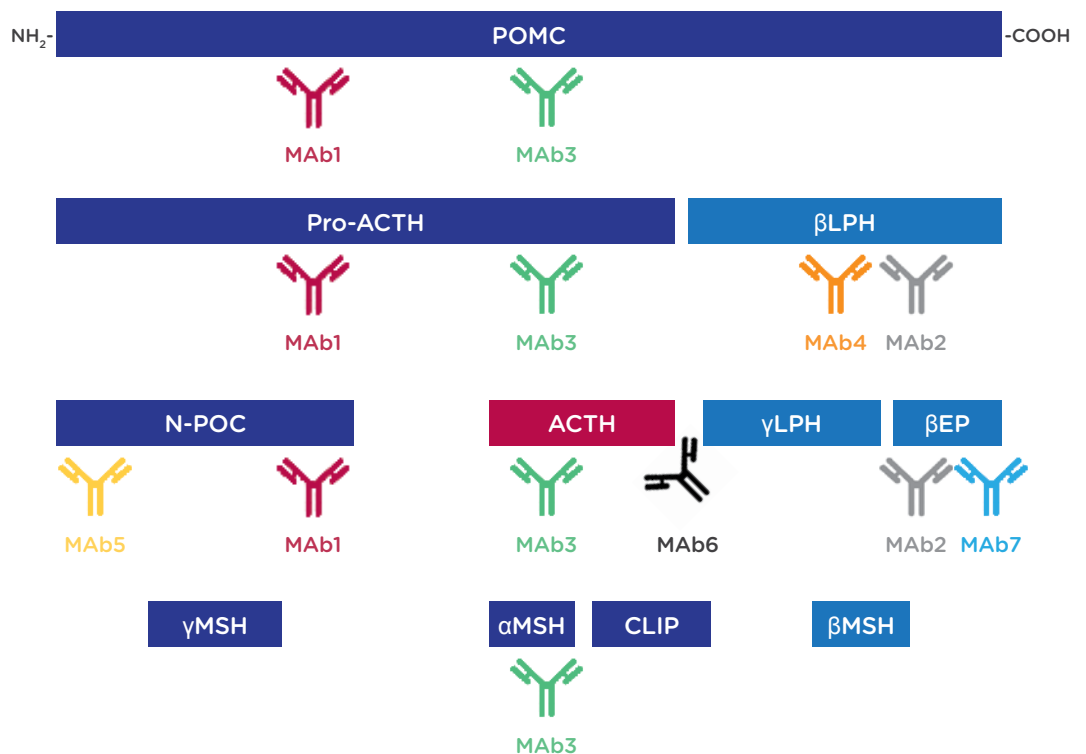
At that time, each UK regional specialist centre in endocrinology had a laboratory to develop its own assays for each of the hormones, as commercial kits were only just beginning to appear. The goal for my postdoc project was to improve diagnostic immunoassays for endocrine investigations. Therefore, the monoclonal antibodies had to have high specificity and high affinity to detect the low concentrations in blood. This was no mean feat, especially as I worked with an organic chemist who was a wizard at producing steroid immunogens but who only worked from 10pm to 6am as he liked solitude in the lab!

We successfully produced monoclonal antibodies to progesterone and testosterone, and subsequently to insulin-like growth factors, but perhaps our most profitable monoclonal antibody was one that was highly specific for 1,25-dihydroxyvitamin D<sub>3</sub>. This project was in collaboration with Barbara Mawer from The University of Manchester. Through links made at the BES conference with a diagnostics company from Newcastle upon Tyne called IDS, we negotiated a licence agreement which paved the way for royalties that have subsequently funded many of our research projects and lots of PhD students.

## THE CHALLENGES OF FUNDING AND MOTHERHOOD

During much of this time I was funded by NHS infrastructure grants in a clinical department, which didn't have funding for non-clinical academics, so I am only too aware of how difficult it is to establish a career path in this setting. Until there is proper recognition of this gap, there will continue to be problems in supporting experimental medicine. However there are always 'initiatives', and I was successful in getting a lectureship, which enabled me to work jointly with the School of Biological Sciences at The University of Manchester.

I think being a non-clinical scientist in a clinical setting is tougher than 'being a mum' with a scientific career – and I chose to do both at the same time! I was very lucky to have lots of support but it is tricky. Why is it that conferences are always organised for when parents have to be at the Christmas play?! The sense of guilt is ever present, such as when an



POMC is processed to a range of peptides, but most importantly ACTH and αMSH (see Pritchard & White 2007 *Endocrinology* 148 4201). Specific measurement of each of the peptides relies on pairs of monoclonal antibodies (MAbs) which my research team have developed over a number of years (POMC, pro-opiomelanocortin; ACTH, adrenocorticotrophin; LPH, lipotrophin; N-POC, N-pro-opiocortin; EP, endorphin; MSH, melanocyte-stimulating hormone; CLIP, corticotrophin-like intermediate peptide).



experiment is running late and you need to pick the children up from a party.

Despite this I hope my children have benefited from a mum who is interested in everything and 'fanatical' about her experiments, rather than focusing on them alone. At least, that is how I have justified it to myself!

### SWEET SUCCESS

Perhaps the most exciting time in my career was when we decided to develop the monoclonal antibodies to adrenocorticotrophin (ACTH) in order to improve the quality of differential diagnosis. Only two or three labs in the UK had a radioimmunoassay for ACTH, and it was notoriously fickle! By developing monoclonal antibodies and utilising pairs of them in a 'sandwich' assay, it transformed the measurement of ACTH, which provided a 'step change' improvement in diagnosis for patients.

*'I keep getting drawn back to the research. The new tools we have just make it more fascinating and the collaborations make it great fun.'*

More importantly, we extended this approach to develop an assay for the ACTH precursor, pro-opiomelanocortin (POMC; see figure), and this led to the discovery that ectopic tumours in Cushing's syndrome primarily secrete ACTH precursors. A by-product of this was some great collaborations with Paul Stewart, John Bevan and Julian Davis, amongst many others.

Our interest in POMC digressed as we studied its role in regulating energy balance in the hypothalamus. This led to a long-standing collaboration with Steve O'Rahilly, during which we puzzled over POMC processing defects and their implications for children with obesity.

### INDUSTRIAL ALLIANCE

At about the same time, I was successful in getting a Royal Society Industry Fellowship, which enabled me to work 2 days a week at AstraZeneca. The research labs were based about 40 minutes away from the university. With teenage children this was my answer to a sabbatical! It was actually my second exposure to working in industry.

When I was a student, I had spent 9 months in drug discovery at AstraZeneca (when it was ICI Pharmaceuticals) and this gave me a fantastic training in translational research. I was working in the labs at the time the beta-blocker Tenormin was developed, and other groups were working on tamoxifen for the treatment of breast cancer. The research labs produced four major new medicines in 15 years and the research setting was very exciting. Everyone was expected to work as part of a team and to contribute their expertise to other researchers' projects. The academic tendency for secrecy, and the assessment of academics which discourages support roles, subsequently came as a shock to me.

So 27 years later I returned to AstraZeneca as a Royal Society Industry Fellow, and worked with research scientists looking for novel targets to treat type 2 diabetes and obesity. My research focused on the role of POMC in the hypothalamus and later the effect of inhibition of glucocorticoid regeneration on the hypothalamic-pituitary-adrenal axis.

Over a 14-year period, my group had continuous support from AstraZeneca for PhD students, who were based in the AstraZeneca labs for the majority of their projects, and latterly for postdoc funding. This enabled us to collaborate with great scientists and gave us access to fantastic resources and skills. In exchange, our staff were a conduit to other university research groups, and we facilitated a strategic alliance between AstraZeneca and The University of Manchester.

Our studies on mice with targeted deletions of 11 $\beta$ -hydroxysteroid dehydrogenase 1 enabled us to get a better understanding of glucocorticoid regeneration and its implications for metabolic syndrome. The collaboration also helped the postgrads by providing a link into industry and a much better understanding of the drug discovery process.

### OTHER ROLES

Along the way I have taken on roles at various times, such as Associate Dean for Graduate Education and subsequently Business Engagement. I'm currently Head of NeuroSystems at The University of Manchester. I've been on a range of committees for graduate education at the Medical Research Council and on the Council of the Society for Endocrinology.

However, I keep getting drawn back to the research. The new tools we have just make it more fascinating and the collaborations make it great fun.

ANNE WHITE

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# LIFE AFTER ACADEMIA: RESEARCH FUNDING IN THE CHARITY SECTOR

WRITTEN BY SIMON RIDLEY



Six years ago, I hung up my lab coat for the last time at the Institute of Metabolic Science in Cambridge. My PhD finished in 1998 and, although I don't feel old or wise enough for a long inspiring career retrospective, I have picked up some observations on the way.

One is that considering an alternative career can seem daunting to the many who decide that academic research is no longer for them. People often want to stay connected with science in some way, but are worried that they have spent too long being too specialised and don't have the necessary experience or skills to switch careers. I won't pretend that a change is always easy or straightforward, but it is certainly feasible.

Another observation is that the grass is not always necessarily greener. Each different career path has its own pros and cons, which need to be weighed up. In my own case, I spent 2 years as a postdoc before joining a biotech company. After 4 years, I returned to academia for a postdoc position which led to a Diabetes UK Fellowship. Despite interesting research in an excellent scientific environment, I decided to leave academia for good.

## ATTRACTIONS OF CHARITY RESEARCH FUNDING

My first move was into pharmaceutical regulatory affairs – a niche area whose attractions included using scientific knowledge, a healthy job market (then at least) and career progression prospects. While I was deciding whether that had been the right choice, I saw a Research Manager vacancy at the Alzheimer's Research Trust (now Alzheimer's Research UK). Having never previously considered working in research funding, the penny dropped when I saw the job description, which seemed just what I was looking for.

There are many different types of research charities. Organisational sizes, remits and priorities range widely. Within this diversity is a common theme: how can research be funded (with limited and often modest budgets) to address a charity's remit – to benefit either patients or those at risk of becoming patients?

*'In a research charity, is it important to keep up with the broadest spectrum of relevant science, and this has certainly helped maintain my strong interest and enthusiasm for research.'*

As everyone involved in research knows, the answer is complex, but addressing it is both challenging and extremely worthwhile. Doing so requires knowledge both of what research entails and of the field of interest, a willingness to engage with a range of opinion, and some long term ambition. There is a mix of procedural and process-driven work alongside the more strategic and the sometimes unexpected.

Personally I enjoy variety, working closely with charity colleagues in communications, finance, policy and fundraising. I also enjoy interacting with researchers (reviewers, advisers and grant holders) and other funders. Charities are often asked for comments on relevant media stories and I find contributing to this work very interesting. In a research charity, it is



important to keep up with the broadest spectrum of relevant science, and this has certainly helped maintain my strong interest and enthusiasm for research.

Naturally, there are aspects to switching across into research funding which won't appeal to everyone. Being close to research but never actually doing it can be frustrating to some. Most funders turn down more applications than they fund, and being seen as the embodiment of that process can make for some testing moments. Most charities need to raise funds in order to spend them on research: a demanding process with which everyone in the charity needs to help. Donors quite rightly expect to see results for their money and charities have an absolute obligation to spend well and manage expectations responsibly, whilst retaining ambitious but feasible aims. Much of this responsibility lies with the research team/department.

## HOW TO MAKE THE MOVE

Science communication roles are often seen as the most desirable and popular route for researchers entering research charities. However, the research funding side can be just as interesting, challenging and rewarding. For tentative first steps towards a career change, there are many ways for researchers to get involved or volunteer with research charities and engage with a medical 'cause'. The website of the umbrella Association of Medical Research Charities (AMRC; [www.amrc.org.uk](http://www.amrc.org.uk)) is worth a look.

It's important to note that 'generic' applications and CVs will not stand out for any popular vacancy. Both should be tailored for each different role, with different emphases within the same set of applicant information accompanying real evidence that the applicant has really thought about the role, the employer and the sector.

A worry among some researchers wanting a change is that, if they remove lists of experimental techniques and publications, then their CVs will look bare. This is where 'transferable skills' come in. Everyone has some transferable skills, even if they can't immediately think of them. Some relevant ones for research funding positions could include team working, attention to detail and timelines, managing projects and prioritising different concurrent tasks, good and varied communication skills with different audiences, an ability to retrieve and absorb information quickly, and using databases. There may be opportunities to boost some transferable skills formally from university career services and courses, or to develop them within the course of research activity.

SIMON RIDLEY

Head of Research, Alzheimer's Research UK

# LIFE AFTER ACADEMIA: A CAREER IN THE BIOPHARMACEUTICAL INDUSTRY

WRITTEN BY CHRISTOPHER CHURCH



Only 15% of PhD graduates will make it through to a traditional tenure-track academic position at a research university. The biopharmaceutical industry provides an alternative career option that combines innovative science with the ability to bring new drugs to the clinic to help combat the growing challenge of human disease including obesity, diabetes and heart disease.

## STRONG SCIENTIFIC FOUNDATION

I started my career path with a classical academic degree structure but with the addition of a professional industrial training placement, spending 12 months at GlaxoSmithKline developing tools to manipulate the mouse genome. This placement was a fantastic experience and one which allowed me to perform innovative research in a corporate environment. The experience forged my future career path and set into motion my desire to develop my research expertise and training. After completing my PhD and spending 4 years as a postdoctoral fellow in America, I decided to investigate alternative career options in scientific research that might allow me to more directly affect patient health more directly.

## ACADEMIC SCIENCE TO INDUSTRY

I chose to return to the biopharmaceutical industry as a research scientist for three reasons. Firstly, I could combine my passion for metabolic research including endocrine function with protein engineering to identify, design and develop new drugs that could be brought into the clinic to help improve the quality of life of patients with type 2 diabetes. Secondly, I was inspired by the innovation and technology available at my fingertips in industry. Thirdly, AstraZeneca is building a new research centre in Cambridge as part of the Cambridge Biomedical Campus (CBC) and is therefore committed to training the next generation of scientists to develop new therapeutics for human disease.

## LINKING ACADEMICS, CLINICIANS AND INDUSTRY SCIENTISTS

The new CBC science hub will be a unique centre combining internationally recognised hospital and patient care, education, research and clinical expertise. This close geographical proximity will help to foster collaborations and further develop Cambridge as a centre for outstanding research, clinical practice and drug discovery. The environment will provide young scientists like myself with an opportunity to be part of the drug discovery process from the idea and target conception, drug discovery and optimisation, all the way through to clinical development. Moreover, new joint academic-industry PhD and postdoctoral training positions are now on offer so that early career scientists can have the best of both worlds



to develop their scientific and transferable skills and also publish high impact science as part of these structured collaborative training schemes.

## PERSONAL DEVELOPMENT AND TEAMWORK

Academia can often have a macho culture regarding individual success and publication. Conversely, industry places greater emphasis on teamwork which allows the team to draw upon multiple scientific disciplines to create the optimal drug that will lead to the best outcome for patients. Additionally, the industry scientist position utilises my full armoury of skills to lead laboratory experiments, people, projects and enhance communication between scientists and different functions of the business and influence people in order to progress projects quickly to the clinic. Training and personal development courses are always on offer to further develop these skills.

## CUTTING EDGE SCIENCE

Large molecule biologic drugs, including peptide and antibody based therapeutics, have seen an upsurge in recent years due to their increased specificity to biological targets and hence improved efficacy and safety. From an endocrinology perspective, we can leverage peptide and antibody based technologies to deplete, replace or increase circulating hormones to improve metabolic health for sustained weight loss and increased blood glucose control. Since making the transition to industry, I have seen a wealth of new technology harnessed to combat metabolic disease, including biologic drugs to mimic bariatric surgery through gut-derived peptides. This is enabled through international licensing, partnerships and collaborations between academia and industry.

I see a great future as a scientist in industry, for example leveraging the specificity of antibodies to target specific cell types and tissues. This type of tissue targeting has been developed for cancer with immuno-oncology therapies being used to deliver drugs to specific tumours. The same theory can apply to metabolic disease with antibodies used to target specific cell types in the pancreas, kidney, liver or adipose tissue to influence metabolism and endocrine function. This tissue and cell targeting strategy can be utilised to increase drug specificity and thus reduce adverse effects by focusing delivery only on metabolically perturbed tissues.

If you enjoy the combination of science and business and possess an entrepreneurial drive, then a scientist career in industry can be extremely rewarding.

**CHRISTOPHER CHURCH**

*Christopher Church is a scientist at MedImmune, Cambridge UK in Cardiovascular and Metabolic Disease (CVMD). He received his BSc from the University of Bath in Molecular and Cellular Biology, including a 1-year professional training placement at GlaxoSmithKline. He graduated with a DPhil in the genetics of metabolic disease from the University of Oxford and MRC Mammalian Genetics Unit, Harwell. In 2010 he moved to Yale University (CT, USA) on an EMBO postdoctoral fellowship. In 2014, he left to take a position at MedImmune, a member of the AstraZeneca group, within CVMD. Dr. Church's primary research interest is to develop novel therapeutics regulating adipose tissue function with a focus on obesity and type 2 diabetes.*

# LIFE AFTER ACADEMIA: A CAREER IN SCIENCE COMMUNICATION

WRITTEN BY LAURA UDAKIS



The field of science communication is blossoming. With increasing demands on scientists to demonstrate the importance and impact of their work, there is a big role for professional science communicators to work with scientists to support them in communicating their work effectively.

The most recent survey of *Public Attitudes to Science*<sup>1</sup> reveals that 72% of UK adults say it's important to know about science in their daily lives, and 91% of 16- to 24-year-olds agree that young people's interest in science is important for our future prosperity. Yet just 22% believe scientists are good at communicating...

Careers in science communication are varied. They may include schools outreach at a university or STEM (science, technology, engineering and mathematics) institution, working for science policy organisations, working as a press officer for a publisher, university or learned society, or organising public events, to name a few broad areas. Roles can be specialised or very varied depending on your interests and the type of organisation you choose to work for.

It is clearly beneficial if scientists move into these roles. They bring an understanding of the scientific process, the pressures and fears faced by scientists, the contemporary issues – not to mention the jargon. But it doesn't stop here; the skills acquired as a scientist are incredibly transferable to the field of communications.

## TOP TRANSFERABLE SKILLS

### 1. Putting science in context

In the same way as when writing a grant application, taking part in a seminar or treating patients, you need to be able to adapt your message to different audiences, put a wider context around things, and really emphasise why science and medicine are so important and relevant to individuals.

A typical day within the communications team at the Society for Endocrinology would include scouring the national news for endocrinology stories, liaising with the author of a journal article to get background information for a press release, answering the phone to journalists who want to source an expert comment for a breaking news story, and organising the logistics for a stall at a science festival.



### 2. Experimentation

All communications work requires some level of experimentation. Whether you're designing educational resources for A-level teachers or writing press releases to capture journalists' attention, all require you to test your approach on your audience, refine the messages or change the order of things and try again – repeatedly – until you get the response you want.

### 3. Creative thinking

Science and medicine require thinking outside the box. So does science communication. A focus on entertainment and engagement, for example by using fairground games to demonstrate how pairs of hormones control our eating and sleeping habits, makes a message memorable. This 'science by stealth' approach forms the winning hand of all good science communicators.

*'You speak to individuals who have spearheaded landmark developments in their fields and learn not only about the subject, but also about the personalities that drive it.'*

## WHAT MAKES IT A REWARDING CAREER?

You are continually learning. Science communicators end up having to learn about all areas of science within the focus of their role and organisation. You speak to individuals who have spearheaded landmark developments in their fields and learn not only about the subject, but also about the personalities that drive it. You need to stay abreast of changing topics, not only in scientific and medical communities, but also in the media, on the national curriculum and at the heart of political debate.

You get to inspire individuals. Science communicators give academics and medics permission to stray out of their comfort zone, and support them to make it a positive experience. Hopefully they'll do it again. You also get to reach out to school children and families about topics in science and health. At the very least, you hope to encourage people to make choices about their lifestyle that have a positive effect on their health and well-being. At most, you hope to inspire young people into pursuing a career in science or medicine.

LAURA UDAKIS  
Head of Marketing  
and Communications,  
Society for Endocrinology

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# ENHANCING TEACHING AND LEARNING IN ENDOCRINOLOGY: THE ROLE OF TECHNOLOGY AND INNOVATION

WRITTEN BY STEVE BALL AND MOAYED ALHELFI



We operate within a health culture in which time and service pressures can make it hard to design and deliver quality teaching and learning. In parallel, there are more and more initiatives in web-based systems to access and support the management of information. So, what problems are we trying to fix, what is currently limiting, and how can new and emerging technologies help?

## THE PROCESS OF LEARNING: WHERE CAN TECHNOLOGY FIT IN?

At its best, learning is an iterative, cyclical process, bringing together experience, reflection, conceptual integration and further testing or exploration in practice (Figure 1). New technologies can contribute at different points within this framework. Indeed, some (such as hi-fidelity simulation) can contribute at multiple points. What's good is having an understanding of where and how any innovation can help move us forward.

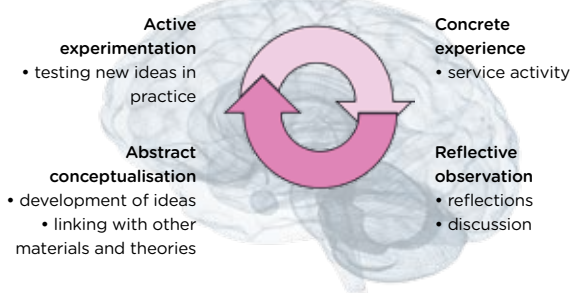
## TECHNOLOGY IN PRACTICE

**Hi-fidelity simulation (Hi-FS)** is an engaging and increasingly prevalent tool for clinical teaching and learning. It provides a safe environment in which to experience new clinical scenarios and gain familiarity with individual and group processes important in clinical care. There are already Hi-FS programs for diabetic ketoacidosis (SimMan SMS4286) and adrenal failure. It is crucial to appreciate the importance of the team-working and reflective elements of Hi-FS in driving educational impact. It's not always about the high tech!

**Virtual learning environments (VLEs)** are web-based platforms for supporting teaching and learning. They range from relatively passive repositories of information to more sophisticated environments. The major attraction of VLEs is their remote access facility, enabling 24/7 availability and removing the access barriers of geography and time restriction. At their best, they can facilitate the whole learning process through supporting content management, assessment, tracking learner progress, individualised feedback and both personal and group reflection. Several 'off the shelf' products are available (Blackboard and WebCT) and there are open-source alternatives (Moodle). While tailored for specific needs, bespoke platforms can be resource-intensive to develop and manage.

**Social media and virtual learning communities** are also valuable. Academic social media groups aim to connect and engage professional

FIGURE 1. The process of learning: the Kolb learning cycle. Brain ©Shutterstock



colleagues with common topic-related interests. As with VLEs, there is a range of examples to draw from. Simple Twitter feeds can alert followers to emerging news, views and discussion, providing links to remote content. Post-peer review platforms such as Faculty1000 serve to direct members to recommended content and commentary to support continued professional development, including a facility for virtual journal clubs. Some professional groups provide a similar facility. The Young Diabetologists and Endocrinologists (YDEF) web space ([www.youngdiabetologists.org.uk](http://www.youngdiabetologists.org.uk)) includes links to a range of journal-based content of interest to trainees.

This approach can extend to virtual learning communities. GasClass (an anaesthesia web-school; <http://gasclass.wordpress.com>) and TeamHaem (on haematology; <http://teamhaem.com>) are examples of bottom-up, learner-driven platforms using clinical problem-based approaches to progress through training curricula.

**Journal-based continuing medical education (CME)** utilises the platforms that many journals have adopted to link their content to additional CME. *Clinical Endocrinology* provides monthly journal-based CME materials incorporating assessment and evidencing ([www.wileyhealthlearning.com/education.aspx](http://www.wileyhealthlearning.com/education.aspx)). Importantly, these materials are mapped to the UK and Australian postgraduate specialty training curricula, maximising educational value for the learner. Curriculum alignment – the degree of congruence between the curricula we design, deliver and assess – is a critical element of in-work teaching and learning (Figure 2). It is to be hoped that, by working together, those responsible for curricula design, content management and knowledge-based assessment can use current and emerging technologies to further support teaching and learning.

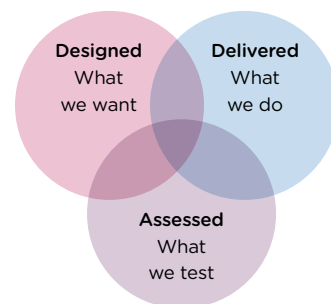


FIGURE 2. Aligning the elements of a curriculum: the importance of congruence in what we design, deliver and assess.

## GOING FORWARD

There can never have been a better time to teach and learn in healthcare. We have transparent curricula, use an expanding number of methods for delivery and have access to a wide range of materials to support both the teacher and the learner. Nevertheless, real world issues get in the way. The time available to both teacher and learner is limited, and there are conflicting demands on priorities and resources, while neither the teacher nor the learner may feel their respective role is valued.

In helping to move us forward, technologies can help with new (and better) ways to address established problems and, indeed, novel methods to address emerging ones. While we are (understandably) hungry for help, we should be wary of technologies that add complexity without necessarily adding value. An awareness of the real challenges to the quality of teaching and learning, coupled with reliable and valid metrics for assessing the educational impact of anything we introduce, is key if we are really to make progress.

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# WHAT'S HAPPENING IN THE HOSPITAL MEDICINE WORKFORCE?

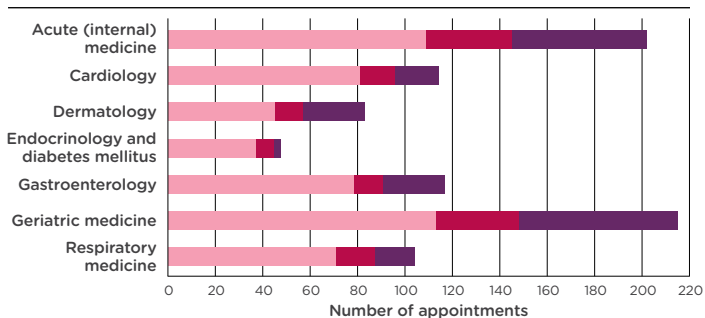


WRITTEN BY HARRIET GORDON

We aspire to a workforce that can provide an excellent consultant-delivered service, 365 days a year. Its development has been delayed by a lack of consultants, but is increasingly becoming a reality. However, the European Working Time Directive of an average working week of 48 hours, Home Office Immigration Rules and consultant expansion at a faster rate than trainee growth have created a comparative lack of trainee availability, and with locum appointments for training (LATs) disappearing in England from September 2015, this is set to continue.

## THE BURDEN OF EMERGENCY CARE

The physician workload is increasingly in emergency care, the result of an ageing population with multiple problems. Two-thirds of patients admitted to hospital are over 65 years old, half of whom have a pre-existing chronic condition. The specialties of acute medicine and geriatrics might ideally manage these admissions, but numbers for the next 10 years are insufficient to meet demand, and so often the elderly are managed by specialists acting as generalists. The Future Hospital Commission outlines the need for more generalist skills, to be provided over 7 days.<sup>1</sup> In addition, Shape of Training highlights the requirement for dual accreditation in specialty and general internal medicine for all physician trainees to meet this need in the future.<sup>2</sup>



Consultant appointments made (■), not made (■) and cancelled (■), by specialty, 2013. Adapted from original figure in reference 3, only data for selected specialties shown

The need for generalist skills has been reflected by the appearance in recent years of the largest number of advertisements by Trusts for appointments in geriatrics and acute medicine. However, half of these cannot be made, due to a lack of appointable candidates. In 2013, 47% of acute medicine and 48% of geriatrics posts went unfilled.<sup>3</sup>

So, currently, 63% of physicians manage the acute medicine workload (20% acute physicians, 10% geriatrics, 9% cardiology, 8% each endocrinology, gastroenterology and respiratory medicine).<sup>3</sup> The proportion of the acute medical take delivered by the acute medicine specialty will increase in the future, but the need for generalist skills to manage the more complex elderly population remains.

## RECOGNISING THE WISHES OF THE WORKFORCE

The workforce itself is increasingly female, with a rising demand for less than full time working: 18% of all consultants, but 37% of female consultants, work fewer than 10 PAs (where 10 PAs (programmed activities) is equivalent to full time working). Data from 2014 show that while 64% of consultant physicians support 7-day working, not surprisingly this reduces to only 39% among consultants who work less than full time.<sup>4</sup>

The current trainees themselves are relatively unenthusiastic about a future career in general medicine: less than 40% wanted to participate in acute medicine as a consultant, and satisfaction with training for a specialty is consistently higher than for general medicine.<sup>3</sup> Recruitment data from

the Joint Royal Colleges of Physicians Training Board (JRCPTB) show applicant numbers have reduced in 2014 across all medical specialties: in 2012 there were 3.8 applicants per national training number (NTN), compared with 2.8 in 2013 and 2.4 in 2014. Furthermore, the government has pledged to train and recruit more GPs and, within the current context of a fixed training budget, this reduces available resource for physician trainees.

## SPECIALTY-SPECIFIC ISSUES

In endocrinology, 51% of trainees are female, reflecting the population from which they are recruited. In the past, high competition ratios have been seen for the procedural specialties – gastroenterology, cardiology and respiratory medicine – but these have a high male dominance. However, as the proportion of women in the workforce increases, these predominantly male full time specialties may need to become more attractive to a part time population, or recruit from a diminishing population. Indeed those specialties with a higher proportion of part time working have had recruitment rates at least as good as the procedural specialties, with dermatology the most popular specialty.

At the level of consultant appointment, endocrinology and diabetes has seen a consistently high proportion of appointments made, reflecting an enviable supply of applicants (see Figure). Those specialties unable to appoint have increasingly recruited from overseas. At the present time, the medical workforce is 66% UK graduates, 7% from the rest of Europe and 25% from outside Europe.<sup>5</sup>

In summary, the workforce is becoming increasingly female with an interest in less than full time working. The demographics of the population require more generalist skills from a consultant-led service, 365 days a year. Ideally therefore, a specialty should have trainees with generalist and well as specialist skills, but provide an environment where working may be both full and part time, and with controllable hours. Endocrinology and diabetes fulfils these criteria, and should look forward to a bright future.

HARRIET GORDON

Director of the Medical Workforce Unit,  
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# THE SEVEN WONDERS OF THE SPECIALIST CERTIFICATE EXAMINATION

WRITTEN BY GRAHAM LEESE



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## 1. EXAM PURPOSE

The purpose of the Specialist Certificate Examination (SCE) in endocrinology and diabetes is to demonstrate competence in the specialty, such that trainees gaining their certificate of completion of training (CCT) can justifiably, and objectively, call themselves specialists in endocrinology and diabetes. It is a theoretical exam, but it is based on clinical experience. However the SCE is only one part of the requirements for CCT as the Specialty Advisory Committee (SAC) rightly demand a number of other, mainly practical, requirements, with multiple assessments in the working environment, to demonstrate overall competence.

## 2. QUESTION WRITING

Trainees may be surprised at the time and rigour that is involved in setting the exam. Each year, between 12 and 20 specialists from across the UK, with a range of sub-specialty interests, form a writing group. Their remit includes developing at least 15 questions prior to the meeting. The standard format of 'best of five' responses is used, basing the questions on clinical scenarios. Question writers then meet for 2 days in groups of 5-6, where every question is looked at by the group and discussed with the author of the question. Any agreed changes are edited at that time, and other questions will be rejected or new ones created. Collected questions are then saved in a question bank and each question is labelled according to the subject group and clinical topic.

## 3. EXAM PAPER

Two papers each comprising 100 questions are subsequently created from the question bank, along with reserve questions. The blueprint links the SCE to the curriculum, and currently dictates that approximately 68 questions will be on diabetes, 36 on thyroid disease, 20 on the hypothalamus/pituitary, 20 on the adrenal gland, 24 on gonadal disorders, 16 on calcium and parathyroid disease and 16 on other topics, such as weight disorders, etc. Each paper is then reviewed by the Examining Board, which comprises at least 10 individuals, with representation from the SAC, and elected representatives from the Society for Endocrinology and the Association of British Clinical Diabetologists, in addition to the Chairman and Secretary who are appointed by the MRCP(UK) (Membership of the Royal Colleges of Physicians of the UK) Exams Department in conjunction with specialist societies. Over 2 days, the Examining Board meets to look at every question in the paper, to make minor changes or to decide to reject some questions and include some replacements from the reserve questions. The proposed papers are then agreed by the Examining Board.

## 4. STANDARD SETTING

The next step involves the Standard Setting Group, which is chaired by a completely independent specialist in endocrinology and diabetes. This committee includes a combination of specialists, some who have not been involved in the question setting process so far, and others who have been involved already. Every member of the committee is asked to independently assess what percentage of UK trainees who are likely to 'just pass' would get the question correct (modified Angoff technique). All questions are then reviewed by the group together in a 2-day meeting. The lowest and highest estimates from the panel are deleted and the remaining percentages are averaged. These calculations, using all 200 questions, are then used to derive an expected pass mark, and the paper is finalised for use.

## 5. SETTING THE PASS MARK

Soon after the exam has been undertaken by candidates, any practical issues that arise during the exam and have been raised by invigilators and candidates are addressed by the Chairman and/or Secretary. Also, any poorly performing questions may be removed from the overall assessment. Last year this concerned just one question. The Hofstee's compromise method is used to create a final pass mark for the exam based on the expected pass mark as judged by the Standard Setting Group and the actual performance of candidates.

*'More international candidates do the endocrinology and diabetes exam than any other sub-specialty SCE, demonstrating its worth internationally as an objective standard of specialist assessment.'*

## 6. WHO SITS THE EXAM?

The exam is undertaken by a large number of international candidates as well as UK trainees. Indeed, more international candidates do the endocrinology and diabetes exam than any other sub-specialty SCE, demonstrating its worth internationally as an objective standard of specialist assessment. A huge amount of effort is invested in the exam to try and make it as objective and fair as possible, but whilst ensuring it is clinically relevant and up to date. For UK trainees, the pass mark is lower for ST3 and ST4 trainees, but is fairly similar for ST5-7 trainees.

## 7. WHO CAN WRITE QUESTIONS?

There is a steady turnover of committee members. Each group/committee described above is frequently 'refreshed' with new recruits. Newly appointed consultants are ideal people to join the question writing group, as they are closest to having experienced the exam. This then puts them in a good position to join the other committees in the future, if they enjoy the experience. It certainly provides an excellent form of CPD (continuing professional development) for consultants, as well as delivering what is now an essential part of the training programme for trainees!

GRAHAM LEESE

Chairman of the Examining Board in Endocrinology and Diabetes

## FURTHER READING

Details of the exam: <http://bit.ly/1Ne2F05>.

Become a question writer: <http://bit.ly/1JoK17t>.

# MACHINE-MARKABLE EXAMS: A POOR DRIVER FOR GOOD CLINICAL PRACTICE

WRITTEN BY KARIM MEERAN



How do we improve undergraduate medical education to ensure that the next generation of doctors are the best in the country? Addressing the effectiveness of the approach and the methodologies we use is essential if we are to be able to maintain the high standard of knowledge and performance the public expects.

Undergraduate education must ensure that the very basic foundations of the understanding of disease are well laid, so that doctors can explain their choices of treatments in language that patients can understand. Communication skills are an essential component of this. Learning these skills is best done as an apprentice, coupled with an improved knowledge base, and not taught in isolation. An apprentice learns by first observing an expert interacting with patients and, after observing several different consultations, undertaking one under observation. In addition, of course, the information that patients expect doctors to know increases daily. So, how do we approach these challenges?

## EXAM TECHNIQUE

Multiple choice questions are useful for postgraduate exams, but less useful for undergraduate training. They are poor at driving students to understand disease. Instead, students absorb large numbers of facts using flashcard technology that encourages the learning of association without understanding.

Medical schools are guilty of allowing this to continue, because of the relative ease of the use of machine-markable exams. This, coupled with a strong and pernicious desire to make examinations reliable at the expense of validity, drives poor learning methods, and rewards superficial learning. This misguided aim occurs because reliability is measurable. Scores such as Cronbach's alpha drive very narrow exams that only test small parts of the syllabus.

*'Patients do not present with a list of five options, from which you need to choose one. However, that is what we are training the students for.'*

High scores no longer assure us that our future doctors are well trained in anything other than good exam technique, or having access to banks of questions. In fact, wasting time trying to be a good doctor seems counter-intuitive to some students. Patients do not present with a list of five options, from which you need to choose one. However, that is what we are training the students for.

## RELIABILITY, THE ENEMY OF PROGRESS

If exams are to continue as the main driver for students, then they need to be more valid. This will necessarily make them less 'fair' and thus less reliable. We need to let this happen. Patients do not present with exactly the same condition, so trying to make the exams fair is also making students learn in a very stereotyped way.

In written exams, if a small proportion of the students (let's say, for example, the rugby club) has a bank of questions that are remembered

and we use a question bank ourselves, reliability increases because those students who have access to the paper all get a higher score (in all questions) than those who do not have the paper. This 'correlation' between different questions is interpreted as a high reliability, whereas in fact it simply refers to the correlation of scores comparing those who have an unfair advantage with those who study normally. The most useful learning in clinics, achieved by observing other doctors practising, is not formally examined, and it should be.

## ACHIEVING AN APPRENTICESHIP MODEL

How do we return to the apprenticeship model of education? Students who are interested in being good doctors and who enjoy being on the ward and seeing patients are not rewarded or recognised for this. Instead, as exams approach, they are forced to stop real learning with patients and start to practise skills in a standard, reliable but invalid way. Bringing back unreliable but valid *viva voce* examinations is one way to ensure students can communicate well with patients and consultants alike.

*'We need to allow good teachers more time to teach, and those who are not good teachers need to do something else ... The current model that assumes everyone can and does teach is flawed.'*

We need to stop worrying about reliability. We need exams that test real life patient encounters that will not be reliable. Some patients have more difficult problems than others, and we need to train our future doctors to manage these different scenarios in an appropriate manner, not a standard one. More clinical exams in the style of OSCE (Objective Structured Clinical Examinations) and PACES (the Practical Assessment of Clinical Examination Skills) can help, but trying to make them too reliable reduces their value. More real patients in such examinations should improve things.

## THE ART OF GOOD TEACHING

A successful educator acts on feedback from students and engages the audience at an early stage. Having observed many teachers, the most common thing that we all do wrong is not preparing for teaching before a teaching session. Unlike full time educators, medical educators already have a full time job looking after patients, and it takes careful organisation to ensure adequate time is devoted to updating and planning teaching sessions.

It is also important to recognise that there is currently no really valid metric of good teaching. A gold standard will compare teaching methods, and the outcome should be evidence of being a good doctor. Exams, especially written ones, are poor markers of true excellence. The best surrogate we have for good teaching at present is feedback from students. We need to allow good teachers more time to teach, and those who are not good teachers need to do something else, such as more of the service work, so liberating good teachers to teach. The current model that assumes everyone can and does teach is flawed.

KARIM MEERAN

Professor of Endocrinology, Director of Teaching,  
Imperial College Faculty of Medicine





## BUILDING UP THE LAB

FROM OUR SCIENCE COMMITTEE CORRESPONDENT

We've got the builders in. The squeals and rumbles of towering auger piling rigs are everywhere, hard hats and hi-vis are *de rigueur*. Paradise has long since been paved into parking on our campus, but space is at such a premium that new buildings are being slotted in 'Tetris'-style everywhere.

At street level the hoarding makes it difficult to assess progress, but passing the windows on the staircase landing allows snapshot glances. This has brought out latent site manager tendencies in many people, with much comment on how things are being done and the potential function of future buildings.

I am guessing there must be a dominant school of modern laboratory design that prevails in architecture and design courses because, like high streets in towns that one has never previously visited, there is a slightly unnerving sense of the familiar whenever I get shown around a colleague's lab on a visit.

No problem there: a large, flat surface at a height compatible with an average fully grown human + space underneath for electrical white goods + large tree of plug sockets + shelf space to put glass bottles and reagents = basic unit of lab space.

However, when it comes to some of the more creative aspects, here are some small points, which I humbly pass on to all budding lab designers...

**Make the front door a readily identifiable feature.** Visitors won't get lost, primers won't get delivered to the maternity hospital, samples on dry ice have a chance of making it.

**Do not incarcerate lab staff.** Swipe cards to get in are great, but once in, have a bash at letting researchers walk around the institute without regularly finding themselves trapped on the wrong side of a locked door.

**Submarines are not model working environments.** Glimpses of sky are reassuring on a very primitive level.

**Things that are plugged in get hot.** Anticipate more 'plug things' to make more heat. Being overheated very rarely makes reactions or researchers work better.

**Secretly build an experimental rig into the fabric of the building.** This is one of those hidden extras that should reveal itself over time to the building's users. Will the person who invented my office window please get in touch? You may not be aware that, even when fully open, no air moves through the space created, regardless of season or prevailing wind direction. These exciting preliminary findings suggest basic laws of physics may need to be rethought and that we should write a grant application.

TONY COLL

Science Committee correspondent

## IN SUPPORT OF OUR CHAMPIONS

FROM OUR CLINICAL COMMITTEE CORRESPONDENT



With last summer's sporting fixtures now fading memories, we focus on rising stars closer to home: our trainees. As in sport, a successful career in endocrinology is determined not just by the individual, but also by their support team. Two-thirds of endocrinology trainees who are registered with the Royal College of Physicians are Society members – so what support can we offer them? Below, rising star Myuri Moorthy reflects on why trainees should join the Society. The benefits are diverse, and you will belong to a truly special group: the UK endocrinologists. It's almost as good as playing in a grand slam. Trainees – do join, don't wait for a wild card!

STEPHANIE BALDEWEG

Clinical Committee correspondent



Whether you are interested in strengthening your knowledge, improving your CV or just getting to know people within our specialty, joining the Society is a positive step towards developing your career. The Society provides a welcoming forum for trainees to explore their career options and promote their development. Here are my top reasons for becoming a member...

### BROADENING YOUR KNOWLEDGE

Membership gives you online access to all the Society's official journals (including *Journal of Endocrinology*, *Journal of Molecular Endocrinology*, *Endocrine-Related Cancer* and *Clinical Endocrinology*). You will also receive discounted registration fees or grants to attend events such as the Society for Endocrinology BES conference and Clinical Update. All members receive updates about courses, abstract deadlines and early bird registration dates, so you will not miss out!

### TAKING YOUR CAREER FORWARD

If you are interested in research, or developing new skills, the Society offers a range of grants towards completing a project or learning scientific techniques. You will also have the chance to make contact with other

institutions for collaborative research. For those of you looking to embark on a clinical/educational fellowship, or starting a PhD or new consultant job, you will have access to career sites and nationwide job opportunities.

### STRENGTHENING YOUR CV

Members are also entitled to discounted article publication fees for the Society's publications *Endocrinology*, *Diabetes & Metabolism Case Reports* and *Endocrine Connections*, providing competitively priced open access outlets for their work.

### WIDENING YOUR NETWORK

You will have exclusive networking opportunities to meet peers and share information and experience, and help find solutions.

MYURI MOORTHY

Specialist Registrar in Diabetes and Endocrinology,  
University College London Hospitals

To get in touch with the Clinical Committee,  
email [members@endocrinology.org](mailto:members@endocrinology.org).

## FROM THE CHIEF EXECUTIVE'S DESK: BUILDING TODAY FOR A BRIGHT FUTURE

WRITTEN BY IAN RUSSELL



As part of my introduction to the organisation, it was suggested that I watch 'The Fantastical World of Hormones' – a TV documentary developed and presented by several Society members. I was excited to learn that endocrinology is still in its relative infancy and that we may be 'on the verge of discovering a whole range of new hormones with potentially breathtaking capabilities.' What an exciting time and what a huge opportunity for the Society to be at the centre of the further development of a discipline of vital relevance to so many branches of biology.

A significant proportion of my career to date has been in the academic publishing industry and I was therefore interested to learn that the formation of the Society was a consequence of the launch and subsequent development of *Journal of Endocrinology*. 2016 will be the 70th anniversary of the Society's formation and the aims originally recorded by Lord Zuckerman in 1944 (as he recalled in 1984!) 'to advance knowledge concerning the glands of internal secretion, the mode of their action, the nature of their secretions and the disorders of their functions' have remained essentially unchanged.

Our 70th birthday is an excellent opportunity to reflect on how far the discipline and the Society have come over the past seven decades, and to look forward at what the future might hold for endocrine science.

The vitality of the subject is reflected in all our activities and in the continued growth of our membership. This is particularly pleasing as any learned society relies on its members for its authority and ability. It has been insightful to see the results of the recent member survey and the views expressed on public engagement and science policy provide important reference points as we look to further develop our activities. It is very encouraging to see the value the Society clearly holds for its members and we will continue to work to ensure that this value remains relevant and evolves to meet your future needs. Highlights from the survey will be published in the next issue of *The Endocrinologist*.

Publishing and the organisation of events were the principal rationale behind the creation of the Society and both remain important activities today. Of course, we do much more than this to support the membership and, as we move towards our eighth decade, I would welcome your views on how the Society can best meet your needs. I am very much looking forward to attending the Society for Endocrinology BES conference taking place in Edinburgh this November. It is set to be a fantastic event and I hope to meet many of you there.

IAN RUSSELL

Chief Executive, Society for Endocrinology  
and Managing Director, Bioscientifica Ltd  
Email: [ian.russell@endocrinology.org](mailto:ian.russell@endocrinology.org)

### REFERENCE

1. Zuckerman S 1984 *Journal of Endocrinology* **100** 1–5.

## TELL US WHAT MAKES YOU CLICK



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We would like your help in redesigning the Society for Endocrinology website. We're currently working with web design experts and Society members to create an improved structure and appearance for the site, as well as an ongoing plan to develop content to serve the needs of specific groups, in the format that's most useful.

Amongst many improvements, the new site will:

- be more easily accessible on mobiles and tablets
- allow you to find what you need more quickly
- be more visually engaging
- clearly show you the latest news and opportunities, to get involved
- reflect who we're all about – *our members!*

The site is set to launch in 2016 to coincide with the Society's 70th anniversary.

Many Society members have already been involved in a series of workshops to establish what you want from the new site and how you expect to find information.

We're now looking for additional members to be part of an **online testing group** over the next few months, to give us feedback on design, layout and functionality as the new site is being developed.

If you're interested in being part of this group please email Laura Udakis ([laura.udakis@endocrinology.org](mailto:laura.udakis@endocrinology.org)).

## DON'T MISS THE ENDOCRINE POST! The Society for Endocrinology's new blog

To hear more on Society initiatives and updates from the world of hormones, visit <http://endocrinologyblog.org>

## LOOKING FOR A BRIGHT NEW 'FUTURE'? IT'S WAITING FOR YOU AT SfE BES 2015

The SfE BES 2015 conference sees the release of the all-new 'Futures' series. These tailored sessions will provide you with information and advice for the next step in your career. Read on to hear from three of the experts chairing these fantastic sessions, to find out what to expect and why **you** should attend.



### BRANCHING OUT WITH ENDOCRINOLOGY

#### Making the most of your degree(s): matching your skills to academic careers

*Monday 2 November, 12.15-13.00*

Are you a bioscience student/graduate, unsure of your career path? With a variety of academic positions available to bioscience graduates, it can be difficult to choose a route forward that is suited to both yourself and your skills set, and which will give you ongoing scientific satisfaction, close to the laboratory 'coal-face'.

So why not attend this session, showcasing the career patterns for graduates who wish to work in university science? Hear first-hand from successful doctoral scientists who have made the transition to independence, be it as a researcher with their own niche or by making a valuable contribution to broad-ranging projects as a technical specialist running a core facility.

*RUTH ANDREW AND SAMANTHA MIRCZUK*

### OVERCOMING THE CONSULTANCY HURDLE

#### Shaping the future of endocrinology and diabetes

*Monday 2 November, 12.15-13.00*

This rather grandly named session will be an interactive forum to discuss the challenges facing modern consultants in diabetes and endocrinology. Partha Kar (Portsmouth) will outline the changes he has made to his service and the obstacles he faced. He will question if the traditional endocrinologist model can survive or whether newer roles may become the norm. Paul Stewart (Leeds) will give a senior academic clinician's view of where our specialty is heading from a teaching hospital perspective, and the challenges we face. He will discuss the importance of managing complex patients within a departmental unit, rather than acting in individual silos. We'll also hear from Waljit Dhillon (London) on how to combine the separate challenges of research and patient work from a UK and global perspective. There will be ample time for Q&A so we can thrash out the current state and future outlook of our specialty. With audience contributions, it should be an excellent session for all prospective, new and established consultants in diabetes, general medicine and endocrinology.

*MILES LEVY*

### WHY ENDOCRINOLOGY AND DIABETES?

#### The must-see session for all medical students

*Monday 2 November, 20.00-20.45*

This year at the Society for Endocrinology BES conference in Edinburgh we will explore the reasons for choosing endocrinology and diabetes as a career, and how we can encourage the very best students and junior trainees to make the same choice. Come along to hear from individuals stationed at various points along the journey from medical student to consultant physician. The floor will be open for a wide-ranging debate on what the future holds.

For the SfE BES of the future to continue to enjoy its current high standards, we need to hear as many voices as possible, so make sure yours is heard!

*DOMINIC CAVLAN*

### DON'T MISS OUT!

Join us in Edinburgh on 2-4 November for SfE BES 2015. Concessionary registration rates are available until 12 October 2015.

Find more information at [www.endocrinology.org/meetings/2015/sfeb2015](http://www.endocrinology.org/meetings/2015/sfeb2015).

Get the latest info:  
**#SFEBS15**

# THE BIG BANG: FINDING THE ENDOCRINOLOGISTS OF THE FUTURE

WRITTEN BY JO MCKINNEY-GREEN

This year, for the first time, the Society for Endocrinology took a series of hands-on activities to national and regional Big Bang Fairs and talked to more than 4,000 schoolchildren over 5 days about the importance of hormones in eating and sleeping. Jo McKinney-Green, organiser of The Big Bang Fair South East, explains why the events are so important.

When more than 7,000 schoolchildren and their teachers flocked to the South of England Showground on one of the hottest days of the year, it was a clear indication of the growing importance and success of The Big Bang regional science fairs. The Big Bang Fair South East, which attracted about 2,000 students when it was first held in 2012, is part of the nationwide Big Bang programme. Led by Engineering UK, it aims to get young people excited about science, technology, engineering and mathematics (STEM).

The Big Bang Near Me brings The Big Bang programme closer to home for young people across the UK via a variety of national, regional and local events. These raise awareness, improve perceptions and inspire young people to consider further studies – and, eventually, careers – in STEM disciplines. It provides a range of exciting and entertaining hands-on activities, playing a vital role in addressing the serious skills shortfall in the UK's increasingly high-tech businesses.

The programme is supported by business and industry, by universities and other educational establishments, and by professional and scientific bodies, all of whom see it as an opportunity to raise

their profile, to showcase what they do and to explain to the scientists and engineers of the future some of the career paths open to them. Without their support and sponsorship, the Fairs would not take place.

Since The Big Bang Near Me began, there has been a marked increase in the numbers of undergraduates nationwide choosing STEM subjects. The signs in our local area are that, since our first fair in 2012, more and more young people are studying STEM subjects to A-level.

The Big Bang Fair South East is about building a 'talent pipeline', and, as such, it is an important collaboration between industry, education and the wider STEM community. If it is to continue being successful we need to keep working as a partnership and inspiring the next generation to investigate the wealth of opportunities available to them.

JO MCKINNEY-GREEN  
STEM Sussex Project Manager,  
University of Brighton



The Society for Endocrinology stand in full swing at The Big Bang Fair South East.

Find out more at  
[www.thebigbangfair.co.uk/nearme](http://www.thebigbangfair.co.uk/nearme).

## APPLY FOR YOUR EARLY CAREER GRANT TODAY!

Are you an early career endocrinologist looking for funding assistance to help you further your career? Worth up to £10,000 each, our Early Career Grants aim to support endocrinologists up to 10 years post-PhD.

Deadline for applications:  
**27 November 2015**

Find out more:  
[www.endocrinology.org/grants](http://www.endocrinology.org/grants)

## UNDERGRADUATE ESSAY COMPETITION WINNERS

Many congratulations are due to Christine Bolton, a medical student at University College London, who won the top prize of £1,000 for her essay 'A cauldron of hormones'. You can read Christine's full essay at <http://bit.ly/1VklBel>.

We also congratulate the runners up, who each received £250:

Trevor Chung (Southampton)  
William Hamilton (Cambridge)  
Zeinab Ibrahim-Hashi (London)  
Rateb Katmeh (London)  
Laura Middleton (London)  
Philip Oddie (Oxford)

## SHOWCASING THE LATEST SCIENCE: THEMED SCIENTIFIC MEETING GRANTS

Providing essential funding and support to host short scientific meetings, our Themed Scientific Meeting Grant is a fantastic opportunity for Society members who wish to organise an exceptional science event. Showcasing new science and latest developments, Themed Scientific Meetings aim to build communities among endocrine professionals, as well as to share essential knowledge.

Find out more about hosting your own meeting at  
[www.endocrinology.org/grants](http://www.endocrinology.org/grants).

Deadline for applications:  
**30 November 2015**

# CREATING YOUR OWN UNIVERSITY ENDOCRINE SOCIETY: A DO-IT-YOURSELF GUIDE



Have you ever thought about setting up an endocrine society at your university? Recently, we spoke to Parisut and Rakhee, two of our Student Ambassadors from the University of Cambridge, to find out about their experience of setting up and running the highly successful University of Cambridge Endocrine Society (CUES).

Endocrinology is a rapidly developing specialty, with an importance and involvement in almost every field: neurology, paediatrics, gynaecology, to name but a few. As medical students, however, we were fast discovering that it only played a small role in our placements. Many of us found we had little or no exposure to the field during our clinical years. In the hope of increasing its recognition amongst the medical students, we took the decision to set up an endocrinology society within our university, the University of Cambridge.

We then had the daunting task of establishing ourselves as a University-recognised society. Although it sounds complicated, the process turned out to be remarkably simple. We started by consulting the regulators of student societies at our university, which in our case were the Proctors. A constitution outlining our principles and objectives had to be created, as well as regulations governing how the Society would be run. Happily, our application was accepted and, once the administrative tasks such as opening a bank account and securing financial sponsorship were complete, we were ready to get started. We were grateful for the support received throughout the process from Dr Tony Coll at Addenbrooke's Hospital.

We ran many events throughout the year, starting off with the CUES launch event, followed by a series of talks by consultants from our teaching hospital, covering various topics ranging from scientific break-throughs to clinical cases. Later in the year, we were invited to take part in a

debate run by endocrinology registrars. This was an exciting event in which medical students were able to discuss contemporary issues in endocrinology amongst practising clinicians.

The process of setting up a society and organising events has been a very positive experience and a great opportunity to enhance our communication and organisational skills. Added to that, the

environment of academic stimulation that we were able to create within the student community, and the space for like-minded students to explore their common interest in endocrinology, have been rewarding for all involved.

Our involvement allowed us to supplement our knowledge of endocrinology and provided a platform to discuss and debate current concepts in the field. These activities increased our contact with endocrinologists and scientists within the Hospital and University, as well as enabling us to facilitate the involvement of students in local research ventures.

This experience has been invaluable and we would strongly recommend other students to take up the rewarding role of bridging the gap between students and specialists. We leapt in, and we hope you will too!

**PARISUT KIMKOOL**  
CUES President 2013-2014

**RAKHEE VAJA**  
CUES Secretary 2013-2014

## OUR RECIPE FOR SETTING UP A STUDENT ENDOCRINE SOCIETY

- Gather a group of interested students to be the 'founding members'
- Apply for society status from your university societies regulatory body
- Draft a constitution and set up a bank account
- Recruit a senior treasurer and other committee members
- Apply for funding (e.g. Medical Defence Union, Medical Protection Society, Wesleyan Medical Sickness)
- Spread the word! Ask your fellow students to sign up to a mailing list
- Contact local endocrinologists and research academics for event ideas and potential speakers
- Set up a web or Facebook page
- Organise and publicise a launch event
- Ask members for ideas and topics to cover at future events
- Advertise your events on your web page, and the Society for Endocrinology's events calendar
- Enjoy yourselves!

## FIND OUT MORE ONLINE:

- How to take your place as a Student Ambassador
- Find your local Student Ambassador
- How to set up your own university endocrine society

See [www.endocrinology.org/careers/student](http://www.endocrinology.org/careers/student)

And remember, you can get involved whether you are a medic or a scientist!



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# CORPORATE SUPPORTERS

The Society for Endocrinology operates a Corporate Supporters' scheme to strengthen our relationship with industry and further our charitable objectives.

We are delighted to highlight the activities of some of our Corporate Supporters here. We thank them for their assistance and contribution to scientific and clinical endocrinology. Corporate Support is vital to the Society for Endocrinology, enabling us to further our charitable objectives, in particular by engaging with endocrinologists, supporting their learning and advancing the science of endocrinology.

For further information, visit [www.endocrinology.org/corporate](http://www.endocrinology.org/corporate) or contact [amanda.helm@endocrinology.org](mailto:amanda.helm@endocrinology.org).

## PLATINUM SUPPORTERS

**Bioscientifica** collaborates with learned societies worldwide to provide high quality publishing, association management and events services to the biomedical community.

Our products and services enable our partners to build mutually beneficial relationships between clinicians, nurses, scientists and pharmaceutical companies.

We are owned by the Society for Endocrinology, and invest all our profits in our partner societies, to help advance biomedical education, research and practice ... profit for good.

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**Ipsen Limited** is the UK subsidiary of Ipsen, a global specialty-driven pharmaceutical company with total sales exceeding €1.2 billion in 2014.

Ipsen's ambition is to become a leader in specialty healthcare solutions for targeted debilitating diseases. Its development strategy is supported by three franchises: endocrinology, neurology, and urology-oncology. Moreover, the Group has an active policy of partnerships. Ipsen's R&D is focused on its innovative and differentiated technological platforms, peptides and toxins. In 2013, R&D expenditure totalled close to €260 million, representing more than 21% of Group sales. The Group has close to 4,600 employees worldwide.

Ipsen has a strong commitment to the field of endocrinology with an active research and development programme. The Company has supported the Society since 1997 and, in addition to its corporate sponsorship, is also pleased to continue to provide financial support for the Society for Endocrinology Acromegaly Register.

For more information on Ipsen, visit our website at [www.ipsen.co.uk](http://www.ipsen.co.uk).

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## GOLD SUPPORTERS

**Internis** is a UK speciality pharmaceutical company engaged in the development and commercialisation of highly effective and innovative new medicines aimed at the treatment and prevention of a range of common bone disorders, such as osteoporosis and vitamin D3 deficiency.

Our business model is straightforward: (1) identify and in-license high potential intellectual property from third parties; (2) complete the necessary development work in collaboration with specialist scientists and research organisations; (3) bring new, effective, high demand healthcare products to market for sale through our in-house sales force, focusing exclusively on providing highly effective, patient friendly products demanded by medical professionals.

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## SILVER SUPPORTERS



# COMMISSIONING NET SERVICES IN WALES

WRITTEN BY JANET LEWIS



After this year's disappointing weather, this thought provoking and inspiring article by Janet Lewis certainly gave me a sunnier disposition. A powerful partnership between patients and nurses used their combined passion and drive to bring about a significant improvement in care for neuroendocrine tumour patients in Wales. By raising awareness of this condition to cancer charities, assembly members and commissioners, they have achieved a milestone to be truly proud of. Now Janet will tell you about this fantastic initiative.

LISA SHEPHERD  
Nurse Committee Chair

When I took up my post 15 years ago, my primary role focused on general endocrinology. However, in 2006, Aled Rees was appointed as a consultant endocrinologist in Cardiff. He developed an interest in neuroendocrine tumours (NETs) and subsequently created a multi-disciplinary team. Whilst I was a very experienced endocrine nurse, somewhat familiar with genetic endocrine conditions, NETs were unfamiliar to me, and I did not possess a sound knowledge of this unusual cancer.

However, the NET service developed rather quickly and large numbers of metastatic gastrointestinal/bronchial and genetic NETs were referred to my nurse-led clinic, since I was experienced in administering somatostatin analogues (the first-line treatment for acromegaly and NETs).

## AN URGENT NEED

Through meeting the increasing population of NET patients, it became apparent and rather upsetting that patients received inadequate and disjointed care, depending on the area of Wales in which they resided. Those living in North Wales had direct access to Liverpool's NET centre of excellence. On the other hand, patients diagnosed outside the Cardiff area could wait up to 6 agonising weeks for a referral to Dr Rees in Cardiff, since their local surgeon did not have experience of NETs.

This situation was not unexpected, as the incidence and prevalence of NETs are much lower than those of common cancers, and most surgeons/clinicians may never come across NET patients during their career. But it is devastating for patients; as one pointed out, during those distressing weeks of waiting they didn't know whether they had 1 day, 1 week or 1 year to live.

Many had a similar experience when they contacted a number of cancer charities, as these also lacked the knowledge to help NET patients through their cancer journey. This left the patients feeling isolated and lonely.

## STEPS TOWARDS SUPPORT

Through witnessing this injustice and postcode lottery, I felt there was a desperate need to raise awareness of NETs. At first, I established a support group based in Cardiff, with the help of Cathy Bouvier, the Director of the NET Patient Foundation, together with a few patients. The group started with two patients, and has expanded far beyond any of our expectations to have 50-60 members (the largest NET support group in the UK). It has been a tremendous help to patients as they can share experiences, and it offers support and education to both patients and relatives.

## ADDRESSING INEQUALITY

During our meetings, the patients and I began to question why individuals with NETs were not recognised and treated the same way as sufferers of more common cancers, who had routine access to services, including a designated clinical nurse specialist (CNS). They and I researched the Welsh Cancer Delivery Plan, amongst other documents. This stated that all patients with cancer should have equal access to treatment regardless of where they lived in Wales. More importantly, the Plan stated that they

all should have access to a key worker, usually a CNS. NET patients had access to neither.

This inspired us to network with cancer charities. We invited ourselves to cancer conferences and focus groups to raise awareness of NETs. Moreover, we sent patient stories to patients' individual Welsh Assembly Members (AMs), chief executives of health boards and the Welsh Health Minister.

Our breakthrough came on World NET Day, 10 November 2013, when we held an awareness event in the Senedd, which I and all the members of our group attended. Sally Jenkins (NET patient) and Steve Davies (consultant endocrinologist) presented a comprehensive case to the AMs. The event was highly successful and afterwards we were invited to participate in the inquiry into implementation of the Welsh Government's Cancer Delivery Plan.

Through the strong support of the AMs who sat on the Committee of the Cancer Delivery Plan, the Health Minister agreed that NET services in Wales should be examined urgently. He instructed the Welsh Health Specialised Services Committee (WHSCC) to create a task and finish group, which included the Director of the NET Patient Foundation and several patients, consultants and nurses (including me).

## THE SATISFACTION OF SUCCESS

The cancer planners and commissioners of the WHSCC were highly professional and very caring and understanding. They collated important statistics and information and, as a group, we all worked in partnership, which led to a highly successful outcome. We recently received the fantastic news that the WHSCC has agreed to commission NET services in Wales, and that over £1m has been released to develop the service.

Further boosting this success, Mohid Khan, a NET consultant gastroenterologist, has moved to Cardiff. Dr Khan trained at the Royal Free in London (a NET centre of excellence) and was also on the task and finish group. He will be a key part of our team, working together with Aled Rees and Steve Davies.

Whilst this is exciting news, the NET service in Wales will take some time to become fully functional. In the interim, however, patients in Wales will have access to state of the art treatments available in Liverpool and London.

This long and exhausting journey took almost 3 years of campaigning by our support group. I thank each and every NET patient (including those who have sadly passed away) and all their families. Without their commitment, NET services would not have been commissioned in Wales, and NET patients would continue to receive substandard care.

JANET LEWIS  
Lead Endocrine Specialist Nurse,  
University Hospital of Wales, Cardiff



## AN INTERVIEW WITH... LESLEY REES

INTERVIEW BY MILES LEVY

One of the more vibrant and colourful characters to grace the endocrinology scene, Professor Dame Lesley Rees succeeded at a time when medicine was definitely a man's world. As we crack into an early bottle of white wine at her Queen Anne house, located in a prime Hampstead spot, I am about to hear a story of success and tragedy.

Lesley, now 72 years old, greets me in the doorway and ushers me downstairs into the kitchen. She is wearing trousers and a jumper, and has a smaller frame than I remember. She talks candidly and loudly in her Malvern Girls' College-educated voice. There are bursts of laughter, sadness and the full range of emotions, as we talk about the significant events in her life. Some of the precise dates and details are a little sketchy, but she is a hoot, and I immediately get a sense that Lesley Rees is force to be reckoned with.

I nip to the toilet after my journey down from Leicester and on the wall I see informal photographs of Bill Clinton and other dignitaries. I come across a great picture of Lesley sharing a private joke with Prince Charles, both in fits of laughter. She has clearly lived life to the full, with an array of stories sufficient to fill several lifetimes. I am introduced to her husband, Gareth, a retired cardiothoracic surgeon and handsome Welsh rugby-playing St Mary's Hospital graduate back in the day. I am touched by the clear adoration they have for each other. Lesley often defers to him to fill in any gaps as she recounts her life story.

*'She has clearly lived life to the full, with an array of stories sufficient to fill several lifetimes.'*

### EARLY LIFE - AND TRAGEDY

Lesley was born in Aberdeen in 1942. Tragically, whilst her mother was pregnant, her father Howard was killed in Bomber Command at the age of 21. 'I never knew my father. I had a wonderful mother, she was a strong Aberdonian.' They moved to London to stay with Howard's brother, uncle Colin (Sir Colin Davis, who was to become principal conductor of the London Symphony Orchestra). Lesley's mother re-married a Scottish GP. They had three children, Lesley's half-siblings. Her stepfather suffered with rheumatic mitral valve disease: 'One morning my mother came to the end of my bed and told me my stepfather had died.'

Her mother had to earn a living and became a social worker (an almoner) at Cheltenham General Hospital. She sent Lesley to Malvern Girls' College, with the help of the Royal Air Force Benevolent Fund. 'My mother asked me what I wanted to do with my life - I always thought work-wise I would like to be a doctor first and journalist next.' Lesley obtained a place at Barts, no mean feat given that medical schools had only recently started to accept women.

She was about to start at Barts when, one dreadful day, she was told that her mother had been killed in a car crash. She had to break the news to her stepsister and two stepbrothers. Lesley had endured all this unbelievable tragedy by the tender age of seventeen.



Lesley Rees. ©Wellcome Library, London

### BARTS BECOMES HER HOME

Her deep attachment to Barts is entirely understandable. It nurtured her through the loss of her mother. She was mentored by Maurice Lipsedge, a psychiatrist, who became a great friend. Lesley was a free spirit, and had her own fashion sense, always turning heads in her flamboyant clothes. She threw herself into academic and college life. Lesley had been living in a bedsit in Bayswater, sharing with two prostitutes! Maurice suggested renting his bedsit in Hampstead would be preferable - an area that she has never left since. Through Maurice, Lesley met a Trinidadian medical student called Winston. He introduced her to a glamorous world of West Indian cricketers; she regularly played bridge with Gary Sobers and other household names.

Lesley became pregnant with Winston's child. This was an outrageous scandal for its time. She feared she was going to be kicked out of medical school. The Dean, Denis Ellis Nash, a devout Christian, summoned her to his office: 'Miss Davis-Dawson, there is a rumour going round that you are pregnant.' Lesley faced up to him, 'What business is it of yours?' Her defiance was a gamble but worked, as it has repeatedly in her life. 'I hear you,' accepted the Dean.

In 1962, at the age of 20, Lesley had a caesarean section and gave her son up for adoption. 'The girls in my year all rallied round and we have remained very good friends to this day.' It is worth reflecting that Lesley Rees, by the age of 20, had lost both parents and a stepfather, and had given up an illegitimate child for adoption. It takes unusual resilience to weather these storms and come out on top.

### HOLDING HER OWN IN A MAN'S WORLD

Lesley qualified; she was the only one to achieve distinction in pharmacology and therapeutics. 'In those days you couldn't apply for a house job, you had to be chosen.' She decided not to wait to be asked. She went to visit Oswald ('Os') Tubbs, senior consultant cardiothoracic surgeon at Barts. By co-incidence, her future husband Gareth Rees would hold this post later in life. 'You are a woman and too weak to work in cardiothoracic surgery,' Tubbs told her.

CONTINUED ON PAGE 26...

## AN INTERVIEW WITH... LESLEY REES

...CONTINUED FROM PAGE 25

Lesley was unimpressed and moved swiftly upstairs to consultant neurosurgeon John O'Connell. 'Mr Tubbs says I am too weak for heart surgery - would I be any good at neurosurgery?' After a long silence, O'Connell answered, 'The job's yours.' Lesley was clearly up for the fight of being a woman in a man's world. Whilst assisting in theatres, O'Connell would accidentally repeatedly elbow her whilst reaching for the forceps. Lesley was not intimidated in theatres. 'Permission to speak - elbow in chest not a good idea,' she announced. After an awkward silence, O'Connell replied, 'Miss Davis-Dawson, I have heard you and this will never happen again.'

*'Lesley's self-confidence and directness were probably new and refreshing at a time when consultants were seen as deities.'*

These anecdotes are fascinating, as they show how Lesley's self-confidence and directness were probably new and refreshing at a time when consultants were seen as deities. She has no time for sexism as a concept. 'A lot of women won't agree, but I can't say I honestly felt it. A sense of humour makes all the difference - if men said [inappropriate] things I'd usually grin - at least they are humans!'

Lesley worked for Sir Ronald Bodley-Scott, the Queen's Physician and eminent Barts oncologist. 'He was a wonderful physician - not a man of great humour, but I learnt everything about caring for dying patients.'

Before starting at the Hammersmith, Lesley undertook a locum post at St Steven's Hospital, now the site of the Chelsea and Westminster. In the middle of the night, she was called to see a patient with acute abdominal pain. She recognised it was a perforation and rang a very 'bolshy' surgical registrar, who was unhappy about being woken. The patient had indeed perforated, and survived thanks to Lesley's swift intervention. The following day, the grumpy surgeon rang Lesley to apologise for his rude behaviour. They went out for breakfast - and nearly 50 years later they are still married! Touchingly, Lesley felt she had to confess to Gareth at that initial breakfast about her adopted child.

Whilst at the Hammersmith, Lesley was cardiology senior house officer to Celia Oakley and John Goodwin. The visiting overseas professors were not impressed that the junior doctor was female: 'I told them if they wanted to do a ward round they could talk to the Sister and speak to the patients themselves.' Lesley got on very well with Oakley and Goodwin. A 17-year-old patient from abroad with a dissecting aortic aneurysm was a defining moment. 'I knew he was dying and that no surgery was going to save him. I told Professor Goodwin that we should quickly put him on an aeroplane home so he could be with his family.' Goodwin paused and replied, 'Miss Davis-Dawson, I think you are right.' The patient was duly sent to die with his loved ones.

### RETURNING 'HOME' - THE BARTS YEARS

Lesley was rung by a bright young endocrinologist a couple of years ahead of her at Barts called Mike Besser. They knew each other from the Students' Union. 'He asked me if I had decided on a specialty - I had no idea what I wanted to do.' Lesley joined Besser and never looked back. 'The three great men in my working life were Mike Besser, John Landon and Phil Lowry. The wonderful John Landon really brought endocrinology into the laboratory, not just in the UK but the world. He really thought about how

to measure things and was a clinical scientist of the highest order. I think it is highly regrettable that Landon and Lowry have not both been made Fellows of the Royal Society.'

The infamous Professor Scowen ('Papa Scowen'), Head of the Imperial Cancer Research Unit, had taken over the running of the endocrine department. 'Papa Scowen appointed me as Senior Lecturer in Chemical Pathology and the Medical Unit - he put his hand on my knee and said "My dear, we need a woman in the Unit."' Besser took Lesley under his wing and supervised her MD.

Her early work was on adrenocorticotrophin (ACTH), and she set up the first assays of endorphins and enkephalins. In Lesley's biography, Landon describes her as 'highly intelligent and perceptive, very determined and a terrific rallier of the troops'. Lesley flourished at Barts, and during her time there published several hundred papers. Her co-collaborators over the years read like a *Who's Who* of endocrinology.

Lesley spent a year in Oregon in the USA, whilst her husband Gareth studied pioneering work on artificial heart valves with Albert Starr, of Starr-Edwards heart valve fame. Whilst in Oregon, she helped set up a technique to extract ACTH by bringing powdered glass from the UK. Customs thought she was smuggling drugs and temporarily confiscated it! Apart from that time in the USA, Lesley was never away from Barts.

During the 1970s, whilst Lesley was making a name for herself as a major player in endocrine research, another tragedy was unfolding behind the scenes. Her half-sister, Moira, had developed paranoid schizophrenia, and sadly committed suicide by jumping off a high-rise building in Birmingham. This seems to have affected Lesley to the extent that she made a decision not to have more children due to her experience. I imagine she could not bear the thought of more loss.

### THE ROLE OF DEAN

Lesley never forgot the kindness shown to her at Barts when she arrived as a 17-year-old orphan. A major passion for Lesley has been the welfare of medical students. She founded the Student Advisory Service and was appointed as Sub-Dean. Her proudest moment came when she was elected



St Bartholomew's Hospital ('Barts'). Maria Giulia Tolotti

*Lesley flourished at Barts, and during her time there published several hundred papers. Her co-collaborators over the years read like a Who's Who of endocrinology.'*

Dean of Barts Medical School. She was interviewed in a smoke-filled room, and was so convinced that a woman would not get elected that, straight after the interview, she got the tube home and cooked dinner. She received a phone call from the Chair of the Board of Governors, 'Where are you? You've been unanimously elected as Dean - you've won it by a mile.' Lesley was genuinely ecstatic at being elected. 'It was a great accolade. I couldn't believe it. I did it for 9 years and loved every minute of it.' It is difficult to imagine someone more qualified for the job.

Lesley has made a major contribution to medical education. She recognised the importance of medical students developing consultation skills. She set up the first Clinical Skills and Self Directed Learning Centre in the UK. Lesley was determined to break down the artificial barriers between doctors and nurses. She rang Sue Studdy, the Head of the College of Nursing and Midwifery. 'I said to her, what are we doing? We need to teach doctors and nurses at the same time.' The concept of interdisciplinary teaching is now an established concept in medical education, but at the time was met with scepticism. It is fitting that when Lesley was awarded her DBE, it was for services to both endocrinology and medical education.

Lesley has been a great contributor to the politics of medicine. She has been Chair of the Society for Endocrinology and received the inaugural Society Jubilee Medal. She was also Secretary General to the International Society of Endocrinology as well as Director of the International Office and Director of Education at the Royal College of Physicians. She fiercely contested the infamous Tomlinson report, which recommended the merger of London teaching hospitals. Saving Barts became a cause célèbre for Lesley, who was active in the media and the Houses of Parliament to give this a high profile. Lesley continued her passion for medical education and published a seminal book *Medical Education in the Millennium*,<sup>1</sup> which predicted many of the changes that are now well established.

### THE REUNION

Throughout her fast-paced professional and social life, Lesley always had to live with the knowledge that she had a son whom she had never known. 'I knew he was out there - never a day went by when I didn't think "where are you?"' Ten years ago, the moment came that Lesley must have both dreaded and wished for in equal measure.

Lesley's son, Lloyd, had been brought up by an Australian actor and a New Zealand actress in North London. When Lloyd was grown up, his partner saw a photo of Lesley on TV, and somehow immediately recognised that this must be his mother. One day in 2001, Lesley was casually sifting through some post-holiday mail when she saw the letter. Her adopted son was keen to make contact. Lesley was in floods of tears and Gareth was

away. She called her good friend to come round immediately to comfort her.

Gareth returned, and went upstairs with uncle Colin to consider the right thing for Lesley to do. They were not convinced it would be in Lesley's interest to open up old wounds. 'She'd been hammered enough,' says Gareth, looking at me steely eyed, referring to all the tragedies she had endured.

Nevertheless, she met with her son, and it went better than could have been expected. They have since become very close, and Lloyd, his partner and their daughter are very much part of Lesley and Gareth's life to this day.

### LIFE IN RETIREMENT

My time with Lesley is coming to a close. We discuss her love of all things poetry-, music- and art-related. She tells me about the special relationship she had with her uncle Sir Colin Davis, the eminent conductor, who lived round the corner in Highbury. He became great friends with Gareth, and I consider how, as her father's brother, he must have provided a vital link with her biological past. Lesley tells me she has a 50-year reunion this weekend with the girls from her medical school days - the same girls who looked after Lesley after her caesarean section at such a young age. The reunion is at Dean Rees House at Barts, named after Lesley - which is quite amazing given that 50 years ago they feared for their friend being kicked out of medical school.

*'The sheer force of Lesley's personality allowed her to flourish. Possibly as a result of her early tragedies she felt she had nothing to lose, and was intimidated by no-one in this austere man's world of medicine.'*

As I travel back home, I consider the life story I have just heard. The sheer force of Lesley's personality allowed her to flourish. Possibly as a result of her early tragedies she felt she had nothing to lose, and was intimidated by no-one in this austere man's world of medicine. Hers is a tale of how friendships and professional bonds can sometimes be just as strong as biological family. Lesley Rees has lived to tell the tale and is alive and kicking. It is true what they say - there is nothing like a Dame!

MILES LEVY  
Editor, The Endocrinologist

### REFERENCE

1. Jolly B & Rees L 1998 *Medical Education in the Millennium*. Oxford: Oxford University Press.

# BARRY FURR – TRUE CHAMPION

AN APPRECIATION BY STEVE HILLIER

Countless words of admiration and adulation poured in for Barry Furr after his untimely passing on 27 February 2015. At first, there seemed little else to add. But as the news sank in I knew there was more, much more, to say from the perspective of one who had the good fortune to serve as Programme Secretary and then General Secretary alongside Barry when he was General Secretary (1991–1993) and then Chair (1993–1996) respectively of the Society for Endocrinology.



Barry was an outstanding scientist and communicator. Compassionate and empathetic, he was also an intensely social (and sociable) person who made a difference in everything he did, not least through his membership of the Society for Endocrinology.

We (my wife Haideh and I) met Barry and his wife Eileen (Marnie) in 1974, at the 2nd Congress on Hormonal Steroids in Mexico City. After the meeting, we shared a hired car from Mexico City to Laredo (TX, USA): a sure way of getting to know each other well... By then, he was already a rising star at ICI Pharmaceuticals at Alderley Edge (near Macclesfield, UK), where he stayed as the company morphed into a global pharmaceutical giant through Zeneca, into AstraZeneca. As its chief scientist he was the driving force of a truly research-based global pharmaceutical company.

We remained friends and colleagues for the next 40 years. He and Marnie – with newly born Alex – were welcome guests at our Bethesda (MD, USA) apartment during the late 1970s, when Barry was toing and froing between the ICI operations in Macclesfield and Wilmington (DE, USA) and I was a postdoc at the National Institutes of Health. Then, some years later, there was the trip to London Dungeon with (by that time) three little Furrs in tow. Barry and I went on to work on scientific projects together, supervise research students together, and serve together as officers of the Society for Endocrinology.

Arguably, Barry's 6-year spell as General Secretary and then Chair of the Society was his heyday. He was revelling in the success of Zoladex™ (gonadotrophin-releasing hormone (GnRH) superagonist), which he had pioneered and developed during the 1980s, and still driving forward the introduction of Casodex™ (anti-androgen). These anti-hormones became blockbuster drugs for the treatment of hormone-dependent cancer (for which he received an OBE in 2000).

Above all, I recall Barry's business-like pragmatism and good humour at Society committee and business meetings – not least at the Officers' meetings that he so generously hosted, with sumptuous catering in the Zeneca dining room at Alderley Edge.

His impact was monumental. An early win came through the

acquisition of *Endocrine-Related Cancer* (ERC) as a Society periodical, which was launched in 1994. Originally a Zeneca in-house publication (*Reviews in Endocrine-Related Cancer*), ERC would become a jewel in the Society's crown, as one of the world's leading scientific publications linking oncology and endocrinology.

Barry was also instrumental in the agreement with Blackwell Publishing (now Wiley-Blackwell) to adopt *Clinical Endocrinology* as the official clinical journal of the Society. This shrewd deal included an annual 10% turnover-based royalty to the Society from Blackwell's, which was a major income stream at the time.

Barry particularly enjoyed the honour of being Chairman in 1996, which was the Society's Golden Jubilee year. And, as incoming Chair, I had the privilege of toasting him at the Golden Jubilee dinner. I concluded thus, and my comments stand:

“I do not want to embarrass you Barry, by listing your many contributions to the Society during the last 6 years, suffice it to say that I think they fall in three areas.

First, as an academic endocrinologist. Your practical knowledge of the field has contributed substantially to the discovery and development of two major drugs in the ICI/Zeneca portfolio – the GnRH analogue Zoladex and the anti-androgen Casodex. You not only participated in the discovery of these compounds as pharmaceuticals, but you have also promoted their use as research tools in basic and clinical research and, in so doing, you have greatly enhanced the fields of reproductive endocrinology and cancer endocrinology.

Secondly, as a pragmatist. A 'streetwise' scientist, you keep one foot in the uncompromising, harshly judgmental world of R&D in the pharmaceutical industry, and the other – the honorary academic one – in higher education, where you enjoy and succeed at teaching and promoting innovative research in endocrinology. Endocrinology in general and the Society in particular have benefited enormously from both of these traits.

The third quality I would highlight is your role as visionary, the visionary who has had the foresight to realise that the future of the Society depends upon its ability to continue to combine and consolidate the interests and activities of all of its members – basic and clinical – and to lay down a strategy for the development

of the Society in the new millennium. That process has begun under your guidance, and its outcome – whatever that may be – will owe much to the influence you have had on us during your time as Chairman.

Barry, for these reasons and for the many other contributions to the affairs of the Society that you have made, it now gives me considerable pleasure to make you not one but two presentations.

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*Barry was an outstanding scientist and communicator. Compassionate and empathetic, he was also an intensely social (and sociable) person who made a difference in everything he did, not least through his membership of the Society for Endocrinology.*

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The first is a gift and the second is an award.

Concerning the gift ... Those of you who know Barry well will be well aware that he is a devoted oenophile – no madam, I said ‘oenophile’, as in ‘lover of wine’. The Furr’s have a holiday home in the South of France near Beziers, where Barry and Marnie spend as much time as possible enjoying the pleasures that life in that part of the world notoriously provides – which of course includes good wine. Over the years, many cases of that good wine have of course found their way to the home cellar in Macclesfield. This allows Barry to indulge his oenophilic tendencies without having always to be in France. So Barry, on behalf of the entire Society – and with the words ‘IN VINO VERITAS’ – it gives me great pleasure to present this gift, which is intended to make your drinking of wine at home all the more enjoyable.

Now the award ... Ladies and gentlemen, I do not need to remind you again that this year, our Golden Jubilee, is a landmark in the development of the Society for Endocrinology. But 7 years ago, in 1989, we celebrated another important jubilee, which was of course the 50th year of publication of the *Journal of Endocrinology*.

To commemorate that occasion, the Society instituted a new medal – the Jubilee medal – to be awarded whenever appropriate to a British member of the Society in recognition of his or her achievements in endocrinology.

Barry, the Committee of the Society agrees that you have contributed and achieved enormously as an endocrinologist, and endocrinology as a whole has benefited accordingly. Thus, in conclusion, it gives me great pleasure – in this the Golden Jubilee year of the Society for Endocrinology – to award you the Society Jubilee Medal. ”

Never was a medal more deserved.

STEVE HILLIER

#### ACKNOWLEDGEMENT

I am grateful to Ian Henderson (Chair, 1991–1993) and former Executive Director, Sue Thorn, for their helpful reminiscences towards preparing this appreciation of a sorely missed chum.

#### Deadlines

- |         |   |
|---------|---|
| 11 Jan  | Submission of cases   |
| 01 Feb  | Applications for Society membership to qualify for reduced early bird rate  |
| 15 Feb  | Early bird online registration and accommodation at web address below       |
| 7 March | Applications for Society membership received in time to register in advance |



# Clinical UPDATE

21 – 23 March 2016

Hilton Birmingham Metropole Hotel,  
NEC Birmingham, UK

The Society for Endocrinology's Clinical Update training programme provides essential training for trainees and recently appointed consultants in endocrinology and diabetes. The Clinical Update Series provides excellent preparation for the Specialty Certificate Examination (SCE) in Endocrinology and Diabetes by covering all eight strands of the specialty curriculum from the Joint Royal Colleges of Physicians Training Board (JRCPTB).

#### CALL FOR CASES

All delegates are asked to submit an abstract of a representative, routine clinical case that will be of core interest.

[www.endocrinology.org/meetings/clinicalupdate](http://www.endocrinology.org/meetings/clinicalupdate)

#### REGISTRATION

Registration is available online at [www.endocrinology.org/meetings/clinicalupdate](http://www.endocrinology.org/meetings/clinicalupdate). Registration includes daytime catering, dinner on Monday night and accommodation on Monday and Tuesday night at the Hilton Birmingham Metropole Hotel.



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bioscientifica

Submissions are open from **15 September 2015**  
Deadline for submission of cases 11 January 2016

Cases should be submitted to the Society for  
Endocrinology via the website

CPD  
approval  
pending



# JENNY PELL

REMEMBERED BY ABIGAIL FOWDEN & JOY DAUNCEY

Jenny Pell was born in Stoke on Trent and brought up near Southwell in Nottinghamshire. She excelled academically at school, and went on to read physiology and biochemistry at the University of Reading, graduating in 1976 with a BSc(Hons), and subsequently completing her PhD. She then undertook a series of postdoctoral appointments in the Department of Physiology at St George's Hospital University of London, the New York State College of Veterinary Medicine at Cornell, NY, USA, and finally the Department of Nutrition at the London School of Hygiene and Tropical Medicine.

Thereafter, she was appointed as a Senior Scientific Officer at the AFRC Institute of Grassland and Animal Production at Hurley (near Maidenhead), where she stayed from 1985 to 1991, before moving to the Cambridge area as a Group Leader at the AFRC Institute of Animal Physiology and Genetics Research (later the BBSRC Babraham Institute).

*'Jenny's research resulted in significant advances in understanding the actions of GH and IGFs, especially in relation to nutritional and immunological regulation.'*

During the last 2 years of her life, she was seconded to the Department of Pharmacology at the University of Cambridge and affiliated with the Wellcome Trust-Medical Research Council Cambridge Stem Cell Institute. She was also recently elected to a Fellowship in Natural Sciences at Sidney Sussex College.

Jenny's major scientific contributions are related to the endocrine regulation of growth and development, with particular focus on mechanisms at the cellular and molecular levels.<sup>1-3</sup> Her research resulted in significant advances in understanding the actions of growth hormone (GH) and insulin-like growth factors (IGFs), especially in relation to nutritional and immunological regulation.

Many years ago, she highlighted that nutritional status does not merely change nutrient availability but, of course, also induces complex adaptations in the hormonal and metabolic balance of an animal. Moreover, it is only when each of these has been investigated in terms of fundamental processes, including receptor population and cell signal transduction, that an integrated assessment of GH action can be made in relation to nutritional control. She also investigated the immunological manipulation of growth, and demonstrated immune enhancement and immune inhibition of GH-releasing factor by site-directed anti-peptide antibodies *in vivo* and *in vitro*.

Jenny made numerous significant contributions to understanding the complex actions of the six IGF-binding proteins (IGFBPs), especially in relation to the important IGF-independent effects of IGFBP-5 *in vivo*. In addition, she emphasised the potential of IGFBPs to act as therapeutic agents, for example in inhibition of tumour growth or modulation of IGF-regulated ageing. Over the last 10 years, Jenny focused on the roles of IGFs, IGFBPs and other cellular/molecular regulators in muscle development. This highly productive area of research was linked recently to a substantial BBSRC research award to investigate 'The role of p38 MAPK in the regulation of muscle satellite stem cell fate and regeneration in ageing', and it resulted in several significant publications.<sup>4</sup>

Alongside her research, Jenny was an active member of several professional societies (including the Society for Endocrinology, Biochemical Society,



American Physiological Society and International Society for IGF Research) and carried out a full load of administrative duties at both the Babraham Institute and the Department of Pharmacology. She was particularly involved with the Society for Endocrinology, and had been a Senior Editor of *Journal of Endocrinology* for the maximum term of 8 years. She was also a member of the Society's Science Committee.

Jenny particularly enjoyed involvement with young people, and had a series of PhD students during her career, many of whom went on to successful scientific careers themselves. She was an invited tutor for the Society for Endocrinology's Autumn Endocrine Retreats (now Career Development Workshops) for PhD students and postdoctoral research associates. She set up the graduate training programme at the Babraham Institute and was a graduate tutor there from 1995 to 2001, as well as sitting on their Graduate Education Committee for 18 years. Although relatively new to the Department of Pharmacology, she had thrown herself enthusiastically into their committee work and undergraduate teaching and examining. She had also taken on the challenge of sprucing up the Department, as she hated their colour scheme!

*'Jenny particularly enjoyed involvement with young people ... She was an invited tutor for the Society's Autumn Endocrine Retreats, set up the graduate training programme at the Babraham Institute, and had thrown herself enthusiastically into [the Department of Pharmacology's] undergraduate teaching and examining.'*

Besides her work, Jenny loved village life, bell ringing, her involvement with Ickleton church, her garden and allotment, and spending time with her daughter and mother. She had an enormous zest for life and everything she did was done with energy, passion and verve. Her positive attitude to life kept her battling bravely through many rounds of treatment for breast cancer, with a determination to ensure the next birthday was reached and the next paper was on course for publication. It is a tragedy that Jenny died at such a young age, especially as she still had so much to give to her family, friends and the wider scientific community.

ABIGAIL FOWDEN & JOY DAUNCEY

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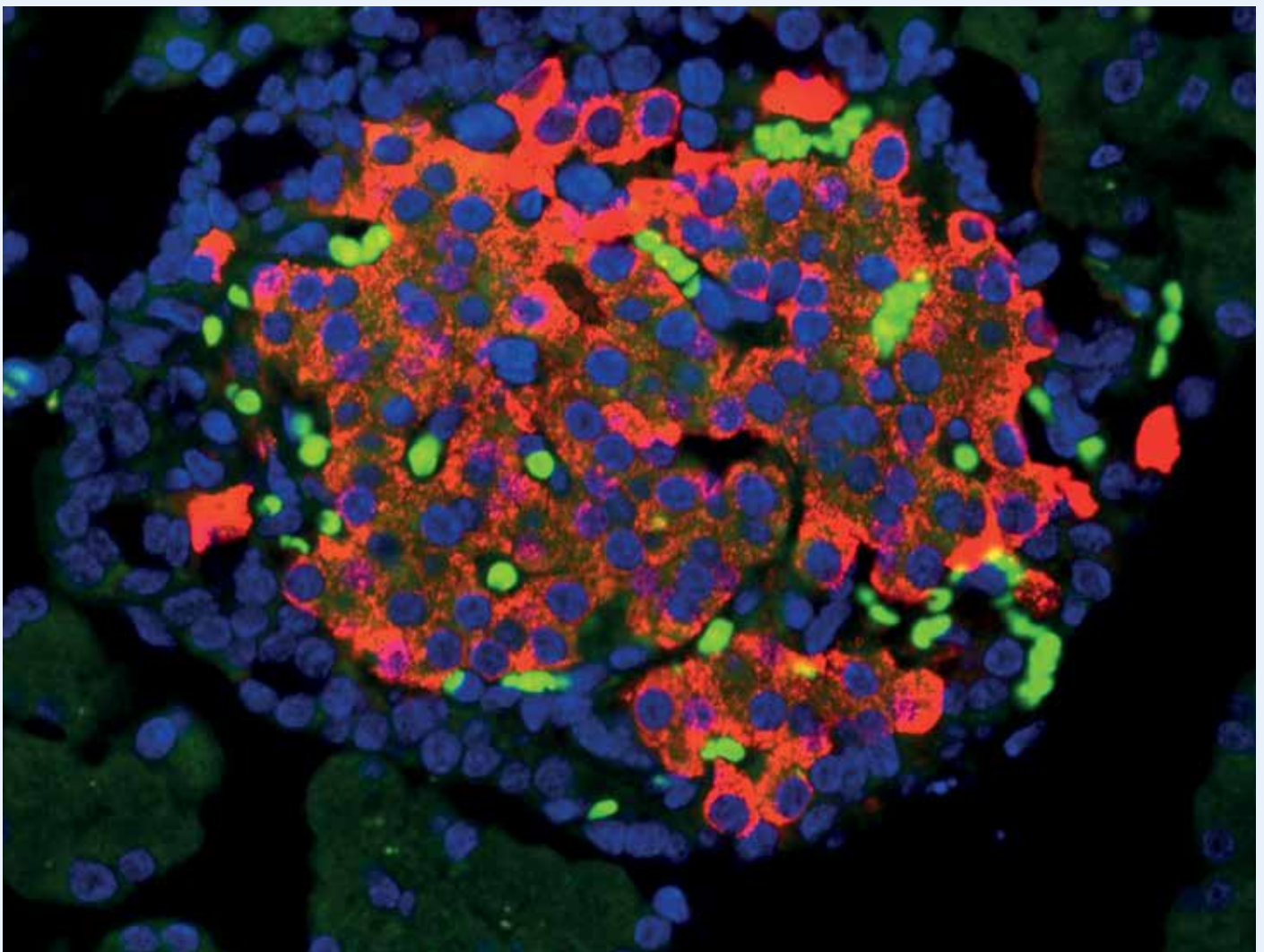
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JULY 2015

The image depicts immunostaining of a pancreas section from control animals. Nuclei are stained with DAPI; glucagon, green; insulin, red. Magnification  $\times 20$ . Credit: *Erdal Karaöz, Liv Hospital, Center for Regenerative Medicine and Stem Cell Research and Manufacturing (LivMedCell), Turkey*



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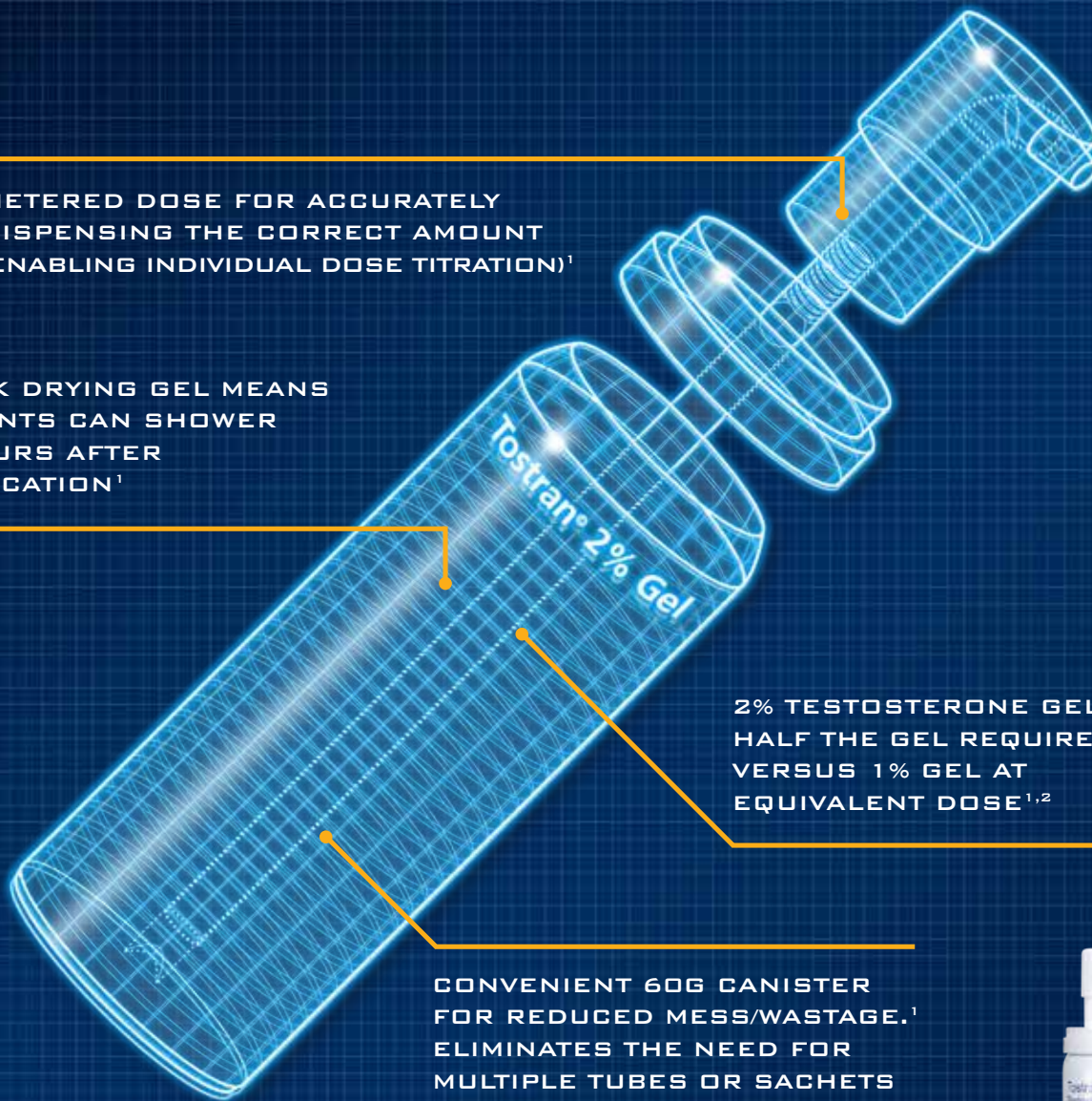
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**References:** 1. Tostran<sup>®</sup> Summary of Product Characteristics, June 2010. 2. Testogel<sup>®</sup> Summary of Product Characteristics, November 2006. **Date of preparation:** February 2014. **Job code:** M015/1224