The Endocrinologist
THE NEWSLETTER OF THE SOCIETY FOR ENDOCRINOLOGY • ISSUE 103 SPRING 2012

Standards for undergraduate medical education

PLUS

Mike Besser: the interview

Hospital funding and the art of clinical coding

Imprinting - when genes aren't equal

Pituitary patients: satisfied customers?

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EDITORIAL

There's such a lot in this issue of *The Endocrinologist* that it's difficult to know where to suggest you turn to first. So, I recommend taking some time out from your undergraduate exam marking/thesis reading/ talk writing/paper editing/ responding to grant referees (fingers crossed please, everyone!), or whatever's currently on your to-do list, to sit back, relax and read the issue from cover to cover.

Leon Heward-Mills, the Society's Chief Executive, has just presided over the latest 5-year strategic review, which has now been endorsed by Council. On page 10, Leon outlines the strategic initiatives that will form the road map to being a 'world-leading authority on hormones'. Central to the plan is most definitely continuing to raise public awareness of endocrinology, and so it's timely to hear from the new Chair of the Public Engagement Committee, Saffron Whitehead, who summarises the committee's achievements to date and their plans for future developments on page 5. Meanwhile, page 9 describes some of the recent and forthcoming public engagement activities supported by the Society.

There are also plans to revise the Society's education programme, perhaps building upon the recent findings of the Task Force that was set up to develop a strategy to promote and enhance undergraduate teaching of endocrinology and diabetes in UK medical schools; turn to page 6 for a round-up of their recommendations. One of the current initiatives is to enhance the education and training of Young Endocrinologists through a number of resources and opportunities, including the Regional Clinical Cases Meetings (page 8), and the Postgraduate Essay Prize (page 16).

Of course many of the Society's activities are facilitated with the help of our Corporate Supporters. See pages 12–13 for their profiles.

We were very pleased to receive our first letter to the Editor earlier in the year, in which Paul Stewart, the Society's General Secretary, raises the critical issue of addressing both the health and wealth agendas with respect to the Government's Plan for Growth. A key outcome measure is meeting clinical trial recruitment targets in collaboration with the life sciences industry. The NIHR networks will be central to achieving this, and we'll hear more from the leads for the Endocrinology and Metabolism Specialty Group in a future issue.

Unfortunately, we've also had some unwelcome news. I'm sure we were all very sad to hear of the unexpected death of Wylie Vale who, as Phil Lowry recounts (page 4), discovered and characterised many hormones, including CRF and GHRH, and so influenced the research of many in the Society and across the world.

A topic we often discuss in *The Endocrinologist* is careers. In this issue, we hear from one of our Nurse Members, Julie Lynch, who has just embarked on her career as an endocrine research nurse (page 11), and from one of our most eminent Honorary Members, Professor Mike Besser, who looks back over a career spanning more than 50 years (pages 14–15). Mike was talking with *The Endocrinologist's* Associate Editor, Miles Levy, for one of our new regular features: 'An interview with …'. So if there's anyone you'd like us to profile for future issues, then do let us know.

You'll see that a number of themes are common to the experiences of both Julie and Mike and, indeed, these seem to recur in most of the articles we feature on careers. These are the importance of good support and mentorship and, of course, a degree of luck. This issue's tales from Hotspur illustrate the point beautifully (page 21) and also suggest that you don't have to be insane to have a career in endocrinology. But I do just wonder if it would help?

Now, doesn't all that sound interesting? Enjoy.

MELISSA WESTWOOD

The Society welcomes contributions and article suggestions; contact the Editorial office at info@endocrinology.org. Deadline for news items for the Summer 2012 issue: 23 March 2012. Deadline for news items for the Autumn 2012 issue: 10 August 2012.

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COMMITTEE MEMBERS NEEDED

Call for nominations!

Vacancies on the following committees will arise at the end of 2012. If you would like to be involved in running the Society, please consider standing for election to the:

- **Clinical Committee** *(including an SpR member)*
- **Corporate Liaison Board**
- **Nominations Committee**
- **Nurse Committee**
- **Programme Committee**
- **Public Engagement Committee**
- **Science Committee**

Full details and nomination forms are available on the specific committee pages at www.endocrinology.org/about/committee.html.

Medal winners

We are delighted to announce that we have now selected the medallists for 2013. These were chosen from nominations made by the membership, by means of a ballot amongst the Nominations Committee and approval by Council.

DALE MEDAL - **Prof Ronald M Evans**
(Salk Institute for Biological Studies, La Jolla, California, USA)

SOCIETY FOR ENDOCRINOLOGY MEDAL - **Prof Márta Korbonits**
(Queen Mary University of London, London)

TRANSATLANTIC MEDAL - **Prof Michael J Meaney**
(Douglas Mental Health University Institute, Montréal, Canada)

EUROPEAN MEDAL - **Prof Anna Spada**
(University of Milan, Milan, Italy)

HOFFENBERG INTERNATIONAL MEDAL - **Prof Fernand Labrie**
(Research Center, Québec, Canada)

Young Endocrinologists' Prize Lecturers

Dr Laura Gathercole of the University of Birmingham has been selected to deliver the Young Endocrinologists' Basic Science Prize Lecture at the forthcoming Society for Endocrinology BES 2012 meeting in Harrogate. She will present her talk 'Challenging the dogma: tissue-specific regulation of insulin action'.

Delegates will also be able to hear **Dr Roland Stimson** of the Queen's Medical Research Institute, Edinburgh, give the Young Endocrinologists' Clinical Prize Lecture on 'Quantifying *in vivo* extra-adrenal cortisol production and dysregulation in human metabolic disease'.

The presentations will take place at 18:10 on Monday 19 March 2012.

Clinical Committee

The Society's Clinical Committee oversees a wide range of activities to ensure that those considering specialising in endocrinology and those already in clinical practice are supported, nurtured and appropriately represented. Summaries of the minutes of Clinical Committee meetings are available to Society members only at www.endocrinology.org/clinical/committee/index.aspx.

CONGRATULATIONS

We are pleased to congratulate Prof Steve Bloom (Imperial College London), a past Chairman of the Society, who was awarded a knighthood in the New Year's Honours. Prof Bloom will receive his award later this year.

We also congratulate Prof Julia Buckingham (Imperial College London) on her appointment as Vice-Chancellor and Principal of Brunel University, and Prof Sadaf Farooqi on being selected to give the ESE EJE Prize lecture at the ICE/ECE meeting in Florence, May 2012.

Grant deadlines

Summer Studentships help undergraduate students gain research experience by working in a research environment. A stipend is offered for a period of study of up to 10 weeks, together with a sum for host department consumables. The student will usually be an undergraduate following a course in endocrinology or a related life science subject. Students will normally take up the award during the summer vacation before their final year.

The grant has a value of £185 per week (up to a maximum of £1850 per grant for 10 weeks) plus £1000 for consumables. The Society will support overseas applications up to the same value, but will not cover any additional travel expenses. The deadline for 2012 applications is **12 March**.

Early Career Grants are intended to support endocrinologists in a number of ways, for example by providing (amongst other possibilities):

- resources to gain preliminary data before applying for other external funding
- a specific piece of equipment
- resources to finalise a project
- short term salary funding.

This grant incorporates monies from the Society for Endocrinology Marjorie Robinson Endowment Fund. If applicants wish to be considered for Marjorie Robinson funding, the application should reflect the criteria of the fund; this is that the grant must be used for research into diseases of the adrenal and/or pituitary glands.

The value of this grant is up to £10 000, and the 2012 deadlines are **27 May** and **27 November**.

For more information on all our grants please see www.endocrinology.org/grants.

SOCIETY CALENDAR

19–22 March 2012
Society for Endocrinology BES 2012
Harrogate International Conference Centre, UK

10 July 2012
Regional Clinical Cases
Oxford, UK

17–18 September 2012
Endocrine Nurse Update
Stratford-upon-Avon, UK

WYLIE VALE

▶ Wylie Vale, head of the Clayton Foundation Laboratories for Peptide Biology and holder of the Helen McLoraine Chair in Molecular Neurobiology at the Salk Institute in La Jolla, California, USA, sadly passed away in his sleep on 3 January - a great shock to the scientific community he so richly served.

Wylie was born in Houston, Texas, on 3 July 1941. He had a degree in biology from Rice University and a PhD in physiology and biochemistry from Baylor College of Medicine. He joined Roger Guillemin at the Salk Institute in 1970, and was appointed Professor at the Institute in 1980 and Adjunct Professor of Medicine at the University of California, San Diego.

Wylie was a world authority on neuropeptide hormones and their receptors, and best known for his work (in collaboration with Jean Rivier) on the characterisation of corticotropin releasing factor, reported in *Science* in 1981, which has been cited over 3000 times. The stimulation of corticotropin from the pituitary by synthetic corticotropin-releasing factor has become a standard test in clinical endocrinology.

IMAGE COURTESY OF SALK INSTITUTE FOR BIOLOGICAL STUDIES

During his career, Wylie characterised many novel peptide hormones and receptors, notably the urocortins, GH-releasing factor and activin/inhibin, and studied their activities both *in vitro* and *in vivo*. He co-authored over 600 peer-reviewed papers, many in *Nature, Science* and the *PNAS*, and is one of the most cited scientific authors of all time. The total citations of his publications should exceed 100 000 this year, an incredible legacy to leave to endocrinology.

Wylie (with Larry Steinman) co-founded Neurocrine Biosciences, a company based partly on the development of drugs from his neuropeptide and receptor work.

In recognition of his scientific achievements, Wylie was elected as a member of the National Academy of Sciences, the Institute of Medicine, and the American Academy of Arts and Sciences. He also served as the President of the American Endocrine Society and the International Society of Endocrinology. He was the Dale Medal Lecturer of our Society in 2004 and became an Honorary Member.

Wylie had a wry sense of humour and, when one got to know him, one had to withstand his good-humoured banter as well. He was always even-handed and played a large role in encouraging the careers of many young scientists who worked with him over the years. He will be sadly missed.

Wylie is survived by his wife Betty, their daughters, Elizabeth and Susannah, and his granddaughter Celeste.

PHIL LOWRY

With regret

We are very sorry to announce the death of Dr Gerald Pope, who was a Senior Member of the Society. An obituary will follow in a later issue.

Postgraduate essay prize winners

▶ We are delighted to announce that Mary Travers (University of Oxford) won the Society's £1000 prize for her postgraduate essay entitled 'Imprinting and endocrinology: why we are not quite an equal sum of our parental parts'. You can read an abridged version on page 16 of this issue, or see the whole essay at www.endocrinology.org/grants/prize_postgraduateessay.html.

Six runners-up won prizes of £250: Arianna Pschas (London) for 'Gut bacteria and obesity: an internal affair', Emily Saunderson (Bristol) for 'Stress: it's all in your head', Anjali Amin (London) for 'It's gut instinct...', Bradley Elliott (London) for 'Everyone's an astronaut: health challenges of publicly accessible space flight', Daniel Goodman (London) for 'Firing blanks: the quest for male hormonal contraception', and Li Zeng (Bristol) for 'Influence of the environment in fine-tuning genes'.

The following applicants were awarded 'Highly Commended' certificates: Hoong Wei Gan (London) for 'I believe that children are our future: childhood cancer survivorship and the global infertility epidemic', Jason Pont (Bristol) for 'A new perspective for the role of OXT in the initiation of labour', and May Zaw Thin (Bristol) for 'Unavoidable toxin: bisphenol A'.

We congratulate them all.

New Public Engagement Chair

The Society's new Chair of the Public Engagement Committee is Prof Saffron Whitehead, a previous Editor of The Endocrinologist. *We congratulate her in her new role and thank Prof Ashley Grossman, the retiring Chair. Here, Saffron tells us of her future plans for the Committee.*

The Public Engagement Committee is the latest committee to have been set up by the Society for Endocrinology and was established in 2009. Its purpose is to promote endocrinology to the media, to advance endocrinology to the general public and to raise public awareness of hormones and endocrine disorders.

Great success

Under the first Chairmanship of Prof Ashley Grossman, and, of course, supported by the Bristol office, the Committee established a public website, You & Your Hormones (www.yourhormones.info), which has been a great success with an anticipated 'hit' list of 60 000 in the first year. The Society has also been represented at several science festivals over the past few years with talks being given by members. Media enquiries and responses from members have increased, as have press releases and their take up by national and international newspapers and the BBC. In addition, the Committee recently set up the Public Engagement Grants scheme to provide funding for outreach activities to schools and the general public.

Although I have been a member of this Committee since its instigation and a member of the Public Website Working Party, it was both an honour and surprise to be asked to take over the Chairmanship when Prof Grossman becomes President of the Society in March this year. I hope I can achieve as much momentum as Ashley initiated.

In the public conscience

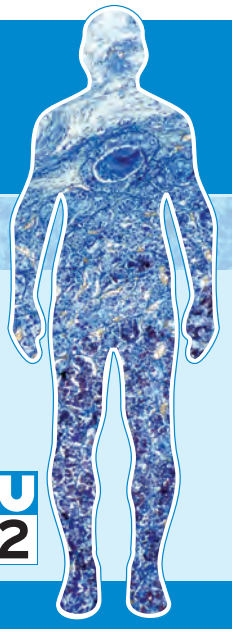
In this regard I plan to expand the website in terms of entries and more illustrations for new and existing pages, to establish a new list of media contacts among the Society membership, to promote further contacts with Sense About Science, and, most importantly of all, to keep hormones and the Society for Endocrinology in the public conscience. Of course, all this would not be possible without the support and hard work of staff at the Bristol office, notably Jennie Evans, Rebecca Ramsden and Toby Stead.

There were four retiring members of the Committee this year - Prof Karim Meeran, Dr Stephen Orme, Prof Richard Ross and Prof Stephen Shalet - and although their valuable input will be missed, I am looking forward to working with new members of the Committee, namely Prof Pierre Bouloux, Dr Paul Foster, Dr Neil Gittoes, Prof John Wass and Lord Robert Winston.

Transferable, useful and informative

For scientists and clinicians there is always a delicate relationship with the media, with fears of being misquoted or research being misinterpreted. I know from experience. The media, however, require 'impact factor' (not of the journal type!), but that should not deter us from trying to get the right information out into the public domain. The ethos of the Society is to extend our professional knowledge into something that can be transferable, useful and informative to the general public. This is the aim of the Public Engagement Committee, and any input from members of the Society, including writing for the website, becoming a media contact, sending news of some exciting research or initiating any outreach activities, would be more than welcome. I am looking forward to the challenges of the Public Engagement Committee over the next 4 years.

SAFFRON WHITEHEAD



Undergraduate endocrinology and diabetes education in UK medical schools

Developing a resource

The Undergraduate Medical School Curriculum Task Force was set up to develop a strategy to promote and enhance undergraduate teaching of endocrinology and diabetes.

Its primary objective is to develop a curriculum resource with recommended standards for the medical undergraduate curriculum. Secondly, it aims to ensure that all students are exposed to sufficient clinical diabetes and endocrinology during their training.

It was hoped that these efforts would also promote the specialty and help identify talented and enthusiastic students who may be interested in pursuing a career in endocrinology/ diabetes.

Recommended standards

Based on survey responses from educational leads across the UK, the Task Force has developed a proposed set of standards that meet the requirements of the GMC as set out in *Tomorrow's Doctors*[1] and include:

- a suggested syllabus
- curriculum aims
- learning outcomes and experiences
- key skills, and
- topics.

The full document[2] has been prepared by the Society for Endocrinology in partnership with Diabetes UK and the Association of British Clinical Diabetologists.

For diabetes

Particular aspects of undergraduate medical education that are suggested as a priority for future development and discussion include, for diabetes:

- inpatient diabetes care and management of diabetic emergencies
- safe insulin prescribing and practical aspects of diabetes care, with particular emphasis on completion of the relevant e-learning module[3]
- exposure to complex and sub-specialist diabetes
- incorporation of new treatments for type 2 diabetes into the syllabus
- highlighting the importance of a multidisciplinary approach to diabetes
- the interaction between primary and secondary care in diabetes management.

For endocrinology

In the field of endocrinology, they encompass:

- using new technology to facilitate ways of exposing large groups of students to complex rare endocrine disease, such as video linking to seminars, sub-specialist clinics and MDT discussions
- liaising with surgical teams so that students can watch different aspects of endocrine-related surgery
- facilitating observation of dynamic endocrine tests and other practical aspects of specialist endocrine nurse activity
- creating opportunities to attend endocrine MDTs and liaise with radiology colleagues for teaching in endocrine radiology.

We hope that you will find the document that we have prepared useful in achieving our shared aim of promoting and enhancing the undergraduate teaching of endocrinology and diabetes.

MILES LEVY ON BEHALF OF THE UNDERGRADUATE MEDICAL SCHOOL CURRICULUM TASK FORCE

REFERENCES

1. *Tomorrow's Doctors* (2009) (www.gmc-uk.org/education/undergraduate/ tomorrows_doctors_2009.asp)
2. *Recommended Standards for Undergraduate Medical Education* (www.endocrinology.org/clinical/undergraduate/CLT_UndergraduatesTeaching.html)
3. *Prescribing Skills Assessment* (www.prescribe.ac.uk/psa)

Ask for evidence

An anecdote to make you smile, following the theme of Sense About Science's current 'Ask for evidence' campaign (see last issue, page 10).

'Grandpa.' Lewis called my attention. He sat on the floor, as 7-year-old children do.

I was in the armchair, reading the newspaper.

Lewis was reading the page visible to him and, being a literary boy, wanted to understand everything.

'What does "evidence" mean?'

He always wants an immediate answer to every question and, with his belief in my omniscience, was sure I could deliver.

But try it yourself. How could you respond?

I stood and held the paper in front of me.

'What will happen if I let go of the paper, Lewis?'

'It'll drop to the floor.'

'It will rise to the ceiling,' I asserted.

'Don't be daft, Grandpa. It will drop to the floor.'

'We need an experiment,' I said. 'I shall drop it and you will see it rise to the ceiling.'

'You are wrong, Grandpa. But go ahead.'

I let go. The newspaper dropped to the floor.

'You were right, Lewis,' I conceded. 'Now, that is evidence.'

Lewis is now 16. He will not accept any assertion without evidence. He demands it. That annoys some people but it delights me!

TONY GREENFIELD
QUEEN'S UNIVERSITY, BELFAST (RETIRED)

Letter to the editor

respond via info@endocrinology.org

An increase in Government expenditure on biomedical research across the UK, administered through the MRC and NIHR, was delivered through the last comprehensive spending review in 2010, and was enhanced still further in December 2011 through an additional £180m to the UK life sciences industry. This industry sector covers medical devices, medical diagnostics and pharmaceuticals and industrial biotechnology, and accounts for 8% of UK total growth. It remains the third largest industry sector in the UK.

Over 300 pharmaceutical companies ('pharmas') are based in the UK and employ nearly 78 000 people, with an annual turnover of £31bn. Add to this over 4000 medical technology and medical biotechnology companies employing 87 000 people with an annual turnover of around £18.4bn, and it is easy to see the strength and depth across the UK.

'Whilst many of our national competitors struggle for research funding, the reality is that the UK continues to see growth in R&D'

The basis for this funding is the concept that the life sciences industry will further increase UK economic growth, largely through developing novel NHS/university/pharma partnerships that will reinvigorate the discovery of new drugs and rapidly translate these to patient benefit.[1]

The perception is that we can do better; we can more rapidly translate laboratory innovation into health gain, we can make better use of the vast increase in information - particularly from genetics/DNA sequencing - and harness the infrastructure and unique patient resource provided through the NHS to improve health. And we need new ways of partnering with pharmas who themselves come to realise that the traditional 'drug discovery pipeline' is both inefficient and prohibitively expensive.

One identified barrier to rapid translation is the regulatory process that has hindered the initiation of research, patient participation in clinical trials and rapid access to new and emerging therapies. A 'one size fits all' approach to regulation has slowed the process of clinical research without any evidence of improved patient safety. Despite the well-publicised events in a pharma research unit within Northwick Park in 2006, clinical research remains a safe process; indeed many studies have shown additional health-beneficial effects of participation in clinical trials. There were several examples of the regulatory delay accelerating patient death rather than 'protecting' them from any ill effects.[2]

The announcements by David Cameron, Andrew Lansley and David Willetts on 5 December 2011 go a long way to addressing and implementing the recommendations set out by the Academy of Medical Sciences Report 'A new pathway for the regulation and governance of clinical research', compiled by Prof Andrew Rawlins less than a year ago.[3] *'Opt-out from' rather than 'opt-into' models for clinical trials are to be considered and all NIHR research contracts will mandate a 70-day benchmark to recruit patients to clinical trials. Performance metrics are to be placed on the Medicines and Healthcare products Regulatory Agency (MHRA) - the body that must approve all new investigational medicinal products prior to use in man. An early access scheme will ensure that the MHRA fast-tracks new drugs for patient benefit.*

Locally, university-NHS partnerships will be encouraged to 'bust bureaucracy', through a joint governance and sign-off processes. For example, in Birmingham, research can now be implemented within a 3-week timescale with pharma partners exploring new treatments for arthritis (NOCRI Translational Research Partnership). A more streamlined and monitored, risk-based approach to research governance will ensure that the new Government investment in biomedical research will more rapidly improve patient health, invigorate pharmas and increase UK growth.

Other specific announcements include major investment in established centres to underpin technology innovation/cell-based therapy, bioinformatics and tissue biorepositories. Specific new funding is coming via the MRC for disease and drug-based stratified medicine proposals, another round of experimental medicine grants, and a totally innovative £10m partnership with AstraZeneca that offers the opportunity to use existing drug targets within their portfolio for a variety of early phase studies.[4] *Finally, a £150m Biocatalyst fund is proposed - details to follow in early 2012.*

As endocrinologists are largely supported within the public sector, we must maximise the opportunities on offer through this new resource into the life sciences industry. Whilst many of our national competitors struggle for research funding, the reality is that the UK continues to see growth in R&D. Our challenge now is to form new partnerships with pharmas and larger collaborations to ensure delivery. Research funding through future comprehensive spending reviews will be critically dependent on our ability to demonstrate the economic as well as the health impact of our research endeavours.

PAUL M STEWART

REFERENCES

1. *Strategy for UK Life Sciences* (www.bis.gov.uk/assets/biscore/innovation/docs/s/11-1429-strategy-for-uk-life-sciences.pdf)
2. Stewart PM, Stears A, Tomlinson JW & Brown MJ 2008 Regulation - the real threat to clinical research *BMJ* 337 (www.bmj.com/content/337/bmj.a1732)
3. *A New Pathway for the Regulation and Governance of Clinical Research* (www.acmedsci.ac.uk/download.php?file=/images/publication/newpathw.pdf)
4. *MRC to invest in translational research challenges* (www.mrc.ac.uk/Newspublications/News/MRC008391)

Paul Stewart is Dean of Medicine at the University of Birmingham and serves on the MRC Strategy Committee in his role as Chair of the MRC Training and Careers Group.

Regional Clinical Cases success continues

The success of the Society's Clinical Cases meetings at the Royal Society of Medicine in London was what prompted us to start holding meetings around the country in association with local endocrine organisations, in the hope that these would more easily meet the needs of local endocrinologists.

The popularity of the Regional Clinical Cases meetings means that they are now a permanent feature on the Society's meetings calendar and, since 2011, have increased to two per year.

Liverpool, October 2011

The recent Liverpool meeting, in association with the Mersey and Cheshire Diabetes and Endocrine Group, attracted 57 delegates. It followed our successful format of lectures from leaders in the specialty, with talks by Prof William Drake, Prof Geoff Gill, Prof Hugh Jones and Dr Mark Savage. These were interspersed with 10 oral case presentations, and there were posters of additional accepted abstracts available to view and discuss during breaks.

(l-r) Dr Richard Worth, Elizabeth Robinson and Dr Frank Joseph at the recent Liverpool Clinical Cases meeting

The evaluation forms revealed that almost all attendees rated the meeting overall as 'excellent' or 'good'. This was reflected by their enthusiastic comments (see below).

'It was a fantastic meeting which showcased some excellent endocrinology in Cheshire and Merseyside, and was hopefully the first of many Society for Endocrinology events to be hosted by the Mersey and Cheshire Diabetes and Endocrine Group,' said Dr Frank Joseph (Chester) who acted as the local convenor for the meeting.

Prof Will Drake commented that the Society Clinical Cases meetings provide an excellent opportunity to learn about developments in endocrinology that were far too recent to feature in publications.

Elizabeth Robinson (Liverpool) was awarded first prize for her oral communication, with Susannah Shore (Liverpool) and Rathy Ramanathan (Chester) receiving joint second prizes. The poster presentation prizes were received by Dr Vineeth Chikthimmah (Liverpool) and Dr Santosh Shankarnarayan (Liverpool). Ms Robinson is a trainee clinical biochemist, and we are delighted that these meetings are attracting clinical biochemists who are presenting excellent cases and winning prizes; we offer her and the other winners our heartiest congratulations.

'Good mix of case presentations and lectures by the experts - great venue'

'Good clinical content; unusual cases'

'Small workshop groups allowed for excellent discussion'

COMMENTS FROM DELEGATES AT THE LIVERPOOL RCC MEETING

Exeter, December 2011

The driving rain did not deter the 46 delegates who attended the meeting held in Exeter, in association with the Combined Severn and Peninsula Endocrinology Regions. They were rewarded by excellent presentations from trainees and more established endocrinologists, namely Prof Colin Dayan, Dr John Dean, Dr Sarah Finer, Prof John Monson and Prof John Wass.

A post-meeting survey revealed that 78% of the attendees thought the meeting had made a large contribution to their professional training. Furthermore, 82% of them rated the meeting as 'excellent'.

Drs Karin Bradley (Bristol) and Antonia Brooke (Exeter), convenors and successful recipients of a Society seminar grant, said, 'We were incredibly fortunate to have the enthusiastic participation of a number of eminent endocrinologists who made the day hugely interesting and entertaining! We were delighted that we attracted delegates from both regions and that they were all extremely impressed with the quality of the meeting and the efforts of the trainees in achieving such an excellent standard in their oral and posters presentations. These successes have confirmed our plan to continue to hold a joint regional annual endocrine symposium to ensure that the profile of the specialty remains appropriately high.'

'Excellent cases and fantastic talks by experts'

'...high quality and wide experience of the speakers whilst retaining a small and intimate setting'

'...excellence of the speakers and chairpersons as well as the very open format that allowed everyone to be involved without embarrassment'

COMMENTS FROM DELEGATES AT THE EXETER RCC MEETING

The Society offers its congratulations to the prize winners. The first prize for oral communications was awarded to Dr Augustin Brooks (Exeter), with second prize going to Dr Jessica Triay (Bristol). The winners in the poster presentation category were Dr Ali Chakera (Exeter) and Dr Joanna Kyte (Bristol).

The 2012 Regional Clinical Cases meetings are scheduled for Oxford on 10 July (in association with the Oxford Endocrine Group) and Leeds in December.

We are keen to collaborate with regional endocrine organisations to host future Regional Clinical Cases meetings. If you would like to find out more about how your endocrine club could work in association with the Society to hold a meeting, please contact me: abhi.vora@endocrinology.org.

ABHI VORA

Engaging the public

Life Sciences Careers Conference

The Society for Endocrinology was delighted to support the Life Sciences Careers Conference in York in November. This event showcased the breadth of careers available to life science students. It was organised by the Society of Biology in association with the Society for Endocrinology, Biochemical Society, British Ecological Society and Society for Experimental Biology.

'I thought the whole day and all of the presentations were excellent and will definitely recommend it to all life science students - whatever programme they are studying - well done to everyone involved.'

'…it was an absolutely excellent day. Thanks for letting me come!'

'The lectures were all very entertaining and informative.'

COMMENTS FROM DELEGATES AT THE LIFE SCIENCES CAREERS CONFERENCE

Through the programme of talks, students could find out about many career pathways, including how to enter different research sectors such as academia and industry, and what the working environment is like in each. In the exhibition, organisations including the Society for Endocrinology offered individually tailored careers advice and information. The day ended with the ever popular 'CV workshop'.

The day was certainly much appreciated by the students, with 100% rating it as either useful or very useful. For information about future events, see www.societyofbiology.org/education/careers/lscc.

Festival season!

Alongside our new public information website, You & Your Hormones, and the new Public Engagement Grants, the Society is also committed to organising a series of high quality public events on endocrinology throughout the year. For 2012, we are pleased to report that we have already been accepted onto the programmes of four science festivals.

At the Edinburgh International Science Festival, our event will consider the less conventional actions of sex hormones. Entitled 'The other side of sex', and featuring Prof Philippa Saunders (Edinburgh), Prof Joe Herbert (Cambridge) and Prof Alan McNeilly (Edinburgh) as Chair, it will take place at 17.30–19.00 on Wednesday 4 April.

We have also had two events accepted onto the programme of *The Times* Cheltenham Science Festival. One event will discuss how the skeleton is a surprisingly dynamic endocrine organ, while the other event is entitled 'Latitude! The hormonal consequences of human migration'. The festival will take place on 12–17 June 2012 (www.cheltenhamfestivals.com/science).

We are also looking for other ways to engage with the public through events, and will keep you updated with our activities.

FIPA and 'the Irish Giant'

On 23 November, the Society supported a public event on Charles Byrne (the 'Irish Giant') and familial isolated pituitary adenoma (FIPA). Prof Márta Korbonits presented the findings of the ground-breaking study that characterised FIPA to a packed room at the Hunterian Museum, London. She was joined by Brendan Holland, a central participant in the study and a FIPA patient who shares a common ancestor with Charles Byrne. The event took the audience through pituitary endocrinology and genetics, the realities behind such a novel investigation, and the experiences of a patient with gigantism. At the FIPA patient group meeting that followed, patients were invited to come forward and discuss the condition from their perspective.

Márta delivering her lecture

The Society was pleased to sponsor this event through its new Public Engagement Grant scheme. We thank Prof Korbonits and Mr Holland, who have already done a great deal to improve the public understanding of pituitary endocrinology, and those at the Hunterian Museum for organising the event. A video of the event can be found at the FIPA patients' website, www.fipapatients.org.

If you've got a great idea for a public engagement project, find out how to apply for a grant of up to £1000 at the Society's grants web page: www.endocrinology.org/grants.

Patient steroid replacement study day

Patients with adrenal insufficiency are invited to attend one of two 'Steroid replacement study days' at the Oxford Centre for Diabetes, Endocrinology and Metabolism, on 5 March and 24 September 2012. These events are sponsored by the Society, following the award of a Public Engagement Grant to Dr Niki Karavitaki (Oxford). Find out more at www.endocrinology.org/public. Please note, places are limited.

Together with partner societies, the Society for Endocrinology has recently produced *Next steps: options after a biosciences degree*, an undergraduate careers guide aimed at helping bioscience students plan their careers and make the most of the opportunities available to them. To download a free copy of this guide visit www.endocrinology.org/careers/undergradres.html.

A VISION FOR THE FUTURE:
COUNCIL APPROVES SOCIETY'S STRATEGIC REVIEW

At its 24 January meeting, Council endorsed the latest Society strategic review. Usually a rolling 5-year process, the review scheduled for the end of 2010 was put on hold pending the appointment of the Chief Executive, Leon Heward-Mills. Here Leon outlines the latest review and the organisation's ambitions for the next 3–5 years.

▶ To be a world-leading authority on hormones - that's our over-arching ambition, and the goal that we will be aiming for towards 2020. But what does this mean, how do we measure it and, most importantly, what benefit will this demonstrate to members, to the broader medical and scientific community and to the public, the groups we exist to serve?

The measures used include specific monitoring against our core activities - publishing, advocacy etc, but also the efficacy of the Society BES meeting and our scientific and educational programmes. There are 'softer' qualitative measures as well, including member, potential member and public perception and feedback.

Defining the vision

Defining a strategic vision is straightforward enough, but where organisations tend to fail is in strategy execution - delivering against the plan. Strategy should not be complicated: a clear and ambitious target and an agreed set of principles to follow to ensure that the goal is achieved. In the short term, the vision must be sufficiently unambiguous to allow the organisation to use it as a clear reference, aware of changing conditions over time.

The process for defining the current plan began in October 2011 with a meeting of Society Officers, Chairs of the main Society committees and senior staff from the Bristol office. The outcome of that meeting was discussed and refined at subsequent committees, resulting in the plan put to Council in January.

So at the top level is the ambition: our desire looking towards 2020 to be a world-leading authority on hormones. Taken in context, this should not compromise our relationship with other major national and international organisations. It will be the standard that we will measure ourselves against.

Beneath this we have identified a series of 'strategic initiatives' - high level priority areas. Feeding into these are the projects that we have identified as necessary to ensure that the ambition is realised.

Strategic initiatives

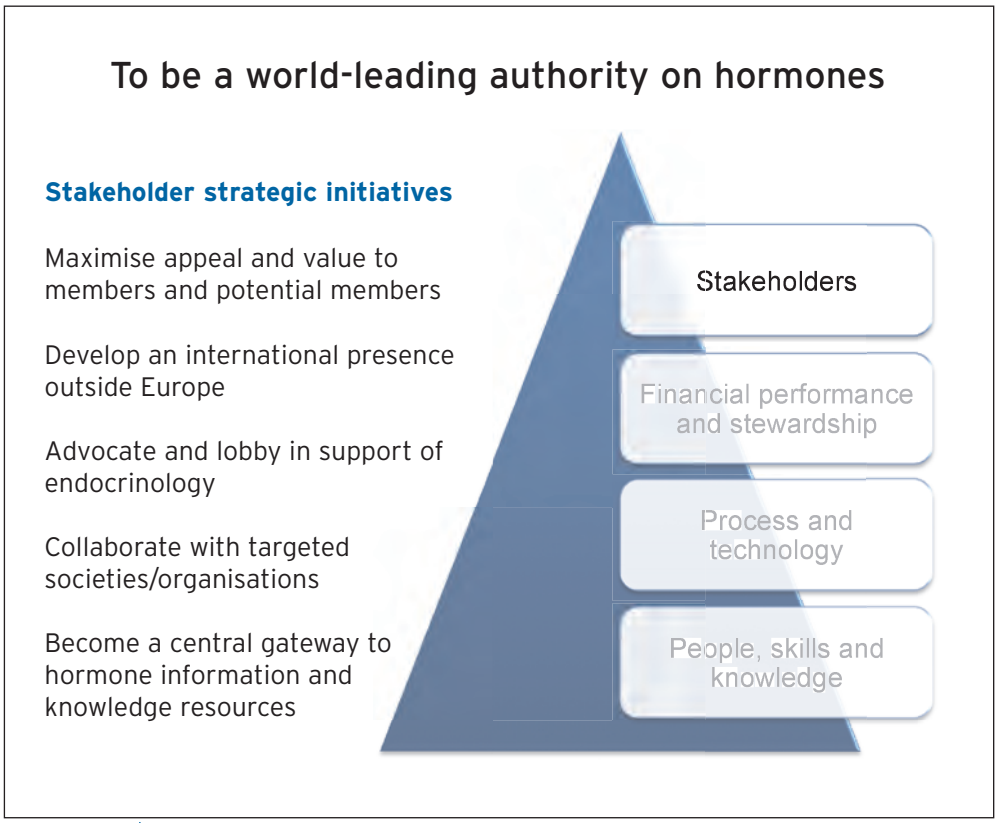
At the heart of the plan is the strategic initiative to be a central gateway to hormone information and knowledge resources. Adding value to membership but also increasing our significance to the public - in line with our charitable objective - by ensuring we are a trusted and valued source of information and knowledge. Projects that will flow from this include development of a revised education strategy, a basic science support programme, a strategy to improve patient care and public awareness and the development of our publishing.

Another strategic initiative is the development of advocacy and lobbying in support of endocrinology, creating a clear plan, identifying our priorities and diverting resources as efficiently as possible. It is recognised that we will have greatest influence in the UK, but we will work with partners at a European or global level where appropriate.

There are a range of strategic initiatives and over 25 short, medium and long term strategic projects, some that will deliver over the next 3 months, some stretching out towards 2015 and beyond, but all helping us work towards reaching our over-arching ambition.

LEON HEWARD-MILLS

The full strategic plan is on the Society website at www.endocrinology.org/strategy



Strategic initiatives – high priority areas that will ensure the Society delivers its strategic plan

Nurses' News

On behalf of the Nurse Committee, I would like to welcome Jean Munday (Portsmouth) and Nadia Gordon (London) as new Committee members. In addition, Lisa Shepherd has been appointed as Vice-Chair. I look forward to working with them all in the future.

Unfortunately I have also accepted the resignation of Pat Pickett (Shrewsbury and Telford) who has been forced to resign due to recent ill-health. We would like to thank Pat for all her hard work and wish her a continued recovery.

This leaves two vacancies on the Nurse Committee. If you are interested in joining us, a nomination form and further details can be found at www.endocrinology.org/endocrinenurse/.

I would like to thank Julie Lynch for her interesting article on how she became an endocrinology research nurse. Learning 'on the job' seems to be the order of the day in endocrine nursing. This highlights the importance of support that we 'old hands' can give to our colleagues. As a Committee, we should try to prevent any nurse from feeling 'like a fish out of water' when they attend Society meetings, and will look into ways to avoid this happening to new nurses in the future.

We are looking forward to Society BES 2012 in Harrogate in March. I urge anyone who will be attending this meeting for the first time to please contact a member of the Committee (via the Society) so we can make sure that you do not feel alone. See you there!

NIKKI KIEFFER, CHAIR, NURSE COMMITTEE

A career in endocrinology research?

At my mature age, I was not sure if it was a good idea to totally change the direction of my career, to that of endocrinology research. However, I wanted a change in direction and a new challenge, and that is exactly what I got.

Both endocrinology and research were new to me, and although I had spent the last 30 years working within the Leeds Teaching Hospital Trust I felt like a total novice starting nursing all over again. Learning about endocrinology, diagnoses, tests and procedures was a steep learning curve.

Fortunately, the dedicated, professional, helpful staff working within the endocrinology department made my journey to expand my knowledge and professional development a pleasurable one.

A fish out of water

As part of my professional development, I attended conferences such as the Society for Endocrinology BES, which was an exciting but frightening experience. It is quite intimidating spending days at conferences, knowing absolutely nobody and feeling like a fish out of water. You begin to realise by attending the lectures just how much you do not know or understand!

At the same time as developing an understanding of endocrinology, I also had to learn about research: again another steep learning curve. Research is an exciting evolving discipline which encompasses different organisations, structures, procedures and abbreviations with which I had to familiarise myself.

I found that in research I was relatively isolated in my role, unlike having a supportive endocrinology team. I did have a very patient and approachable principal investigator, who is also a very busy endocrinologist. He has constantly found time to help me understand this new and exciting discipline and taught me so much. However, I still needed to attend research study days and meetings in order to expand my knowledge and development, such as completing the mandatory good clinical practice training, which is a practical guide to ethical and scientific quality standards in clinical research.

In the swim

It has now been 2 years since I embarked on this journey and I feel that although I have learnt so much, I still have so much more to learn. However, I now look forward to endocrine conferences and recognise delegates from previous meetings. The lecture content is now not frightening but very relevant and much more understandable!

I have presented my own poster at the Society BES meeting, showing the results of a year's work auditing bone density scans of hypopituitary patients, and written an extract for the Society's 'You & Your Hormones' website.

I now have three active studies and am working on more. I am familiar with master files, research amendments, protocols, IRAS, research networks, portfolio and databases.

I enjoy being pushed out of my comfort zone from time to time to develop and learn and take on new challenges. I found a 'research guru' who, despite being very busy with her own work in the NHS, has always been there to give me support and guidance when needed. She has been invaluable in helping me through the research maze; her knowledge is amazing.

Yes, this was the correct decision; I love this role, and enjoy being part of the endocrinology team and the idea of making a difference through research to improve the quality of life of the patients we see.

JULIE LYNCH, LEEDS TEACHING HOSPITALS NHS TRUST

We are pleased to highlight the activities of some of our corporate supporters in this special section. Companies wishing to participate in the scheme should contact Amanda Helm in the Bristol office (amanda.helm@endocrinology.org).

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BioScientifica manages the following publications:

- *Journal of Endocrinology, Journal of Molecular Endocrinology* and *Endocrine-Related Cancer* for the Society for Endocrinology
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- *Reproduction* for the Society for Reproduction and Fertility
- a range of books, including: *Handbook of Cancer-Related Bone Disease; Handbook of Cushing's Disease;* and *Handbook of Gastroenteropancreatic and Thoracic Neuroendocrine Tumours.*

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Novo Nordisk remains committed to improving the lives of patients with diabetes.

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Pfizer Ltd is proud to be a platinum sponsor of the Society for Endocrinology BES meeting.

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An interview with... **Mike Besser**

Having decided to have a regular slot interviewing key clinicians and scientists who have contributed to endocrinology, we thought Mike Besser would be the appropriate 'A-lister' to start with. He is arguably the highest profile endocrinologist this country has produced and his reputation is legendary. Therefore, it was with some trepidation I met him at his consulting rooms where, in fact, I found him very willing to talk about many aspects of his life and career, and he admitted to being flattered at being chosen as the subject of the inaugural interview.

Early days

Mike Besser's grandparents were Eastern European Jewish immigrants. A consistent theme during our interview was his gratitude to this country and to the NHS, and the feeling of having a debt to repay. His father was brought up in the East End of London, but the family moved and, during the war, Mike went to a grammar school in Hove.

Having thought he wasn't up to the grade to study medicine, he planned on pharmacy as a career, until it was suggested that he should consider medicine since 'you never know until you try'. Ironically, when Barts was mentioned as the place to go, this was one of the few London medical schools he had not heard of. Despite thinking only posh people would get into a London teaching hospital he applied, was duly accepted, and since then has spent just 2 years away from Barts!

Mike describes himself as 'having had a wonderful time at medical school doing the usual things,' which included being rowing captain, discovering London, arts, music and frequenting an underground wine club.

Postgrad choices

It was his BSc in physiology and interest in the science of behaviour that led him to endocrinology, as psychology was 'not precise enough'. As a clinical student he was influenced early on by a Barts endocrinologist called Patrick Spence. Having been advised to do the professorial house job, Mike was on-call every weekend and, even after a night out, would contact the ward nurses before going to bed. He recalls that all the junior doctors lived in the residents' staff quarters when Swedish au pair girls would bring them cups of tea in bed in the morning (there was a custom of leaving two shoes outside the door if two cups were needed!).

Rather than sign the drug charts ahead of time and sleep uninterrupted until morning, Mike insisted that the nurses woke him if things went wrong so he knew all the medication his patients were receiving, which was unheard of at the time. This principle of doing things his way and winning people over seems to be a recurrent theme.

Having been offered an exciting post-MRCP Clinical Research Fellow post at the Hammersmith to exploit the newly described cortisol assays, the very powerful Prof Scowen of Barts, head of the Imperial Cancer Research Fund (ICRF) and a political animal not to be crossed, insisted that Mike return to Barts. Although ambivalent about the reasons for returning, Scowen opened such a huge number of doors that Mike says it turned out to be 'the best thing I ever did'. Mike did his MD on the effects of centrally acting drugs on auditory perception, and his first publication was a main article in *Nature*, a taste of things to come.

Embracing endocrinology

Scowen had taken over the running of the endocrinology department from Patrick Spence, although he was seldom present: 'He came into the endocrinology clinic for 10 minutes and never came back!' From here on Mike, a senior post-membership SHO, essentially ran the endocrinology department. At the time there was a clinical assistant called Cornelius Medvei, who would eventually become famous for his three volume history of endocrinology. Mike recounted with great affection several stories of Medvei's contributions to medicine, and the two clearly became very close during their careers.

Mike had inherited a wonderful clinical endocrinology unit, and was able to embark on setting up a laboratory unit. He set up Mattingley's Hammersmith fluorometric cortisol assay, which 'damaged a lot of suits because of the acid involved'. Immunoassays of hormones were not available to clinical investigators, but Mike was introduced to Fred Greenwood who was trying to establish them at the ICRF and who, together with a bright research fellow from St Mary's called Jon Landon, had just developed GH and ACTH radioimmunoassays. Scowen's position as Director of the ICRF helped, and the connection opened the floodgates for clinical endocrinology studies. Seeing Landon's talent, Mike used Scowen's powers of persuasion to get him to Barts long term rather than accept the Chair he had been offered in Honolulu (which was subsequently accepted by Greenwood!).

The early studies measuring ACTH and GH were heady days. An important early collaboration was with Hannah Steinberg from University College (known as the 'Queen of Purple Hearts' after the recreational drug she was studying). These were the first ever psycho-neuroendocrinology studies in man, since they were able to use the centrally acting drugs as pharmacological probes to study the hypothalamic control of GH and ACTH. Many of the early studies were performed by the junior research worker Lesley Rees (now Dame Lesley).

A flirtation with the USA

While the Barts immunoassays were being set up, Mike went to the USA to work alongside the famous endocrinologist Grant W Liddle for a year. Liddle had originally described the metyrapone test and dexamethasone suppression test for Cushing's syndrome. Mike had an initial bad start, telling Liddle his metyrapone test was not as good as the insulin hypoglycaemia test for ACTH deficiency, that the Barts cortisol assay was superior to their laborious and inaccurate method and, to make matters worse, even briefly becoming involved with a girl that Liddle was keen on! Eventually, so won over was Liddle with Besser that he exclaimed, 'OK you can now do

all the hospital cortisols!' Liddle tried to persuade him to stay in the USA, but Mike was set to return to Barts.

At that time, everyone thought that prolactin did not exist in man, the lactogenic pituitary factor being GH but, whilst in the USA, Mike had become convinced that, because galactorrhoea could be present in patients with pituitary tumours without acromegaly, prolactin must exist in the human pituitary. On his return to Barts he told Landon, 'We have got to get into prolactin!'

Prolactin, serendipity and more

It was at a serendipitous coffee break at a scientific meeting that Mike met Isabel Forsyth of the Dairy Research Institute who, it transpired during the conversation, could bio-assay prolactin. Their fruitful collaboration led to the demonstration that prolactin did indeed exist in humans. With prolactin on the map, Mike was approached by the drug company Sandoz, who had anticipated the discovery of human prolactin, and had developed a compound that lowered prolactin in rats and stopped nursing mothers lactating. He agreed to investigate it.

Mike decided to try the drug on a male patient with a 3-year history of hypogonadism, galactorrhoea and an extremely high prolactin level. 'At day 3 the milk stopped and we celebrated, by day 7 he got an erection and we all got excited!' Prolactin fell precipitately but it took 6 months for the assay results to come back. A group of similar male and female patients were then treated with dramatic reversal of their hypogonadism and galactorrhoea.

While at a meeting in the USA, Mike discovered a rival group working on the same compound, although without a prolactin assay. Sensing the urgency to publish, he phoned his registrar Chris Edwards and asked him to write the paper immediately. The definitive paper on the effects of bromocriptine on serum prolactin was duly published in the *BMJ* within 10 days of Besser's request!

Coworkers and collaborations

Mike mentions with pride his many talented trainees who have become big hitters in endocrinology. Mike Thorner, now a leading US endocrinologist, had a shocking start on the wards; 'It was carnage ... all the patients kept falling over and breaking their noses.' Thorner had unwittingly shown that excessive doses of dopamine agonists could cause postural hypotension. He would, however, go on to show the key role of dopamine in the hypophysis, and that dopamine agonists could be used in the treatment of acromegaly.

Another important collaboration was with Reg Hall, demonstrating that TRH caused TSH and prolactin release, as well as studying the actions of a novel peptide called GH-release inhibiting hormone, later known as somatostatin. Performing insulin tolerance tests followed by TRH administration to themselves, they found that it not only inhibited GH but TSH as well, and with Steve Bloom's help at the Hammersmith they found to their surprise that it also inhibited many pancreatic and gut peptides.

Being impressed by the properties of this substance but disappointed by its short-lasting action, Mike visited the Barts pharmacy late one night to look up how long-acting analogues of insulin were made, and created an embryonic protamine-zinc precursor to the now routinely used somatostatin analogues. The first human studies with GnRH were also done with Reg Hall.

As our interview time runs out, we hasten through other areas of his work, including Davi Cunnah and Chris Edward's seminal data on desmopressin, which at the time was a new revolutionary treatment for cranial diabetes insipidus, the work of Vicky Clement Jones on endorphins, Ashley Grossman's work on the neuroendocrine effects of opiates, John Wass's studies on acromegaly, the early studies of GH replacement in hypopituitary patients, and the *in vitro* studies on pituitary cell function, to name but a few.

And finally, the future...

We finish the interview with a discussion of the future of endocrinology and the specialty's unanswered questions. Mike tells me that his initial thoughts on molecular biology were that it was 'just another technique like litmus paper'. However, he concedes that the post-genomic era is an exciting time for new post-receptor scientific discoveries.

At the age of 75, he continues to see patients, which he considers 'a privilege', and attends weekly Barts meetings, having been amused if irritated that post-retirement he was initially teasingly offered an armchair and served cups of tea, just as was done to Medvei in his dotage. We discuss the huge differences between his generation and today's NHS, and he reiterates his continued commitment to UK medicine, and his pride that every penny of private income during his time at Barts was channelled back into his research group.

As we part, the imposing figure of Mike Besser pays for our lunch and returns to his clinical commitments, having taken a couple of urgent calls during our chat. And I return home having learnt a great deal about the man who has arguably contributed more towards the clinical development of our subject than anyone else of his generation.

MILES LEVY

If you enjoyed this interview, a profile series of other notable endocrinologists has just started in Endocrine-Related Cancer. *The first profile, 'Chaos theory and a career in medicine', by Marc Lippman is available free at http://erc.endocrinology-journals.org/content/19/1/P1.full*

Imprinting and endocrinology: why we are not quite an equal sum of our parental parts

This summary is taken from the recent winning postgraduate essay by Mary Travers of the University of Oxford. The full essay can be found at www.endocrinology.org/grants/prize_postgraduateessay.html.

Whilst the past decade has rightly seen huge focus placed on completing the human genome sequence, attention is increasingly turning to the study not only of *what* the genetic code says, but also of when, where and how its string of letters is read to produce the proteins which make up our bodies. And here, all is not equal between mother and father.

Most genes are read, or 'expressed', from both maternally and paternally inherited chromosomes. However, about 100 human genes (the current tally according to geneimprint.org, but the number is growing all the time) are read *only* from either the maternal *or* paternal chromosome: these genes are 'imprinted'.

'Imprinting refers to the phenomenon by which a gene is expressed from only one chromosome, dependent upon its parent of origin'

Imprinting probably brings to mind psychological studies involving baby geese relentlessly trailing after a man in a microlight, or possibly the means by which werewolves identify their life-partner in Stephenie Meyer's *Twilight* series. But in a genetic context, imprinting refers to the phenomenon by which a gene is expressed from only one chromosome, dependent upon its parent of origin.

Regulation of gene expression is complex and in many ways poorly understood, but the control of imprinting is known to rely upon epigenetic modifications. These are changes which occur along the genome, but do not change the sequence itself. For example, some letters of the genetic code have a methyl group attached to them, which acts as a chemical blocker to the molecules which do the work of gene expression. Other sections of DNA are tightly coiled around themselves and large proteins called histones, again blocking access and reducing gene expression.

But whatever the precise mechanism of imprinting, what are its origins and its implications for endocrinology? It is striking that a large proportion of human imprinted genes are highly expressed in endocrine organs, and particularly in the brain and hypothalamus. This both gives an insight into the evolutionary logic behind a seemingly bizarre phenomenon, and means that there are serious endocrine consequences when it goes awry.

The first indication that imprinting may be involved in endocrine-related disorders came in 1989, from studies into Prader-Willi syndrome (PWS). PWS is characterised by, amongst other things, low levels of testosterone, GH and the appetite-suppressant peptide YY. Researchers noticed that about 70% of patients were missing part of one of their copies of chromosome 15. In itself this was not unusual; many genetic disorders are caused by chromosomal deletions. However, what really struck the investigators was that the deletion was always carried on the chromosome inherited from a patient's father. In fact, individuals with a maternal deletion of the same genomic region suffered from a quite different disorder - Angelman's syndrome. Other PWS patients carried two maternal copies of chromosome 15 (they had no paternal copies at all), whilst still others had mutations in the region which controls imprinting on the paternal chromosome. In any case, the paternally inherited chromosome was clearly the one which mattered.

The effects of imprinting upon endocrine disorders are not restricted to rare diseases. My own research focuses on the mechanisms through which genetic variation contributes to an individual's level of insulin secretion and susceptibility to type 2 diabetes (T2D). Thanks to a research group in Iceland who have unique access to samples with identifiable parent-of-origin for single-letter genetic changes, we know that variants at a specific region of chromosome 15 (11p15.5) increase a carrier's likelihood of developing T2D by about 10% *only* when they are *maternally* inherited. Inheriting exactly the same variants from a father has no effect upon susceptibility. Unsurprisingly, these variants lie in a region of imprinting. Through studies on human islets, the structures which secrete insulin, I have shown that these genetic changes alter the methylation marks which are responsible for controlling gene expression from the alternative chromosomes.

Perhaps the most intriguing explanation for the existence of imprinting, and one which accounts for its predominance in endocrine systems in general and hypothalamic systems in particular, is the parental conflict hypothesis.

The idea goes that imprinting arose because mothers and fathers have differing interests in terms of their child's growth, stemming from the differing investments which they make in that child, and from their future relatedness to any further children which the mother may bear. These factors combine to mean that the father has less interest in preserving the health of the mother; he simply wants the best possible survival chance for his current offspring. Meanwhile, the mother has more motivation to preserve her own health, both in order to protect the investment already made in the current child, and to allow her to bear more children in the future.

'A large proportion of human imprinted genes are highly expressed in endocrine organs'

Paternally expressed genes are expected to increase the resource consumption of a child at the expense of its mother, whilst maternally expressed genes are predicted to conserve maternal resources in defence of the mother's future reproductive success.

MARY TRAVERS, UNIVERSITY OF OXFORD

SOCIETY BES PLENARY LECTURES 2012

Be sure not to miss the plenary lectures from the nine medal winners, to be presented at this year's Society BES meeting:

TUESDAY 20 MARCH

10.40–11.20
MAIN AUDITORIUM
Society for Endocrinology Dale Medal Lecture

Estrogen receptor insensitivity: physiological and clinical consequences

KENNETH KORACH, DURHAM, NC, USA

Chair: Julia Buckingham (London)

11.20–12.00
MAIN AUDITORIUM
Society for Endocrinology Hoffenberg International Medal Lecture

Bone as an endocrine organ

GERARD KARSENTY, NEW YORK, NY, USA

Chair: Graham Williams (London)

18.40–19.10
MAIN AUDITORIUM
Society for Endocrinology Transatlantic Medal

Metabolism to epigenetics: the circadian clock link

PAOLO SASSONE-CORSI, IRVINE, CA, USA

Chair: Paul Stewart (Birmingham)

WEDNESDAY 21 MARCH

11.30–12.00
MAIN AUDITORIUM
Society for Endocrinology European Medal Lecture

GLP-1 therapy of type 2 diabetes - current status

JENS JUUL-HOLST, COPENHAGEN, DENMARK

Chair: Márta Korbonits (London)

12.00–12.30
MAIN AUDITORIUM
Society for Endocrinology Jubilee Medal Lecture

Acromegaly - improving outcomes

MICHAEL SHEPPARD, BIRMINGHAM

Chair: Graham Williams (London)

16.45–17.15
MAIN AUDITORIUM
British Thyroid Association Pitt-Rivers Lecture
Supported by the Clinical Endocrinology Trust

The thyroid - too much and too little across the ages

JAYNE FRANKLYN, BIRMINGHAM

Chair: Graham Williams (London)

17.15–17.45
MAIN AUDITORIUM
Society for Endocrinology Medal Lecture

Genetic, molecular and physiological mechanisms involved in human obesity

SADAF FAROOQI, CAMBRIDGE

Chair: Julia Buckingham (London)

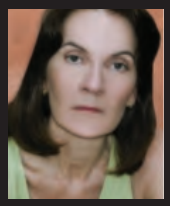
THURSDAY 22 MARCH

08.30–09.00
MAIN AUDITORIUM
Clinical Endocrinology Trust Lecture
Supported by the Clinical Endocrinology Trust

Developing growth hormone agonists and antagonists for the clinic

RICHARD ROSS, SHEFFIELD

Chair: John Bevan (Aberdeen)



09.00–09.30
MAIN AUDITORIUM
Clinical Endocrinology Trust Visiting Professor Lecture
Supported by the Clinical Endocrinology Trust

Long-term outcome and quality of life in patients with disorders of sex development

BERENICE MENDONÇA, SÃO PAULO, BRAZIL

Chair: John Connell (Dundee)

How much do you charge for an insulin stress test? What endocrinologists should know about clinical coding

Most endocrine investigations are conducted in a specialised outpatient environment requiring trained staff and access to experienced clinicians. Different endocrine departments will have their own arrangements for performing these tests, based on the resources available. Read on to learn how hospitals are funded for these investigations, and to ensure your hospital receives the amount to which it is entitled.

From a coding point of view, a patient attending an investigation unit can be labelled either as an outpatient visit or as a day case admission. There is a significant difference in the tariff which is applied to these two types of attendance, the day case admission attracting four times more funding than the outpatient fee.

Dynamic endocrine tests are skilled, specialised, time-consuming and carry a small risk of complications which need observation and management. On this basis, it seems appropriate for a dynamic endocrine test, such an insulin stress test, to be charged as a day case admission, analogous to the way an endoscopy unit would charge.

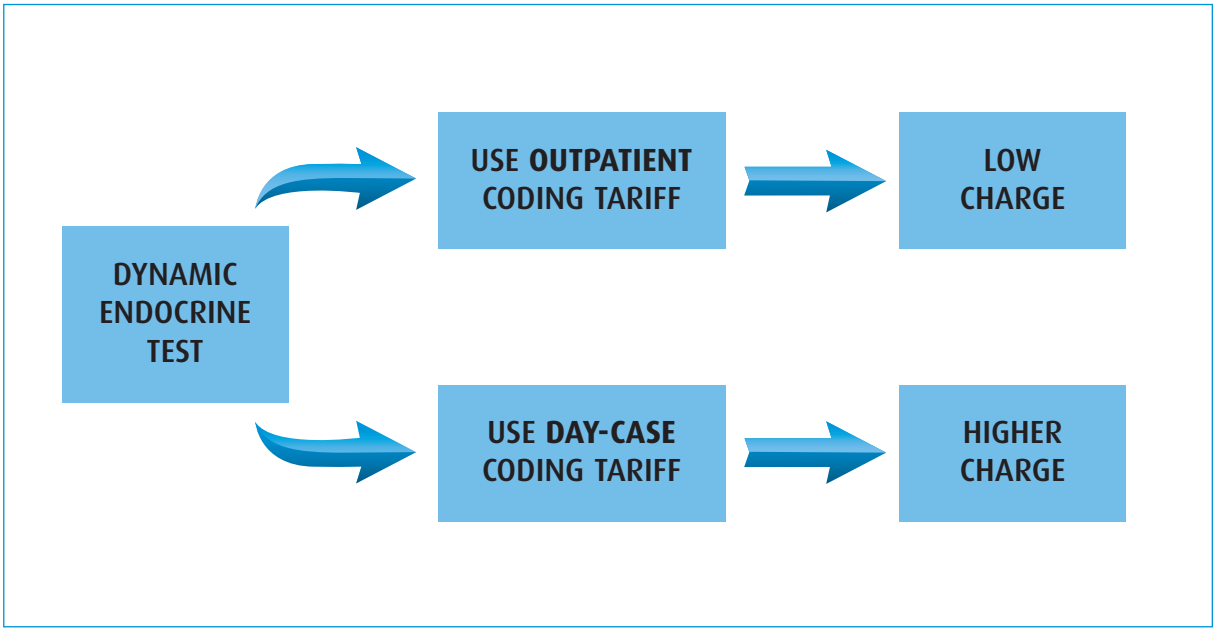
Once it has been established that the endocrine test is being conducted as a day case admission, we can consider how the funding for the test will be constructed. The payment is determined by the HRG (healthcare resource group), which is a nationally fixed tariff, derived from the elements of the day case admission. The clinical coding service will input a patient's diagnosis, their co-morbid conditions and the nature of the procedure undertaken. The coding algorithm will generate an HRG.

Theoretically, the HRG is derived from a combination of the diagnosis and procedure, as well as the admission method. However, in practice, with regard to day case endocrine tests, the HRG is exclusively derived from the diagnostic label given to the patient. For example, a patient with a pituitary mass who attends for an insulin stress test will generate the same HRG and same costing as one who attends for a water deprivation test, or any other test. If a patient has two dynamic tests done on the same day that makes no difference to the overall charge.

We have established that a patient having a dynamic endocrine test can legitimately be admitted as a day case and that the cost attached to that admission will be determined by the patient's coded diagnosis. Patients who are having endocrine investigations may have more than one diagnostic label. For example, a patient with cortisol excess due to an ACTH-secreting pituitary tumour could legitimately be coded either as Cushing's disease or as pituitary tumour, or as both.

Endocrinologists would probably instinctively emphasise the hormone abnormalities, but this may be unwise. It is important to be aware that, almost always, a hormone diagnosis attracts a lower charge than a tumour diagnosis.

So, to continue our example, a patient who is stated to have a pituitary tumour will be coded as an endocrine gland tumour, which will generate a HRG tariff code within the brain tumour category, whereas a patient who is only recorded as having Cushing's will attract an HRG tariff code within the anterior pituitary disorder category. Both labels are correct but the HRG for anterior pituitary disorder attracts about 15% lower costs than the brain tumour HRG. From a coding point of view it is important to ensure that any tumour the patient has is mentioned as part of the diagnosis.



Coding Cat	Diagnosis	HRG	Fee (approx)
No coding	–	–	£0
Outpatient attendance	–	–	£75-£150
Daycase admission	Cushing's disease	Anterior pituitary disorder (KA05B)	£600
	Pituitary tumour	Brain tumour (AA24Z)	£700

Some, but not all, HRGs recognise whether the patient has additional conditions that can complicate the primary diagnosis, and allocate a higher tariff. These will vary depending on the HRG generated. Unfortunately it isn't always clear which one(s) will trigger the higher tariff. A patient may have a handful of co-morbidities, but it may only be one that attracts the higher level.

To facilitate the above process you may find it helpful to use a coding summary sheet. This can convey the clinical information, without missing important details such as the presence of a tumour. Basic knowledge of how endocrine tests are coded can help your department avoid missing out on income to which it is entitled.

BEN WHITELAW, SIMON AYLWIN

With thanks to Claire Yates, Senior Clinical Coder at King's College Hospital, for her advice.

In summary:

- Find out how your hospital is funded for dynamic endocrine tests. If they are coded as outpatient attendances you may be receiving only 25% of the potential day case fee.
- If your patient has a tumour diagnosis, ensure that this information is available to the clinical coding department, so that your trust does not miss out on about 15% of the revenue available for the visit.
- Succinct information on co-morbidities is useful for coding and may help your trust avoid missing other income. There is a list of mandatory co-morbidities available that coders are required to capture.
- Structuring information for the coding department, for instance using a coding summary sheet, may ensure that they are fully informed.

'Pituitary PROMS': how and why should we assess pituitary patient satisfaction?

Why assess patient satisfaction?

When we audit patient outcomes in pituitary clinics, we tend to think in terms of surgical complications, residual tumour volumes, improvements in visual fields, pituitary function and biochemical control rates. We assume that if these outcomes are good, our patients will be satisfied. However, many external drivers now encourage us to assess 'patient-reported outcome measures' (PROMS) and seek regular 'service user feedback'. These include the NICE Improving Outcomes Guidance (IOG) for CNS tumours, and individual/team revalidation.

Most endocrinologists share an interest in the quality of life of their patients and in trying to identify and address unmet needs. We would like to embrace these drivers, rather than viewing them as 'tick box exercises', but how do we do this, within the constraints of current resources, and can we apply the same methodological standards that we use in our research to service improvement?

Our approach

In Brighton, we worked with Dr Sue Jackson using questionnaires that she had used previously for nationwide surveys on behalf of The Pituitary Foundation in 2005 and 2008. We focused a 4th year medical student project around conducting a needs analysis and patient satisfaction survey.

What we learnt

Neither we (as a team) nor our patients are doing as well as we thought! We found out about the lengthy diagnostic process many patients go through, with only a third of patients diagnosed in fewer than seven visits to their GP. We discovered a thirst for more written information across a breadth of topics, including diet and nutrition, professional support services and complementary services (this may be a 'Brighton' phenomenon!). A significant minority were dissatisfied with their treatment regimen.

The impact on patients' lives went beyond that appreciated during regular consultations, with a quarter having either given up work or accepted lower career prospects and a third dissatisfied with sex, although three-quarters were satisfied with their relationships. Although psychological morbidity was mostly mild to moderate, a third of patients had clinical levels of anxiety, a fifth had clinical levels of depression, and two-thirds had reduced quality of life in at least one of the domains assessed.

What next?

Results like these can be used to develop local action plans and support business cases for service development. There is also a need to develop simpler but properly validated tools to assess patient satisfaction and identify unmet

continued on page 20

'Pituitary PROMS' – *continued from page 19*

needs. It is evident that high levels of patient distress may not be identified by usual methods of clinical assessment, resulting in patients requiring more appointments with GPs and in hospital clinics, as well as contributing to patient dissatisfaction with care.

A 'distress thermometer' is a structured way for a nurse or other health care professional (HCP) to discuss with a patient some of the concerns (practical, emotional, physical and psychological) that they may be experiencing. Using the image of a thermometer scale, with a list of common difficulties specific to a particular patient group/condition, the patient and HCP discuss options for dealing with the top four difficulties the patient is experiencing at the time of the consultation (see the illustration). This may include action to be taken by the patient/HCP, or referral to other teams or services.

Distress thermometers are widely and effectively used in oncology services, though the current list of symptoms is not appropriate for use with a pituitary population. Although pituitary tumours are almost always benign, they are now included with other CNS tumours in cancer service provision. We feel this oncology consultation tool could be adapted for use with pituitary patients.

A pituitary distress thermometer

We need to complete several steps to develop a pituitary distress thermometer.

a) Generate a list of common difficulties (problems and symptoms) based on existing data, including the results of the 2008 Pituitary Foundation Treatment Satisfaction Survey.

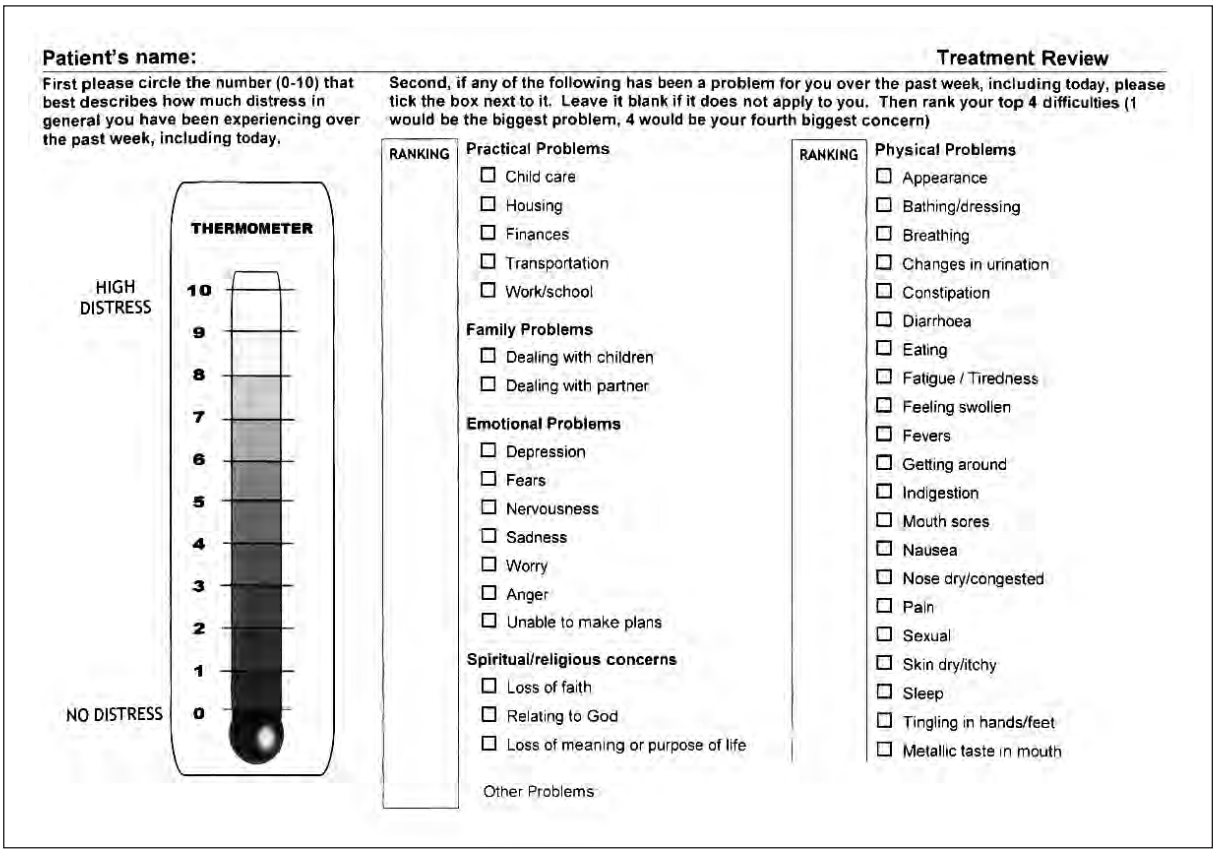
b) Using focus groups comprising patients, The Pituitary Foundation's medical advisory committee, and two psychology research academics, refine the list of common difficulties.

c) Submit the refined list to members of The Pituitary Foundation to identify those items which are, or have been, a source of concern or distress in relation to their pituitary conditions.

d) Generate a draft pituitary distress thermometer to pilot with patients.

We are currently in the process of applying for ethical approval to undertake the development work on the distress thermometer, with a view to beginning the necessary studies early this year.

ANNA CROWN, SUE JACKSON



Patient's name: **Treatment Review**

First please circle the number (0-10) that best describes how much distress in general you have been experiencing over the past week, including today.

THERMOMETER

HIGH DISTRESS — 10 9 8 7 6 5 4 3 2 1 — NO DISTRESS 0

Second, if any of the following has been a problem for you over the past week, including today, please tick the box next to it. Leave it blank if it does not apply to you. Then rank your top 4 difficulties (1 would be the biggest problem, 4 would be your fourth biggest concern)

RANKING

Practical Problems
- ☐ Child care
- ☐ Housing
- ☐ Finances
- ☐ Transportation
- ☐ Work/school

Family Problems
- ☐ Dealing with children
- ☐ Dealing with partner

Emotional Problems
- ☐ Depression
- ☐ Fears
- ☐ Nervousness
- ☐ Sadness
- ☐ Worry
- ☐ Anger
- ☐ Unable to make plans

Spiritual/religious concerns
- ☐ Loss of faith
- ☐ Relating to God
- ☐ Loss of meaning or purpose of life

Other Problems

RANKING

Physical Problems
- ☐ Appearance
- ☐ Bathing/dressing
- ☐ Breathing
- ☐ Changes in urination
- ☐ Constipation
- ☐ Diarrhoea
- ☐ Eating
- ☐ Fatigue / Tiredness
- ☐ Feeling swollen
- ☐ Fevers
- ☐ Getting around
- ☐ Indigestion
- ☐ Mouth sores
- ☐ Nausea
- ☐ Nose dry/congested
- ☐ Pain
- ☐ Sexual
- ☐ Skin dry/itchy
- ☐ Sleep
- ☐ Tingling in hands/feet
- ☐ Metallic taste in mouth

Front page of the distress thermometer currently used in cancer services

Insanity and career prospects

Hotspur considers the relative virtues of prayer and luck.

None of the three well-built endocrine secretaries even lifted their head as I entered their office. There was nothing unusual about their lack of curiosity, given the fact that it was 1pm and therefore lunchtime. The concentration and focus on the culinary delights from the hospital canteen amounted to reverence and was associated with a deep silence, with the exception of a faint buzz in the background due to rhythmic munching; the latter was reminiscent of whispered prayer and the whole scene put me in mind of a cathedral.

Prayer, incidentally, had been on my mind, as I had just driven back on the motorway to Manchester from a medical meeting in Leeds, and had a tyre blow-out at 60 miles per hour. Fortunately I was unhurt and able to pull over to the hard shoulder without touching any other vehicle or doing any further damage to my car. At the time I owned a heavy car and it was quite impossible to change a wheel without special equipment. I phoned the RAC and informed them about what had happened to my front tyre.

The uniformed man in the van appeared about 20–30 minutes later and, without any further discussion, set to removing my healthy rear left tyre. I was dumbfounded and in shock; I could not understand why he was removing a healthy rear tyre and leaving untouched the unhealthy front tyre. Yet I remained silent. Why? Well, I knew that technological advances in the car mechanical field were completely unknown to me; after all, I didn't even clean the car, let alone know how it worked! So, I clung onto the possibility that the RAC man would perform a mechanical miracle of the new age and I would be on my way.

After a few minutes, however, I could contain myself no longer.

Tentatively, I asked him, 'Why are you removing the rear tyre when the blow-out occurred in the front tyre?'

He looked at the car and then sighed deeply, 'Oh no, I am so sorry. To be honest I have been working all night and I am running on empty!'

Well, of course, I sympathised with his predicament, remembering far too readily how busy junior doctor nights on duty adversely affected my medical functioning in exactly the same way.

In the early years of my medical career ignorance about cars had only been matched by my ignorance of endocrinology. Despite a dream-like desire to become an endocrinologist, it was only when I attended a 2-week postgraduate course in endocrinology, based in London, that I realised the depth of my ignorance. Either I needed to learn some endocrinology or choose an alternative career specialty.

Well, as luck would have it, a clinical research fellowship in endocrinology was advertised in a teaching centre in the North of England several weeks later. At the interview there were two other candidates besides myself. In the waiting room, one spent the whole time curled up in a corner, whilst the other, a very large man from a Southern European country, paced up and down without a break. The big man did stop for a moment, however, to talk to me.

'I have driven here from London in 2 hours.' (It usually took me nearly 4 hours). 'I know who is going to get this job,' he stated confidently.

'Who?' I asked.

'Him!' he said, pointing to the curled-up one in the corner, who remained silent throughout.

Subsequently, I learnt that the curled-up one was in the middle of an acute schizophrenic breakdown and the big man had behaved quite bizarrely when he was interviewed by the Consultant Endocrinologist and Professor of Medicine.

Irrespective of how it had occurred and without knowing all the background, I was delighted to hear that I had been successful and the job was offered to me. The choice of words used by the Consultant Endocrinologist provided some insight into the reason for my success.

'We would like to offer you the position as you appear to be the least mad of the three candidates.'

HOTSPUR

FUTURE MEETINGS

ICE/ECE 2012
5–9 May 2012, Florence, Italy
Contact: ESE Secretariat
Tel: +44 (0)1454 642240
Email: ece2012@endocrinology.org
www.ice-ece2012.com/

XXIII EUROPEAN CONGRESS OF PERINATAL MEDICINE
13–16 June 2012, Paris, France
Contact: MCA Events
Tel: +39 02 349 344 04
Email: info@mcaevents.org
http://mcaevents.org/ecpm2012/

ENDO 2012
23–26 June 2012, Houston, Texas, USA
Contact: The Endocrine Society
Tel: 1-888-363-6762
Email: societyservices@endo-society.org
www.endo-society.org/meetings/Annual/index.cfm

5TH INTERNATIONAL WORKSHOP ON ADVANCES IN THE MOLECULAR PHARMACOLOGY AND THERAPEUTICS OF BONE DISEASE
27–30 June 2012, Oxford, UK
Contact: Janet Crompton
Tel: +44 (0)1453 549929
Email: janet@janet-crompton.com
www.oxfordbonepharm.org/

SOCIETY FOR EXPERIMENTAL BIOLOGY ANNUAL MAIN MEETING 2012
29 June–2 July 2012, Salzburg, Austria
Contact: Talja Dempster
Email: t.dempster@sebiology.org
www.sebiology.org/meetings/Diary.html

28TH ANNUAL MEETING OF THE EUROPEAN SOCIETY OF HUMAN REPRODUCTION AND EMBRYOLOGY
1–4 July 2012, Istanbul, Turkey
Contact: Ebru Ersan
Tel: +90 212 381 46 38
Email: ebruersan@figur.net
http://bit.ly/wkH10L

PHYSIOLOGY 2012
3–5 July 2012, Edinburgh, UK
Contact: Conference Organiser; Email info@physiology2011.org
www.physiology2012.org/

ESE SUMMER SCHOOL ON ENDOCRINOLOGY
29 July–2 August 2012, Bregenz, Austria
Contact: Liz Stone
Tel: +44 (0)1454 642247
Email: info@euro-endo.org
www.euro-endo.org/default.aspx

36TH ANNUAL MEETING OF THE EUROPEAN THYROID ASSOCIATION
8–12 September 2012, Pisa, Italy
Contact: European Thyroid Association
Tel: +49 (0) 9402-94811-11
Email: euro-thyroid-assoc@endoscience.de
www.eurothyroid.com/showevent.php?id=14

16TH CONGRESS OF THE EUROPEAN FEDERATION OF NEUROLOGICAL SOCIETIES
8–11 September 2012, Stockholm, Sweden
Contact: Congress secretariat
Email: efns2012@kenes.com
http://efns2012.efns.org/

15TH CONGRESS OF THE EUROPEAN NEUROENDOCRINE ASSOCIATION
12–15 September 2012, Vienna, Austria
Contact: Prof Anton Luger
Tel: +43 1 40400/4310
Email anton.luger@meduniwien.ac.at
www.enea2012.org/home.html

82ND ANNUAL MEETING OF THE AMERICAN THYROID ASSOCIATION
19–23 September 2012, Quebec, Canada
Contact: American Thyroid Association
Tel: +1 (703) 998-8890
Email: thyroid@thyroid.org
www.thyroid.org/ann_mtg/2012_82nd/index.html

51ST EUROPEAN SOCIETY FOR PAEDIATRIC ENDOCRINOLOGY MEETING
20–23 September 2012, Leipzig, Germany
Contact: ESPE Secretariat
Tel: +44 (0)1454 642 246
Email: espe@eurospe.org
www.eurospe.org/meetings/

THE EMBO MEETING 2012
22–25 September 2012, Nice, France
Contact: MCI
Email embo@mci-group.com
www.the-embo-meeting.org

WORLD CONGRESS ON REPRODUCTIVE BIOLOGY
9–12 October 2012, Cairns, Australia
Contact: ASN Events Pty Ltd
Tel: +61 (0) 3 5983 2400
Email hp@asnevents.net.au
www.wcrb2011.org/

12TH ESE POSTGRADUATE COURSE IN CLINICAL ENDOCRINOLOGY
18–21 October 2012, Antalya, Turkey
Contact: European Society of Endocrinology
Tel: +44 1454 642247
Email: info@euro-endo.org
www.euro-endo.org/education/index.aspx

40TH MEETING OF THE BRITISH SOCIETY FOR PAEDIATRIC ENDOCRINOLOGY AND DIABETES
7–9 November 2012, Leeds, UK
Contact: Conference Secretariat
Tel: +44 (0)1454 642 240
Email: BSPED@endocrinology.org
www.bsped.org.uk/meetings/index.html

SOCIETY FOR ENDOCRINOLOGY CLINICAL UPDATE 2012
5–7 November 2012, Stratford-upon-Avon, UK
Contact: BioScientifica Ltd
Tel +44 (0)1454 642 210
Email: conferences@endocrinology.org
www.endocrinology.org/meetings/clinicalupdate/index.aspx

40TH MEETING OF THE BRITISH SOCIETY FOR PAEDIATRIC ENDOCRINOLOGY AND DIABETES
7–9 November 2012, Leeds, UK
Contact: Bioscientifica Ltd
Tel +44 (0) 1454 642 240
Email: BSPED@endocrinology.org
www.bsped.org.uk/meetings/index.html

UKI NETS 10TH NATIONAL CONFERENCE
4 December 2012, London, UK
Contact: UKI NETS Secretariat
Tel: +44 (0)1454 642277
Email: enquiries@ukinets.org
www.ukinets.org/events/index.aspx

METABOLISM AND ENDOCRINOLOGY THEMED MEETING
11–13 December 2012, London, UK
Contact: The Physiological Society
Email events@physoc.org
www.physoc.org/me2012

BRITISH PHARMACOLOGICAL SOCIETY WINTER MEETING 2012
18–20 December 2012, London, UK
Contact: British Pharmacological Society
Email info@bps.ac.uk
www.bps.ac.uk/details/meeting/984911/BPS-Winter-Meeting-London-.html

SOCIETY FOR ENDOCRINOLOGY BES 2013
18–21 March 2013, Harrogate, UK
Contact: Conference Secretariat
Tel +44 (0)1454 642210
Email conferences@endocrinology.org
www.endocrinology.org/meetings/

EXPERIMENTAL BIOLOGY 2013
20–24 April 2013, Boston, USA
Contact: Experimental Biology
Email eb@faseb.org
http://experimentalbiology.org/content/AboutEB.aspx

15TH EUROPEAN CONGRESS OF ENDOCRINOLOGY
27 April–1 May 2013, Copenhagen, Denmark
Contact: ESE secretariat
Tel +44 (0)1454 642 217
Email: info@euro-endo.org
www.euro-endo.org/meetings/meetings_conferences.htm

ENDO 2013
15–18 June 2013, San Francisco, USA
Contact: The Endocrine Society
Email societyservices@endo-society.org
www.endo-society.org/meetings/Annual/index.cfm

SOCIETY FOR ENDOCRINOLOGY BES 2014
24–27 March 2014, Liverpool, UK
Contact: Conference Secretariat
Tel +44 (0)1454 642210
Email conferences@endocrinology.org
www.endocrinology.org/meetings/

16TH EUROPEAN CONGRESS OF ENDOCRINOLOGY
3–7 May 2014, Wroclaw, Poland
Contact: ESE secretariat
Tel: +44 (0)1454 642 217
Email info@euro-endo.org
www.euro-endo.org/meetings/meetings_conferences.htm

ENDO-ICE 2014
21–24 June 2014, Chicago, USA
Contact: The Endocrine Society
Email societyservices@endo-society.org
www.endo-society.org/meetings/Annual/index.cfm

53RD ESPE MEETING
18–21 September 2014, Dublin, Ireland
Contact: ESPE Secretariat
Tel: +44 (0)1454 642246
Email espe@eurospe.org
www.eurospe.org/meetings/

For more meetings, visit www.bioscievents.com

Hot Topics

Journal of Endocrinology

Igfbp1 KO: prostate cancer and metabolism

Prostate cancer is the most common cancer in men. Increased IGFBP1 levels may protect against its development. Gray *et al.* crossed and interbred c-Myc transgenic mice (WT) with Igfbp1 knockout (KO) mice to investigate whether deleting Igfbp1 accelerates development of prostate cancer. No difference in the incidence of the disease or in total IGF1 levels was seen between WT and KO mice.

Read the full article in *Journal of Endocrinology* **211** 299–306

Testosterone prevents prostate inflammation in metabolic syndrome

High-fat diet (HFD)-induced metabolic syndrome is associated with hypogonadism and prostate inflammation. Vignozzi and colleagues examined the effects of testosterone supplementation using male rabbits fed an HFD. Testosterone led to increased expression of prostate proinflammatory marker mRNA and amelioration of all HFD-induced features, including hypoxia and fibrosis. This may be informative in preventing benign prostate hyperplasia and lower urinary tract symptoms.

Read the full article in *Journal of Endocrinology* **212** 71–84

Regulation of glucose homeostasis

Somatostatin is important in regulating neurotransmission and secretion. Octreotide, a somatostatin analogue, is used to treat acromegaly and neuroendocrine tumours. Schmid & Brueggen investigated another analogue, pasireotide, which has therapeutic potential in Cushing's disease. The two analogues inhibited insulin levels in rats to a similar degree, but only pasireotide led to transient hyperglycaemia. This increases our knowledge of effects of somatostatin analogues in glucose homeostasis.

Read the full article in *Journal of Endocrinology* **212** 49–60

Journal of Molecular Endocrinology

TNFRSF11B and low BMD

Osteoprotegerin (OPG) negatively regulates osteoclastogenesis. Polymorphisms of TNFRSF11B, the OPG gene, are linked to osteoporosis. Vidal *et al.* investigated two polymorphisms with strong linkage disequilibrium to each other, C950T and rs4876869. The C allele of rs4876869 affected pre-mRNA splicing, giving two transcripts, one lacking exon 3, leading to a less effective OPG isoform. The T allele of C950T increased low BMD risk in postmenopausal women by decreasing OPG expression. Haplotypes C-G-T and C-C-C had protective roles.

Read the full article in *Journal of Molecular Endocrinology* **47** 327–333

miRNAs in follicular thyroid tumours

MicroRNAs (miRNAs) are abnormally expressed or lost in several cancers, so Rossing and colleagues investigated their use in tumour classification. They found differentially expressed miRNAs in follicular thyroid carcinoma and adenoma. Transcript miR-199b-5p (lost in the carcinoma) decreased cell doubling time by ~23%, indicating a possible role in follicular carcinoma growth. miRNA analysis may aid diagnosis of follicular thyroid cancer.

Read the full article in *Journal of Molecular Endocrinology* **48** 11–23

Endocrine-Related Cancer

Proliferation response to short-term endocrine therapy

Letrozole is an aromatase inhibitor used in ER-positive breast cancer. Bedard and colleagues used the gene expression grade index (GGI) to determine clinical response to neoadjuvant letrozole. Women with low genomic grade tumours were more likely to respond to 3 months of letrozole. GGI was a useful predictive biomarker of response to neoadjuvant anti-oestrogen therapy in post-menopausal patients with ER-positive breast cancer.

Read the full article in *Endocrine-Related Cancer* **18** 721–730

Oxidative stress and thyroid cancer

High production of reactive oxygen species can cause oxidative stress, which is involved in cancer pathophysiology. Wang and colleagues investigated the relationship between markers of oxidative stress and serum thyroid profiles in thyroid cancer. The ratio of total oxidant status to total antioxidant status was significantly higher in patients than in controls. This was the best marker to distinguish cancer patients from other thyroid patients.

Read the full article in *Endocrine-Related Cancer* **18** 773–782

Clinical Endocrinology

Adipogenic capacity and metabolic syndrome

Understanding regulation of abdominal fat mass is important in treating metabolic syndrome. In their commentary, Lansdown *et al.* discuss research by Park and colleagues, which suggests that enhanced adipogenic capacity of subcutaneous fat depots may protect against the syndrome. They discuss 'adipose tissue expandability': the idea that individuals have limited adipose tissue expansion, after which lipid is deposited in non-adipose organs, leading to insulin resistance and other metabolic problems. The study supports the concept that subcutaneous adipogenic potential may help determine metabolic risk.

Read the full article in *Clinical Endocrinology* **76** 59–66
Commentary *Clinical Endocrinology* **76** 19–20

Lipoprotein alterations and GH in obesity

GH-deficient (GHD) subjects have increased cardiovascular morbidity and mortality due to premature atherosclerosis. This has been linked to pro-atherogenic lipoprotein alterations. Rizzo & Mikhailidis's commentary considers findings by Makimura *et al.* that smaller LDL and HDL particles are increased in obese GHD subjects, in relation to obese subjects with normal GH or non-obese subjects. It is likely that obesity results in GHD, and reduced GH further contributes to abnormal lipoprotein particle size in obesity.

Read the full article in *Clinical Endocrinology* **76** 220–227
Commentary *Clinical Endocrinology* **76** 177–178

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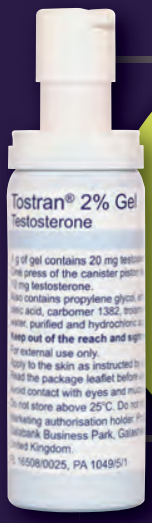
Hypogonadism – an endocrine issue which causes significant morbidity and substantial reduction in quality of life[1]



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Please refer to Summary of Product Characteristics (SPC) before prescribing.
Presentation
Tostran 2% Gel, contains testosterone, 20 mg/g.
Indications
Replacement therapy with testosterone for male hypogonadism when testosterone deficiency has been confirmed by clinical symptoms and laboratory analyses.
Posology
The starting dose is 3 g gel (60 mg testosterone) applied once daily at approximately the same time each morning to clean, dry, intact skin, alternately on the abdomen or to both inner thighs. Adjust dose according to clinical and laboratory responses. Do not exceed 4 g of gel (80 mg testosterone) daily. Patients who wash in the morning should apply Tostran after washing, bathing or showering. Do not apply to the genitals. Do not use in women, or children under the age of 18 years.
Contraindications
Known or suspected carcinoma of the breast or the prostate; hypersensitivity to any of the ingredients.
Special warnings and precautions for use
Tostran should not be used to treat non-specific symptoms suggestive of hypogonadism if testosterone deficiency has not been demonstrated and if other aetiologies responsible for the symptoms have not been excluded. Not indicated for treatment of male sterility or sexual impotence. All patients must be pre-examined to exclude a risk of pre-existing prostatic cancer. Perform careful and regular monitoring of breast and prostate. Androgens may accelerate the development of subclinical prostatic cancer and benign prostatic hyperplasia. Oedema with/without congestive heart failure may be a serious complication in patients with pre-existing cardiac, renal or hepatic disease. Discontinue immediately if such complications occur. Use with caution in hypertension as testosterone may raise blood pressure. Use with caution in ischemic heart disease, epilepsy, migraine and sleep apnoea as these conditions may be aggravated. Care should be taken with skeletal metastases due to risk of hypercalcaemia/hypercalcuria. Androgen treatment may result in improved insulin sensitivity. Inform the patient about the risk of testosterone transfer and give safety instructions. Health professionals/carers should use disposable gloves resistant to alcohols.
Interactions
When androgens are given simultaneously with anticoagulants, the anticoagulant effect can increase and patients require close monitoring of their INR. Concurrent administration with ACTH or corticosteroids may increase the likelihood of oedema and caution should be exercised.
Undesirable effects
Very common (≥1/10): application site reactions (including paresthesia, xerosis, pruritis, rash or erythema); common (≥1/100, <1/10): increased haemoglobin, haematocrit; increased male pattern hair distribution; hypertension; gynaecomastia; peripheral oedema; increased PSA. Certain excipients may cause irritation and dry skin. Consult SPC for other undesirable effects of testosterone.
Pack Size and Price
Packs containing one or three 60 g metered-dose canisters per pack. Price £26.67 per canister.

Legal Category POM
Further information is available from the Marketing Authorisation Holder ProStrakan Limited, Galabank Business Park, Galashiels, TD1 1QH, UK.
Marketing Authorisation Number PL16508/0025

 Date of PI Preparation: September 2010

Adverse events should be reported. Reporting forms and information can be found at www.yellowcard.gov.uk. Adverse events should also be reported to ProStrakan Limited on 01896 664000.

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2. Dumas C. Poster presented at the 25th Scandinavian Meeting of Urology, Göteborg, June 2005
3. MIMS June 2011
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M015/1131 Date of preparation June 2011