

# THE ENDOCRINOLOGIST

THE MAGAZINE OF THE SOCIETY FOR ENDOCRINOLOGY

## The Female of the Species **AS PIONEERS AND PATIENTS**

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# A word from THE EDITOR...



Welcome to our spring issue, with the theme of women and women's health. Its publication in March, shortly after International Women's Day, inspired us to celebrate all things female!

And so it is packed with interviews with Wiebke Arlt and Morag Young, and sound bites from a broad selection of women in endocrinology, who share with us their inspiration for choosing and staying in the discipline, along with the challenges they face. We have a career perspective from Lucilla Poston, recalling highlights from her career in maternal and child health, and considering the future challenges and possibilities for innovation that developments in this area bring (**page 15**).

At *The Endocrinologist* HQ, we have had changes to the Editorial Team and an influx of new Board members. Accordingly, we have taken the opportunity to introduce them to you, and to showcase their expertise, which spans the breadth of many endocrine disciplines and geographical locations (**page 18**). We look forward to their contributions over their terms of office. A huge thanks is due to outgoing board members Louise and Venkat, for their dedication and involvement.

Reading the 'Ode to SfE', penned by our General Secretary, Ruth Andrew (**page 26**), has made me reflect on how the Society has been a consistent, supportive part of my career, which I'm sure will resonate with many of you. From a personal perspective, those travel grants awarded when I was an early career researcher were integral to enabling my attendance at international meetings, and therefore valuable conversations and interactions with field leaders and inspirational women in endocrinology. Like Ruth, it's good to now see the 'circle of lab life', with my group members now benefiting from these same schemes, and the opportunities to be inspired by thought leaders, as we were and continue to be.

With best wishes

KIM JONAS

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

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

Deadline for news items for the SUMMER 2024 issue: **17 April 2024**.

Front cover image ©Shutterstock

**DISCOVER YOUR LEADERSHIP POTENTIAL**

Applications are now open for the Society’s Leadership and Development Awards Programme, which nurtures emerging talent in our field. Participants get access to leadership development training, dedicated networking opportunities, and the chance to gain experience in the Society’s governance. This year we are welcoming applications from all membership categories. Apply by **1 May 2024**. [Find out more and apply!](#)



**COULD YOU SET UP A STAND FOR ADDISON'S DISEASE?**

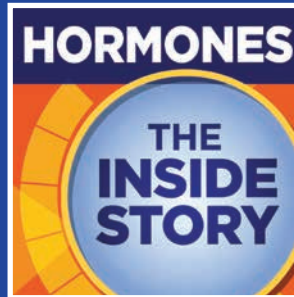
Did you know that it's Addison's Disease Day on 29 May?

The Addison's Self-Help Group (ADSHG) is encouraging health professionals to increase understanding and recognition of the condition by setting up an awareness stand in your hospital or clinic.

[Find inspiration on ADSHG's website](#)

**HAVE YOU HEARD OUR AWARD-WINNING PODCAST?**

- Do your hormones make you horny?
- Can your pet pick up your stress?
- And are you tired because of your thyroid?



Series 3 of the Society’s award-winning podcast, Hormones: The Inside Story, explores these questions and more. Make sure you tune in, and share the series with anyone you know who'd enjoy learning more about hormones!

[Listen to our all-new episodes](#)

**SOCIETY CALENDAR**

1 October 2024  
**NATIONAL TRAINING SCHEME FOR THE USE OF RADIOIODINE IN BENIGN THYROID DISEASE**  
Birmingham, UK

14–15 October 2024  
**JOINT IRISH-UK ENDOCRINE MEETING**  
Belfast, UK

10–12 March 2025  
**SfE BES CONFERENCE**  
Harrogate, UK

26 May 2024  
**NEXT GRANT DEADLINE**

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

**THE NEXT GENERATION OF DATA REGISTRIES**

We've joined forces with the health app provider PeopleWith to develop the next generation of data registries, featuring a wealth of holistic patient data. Our registries include an abundance of real-world evidence to enhance your clinical decision making, and advance research in endocrine care.

[Explore live registries and see how you can get involved](#)



**ADD YOUR EXPERTISE TO OUR CLINICAL RESOURCE HUB**

Has your clinic introduced measures to improve your practice or service delivery?

If the answer is yes, you could help unify patient care by sharing your information with our member community on the Clinical Resource Hub. Currently, we are looking for resources relating to clinical pathway guides, virtual care, patient initiated follow up, and patient safety.

[Access the Resource Hub](#) in the Members' Area

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# HOT TOPICS



Hot Topics is written by Victoria Chatzimavridou-Grigoriadou, Sophie Clarke, Craig Doig, Edouard Mills, Gareth Nye and Vincent Simpson

## SOCIETY FOR ENDOCRINOLOGY OFFICIAL JOURNALS

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



### JOURNAL OF ENDOCRINOLOGY

#### Sex differences in the cardiovascular effect of GnRH analogues

Gonadotrophin-releasing hormone (GnRH) analogues inhibit sex steroid synthesis, with applications in the management of a variety of conditions. Despite their widespread use, concerns arise about unintended cardiovascular effects. In males undergoing androgen deprivation therapy for prostate cancer, the use of GnRH analogues appears to elevate the risk of cardiovascular disease. Alternatively, women undergoing treatment with GnRH analogues for breast cancer seem to face an elevated likelihood of developing hypertension.

This narrative review by Lim *et al.* explores the applications of GnRH analogues in adults, adolescents and children. It examines the potential role of sex in the cardiovascular effects of GnRH analogues, and the significance of sex hormone receptors in the vasculature. Additionally, confounding factors such as malignancy, advanced age and infertility are taken into consideration.

Read the full article in *Journal of Endocrinology* **261** e230309  
<https://doi.org/10.1530/JOE-23-0309>



### JOURNAL OF MOLECULAR ENDOCRINOLOGY

#### Raised insulin insults cells through endoplasmic reticulum stress

We are constantly looking to further our fundamental understanding of type 2 diabetes (T2DM), to combat its increasing global impact on health. One area of investigation is the connection between insulin resistance and cellular damage, specifically in relation to stress in the endoplasmic reticulum (ER). Excessive insulin folding is considered a harmful driver of  $\beta$ -cell dysfunction through the development of ER stress and oxidative stress.

In this novel study, Vidrio-Huerta and colleagues developed an experimental cell model with an inducible system for human insulin expression (Tet-On INS), for glucose-independent induction of insulin synthesis. Using this model, they examined the effects of elevated insulin folding, distinctive for the compensatory phase of early T2DM, on luminal  $H_2O_2$  generation, ER stress, cell viability and cell dysfunction. The paper also highlights some very nice fluorescence work, and a number of images are included to confirm the findings, which is always a joy to see!

Elevated insulin synthesis was shown to increase  $H_2O_2$  generation inside the ER, which was abolished by ER catalase. This supports the theory that insulin elevation alone causes insult to cells, which could lead to early resistance. This finding may play a pivotal role in the diagnosis and treatment of early T2DM.

Read the full article in *Journal of Molecular Endocrinology* **72** e230087  
<https://doi.org/10.1530/JME-23-0087>



## ENDOCRINE HIGHLIGHTS

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

#### Sperm motility after dietary interventions in men with obesity

Globally, sperm counts have halved over the past 50 years, while rates of obesity have increased. With obesity known to be associated with reduced semen quality, affecting all parameters, dietary interventions may offer a therapeutic option to improve sperm quality.

To investigate this possibility, Sharma and colleagues conducted a randomised controlled trial, where men with obesity with a normal sperm count ( $n=24$ ) and those with oligozoospermia ( $n=43$ ) were randomised to receive either a low energy diet ( $<800$  kcal/day) or brief dietary intervention with 16 weeks' observation.

In the group of men with normal sperm counts and in those with oligozoospermia, total motility and progressive motility increased after either intervention. Upon comparing the two interventions, there was no difference observed for either total motility or progressive motility in either group.

This study demonstrates that lifestyle measures are able to improve semen quality in patients with obesity, with no difference between low energy diet or brief dietary intervention.

Read the full article in *Journal of Clinical Endocrinology & Metabolism* **109** 449–460  
<https://doi.org/10.1210/clinem/dgad523>





## ENDOCRINE-RELATED CANCER

### Adrenal manifestations in MEN1

In this retrospective, single-centre study, Clemente-Gutierrez *et al.* explored the often under-appreciated adrenal manifestations found in multiple endocrine neoplasia type 1 (MEN1), which extend beyond the condition's classical trio of parathyroid, pancreas and pituitary glands.

They discovered that 23.3% of 382 MEN1 patients exhibited adrenal lesions. The findings reveal a nuanced picture: among 101 measurable nodular lesions (average size 17.5mm), 78.2% were monitored without immediate intervention. Notably, 35.4% of these lesions showed growth, prompting surgery in four cases, due to alarming radiological characteristics. This resulted in two diagnoses of neoplasms with uncertain malignant potential, one diffuse adrenal enlargement, and one adrenocortical carcinoma.

Functional assessment conducted in 38 patients was positive in 6 individuals, with the majority undergoing surgery. The presence of pheochromocytoma ( $n=2$ ), hyperandrogenism due to adrenocortical carcinoma ( $n=1$ ), and adrenocorticotrophic hormone-dependent hypercortisolism with diffuse adrenal enlargement ( $n=2$ ) underscores the diversity and potential severity of adrenal involvement in MEN1.

Overall, this study suggests baseline hormonal evaluation for lesions  $>1$ cm, emphasising vigilance for malignancy in lesions exhibiting significant growth or suspicious radiological features, and the critical need for comprehensive screening and tailored management in patients with MEN1.

Read the full article in *Endocrine-Related Cancer* **31** e230162  
<https://doi.org/10.1530/ERC-23-0162>



## CLINICAL ENDOCRINOLOGY



### Limitations of common sleep apnoea screening tests in acromegaly

Obstructive sleep apnoea (OSA) is common in acromegaly, and can persist even with good control of growth hormone/insulin-like growth factor-1 levels. Given that OSA is independently associated with metabolic and cardiovascular dysfunction, assessment is recommended in acromegaly.

This study by Powlson *et al.* investigated the performance of two commonly used OSA screening tests – the Epworth Sleepiness Scale (ESS) questionnaire and overnight pulse oxygen desaturation index (DI) – versus gold standard polysomnography, in 40 newly diagnosed, treatment-naïve patients with acromegaly.

They demonstrated that OSA (as defined by the apnoea–hypopnoea index; AHI) measured during gold standard polysomnography, was present in 79% of their cohort (mild  $n=12$ , moderate  $n=5$ , severe  $n=14$ ). However, they observed significant discrepancies between OSA screening tests and polysomnography. In patients with OSA by AHI criteria, ESS (positive in only 35%,  $n=11$ ) and DI (positive in 71%: mild  $n=11$ , moderate  $n=6$ , severe  $n=5$ ) were shown to markedly underestimate its prevalence/severity in their cohort of patients with acromegaly.

Based on their findings, the authors advocate the use of polysomnography in all patients with newly diagnosed acromegaly to allow early identification/treatment of sleep disordered breathing.

Read the full article in *Clinical Endocrinology* **100** 251–259  
<https://doi.org/10.1111/cen.14994>

## ENDOCRINOLOGY, DIABETES & METABOLISM CASE REPORTS

### Adrenal crisis in pregnancy: a difficult but important diagnosis

Adrenal crisis, though rare during pregnancy, poses a significant challenge in diagnosis due to physiological changes in adrenocorticotrophin (ACTH) production and cortisol binding. Non-haemorrhagic adrenal infarction (NHAI) is a rare complication of pregnancy (1.3% of flank pain), with symptoms mimicking other common pregnancy-related issues.

Menon *et al.* report the case of a 36-week pregnant 25-year-old woman presenting with severe left flank pain, hypotension (111/65mmHg), tachycardia (129bpm), hypoglycaemia (3mmol/l), and hyponatraemia (125mmol/l). Despite intravenous fluids, antibiotics and glucose, she continued to deteriorate.

A computed tomography pulmonary angiogram was negative for a pulmonary embolism, but showed an incidental left adrenal mass (1.9cm). ACTH (220.8ng/l) and 09.00am cortisol (212nmol/l) confirmed adrenal insufficiency, and she was promptly treated with steroid replacement. She went on to have a successful birth (induction at 38+5 weeks) and resolution of adrenal insufficiency (16 months postpartum, short synacthen test 634nmol/l). An abdominal magnetic resonance imaging scan post-birth was consistent with NHAI.

Diagnosing adrenal insufficiency during pregnancy is challenging but crucial. NHAI, though rare, should be considered in abdominal pain presenting in pregnancy. The case highlights the importance of vigilance in diagnosing and managing adrenal crises during pregnancy.

Read the full article in *Endocrinology, Diabetes & Metabolism Case Reports* EDM-23-0093 <https://doi.org/10.1530/EDM-23-0093>



# HORMONES FOR BONE HEALTH IN FUNCTIONAL HYPOTHALAMIC AMENORRHOEA

WRITTEN BY JOVANNA TSOUTSOUKI AND ALEXANDER N COMNINOS



Functional hypothalamic amenorrhoea (FHA) is the second most common cause of amenorrhoea among premenopausal women.<sup>1</sup> Usually associated with negative energy balance, FHA occurs in up to 80% of women with anorexia nervosa, in up to 66% of women who exercise intensely, and it can also be triggered by psychological stress.<sup>1</sup> Ultimately, these factors suppress the hypothalamo-pituitary-gonadal axis, resulting in menstrual interruption.

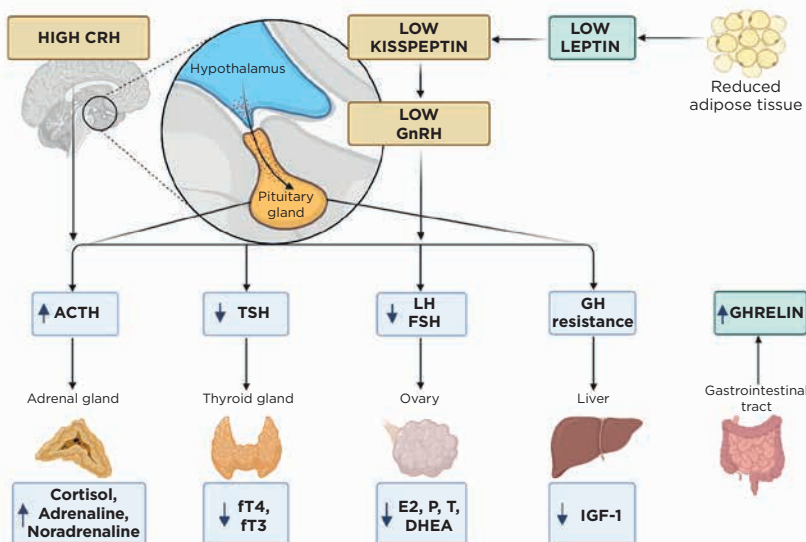
The endocrine imbalance in FHA (largely an adaptive response to conserve energy, Figure 1) disrupts bone health, leading to an increased fracture risk.<sup>1</sup> Indeed, in amenorrhoeic women with anorexia nervosa and in oligo-amenorrhoeic athletes, bone microarchitecture and bone mineral density (BMD) are dramatically impaired, resulting in a fracture prevalence almost double that of healthy eumenorrhoeic women.<sup>2</sup> Early bone health assessment is therefore essential in these women, especially if amenorrhoea persists for 6 months or more.<sup>1</sup>

## ENDOCRINE IMBALANCE IN FHA IMPACTS BONE

Bone health in FHA is disrupted primarily due to oestrogen deficiency, causing heightened osteoclastic bone resorption and reduced osteoblastic bone formation through several signalling pathways (Figure 2).

However, additional endocrine changes also negatively impact bone (Figures 1 and 2).<sup>3</sup> For example, chronic starvation causes growth hormone resistance, reducing circulating insulin-like growth factor-1 (IGF-1), an osteoanabolic hormone, by up to 50%. In addition, chronic starvation decreases thyrotrophin and thyroid hormones, correlating with lower BMD. Low adiposity in FHA results in reduced leptin, resulting in direct negative

**Figure 1.** The endocrine imbalance in FHA usually occurs secondary to calorie restriction with low weight in anorexia nervosa, excess intense exercise or high stress levels. ACTH, adrenocorticotrophin; CRH, corticotrophin-releasing hormone; DHEA, dehydroepiandrosterone; E2, oestradiol; FSH, follicle-stimulating hormone; ft3, free tri-iodothyronine; ft4, free thyroxine; GH, growth hormone; GnRH, gonadotrophin-releasing hormone; IGF-1, insulin-like growth factor-1; LH, luteinising hormone; P, progesterone; T, testosterone; TSH, thyrotrophin. Created with BioRender



effects on bone microarchitecture, and reductions in other osteoanabolic hormones. Furthermore, stress increases cortisol levels which correlate negatively with BMD.<sup>3</sup>

## CLINICAL CONSIDERATIONS

In the endocrine–bone clinic, clinicians should explore factors such as eating patterns, exercise routine, stress and the patient's understanding of the link between menstrual cyclicity and bone health. The age of onset of amenorrhoea is important, with a lower BMD observed when onset occurs during adolescence compared with adulthood, despite comparable duration of amenorrhoea.<sup>3</sup> This highlights the importance of early identification of FHA for bone health.

Women should ensure a calcium intake >700mg/day with serum 25(OH) vitamin D levels >50nmol/l (with supplements if required).<sup>1</sup> Lifestyle adjustments focusing on weight gain, nutritional improvements, exercise adjustments and stress reduction to promote menstrual restoration are crucial. Indeed, both weight gain and menstrual resumption independently improve BMD. However, the impact of these measures on BMD improvement varies, with full restoration not guaranteed.<sup>1</sup> When amenorrhoea persists despite 6–12 months of efforts to address the aetiology, oestrogen therapy should be considered for bone health.<sup>1</sup>

## OESTROGEN REPLACEMENT FOR BONE HEALTH

Current evidence supports the use of *transdermal* hormone replacement therapy (HRT) (containing 'physiological' 17 $\beta$ -oestradiol with cyclic progestin), in preference to oral HRT or combined oral contraceptives (COCP), as the optimal management for bone health in women with FHA.<sup>3</sup>

This is largely based on a 12-month randomised study involving 121 young oligo-amenorrhoeic athletes, demonstrating that transdermal HRT (containing 100 $\mu$ g 17 $\beta$ -oestradiol twice-weekly) improved lumbar spine and femoral neck BMD by 2–4% more than COCP (containing 30 $\mu$ g ethinyl oestradiol; EE) or no oestrogen treatment. In fact, women receiving COCP exhibited a decline in total hip BMD.<sup>4</sup> Importantly, there were no differences in weight or menstrual function during the study, thereby directly attributing the observed bone effects to the properties of transdermal HRT compared with COCP. Consistent with this, a randomised placebo-controlled study showed that supraphysiological EE (35 $\mu$ g) in COCP does not improve BMD in subjects with anorexia nervosa.<sup>5</sup>

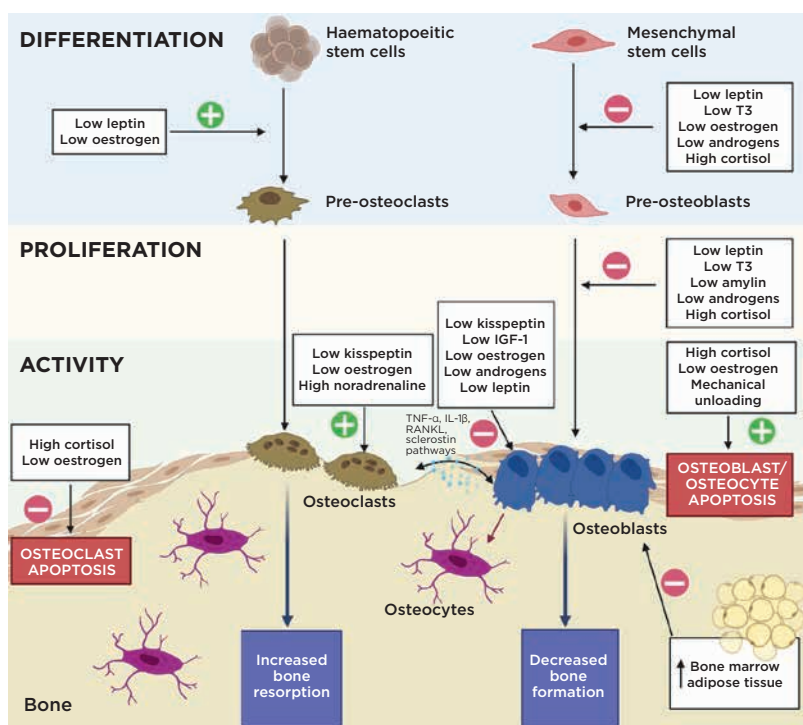
The benefits of transdermal HRT have been further demonstrated over 18 months in women with anorexia nervosa, showing up to 3% improved lumbar BMD.<sup>6</sup> Such observations were corroborated by a meta-analysis of 770 women with FHA. Among COCP, conjugated oral oestrogen and transdermal HRT, only use of transdermal HRT was associated with increases in lumbar BMD.<sup>7</sup>

Collectively, these findings are primarily attributed to the fact that oral (but not transdermal) oestrogen undergoes hepatic first-pass metabolism. This leads to downregulation of the osteoanabolic hormone IGF-1 by up to 30%, thus exacerbating the IGF-1-deficient state existing in FHA, and further compromising bone health.<sup>8</sup>

In addition, most COCPs utilise supraphysiological doses of EE, hence it remains unclear whether lower oral EE doses or other oral oestrogen forms might be less detrimental, or even beneficial, to bone health. To this end, postmenopausal women on 30 $\mu$ g EE were found to have significantly greater



**Figure 2.** The endocrine imbalance in FHA negatively affects bone homeostasis through a variety of mechanisms. IGF-1, insulin-like growth factor-1; IL-1 $\beta$ , interleukin-1 $\beta$ ; T3, tri-iodothyronine; TNF- $\alpha$ , tumour necrosis factor- $\alpha$ . Created with BioRender



IGF-1 reductions (37%) compared with those receiving 20 $\mu$ g EE (30%), suggesting a dose–effect on IGF-1.<sup>9</sup>

Furthermore, oral (but not transdermal) oestrogens stimulate sex hormone-binding globulin, which reduces bioavailable oestrogen. Finally, studies to date have employed the standard regimen of COCP, comprising 7 days without oestrogen per cycle, thus interrupting oestrogen exposure. By contrast, transdermal HRT delivers continuous 17 $\beta$ -oestradiol, hence providing sustained oestrogen exposure.

In summary, the benefits of transdermal HRT over COCP probably relate to a combination of lesser IGF-1 suppression, and better oestrogen bioavailability and continuity. However, further, larger randomised studies are warranted to clarify the optimal route, dose and form of oestrogen therapy for bone health.

#### OTHER AVAILABLE THERAPEUTIC OPTIONS

Bisphosphonates and denosumab can improve BMD in women with FHA, but are not routinely recommended in women with child-bearing potential,

*‘In amenorrhoeic women with anorexia nervosa and in oligo-amenorrhoeic athletes, bone microarchitecture and bone mineral density are dramatically impaired.’*

given their prolonged half-life and ability to cross the placenta, with potential pregnancy complications.<sup>3</sup> Teriparatide can also improve BMD in FHA but its limited course (currently 2 years), need for self-injections and cost all limit its routine use.<sup>3</sup> Data are awaited on the newest agent, romosozumab.

#### EMERGING THERAPEUTICS

Subcutaneous leptin showed promising improvements in markers of bone formation and BMD in women with FHA, yet associated weight loss restricted its appropriateness in FHA. Recombinant IGF-1, when given together with COCP to women with FHA, improves lumbar BMD but has not been developed further, while studies using androgens do not show consistent improvements.<sup>3</sup>

Other upstream reproductive hormones may also impact bone.<sup>10</sup> Indeed, recent *in vitro* and *in vivo* human data suggest that kisspeptin has positive effects on bone, potentially through kisspeptin receptors on osteoclasts and osteoblasts.<sup>11</sup> Coupled with prior data indicating that kisspeptin can restore luteinising hormone pulsatility in FHA, this renders kisspeptin an exciting potential therapeutic for both bone and menstrual health in FHA.

#### CONCLUSIONS

FHA poses a significant risk to women’s bone health. Where required, current evidence supports transdermal HRT as the optimal form of oestrogen replacement, with superiority over alternatives. Continued research efforts are warranted to refine existing and identify new treatment strategies to optimise bone health in women with FHA.

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## FROM FEMALE ENDOCRINOLOGISTS... WHAT MADE YOU CHOOSE ENDOCRINOLOGY?

“My PhD research was on pituitary hormone G protein-coupled receptors, and I always felt welcomed and supported at this early stage of my training at all endocrine meetings. [After my post-doc] I came back to my first love of reproductive endocrinology, and was again struck by the real sense of community within this field.

**AYLIN HANYALOGU**

“I found the physiology at medical school fascinating, and I remember thinking that the feed-forward-feedback loops sounded particularly neat. Then, during my early training, I was very fortunate to be appointed as an SHO in endocrinology at Hammersmith Hospital, and I found the detective work that goes into an endocrine case really compelling and intellectually challenging. Many of the symptoms our patients describe are on a continuum with normal life, and it was fascinating to try to work out which parts of the story were about endocrine pathology and which features were down to the trials of life.

**SAIRA HAMEED**

“I love puzzles, and trying to figure out if there is an endocrine cause for a patient's symptoms, and the process of making the correct diagnosis, are very similar to the problem-solving approach I use to solve puzzles.

**CHIOMA IZZI-ENGBEAYA**

“Different motivations at different stages: initially it was well-taught at university, which immediately caught my attention. Subsequent rotations as a junior doctor confirmed that all endocrinologists are friendly and great mentors(!) and, finally, the subject matter spans across a lot of specialties, and opportunities in research and education are the norm rather than the exception.

**RISHEKA WALLS**

“I enjoy the challenges of looking after people of all ages and backgrounds with multisystem conditions caused by hormonal dysregulation. I was and remain inspired by my endocrine colleagues for their attention to detail whilst treating their patients holistically, and enjoy working closely as a team with clinicians and other allied health care professionals in outpatient and inpatient settings.

**ADELE BECK**

“I've been interested in the specialty since medical school, and felt at ease to be with similar minds (and geekiness) during my SHO endocrinology post.

**ELAINE HUI**

“Endocrinology appeals to my logical mind. I love the balance and order, too much is bad, too little is bad and everything is linked. Steroid endocrinology is the study of this balance and changes therein, and I get to use a mass spectrometer to investigate it everyday, so it's a win-win for me!

**ANGELA TAYLOR**

“It chose me! As a developmental biologist, I was generating mouse models of disease. The mice I was working on had a phenotype in the pituitary gland that I could not ignore. I fell in love with this magnificent organ after working with it for a while, and then with the endocrine system in general. So I decided to stick with it.

**CYNTHIA ANDONIADOU**



# MATERNITY LEAVE 'EXPECTING THE UNEXPECTED'



WRITTEN BY FOZIA SHAHEEN

You'd assume that having experienced maternity leave once before would have equipped me, or at least given me a sense of what to expect, the second time around. It turns out, nothing truly prepares you, because each child is a unique adventure and, in my opinion, it definitely doesn't get any easier on the second go. Yet, despite the challenges, life without my boys is unimaginable.

I stepped into my current role right before the arrival of my first son. That initial break from experimental work was somewhat smooth. Returning to work after his birth felt like hitting the reset button, almost a fresh start. However, the second time around wasn't as seamless; it wasn't just about picking up where I left off – it posed a new set of challenges.

My second pregnancy threw me some curveballs, making it challenging to maintain my usual pace of work. Towards the end, complications and fatigue forced me to pace myself. I wrapped up ongoing experiments, updated my notes, organised the lab, and streamlined everything as much as I could for my maternity cover. I aimed to make the transition as smooth as possible for my colleagues.

I had planned to stay connected with my colleagues and the lab's ongoing projects. Fortunately, I managed to participate in some training days and attend equipment demo sessions at various companies. Although I initially hoped to make occasional visits to the lab, juggling my older son's school schedule and caring for a newborn made it challenging. There simply weren't enough hours in the day.

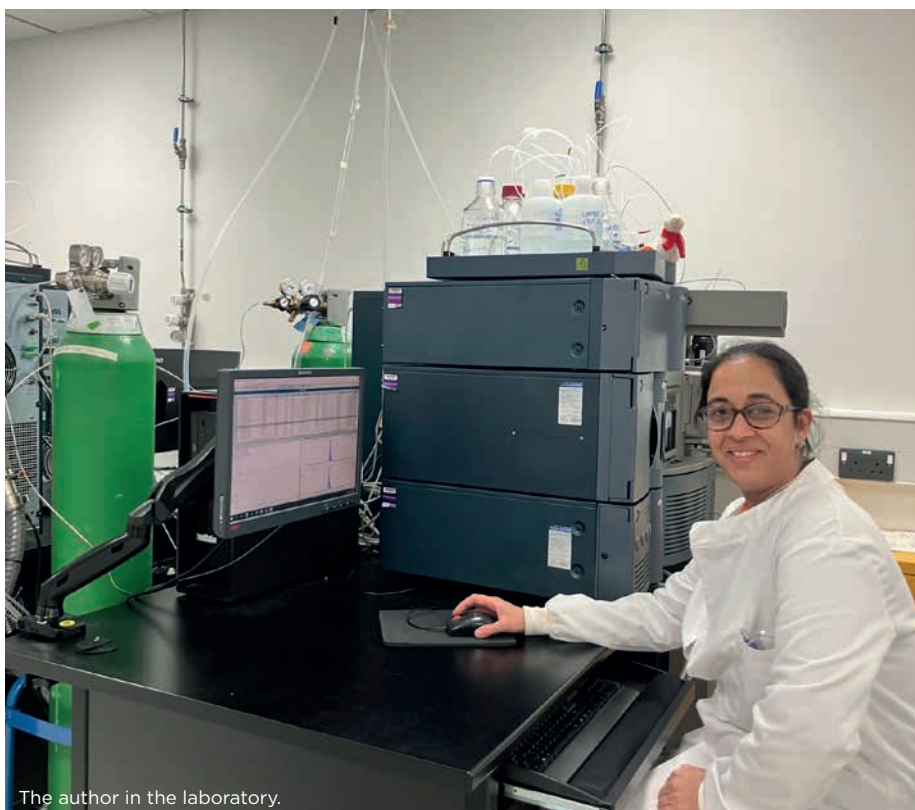
The first time, I took an 8-month break, thinking it would be sufficient, but it passed in the blink of an eye. So, the second time around, I aimed for maximum time off: around 13 months, combining maternity leave

and accrued annual leave. I began my break a month before my due date, spending quality time with my first born during his summer break and preparing for the new arrival.

Baby number two surprised us by arriving a few days early, just as my older son started reception class at school. The next 12 months were a whirlwind of caring for the newborn and helping my older son adjust to both school and his new sibling.

*'Each child is a unique adventure and, in my opinion, it definitely doesn't get any easier on the second go.'*

As my annual leave dwindled, I geared up for my return to work, and I can't emphasise enough how crucial the support of my husband and parents was in making this transition smoother. Their role provided the flexibility and backing that traditional childcare wouldn't offer. I've been fortunate to rely on family support for both my little ones, steering clear of sending them to nursery at such a tender age. It brought me comfort, easing the stress, knowing they were at home with loved ones.



The author in the laboratory.

Returning to work the second time was an even greater challenge. Now, with two young children to get ready alongside myself, it felt like a job before the actual workday began. I had concerns about coping, reintegrating, and how long it would take to get back into the flow of things. The initial weeks required adjustment, but, surprisingly, with great colleagues and the chance to pace myself back into lab work, it felt like I had never been away.

Though I often wondered about my baby and how my mum managed with him and my older son while I was at work, luckily, there were no doubts about their well-being, just curiosity. Yet, I won't deny the joy of a quiet tea break at work.

Returning full-time while juggling parenting duties, dealing with school bugs and managing family responsibilities has been undeniably challenging. Being prepared for illnesses, balancing work and family duties, and not forgetting about your 5-year-old's school activities are all part of the game. The key for me has been having a supportive group of colleagues who are also parents, understanding the intricate dance of parental life with young children.

**FOZIA SHAHEEN**  
Mass Spectrometry Specialist Technician,  
University of Birmingham



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SCAN ME



# SEX MATTERS: WHY EXPERIMENTS IN DIABETES MUST INCLUDE MALES AND FEMALES

WRITTEN BY LYDIA F DANIELS GATWARD AND AILEEN JF KING



Sex differences exist in blood glucose control and in diabetes. Despite this, female sex is under-represented in diabetes research, with the use of men, male animal models and male-derived tissues and cells favoured historically. Incorporating both sexes in experimental design, and using sex as a biological variable, holds the potential to uncover sex-specific mechanisms underlying diabetes pathogenesis. This is key for a shift towards more personalised diabetes treatment.

## SEX DIFFERENCES IN DIABETES

Even under physiologically healthy circumstances, blood glucose control is sexually dimorphic. For example, women show lower non-fasted blood glucose levels than men, but exhibit higher post-prandial blood glucose concentrations.<sup>1</sup> Factors that contribute to the latter include differences in islet insulin secretory capacity and insulin sensitivity. Indeed, several studies have shown that female islets have a superior capacity to secrete insulin and that females are generally more insulin-sensitive.

Given this, it is perhaps unsurprising that sex differences exist in diabetes incidences. Type 1 diabetes is the only autoimmune disease where prevalence is higher in men. Type 2 diabetes is more common, and is diagnosed at a lower body mass index, in men compared with premenopausal women.<sup>2,3</sup> Sex differences also exist in diabetes complications, with female sex associated with a higher risk of diabetes-related cardiovascular complications, whilst risk and severity of diabetic foot disease are higher in men.<sup>2</sup>

*'Incorporating both sexes in experimental design, and using sex as a biological variable, holds the potential to uncover sex-specific mechanisms underlying diabetes pathogenesis.'*

Another largely unexplored but critically important area is sex differences in efficacy of diabetes treatments. Metformin, which is used in the treatment of type 2 diabetes, may improve blood glucose levels to a greater extent in men, and is associated with more adverse effects in women.<sup>4,5</sup>

Sex plays an important role in diabetes pathogenesis, complications and response to therapy. Incorporation of sex as a biological variable from basic science to clinical studies will not only lead to the discovery of sex-specific mechanisms underlying diabetes pathogenesis, it also holds the potential to lead to more sex-tailored treatments, which may limit complications and prove more efficacious. Additionally, understanding the mechanisms by which females are more protected from diabetes may reveal novel therapeutic avenues.

## TAKING STEPS TO STUDY BOTH SEXES

The requirement stipulated by some funding agencies and journals to provide adequate justification for only using one sex in experimental design is a new development in the field of sex differences in diabetes. This should facilitate an increase in the incorporation of (in particular) female animal models into experiments in the future. However, a significant proportion of manuscripts still use only one sex, or fail to report which sex was used (as many as ~40%, according to a recent study published in *bioRxiv*, which looked at sex incorporation in experimental design from manuscripts published in *Diabetes*).<sup>6</sup> Moreover, whilst some papers report the use of both sexes, sex is not necessarily always used as a biological variable, which limits potential insight into sex-specific mechanisms.

The most accessible change to drive a greater incorporation of both sexes into diabetes research is more accurate reporting. For *in vitro* studies, the sex of the animal or individual from which cell lines and tissues were derived, and for *in vivo* studies, the sex of the participants, should be explicitly stated in the methods section of any manuscript. Additionally, when only one sex is used, sufficient justification should be given for the exclusion of the other sex.

Another simple step to improve the incorporation of both sexes into experimental design is to collect data from male and female experimental units separately, rather than pooling this data. This allows for sex to be used as an independent variable in downstream statistical analysis.

## ADOPTING DIFFERENT PROTOCOLS

Incorporation of sex as a variable in statistical analysis can only be achieved when both sexes are used. This is often problematic with *in vivo* and *ex vivo* diabetes research, since female models are often resistant to the desired phenotype: diabetes development. This includes induced diabetes models, such as high-fat-fed and streptozotocin-treated mice, as well as spontaneous models, such as the Akita and KINGS mice.<sup>7</sup>

Studies have found that diabetes induction protocols can be altered to promote diabetes in female models (for example, by increasing streptozotocin dosage). In addition, interventions (such as high-fat feeding) can be used with spontaneous diabetes models to induce diabetes in females. It is therefore likely that the incorporation of both sexes in diabetes research will require the use of different protocols to achieve diabetes.

## THE USE OF CELL LINES

Incorporation of both sexes is also critical for *in vitro* research using cell lines. Since the sex chromosomes will differ between cell lines derived from male and female tissue, it is likely that this may influence the response to a given experimental intervention. Indeed, in the field of cancer research, the sex of the cell line used has been found to directly impact upon *in vitro* experiments.<sup>8</sup>

The sex of the INS-1 cell line, a commonly used cell line in diabetes research, is male. Going forward, an enhanced awareness of the potential impact of sex on cell lines and inclusion of cell line sex in publications is necessary. Furthermore, in the development of new immortalised cell lines for diabetes research, scientists should endeavour to develop lines to represent each sex, so sex can be incorporated as a biological variable.

## IN SUMMARY

Both men and women stand to benefit medically from an improved inclusion of both sexes and incorporation of sex as a biological variable



in experimental design, both at preclinical and clinical levels. Here, we have described simple steps, such as clearly stating sex in method sections, that can be taken to kick-start sex incorporation. However, bolder steps, including the development of different sex cell lines, will inevitably be necessary to ensure that both sexes are equally represented in diabetes research.

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## WOMEN WITH GRAVES' DISEASE A NURSE PERSPECTIVE ON HOLISTIC TREATMENT

WRITTEN BY LOUISE BREEN AND LISA SHEPHERD



Hyperthyroidism is a common endocrine condition, affecting 2% of women in the UK. The average age of onset is 30–60 years.<sup>1</sup> Nurse-led services can play a pivotal role in helping women to navigate the challenges of hyperthyroidism by providing a holistic approach. Building on NICE guidance, assessing and managing each individual patient's physical, psychological, social and faith-based needs can facilitate and inform shared decision making, with the essential aim of euthyroidism.<sup>2</sup>

#### PHYSICAL CONSIDERATIONS

A holistic patient review allows for the exploration of physical and lifestyle considerations that aid management and encourage health promotion. For instance, assessing a patient's menstrual status can identify menopause, which is often missed, given that symptoms are similar to those of hyperthyroidism. If menopause is suspected, patients can be advised to arrange a GP review to consider conventional hormone replacement therapy or be directed to alternative management options. Haematinic assessment should be considered in those women with menorrhagia.

In women of childbearing age, advice on avoiding pregnancy while thyrotoxic, and navigating the most appropriate treatment options in consideration of pregnancy planning, are important. For example, a 39-year-old woman planning to conceive may choose not to have radioiodine, due to the restrictions on conceiving post-treatment.

Assessment of nutritional status, in particular dietary restrictions and intolerances, is helpful if euthyroidism is achieved but symptoms of hyperthyroidism persist. Iron and vitamin B12 deficiency can present with similar symptoms to hyperthyroidism, and are more commonly found in people who follow plant-based diets (where nutrition may not be optimal) and coeliac disease. Screening for coeliac disease should also be considered in patients with autoimmune thyroid disease.<sup>1</sup> This is especially pertinent for female patients, due to a higher prevalence among women. Provision of dietary advice, with or without haematinics assessment and treatment, can aid optimisation of nutritional status.

Weight gain is a recognised phenomenon in the treatment of hyperthyroidism<sup>3,4</sup> and menopause can further exacerbate this.<sup>5</sup> Promoting healthy eating habits and providing advice on managing satiety at diagnosis can potentially reduce the impact of weight gain and avoid intentional non-adherence to anti-thyroid drugs.<sup>6</sup>

#### ADDITIONAL LIFESTYLE AND HEALTH PROMOTION CONSIDERATIONS

These should include:

- bone health – consider assessment of vitamin D status if at high risk (e.g. low exposure to sunlight or not using supplements during the autumn/winter months)
- smoking cessation advice to reduce the risk of thyroid eye disease<sup>7</sup>
- selenium supplements for active thyroid eye disease<sup>7</sup>
- advice on how to safely continue exercising
- avoiding alcohol and caffeine when thyrotoxic
- sleep hygiene advice
- identifying supplements that may lead to assay interference and misinterpretation of thyroid results (e.g. biotin)
- provision of patient information and signposting to patient support groups.

## HELPFUL RESOURCES

### British Thyroid Foundation

Patient leaflets [↗](#)

Webinars [↗](#)

### Thyroid Eye Disease Charitable Trust

Support and advice [↗](#)

### Mental health services

How to access support [↗](#)

### Weight loss

Support and advice [↗](#)

### Menopause

Useful information [↗](#)

### Nutrition for bones

Support and advice [↗](#)

### NHS stop smoking services

Support and advice [↗](#)

### Sleep hygiene

Support and advice [↗](#)

## PSYCHOLOGICAL CONSIDERATIONS

At initial review, the psychological impact of hyperthyroidism and support systems available should be highlighted, along with reassurance that symptoms generally improve with treatment. In the interim period, patients can be signposted to well-being apps, such as Headspace and NHS resources, to address anxiety, depression and sleep disturbances.

Mental health status should be assessed at every review, given that anxiety and depression are associated with hyperthyroidism and may not fully resolve following achievement of euthyroidism, and further intervention may be required.<sup>8</sup>

Physical symptoms and changes in appearance can cause embarrassment and affect self-confidence, which may lead to social withdrawal. While fatigue, sleep disturbance, diarrhoea, tremor and increased sweating generally improve, changes in weight and thyroid eye disease may not return to baseline<sup>4,7</sup> and can significantly impact self-esteem and confidence.

Lifestyle advice and the provision of patient information at initial review can improve outcomes and reduce psychological burden. Examples include smoking cessation, selenium supplementation, psychological support and achieving euthyroidism in patients with thyroid eye disease.<sup>7</sup>

Listening to and addressing patient concerns regarding the impact of hyperthyroidism and its management can improve outcomes, such as adherence to treatment and psychological well-being.<sup>4</sup> The NHS has a wealth of information supporting mental health, with the option of self-referral widely available.

## SOCIAL AND FAITH-BASED CONSIDERATIONS

Social factors, including work, study, family, living situation, finances and cognitive abilities, influence the management of hyperthyroidism. Patient-centred assessment, shared decision making and evaluation of social factors highlight potential issues, with management options that enable care to be tailored to the individual's needs. For example, radioiodine may not be an acceptable treatment option for a woman seeking pregnancy and/or with young children.

Financial constraints can affect adherence to treatment and engagement in care. Examples include an inability to fund prescriptions or being unable to attend appointments due to childcare and/or the cost of travel.

While we cannot change a person's circumstances, we can individualise support, for example, by providing virtual reviews with blood tests undertaken locally to reduce the impact on work and travel costs. We should also be conscious of our prescribing choices, e.g. recommending carbimazole 5mg tablets to allow for easier dose titration, avoidance of

waste, and prescription costs. However, careful consideration is required to balance this against potential adherence issues associated with taking multiple doses.<sup>6</sup>

Identifying barriers to patients' understanding, and the provision of appropriate and accessible patient information, are crucial for facilitating effective communication and improving patient's knowledge of their condition.<sup>9</sup> A mixture of learning materials, i.e. written or media-based, allows information to be tailored to the individual's needs. For example, a webinar may be more helpful to someone with a low reading age. Religious beliefs can also influence thyroid management, so identifying and addressing needs and providing support can improve outcomes. For instance, providing guidance on medication management during Ramadan may support adherence, and it can be helpful to provide counselling on treatment options where religious beliefs may conflict, such as the use of artificial contraception.

## IN SUMMARY

NICE guidance highlights the importance of patient-centred care and shared decision making in the management of hyperthyroidism, both of which are inherent to holistic practice.<sup>1</sup> Barriers to the provision of holistic care include time, insufficient resources or training, and financial constraints.<sup>2</sup> Examples include limited consultation time or no trained endocrine nurse.

Patient support groups, such as the British Thyroid Foundation, provide invaluable support and resources to patients and thyroid services across the UK. When there are constraints on service provision, patients can be signposted to a wide range of resources (see panel).

A holistic approach to hyperthyroidism identifies the individual patient factors and needs, which affect management choices and outcomes. Holistic care promotes shared decision making with the aim of improving patient experience and euthyroidism through patient engagement and adherence to treatment.

### LOUISE BREEN

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### LISA SHEPHERD

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## FROM FEMALE ENDOCRINOLOGISTS... WHAT HAS BEEN THE GREATEST CHALLENGE IN YOUR CAREER SO FAR?

“I found clinical practice during the first COVID lockdown my hardest professional experience to date. I still find some of the clinical experiences I had during that time difficult to think of and really sad. I worked with wonderful people and there was a strong sense of teamwork that helped. I was quite stretched at the time with my clinical role plus delivering undergraduate education remotely, and also trying to teach my children at home, so it was probably the most pressured I have felt professionally.

**NIAMH MARTIN**

“Obtaining funding for research and balancing personal, academic and research commitments without being overwhelmed.

**CHIOMA IZZI-ENGBEAYA**

“As a mother of two children, trying to pursue a clinical academic career, I have found it challenging to juggle the demands of work and family commitments, whilst maintaining my own well-being. I frequently feel that I am not giving enough of myself to many aspects of my personal and professional life.

**PAMELA BOWMAN**

“Juggling a family life, clinical and academic career.

**ANJALI AMIN**

“They say it's a marathon not a sprint, but marathons are really hard. For me, it's not just keeping the pace but that the pace changes, with different things to carry, be it rejection, starting/growing a family or adjusting to wearing the different hats the role requires.

**AYLIN HANYALU**

“Finding sufficient time to dedicate myself to tasks the way I would want to. It seems that time is exponentially reduced with career progression in academia.

**CYNTHIA ANDONIADOU**

“The greatest challenge is finding enough hours in the day to do the interesting extras in your job (e.g. non-job planned research) without compromising the family life.

**TENG-TENG CHUNG**

“Imposter syndrome. Everyday I am surrounded by brilliant scientists and clinicians who have such vast knowledge, and this adds to my anxiety. Learning that there are no stupid questions, and explaining my own work so everyone in the room can understand, are great skills which I try to continually work on to combat imposter syndrome.

**ANGELA TAYLOR**

“Keeping perspective of my value when taking regular funding knockbacks – it's important to have other foci in your career and not define yourself by only one readout.

**RUTH ANDREW**

“Juggling clinical and academic work and the semblance of a work-life balance! Staying motivated and positive during the palpable change in the NHS and its dedicated workforce over the last year or two is certainly a current challenge.

**CHARLOTTE ELDER**



# MATERNAL HEALTH A CAREER-LONG PERSPECTIVE



WRITTEN BY LUCILLA POSTON CBE

Lucilla Poston looks at what has been achieved, and what remains to be done, in our quest to address the most pressing issues in obstetrics.

When I was appointed in 1995 to the position of Professor, and shortly afterwards, as Head of the Department of Women’s Health, it was my brief to develop a research team to interrogate the most pressing, unanswered questions in clinical obstetrics.

Located in a clinical department serving a large inner-city multi-ethnic population, these were all too obvious: low birthweight, pre-eclampsia and hypertensive disease, and premature birth. As time went on, and as the pandemic of obesity took hold, gestational diabetes became a major issue, as did the recognition of maternal mental health problems. Ever present were the inequalities in pregnancy outcome, especially amongst ethnic subgroups and socioeconomically deprived populations.

As a scientist (physiologist) by training, I was, and remain, committed to understanding the mechanisms of pregnancy complications through scientific discovery. However, most improvements in antenatal care over the last 30 years have arisen from the introduction of better antenatal surveillance, and timely intervention.

## PAST PROGRESS

Technological advances, especially imaging modalities, have played a major role (e.g. early detection of fetal anomalies, a prematurely shortened cervix and abnormal fetal growth). Biotechnological advances have been remarkable in improving diagnosis, including early embryo preimplantation genetic diagnosis, the emergence of maternal blood cell-free fetal DNA analysis for diagnosis of chromosomal abnormalities,<sup>1</sup> and the development of the placenta growth factor test in detection and management of pre-eclampsia.<sup>2</sup>

Continuous and/or home-based digital monitoring of physiological variables, such as blood pressure and glucose, are increasingly adopted and

will transform care. Some have already proved their worth, including hybrid ‘closed-loop’ insulin therapy for type 1 diabetes control in pregnancy.<sup>3</sup>

These, together with new evidenced-based management pathways for antenatal care and delivery, are increasingly improving safety and clinical outcomes.

Public health campaigns have also contributed, especially in the UK, in achieving a reduction in smoking and in adolescent pregnancies, both associated with poor outcomes.

## PRESENT CONCERNS

There is a limit, however, to how strategies to improve antenatal care management will further reduce risks to the health of the mother or fetus, without a fundamental shift in knowledge of the root causes. Clinical trials in obstetrics will grind to a halt without new discoveries translating to novel treatments; this is already becoming evident.

So, do we understand more about the root causes of the common complications of pregnancy? We do, but these have mostly yet to be translated into practice. There have been no major advances in the prevention or reversal of spontaneous premature labour or of fetal growth restriction. Low dose aspirin has been proven to reduce the risk of

*‘Continuous and/or home-based digital monitoring of physiological variables, such as blood pressure and glucose, are increasingly adopted and will transform care.’*



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pre-eclampsia,<sup>4</sup> especially of early onset, but we have little else to offer, as the root causes remain enigmatic. Maternal death rates in the UK are highest amongst black women, a clear mark of failure to address the social and biological causes of inequalities in pregnancy outcomes.

*‘Potentially useful therapies are frequently ‘contraindicated’ in pregnancy for no evidenced-based reason.’*

### FUTURE POSSIBILITIES

Recent major advancements in cell biology, omics and other high throughput technologies nonetheless give great cause for optimism. Single cell RNA sequencing and proteomics, even in cells *in situ*, can pinpoint responsible genes and proteins. The relative affordability and high throughput of genomic and metabolomic technologies adds these to the armoury of methodological advances.

We now know, for example, that small exosomes carrying a cargo of physiological and pathological messengers, including proteins, lipids, mRNA and miRNA derived from the placenta, provide key intercellular communication between placenta and mother in normal and abnormal pregnancies.<sup>5</sup> These may influence maternal innate and adaptive immunity, or cardiovascular function, amongst other maternal pathways known to adapt to pregnancy or to be pathologically compromised. Exosomes/their messengers have potential as biomarkers in diagnosis, and also as therapeutic targets. Externally sourced stem cell exosomes may also have therapeutic potential.

The recent discovery of a gene variant which predisposes to hyperemesis gravidarum (morning sickness),<sup>6</sup> if it achieves its translational promise to provide a novel therapy, could have a major impact on the well-being of pregnant women.



There is also renewed hope for better understanding of pre-eclampsia, where partial failure of the process of placentation in the first few weeks of pregnancy, due to limited trophoblast invasion of the maternal spiral arteries, leads to poor placental blood flow and growth restriction. Following years of frustration in defining the triggers for derivation of embryonic trophoblast stem cells to cytotrophoblast and then invasive or invading extravillous trophoblast lineages, understanding of these pathways has recently escalated.<sup>7</sup> This will inevitably lead to definition of the permissive or inhibitory signalling pathways that control the invasion process, and potential for early pregnancy therapeutic targets.

Environmental exposures, such as endocrine disruptors and particles derived from fuel combustion, have also been implicated in pre-eclampsia through interference with normal placental function; here the solution is obvious.

Understanding the mechanisms of gestational diabetes has also moved forward, with nuclear magnetic resonance metabolomics providing the first holistic metabolic profile of the disease, demonstrating, as well as glycaemia, a wide range of abnormalities in the lipid profile.<sup>8</sup> We also now know that there is more than one gestational diabetes phenotype, implying that the current one-size-fits-all therapeutic regime needs review. Precision treatment is very likely to improve control and reduce macrosomia and other related complications.

The future for better targeted treatment of the common disorders of pregnancy, supported by an evidence-based aetiology, therefore remains tantalisingly ‘round the corner’, but we can realistically be hopeful.

In parallel, the reluctance to repurpose useful drugs for the treatment of cardiovascular and metabolic complications of pregnancy needs attention.<sup>9</sup> Potentially useful therapies are frequently ‘contraindicated’ in pregnancy for no evidenced-based reason. More research into the pharmacodynamics of drugs in pregnancy, especially with regard to fetoplacental transfer, are needed to evaluate safety. We also need wider reporting of outcomes of unintended use of common therapies in pregnancy.

At the level of population health, effective strategies to ‘level up’ inequalities in pregnancy mortality and morbidity must be an immediate priority.

All these approaches are in the ‘sights’ of our research funding bodies and policymakers, and all will make a difference.

### LUCILLA POSTON CBE

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## FROM FEMALE ENDOCRINOLOGISTS... WHAT OR WHO HAS MOST INSPIRED YOU SO FAR?

“I have been immensely fortunate to have trained under Professor Karim Meeran and to have learnt from him how to think as an endocrinologist, and to be guided by his unsurpassed clinical and ethical compass. A while ago, a patient in our clinic said to me, “I can see that you have been taught by Prof.” To me, that was the highest praise I could ask for!

**SAIRA HAMEED**

“A lecture given by Professor Stephanie Amiel inspired me during medical school and, as an SHO, my mentor Dr Keith Steer got me interested in diabetes and endocrinology. Being part of a great team now keeps me motivated clinically, as it is really an interesting field with so many innovative advances.

**ELAINE HUI**

“Social injustice. Whilst I aspire to mirror the work ethic and knowledge of most, if not all, of my consultant colleagues, my biggest inspiration to do my job to the best of my abilities remains being a witness to social inequalities, which are impartial to chronic disease. I feel it is my duty to diagnose, inform and support my patients to the best of my abilities, regardless of their background, with an aim to wash out any injustice created by society and the randomness of life.

**ADELE BECK**

“Dr Rajee Baburaj and Dr Catherine Mitchell, for investing in me in my foundation years, being inspirational endocrinologists as well as great mentors, and having faith in my abilities. For instance, encouraging me to apply for academic registrar training, which ultimately set the trajectory for many other opportunities.

**RISHEKA WALLS**

“Over the last eight years, Professor Richard Ross. His sharp mind, extensive experience and clarity of thought, coupled with his generosity, good humour and kindness are a very rare, but truly inspiring, combination.

**CHARLOTTE ELDER**

“People-focused leaders – when I need guidance I’ve had some mentors who can help me see through a problem with a single chat. My aspiration would be to help others in the same way.

**RUTH ANDREW**

“Dr John Eng, a clinician scientist, whose persistence contributed to one of the greatest bench-to bedside stories of our generation and a paradigm shift in the management of type 2 diabetes and obesity.

**CHIOMA IZZI-ENGBEAYA**

“My PhD supervisor, Professor Mike Bradbury, who taught me how to be rigorous in my approach to experimental planning, recording results and record keeping. And Professor Helen Mason, who really taught me the ins and outs of growing a research career in endocrinology, but also how to navigate and establish a university career.

**SUMAN RICE**



## New faces at **THE ENDOCRINOLOGIST**

Last autumn, we invited applications from Society members to join the Editorial Board of *The Endocrinologist* and help shape this magazine over the next couple of years. We had a brilliant response, and are delighted to introduce the new faces who have joined Kim Jonas, Craig Doig, Sophie Clarke and Gareth Nye on the Board.



### **VICTORIA CHATZIMAVRIDOU-GRIGORIADOU**

I am a specialty registrar in endocrinology and diabetes based at the University of Manchester and the Christie Hospital. I have an interest in endocrine late effects of cancer therapies and metabolic bone disease. My research focuses on pelvic radiotherapy-related insufficiency fractures. I am looking forward to all the collaborative brainstorming sessions with the Editorial Board and delving into all aspects of endocrinology!



**JOHN HOUGH** – I am a senior lecturer in exercise physiology at Nottingham Trent University. My research focuses on the endocrine and immune responses to external stressors (e.g. exercise training and mental stress) and their alterations during recovery. I look forward to engaging with colleagues on the Editorial Board and supporting *The Endocrinologist* to serve all of the Society's members well.



**ZIN HTUT** – I am a specialist registrar in endocrinology and diabetes in north-west London, and am currently undertaking a PhD at Imperial College London. My primary interest lies in the pituitary, and my PhD project focuses on advancing the diagnosis and management of Cushing's disease. I look forward to contributing to and learning from the Editorial Board, as well as engaging with articles showcasing emerging therapies and advances in diagnostic technologies.



**EDOUARD MILLS** – I am an NIHR clinical lecturer in endocrinology, based at Imperial College London. I completed an MRC-funded PhD in 2022, in which I conducted the first-into-patient studies investigating whether we can use the reproductive hormone kisspeptin to treat people distressed by low sexual desire. I'm fascinated by all areas of endocrinology, with a particular interest in reproductive and bone disorders.



### **GRIGORIOS (GREG) PANAGIOTOU**

I am a clinical lecturer in diabetes and endocrinology at the University of Cambridge and Addenbrooke's Hospital. I am particularly interested in the endocrinology of adipose and muscle tissue, and personalised prevention and treatment of cardiometabolic diseases, including non-classical targets of cardiovascular risk reduction. I would really like to see more content in *The Endocrinologist* from early career colleagues, from the UK or worldwide, and to use the magazine as a forum to connect with aspiring endocrinologists internationally.



**COSMINA SCHITEANU** – I am an endocrine nurse specialist at Royal Stoke University Hospital, Staffordshire. My passion for endocrinology has developed since I started this job back in 2022.

I am amazed by how important hormones are and how they can affect our day-to-day life. I am particularly interested in pituitary conditions, although I find all endocrine systems intriguing. Every day is a teaching day in this job, as no patient is the same in the way they present to our clinics.



**BHAVNA SHARMA** – I'm a specialty trainee in diabetes and endocrinology in north-west London, currently pursuing research in pituitary and growth hormone whilst juggling life as a new mum. I'm hoping to make the magazine more relevant to new trainees, and applicable to daily life and the journeys of budding endocrinologists.



**VINCENT SIMPSON** – I'm a diabetes and endocrinology doctor and researcher into the diagnosis of diabetes, based in Exeter. I have an interest in research with clinical impact and in improving the sustainability of healthcare. I'm excited to start working with *The Endocrinologist* to help support the wide range of articles published, and I'm particularly keen to see more patient stories.



**ANGELA E TAYLOR** – I am a senior research fellow and the technology lead for the Steroid Metabolome Analysis Core (SMAC) Facility at the University of Birmingham. I am an analytical chemist interested in developing quantitative steroid, vitamin D and thyroid hormone focused mass spectrometry assays. My research interests include developing diagnostic tests for adrenal cancer; investigating trauma and recovery; and hormone metabolism throughout the lifetime.

We are still open to applications from scientist members, to ensure we cover the best and most interesting updates from endocrinology labs around the UK and beyond. Simply email [endocrinologist@endocrinology.org](mailto:endocrinologist@endocrinology.org) to express your interest and find out more.

# Your Society in 2023

## Supporting careers, championing inclusion, advancing research and patient care

### We supported our diverse community by...



Awarding **213 grants** worth **>£340,000** for **members' career development** [↗](#)

Creating our first **Grants Panel** to ensure grants are **awarded on merit**

Publishing our report on **equality, diversity and inclusion** [↗](#)



Welcoming our **first elected Nurse** and **Early Career Members** onto Council



We are now a community of **over 2,800 members** from across the UK and beyond

### We advanced research and clinical practice by...

**Coming together for SfE BES 2023** to share the latest developments



**1,100 attendees**

**posters presented**

**369**

**495**

**abstracts submitted** (our second highest ever)



Developing the **next generation of data registries** [↗](#) to advance clinical understanding and **optimise patient care**

**Sharing best clinical practice** through **interdepartmental peer review visits** at **3 centres**: [↗](#)

Issuing a **joint safety alert** [↗](#) to ensure **appropriate HRT doses** for women in menopause



**Newcastle**

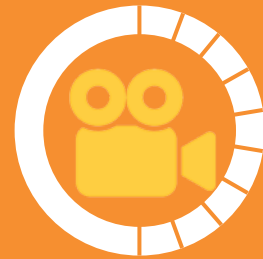
**Norfolk & Norwich**

**North Bristol**



## We inspired the next generation by...

**Promoting endocrinology** to **>350 prospective endocrinologists** in our **Taster Session webinars** [↗](#)  
**75% of attendees** surveyed said they would now pursue a career in our field



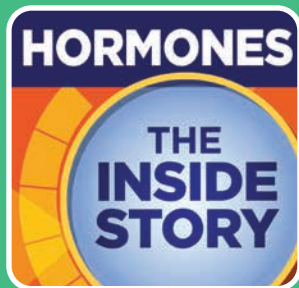
Encouraging students [↗](#) to engage the public with hormones through our **Student Video Awards**

Launching our **Bitesize Webinar series** [↗](#)  
**15** episodes in 2023



## We engaged the public with endocrinology by...

Launching **series 3 of Hormones: The Inside Story**, our myth-busting, award-winning podcast [↗](#)



**>90,000 downloads**



**394,000 visits** to our public-facing website: **You and Your Hormones** [↗](#)

Ensuring **accurate media coverage of endocrinology**: experts advised on **13 mainstream news stories**

## We shared high-impact endocrine research by...

Publishing papers, **free to our members**, in our journals [↗](#)



Debating **Journal of Endocrinology** on Instagram [↗](#) to engage a wider audience with our flagship journal







## An interview with... **WIEBKE ARLT** **ESE'S NEW PRESIDENT-ELECT**

Professor Wiebke Arlt was appointed as Director of the MRC London Institute of Medical Sciences and Head of Imperial College London's Institute of Clinical Sciences in January 2023, and she has since become President-Elect of the European Society of Endocrinology (ESE).

We last interviewed Professor Arlt in *The Endocrinologist* in **Autumn 2021**. [Here](#), Sophie Clarke catches up with her after what have clearly been a busy couple of years.

**Sophie:** Congratulations on being elected as ESE's new President-Elect, particularly as the first female President-Elect. Tell us about your involvement with ESE, and what excites you most about your new role.

**Wiebke:** Thank you. At least half, if not more, members of ESE are women, and endocrinology is increasingly a female discipline. However, in the past, women were under-represented, and so we are now doing a lot of work in ESE to make sure that the committees are representative of the membership.

Two years ago, together with Cynthia Andoniadou and Jenny Visser, we created a group called EUWIN, or **European Women in Endocrinology**. [We](#) have now started a webinar series: the first was **how to become a committee member**, [and](#) the next on **demystifying awards**. [In](#) the same way that women tend to wait until they tick all 30 boxes before they first put in for an academic position, we see the same with awards. The aim of this second seminar was to demystify the process.

I have been involved in a number of initiatives as part of ESE. When I was still in Germany as a young scientist, we wanted to develop more support for young endocrine scientists, so we created a group called **EYES, the ESE Young Endocrinologists & Scientists**, [which](#) is an ESE Committee. This Committee brings together young endocrine scientists and clinicians from across Europe, facilitating interaction and collaboration. This is very important because young people are the future – you need to motivate them to take part and to be active.

**S:** Tell us a bit more about your job – you were recently appointed as Director of the MRC London Institute of Medical Sciences.

**W:** The MRC London Institute of Medical Sciences is one of the seven core-funded MRC Institutes, and one of only two institutes that have their own physical space.

Previously I was at the Institute of Metabolism and Systems Research in Birmingham, and I very much enjoyed my work there, in particular supporting younger scientists and their development.

I was attracted by this position because it's not only a research institute that does lab work, it also has a national mission, being responsible for transdisciplinary training. It has a national beacon function that we will extend now for clinical scientists everywhere. For example, we plan to offer a leadership and mentorship programme resembling that of the **Academy of Medical Sciences SUSTAIN programme**. [We](#)

The Academy of Medical Sciences report has shown that, in the last 10 years, 25% of clinician scientists have been lost. Therefore, it is really important to understand how clinician scientists can be supported, so that they stay as clinical academics.

For example, young clinicians have said that they would like to have more mentorship and more support while being exposed to demands from both the clinical side and the academic side. Obviously, this occurs at a time when everybody has young families, providing both demands and opportunities – the regret is often that people let go of academia as the first thing, in particular women.

It is one of my declared goals that we really ensure that we have diversity: with women, with people from low resource backgrounds, with people from ethnic minority backgrounds. In science, we need people with different perspectives.

**S:** What do you find most rewarding about your job at the moment?

**W:** I love my old science, but I love looking into things that can help in diversity, or gender equality, or early career scientists. I love that, in my job, I can focus on both of these things.

**S:** Do you have any words of advice to someone starting out in their career or, perhaps, at that midpoint, where there are lots of pressures and demands?

**W:** Find support. Find somebody – a mentor, somebody who has no agenda – who can give you independent advice and support.

I think of one mentee of mine who got in touch. She was in a very difficult situation when we first met, with lots of demands on her, in her clinical training and academic development and at home with her children. She was thinking of giving up on academia because she thought she could not deliver at the level she was used to. I advised her, in this situation, to completely focus on the current needs, and I reassured her that nothing would be lost.

If you take time to focus on the current demands that you face, you need to recognise that you might not be able to perform at the same high pace as before, but it's just natural. And when your circumstances change, you can come back. Indeed, this is what she did, and she was grateful for the support – otherwise she might have given up altogether.

**S:** Finally, is there anything else that you'd like to share with the readership of *The Endocrinologist*?

**W:** I think you need to be active and political, and you should always strive to have leadership skills, even if you think you're not suited to be a leader. Leadership may come more naturally to people who are extroverted and intuitive and who see the 'big picture', but everybody can lead, they just need to learn how it works best for them.

If you don't take on leadership, then you have no voice and you don't change things. That's the thing with research. If you didn't undertake research, then nothing would change – research is not a 'nice to have', it's an absolute must. We will not provide good medical care if we don't continuously do research, recruit our patients into trials and support young trainees to undertake research. That's critical for our future.

We also need to change the conditions. We know that 50% of junior doctors leave two years after completing their training. This cannot be compensated for by 20 new medical schools. We can only make up for it by changing how they experience their work and, from observations and feedback, we can see that they always love to do research and something new.

## An interview with... **MORAG YOUNG** **JOURNAL DEPUTY EDITOR**



Associate Professor Morag Young is Head of Cardiovascular Endocrinology at the Baker Heart and Diabetes Institute, Melbourne, Australia. Morag is also Deputy Editor of two Society for Endocrinology journals: *Journal of Endocrinology* and *Journal of Molecular Endocrinology*. We caught up with her to learn about her career in endocrinology, her role as Deputy Editor, and the women who have inspired her.

### Please can you tell us about your research role?

I am a research group leader at the Baker Heart and Diabetes Institute in Melbourne, Australia. My group seeks to identify and understand novel mechanisms of mineralocorticoid receptor disease in cardiovascular disease and diabetes.

Our ongoing studies include preclinical as well as clinical work, which is supported by state-of-the-art platform technologies and clinical connections at the Baker Institute. I moved to the Institute in 2020 with my lab, as the first Alice Baker and Eleanor Shaw Gender Equity Fellowship recipient. This fellowship was created by the Baker Institute, as a proactive step to recruit and support senior female researchers and to address the large imbalance in mid-career and senior women working as research leaders. We are seeing more change in the sector overall with developments in the National Health and Medical Research Council funding policy, and I hope that this continues to support equity, innovation and exciting research for all.

I am also very fortunate to have a wonderful team of early career researchers and PhD students. We welcome new undergraduate researchers and medical students to our lab each year, to continue building our work and exploring new directions. Mentoring junior researchers is a key highlight.

### What attracted you to a career in endocrinology?

The exciting data from my first study as an undergraduate cemented my aspirations to become a medical researcher. Understanding how hormone receptors work, particularly the mineralocorticoid receptor, was fascinating. I always suspected that it played a lot more roles in physiology/disease, but we needed the models to be able to identify these and understand their importance in physiology. It is very exciting to be able to use new developments in technologies to expand our research, as is the potential for new discoveries in cell systems that were previously not possible.

### What have been your career highlights so far?

One has definitely been seeing mineralocorticoid receptor antagonists go into clinical trial following our first studies of aldosterone in cardiac fibrosis, and then progress to guideline recommended therapy for heart failure. Another highlight was identifying the interaction between the mineralocorticoid receptor and the circadian clock. We were also first to show that mineralocorticoid receptor action in the macrophage is a critical regulator of cardiac inflammation and fibrosis. This was an exceptionally novel finding, and we won an award from the American Heart Association.

Meeting other medical researchers around the world who are also dedicated to understanding the mineralocorticoid receptor, glucocorticoid receptor and other steroid receptors in biology and disease is always a highlight. I also enjoy working as Deputy Editor for the journals! It is a very different experience, but very rewarding, and it has led to new research collaborations.

### Have any inspirational women had an impact on your career?

Yes, plenty! I met Gail Adler (Brigham and Women's Hospital, Boston, MA, USA) and Elise Gomez-Sanchez (University of Mississippi, Jackson, MS, USA) as a first year PhD student while travelling to a conference. They were very welcoming and clearly very energetic, clever, hard-working and successful researchers, but they also never missed a chance to teach me something, in terms of theory or in the lab (I learned new surgery techniques from Elise). They also both have families and make it all work! Both have been constant supports for me professionally and personally, and I am very grateful for their friendship and collegiality.

I am constantly inspired by my PhD students – this mentoring business is a two-way process! I also have two daughters who are really keen on science and desperately want to work in my lab, so we have a lot of fun talking science at home too.

### What does your role as Deputy Editor of the journals involve?

I was delighted to be invited by Adrian Clark to join *Journal of Endocrinology* and *Journal of Molecular Endocrinology* as a Senior Editor some years ago. While trying to suppress a severe case of imposter syndrome, I spent my early months learning as much as possible and asking for help often. The Editorial Office and Editors at each level all work as a team to publish the best science, offer constructive criticism where needed, and help authors to present their work at the highest standard. The focus on quality permeates everything we do. With changes in Editors-in-Chief, we have also seen new initiatives take off, and this is really important in order for the journals to evolve within the changing publishing landscape.

### What advice would you give to researchers submitting articles?

A great starting point is to look at the scope description for the journals. This has just been updated and will give you a great idea about what type of work the journals publish. It has also been expanded slightly, so it is a good idea for those familiar with the journals to check what is new. If you are not sure, just send an email to the Editorial Office; they are very helpful and friendly!

I really like our new initiative for Rising Stars, started by Karen Chapman, where we seek out and showcase reviews and work from early- and mid-career researchers – we're providing an important platform for the next generation of talent in our field.

Find out more about publishing in  
***Journal of Endocrinology*** [↗](#)  
***Journal of Molecular Endocrinology*** [↗](#)





# Exciting changes to Sfe BES NEW PLANS FOR YOUR ANNUAL CONFERENCE

**We're moving the Society for Endocrinology BES conference back to spring in 2025, which means the event is taking a break this year. This has opened up an exciting opportunity to run a joint meeting with the Irish Endocrine Society in 2024!**

Historically, the Sfe BES conference always took place in the early part of each year. However, when ENDO began to run every March, we rescheduled Sfe BES, so that our members could more easily attend both meetings. Since 2015, our annual conference has taken place every November, rotating the around the country (apart from in 2020, when it took place virtually as a result of the pandemic). We were actually very lucky to be able to run a physical Sfe BES conference between lockdowns in Edinburgh in 2021. That turned out to be a very special three days, as members could reconnect with colleagues after a tough 20 months.

However, running the event in November has had added challenges since 2020, with the normal NHS winter pressures now exacerbated by the addition of COVID 19 cases, which rise in the winter months. This has meant that some of our clinical members have not been able to arrange the necessary time away from work to attend.

Additionally, in 2024, we were aware that the European Society for Paediatric Endocrinology's Annual Meeting was moving to November, which would cause challenges for those who wanted to attend both events. This, plus the news that ENDO has decided to move to the June of each year, gave us an opportunity to reclaim our spring slot!

**Sfe BES 2025** will now take place on **10-12 March 2025** in our spiritual home of Harrogate, at the Harrogate Convention Centre, where we will stay for at least three years. **The Joint Irish-UK Endocrine Meeting 2024** will take place over two days in Belfast on **14-15 October 2024**, the lack of an Sfe BES conference this year providing a perfect opportunity. This meeting will feature a different mixture of content from both societies and will celebrate the best of UK and Irish endocrinology.





# Women's health, front and centre

## THE FIRST SfE WOMEN'S HEALTH SUMMIT



What an exciting time it is to be working in the field of women's hormone health. I am sure that those of you who, like myself, have been in this field for decades will agree that it's a breath of fresh air to see the sky-rocketing interest

In recent years, a rapid upsurge in attention has been seen across the board: not just from health professionals throughout the NHS, but from the public, the media, and many significant employing organisations. News stories about menopause have risen exponentially, with the so-called 'Davina effect' leading to more GP consultations about hormone concerns, and many more women seeking menopause treatment, to the point of HRT shortages.

Attention around other women's hormone health conditions, such as premenstrual disorders and polycystic ovary syndrome, is also evident, and apps and commercial products related to women's health are appearing everywhere. Many GPs, other medical specialists and allied health professionals want to know more about women's health and menopause. And they are increasingly turning to endocrinologists for insight, support, advice and guidance.

With this rise in focus, it's our duty as health professionals and leaders in this field to disseminate up-to-date, high quality, peer-reviewed information far and wide, and to dispel myths. And that was the aim of the first **Society for Endocrinology Women's Health Summit** on 2 February 2024.

### DEVELOPING THE EVENT

The Society for Endocrinology has witnessed the current climate, and recognised an unmet need for education in endocrine aspects of women's health for its members and many other health professionals. While other Society meetings touch on women's health topics, the rising interest meant that a stand-alone event was increasingly needed. Informal conversations gathered momentum, and a short meeting with the Society's trading subsidiary, Bioscientifica, led to a cascade of activity, with the formation of the founding group.

At the early meetings, I realised that something exciting and meaningful was developing. A brilliant founding group, including endocrinologists from across the UK, shared insightful ideas about format, content, suitable locations and speakers. We had lively discussions to shortlist the final format. Teamwork personified. And just like that, we created the Society's first Women's Health Summit event.

Excitingly, all our first-choice speakers agreed to attend. The programme included a superb combination of highly relevant topics, world-class speakers, and a convenient location for most.

Unsurprisingly, interest in the meeting was enthusiastic from the outset. Registration outperformed expectations, with 125 registered for the first meeting. And, for an event on a Friday afternoon in Birmingham, with rail strikes a constant threat, this was a great success even before we started.

### SESSION HIGHLIGHTS

All speakers at the event were world-class experts in their fields. We felt very privileged to have two huge hitters who did not disappoint!

Wiebke Arlt should need no introduction to readers of *The Endocrinologist*. Wiebke is a prolific leader in endocrine science and is currently Director of the MRC London Institute of Medical Sciences hosted at Imperial College London. She is so in demand that we could hardly believe we managed to

pull off getting her onto the programme. We have Mick O'Reilly to thank for that!

Nick Panay is arguably the most renowned expert in reproductive medicine in the world: past Chair of the British Menopause Society, Current President of the International Menopause Society, Council Member of the Royal College of Obstetricians and Gynaecologists and past President of the Obstetrics and Gynaecology Section of the Royal Society of Medicine. His research portfolio is also prolific. Nick and I are passionate about collaboration between allied specialties and related organisations, to improve women's health education for doctors and the public, and to further women's health research.

*'We are definitely in the dawn of a new era, with a fresh focus on women's hormone health across clinical medicine, and the Society for Endocrinology is front and centre.'*

During the sponsored satellite symposium, Alex Comminos shared his personal experience of the newly licensed medication, fezolinetant. Alex described its discovery as a treatment for menopause vasomotor symptoms as a serendipitous occurrence, while he was undertaking research at Imperial College London with Waljit Dhillon. This context behind a newly licensed, first-in-class, potentially game-changing medication for use in women's health was a timely and captivating story to share at this meeting.

There was plenty of time for interactive questions during each session and networking during breaks. Very importantly for the organisers, the meeting ran to time like clockwork!

### DELEGATE FEEDBACK

As soon as delegates began arriving, there was a 'buzz', with everyone saying how relevant the programme appeared and how it was just the missing link in continuing professional development that we all need for clinical practice. The venue was also excellent.

As the day progressed, many people rightly commented on the exceptional quality of the presentations, topics covered, and educational value. Virtually no one left early, even though it ran to late on a Friday afternoon. As Helena Gleeson, the last speaker of the day, stated – there was a remarkable attendance for the graveyard shift!

Everyone, including me, was buzzing and on a high as we all left after the meeting. We are definitely in the dawn of a new era, with a fresh focus on women's hormone health across clinical medicine, and the Society for Endocrinology is front and centre.

### ANNICE MUKHERJEE

Consultant Endocrinologist, Manchester, UK

### FOUNDING GROUP

Rupa Ahluwalia  
Niamh Martin  
Annice Mukherjee  
Michael O'Reilly  
Helen Turner

### EVENT PRODUCER



bioscientifica

# Mari Green

## ADRENAL CANCER AWARD

Even before she knew that her cancer was incurable, Mari Green and her husband decided to donate some money to support research into adrenal cancer. As a result of a donation given by her family and friends, the Society for Endocrinology is very pleased to be able to mark her life with the Mari Green Adrenal Cancer Award. Here is Mari's story.

Mari Green was born in 1947 in a Welsh mining community in Carmarthenshire. She went to grammar school, and her ambition was to be a doctor. However, she was not encouraged in this ambition by her parents or the school. So, instead, she went into education, studying zoology and biology at a teacher training college in Cardiff. Mari then embarked on a career teaching biology and maths to secondary school students.

She retained her love of science and medicine throughout her life. She especially enjoyed TV science programmes and would always make sure she tuned in to anything presented by Professor Lord Robert Winston.

Mari married Martin, a farmer, and had two children, Adrian and Carys. Martin would grow all their vegetables and Mari would turn them into nutritious meals. She was passionate about healthy eating and knowing what you put into your body and its effect.

When Mari retired from full time teaching in her mid-fifties, she started working with prisoners to help them with basic English and Maths, or if they were looking to pass their GCSEs, as part of their rehabilitation.

After retiring completely, Mari took up cycling as a way of keeping fit and combatting osteoporosis. So, it was really sad when, in the autumn of 2020, she began to feel unwell. Following delays caused by the COVID-19 pandemic, it wasn't until May 2021 that Mari was diagnosed with Cushing's syndrome, with a benign tumour on her adrenal gland.

Society member Miles Levy treated Mari at Leicester Royal Infirmary, and she built a strong rapport with both him and the nursing team there. Miles recognised that Mari was very interested in knowing about her condition in more detail, along with how it was affecting her body. He ensured that she was given as much information as she wanted.

Mari started her treatment in July 2021, which included surgery to remove the benign tumour. She was told that it would take six months to recover fully. However, in the spring of 2022, she started to feel that her Cushing's symptoms were worsening. A second tumour was discovered, which had grown in the same site on her adrenal gland, but this time it was malignant and would necessitate a stronger course of treatment.

At this point, Mari was referred to Ruth Casey at Addenbrookes' Hospital in Cambridge, whom Mari was also captivated by. Mari initially had oral chemotherapy, and also agreed to take part in a clinical trial, which was a direct result of her love of science.

At the end of August 2022, Mari started on an intense course of chemotherapy. After three rounds, she was unfortunately too weak to continue with the treatment and the chemotherapy was halted. Mari sadly passed away in July 2023. It is important to say that she remained very positive throughout her illness. She retained her determination to continue to eat healthily and always had a smile for visitors, despite how poorly she felt.



Mari with husband Martin.

In addition to her two children, Mari also has two grandsons, of whom she was immensely proud, and she always encouraged them in their studies. The older one is now studying science subjects at sixth form, taking forward Mari's passion for science.

Given that Mari and her husband wanted to make a donation to the department that had looked after her, for use towards research or in whatever way was most effective, Professor Levy suggested that the Society for Endocrinology would be best placed to use this donation, to support those working in adrenal cancer. As a result of the donation by Mari's family and friends, the Society is very pleased to be able to mark her life with the **Mari Green Adrenal Cancer Award**.

Despite standing at only five-feet tall, Mari was a formidable and driven woman, who inspired everyone she met throughout her life and career. Her donation to the Society for Endocrinology to help support members working in adrenal cancer will ensure that her impact is felt for years to come.

*We are very grateful to Mari's family for providing this personal insight into her life. More information about the Adrenal Cancer Award, and how to apply, will be available soon.*



# ODE TO SfE A CAREER IN ENDOCRINOLOGY



When Ruth Andrew, our General Secretary, was asked to give an after-dinner speech on the value of Bioscientifica's support in developing endocrinology, minor panic led her to adapt a family pastime of rewriting lyrics to popular songs. We hope you enjoy the resulting poem...



When I was young and not yet a doc, to BES I'd go  
My travel grant, my Top Shop suit, my premade slides to show  
I'd stand beside my poster board and scan for my mistakes  
I used to bring a felt tip pen to fix them just in case  
Will people come or maybe not, I'll just chat to my neighbour?  
Was that the judge, what did they think, will votes go in my favour?  
And at the end I would be whacked, a little too much wine  
But what a buzz to get to go, a truly special time

With travel grants, my twenties passed with meetings in the States  
I'd never seen so many folk ... including global greats  
The poster hall was full of noise and questions every June  
I'd scan a badge and clock a name ... professionally swoon  
You worked the room to win the prize, a US post-doc role  
Evans, Vale and Mangelsdorf ... a big lab was the goal  
You would return to UK shores, but with a broader vision  
A network built that lasts for aye, a life-changing decision



Time went by and I matured, I now was wearing Hobbs  
I'd built enough track record to secure a tenured job  
But still to BES I went, but this time with my student  
Their travel grant a welcome help ... us Scots are very prudent  
I can't express the surge of nerves to watch them first present  
I'm proud, I'm scared, but never must their confidence I dent  
The lucky ones, the prize event - they'd practised day and night  
A question asked - what will they say? - a phew they got it right



My team have gained so greatly from our grants portfolio  
They rush into my office with their faces all aglow  
They'd won a research training grant to learn a vital skill  
And with that, aspirations for their paper we'd fulfil  
Career-defining moments when you need to show potential  
A research grant is just the biz for data influential  
At workshops which are subsidised, perspective wide they gain  
And all-important friendships which throughout careers sustain



So over time I've sat on all Committees one by one  
I always feel I've done some good while also having fun  
Decisions, under Ian's eye, are taken with great care  
And David always close on hand to stop financial scare  
Resource to help the young progress should not be underplayed  
And SfE is vital here with fiscal money frayed  
I feel to be the General Sec makes me a lucky fella  
I'm proud of all that they achieve, and now I wear Viyella!



# Although the condition might be rare...



## ...the features are common

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

For a clinician's guide to recognising Cushing's syndrome's signs and features, email [cushings@connectthedots.health](mailto:cushings@connectthedots.health) and help shine a light on this rare condition.



References: 1. Pappachan JM *et al.* *J Clin Pathol.* 2017;70:350-359. doi:10.1136/jclinpath-2016-203933  
2. Nieman LK. *Endocrinol Metab.* 2018;33:139-146. 3. Yorke E *et al.* *Int J Endocrinol.* 2017; 1547358.