CLINICAL CAREERS IN ENDOCRINOLOGY AND DIABETES

WORKING IN ENDOCRINOLOGY AND DIABETES

PHYSICIANS AT WORK

PATIENT RELATIONSHIPS

BREAKING FRONTIERS IN RESEARCH

EXPLORING ENDOCRINOLOGY AND DIABETES

THE TRAINING PATHWAY
Hormones are one of the basic ways in which the body regulates its function. When these controls go wrong there can be profound effects on a person's life. These can range from changes in physical appearance, through important functions such as sex and reproduction, to psychological wellbeing. As endocrinologists and diabetologists, we are privileged to share the most intimate aspects of our patients’ lives and by correcting the underlying hormonal problems issues, relieve their problems.

Many endocrine problems, especially diabetes, are among the more common long-term medical conditions and so a career in endocrinology and diabetes will let you build up long-term patient relationships that are seldom seen outside general practice. At times this can be rewarding, such as sharing the joy of a diabetic mother in the safe delivery of a baby; at other times challenging, such as trying to encourage people into lifestyle changes which they do not necessarily want to follow!

• Look after people with long term conditions and become involved in their lives
• Unravel clinical puzzles and make diagnoses to improve quality of life
• Work in cutting edge research to gain new understanding of basic processes or develop new investigations and treatments

Professor Peter Selby Consultant Physician, Honorary Clinical Professor and Chair of the Specialty Advisory Committee in Endocrinology and Diabetes Mellitus

Endocrinology and diabetes is one of the most challenging, rewarding and wide-ranging of all the medical specialties.

It relies on a complex and ever-evolving understanding of physiology to improve quality of life through effective disease management. Endocrinology covers the abnormal production of hormones from endocrine glands and aspects of metabolic disease while diabetology is concerned with the complex care and management of patients with diabetes mellitus.

The specialty is predominantly out-patient based but also includes management of in-patients, particularly those with acute complications and emergencies. Endocrinology and diabetes training combines specialist and general (internal) medicine leading to an excellent grounding as a physician. The diversity of the specialty means many consultants subspecialise. Balancing generalist expertise is a challenge but the variety of work allows for continual learning!

Endocrinologists and diabetologists see a range of age groups from neonatal, paediatric and adolescent through to the elderly demographic.
**ENDOCRINOLOGY AND DIABETES THROUGH TIME**

**1850s**
Adrenal glands shown to secrete active substance

**1869**
A medical student, Paul Langerhans, discovers a unique group of cells in the pancreas

**1876**
Invention of insulin pump

**1902**
First hormone, secretin, discovered

**1914**
Isolation of thyroxine

**1921**
Banting and Best discover insulin

**1922**
First patient successfully treated with insulin

**1940s**
Discovery of adrenal cortex hormones

**1955**
Determination of the mechanism of hypothalamic control of the endocrine system

**1969**
Insulin structure is determined by Dorothy Hodgkin

**1970s**
Discovery of peptide hormone production in the brain

**1976**
Discovery of first orphan receptor, the retinoid X receptor

**1984**
Discovery of leptin hormone that controls hunger and metabolism

**1990s**
Insulin pens become readily available

**RECENT ADVANCES**
- Islet cell transplantations
- Discovery of kisspeptin as a potential fertility drug
- Closed loop insulin delivery system
PHYSICIANS AT WORK

During my early training at a district general hospital, I was fortunate enough to find an endocrinologist role model. I am now a physician specialising in endocrinology and diabetes and general (internal) medicine.

One moment I am engrossed in trying to connect some faint diagnostic dots, and then I’m helping someone with possible cancer or diagnosing the cause of a fever of unknown origin. I have seen future generations of specialists in endocrinology and diabetes metamorphose before my eyes and it fills me with great pride to play a part in their development; whether one is interested in the purely clinical side and developing subspecialist interests, basic science, clinical research skills, leadership or education, there is something for everyone.

As a specialist trainee in endocrinology and diabetes, I worked in district general hospitals for my first two years of training. This provided me with a good grounding in common endocrinology and diabetes and general medical conditions. I took time out of training to pursue a period of research into the accurate identification of rare genetic subtypes of diabetes to enable more personalised diabetes management for patients.

Towards the end of this research, I had my daughter and decided to complete the remainder of my clinical registrar training at less-than-full time. I now do a slot-share with a colleague.

Endocrinology and diabetes is a great specialty in which to maintain a good work-life balance.

Dr Asif Ali
Consultant Physician in Endocrinology and Diabetes, Milton Keynes Hospital

Dr Gaya Thanabalsingham
Registrar in Endocrinology and Diabetes, Oxford deanery

WHAT DO YOU NEED TO BE AN ENDOCRINOLOGIST AND DIABETOLOGIST?

- An interest in people and direct patient contact
- Excellent communication skills
- Investigative skills
- A good team player as work is multidisciplinary
- An interest in teaching and training, as this is an important part of most consultant posts
- Attention to detail

For more information on Endocrinology visit www.endocrinology.org

PATIENT RELATIONSHIPS

Endocrinology and diabetes specialists see patients with a hugely diverse range of conditions. Many patients can be ‘cured’ and get better. Others can be helped significantly by relieving their symptoms and improving their quality of life. Some patients need long-term follow-up; both they and their doctors value the continuity of care, and can get to know each other well.

Dr Pratik Choudhary
Management of type 1 diabetes is a complex interplay of education, behaviour and technology.

With Heather’s case we were initially able to use the latest technology with continuous glucose monitors to automatically suspend insulin delivery when she was hypoglycaemic. However, this was not enough, and we had to proceed to islet cell transplantation.

We delivered insulin-producing islets from a deceased donor into her liver and she is now almost completely free from hypoglycaemia.

Judging the right treatment for the patient, responding to changes and supporting patients through a challenging pathway is what makes endocrinology and diabetes so interesting and rewarding.

Dr Asif Ali
Consultant Physician in Endocrinology and Diabetes, Milton Keynes Hospital

Dr Gaya Thanabalsingham
Registrar in Endocrinology and Diabetes, Oxford deanery

PATIENT PERSPECTIVE: Heather Young

Hypoglycaemia has been a big problem for me for most of my diabetic life. I eventually lost my driving licence and was unable to work or go out alone for fear of hypoglycaemia.

Major problems began with my first pregnancy and became worse over the years. I slipped into unconsciousness when my blood sugar was low and there were many occasions when I would be comatose and would need an injection of glucagon. I later started using pump therapy, which I felt gave me more control but hypoglycaemic episodes were still a problem.

The impact of having an islet cell transplant has been amazing; I can now reapply for my driving licence and return to a normal life!

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347 million people worldwide suffer from diabetes

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BREAKING NEW FRONTIERS IN RESEARCH

Since its clinical fundamentals are underpinned by complex physiology, endocrinology and diabetes is a unique specialty with many varied research opportunities on offer. From basic research into the mechanisms of endocrine and diabetic disease, to developing and testing novel therapeutic agents on patients, there is something for everyone.

Having completed my Core Medical Training, I took up my post with the all-Wales specialty training programme in endocrinology and diabetes. In 2011 I took time out of the programme to pursue research while continuing part-time with clinical medicine. My project has focused on cardiometabolic and sympathetic activation in polycystic ovary syndrome and aims to determine how central drivers from the brain play a role in the syndrome and its metabolic consequences. The opportunity to take time out in research has been invaluable, lending a helpful insight into the joys and challenges involved.

I first became interested in endocrinology during my foundation training. The main appeal was the variety of fascinating clinical cases, the need to interpret complex diagnostic tests, the ability to participate in clinical research as well as the enthusiasm of my colleagues. Fourteen years later, I can say that all of these aspects remain true! Endocrinology and diabetes lends itself well to a career as a clinical academic and many prominent clinical researchers in the UK have this background.

Dr Marie Freil
Clinical Senior Lecturer in Endocrinology and Consultant Endocrinologist, Glasgow

Academic medicine is challenging and results in added time pressures but the variety, flexibility and time spent in clinical or research centres abroad is fantastic. You will never be bored!

Andrew Lansdown
Clinical Research Fellow and Registrar, Cardiff University

What drew me to the specialty?...interesting, challenging and unusual cases and its ability to keep me interested for the next 40 years!

ENDOCRINOLOGY AND DIABETES TRAINING PATHWAY

For more information on Endocrinology visit www.endocrinology.org
1. Find your local medical education lead
   www.endocrinology.org/clinical/undergraduate/EducationLeads.html

2. Contact your lead on how to attend out-patient clinics, enquire about opportunities to get involved with research, audits and interesting case reports

3. Explore the training pathway on the Joint Royal Colleges of Physicians’ Training Board (JRCPTB) website www.jrcptb.org.uk/

4. Join the Society for Endocrinology
   It’s free if you’re a medical student or undifferentiated trainee and will allow you to network with leaders in the specialty, access grants as well as many other opportunities

5. Explore other societies
   The Association of British Clinical Diabetologists (ABCD), Young Diabetologists and Endocrinologists Forum (YDEF) and Diabetes UK (DUK) websites

6. Attend SfE, ABCD, Diabetes UK and YDEF events
   Attend many meetings free of charge!
   www.endocrinology.org/meetings
   www.diabetologists-abcd.org.uk
   www.youngdiabetologists.org.uk/meetings
   www.diabetes.org.uk

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DR MUNACHISO NWOKOLO
Registrar and Clinical Research Fellow in Endocrinology and Diabetes, London

It wasn’t until I was a card carrying registrar that I opened my eyes to the cutting-edge endocrinology and diabetes specialty.

Clinics were fascinating; from the adolescent with type 1 on insulin pump therapy, to the builder with dizzy spells in whom we diagnosed a rare neuroendocrine tumour. With the support of my consultant I published a case study on a lady whose hormone disorder had triggered frank psychosis.

Attending my first Diabetes UK conference was fantastic mainly because I’d just joined the Young Diabetologists and Endocrinologists Forum committee (YDEF). Through YDEF I got to meet and learn from the movers and shakers in the diabetes world. As a result I have begun a PhD in neuroimaging and hypoglycaemia. I can’t wait to see where this dynamic specialty will take me next.

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DR BEN CHALLIS
Registrar and prize winning presenter at the SfE Clinical Cases meeting

At a recent Society for Endocrinology Clinical Cases meeting, I presented the case of a 60 year-old woman who had developed symptomatic hyperinsulinaemic hypoglycaemia in her fifth decade. True hypoglycaemia is rare in adults but insulinomas are the most common cause.

In patients with hyperinsulinism and undetectable tumours, activating mutations in the glucokinase (GCK) gene represent a rare but clinically important differential diagnosis. After a prolonged search for a suspected insulin-secreting tumour, the patient and four family members were found to have this GCK gene mutation.

Such clinical conundrums presented at SfE events provide an invaluable opportunity for medical students, undifferentiated trainees and registrars to learn more about the specialty in a friendly environment.

For more information on Endocrinology visit www.endocrinology.org/careers
THE SOCIETY FOR ENDOCRINOLOGY

is a UK-based membership organisation representing a global community of scientists, clinicians and nurses who work with hormones. Together we work to improve public health by advancing endocrine education and research, and engaging wider audiences with the science of hormones.

CLINICAL CAREERS IN ENDOCRINOLOGY AND DIABETES

was compiled and edited by the Society for Endocrinology with contributions from

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