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eyes NEWS

The newsletter of the ESE Young Endocrinologists and Scientists

Food and hormones

How to feed your
endocrine system





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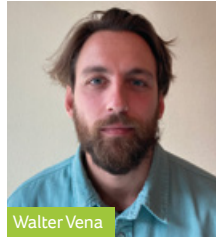
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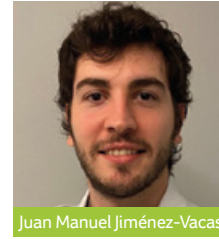
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Editorial



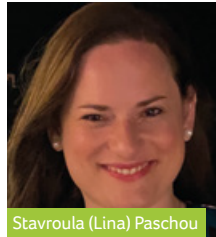
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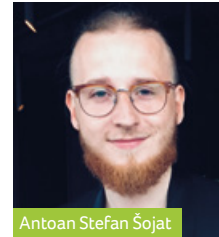
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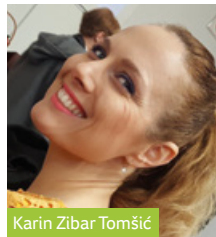
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Karin Zibar Tomšić

Returning home after an EYES Meeting always has a bittersweet taste! We had the opportunity to participate in an amazing gathering just a few weeks ago in Germany. You can read all about it throughout this issue and, hopefully, 'feel' the atmosphere of excitement and enthusiasm that we enjoyed during this historic 10th annual meeting, in the beautiful city of Würzburg (pages 10–11).

The focus of this issue of *EYES News* is the profound and intricate relationship between nutrition and our endocrine glands. They are often tightly connected and influence one another, becoming determinants of our general health.

Indeed, reading through these pages, you will find interesting updates on the influence that nutrition can have on many endocrine systems, including liver metabolism, reproductive hormones, bone and much more (pages 5–8). Malnutrition and food deprivation also majorly affect our hormonal balance, possibly interfering in all major endocrine axes; you can learn more on page 9.

Our amazing scientist interview on page 4 is with Aleksandra Buha Djordjevic. Be inspired by her career journey and read her advice for young scientists. You can also find inspiration in our Observership Exchange Programme stories (page 14). This time we hear the mentors' points of view. You will also discover updates about this and other fantastic projects in the coming months.

Enjoy the read!

Walter Vena
Editor, *EYES News*

EYES News is also available as a fully digital issue at www.eese-hormones.org/eyesnews





From your EYES Co-Chairs

This issue of *EYES News* is buzzing with an incredible new energy, flowing seamlessly across its pages, and we can hardly contain our excitement for the upcoming issues.

Our new EYES Committee Member, Kristina Saravinovska from Serbia, has been collaborating with EYES projects for a long time already. Her arrival on the Committee is like a breath of fresh air, and has inspired us all. As this issue goes to print, Julia Beck (Switzerland) and Karin Zibar Tomšić (Croatia) have also just joined the Committee and we are really happy to welcome them too.

In the warmth of the Austrian summer, the ESE Summer School was a great success again. The diverse four-day programme included lectures, workshops, poster sessions and, of course, the EYES Symposium!

Soon afterwards, September brought us back together for our highlight of the year: the 10th EYES Meeting, in the warm and cosy city of Würzburg, Germany, co-hosted for the first time with YARE (Young

Active Research in Endocrinology), the early career branch of the German Society of Endocrinology (Deutsche Gesellschaft für Endokrinologie). The Local Organising Committee's extraordinary efforts made this meeting unbelievable. The venue was perfect for our exceptional community, and we had the opportunity to spend some time together, doing what we're most passionate about.

It was delightful to hear cutting-edge science and ground-breaking results. We were honoured to host former EYES Co-Chair Lina Paschou, who delivered an amazing talk, raising the scientific bar of the event to an even higher level. Also, we had the opportunity to network outside the scientific context, engaging in superbly organised social events, that allowed us to dive into the local culture for some authentic entertainment, while getting to know many new faces in our continuously expanding community.

Now is the time to get ready for an exciting new season of applications for the EYES Observership Programmes, before the end of the year! Our efforts are taking things up a notch by expanding our centres, connections and research projects. We couldn't be prouder when we hear the life-changing experiences of awardees when they come back from their periods abroad.

Once again, being part of this community is a big source of pride. Witnessing its continuous growth and increasing impact on young endocrinologists and scientists reassures us that we are doing good, and pushes us to achieve even more.

Antoan Stefan Šojat
Walter Vena
EYES Committee Co-Chairs



Würzburg hosted the 10th EYES Meeting

Key dates for your diary

See www.es-e-hormones.org/events-deadlines and watch your inbox for emails with details, Early Bird rates, free places and grant information!

22 January 2024
ECE 2024 abstract submission deadline

28 February 2024
ESE Awards nomination deadline

1–3 March 2024
ICE 2024: 21st International Congress of Endocrinology
Dubai, UAE

15 March 2024
ECE 2024 grant application deadline

25 March 2024
ECE 2024 Super Early Bird registration deadline

11–14 April 2024
WCO–IOF–ESCEO 2024: World Congress on Osteoporosis, Osteoarthritis and Musculoskeletal Diseases
London, UK

22 April 2024
ECE 2024 Early Bird registration deadline

24 April 2024
European Hormone Day

11–14 May 2024

ECE 2024

26th European Congress of Endocrinology
Stockholm, Sweden

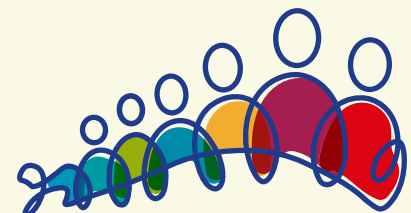


Stockholm, Sweden, venue of ECE 2024

1–4 June 2024
ENDO 2024
Boston, MA, USA

6–8 September 2024
11th ESE Young Endocrinologists & Scientists (EYES) Meeting
Helsinki, Finland

10–13 May 2025



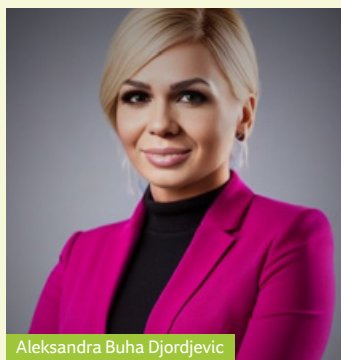
Connecting Endocrinology Across the Life Course

Joint Congress of ESPE and ESE 2025
Copenhagen, Denmark



Amazing careers: Meet Aleksandra Buha Djordjevic

Aleksandra Buha Djordjevic is an Associate Professor in the Department of Toxicology, University of Belgrade in Serbia. Her interests include the toxicology of mixtures and endocrine disruption. She leads the national project 'Decoding the role of the exposome in endocrine health' (DecodExpo). Here, EYES Committee member Karin Zibar Tomšić talks to Aleksandra about her career.



Aleksandra Buha Djordjevic

What motivated your interest in endocrinology?

I am actually a toxicologist with a strong interest in endocrinology. I was attracted to endocrinology by the delicate balance of the endocrine system and its profound impact on the entirety of human physiology. The more I learned about hormones and their signalling pathways, the more I realised the widespread impact of endocrine-disrupting chemicals (EDCs) on health.

EDCs are present everywhere,

from everyday goods to dietary sources. Even small quantities can have long-lasting and potentially irreversible effects on reproductive, neurological and immunological systems, especially during important phases of development, such as fetal growth. Certain EDC exposures in pregnant mothers have been related to cognitive impairments in offspring, with potential IQ point losses and a future economic penalty in the billions.

This emphasises the pervasiveness of EDCs and their long term consequences for human health and society as a whole. It highlights the significance of addressing this problem in both the scientific and policy domains. This pushed me to learn more about these compounds. Having been diagnosed with hypothyroidism myself, this became a personal, as well as a professional, goal.

How did your journey begin?

I earned my Master's degree in pharmacy at the University of Belgrade before choosing to go deeper into the health effects of chemicals, and obtaining my PhD in toxicology from the same faculty.

The more I researched, the clearer the link between chemistry and endocrinology became. This was especially the case during my PhD, when I examined the impacts of real-life chemical mixtures on health, and found the effects of mixtures on our thyroid system at low concentrations.

It was a serendipitous encounter with EDCs that sparked my curiosity, leading to my current role as an Associate Professor at the Department of Toxicology in the University of Belgrade's Faculty of Pharmacy, and as the principal investigator of the DecodExpo research group, which aims to understand the role of EDCs in human endocrine health.

What have been your greatest challenges?

As a young researcher, especially in specialised fields such as endocrine-disrupting substances, I encountered a labyrinth of challenges. Obtaining funding for research was one of the most difficult issues, with increased competition and, at times, limited resources often leading to financial constraints. As research becomes more interdisciplinary, I have often felt the need to form meaningful relationships across disciplines or to gain expertise, which can be difficult and stressful.

I became involved with science communication, so I have had to deal with the complex relationship between endocrine research and public health consequences. Complex scientific discoveries needed to be translated into practical information for educators and the general public, which requires not only competence but also strong communication and advocacy skills.

With the demands of research, teaching and additional academic commitments, striking a work-life balance has often been difficult.

What are the challenges for early career endocrinologists?

Due to significant advances, early career endocrinologists often face

information overload. Furthermore, with the growing intersection of endocrinology and other disciplines, interdisciplinary knowledge is more important than ever. A competent mentor can provide vital assistance, open doors to collaborations, and offer years of experience-based insights. However, not every young researcher has access to effective mentorship, which can be a considerable disadvantage. Finally, there is an urgent need to transfer theoretical research into real outcomes for patient care.

How has this changed since you started out?

When I began, the most difficult obstacle was obtaining proper funding and finding international collaborators. There has, however, been significant progress, particularly in terms of interdisciplinary collaboration and the inclusion of technology into research and treatment modalities. In terms of funding, things have substantially improved, at least in Serbia, where we now have the Science Fund of the Republic of Serbia. This allows early career researchers to become the principal investigators of large projects, enabling them to build their own research groups and test their research ideas.

How can EYES have the best impact?

EYES has enormous potential for facilitating mentorship and collaboration among early career endocrinologists. The EYES community can play a critical role in expediting research communication, fostering multidisciplinary projects, and ensuring that the next generation of endocrinologists is well-prepared to face the field's future difficulties. I was privileged to take part in the EYES Annual Meeting in Zagreb, Croatia, and I can say with certainty that you are on the right track! Also, if I may be a little subjective, EYES could and should form a strong environmental endocrinology group to help support ESE in establishing this important topic among endocrinologists, particularly physicians.

Which endocrinologists have most inspired you?

The work of Professor Josef Köhrle (Germany) on thyroid disorders has been extremely insightful; it served as a guiding light for me early in my journey. Recent studies by Professor Paulina Damdimopoulou (Sweden) on EDCs in reproductive health align with my own current research interests. It has been an honour to be able to collaborate with both of them in ESE's EDC Working Group.

Professor Leonardo Trasande (USA) not only identified the role of environmental exposures (including EDCs) in childhood obesity, neurodevelopmental disorders and other conditions, he extensively studied the economic and health impacts of exposure to these chemicals, which is critical for advocacy and translating science into concrete actions to improve public health. Of course, I must acknowledge my PhD mentor, the late Professor Vesna Matovic, as well as Biljana Antonijevic and Zorica Bulat, both full-time professors in my department, who introduced me to the wonderful world of toxicology.

What is your advice for people setting out in endocrinology?

Embrace the field's complexities with an open heart and a keen mind. Encourage interdisciplinary collaborations, learn about the broader societal ramifications of your work, and never underestimate the power of effective communication. Endocrinology is much more than simply hormones; it is about comprehending life in all of its complexities. Continue to be passionate and curious.

You can watch a video of this interview at
www.e-se-hormones.org/amazing-scientists



Food and hormones

We reveal the current understanding about the complex interplay between hormones, appetite, metabolism and diet.

The ketogenic diet and disorders of female reproduction

Ketogenic diets could provide a non-pharmacological approach to treating key female reproductive endocrine disorders.

The impact of obesity

Obesity gives rise to a range of disorders affecting the female reproductive tract, among them, polycystic ovary syndrome (PCOS) and endometriosis, both of which can lead to infertility. Specifically, obesity has a detrimental impact on women's reproductive health, contributing to the onset or aggravation of endocrine issues within the reproductive system. Visceral fat accumulation and low grade chronic inflammation (both linked to obesity) collectively contribute to disrupt reproduction and to foster fertility challenges.

This impact is particularly notable in conditions like PCOS and endometriosis, which share a chronic inflammatory state exacerbated by obesity. Additionally, chronic inflammation teams up with insulin resistance, compensatory hyperinsulinaemia and hyperandrogenism, creating a combined continuum that influences the pathophysiology of PCOS.

Furthermore, certain reproductive tract disorders, such as breast and endometrial cancer, are more prevalent in women with obesity, due to factors like impaired glucose metabolism, insulin resistance and hyperinsulinism. Obesity escalates the risk of breast cancer, particularly the aggressive triple-negative subtype, and can worsen prognosis. Notably, premenopausal breast cancer tends to exhibit a more aggressive nature, prompting interest in preventive dietary strategies to reduce its incidence.

Additionally, menopause – the natural cessation of reproductive capacity – often leads to heightened obesity risk and shifts in fat distribution, favouring abdominal fat accumulation and increasing health risks. These shifts, caused by decreased oestrogen levels and altered androgen-to-oestrogen ratios, contribute to changes in body composition during menopause. Weight gain, along with increased visceral fat, leads to the secretion of pro-inflammatory adipocytokines, culminating in type 2 diabetes and cardiovascular diseases. Consequently, addressing obesity and its related issues becomes pivotal in postmenopausal women, including managing sleep disturbances – a common postmenopausal symptom.

Clearly, addressing weight excess is crucial in managing endocrine disorders of the female reproductive tract. An effective strategy necessitates a multidisciplinary approach to achieve weight loss and mitigate its adverse health consequences. Although a variety of weight loss strategies are currently available, including different diets,

behavioural interventions, medications and surgeries, fewer than 20% of individuals achieve and maintain significant weight loss over time, leading to frustration and relapse into associated health problems.

A role for ketogenic diets

Ketogenic diets are an effective and increasingly used tool for weight loss. Trimboli clarifies their nomenclature, noting distinctions between very low-calorie ketogenic diets (VLCKDs), low-calorie ketogenic diets (LCKDs) and iso-calorie ketogenic diets (ICKDs), based on calorie and macronutrient content.¹

While VLCKDs are of particular interest for rapid weight loss and improved endocrine and reproductive features, their success in treating endocrine disorders and obesity in the female reproductive system can be attributed to factors like swift fat loss, antioxidant and anti-inflammatory properties, and reduced insulin resistance.

Recent studies highlight the efficacy of ketogenic diets in PCOS.² These diets improve insulin sensitivity, body composition and hormonal imbalances. A ketogenic diet, with its low carbohydrate and moderate protein content, activates beneficial factors like AMPK and SIRT-1, even without caloric deprivation, enhancing glucose homeostasis and insulin sensitivity. A VLCKD's rapid weight loss, insulin resistance reduction and improved ovulation induction make it particularly promising for patients with PCOS, especially when obesity is a co-present factor.²

Regarding cancer, ketogenic diets offer therapeutic potential due to their effects on glucose metabolism, reduction of inflammation and reduction of cancer cell growth.³ VLCKDs (characterised by very low carbohydrate and moderate protein intake) induce glucose deficiency, promoting tumour cell apoptosis. In the field of breast cancer, VLCKDs have demonstrated feasibility and safety, increasing sensitivity to treatment and improving body composition and quality of life. In endometrial cancer, which is closely linked to obesity and oestrogen exposure, VLCKDs could counteract hyperoestrogenic states and cancer progression by reducing insulin and insulin-like growth factor-1, increasing fat loss and improving patient well-being.³

When can you set up a VLCKD protocol?

According to a Consensus Statement of the Italian Society of Endocrinology⁴ and European Association for the Study of Obesity guidelines,⁵



short and medium term studies support the use of VLCKDs in individuals with obesity (body mass index (BMI) $\geq 30.0 \text{ kg/m}^2$) or overweight (BMI $25.0\text{--}29.9 \text{ kg/m}^2$) with abdominal obesity (waist circumference $>88 \text{ cm}$ in women).

In addition, a VLCKD may be recommended when excess body weight is related to co-morbidities including type 2 diabetes mellitus, non-alcoholic fatty liver disease, obstructive sleep apnoea syndrome, and PCOS.^{1,4}

Conversely, some conditions represent absolute contraindications to the use of a VLCKD. In particular, pregnancy and lactation, or childhood and adolescence, are physiological conditions during which a VLCKD should be avoided. Pathophysiological conditions include the presence of co-morbidities such as hepatic, renal, cardiac and respiratory insufficiency, type 1 diabetes, myocardial infarction or recent cerebrovascular stroke, and severe psychiatric disorders. In addition, eating disorders and alcohol and substance abuse are contraindications for VLCKDs.^{1,4}

**Ludovica Verde, Luigi Barrea
and Giovanna Muscogiuri**
Italy

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Diet and thyroid: myth or reality?

Can the occurrence or course of thyroid disease be influenced by diet?

Normal thyroid function depends on a variety of trace elements (e.g. iodine, selenium) and minerals (iron, lithium, copper, zinc, magnesium, etc.), and their interaction in thyroid hormone synthesis and metabolism. Excess or deficiency of one or more elements can lead to thyroid dysfunction.¹ It is well known that iodine supplementation through universal salt iodisation significantly reduced the incidence of severe hypothyroidism.

Most micronutrients are taken into the body through a healthy balanced diet, and supplementation is not necessary. On the other hand, many thyroid patients tend to avoid conventional therapy and turn to alternative and

dietary approaches that have no proven benefit or have not been well studied (see Table).²

Actually, no specific food or supplement recommendations have proved beneficial in treatment of any thyroid disorder. Moreover, excessive iodine intake or over-supplementation can induce or worsen thyroid dysfunction (both hypothyroidism and hyperthyroidism), and therefore it is not recommended in patients with thyroid disease.³ Although there is some evidence that selenium supplementation reduces thyroid peroxidase antibody titre in hypothyroidism and improves immune function, besides its role in preventing mild Graves' orbitopathy deterioration, there are

no general recommendations advocating use of selenium for thyroid disease alone.⁴

There is little to no evidence of other compounds, such as vitamin B12, low dose naltrexone and Indian ginseng, having any impact on thyroid disorders.² Some, but not all, observational studies have found low blood levels of vitamin D in patients with thyroid disease; however, a causal relationship between those two entities has not yet been proven.⁵

Soya and iron- and calcium-rich foods and supplements interfere with levothyroxine absorption; a gap of at least four hours for iron and calcium supplements would be adequate to ensure there is no significant impact on blood thyroxine levels.² Some propose complete avoidance of soya if levothyroxine is used. Avoidance of gluten and dairy has positive impacts only in patients with concomitant sensitivities to those substances, probably by recovery of intestinal mucosa and improved levothyroxine absorption.²

The most common dietary supplements or interventions among thyroid patients

Supplement/intervention	Remarks
Iodine	Excessive intake can cause hypothyroidism or hyperthyroidism in susceptible individuals
Kelp	Contains an excessive amount of iodine
Indian ginseng	No evidence of benefit in thyroid disease, can interfere with levothyroxine absorption
Selenium, zinc	No clinical evidence of benefit in thyroid disease
Soya, calcium, iron	Interfere with levothyroxine absorption (postpone supplement use for at least four hours)
Vitamin D, vitamin B12	No causal relationship with thyroid dysfunction; deficiency should be supplemented according to current guidelines
Gluten- or dairy-free diet	Effective only if there is concomitant coeliac disease or lactose intolerance

Tanja Miličević Milardović
Croatia

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The perfect diet for healthy bones

A physiological, gradual loss of bone mass occurs in adult life, often leading to osteoporosis and a higher risk of fractures.

Genetic factors are strongly related to the 'peak' bone density reached in younger people, but many studies have linked nutritional intake to bone metabolism, especially in later life.¹ In this regard, dietary measures, especially concerning calcium and protein intake, are widely recommended among international guidelines for management of bone health.

Among micronutrients, calcium is crucial for good bone metabolism, especially in early childhood, when its intake is encouraged as milk. The recommended daily allowance (RDA) of this mineral ranges between 800 and 1200mg,² and dairy products, as well as calcium-rich mineral waters, are considered the most valid, biologically available, dietary sources of calcium. Adequate calcium intake can reduce fracture risk, if associated with vitamin D supplementation. Besides calcium, adequate phosphorus and magnesium intake are essential for bone mineralisation. Although dairy products remain their main dietary source, grains are also rich in phosphorus, and regular consumption should be considered.

In addition to micronutrients, an adequate daily protein intake is considered protective for bone health, especially in the elderly.

Indeed, protein intake is a key regulator of insulin-like growth factor-1 production, which is directly responsible for trophism of skeletal muscle, cartilage and bone, as well as indirectly favouring uptake of calcium and phosphate by the intestines, via the renal synthesis of calcitriol. The RDA for protein is 0.8g/kg in adults but, in view of reduced protein assimilation in elderly subjects, daily intake can be increased to 1.0–1.2g/kg, to prevent sarcopenia and protect bone health.³

Dairy products provide both protein and calcium, allowing achievement of RDA through two or three servings per day. Higher protection from fractures is linked to fermented dairy products: yogurt or cheese. Moreover, the presence of prebiotics in fibre-rich foods significantly improves the balance of the gut microbiota, which is known to be responsible for overall health. In the elderly population, this also enhances nutrient absorption, with an overall positive effect on bone density and fracture risk.⁴

Walter Vena
Italy



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Fat-rich diets and liver health

Dietary management is crucial in caring for people with non-alcoholic fatty liver disease (NAFLD), now known as metabolically associated steatotic liver disease (MASLD).

NAFLD is a chronic liver condition ranging from simple steatosis to steatohepatitis (NASH) with or without significant fibrosis. With rapidly increasing rates of incidence, the estimated global prevalence of NAFLD is around 30% of the population, with progression to cirrhosis in around 1–2%.¹

A new name

NAFLD encompasses various fatty liver diseases that are not caused by excessive alcohol consumption, viral hepatitis, drug-induced liver disease or monogenic conditions. Recently, a Delphi consensus led to a new nomenclature: steatotic liver disease (SLD).² SLD includes:

- MASLD – metabolically associated SLD
- MetALD – a combination of MASLD with secondary causes
- Cryptogenic SLD – SLD without metabolic features or due to other causes.

This article will use the term MASLD to replace NAFLD, aiming to identify the same group of patients.

Identifying MASLD

MASLD is defined as evidence of steatosis on imaging or biopsy, along with at least one of several cardiometabolic risk factors. These include a body mass index (BMI) $\geq 25 \text{ kg/m}^2$ or waist measurement above specified thresholds adjusted for sex and race, elevated fasting glucose levels or diabetes diagnosis, high blood pressure or antihypertensive treatment, elevated plasma triglycerides or lipid-lowering treatment, and low levels of high density lipoprotein–cholesterol.²

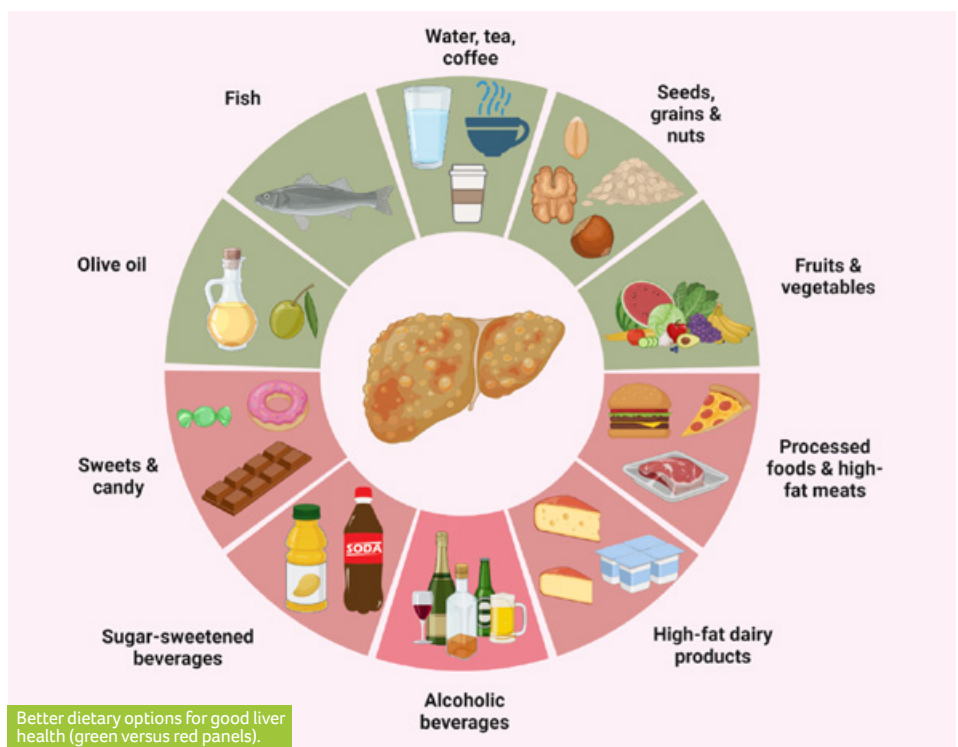
MASLD is, as such, linked to the insulin resistance syndrome, also called metabolic syndrome. Indeed, the condition is linked to chronic excess caloric consumption and lack of physical activity. It is known that the Western diet, rich in carbohydrates and saturated fats, is a major contributor to the development of steatosis.³ Evidently, this can be directly attributed to the caloric excess that these foods represent.

But what is exactly the 'Western diet'? It is a modern dietary pattern, highly characterised by pre-packaged foods, refined grains, red and processed meat, sugar-sweetened beverages, industrially produced animal products, high-fat dairy products and fried products (see Figure). If broken down in structural components, it is a diet low in vegetables, and high in sugar, sodium and especially saturated fats.

Saturated fats in the diet

Fats can be divided into three groups: trans-fatty acids, unsaturated fats and saturated fats. Saturated fats have a reinforcing effect on liver fat accumulation.

One particular study examined the addition of muffins high in saturated fats versus those high in unsaturated fats to the diet of participants. Weight gain was similar in both groups, but liver fat content increased significantly in the group receiving high saturated fats.⁴ Similar results



were seen in a trial with overfeeding using saturated fats versus unsaturated fats versus simple sugars over three weeks.⁵ Thus, since the importance of reducing saturated fats in the diet is established, foods rich in palm oil (such as processed foods), butter and other high fat dairy products, and high fat meats (such as sausages) must be avoided, as well as cakes, ice creams and other sweets.³

The Mediterranean diet, rich in nuts, seeds, vegetables, olive oil, fish and wholegrains high in fibre, is highly recommended, since it is a good source of essential unsaturated fats (*n-3* fatty acids) but lacks saturated fats. Extra attention must be made to sugar-sweetened beverages, since they are not energy-dense, but also contain refined sugars such as sucrose, fructose or high-fructose corn syrup, that are easily converted into fats.⁶

Other factors to consider

Obviously, MASLD is more than just the consumption of too many saturated fats, and multiple risk factors and molecular pathways are at play. MASLD is, in essence, a condition of excess intrahepatic triglyceride accumulation, which stems from the relative imbalance of lipid inflow and lipid removal in the liver. Lipid influx is derived from a number or sources, of which dietary intake is estimated at around 15%. Other sources are adipose tissue lipolysis and *de novo* lipogenesis. So, if only 15% is dietary, why is it so important? Because nutritional lipids are the only depot that we can actively control.

We should also note that the molecular effects of several nutrients on organ receptors are still largely unknown, while the composition of our food is getting increasingly difficult

to monitor, creating an important paradox. Different dietary patterns and nutrients may promote hepatic lipid accumulation by acting on a variety of hepatic nuclear receptors. Most is known about the liver X receptor and peroxisome proliferator-activated receptors, or PPARs. These PPARs are currently one of the most promising targets in pharmaceutical attempts to treat hepatic steatosis. Despite this, we are still guessing how most of our processed foods might contribute to hepatic steatosis.

In conclusion

Nutrition and diet have a significant impact on MASLD (formerly NAFLD). A balanced diet with a reduced caloric intake, an emphasis on essential fats and avoidance of saturated fats and added sugars is essential for managing and potentially reversing MASLD, coupled with lifestyle modifications, including regular physical activity and weight management. It is crucial for individuals with MASLD to seek professional guidance from healthcare experts to tailor an appropriate diet plan and monitor liver health effectively.

Jonathan Mertens
Belgium

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Phyto-oestrogens: good or bad?

The impact of the dietary consumption of these plant compounds, with a chemical structure similar to oestrogen, has yet to be well understood.

There are several types of phyto-oestrogens, the most common being isoflavones, lignans and coumestans. Isoflavones are found in soybeans and soy products. Lignans are abundant in flaxseeds, wholegrains, and certain fruits and vegetables. Coumestans are present in alfalfa sprouts and clover.

Phyto-oestrogens interact with oestrogen receptors (ERs), have a higher affinity for ER β than for ER α , and exert oestrogenic or anti-oestrogenic effects. However, not all biological effects of phyto-oestrogens involve the ER.¹ They can also activate the serotonergic and insulin-like growth factor-1 receptors, induce free radical binding, and modify tyrosine kinases, cyclic AMP, MAP proteins, and the PI3K/Akt pathway. In addition, they can act as intracellular regulators of apoptosis and the cell cycle. Hence, phyto-oestrogens have gained attention for their antioxidant, antiproliferative, antimutagenic and antiangiogenic potentials.

Phyto-oestrogens may lower the risk of osteoporosis, some cardiometabolic diseases, cognitive dysfunction, breast and prostate cancer, and menopausal symptoms. This occurs through modulation of the endocrine system. However, phyto-oestrogens have also been

described as endocrine disruptors, and some believe that their beneficial effects have been overestimated.

The impact of phyto-oestrogens can vary according to life stage. In children, there is poor evidence that phyto-oestrogens alter sex hormones and have goitrogenic effects in conditions of insufficient iodine intake. In adulthood, some effects have been found only in men (goitrogenic effects and reduction of insulin levels in patients with non-alcoholic fatty liver disease) and in menopausal women (improvement of the glycometabolic profile, goitrogenic effects and reduction of cardiovascular risk factors). No effects were found in premenopausal women. There is particular concern about how they act in pregnant women, as this has been poorly studied. However, the available evidence suggests an improvement in insulin metabolism.²

In general, the available evidence for an association between dietary phyto-oestrogens and endocrine function is inconclusive. The disparity in results may be due to differences in the types and concentrations of the compounds administered. This could influence



phyto-oestrogen bioavailability and consequently hormonal function. There is a need for further, well designed, randomised control studies to clarify the effects of dietary phyto-oestrogen consumption on the human endocrine system.

Settimio D'Andrea
Italy

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Your diet can boost testosterone

Testosterone is a powerhouse hormone, whose extraordinary influence goes beyond muscles and masculinity.



Testosterone is a key player in sexual development in men and in bone strength for both men and women, among other functions. However, recent decades have unveiled a surprising trend – a dip in average testosterone levels, leaving many feeling fatigued, less frisky, and with weakened bones.

One of the culprits behind this shift? Look no further than the rise of obesity. This modern epidemic not only brings its own health concerns, it is also intricately linked to declining testosterone levels. Mild obesity subtly alters total testosterone, due to insulin resistance-associated reductions in sex hormone-binding globulin (SHBG), while severe cases suppress the hypothalamic-pituitary-testicular axis, resulting in a decline in free testosterone.

But fear not: your diet is a powerful ally in this hormonal battle. Enter the superhero squad of nutrients! Foods rich in flavonoids (found in everyday heroes such as green tea, red wine and olive oil) act as guardians, thwarting the conversion of testosterone to oestradiol. Boron – packed into fruits, tubers and even that morning cup of coffee – possesses proven testosterone-boosting capabilities.

Next we must zoom in on the dynamic duo – zinc and magnesium. They are found in the unsung heroes of the snack world, nuts. These minerals work stealthily to maintain testosterone levels, with zinc playing a role in its synthesis and secretion, and magnesium enhancing its bioavailability by reducing testosterone binding to SHBG.

And let's not forget vitamin D, the sunshine vitamin. Found in eggs and fatty fish, it orchestrates a hormonal masterpiece by boosting the conversion of cholesterol to testosterone.

The takeaway message is crystal clear: your dietary choices wield the power to tip the scales in favour of appropriate and healthy testosterone levels. While lifestyle factors like exercise, sleep and overall health play their part, strategic food choices can elevate your hormonal harmony. It's time to eat your way to revitalised hormones and embrace a healthier, more energised version of yourself.

So, what's on your plate today? A testosterone-boosting feast awaits!

Juan Manuel Jiménez-Vacas
USA

'Your dietary choices wield the power to tip the scales in favour of appropriate and healthy testosterone levels.'



Food deprivation and hormones

Energy deprivation is responsible for alterations in the endocrine–metabolic system, involving almost all axes. It can manifest as relative or absolute deprivation, with progressive severity up to anorexia nervosa, which has become the most studied clinical model in humans.

Hypothalamic–pituitary–adrenal (HPA) axis

The HPA axis is hyperactivated in anorexia nervosa (increased levels of plasma, urinary and nocturnal salivary cortisol, and decreased response to suppression tests). These alterations may be the basis of some mechanisms of the disease, persisting after weight recovery, as well as being a direct expression of food deprivation.¹

In functional magnetic resonance imaging (fMRI) studies,² cortisol has been found to be negatively associated with appetite, regardless of body mass index and depressive symptoms. These findings have been associated with differences in the activation of brain areas involved in the search for food. Alterations observed by fMRI persist in those women who have weight regain but maintenance of altered appetite perception.

Food deprivation itself induces HPA hyperactivation. The mechanisms involved seem to be the attempt to maintain euglycaemia, exploiting the hyperglycaemic action of cortisol. This hypercortisolaemic state contributes to worsening other manifestations in anorexia nervosa, such as reduced bone mineral density and impairment of gonadal axis activity.³

Hypothalamic–pituitary–gonadal (HPG) axis

In anorexia nervosa, there is a derangement of several nervous, metabolic and hormonal pathways resulting in reduced hypothalamic gonadotrophin-releasing hormone (GnRH) secretion, finally causing hypogonadism.^{1–3} This is generally related to the increased neuroendocrine response to stress. The increased corticotrophin-releasing hormone (CRH) secretion is involved in increased endogenous opioids, leading to the reduction in pulsatile GnRH secretion, while the use of opioid antagonists partially restores it and increases luteinising hormone.

Acute and chronic stress is also responsible for the increase in gonadotrophin inhibitory hormone (GnIH) which reduces kisspeptin and GnRH secretion.³ GnIH neurones also express glucocorticoid receptors, reinforcing the role of glucocorticoids in impairing the HPG axis.

Hypogonadism, together with hypercortisolism, contributes to the reduction in bone mineral density and to depression in anorexia nervosa.^{1,3}

Somatotrophic axis

In conditions of energy deficit, an increased secretion of growth hormone (GH) and a reduction in insulin-like-growth factor-1



(IGF1) levels are observed.⁴ Increased GH levels may have a protective role, by stimulating gluconeogenesis and lipolysis to maintain euglycaemia, while low IGF1 levels may be an adaptive response to preserve energy by decreasing expenditure on growth.^{1,4} There are several mechanisms that explain these alterations. IGF1 regulates GH secretion via negative feedback. However, in patients with anorexia nervosa, IGF1 administration inhibits (but does not normalise) GH secretion, meaning that the lack of feedback is not the only mechanism.^{1,4}

The lack of nutrients could itself have a direct impact on the somatotrophic axis. The increase in free amino acids, due to protein catabolism, could determine a stimulating effect on GH secretion. In conditions of chronic hypoglycaemia, such as anorexia nervosa, reduced insulin release may contribute to increased GH secretion. Insulin can activate the IGF1 receptor and inhibit GH synthesis, modulating IGF1 and IGF-binding protein synthesis and peripheral GH sensitivity. Malnutrition reduces the availability of GH receptors and induces acquired GH resistance through a series of post-receptor mechanisms controlled by the availability of glucose and amino acids, thus IGF1 secretion is dependent both on GH and on nutrient availability.^{1,4}

Hypothalamic–pituitary–thyroid axis

In cases of anorexia nervosa, it is common to find a decrease in tri-iodothyronine (T3), with normal/low thyroxine (T4) and normal/low thyrotrophin values. The 'low T3 syndrome' is common to other conditions of malnutrition and chronic illness, and represents an adaptive response to reduced caloric intake and an attempt to reduce energy expenditure, due to an increase in peripheral T4 deiodination to give reverse T3.¹

Prolactin secretion

Both reduced basal prolactin secretion and abnormal responses to stimulatory and inhibitory tests have been found in women with anorexia nervosa. Some data suggest an increased dopaminergic inhibition as the underlying mechanism. However, increased prolactin values can also be the consequence of psychoactive drugs.⁵

Adipocitary and gastrointestinal hormones

In anorexia nervosa, among adipokines, leptin shows an unequivocal alteration in the form of a reduction. At the hypothalamic level, low leptin stimulates CRH release and negatively affects kisspeptin gene transcription, thus impairing GnRH release. It has also been involved in the regulation of GH through its effects on neuropeptide Y neurone activity.

Increased levels of ghrelin, an orexigenic hormone mostly secreted by gastric cells, has been found in anorexia nervosa. It is a secretagogue of CRH and GH, and can exert an inhibitory action on GnRH.¹

In summary

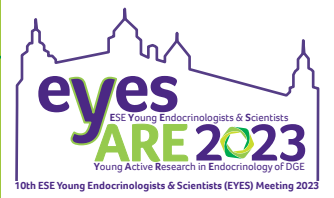
The dramatic food deprivation that characterises anorexia nervosa is associated with several endocrine alterations. Most of them are of a functional nature and related to food deprivation. However, some, such as HPA dysregulation, may be involved in the maintenance of the disease and its symptoms, even in weight-recovered cases, through altered perception of appetite and eating behaviour dysregulation.

Laura Gianotti and Gianluca Margiotta
Italy

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‘The dramatic food deprivation that characterises anorexia nervosa is associated with several endocrine alterations.’



EYES and YARE meet in Würzburg

This year, EYES, the early-career members of ESE, met jointly with Young Active Research in Endocrinology (YARE), bringing together 128 clinicians and researchers from 22 different countries across Europe and beyond.

The meeting, in Würzburg, Germany, on 8–10 September 2023, fostered a rich exchange of ideas and perspectives. Attendees had the opportunity to learn about cutting-edge advances across basic, translational and clinical endocrinology.

A total of 79 abstracts were presented, spanning nine session topics and two guided poster events. They have been published in *Endocrine Abstracts* (www.endocrine-abstracts.org/ea/0093). The speakers were honoured with 11 scientific prizes.

The winners of the awards for the two best oral presentations were:

Alessandro Brunetti (Italy) for 'Bone fragility in well-differentiated gastroenteropancreatic neuroendocrine tumours: results from a retrospective two-centred study'

Nesrine Benanteur (France) for 'Transcriptome in paraffin samples for the diagnosis and prognosis of pituitary neuroendocrine tumors (PitNETs)'.

Alessandro will give a presentation during the EYES session at ECE 2024 in Stockholm, Sweden, while Nesrine will speak at the YARE session during the Deutsche Gesellschaft für Endokrinologie (DGE) annual conference.



Attendees at the EYES/YARE joint meeting

The joint EYES/YARE meeting featured prominent keynote speakers, such as YARE founder Martin Fassnacht (Germany), Mirjam Christ-Crain (Switzerland), Pedro Marques (Portugal), Lina Paschou (Greece) and Christoph Wanner (Germany), who shared their expertise and insights on various aspects of endocrinology, as well as skill-building and career development.

Networking opportunities also supported career development and knowledge sharing. Social events included the Abendliche Frankenrundfahrt boat trip on the River Main and a dinner followed by live music at the Biergarten.

We thank the Local Organising Committee members, ESE and DGE for their hard work and support in organising the meeting, which made this conference a great success. We also thank the sponsors and, importantly, all the attendees.

Barbara Altieri and Laura-Sophie Landwehr
Chair and Co-Chair of the Local Organising Committee

The other Local Organising Committee members were: **Irina Chifu, Mario Detomas, Ulrich Dischinger, Carmina Teresa Fuß, Karen Gronemeyer, Otilia Kimpel, Simon Kloock, Lydia Kürzinger, Hanna Remde, Marc P Schauer and Johanna Werner.**



An evening at the Biergarten

Award winners at EYES 2023



'I am honoured to receive this award at my first EYES Meeting, but I am even more grateful for the chance to interact with so many young and talented scientists. Young researchers in endocrinology should join EYES, since it is a rare opportunity to grow professionally at a European level.'
Alessandro Brunetti, Italy
Best Oral Presentation



'My first EYES Meeting was an eye-opening experience, making me realise how important and enriching opportunities to meet other young scientists are. I feel grateful and honoured to have had the opportunity to present my PhD work alongside other brilliant projects, and to win an award for it.'
Nesrine Benanteur, France
Second Best Oral Presentation



The delegates' perspective

'The experience of this, my first international congress, has been phenomenal. It has inspired me to actively participate more in the scientific community, as there was so much warmth, inclusion and positivity from so many inspirational scientists, each doing such great work in the field. This has opened doors for me, because I felt very welcome and encouraged to share our work, and the networks formed will hopefully allow us in Africa to collaborate more with our European colleagues. This signals exciting times ahead!'

Ruchika Mehta, South Africa

'Being a Brazilian living in Germany, I would say that participating in EYES/YARE 2023 has been a revelatory journey, revealing the vastness and intimacy of our world simultaneously. Interacting with colleagues from diverse countries, it becomes evident that – despite our unique origins – we share a multitude of commonalities. Our collective passion for endocrinology and science unites us, enabling us to recognise ourselves in the midst of colleagues from varied backgrounds, all sharing a pursuit of excellence, and able to celebrate it together. This experience is nothing short of extraordinary and deeply enriching.'

Júnia ROL Schweizer, Germany

Boat trip on the River Main



'Attending the EYES/YARE 2023 meeting in Würzburg was an exceptional experience for young early career endocrinologists like myself. The conference provided an excellent platform to present research on an international stage, enabling us to share our findings and to engage in meaningful scientific discussions with experts from different fields. Next to the scientific aspect, the conference's social programme facilitated networking and collaborations with colleagues from all over Europe. The meeting perfectly balanced professional development with personal contacts, leaving a lasting impression on us. I'm already looking forward to next year.'

Julia Beck, Switzerland

'This was my first EYES meeting and I was surprised to see how well organised it was. The scientific programme covered all the major topics of endocrinology, so everyone could find their topic of interest. On the other hand, the social events were quite unique, where we could make new friendships and plans for the future.'

Pavle Puzigaca, Spain



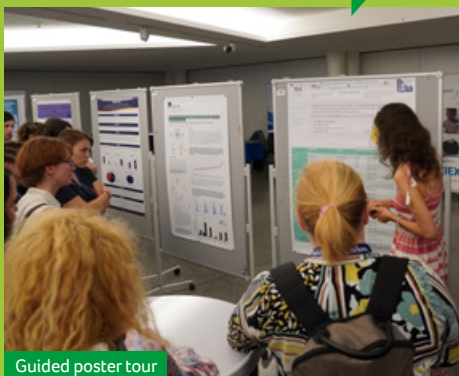
A group of LOC members



Delegates during a presentation

'To anyone reading this: please, give yourself a present and attend as many EYES meetings as you can. In a few words, the last one in Würzburg was a blast! I had the opportunity to learn, grow and present my research in front of world-leading experts and, at the same time, I enjoyed life, meeting new friends from all over the world. I started going to EYES meetings last year (too late, I know, but I'm trying to make up for it) and you know what? I am already looking forward to the next one! Hope to meet you in Helsinki!'

Marilyna Romeo, Italy



Guided poster tour

Your EYES Committee

We are pleased to welcome Julia Beck, Kristina Saravinovska and Karin Zibar Tomšić to the EYES Committee. We thank Lina Paschou and Alessandro Prete who are standing down from the Committee, and have made huge contributions to the EYES community.

Member	EYES Committee roles	Early career representative on...
Antoan Stefan Šojat (Serbia)	Co-Chair ROP and COP Lead	ESE Executive Committee (ex-officio) ESE Clinical Committee ESE Summer School Planning Group
Walter Vena (Italy)	Co-Chair Editor, <i>EYES News</i>	ESE Education Committee <i>Endocrine Views</i> Editorial Board ECE 2024 Programme Organising Committee
Barbara Altieri (Germany)	EYES 2023 Local Organising Committee	ESE Rare Disease Committee ESE Membership Committee
Julia Beck (Switzerland)	To be announced	
Juan Manuel Jiménez-Vacas (USA)	ROP Co-ordinator Deputy Editor, <i>EYES News</i> Social Media	ESE Science Committee
Jonathan Mertens (Belgium)	Secretary EYES Gmail Inbox	EuroCompass Project
Kristina Saravinovska (Serbia)	COP Co-ordinator Social Media	
Karin Zibar Tomšić (Croatia)	To be announced	



Summer School success!

The 2023 ESE Summer School took place in the heart of the breathtaking Austrian Alps, on 18–21 June.



Attendees at Summer School 2023

ESE Summer School 2023 transformed Innsbruck into a vibrant hub for endocrinology. It brought together leading experts and early career investigators, clinicians and researchers from around the world.

The warm welcoming session led by Josef Köhrle and Martin Fassnacht (Germany) set the tone for what was an inspirational experience. A mind-blowing lecture from Timo Müller (Germany) dazzled the audience with novel pharmacotherapy approaches to tackling obesity and diabetes. Participants also had the chance to dive into the world of machine learning in endocrinology, with a dedicated session organised by EYES, which featured distinguished experts including Michael Biehl (The Netherlands), Alessandro Prete (UK) and Smarti Reel (UK).

The four-day programme included specialised sessions on bone health, male reproduction and adrenal endocrinology, as well as a thought-provoking excursion into the intricate world of gut–brain crosstalk. These sessions were delivered by top-notch lecturers, unveiling the latest trends in endocrinology.

What added to the uniqueness of this event were the engaging breakout workshop sessions, where participants had the opportunity to brainstorm with the lecturers, creating a dynamic and collaborative learning environment. At the end of each very productive day, we embarked on guided poster tours, where early career investigators showcased their outstanding work, sparking vibrant and engaging discussions.

The memories of this event were completed by the sports activities. We got our hearts pumping with daily activities such as soccer and volleyball, and also a walk to the lake, followed by an afternoon swim.

The EYES Committee is delighted to have contributed to the ESE Summer School by organising the EYES symposium and assisting in the realisation of the Summer School's vision. The event was a perfect blend of learning, networking and fun, making it an experience to remember.

See you next year in Innsbruck!

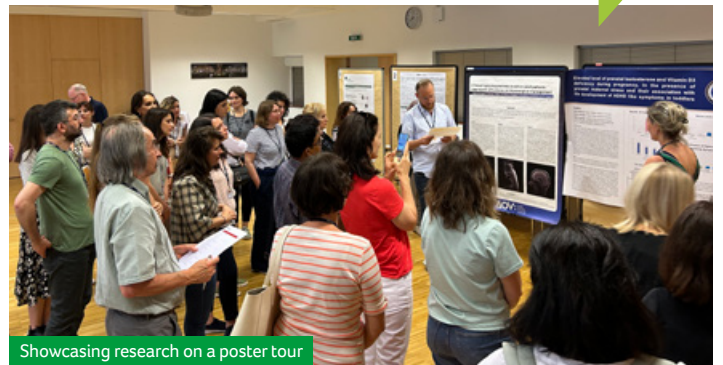
Kristina Saravinovska
Serbia

'I had the great chance to participate in the ESE Summer School 2023. It has been an amazing experience that I really recommend to everyone who would like to get in touch with the scientific world of endocrinology. ESE Summer School welcomed me like a big family, where I could familiarise myself with the most challenging scientific topics, thanks to excellent international speakers and researchers. And, as the best things must be shared, the ESE Summer School is the place where you can build scientific connections and friendships across Europe. Thank you ESE Summer School for having offered me scientific inspiration, fun and new friendships in the same experience!'

Irene Gagliardi, Italy

'It was a great pleasure to join this year's ESE Summer School. The schedule included a good mix of lectures, interactive breakout sessions, poster sessions and social events. I enjoyed the great variety of talks given by speakers with very diverse backgrounds. The sessions covered topics like introductions to and applications of machine learning, male infertility, gut–brain crosstalk, and bone diseases. My personal highlight was the opening lecture by Timo Müller on "Novel pharmacotherapies to treat obesity and diabetes", as well as his breakout session focusing on necessary features for a good design of obesity drugs. The atmosphere during the Summer School made it easy to connect with the other participants and professors on a scientific and personal level. To sum up: I had an amazing time, and I can highly recommend joining next year's event!'

Neele Wewer, Germany



Showcasing research on a poster tour



Relaxing after volleyball



Introducing EndoCompass

EYES is thrilled to introduce you to a ground-breaking initiative that is set to shape the future of medical research in Europe: the EndoCompass project (originally called the Research Roadmap).



EndoCompass

Research roadmap for better hormone health

Imagine a map that guides us towards a healthier future by pinpointing the needs and opportunities in endocrine health and disease.

Imagine a team of leading scientists combining their expertise to locate the most challenging and undisclosed areas of our field.

What is EndoCompass?

This visionary project, led by ESE, is all about identifying specific research needs that can revolutionise healthcare across Europe and improve the well-being of millions of people.

Our first priority is to communicate with the European and national research and health policymakers and funding bodies, since they are the primary source of funding in Europe. They need advisors, to target the funding effectively. And who is better to advise them than the researchers themselves?

By providing them with expert insights, EndoCompass will be a powerful tool to channel resources where they matter most.

EndoCompass will reflect the aspirations of the European endocrine community. By taking advantage of the expertise of the ESE Focus Area Leads and other leaders in endocrine health and disease, the project will generate specific recommendations through consultation and discussion.

Your input matters! When a draft EndoCompass Roadmap is ready, you and other members of the community will be asked for your views.

This project will bring the whole European endocrine community closer together. It will demonstrate the attractiveness of endocrine research and share this far beyond the limits of local scientific communities.

Find out more at www.es-e-hormones.org/roadmap.

Who is leading EndoCompass?

This project is formally owned by the ESE Science Committee, led by Committee Chairs Eleanor Davies and Martin Fassnacht. A supervisory Steering Group will make sure members of the Executive Committees of ESE and the European Society for Paediatric Endocrinology (ESPE) are involved (see right).

How is EYES involved in EndoCompass?

Any early career investigator can volunteer to get involved. If you are interested, please contact project manager Srđan Pandurević (srdan.pandurevic@ese-hormones.org).

So far, the following early career investigators have been assigned to working groups corresponding to the different ESE Focus Areas.



Barbara Altieri
(Germany)
Adrenal and Cardiovascular



Vera Bonderovic
(Serbia)
Environmental



Mirela Diana Ilie
(France)
Pituitary and Neuroendocrinology



Heleen Jansen
(The Netherlands)
Thyroid



Juan Manuel Jimenez-Vacas
(USA)
Endocrine-related Cancer



Jonathan Mertens
(Belgium)
Diabetes, Obesity, Metabolism and Nutrition



Giorgia Spaggiari
(Italy)
Reproductive and Developmental



Karin Zibar Tomšić
(Croatia)
Calcium and Bone

Project Steering Group

Martin Fassnacht
(Clinical co-Lead)
Eleanor Davies
(Basic co-Lead)
Jérôme Bertherat
Anita Hokken-Koelega
Cynthia Andoniadou
Felix Beuschlein
Martine Cools
Evelien Gevers
Simona Glasberg
Anton Luger
Robin Peeters
Alberto Pereira
Martin Reincke
Volkan Yumuk

‘By providing policymakers and funding bodies with expert insights, EndoCompass will be a powerful tool to channel resources where they matter most.’



Observership Programme expands for 2024: New EYES ROP Advanced!



We are excited to announce the launch of a new grant: EYES ROP Advanced. This is the next stage of the EYES Research Observership Programme (EYES ROP).

EYES ROP Advanced will allow recipients to conduct basic or translational scientific projects at their allocated ROP centre for up to three months, supported by a grant of up to €3000 per awardee.

The new programme will complement the existing EYES ROP. It is aimed at experienced basic and translational scientists and clinicians who have previously worked on basic or translational projects at an advanced level. Applicants will need to specify their previous experience and will have a chance to participate in ongoing projects in EYES ROP centres.

Individuals will not be able to apply for both the standard ROP grant and ROP Advanced in the same application round.

Look out for more details and calls for 2024 applications in December 2023: see www.es-e-hormones.org/grants.

EYES COP and ROP: the mentors' view

We asked two mentors from the Observership Programmes to give us an insight into why they devote their time to supporting this initiative.



Dragana Miljić
Assistant Professor of Internal Medicine and Endocrinology, University Clinical Centre of Serbia, Belgrade, Serbia

During my internship, I spent two months in London at the Royal Free and Middlesex Hospitals as a clinical observer in the endocrinology department. I joined my senior colleagues in outpatients and grand rounds, and made valuable contacts. My social life was also great. This experience influenced my decision to pursue a career in endocrinology and, many years later, to accept mentorship for the EYES Clinical Observership Programme (EYES COP). Having the opportunity to experience both roles, clinical observer and mentor, is a great privilege: twice exciting and inspiring.

My own experience from many years ago, helped me create a new one. EYES COP recipient Barbara Brominska from Poznan, Poland, visited us at the Department of Neuroendocrinology and the National Centre for Fertility and Gender Endocrinology at the University Clinical Centre of Serbia in Belgrade in March 2023.

As a very active and accomplished young endocrinologist, Barbara was engaged in our outpatient clinics, admissions, ward rounds and seminars. She had the opportunity to visit the Institute of Biological Sciences and observe basic science experiments in translational endocrinology. Our social activities balanced the busy clinical schedule with time to unwind, enjoy the friendly atmosphere, and see the sights. One of the highlights was our hiking trip in the countryside.

United by endocrinology, we had the opportunity to learn from each other, meet new friends, connect, and enjoy the role of EYES networking in shaping the future of European endocrinology.



Pierre Val
Group Leader, Genetics, Reproduction and Development Institute (iGrED), Clermont-Ferrand, France

I think, for the lab, it's always good to have people coming from abroad, with a different perspective on research and life. It's also a good way of confronting opinions and reflecting on how research is done throughout Europe, and how we could collaborate better with initiatives such as the EYES Research Observership Programme (EYES ROP).

From the applicants' perspective, they have the opportunity to discover projects and techniques that they are usually not familiar with. It's a great opportunity for them to meet new young colleagues with whom they can keep in touch to develop their network. They also have time to discover the country and culture outside the lab.

Certainly mentors played a significant role in inspiring my experience as a young researcher. Antoine and Marie Martinez were amazing mentors for me as a graduate student, as was Amanda Swain when I was a post-doc in London. They were and are still an inspiration for my career. Not only did they communicate their amazing enthusiasm, but they also taught me a lot about research ethics, for which I am very grateful!

'I think, for the lab, it's always good to have people coming from abroad, with a different perspective on research and life.'



ECE 2024 in Stockholm

The 26th European Congress of Endocrinology will take place in Stockholm, Sweden, on 11–14 May 2024. The meeting's hybrid format means you can attend in person or remotely with ECE@Home.

As well as the huge range of award and plenary lectures from leading experts, and sessions on all aspects of basic, translational and clinical endocrinology, you can look forward to the EYES Symposium and ever-popular EYES social events. Make sure you don't miss Europe's leading event for education and networking in endocrinology.

You can find more details, including the Preliminary Programme, at www.es-e-hormones.org/ece2024

Deadlines

Abstract submissions:

22 January 2024

Grant applications:

15 March 2024

Super Early Bird registration:

25 March 2024

Early Bird registration:

22 April 2024

ESE/ESPE Joint Congress for 2025

'Connecting Endocrinology Across the Life Course' is the theme for the first-ever joint Congress of ESE and the European Society for Paediatric Endocrinology, which will take place on 10–13 May 2025 in Copenhagen, Denmark.

It aims to bring together paediatric and adult endocrine specialists from across Europe and beyond. Save the date now and register your interest at www.espe-es-e-congress2025.org.

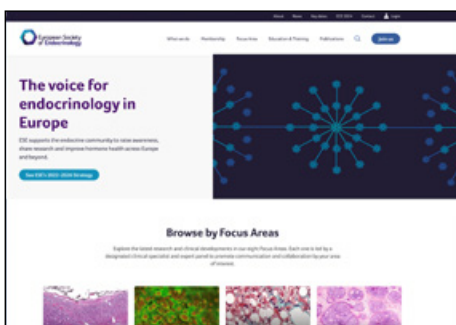


New membership fees for 2024

The benefits of ESE membership have increased enormously in the last 10 years, but membership fees have remained the same. At the 2023 AGM, members voted for an increase in rates from 2024, to secure a sustainable future for the Society, and to enable ESE to continue to deliver the wide range of benefits for members. You will receive your renewal notification soon. Check your contact and membership category details are up to date by logging into the members' area via www.es-e-hormones.org.

Enhanced ESE website

The new-look ESE website includes enhanced functionality, bringing it right up to date. We hope you enjoy using it to find out even more about the benefits that ESE can bring you, its members!



Faisal Ahmed

New Editor for *Endocrine Connections*

From 1 January 2024, Professor Faisal Ahmed (UK) will be the new Editor-in-Chief of the journal *Endocrine Connections*, which is co-owned by ESE. ESE thanks Adrian Clark for his huge contribution during his term as Editor. Remember that ESE members receive free online access to the journal and a 40% discount on article processing charges.

EYES News goes virtual!

To increase interactivity and reduce our environmental impact and costs, *EYES News* will only be available digitally from the next issue. Look out for the arrival of issue 19 in your email inbox in spring 2024.

EYES on Instagram



Make sure you follow EYES on Instagram. You can find our new official Instagram account at www.instagram.com/eyescientists.





Helsinki to host 2024 EYES Meeting

The harbour, Helsinki

Don't miss the 11th EYES Meeting in Helsinki, Finland, on 6–8 September 2024. Save the date now!

The annual EYES Meeting is a unique forum for young clinicians and scientists in endocrinology and diabetes. It promotes the needs of early career participants, with the chance to present their research and network at an international level.

You can look forward to a diverse and exciting programme, with plenary lectures by leading experts, as well as hands-on workshops and oral sessions. You will take part alongside around 150 of your peers, with plenty of opportunities for sharing perspectives, learning and discussion.

There will also be the chance to see the sights of Helsinki and catch up with colleagues at the social events. Helsinki, the capital of Finland, lies on the Baltic coast and has a population of over 600,000 people. English is widely spoken and it is easy to travel around the city and see its many attractions, including Helsinki's impressive architecture, diverse museums, views across the harbour and famous Suomenlinna sea fortress.

We look forward to seeing you at EYES 2024!

Liisa Kullamaa and Jarno Kettunen
on behalf of the Local Organising Committee

You can read delegates' perspectives on EYES 2023 on page 11.

Register your interest now at www.es-e-hormones.org/eyes-meeting-finland-2024

Could you host EYES 2025?

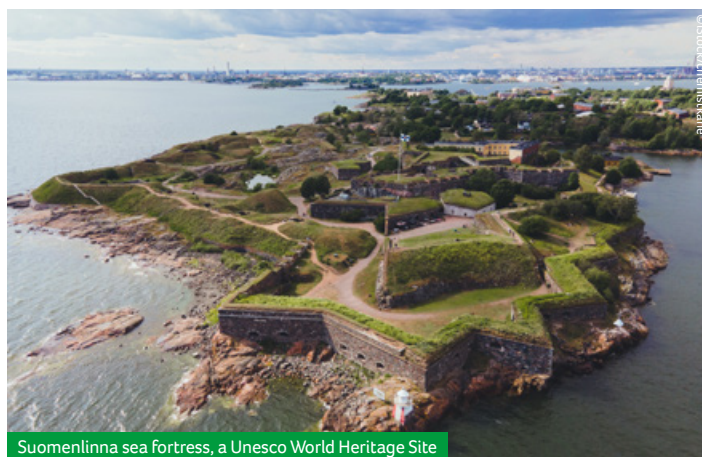
ESE is welcoming bids to stage the 12th EYES Meeting in autumn 2025.

This is your chance to host Europe's premier meeting for early career endocrinologists in your home city.

The annual EYES Meeting combines the latest cutting-edge basic, translational, pre-clinical and clinical research, encouraging scientific networking and opportunities for collaboration in a unique, friendly environment.

Early career groups in endocrinology, who are linked to a society that is part of ECAS (the ESE Council of Affiliated Societies), are invited to apply now to host EYES 2025.

You will find further information at www.es-e-hormones.org/eyes-meeting-bids-2025. Applications should be submitted by 5 April 2024.



Suomenlinna sea fortress, a Unesco World Heritage Site