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eyes NEWS

The newsletter of the ESE Young Endocrinologists and Scientists

Infertility:
Striving for success

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Looking forward: EYES 2022 in Zagreb

European Society of Endocrinology

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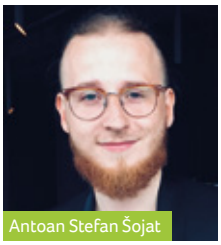
European Society of Endocrinology

Editorial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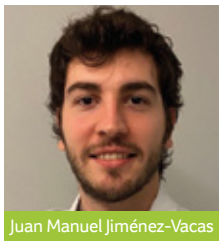
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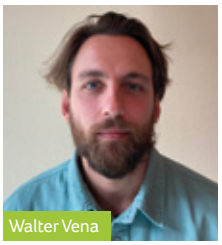
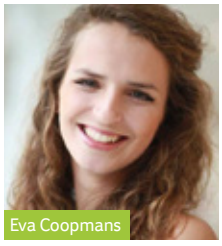
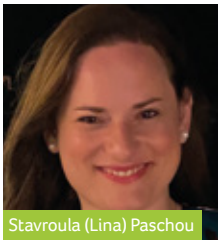
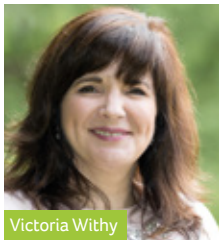
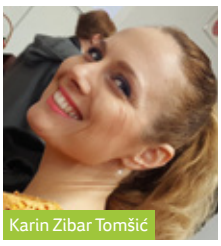

Walter Vena


Eva Coopmans


Settimio D'Andrea


Stavroula (Lina) Paschou


Victoria Withy


Karin Zibar Tomšić

As I hugged some dearly missed friends before the ECE 2022 Opening Ceremony, in the beautiful city of Milan, I could not help but think about how life had changed in the past 3 years. The hard times apart have made us into a stronger and a more connected community. With a new mindset and strong wind in our sails, we came prepared to create good things. Every lecture, discussion and breath of fresh air at night was more vibrant, and morphed flawlessly into the recurring warm image of that spring in Lyon, when we last met in person.

In celebration of this, you have in your hands an issue carefully crafted for those who never stop questioning and never stop improving the world around them. In striving for progress, we shed new light on fertility and its many delicate endocrine connections (pages 5–10). We also tell the story of EYES at ECE (pages 12–13), meet your new EYES Committee (page 13), and celebrate the winners in our highly successful Observership Programme (page 11). On page 4, we meet Tina Dušek, our amazing scientist from Croatia, and on page 15 we introduce the Swedish Young Endocrinologists and Diabetologists (SYED). Lastly, we look forward to beautiful Zagreb and our EYES 2022 meeting (page 16).

As I embraced some more friends to say goodbye after the Closing Ceremony, I could not help having peace of mind. We are back and we are here to stay. I wish you happy reading!

Antoan Stefan Šojat
Editor, *EYES News*

eyes
ESE young endocrinologists and scientists
looking forward

EYES Co-Chair report

In my nomination for the EYES Committee, I said 'The EYES Committee represents a new challenge which I think I'll relish.' Now, looking back, I can conclude that this experience has been an absolute pleasure for me.

Joining the EYES Committee in March 2018, I had the chance to be actively involved in organising the ESE Summer School, the EYES Symposium in Prague (together with our previous Committee member Filip) and several ESE Postgraduate Courses. I have learned how to represent EYES at multiple events, such as the annual EYES Meetings (in Porto, Poznan, Athens and the virtual one in Birmingham), ECE (in Barcelona, Lyon and Milan) and (with Lina) EndoBridge in Antalya.

I am super-proud to also have been part of the Editorial Board of our own *EYES News*, which is reaching new heights with each new issue! During my term as co-Chair, which I have shared with Ayse Zengin and Lina Paschou, EYES has evolved into the official early career arm of ESE. In this role, I became part of the ESE Executive Committee and learned the 'ins and outs' of the operation of a professional organisation such as ESE, and the prominent role of EYES within it.

I am very proud of how far we've come since the beginning of EYES. We are now developing various career development initiatives, such as the Clinical and Research Observership Programmes, the EYES Symposium at ECE, the Mentoring Scheme, Coffee Connections during the COVID pandemic, and *EYES News*. Through a lot of hard work, I can proudly say that we effectively promote EYES among many early career investigators, so that a versatile group has formed and, together, we can make a significant contribution to further professionalising EYES.

It gives me great pleasure to pass the baton on to Lina Paschou and Antoan Stefan Šojat to lead EYES into an even brighter future. EYES has enabled me to form new collaborations for my research and also lifelong friendships with many of you. I strongly encourage you to be a part of EYES – it's full of creative and supportive people, who end up becoming great friends and excellent clinicians and researchers within endocrinology. Thank you all for this.

I strongly believe in EYES and I would like to finish my last report with a famous quote from my Co-Chair Lina, which perfectly fits our mission: 'United and with goodwill, we (EYES) can together make amazing things happen for endocrinology!'

Eva Coopmans
The Netherlands

'I strongly encourage you to be a part of EYES – it's full of creative and supportive people.'

Key dates for your diary

See **www.ese-hormones.org/events-deadlines** and watch your inbox for emails with details, early bird rates, free places and grant information!

7–10 August 2022
10th International Congress of Neuroendocrinology
Glasgow, UK

1 September 2022
ESE Spotlight on Science
Online

2–4 September 2022
9th EYES Annual Meeting
Zagreb, Croatia

St Mark's Church, Zagreb

29 September–2 October 2022
30th ESE Postgraduate Training Course in Clinical Endocrinology, Diabetes and Metabolism
Tbilisi, Georgia

4–6 October 2022
ESE Clinical Update on Calcium and Bone 2022
Online

12–15 October 2022
45th Symposium on Hormones and Cell Regulation
Mont Ste Odile, France

20–23 October 2022
EndoBridge 2022
Antalya, Turkey

3 November 2022
ESE Spotlight on Science
Online

20–23 November 2022
EuroPit 2022
Annecy, France

13–16 May 2023

ECE 2023

25th European Congress of Endocrinology
Istanbul, Turkey

Amazing careers: **Meet Tina Dušek**

Dr Tina Dušek works at the Department of Endocrinology in the University Hospital Center in Zagreb, Croatia, and is Head of the Department of Internal Medicine at the Medical Faculty of the University of Zagreb. She talks to us about her career in endocrinology so far...

Why did you choose endocrinology?
Like many other things in life, endocrinology was the result of a fortunate series of events rather than a choice. In my fourth year at medical school, I was thrilled by internal medicine. As a young doctor, during my internship in internal medicine, I was randomly assigned to the endocrinology department; this seemed to be a crucial moment in my professional career.

How did your journey begin?
It began at the Department of Endocrinology of the University Hospital Center in Zagreb, where I still work. The excellent atmosphere among my colleagues greatly contributed to my enthusiasm for endocrinology. From the beginning, I was oriented toward clinical work and clinical research. I was also lucky to meet Professor Darko Kastelan, who was in the department when I arrived. We would spend hours discussing the patients, optimising our clinical practice and brainstorming different research projects, which were mostly clinically oriented. And they still are; we have a big cohort of patients with adrenal and pituitary tumours. Of course, today we are also lucky to have an excellent team of colleagues.

What obstacles have you overcome?
The first was to find a way to become an endocrinology resident, which wasn't easy at that time. I succeeded with persistence and a clear notion of what I wanted. Since then, the challenges have changed. My personal challenge now is how to balance the time and energy I invest in clinical work, scientific work and teaching. I am very much involved in teaching undergraduate and postgraduate students. I serve as the course co-ordinator for internal medicine at Zagreb Medical School, which is demanding, especially these days when some traditional teaching methods are becoming obsolete, and we have to adapt to new generations of students who were raised in a different social and technological environment from us.

What are the challenges for early career endocrinologists?
It depends on your country and surroundings. For early career endocrinologists in Croatia (a less developed EU country), it may be hard to find a good and productive mentor, and to cope with a less organised healthcare system, poor funding and a less developed infrastructure for scientific work. I recommend that young colleagues spend some time abroad, either in research centres or in clinical departments. It doesn't need to be for long, but you must be exposed to better practices to improve your home environment.

Have things improved since you started out?
Yes, of course. Communication and exchange of information between researchers and experts have improved remarkably with new technologies. Knowledge is now much more easily available, and we are more globalised (in a good sense) than 20 years ago. It is much easier to collaborate with researchers from around the world, which leads to progress.

Where can EYES have the biggest impact?
I see EYES as a platform connecting enthusiastic clinicians and researchers who learn from each other, inspire each other, share experiences, and perform joint projects. Modern technologies make it even easier to achieve those goals.

Like ESE, the idea of EYES is to soften the boundaries between different parts of Europe for the benefit of all. In my opinion, EYES will be even more successful in that mission, because it gathers young people in their formative professional years, when they remain more open to new influences, are more relaxed, and more spontaneous. I am sure that the results of EYES' efforts in terms of connecting researchers and future experts for joint progress will grow with time.

Which endocrinologists most inspired you?
When I was younger, I was inspired mostly by those who were older than me, and now I am inspired by those who are younger than me, which is great, I think.

The most influential endocrinologists when I was starting were Professors Georg Brabant and Peter Trainer. Many years ago, I spent some time on clinical observership at their former Department of Endocrinology in The Christie Hospital, Manchester, UK. I am not sure if they are aware enough of the influence visiting their department had on me. At that time, the management of endocrine patients and the organisation of our department in Zagreb were quite old-fashioned, so my colleagues and I adopted the organisational system and principles of clinical management, as well as clinical and scientific reasoning, from The Christie Hospital. My stay in the UK was really an eye-opener for me.

Since then, I have met many endocrinologists who fascinated me either by being excellent speakers or by having impressive scientific production, or both.

What is your advice to people setting out?
Endocrinology is a beautiful profession that largely relies on the classical art of medicine: clinical examination, medical interview, clinical intuition and intellectual work. For those setting out in the field, I suggest being open-minded and developing critical thinking skills. Continuous questioning of dogmas is one of the most important tasks that researchers and clinicians should perform.

In my 20-year-long medical career, so many paradigms have changed, thanks to new knowledge resulting from research. Our experience teaches us that some of our current medical practices will probably turn out to be inappropriate in the future. That is a normal process of development; we just have to be aware of it and should not take things for granted.

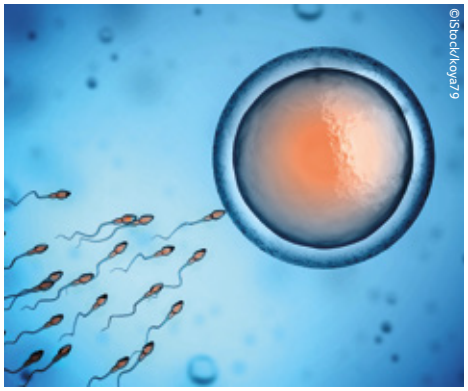
For example, in endocrinology, and in medicine in general, we now face the problem of over-diagnosis and over-treatment. The pressure for this comes from different directions. We have to be aware of it and continuously weigh the benefits and harms of our medical actions. Our clinical research should therefore be directed to continuous questioning and evaluating our established practices.

Insights into infertility

This issue of *EYES News* considers the management of a wide spectrum of endocrine conditions that affect fertility.

Obesity and infertility

Infertility is a growing health problem, affecting one in seven couples. It has been demonstrated that a significant proportion of these cases are directly or indirectly related to obesity.



Indeed, obesity has profound effects on sex hormone secretion and metabolism, resulting in changes in the bioavailability of oestrogen and androgens. As adipose tissue increases, there is an increase in peripheral aromatisation of androgens to oestrogens, resulting in a reduction in the hepatic synthesis of sex hormone-binding globulin (SHBG) and in a consequent increase in free oestradiol and testosterone levels.

This is further exacerbated by the compensatory hyperinsulinaemia and insulin resistance, resulting in a further decrease in SHBG and stimulation of ovarian androgen production. The resultant hypersecretion of luteinising hormone (LH), the increased androgen:oestrogen ratio and the overall altered endocrine milieu impairs folliculogenesis and results in follicular atresia.

Although it is well known that obesity is associated in varying degrees with insulin resistance, hypertension, dyslipidaemia and various components of metabolic syndrome, the interplay of these cardiometabolic co-morbidities with folliculogenesis and endometrial receptivity is yet to be fully elucidated. However, the analysis of follicular fluid from subjects undergoing cycles of *in vitro* fertilisation for various hormones and metabolites demonstrates significant differences in women with obesity compared with their counterparts who have a normal body mass index. In addition, the systemic alterations associated with obesity, namely, hyperinsulinaemia, dyslipidaemia and inflammatory responses, are evident from the ovarian follicular microenvironment.

In parallel, women with obesity are characterised by high levels of leptin that compensate for leptin resistance but, in turn, inhibit insulin-induced ovarian steroidogenesis and affect LH-stimulated oestradiol production in granulosa cells.

Although poorly understood, important mediators of obesity, such as hyperinsulinaemia, hyperleptinaemia, chronic inflammation and oxidative stress, influence the male reproductive system. Indeed, obesity is known to disrupt male fertility and reproduction potential, particularly by disturbing the hypothalamic–pituitary–gonadal axis, disrupting testicular steroidogenesis and metabolic dysregulation (including insulin, cytokines and adipokines).

Importantly, obesity and its underlying mediators have been reported to have a negative impact on semen parameters, including sperm concentration, motility, viability and normal morphology. Moreover, obesity inhibits chromatin condensation, which is associated with DNA fragmentation, and increases apoptosis and epigenetic changes that can be transferred to the offspring.

Thus, weight management strategies, including changes in lifestyle and prescription medication, need to be taken into account in the management of infertility in subjects with obesity.

Giovanna Muscogiuri
Italy

Fertility in sex chromosome aneuploidies

Turner and Klinefelter syndromes are the most common sex chromosome aneuploidies, affecting around 1/2000 female and 1/600 male newborns respectively.[1,2] Both are characterised by a heterogeneity of phenotype and wide spectrum of clinical presentation.

They sadly share the common feature of early gonadal failure and significantly reduced chance of fertility. Nevertheless, during recent decades, the efforts of researchers in the field and the increased ability to take advantage of assisted reproduction techniques has led to an overall improvement in the chances of achieving biological offspring.

Indeed, it is now established that the degree of mosaicism in girls with Turner syndrome is associated with a higher probability of spontaneous menarche and preserved fertility. We also know how advanced age, follicle-stimulating hormone levels and anti-müllerian hormone serum levels are predictors of the presence of ovarian follicles in these subjects. The practice of early life fertility counselling will probably become increasingly available, to allow cryopreservation of oocytes during early adolescence, even if the evidence is still limited to case reports or small cohorts.[3]

Conversely, boys with Klinefelter syndrome don't usually require medical assistance

for pubertal development. However, sperm production occurs in a percentage of subjects that is below clinical relevance, making assisted reproduction techniques the only chance for biological fathering at the moment. Unfortunately, no reliable predictor of procedural success is available, but microdissection testicular sperm-extraction (TESE) and conventional TESE have been found to achieve similar results in sperm retrieval in adults with Klinefelter syndrome (over 40%), allowing successful pregnancy and birth in up to 20% of individuals.[4]

In conclusion, a lot remains to be determined in fertility related to sex chromosome aneuploidies. However, it is important to notice and honour the progress that advances in research are offering to these individuals, as we face the future with enterprise and enthusiasm.

Walter Vena
Italy

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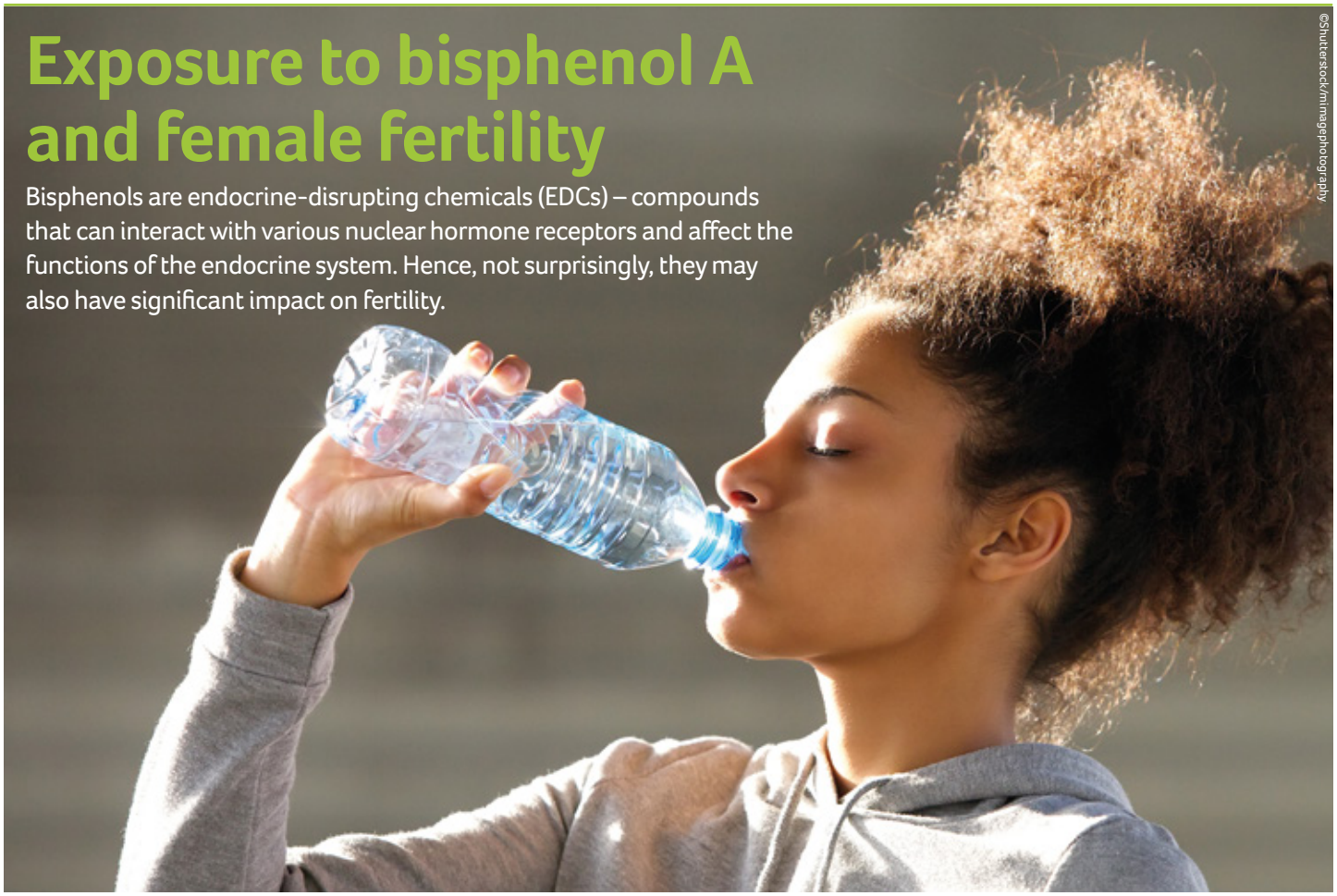
2. Zitzmann *et al.* 2021 *Andrology* **9** 145–167 (https://doi.org/10.1111/andr.12909).
3. Martel *et al.* 2022 *Journal of Assisted Reproduction & Genetics* **39** 1143–1153 (https://doi.org/10.1007/s10815-022-02469-1).
4. Corona *et al.* 2017 *Human Reproduction Update* **23** 265–275 (https://doi.org/10.1093/humupd/dmx008).

Exposure to bisphenol A and female fertility

Bisphenols are endocrine-disrupting chemicals (EDCs) – compounds that can interact with various nuclear hormone receptors and affect the functions of the endocrine system. Hence, not surprisingly, they may also have significant impact on fertility.



Bisphenol A (BPA) is one of the best known EDCs. Experts recognise it as a weak environmental oestrogen, while most people mainly know it as something from which their plastic lunchbox is free! BPA has been banned from various products, especially those for infants and toddlers. However, it may still be present in canned foods, thermal paper and numerous plastic components in consumer goods. Other plastic products, in particular bottles and food packaging, may also be sources of BPA, and this applies to both disposable and reusable plastics. BPA can be absorbed through oral intake, transdermal exposure or dust inhalation.

Many studies have shown that BPA is often detected in infertile women, and that its mean serum concentration is higher than among fertile women. Analogous observations have been made among women with and without two of the leading causes of infertility: endometriosis and polycystic ovary syndrome (PCOS). In PCOS, a possible mechanism of hormonal disturbance involves BPA's ability to directly stimulate the ovarian theca cells to exaggerated androgen synthesis. Also, as it has an affinity for sex hormone-binding globulin (SHBG), BPA may displace hormones from SHBG binding sites. Consequently, serum BPA has been shown to correlate with free androgen index and testosterone levels in patients with PCOS.

Among women undergoing treatment for *in vitro* fertilisation, higher BPA concentrations have been associated with negative outcomes, namely lower peak oestradiol levels, a decreased number of oocytes retrieved, and lower rates of oocyte maturation and fertilisation.

BPA is also a suspected environmental obesogen – a chemical that contributes to the development of obesity development and impacts body fat distribution. Hence, especially through promotion of abdominal obesity, BPA has been linked to insulin resistance that may further lead to hyperandrogenaemia, anovulation and fertility disorders.

As the health effects of exposure to BPA have been known for years, the tolerable daily intake of BPA was reduced in 2015, and the reference value is still being debated. Unsurprisingly, a few substitute compounds now replace this infamous plastic additive: some 'BPA-free' consumer products may contain other EDCs, such as phthalates and bisphenol S or F. It is now known, however, that other bisphenols show the same properties, and none of them are considered a safe alternative to BPA.

It's a fact: we are constantly surrounded by harmful chemicals. Although exposure to any one substance is relatively low, there are thousands of chemicals, and data regarding their impact on the endocrine system is alarming. Awareness of their presence and properties is a crucial first step to protect humans from the potential health consequences of exposure, such as increased risk of developing lifestyle diseases, hormonal disorders, and infertility.

Aleksandra Olsson
Poland

FURTHER READING
- Konieczna *et al.* 2018 *Reproductive Toxicology* **82** 32–37 (https://doi.org/10.1016/j.reprotox.2018.09.006).
- Li *et al.* 2015 *PloS One* 10 e0120330 (https://doi.org/10.1371/journal.pone.0120330).
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- Rochester & Bolden 2015 *Environmental Health Perspectives* **123** 643–650 (https://doi.org/10.1289/ehp.1408989).
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'Many studies have shown that BPA is often detected in infertile women, and that its mean serum concentration is higher than among fertile women. Analogous observations have been made among women with and without two of the leading causes of infertility: endometriosis and polycystic ovary syndrome.'

Infertility and pituitary adenomas

Infertility represents a global challenge to health and well-being. Among the various causes of infertility (ovulatory disorders, male factor infertility, idiopathic infertility), a small, yet clinically challenging proportion is attributed to the presence of pituitary adenomas.

ESE has recently published a clinical practice guideline on functioning and non-functioning pituitary adenomas in pregnancy, with the aim of providing clinicians with practical guidance for the management of patients with a pituitary adenoma who are pregnant or are considering pregnancy.[1] The ESE Guideline was developed with active participation by representatives from ESE Nurse Members, the European Society for Paediatric Endocrinology, the European Neuroendocrine Association, Endo-ERN, the Pituitary Society and EYES.

According to the Guideline, all women of reproductive age (not just those with infertility) who have a diagnosis of pituitary adenoma should be counselled about their potential fertility, with the aim of discussing their plans as early as possible.

In some cases, it is vital to treat the underlying condition before considering pregnancy (see below). An endocrinologist should be involved in the care of every woman with a pituitary adenoma who is considering pregnancy, with the addition of a multidisciplinary team if a large pituitary adenoma (>1cm) is present, or if a diagnosis of Cushing's disease or acromegaly has been made.

Before pregnancy, all women with pituitary disease should be carefully assessed. This includes a detailed medical history, physical examination (including body mass index and blood pressure), routine laboratory work-up and evaluation of pituitary hormone status, pituitary magnetic resonance imaging depending on initial adenoma size, and neuro-ophthalmological evaluation if clinically indicated.


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Selected recommendations for women with pituitary disease seeking pregnancy, taken from the ESE Clinical Practice Guideline.[1]	
R.1.1.	We recommend that women of reproductive age with a diagnosis of a pituitary adenoma be counselled about their potential fertility and pregnancy outcomes as early as possible.
R.1.2.	We recommend that women of reproductive age with a diagnosis of pituitary adenoma, functioning or non-functioning, who consider pregnancy, be managed by an endocrinologist.
R.1.3.	We recommend that management of women of reproductive age with a large pituitary adenoma (>1cm), Cushing's disease or acromegaly, who consider pregnancy, be discussed in a multidisciplinary team.
R.1.4.	We recommend that in women with a diagnosis of pituitary adenoma and hypopituitarism, hormone replacement therapy should be initiated or optimised prior to becoming pregnant.
R.4.1.	In women with a non-functioning adenoma near the optic chiasm who are planning a pregnancy, surgery may be considered to reduce the risk of chiasmal compression and to enhance fertility.
R.4.2.	We suggest that for women with intrasellar non-functioning microadenomas and an uneventful pregnancy, there is no need for routine endocrinological follow-up during pregnancy.
R.5.1.	We recommend treating women with a prolactinoma, who are actively seeking pregnancy, with a dopamine agonist and strive for normalisation of prolactin concentrations and restoration of regular ovulatory cycles (⊕⊕⊕◯).
R.5.2.	We recommend medical treatment as first-choice therapy for women with a prolactinoma and actively seeking pregnancy; transsphenoidal surgery can be considered in individual cases (⊕⊕⊕◯).
R.5.3.	We recommend cabergoline as medical treatment at the lowest possible effective dose until pregnancy is confirmed (⊕⊕◯◯).
R.5.4.	We recommend stopping the dopamine agonist once pregnancy is established. However, dopamine agonists may be given for a longer gestational period in specific circumstances (⊕◯◯◯).
R.6.1.	In women with acromegaly considering pregnancy, we recommend assessment of disease activity, co-morbidities and fertility status.
R.6.2.	In women with newly diagnosed acromegaly seeking pregnancy, surgery is recommended as first-line therapy.
R.6.4.	We suggest that for women with acromegaly seeking pregnancy and who have an indication for medical treatment, somatostatin analogues or cabergoline can be used until confirmation of pregnancy if surgery is not an option. Pegvisomant should be reserved for selected uncontrolled cases (⊕◯◯◯).
R.7.1.	We recommend that women with active Cushing's syndrome be advised not to get pregnant.

The causes of infertility can be related to the female, male or both, or can be idiopathic. In cases of female infertility, prolactinomas are a relatively common cause, affecting 1 in 500 women in their reproductive years. The main cause of prolactinoma-related infertility is amenorrhoea, luteal phase insufficiency or inadequate embryo implantation. According to the ESE Guideline, a dopamine agonist should be used in women considering pregnancy, in an attempt to normalise their prolactin levels and restore ovulation. Cabergoline is considered to be the drug of choice, because of its higher efficacy and better tolerance; it should be used at the lowest possible effective dose.

Other, rarer, conditions have also been related to infertility, such as acromegaly, which may lead to hypopituitarism and/or hyperprolactinaemia (a mixed growth hormone (GH)–prolactin-secreting adenoma, pituitary stalk compression). In these cases, it is of high clinical importance to address the cause (GH-producing adenoma) and not the outcomes (hypopituitarism, hyperprolactinemia). Consequently, in women with a new diagnosis of acromegaly who desire pregnancy, surgery is recommended as first-line therapy. Medical treatment should only be considered when surgery is not an option.

In women with Cushing's disease, pregnancy is rare. Due to the increased incidence of both maternal and fetal complications, women should be advised not to get pregnant, before treating the disease.

The ESE Guideline is freely available and provides recommendations following assessment of the evidence for women with pituitary adenomas who are considering pregnancy, those who are already pregnant and those in the post-pregnancy/breast-feeding period.[1]

Gefsi Mintziori
Greece

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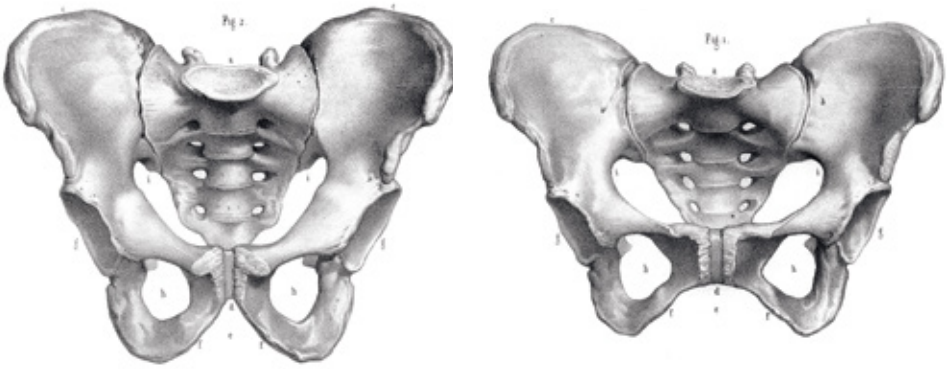
Congenital adrenal hyperplasia and fertility

Congenital adrenal hyperplasia (CAH) is an autosomal recessive disorder caused by a deficiency of one of the five enzymes involved in the adrenal steroid synthesis. The most common (found in 90% of cases) is a deficiency of 21-hydroxylase.



Configuration of the human pelvis: male/android (left) versus female/gynaecoid (right)

This results in insufficient production of cortisol and increased production of androgen precursors under corticotrophin-releasing hormone–adrenocorticotrophin stimulation. Elevated 17-hydroxyprogesterone is used as an indicator of the disease.

CAH is clinically classified into the classic form, which is diagnosed at birth, and the non-classic form, which can remain undiagnosed or misdiagnosed. Fertility is affected in both classic and non-classic CAH and is related to the severity of the disease. Subfertility is due to menstrual disorders, chronic anovulation and anatomical deformities.

Women with classic CAH can conceive while on maintenance therapy, but some women require higher doses of glucocorticoids to suppress adrenal androgens. In women who are pregnant or trying to become pregnant, the use of glucocorticoids that traverse the placenta (dexamethasone) is contraindicated. The glucocorticoid dose should be increased during pregnancy if symptoms and signs of glucocorticoid insufficiency occur. When glucocorticoid treatment does not result in successful pregnancy, ovarian stimulation could be undertaken. Adjuvant therapy, such as metformin, should be initiated, because metformin increases the frequency of spontaneous ovulation.

In comparison, most women with non-classic CAH can conceive spontaneously. If pregnancy occurs without glucocorticoid treatment, treatment is not indicated during pregnancy. Women with non-classical CAH who have anovulatory menstrual cycles should be treated with glucocorticoids and metformin.

Besides issues with conception, recurrent miscarriages can occur frequently. Recurrent miscarriages are more common in women who are not treated. Occurrence of two or more spontaneous miscarriages requires initiation of glucocorticoid therapy (hydrocortisone). Early exposure to elevated levels of androgens may cause the android configuration of the pelvis instead of the usual gynaecoid pelvis (see figure). In these patients, vaginal delivery is possible, but elective caesarean section is recommended, to prevent perineal trauma.

CAH is a complex clinical entity requiring a multidisciplinary approach. Within its spectrum, non-classical CAH should also be highlighted, because of its frequency and lack of clinical symptomatology. Every woman with subfertility, menstrual cycle disturbances and/or hyperandrogenism should undergo clinical evaluation to exclude CAH.

Tijana Petković
Serbia

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The endocrinologist's role in assisted reproduction

Infertility in couples is related to reproductive health and has psychological, economic and medical implications, resulting in trauma and stress, especially in societies and cultures that place a strong emphasis on child-bearing.

The assisted reproductive technologies (ARTs) include all interventions aimed at enhancing fertility for the purpose of reproduction. The increasing complexity of interventions involves a multidisciplinary team with a wide range of specialists. Every year in Europe, around 200 000 infants are born to couples who have been referred to *in vitro* fertilisation clinics.[1] Despite this, there are no international, standardised laws regulating the procedures. This results in the worldwide spread of ART clinics of variable quality standards, including different teams.

In this complex and continuously evolving scenario, the role of endocrinologist is more and more important, due to the multiple clinical situations in which our skills and experience are required. Indeed, many clinical situations leading to reduced fertility in either sex are strictly related to hormonal dysregulation, such as polycystic ovary syndrome or male hypogonadism. A correct diagnostic process and treatment can reduce the time to pregnancy and increase the chance of a positive outcome.[2,3]

Our expertise is also crucial in managing endocrine disorders that may often be associated with assisted reproduction protocols (e.g. thyroid disorders) and those commonly occurring during pregnancy (e.g. gestational diabetes). Moreover, as in any pregnancy, post-delivery care is also crucial, and becomes even more important for those pregnancies where endocrine complications were experienced during gestation.

In the future, when more environmental stressors, such as endocrine disruptors, will interfere with endocrine systems, it will become mandatory to consider the role of the endocrinologist as a 'gatekeeper' of hormonal health and, in turn, of the fertility of couples.

Walter Vena
Italy

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Thyroid health and infertility

Thyroid disease is quite prevalent in women of reproductive age, while data on male fertility with respect to thyroid health are scarce.

About 11% of women have thyroid autoimmunity (TIA), 2–3% have hypothyroidism, and 1–2% hyperthyroidism. Both hypothyroidism and hyperthyroidism have been associated with altered ovarian function, menstrual irregularities, subfertility and higher (recurrent) miscarriage rates, and an increased prevalence of TIA has been found among women attending infertility clinics.

Most studies indicate that men with hyperthyroidism have abnormalities in seminal parameters (mainly sperm motility), while those with hypothyroidism have abnormalities in sperm morphology. Fortunately, these abnormalities improve or normalise when euthyroidism is restored. Furthermore, many patients with erectile dysfunction have thyroid dysfunction, and the normalisation of thyroid function with treatment restores normal erectile function.

The available data, although limited, support a role for thyroid hormone in reproduction and early pregnancy. Thyroid hormone receptors, deiodinases and thyroid hormone transporters are expressed in oocytes, endometrium, placenta and fetal tissues, although the underlying mechanism for these clinical parameters remains unclear. However, research indicates that thyroid hormone acts synergistically with follicle-stimulating hormone in promotion of granulosa cell proliferation, inhibition of granulosa cell apoptosis, enhancement of the invasive potential of the extravillous trophoblast, and endometrial receptivity during the window of implantation. Moreover, the literature suggests that cellular components of the human ovarian follicle can produce thyroid hormones on their own.

The data on the need to treat hyperthyroidism and overt hypothyroidism during pregnancy are clear. However, there is conflict among the data on the effect of subclinical hypothyroidism on early pregnancy outcomes, and the data on both the risk that the presence of thyroid antibodies (Abs) carries in euthyroid women, as well as the need for treatment.

The link between thyroid Abs and spontaneous pregnancy loss was published in a seminal paper in 1990, which showed, in a prospective cohort of unselected euthyroid women, twice as high a rate of miscarriage among those who were thyroid Ab-positive. Numerous studies have since focused on this issue, but interpretation of available data is difficult due to the heterogeneity of studies.

Clinical guidelines must be pragmatic, and the latest 2017 American Thyroid Association (ATA) guidelines[1] recommend testing high risk women for thyrotrophin (TSH) in early pregnancy, followed by measurement of thyroid peroxidase (TPO) Ab in women with a TSH of 2.5–10mIU/l. Treatment is recommended for Ab-positive women if TSH is between the upper limit of the pregnancy-specific reference range (ULRR) and 10mIU/l, and should be considered if TSH is between 2.5mIU/l and the ULRR. It should be considered in Ab-negative women with TSH between the ULRR and 10mIU/l, with no treatment if the TSH is between 2.5mIU/l and the ULRR. In women seeking pregnancy through assisted reproductive technologies, the guidelines recommend treatment of subclinical hypothyroidism, with a goal for TSH of <2.5mIU/l.

Since the 2017 guidelines, new data on treating euthyroid pregnant women with TIA have emerged. Two important randomised clinical trials have been published: the TABLET study (on women with a history of miscarriage or infertility)[2] and the POSTAL study (on women undergoing *in vitro* fertilisation)[3]. They both showed no impact of levothyroxine on miscarriage rates or live birth rates in euthyroid Ab-positive women. This could support the hypothesis that the primary pathogenesis of pregnancy loss in euthyroid women with TIA might be a hostile immune environment, not a relative thyroid hormone deficiency. Recent discovery of TPO expression on mature granulosa cells supports this hypothesis. However, further research needs to be done during natural cycles, since most studies so far have been carried out in cells from gonadotrophin-stimulated cycles.

Finally, very recent results from the randomised clinical T4LIFE trial, comparing levothyroxine treatment with placebo in euthyroid, TPO Ab-positive women with recurrent pregnancy loss, did not show higher live birth rates in treated women.[4] On the basis of these findings, the authors do not advise routine use of levothyroxine in women who are TPO Ab-positive with recurrent pregnancy loss and normal thyroid function.

This is an exciting time in the field of thyroid and fertility, and it will be interesting to see the results of future research in the field.

Mirsala Solak
Croatia

‘Both hypothyroidism and hyperthyroidism have been associated with altered ovarian function, menstrual irregularities, subfertility and higher (recurrent) miscarriage rates…’

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Restoring spermatogenesis in hypogonadotrophic hypogonadism

Hypogonadism is a deficiency in one of the testes' two major functions: (a) testosterone secretion (endocrine function) and (b) spermatogenesis (reproductive function). The two types are known as primary (hypergonadotrophic) hypogonadism (testis failure) and secondary (hypogonadotrophic) hypogonadism, and are disorders of the hypothalamic–pituitary axis.

When low testosterone levels and/or defective sperm analysis are combined with high serum follicle-stimulating hormone (FSH) and luteinising hormone (LH) levels, the primary type is diagnosed. Low or inadequate gonadotrophin levels describe the secondary type, which is the polar opposite.

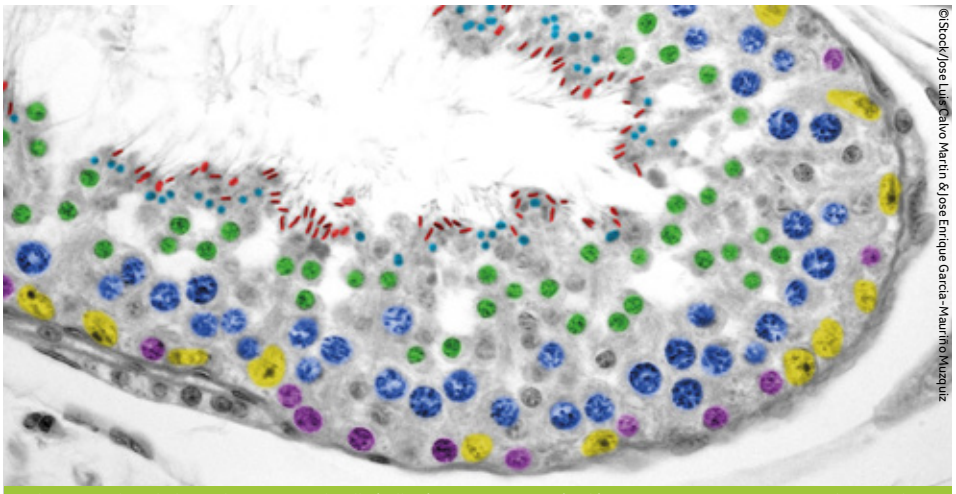
Testosterone replacement therapy is the most effective treatment for males with hypogonadism. Androgens are necessary for virilisation and appropriate sexual function, for maintenance of muscle and bone mass, and for normal mood and cognition. Even though testosterone is the first-line treatment for restoring secondary sexual characteristics and sexual performance, testosterone replacement therapy does not restore fertility in men with hypogonadism.

Primary and secondary hypogonadism need different strategies for achieving pregnancy in people who want to be fathers. Patients should be referred to assisted reproductive technology (ART) procedures, such as surgical testicular sperm extraction and *in vitro* intracytoplasmic sperm injection (ICSI) in the former.

In the latter, exogenous gonadotrophins, which are widely available, or pulsatile gonadotrophin-releasing hormone (GnRH) can be used to promote spermatogenesis. FSH in the form of human menopausal gonadotrophins (hMG), highly purified urinary FSH preparations or recombinant FSH formulations are used in traditional therapy. The findings suggest that normal qualitative and quantitative sperm production is best maintained in the presence of both FSH- and LH-induced testosterone secretion. Human chorionic gonadotrophin (hCG) in conjunction with FSH is a common regimen for inducing spermatogenesis. Given their structural similarity (functioning through the same receptor on Leydig cells), purified hCG is an efficient alternative for LH.

In some countries, a range of FSH formulations are currently accessible. FSH has traditionally been given in the form of hMG, obtained from postmenopausal women's urine. Although hMG has both FSH and LH activity, FSH activity predominates, and LH activity is so low that fertility requires a combination of hCG and hMG. More recently, highly pure urinary FSH preparations have been created, with higher specific activity than hMG. Recombinant human FSH formulations have greater purity and specific activity than any urinary preparation and no inherent LH activity.

Typically, hCG alone at a dose of 1000IU on alternate days or twice weekly is usually used to start gonadotrophin therapy, with the dose titrated based on trough testosterone levels and testicular development. Alternatively, prefilled syringes of recombinant hCG can be used for subcutaneous injection. As testicular size grows in certain patients, the hCG dose can be reduced over time. Due to residual FSH secretion, spermatogenesis can be begun with hCG alone in most individuals with bigger testes at baseline.



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Male germinal epithelium, showing Sertoli cells (yellow), spermatogonia (pink), primary spermatocytes in pachytene phase (blue), spermatids (green), spermatozoa (red), residual bodies (light blue).

Once there is a plateau in the response to hCG, which typically occurs at around 6 months, therapy with FSH (in one of the three forms described above) should be added at a dose of 75IU on 3 days per week. If sperm output and testicular growth remain suboptimal, the dose of FSH can be gradually increased to 150IU daily.

Gynaecomastia is the most prevalent side effect of gonadotrophin therapy, and is caused by increased oestradiol release due to hCG activation of aromatase. This unfavourable side effect can be avoided by taking the smallest dose of hCG that keeps serum testosterone levels at the lower end of the normal range.

Sperm density remains below normal in most individuals with hypogonadotrophic hypogonadism treated with gonadotrophins. Clinicians should be aware that, while 75% of men will generate sperm, long term therapy rarely results in counts returning to normal. Failure to acquire a normal sperm density, on the other hand, does not rule out fertility. Indeed, spermatozoa have a high quality and fertilising capacity, resulting in spontaneous conception even when sperm quantity is low.

Several determinants of fertility outcome have been identified in hypogonadotrophic hypogonadism. Cryptorchidism suggests a bad outlook for fertility, and in men with hypogonadotrophic hypogonadism generally necessitates long term treatment (18–24 months). Low serum levels of inhibin B and/or prepubertal testicular volume <4ml are also negative indicators of reproductive outcome.

A sequential treatment for the most severely affected males with hypogonadotrophic hypogonadism (testicular volume <4ml) has emerged, in an attempt to enhance reproductive potential. Before maturation by hCG, unopposed FSH increases the growth of immature Sertoli and germ cells. This regimen successfully induces testicular development and fertility in men with congenital hypogonadotrophic hypogonadism who have prepubertal testes.

If a pregnancy is achieved, treatment could be continued during the first trimester, to maintain male fertility in the case of a miscarriage. If the couple decides to try for a second pregnancy shortly, hCG therapy can be resumed. On the other hand, following a live birth, patients with hypogonadotrophic hypogonadism should be switched to testosterone replacement medication (injectable or transdermal formulations) for long term treatment.

Pulsatile administration of GnRH, which can be via a programmable, portable mini-infusion pump, provides an alternative to gonadotrophin therapy. FSH–hCG therapy provides two advantages over GnRH therapy: subcutaneous delivery and greater efficacy in cases of GnRH receptor mutation (about 10% of normosmic congenital hypogonadotrophic hypogonadism). Furthermore, due to a lack of randomised research, pulsatile GnRH treatment is not licensed by US Food and Drug Administration for induction of spermatogenesis, and its usage is thus limited to specialist clinics.

Settimio D'Andrea
Italy

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- Boehm *et al.* 2015 *Nature Reviews Endocrinology* **11** 547–564 (https://doi.org/10.1038/nrendo.2015.112).
- Tournaye *et al.* 2017 *Lancet Diabetes & Endocrinology* **5** 554–564 (https://doi.org/10.1016/S2213-8587(16)30043-2).

The EYES Observership Programmes

A world of possibilities

The EYES Clinical and Research Observership Programmes (COP and ROP) allow awardees to grow and learn during a short, 1-month stay in some of the best hospitals and research centres across Europe.

Each centre provides a mentor, who must be a member of ESE, and a contact person, who is an early career investigator. Currently, for the COP, we have 11 European centres of special interest, 3 grants per year worth €1000 and 8 self-funded awardees. This is the first year for the ROP, and we have 6 centres, 3 grants worth €1000 and 4 self-funded awardees. We congratulate the recipients of this year's places, who are listed below.

Our scoring system is carefully crafted by the EYES Committee working with the rest of ESE, and takes into consideration stage of training, PhD status, previous publications, previous training abroad, gender and geographical distribution and the centre-matching system.

So far, in total, we have had 99 applicants from 18 countries. This has led to 28 awardees and the dissemination of €9000 in grants. Both Programmes are growing. To find out more, see **www.ese-hormones.org/eyes-cop-and-rop**.

Where are we heading?

We had a great presentation during the ESE Council of Affiliated Societies (ECAS) Symposium at ECE 2022 in Milan, Italy (pictured) and will continue to collaborate with ECAS on expanding the number of centres. Our aim is to create more opportunities for early career investigators, with more centres for the COP and ROP. Greater recognition will make our Observership Programmes an integral part of the European endocrinology programme, as a step towards unification and standardisation of a pan-European endocrinology curriculum.

Incredible teamwork

I thank our inspiring and motivational team. Ljiljana Marina, Lina Paschou, Daniele Santi, Ayse Zengin and Eva Coopmans have been instrumental in their input, experience and contacts in getting this project up on its feet, while Victoria Withy from the ESE Office helped us every step of the way with her guidance and knowledge.

Looking to the future, I am delighted to introduce Kristina Saravinovska and Juan Manuel Jiménez-Vacas as our new COP and ROP Co-ordinators, who will help this project grow. The Observership Programmes are EYES' biggest projects to date, to provide countless opportunities and connections, and to aid the spread of knowledge around the globe. We take pride in creating a world of possibilities for all our early career investigators.

Antoan Stefan Šojat
EYES Co-Chair, EYES Observership Programme Lead

Successful COP and ROP applicants for 2022		
COP grant recipients		
Selvihan Beysel (Turkey)	**Marta Borges Canha** (Portugal)	**Mirko Parasiliti Caprino** (Italy)
COP self-funded awardees		
Nestan Bostoganashvili (Georgia)	**Paolo Facondo** (Italy)	**Irene Gagliardi** (Italy)
Gabriela Handzlik (Poland)	**Adam Maciejewski** (Poland)	**Mia Manojlovic** (Serbia)
Brett Mansfield (South Africa)	**Nino Matas** (Croatia)	
ROP grant recipients		
Jowita Halupczok-Żyła (Poland)	**Narjes Nasiri Ansari** (Greece)	**Emre Sedar Saygılı** (Turkey)
ROP self-funded awardees		
Fabio Bioletto (Italy)	**Roxana Dumitriu** (Romania)	**Elisa Rossini** (Italy)
Valentine Suteau (France)		

Presentation at ECE 2022

Current Observership Programme centres (green, COP; blue, ROP; red, both)

How did we get here?

The woman with the highest IQ ever recorded, Marylin Vos Savant, once said, 'To acquire knowledge, one must study, but to acquire wisdom, one must observe.' In the spirit of these words, we created the EYES Observership Programmes.

I remember it vividly. It was a warm summer's day when Ljiljana Marina, founder and creator of the COP, and the then Co-Chair of EYES, shared the possibility of me joining her in this project. At the time, I had experience in over 1500 student exchanges, after around 8 years of various student exchange programmes. Ljiljana felt I was the perfect fit. We discussed ways of making it work. I was very excited for the future.

The idea was first presented in February 2017 and was developed with the full support of ESE CEO Helen Gregson and the ESE Executive Committee. At EYES 2019 in Athens, Greece, we announced that the EYES ROP would also come to life.

After a lot of work, meetings, emails and promotion, we began the first round of the COP in 2020. There was a lot of interest: 26 applications led to 3 grant winners and 7 self-funded awardees, who were all very excited to begin. But then the COVID-19 pandemic arrived – and the world froze.

As we started to work 12-hour shifts in COVID hospitals and intensive care units, the idea of academic mobility seemed distant. However, in all this time, we never gave up. As we kept working and waiting for better times, further strong support from the ESE Science Committee and Professor Martin Fassnacht enabled us to establish the EYES ROP, and the success we see today.

Meeting in Milan!

EYES at ECE 2022

The pandemic meant that we had to change – and change we did. We had to avoid contact, and we got used to the virtual meetings, and discussing ideas while facing a screen. In this regard, our community was a great example of resilience and unity. Many ESE and EYES activities were developed and consolidated to keep our community connected, so we could keep networking and meeting each other. This ultimately allowed us to make progress, despite the situation in which we found ourselves living.

However, science evolves, and breakthrough discoveries are possible, thanks to sharing results and exchanging information. There is, without doubt, no better way to do this than face-to-face. For that reason (and many others), ECE 2022 was a special event, truly one of a kind: we finally returned to meeting in person. In other words, we decided to leave behind our unwanted 'excess baggage' and take our flight to ECE 2022!

We enjoyed an exciting scientific programme, consisting of plenary lectures, symposia, courses, debate sessions, ESE Awards sessions, The Patient's Voice Hub sessions, networking opportunities and much more. Among these, I would like to highlight our familar 'EYES Symposium', an interactive and friendly session with high quality talks given by outstanding young endocrinologists and scientists.

This year, the EYES Symposium focused on the challenges in male infertility research. Our live session finally began, and Walter Vena gave us a very warm welcome. I must mention that he made a fantastic job of hosting our beloved session. He gave us a short overview of the latest news from EYES, including the mentoring programme, EYES Coffee Connections and the great success of both Clinical and Research Observership Programmes.

Science-wise, we learnt a lot about the sex-specific cardioprotection of tadalafil in diabetic patients, a talk given by Riccardo Pofi, the winner of the award for the best presentation at the EYES 2021 Annual Meeting. Then, Lorena Bori gave a jaw-dropping talk on the application of artificial intelligence to blastocyst selection. Finally, Lærke Priskorn shed light on the challenges in semen analyses, and showed us the future direction of this interesting field.

It should also be mentioned that the winners of the most recent rounds of the Clinical and Research Observership Programmes were announced during the EYES Symposium (see page 11). We take this opportunity to congratulate them again.

The EYES 2022 Annual Meeting (see page 16) was launched prior to the closure of the event, and we heard all the amazing activities and events that we can enjoy in Zagreb, Croatia on 2–4 September. This will be a great opportunity to learn more about our beloved discipline, educate each other, share experiences, explore this amazing city, and enjoy EYES social events!

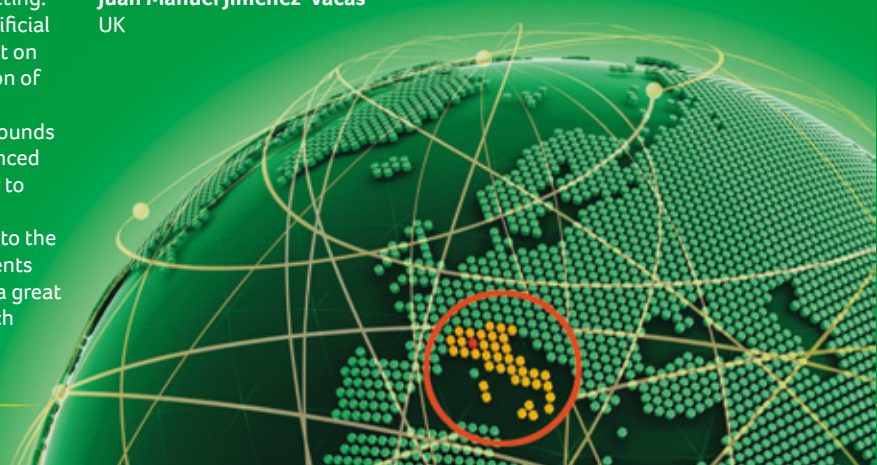
It was also incredible that our former EYES Co-Chair Ljiljana Marina (pictured above, centre) received a Special Recognition Award for her contribution to the early career community, again showing the importance of our work within ESE.

In the end, it came down to how good it felt to be back among friends. We spent an incredible time, having so much fun. Lots of games, even more dancing and – let's not forget – the quiz... But, most important of all, laughs and great memories: what more could anyone ask for?

In conclusion, the EYES Symposium was incredible, ECE was amazing, and Milan was pretty spectacular. We have been through very tough times, and, as the saying goes, 'Whether you think you can do something or whether you think you can't, you're right!'. Because we all thought that we could – we did! The scientific community continues to rise out of the pandemic, and ECE 2022 undoubtably demonstrated that we are on the right track.

I can't wait until Zagreb in September (and I bet you can't either). We will meet great friends and enjoy high quality science with excellent researchers in endocrinology once more – I hope to see you there!

Juan Manuel Jiménez-Vacas
UK



An early career insight into ECE 2022

Being an active part of the Programme Organising Committee (POC) of a Congress like ECE 2022 for the first time is an exciting and impressive experience. The opportunity could leave anyone speechless! And, if it is coincidentally the first ECE to take place in person after the COVID-19 pandemic, all these sensations are amplified.

We have all lived through 2 years of personal, work and health difficulties. We have all radically changed our habits and the way we organise and experience scientific events to be virtual, online and impersonal. Finding ourselves talking again, organising a European-wide event, makes the whole situation even more exciting.

An early career member prepares for these encounters, works on proposals, studies the topics to be presented and learns the names. Then the meeting begins and the dynamics of the interventions, the experience of the participants, becomes difficult to follow, while the scientific programme begins to come to life. Participating in these meetings, seeing the experts work to create the best scientific programme, represents a unique opportunity to grow and learn from others.

The day after the meeting, these experiences grow within you and your daily work. This is one of the opportunities provided by the EYES community. I participated in the POC of the ECE 2022 as an EYES representative. If you are an early career member, remembering the EYES activities and social events, and the opportunities this community gives, is something really precious.

Daniele Santi
EYES Representative, ECE 2022 POC

‘Participating in these meetings, seeing the experts work to create the best scientific programme, represents a unique opportunity to grow and learn from others.’

New energy is in the air

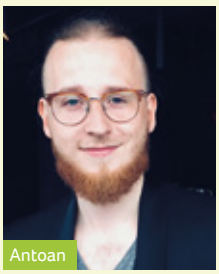
Your EYES Committee is delighted to be joined by fresh new faces, bringing strong energy, and helping us provide opportunities to early career investigators. We welcome our newly elected Committee members, Barbara and Jonathan.


Barbara

Barbara Altieri, a postdoc researcher from Würzburg, Germany, will be our ESE Membership Committee representative: ‘During my residency programme in endocrinology, I attended the 2015 EYES Meeting. I remember the excitement: I had the chance not only to present my first research project, but also to meet many young colleagues, with whom I have shared ideas and projects, and who became real friends. Every time I attended EYES events, I was impressed by the commitment of the EYES Committee, which inspired me to play a more active role in this amazing network. I look forward to using my experience to promote EYES initiatives and to increase awareness of early career investigators.’


Jonathan

Jonathan Mertens is a PhD student from Belgium and will be our new EYES Secretary: ‘The Athens meeting in 2019 was my first encounter with EYES, which left a deep impression. While it focused on early career researchers, such as myself, I was very struck by the exuberantly high levels of science. In my country, the network for early career researchers is still limited, so the central driver of EYES, to bring European centres closer together, encouraged me to participate. Despite only following EYES for 3 years, while a pandemic limited interaction, I have witnessed many new initiatives. I am happy to try and help EYES reach a growing number of European scientists!’

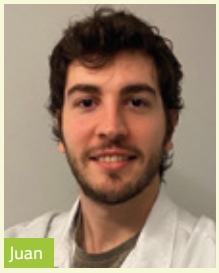

Antoan

Existing EYES Committee member **Antoan Stefan Šojat** joins Lina Paschou as an EYES Co-Chair: ‘Being elected as a Co-Chair and ESE Clinical Committee representative is a special honour. I know I have big shoes to fill, but our ideas and work ethic keep me confident that the sky is the limit. The EYES Committee has incredible support from the other ESE Committees and ESE Team. By doing truly meaningful things, we stay motivated and passionate about what we do. It is never easy being a voice of many, but it is the utmost gift an early career investigator can have.’

‘By doing truly meaningful things, we stay motivated and passionate about what we do.’


Lina


Walter


Juan

Your current EYES Committee members/ESE Committee representatives
Lina Paschou: EYES Co-Chair, ESE Science Committee
Antoan Stefan Šojat: EYES Co-Chair, ESE Clinical Committee
Walter Vena: ESE Education Committee
Jonathan Mertens: EYES Secretary
Juan Manuel Jiménez-Vacas: EYES Symposium Lead, ECE 2023 Programme Organising Committee
Barbara Altieri: ESE Membership Committee

A date for your diary

The launch of European Hormone Day at ECE 2022

ESE has launched European Hormone Day (**www.europeanhormoneday.org**): the first ever dedicated awareness day for hormones. It will take place annually, to raise the profile of hormones in health and disease amongst the public and policymakers. The European Hormone and Metabolism Foundation (ESE Foundation) and partner societies collaborated with ESE on the launch, which took place at ECE 2022 in Milan, Italy.

European Hormone Day
Because Hormones Matter
23 May 2022

EUWIN: working for women

We welcome the new group European Women in Endocrinology (EUWIN). It was launched at ECE 2022 to support all women in the field, including early career trainees and investigators, and to improve opportunities and diversity. EUWIN was founded by Cynthia Andoniadou (UK), Wiebke Arlt (UK) and Jenny Visser (The Netherlands). You can find out more at **www.ese-hormones.org/euwin**.

EUWIN
European Women in Endocrinology

EUWIN founders: (L–R) Cynthia Andoniadou, Jenny Visser and Wiebke Arlt

Evening masterclasses in endocrinology

In case you haven't discovered them yet, ESE's Spotlight on Science sessions are informal online discussions on scientific research topics in endocrinology, presented by a leading expert, alongside an accomplished early career researcher. An hour-long presentation and Q&A are followed by 30 minutes of open discussion. The sessions are free and take place at 18.00–19.30 CET/CEST.

The next session, on 1 September 2022, is entitled 'Measurement pitfalls of steroids and androgens'. Find out more at **www.ese-hormones.org/ese-courses/ese-spotlight-on-science**.

Spotlight on Science

EJE Rising Stars

This new programme from *European Journal of Endocrinology* (EJE) supports the leading clinical and translational endocrine researchers of the future. EJE Rising Stars are individuals whose exceptional achievements pick them out as potential upcoming Editors of EJE. Recipients of the award benefit from 2 years as a member of the EJE Rising Star Reviewer Board, a dedicated mentorship programme for future Editors of EJE and a travel bursary to attend ECE and the EJE Editorial Board meeting.

We congratulate this year's inaugural recipients! Read all about them at **https://eje.bioscientifica.com/page/rising-stars**

President presents new strategy

ESE President Martin Reincke used his address at ECE 2022 to talk about the new ESE strategy for 2022–2026. To find out more about your Society's ambitious aims, see **www.ese-hormones.org/about-us**.

European Board Examination

No European Board Examination in Endocrinology, Diabetes and Metabolism (EBEEDM) will take place in 2022. To receive updates about the 2023 EBEEDM, complete the form at **www.ese-hormones.org/education/european-board-examination**.

ESE Clinical Update on Calcium and Bone

4–6 October 2022, 16.00–18.00 CEST daily

4 October
New concepts in bone biology and impacts on clinical care

5 October
Phosphate metabolism and hypophosphataemic conditions revisited

6 October
Evolving insights in hypoparathyroidism

Register your interest at **www.ese-hormones.org/events-deadlines/ese-events/ese-clinical-update-on-calcium-bone-2022-online** to be kept up to date.

Time to meet...

Sweden's Young Endocrinologists and Diabetologists

Sweden's Young Endocrinologists and Diabetologists (SYED) was founded in 1999. Its purpose is to broaden the education offered to specialty trainees and create a network of contacts. In order to participate in SYED's activities, one must be a member of the Swedish Endocrine Society. SYED organises meetings twice a year.

September 2021 SYED Meeting (Lund, Sweden)

Autumn meetings planned by specialty trainees

In the autumn, we hold a 3-day meeting discussing topics in both endocrinology and diabetes. The topics and location of the meeting are chosen by the specialty trainees themselves, through a vote during the previous year's meeting. Each of the topics highlighted during the yearly meeting is explored in-depth, and interactive discussion is encouraged. The specialty trainees based in the host city organise the meeting themselves and invite speakers from across the country. Speakers are carefully chosen and tend to be the experts in that particular subject.

The latest meeting was held in the south of Sweden, in the historic city of Lund, during September 2021. Attendees from the previous year's meeting had voted for topics including neuroendocrine tumours, hypogonadism in males and females, hirsutism and polycystic ovary syndrome, diabetic neuropathy and autonomic dysfunction, adjuvant treatment for type 1 diabetes mellitus and technologies and treatments for diabetes.

An oncologist and an endocrine surgeon presented jointly on the diagnosis, investigation and management of neuroendocrine tumours. An andrologist from Stockholm spoke about hypogonadism in males, and a gynaecologist from Stockholm talked on hypogonadism in females. Our locally renowned diabetologists presented lectures on the investigation and management of autonomic neuropathy, and described the different uses of oral or injectable anti-diabetic drugs in type 1 diabetes mellitus.

On the final day, we had interactive workshops looking at the different blood glucose monitoring systems, insulin pumps and digital programmes that are used in Sweden.

'Attending the meetings offers a great platform for connecting with your peers, who will become the consultants of the future in different areas of expertise.'

We organised dinners together on each of the days, which allowed trainees from across the country to get to know each other and network. We aimed to provide a relaxed environment to build connections and allow trainees to swap experiences, knowledge and practice, to further improve their own training and professional development.

Spring events with the Swedish Endocrine Society

Annually, in the spring, SYED organises a meeting together with the Swedish Endocrine Society. The Swedish Endocrine Society hosts a 3-day meeting for doctors, nurses and students, with a wide range of topics. One stream of presentations or lectures is focused on topics pertaining to young trainees and these topics are also chosen a year in advance through voting.

As Sweden's largest endocrine meeting, this meeting offers even greater networking opportunities, and keynote speakers are invited from around the world. This year's meeting took place in the seaport city of Helsingborg, Sweden, on 11–13 May 2022. We were excited to welcome keynote speakers from Sweden, Denmark and the UK.

A thriving group

SYED is an exciting initiative run for and by specialty trainees, which continues to thrive. The biannual meetings allow specialty trainees to take it upon themselves to explore topics of their own choosing and to invite speakers that they find inspiring. The process of organising the meetings allows trainees to build networks with senior colleagues as well as to connect with peers from across the whole country.

Attending the meetings offers a great platform for connecting with your peers, who will become the consultants of the future in different areas of expertise. This is particularly important when working in a smaller country such as Sweden, which has just over 10 million inhabitants, where certain investigations or treatments are limited to larger centres. Being able to call up a colleague working in another part of the country and speaking to a familiar voice makes all the difference.

Shobitha Puvaneswaralingam
Senior Specialty Registrar, Skane University Hospital, Sweden

Mina Abdi Saran
Specialty Registrar, Sahlgrenska University Hospital, Sweden

Hosts Malin Danielsson and Shobitha Puvaneswaralingam at the SYED Meeting in September 2021

Welcome to Zagreb!

EYES 2022

Zagreb, Croatia
2–4 September 2022
www.eyes2022.com

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The 9th EYES Annual Meeting (EYES 2022) is taking place in Zagreb, Croatia, on 2–4 September 2022. After 2 years of virtual events, we will be excited to meet again in person.

EYES 2022 will bring together early career clinicians and researchers from the breadth of endocrinology and diabetology, to enjoy a programme covering the eight ESE Focus Areas, which span our discipline. The Meeting offers numerous opportunities for early career investigators to present their work and exchange ideas with colleagues from across Europe and beyond.

All abstracts will be published in *Endocrine Abstracts*, an open access and citable resource.

Zagreb is the capital of Croatia. Famous for its Austro-Hungarian architecture, diverse museums, lively markets and local delicacies, it is the cultural centre of the country, and you are sure to enjoy your visit.

To find out more, see **www.eyes2022.com**.

Thanks to our organisers

Our Local Organising Committee comes from the Young Endocrinologists Section of the Croatian Society of Endocrinology and Diabetology. We are grateful to them, and for the support of the Croatian Society of Endocrinology and Diabetology and the Croatian Medical Association.

Find out more at **www.facebook.com/sekcijamladihendokrinologa** and **www.twitter.com/croendoyoung**

croatian young endocrinologists

Croatian Society for Endocrinology and Diabetology, Croatian Medical Association

PLENARY LECTURES

Premature ovarian insufficiency
Ljiljana Marina

Endocrine treatment of transgender individuals
Tina Dušek

Male infertility
Daniele Santi

Thyroid disease in pregnancy
Mirsala Solak

WORKSHOPS

Insulin pumps
Ivana Kraljević

Tips and tricks for academic writing
Tamara Sladoljev Agejev

ORAL COMMUNICATIONS
on all the ESE Focus Areas

- Adrenal and Cardiovascular Endocrinology
- Calcium and Bone
- Diabetes, Obesity, Metabolism and Nutrition
- Endocrine-related Cancer
- Environmental Endocrinology
- Pituitary and Neuroendocrinology
- Reproductive and Developmental Endocrinology
- Thyroid