ESOTCongress

THE INTERNATIONAL TRANSPLANT CONGRESS®


# Congress Review

## ESOT CONGRESS 2023

ATHENS, 17–20 SEPTEMBER

**#ESOTcongress**

# Contents

# Thank you for attending the ESOT Congress 2023

**Thank you for being part of a remarkable ESOT Congress 2023. We are delighted to have brought you another successful meeting, this year from Athens, where we have marked a new direction for transplantation.**

Under the overarching theme of 'Disruptive Innovation, Trusted Care', we truly immersed ourselves into the new opportunities and challenges in our field, as we now shift to a technologically driven world. We have examined how the digital revolution opens the door to new diagnostics, lab science and greater precision transplantation than ever before. We have delved into how we can address the organ shortage, optimise donated organs through perfusion technology and implement cell therapy advancements, as well as catching a glimpse of where xenotransplantation could take us.

Throughout the congress, we ensured a focus on care delivery and how transplant professionals can create an open and trusting environment with patients to drive shared decision making and lay the foundation required to further patient empowerment. Improving the lives of patients is central to our mission at ESOT, and we are confident that the legacy of this congress will continue to drive improvements in transplant care for years to come.

Education has been the core of ESOT for many years, and we have shared an invaluable amount of information and knowledge. Since the way we connect, learn and acquire information is changing, we must utilise new opportunities to rethink, rewire and re-envision how we widen the reach and accessibility of our education.

ESOT is poised to lead by example as a modern, agile and inclusive organisation that thrives on diversity and places patients at the heart of all we do. Together, we will drive positive change and elevate the standards of organ transplantation care across Europe and the world.


On behalf of ESOT, I would like to extend my gratitude to our industry partners who were instrumental in shaping such a successful congress. We had such a fantastic exhibition, showcasing the latest cutting-edge science and innovation, as well as a range of excellent sessions within our industry programme.

I also wish to thank the Congress Scientific Committee and the ESOT Team for their hard work and dedication to make this year's meeting a truly memorable event.

Finally, my thanks to you, the ESOT community. We were joined by over 2800 attendees from over 80 countries in clear recognition of the true international reach and influence of our society. I sincerely hope that you enjoyed the congress and that you can join us for our next edition in 2025, taking place in London, where we will continue to shape the future of transplantation.

**Gabriel Oniscu**
ESOT Congress 2023 Co-Chair
*ESOT President 2023–2025*

# The ESOT Congress in numbers

**2826** participants

**1110+** articles in the press

**1800+** total posts using #ESOTcongress

**1.1 million+** #ESOTcongress audience reach

**48** industry partners

**19** industry-sponsored symposia

**Abstracts submitted** 1657

**Abstracts presented** 1113

**Late-breaking abstracts presented** 82

**5** congress domains

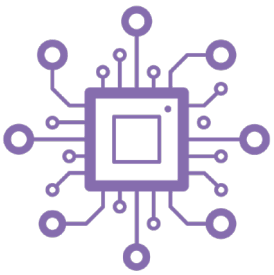
**5** machine perfusion and preservation labs

**80+** countries represented

**Top 10 countries represented:**

1. United Kingdom
2. Greece
3. France
4. Italy
5. The Netherlands
6. Germany
7. South Korea
8. USA
9. Spain
10. Switzerland

# Congress domains



## Digital transformation

The digital transformation domain delved into the post-pandemic era and the impact of the digital revolution on care delivery. By analysing the potential of rapidly evolving technology, we have uncovered how there is great opportunity for patients and healthcare professionals to benefit in the future. We focused on identifying new barriers that may present themselves as medical technology continues to develop, and we discussed how to break down these barriers and prioritise our patients. Although ethical challenges of healthcare digitalisation must be addressed and the viability of telemedicine is still being assessed, we can now move forward to this new era in transplantation whilst ensuring that patients are comfortable with this shift in healthcare.

## Innovation and technology

As rapid developments in areas such as machine perfusion, biotechnology, bioengineering, artificial intelligence, robotics, artificial intelligence (AI) and virtual reality (VR) continue to transform the field, the innovation and technology domain focused on the future of transplantation. Sessions within this domain uncovered the value that these advancing methods can add to transplantation and how they hold the potential to reshape the patient journey. Education and connectivity were identified as two key issues for the future of innovation. Therefore, we emphasised the importance of maintaining a personal approach in future processes, considered how we can include patients in technological innovation to prioritise communication, and ensured the importance of personalised care in transplantation is not forgotten.

## Realistic care

The realistic care domain explored how exponential advances in diagnostics and lab science have made the application of precision transplantation a realistic prospect. New promises of big data and biomarkers hold the power to reshape the delivery of day-to-day clinical care to tailor treatments and transform the lives of patients. If these advances are harnessed across the globe, they may be able to eliminate unwarranted variation in transplant care, reducing inequalities for transplant patients. Furthermore, self-management methods have the potential to be transformed to empower patients to further understand their conditions and actively participate in their care.

# Congress domains

## Regeneration and repair

The regeneration and repair domain dug deep into the realms of perfusion technology and cell therapy advancements to uncover the new opportunities they may bring. Recent advances to maximise the utilisation of donated human organs can reveal new answers to our organ shortage questions, offering solutions and hope in the midst of an organ shortage crisis. For example, progress in the fields of xenotransplantation, genetic interventions and artificial humanised organs may now bridge the gap between supply and demand. We further identified new barriers, such as the stigma and public opinions, that may halt the speed of medical progress.

## Shared decision, shared care

As transplantation techniques become more digitalised and the delivery of healthcare rapidly shifts to accommodate this change, the shared decision, shared care domain focused on how we can keep patients at the heart of transplantation. This domain emphasised spreading awareness on how healthcare professionals can strive to create an open and trusting environment with their patients. By enhancing communication and pushing meaningful dialogue, we lay the necessary foundation to empower patients to actively participate in the decision-making process so they can make fully informed choices about their treatment. Ultimately, this domain aimed to drive more personalised transplant care journeys for patients across the globe.

# Scientific programme highlights

## Opening plenary: Transplantation at a crossroads

During the opening plenary session, we reflected on the impact of the COVID-19 pandemic, the challenge which exposed deficiencies in every health system across the globe and revealed our unpreparedness to deal with major disasters. However, the pandemic brought communities and countries closer than ever before, demonstrating the immense power of collaboration in enabling the rapid development of disruptive solutions, technology and digitalisation. Collaboration was recognised as the driving force which accelerated the implementation of transformative changes, resulting in successful new therapies.


As we now emerge on the other side of the pandemic, we are witnessing a new technologically-driven world with a game-changing surge of disruptive technologies, such as artificial intelligence (AI), digitalisation and VR. These innovations hold immense potential, but also bring unprecedented challenges that must be considered and overcome.

Exploring the pivotal role of technology, John Nosta emphasised the huge role that digitalisation is now playing in healthcare and the rest of the world, "We're seeing the emergence of data, insights and technology that are transforming not only transplantation but also humanity itself," he explained. "I like to call it the second big bang – technology is now advancing beyond the level of human capability, and when you ask, 'who is the smartest person in the room?', although it may have once been the doctor, it may very well be technology now."


Speaking about how to make access to organ transplantation more widely available and standardised, Donna Cryer, who received a liver transplant 28 years ago, asked the audience to reflect, 'How can we speed up the best practices to reach every corner of the community?'. While Donna appreciates that she has been fortunate enough to receive good quality care and has responded well to her treatment, she reflects on other patients who may not have been so lucky, and the inequalities that exist in our field.

# Scientific programme highlights

## Opening plenary: Transplantation at a crossroads

Tobias Degsell concluded the session by dissecting the lessons that can be learnt from the Nobel Prize in the context of transplantation and disruptive technology. Degsell explained, 'The most important thing we can learn from the nobel prize is collaboration. But this alone is not enough – you need to spice that word with diversity which is about different perspectives. But to make this work, you need trust. We need to create a culture around collaboration, diversity and trust otherwise we will not be able to solve some of the really complicated challenges that we are facing.'

Ultimately, the session emphasised the importance of sustaining and expanding the level of collaboration achieved during the pandemic, essential to further pushing advancements in transplantation. Pisana Ferrari (ESOT Congress Honorary Co-Chair), explained, "As a patient with pulmonary arterial hypertension who underwent a double lung transplant over two decades ago, I am filled with anticipation of the transformative discussions set to happen over the next few days that will continue to push the boundaries of transplantation across the world. Thank you for letting me be part of this extraordinary journey."

"Let's make Athens the epicentre of knowledge, debates and learning," emphasised Gabriel Oniscu (ESOT Congress Co-Chair).

# Scientific programme highlights

## In a pivotal study, blood group A was successfully enzymatically converted to group O in human kidneys[1]

In this pivotal study, enzymatic conversion of blood group A to group O showed a 70–80% loss of group A antigens within 2 hours of normothermic machine perfusion (NMP) and 6 hours of hypothermic machine perfusion (HMP). If confirmed in clinical studies, these findings could herald the start of a new era, transforming donor organ allocation in kidney transplantation.[1]

Current allocation of donor organs is restricted by ABO blood group typing, which can lead to longer waiting times for patients with less common blood types. This preclinical study aimed to use two enzymes derived from the anaerobic bacterium, *Flavonifractor plautii*, to convert human blood group A kidneys to the universal blood group O.

Six pairs of human kidneys that had been rejected for transplantation and offered for research were used following approval by the United Kingdom National Research Ethics committee and Research and Development office. Of these, three
pairs were perfused for 6 hours using ex situ NMP, which mimics physiological conditions in the body to restore cellular function and metabolism, and three pairs were perfused for 24 hours using ex situ HMP to restore function and reduce complications, cellular injury and inflammation.[2,3] One of each pair of kidneys received enzyme treatment. Cortical biopsies were collected during perfusion, and immunofluorescence microscopy was used to measure antigen expression.

Compared with pre-treatment levels, a significant loss of blood group A antigen expression was detected following 2 hours of NMP (83.4±10.2%; P=0.012), with non-significant changes in the control kidneys (P=0.999). After 6 hours of HMP, antigen loss of 71.2±21.9% (P=0.066) was detected, with no decrease in the control kidneys (P=0.977). Overall, haemodynamic perfusion parameters were stable in both cohorts, and there was no significant difference between control vs treated kidneys.

**References:**


1. Macmillan S, *et al.* Enzymatic conversion of human blood group a kidneys to universal blood group O. Presented at the ESOT Congress 2023; 17 September 2023; Athens, Greece.
2. Karangwa S, *et al.* Hypothermic machine perfusion in liver transplantation. *In J Surg.* 2020;82S:44–51.
3. Smith TB, *et al.* Advances in Hypothermic and Normothermic Perfusion in Kidney Transplantation. *Transplantology.* 2021;2(4):460–77.

# Scientific programme highlights

## Islet transplantation boosts long-term survival in kidney transplant recipients with type 1 diabetes[1]

Islet transplantation significantly reduces the risk of transplantation failure and enhances life expectancy in individuals with type 1 diabetes who undergo kidney transplantation, a new study has revealed.

This breakthrough research compared the long-term outcomes of patients with type 1 diabetes who underwent kidney transplantation and received an islet transplantation, with patients who underwent kidney transplantation and then managed their diabetes with insulin alone. The study found that islet transplantation exhibited a substantial advantage over insulin treatment, significantly reducing the risk of transplant failure and mortality.

The researchers investigated every patient with type 1 diabetes in France who received a kidney transplant between 2000 and 2017. Among 2393 patients, 327 were eligible for islet transplantation, including 47 that were actually transplanted with islets. To ensure comparability between the two groups, the researchers matched patients based on factors, such as the year of transplantation, age of the recipient, kidney function or HbA1c.

After comparing the two groups, the researchers found that islet transplantation had a significant benefit over insulin alone in terms of reducing the risk of transplantation failure and death. The results showed a 0.47 hazard ratio for graft failure in the islet transplantation group, indicating a 53% lower risk of failure compared with the insulin-only group. As well as this, patients who received an islet transplantation had a higher estimated life expectancy for a 10-year follow-up (9.61 years compared with 8.85 years for those on insulin alone).

Notably, when investigating the outcomes of islet transplantation alone, two crucial positive outcomes were identified. At the 1-year mark following the islet transplantation, there was an estimated 89.4% probability of graft survival. Additionally, patients were estimated to have a 70.2% probability of achieving independence from insulin at 1 year.

“Although islet transplantation has previously been shown to improve glycaemic control compared with conventional insulin therapy in recent clinical trials, little was known about its long-term impact on patient prognosis until now,” said Mehdi Maanaoui, the lead author of the study. “These results are exciting and provide hope for people living with type 1 diabetes and kidney transplants.”

In 2021, there were estimated to be approximately 8.4 million individuals across the globe with type 1 diabetes. Prevalence is expected to rise, with projections ranging from 13.5 to 17.4 million cases predicted by 2040.[2] Additionally, approximately 30% of patients with type 1 diabetes will suffer from kidney failure.[3] These figures highlight the escalating public health challenge posed by type 1 diabetes, and the urgent need for effective management and treatment strategies to address this increasing burden on healthcare systems worldwide.

**References:**


1. Maanaoui M, *et al.* Islet transplantation versus insulin alone in type 1 diabetic kidney transplant recipients: a French nationwide study on behalf of the TREPID group. Presented at the European Society for Organ Transplantation Congress; 17 September 2023; Athens, Greece.
2. Gregory G, *et al.* Global incidence, prevalence, and mortality of type 1 diabetes in 2021 with projection to 2040: a modelling study. *Lancet Diabetes Endocrinol.* 2022, 10(10):P741–760. doi: 10.1016/S2213-8587(22)00218-2.
3. National Kidney Foundation. Diabetes - A Major Risk Factor for Kidney Disease. Available at: https://www.kidney.org/atoz/content/diabetes (Accessed: August 2023).

# Scientific programme highlights

## Neonatal kidney transplantation offers new hope in the organ shortage crisis, study shows[1]

New research demonstrates that neonatal kidney transplantation can offer a 'game-changing' solution to the pressing organ shortage crisis.

To assess the feasibility of neonatal organ donation, researchers analysed neonatal mortality in the United States and the long-term development of these kidneys after transplantation, as well as the ethical and social considerations surrounding the procedure.

The study revealed that out of the 21,000 infants who lost their lives in 2020, more than 12,000 could have been considered as viable organ donors.

The organ shortage is one of the greatest challenges facing the field of organ transplantation. As of January 2022, there were 100,000 patients on the waiting list for kidney transplantation in the US, with just 24,669 kidneys transplanted in the previous year. Alarmingly, this donor pool shortage contributed to the deaths of 5000 patients on the waiting list.

This crisis is not unique to the US. Across Europe, organ supplies cannot meet the increasing demand, and annually, an average of 15–30% of patients on waitlists die.[2] As human life expectancy increases whilst chronic conditions like diabetes, obesity and liver disease become more prevalent, there is an increased need for transplants and a reduction in the number of available organs.[3]

In 2018, kidneys were the most frequently transplanted organ across the EU, accounting for over 60% of all transplants.[4] Previous research has confirmed the viability of transplanting kidneys from paediatric donors into adults.[5] Notably, neonatal kidneys have demonstrated catch-up growth and excellent long-term performance (>25 years), exceeding that of living donors. Current transplantation techniques have also proved to be safe and effective for neonatal kidneys.[1]

Dai Nghiem, lead author of the study, comments, "We believe that neonatal kidney transplantation offers a 'game-changing' solution to the organ shortage crisis. This study looked at the US alone, but if you replicate the findings across the globe then we have a huge untapped pool of available organs that can be used for transplants."

"Understandably, paediatric organ donation presents distinct ethical and social challenges compared to adult donation", added Dr Nghiem. "For families and caregivers, making the decision to donate can be an incredibly tough process, especially the organs of their newborn. There is also a concern amongst the transplant community about the difficulty of the procedure along with its experimental nature. Through the exchange of experience among pioneering centres, we hope to address these concerns, foster acceptance of this forgotten source of organ donors and ultimately save more lives through organ transplantation."


**References:**

1. Nghiem D. Neonatal organ donation for kidney shortage; Is this the time? Presented at the European Society for Organ Transplantation Congress; 17 September 2023; Athens, Greece.
2. Lewis A, *et al.* Organ donation in the US and Europe: The supply vs demand imbalance. *Transplant Rev* (Orlando). 2021;35(2):100585.
3. Levitt M. Could the organ shortage ever be met? *Life Sci Soc Policy.* 2015;11:6.
4. Scholz N. European Parliament. Organ donation and transplantation: Facts, figures and European Union action. 2020. Available at: https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/649363/EPRS_BRI(2020)649363_EN.pdf (Accessed: August 2023).
5. Ratner LE, *et al.* Transplantation of single and paired pediatric kidneys into adult recipients.

# Scientific programme highlights

## New drug class prevents key ageing mechanism in organ transplants[1]

A novel study has shown that Senolytics, a new class of drugs, have the potential to prevent the transfer of senescence, a key mechanism of ageing, in recipients of older donor organs. The research opens promising avenues for expanding the organ donor pool and enhancing patient outcomes.

By transplanting older donor organs into younger recipients, researchers from Harvard Medical School and the Mayo Clinic investigated the role of transplantation in inducing senescence, a biological mechanism linked to ageing and age-related diseases.[2] The researchers conducted age-disparate heart transplants from both young (3 months) and old (18–21 months) mice into younger recipients. Recipients of old hearts showed augmented frequencies of senescent cells in draining lymph nodes, livers and muscles, in addition to augmented systemic mt-DNA levels, compared with recipients who received young grafts. Strikingly, transplanting old organs led to advanced physical and cognitive impairments in recipients.

The research also uncovered a potential solution to this process by utilising Senolytics – a new class of drugs designed to target and eliminate senescent cells. When old donors were treated with Senolytics (Dasatinib and Quercetin) prior to organ procurement, the transfer of senescence was significantly reduced through a diminished accumulation of senescent cells and mt-DNA. Recipients who received old organs treated with Senolytics showed improved physical fitness that was comparable to observations in recipients of young organs.

Maximillian J Roesel, presenting the study as part of the group at Brigham and Women's Hospital, Harvard Medical School, commented, "Donor age plays a crucial role in transplant success, with recipients of older organs facing worse outcomes. Nevertheless, the use of older donor organs is essential to tackle the global organ shortage, and this research illuminates fundamental challenges and potential solutions for utilising older organs."

"Moving forward, we will further investigate the potential role of Senolytics in preventing the transfer of senescence in humans. This research is extremely exciting as it may help us improve outcomes and also make more organs available for transplantation," concluded Stefan G Tullius, the lead author of the study.


**References:**

1. Roesel M, *et al.* 'Spreading' aging with the transplantation of old organs: An experimental reality. Presented at the European Society for Organ Transplantation Congress; 18 September 2023; Athens, Greece.
2. Kumari R and Jat P. Mechanisms of cellular senescence: Cell cycle arrest and senescence associated secretory phenotype. *Frontiers in Cell and Developmental Biology.* 2021;9:645593:1–24.

# Scientific programme highlights

## Xenotransplantation extends survival in recipients with advanced kidney disease[1]

A long-term study from the US validated the potential of xenotransplantation (XTx) to prolong survival by up to 2 years in recipients with advanced kidney disease.

Transplantation from one species to another may be useful as a replacement therapy for end-stage renal disease. Grafts developed to knock out three porcine antigens (triple knock-out [TKO]) and to knock in human transgenes have been shown to prolong survival following XTx.

Investigators used gene-editing technology (eGenesis) to create TKO kidney donor grafts from Yucatan minipigs that either did or did not express several human genes (*CD46, CD55, THBD, PROCR, CD47, TNFAIP3* and *HMOX1*), before transplanting three genetically modified grafts into cynomolgus macaque monkeys. After initial treatment with corticosteroid and tacrolimus, anti-CD154 monoclonal antibodies (with and without the immunosuppressive agent mycophenolate mofetil) were used to maintain immunosuppression. IgG/IgM antibodies were then measured using flow cytometry.


Following transplantation, it was observed that those organs which expressed human transgenes were associated with significantly greater survival, compared with those that expressed TKO only (median survival: 283 vs 5 days, respectively, P=0.0018). The development of novel donor-specific antibodies (DSAs), observed in some recipients, did not appear to correlate with overall clinical outcome or antibody-mediated rejection. Similarly, anti-porcine antibody titres measured before transplantation did not correlate with overall survival. Indeed, the longest surviving animal, at >740 days, showed a higher level of IgM binding antibodies prior to transplantation than other recipients.

Overall, the most common reasons for graft rejection were antibody-mediated or due to thrombotic microangiopathy; however, only the former correlated with post-transplant DSA levels. In this long-term study, transplantation of TKO porcine kidneys prolonged renal xenograft survival for more than 2 years.

**Reference:**

1. Karadagi A, *et al.* Long-term (2 years) survival of porcine to nonhuman primate life-sustaining kidney xenotransplantation. Presented at the ESOT Congress 2023; 18 September 2023; Athens, Greece.

# Scientific programme highlights

## No differences in survival outcomes from transplanted kidneys donated before vs after death in the United Kingdom[1]

Results from a study showing no differences in survival outcomes between kidneys donated before vs after death may be useful for settings where pre-transplant renal biopsies reports are not available.

Dual kidney transplants (DKTs) are usually performed in cases where patients' organs are either small or of marginal quality, in order to optimise the transplantation. Standardised scoring methods are used to guide whether one or two kidneys are required. There are concerns that kidney donation after death (DCD) is associated with poorer outcomes than donation before death (DBD).

In the absence of a dedicated United Kingdom National Pathology Service, an exploratory study investigated whether there were any differences in survival outcomes following DKT using grafts from DCD vs DBD donors. Adult patients who underwent DKT between January 2000 and December 2019 were identified using the National Health Service Blood and Transplant (NHSBT) registry and followed until December 2022.

Post-transplantation survival rates were assessed using Cox-Regression analysis. Controls were also used to eliminate potential selection bias between the two groups.

Of the 51,961 renal transplants reported to the NHSBT registry during the study, 525 were DKTs. After controlling for bias, there were no significant differences in survival outcomes between transplants from DCD vs DBD donors. Improved survival was associated with the geographical region where the transplant was performed (odds ratio [OR]: 1.6 [1.0–2.5]; P=0.02), receiving a transplant after 2011 (OR: 3.0 [1.7–5.2]; P<0.001) and receiving a transplant from a donor without diabetes (OR: 2.1 [1.1–3.9]; P=0.009).

In contrast with previously reported concerns of DCD organs resulting in inferior outcomes to those obtained from DBD, in this study, DBD transplants were associated with low delayed graft function rates than DCD transplants (OR: 0.4 [0.27–0.59]; P<0.001).


**Reference:**

1. Khawaja A, *et al*. Is there a difference in survival outcomes of dual kidney transplants of DCD v/s DBD allografts in absence of national pathology service? Presented at the ESOT Congress 2023; 18 September 2023; Athens, Greece.

# Scientific programme highlights

## High symptom burden in kidney transplant recipients linked to poor clinical outcomes[1]

An analysis from the TransplantLines biobank and cohort study in the Netherlands highlighted the connection between high symptom burden in kidney transplant recipients (KTR) and adverse clinical outcomes. The results underscore the importance of implementing effective strategies and treatments aimed at alleviating this burden.

Kidney transplantation is often associated with poor patient-reported outcomes (PROs), particularly health-related quality of life (HRQoL), caused by disease-related symptoms or post-transplant medication.


A large, prospective, cross-sectional study in the Netherlands (TransplantLines biobank and cohort study)[2] evaluated the prevalence of a wide range of symptoms, accompanying distress and perceived symptom burden (a combination of prevalence and distress) in a large population of kidney transplant recipients (KTRs). The study also assessed whether symptom burden was associated with clinical outcomes, including HRQoL, adherence to medication, depression and societal participation. Data from patients enrolled between June 2015 and February 2022 was analysed at least 6 months after kidney transplantation. PRO assessments included the revised 59-item Modified Transplant Symptom Occurrence and Distress Scale (MTSOSD-59R) to assess symptoms, and the 36-item Short-Form survey (SF-36) to measure HRQoL. A 'RIDIT' statistical analysis was used to calculate scores of accompanying symptom prevalence and distress, while the overall symptom burden was calculated by multiplying symptom prevalence by symptom distress.

The study population included a total of 936 KTRs. Of these, 39% of patients were female, with a mean age of 56 years, at a median of 2 (interquartile range: 1–9) years after transplantation. The most prevalent symptoms reported were tiredness, bruises and lack of energy; patients reported the most distressing symptoms to be menstrual problems (in women), impotence (in men) and joint pain; while the most burdensome symptoms were bruises, lack of energy and tiredness.

Higher symptom burden scores were associated with both lower mental and physical HRQoL, as determined by linear regression analyses (β: -3.00; 95% confidence interval [CI]: -3.32 to -2.67; P<0.001 and β: -2.29; 95% CI: -2.56 to -2.03; P<0.001, respectively). Higher burden scores were also strongly associated with medication non-adherence, depression and reduced societal participation; these outcomes remained significant after adjusting for potential confounding factors.

These findings highlight the need to reduce symptom burden in KTRs, for instance by individualising immunosuppression.

**References:**

1. Riemersma N, *et al.* Symptom burden in kidney transplant recipients: a cross-sectional study. Presented at the ESOT Congress 2023; 19 September 2023; Athens, Greece.
2. Eisenga MF, *et al.* Rationale and design of TransplantLines: a prospective cohort study and biobank of solid organ transplant recipients. *BMJ Open.* 2018;8(12):e024502.

# Scientific programme highlights

## Development of a novel 'Liver Atlas' to predict pre-retrieval steatosis may help to avoid discarding liver tissue[1]

A novel, large-scale 'Liver Atlas' developed in the United Kingdom supported the use of pre-retrieval steatosis predictors and routine retrieval biopsy to avoid unnecessary viable liver discards.

Hepatic steatosis, where intrahepatic fat is ≥5% of liver weight,[2] is often associated with poor outcomes following liver transplantation. A group from the United Kingdom have developed the first large-scale 'Liver Atlas' database from the livers of deceased donors. Using this as a reference source, investigators assessed the incidence of biopsy-confirmed steatosis, identified predictors of steatosis severity present prior to liver retrieval and evaluated the impact of steatosis severity on retrieval, utilisation and donor graft/recipient outcomes.

This study used a total of 1048 consecutive biopsies from deceased donors, stored by the national QUOD bioresource between 2017 and 2019. The severity of steatosis in biopsy samples was quantified using artificial intelligence-based image analysis (imageDxTM) of haematoxylin and eosin-stained slides. Of the 1048 donor livers, 906 had tissue sufficient for histological assessment and were included in the final analysis. Steatosis severity was graded as either none (n=670), mild (n=102), moderate (n=81) or severe (n=53).

Significant differences in pre-retrieval predictors, anthropometric measurement (body mass index and waist circumference), clinical risk scoring (fatty liver index and hepatic steatosis index) and biochemical measurement (gamma-glutamyl transpeptidase [GGT], triglycerides and insulin), were observed between imaging scores. However, only GGT appeared to detect differences based on steatosis severity of either mild-moderate (P=0.059) or mild-severe (P=0.001) grades, based on multivariate regression analysis.

Of the 906 livers in the final analysis, 685 (75.6%) were retrieved with the intention of transplantation, with steatosis severity graded as none (76.2%), mild (10.4%), moderate (8.3%) or severe (5.1%) based on surgeon assessment of macroscopic fat. However, correlation between surgeon-assessed and imageDx™-generated scores was poor, with only 57.1% of none grade samples, 43.7% of mild, 40.4% of moderate and 28.6% of severe steatosis samples receiving a matched severity grading with imageDxTM. Furthermore, the proportion of livers used for transplantation decreased significantly as steatosis severity increased, which was associated with a reduction in 12-month graft and patient survival, but this was not significant.

Further genetic analysis of this cohort, currently in progress, will help to map specific variables associated with increased steatosis. Utilisation of steatosis predictors for high-risk category livers may help to avoid unnecessary discards in routine biopsy retrieval.


**References:**

1. Abbas H, *et al.* Development of a 'Liver Atlas' using over 1000 consecutive deceased donor livers to identify hepatic steatosis prior to retrieval. Presented at the ESOT Congress 2023; 19 September 2023; Athens, Greece.
2. Nassir F, *et al.* Pathogenesis and prevention of hepatic steatosis. *Gastroenterol Hepatol* (N Y). 2015;11(3):167–75.

# Scientific programme highlights

## iBox system enabled accurate prediction of long-term failure after kidney transplantation in children[1]

This multinational study demonstrated the utility of the iBox scoring system to predict long-term failure of kidney grafts in children, with similar outcomes to those reported in adults. This risk prediction score can be extended to the paediatric population to further improve patient monitoring and may also be used as an endpoint in clinical trials.

There is a clinical need for prediction of long-term kidney graft failure in children, both to improve clinical management and to optimise clinical trials in this population. Investigators aimed to validate the use of a kidney graft failure risk prediction system in a large cohort of paediatric kidney transplant (kTx) patients.

Children from Europe and the US who received a kTx between 2004 to 2017 were included. Assessment of grafts included urinary analysis (estimated glomerular filtration rate [eGFR] and urine protein-creatinine ratio [UPCR]), development of graft fibrosis (presence of circulating anti-human leUnited Kingdomocyte antigen donor specific antibodies [anti-HLA DSA) and kidney graft histology (using Banff international classification). The iBox system was then
used to predict graft failure, alongside assessment of prediction performance.

A total of 706 kTx patients were included, in which 80 grafts failed. Grafts were assessed at a median time of 9.1 [3.3–19.2] months after transplant. Overall, mean eGFR was 68.7±28.1 mL/min/1.73m$^2$ and median UPCR was 0.1 [0.0–0.4] g/g, while 134 (19%) patients had circulating anti-HLA DSA.

The iBox system enabled accurate prediction of outcomes up to 10 years after evaluation, with a concordance index of 0.81 (95% CI: 0.75–0.87), which summarises how well a predicted risk score describes an observed


**References:**

1. Hogan J, *et al.* Validation of a prediction system for risk of allograft loss (iBox) in pediatric kidney transplant recipients. Presented at the ESOT Congress 2023; 19 September 2023; Athens, Greece.
2. Longato E, *et al.* A practical perspective on the concordance index for the evaluation and selection of prognostic time-to-event models. *J Biomed Inform.* 2020;108:103496.

# Scientific programme highlights

## Pre-specified blood biomarkers did not assist detection of kidney graft rejection in the large EU-TRAIN trial[1]

In the large, prospective, multicentre, EUropean TRAnsplantation and INnovation Consortium for Risk Stratification in Kidney Transplant Patients (EU-TRAIN) trial (NCT03652402), none of the 24 pre-specified candidate blood biomarkers provided additional clinical value in detecting kidney graft rejection.[1,2]

Clinically validated, non-invasive biomarkers are needed to detect kidney graft rejection after transplantation. Investigators aimed to evaluate the value of 24 candidate blood biomarkers in a large, prospective and unselected cohort of kidney transplant patients, in addition to routine medical care.

From November 2018 to June 2020, 412 consecutive patients received a kidney graft at one of the participating European transplant centres. Clinical, biological, immunological and histological parameters were monitored prospectively.

Overall, 24 biomarkers, including 20 blood mRNA-based markers (AKR1C3, CD3E, CD4, CD40, CD8A, CD9, CTLA4, ENTPD1, FOXP3, GZMB, ID3, IL7R, MS4A1, MZB1, POU2AF1, POU2F1, TCL1A, TLR4, TRIB1, TUBA4) and four anti- antibodies (ATI1R, anti-ETAR, ant-C3aR and anti-C5aR), were assessed from blood samples at the time of the procedure and in biopsies taken during the first year following transplantation. Each biomarker was assessed for the detection of graft rejection compared with standard of care patient monitoring.

A total of 816 biopsies were included (625 [76.6%] per protocol and 191 [23.4%] clinically indicated). The overall rate of rejection (either antibody-mediated [AMR], T-cell mediated [TCMR] or mixed) was 6.4% in the first year post transplant. While the majority of biomarkers evaluated (23 of 24) were not associated with the detection of transplant rejection, one marker (CD4 mRNA) showed a significant association (P<0.001). However, when this finding was adjusted according to standard of care monitoring variables (e.g. rejection history, ABO blood group incompatibility, induction therapy type, allograft instability, eGFR, UPCR and circulating anti-HLA DSA), none of the 24 biomarkers were associated with overall AMR, TCMR and mixed graft rejection.

**References:**


1. Goutaudier V, *et al.* Detection of kidney allograft rejection using blood biomarkers: Results of the European multicenter prospective EU-train trial (NCT03652402). Presented at the ESOT Congress 2023; 20 September 2023; Athens, Greece.
2. ClinicalTrials.gov. Precision Risk Stratification in Kidney Transplant Patients - EU-TRAIN (EU-TRAIN). Available at: https://classic.clinicaltrials.gov/ct2/show/NCT03652402 (Accessed: August 2023).

# Scientific programme highlights

## Donor-derived cell-free DNA, in addition to conventional features, assisted prediction of kidney graft rejection after transplantation[1]

This multicentre study demonstrated the added value of donor-derived cell-free DNA (dd-cfDNA) to predict rejection of kidney grafts in addition to standard monitoring. The application of this integrative system in improving patient monitoring may aid physicians in their decision making.

Validated non-invasive biomarkers are much needed for use in post-transplant care to improve graft monitoring, without the requirement for invasive biopsies. Previous research indicates that dd-cfDNA may be associated with rejection, although the added value to standard of care has yet to be demonstrated in a large study of unselected, phentotyped patients.

Between April 2013 to June 2018, a total of 1134 kidney transplant patients with assessment of graft histology, anti-human leUnited Kingdomocyte antigen donor-specific antibodies (anti-HLA DSA) and functional parameters were enrolled, giving a derivation cohort of 1415 biopsies. Plasma-derived dd-cfDNA was measured when biopsies were taken. Using the Banff 2019 classification system to diagnose rejection, 171 antibody-mediated [AMR], 34 T-cell mediated [TCMR] and 17 mixed rejections were detected. Univariable and multivariable logistical regression was used to assess rejection-associated parameters, and a risk model was developed using variables independently associated with kidney rejection. The validation cohort included 1929 evaluations in total (499 from Belgium and 1430 from North America).

Compared with other diagnoses, higher levels of dd-cfDNA were detected for AMR, TCMR or mixed rejections, and levels increased incrementally with Banff acute lesions but without significant increases with chronic lesions. Variables that were independently associated with rejection in multivariate analysis were anti-HLA DSA (P<0.0001), dd-cfDNA (P<0.0001), eGFR (P<0.033), proteinuria (P=0.016) and previous rejection history (P<0.0001). This association was still valid for dd-cfDNA in the validation cohorts from Belgium (P=0.0006) and North America (P<0.0001).

Discrimination performance of the model was 0.821 and 0.777 with and without dd-cfDNA, respectively. The added predictive value of using dd-cfDNA was also confirmed in the validation cohorts from Belgium (area under the curve [AUC] 0.815) and North America (AUC 0.826).

**Reference:**

1. Ursule-Dufait C, *et al.* Multidimensional risk assessment of kidney allograft rejection using donor-derived cell-free DNA. Presented at the ESOT Congress 2023; 20 September 2023; Athens, Greece.

# Scientific programme highlights

## Session highlight: Caring in times of crisis

During a state-of-the-art session chaired by Luciano Potena (ESOT Past President 2023–2025) and Jelena Stojanovic (Consultant Paediatric Nephrologist at Great Ormond Street Hospital), attendees delved into the practical and ethical implications of providing transplant and donation care in times of crisis.

In a thought-provoking presentation, Matthew Weiss (Medical Director of Donation and Transplant, Québec) explored the question of whether our current healthcare systems are ready for the next crisis. Drawing on lessons learned from the COVID-19 pandemic, Weiss underscored the need to apply established crisis management skills to the clinical setting. He summarised his insights, stating, "Use the skills you have. International collaboration is critical; keep the lines of communication open. Real-time data is even more important. Having a robust data system in place that has crises protocols is essential. And be prepared to create rapid clinical guidance."

Continuing the session, Mehmet SUnited Kingdomru Sever (Istanbul School of Medicine) discussed the profound challenges faced by transplant recipients during times of conflict, highlighting the extreme medical, social, economic and environmental problems they cause. Sever noted that these challenges are amplified for transplant recipients who rely on specific infrastructure, medications and skilled personnel. He offered several insights into risk mitigation strategies to safeguard the well-being of transplant recipients in conflict-ridden regions. This included proactive measures, such as pre-conflict training for both personnel and patients, prioritising the evacuation of transplant recipients and leveraging telemedicine to overcome logistical and medical challenges.

In the final presentation, Raymand Vanholder (University Hospital Ghent, Belgium and European Kidney Health Alliance, Brussels, Belgium), answered the question, "Is there enough resilience in the system?" He pointed out the stark reality that "Few systems are resilient enough, and many systems are not resilient at all." Exploring different disaster scenarios, such as earthquakes, floods and conflicts, Vanholder emphasised the unique vulnerabilities of transplant recipients in these contexts, underlining the need for advanced planning and education, both locally and on a larger scale, to enhance preparedness for disasters.

Stemming from the lessons learned during the SARS-COVID-19 pandemic, the ESOT-led BRAVEST project aims to analyse the organisational and management procedures in organ donation and transplantation. 'Building Resilience Against crisis: a systematic and global approach to adVancE organ Safety and supply in Transplantation' will focus on specific clinical features of donors, outcomes of allocation procedures, and operational practices to ensure the safety and

**www.bravest-project.eu**

# Scientific programme highlights

## Session highlight: Policy making, driving change in Europe

### Initiatives and insight into driving political change across the field of transplantation were presented in a state-of-the-art congress session.

Chaired by Efstratios Chatzixiros (WHO) and Pisana Ferrari (ESOT Congress Honorary Co-Chair), the session heard from Stefaan van der Spiegel (EU Health Commission) who provided an overview of three overarching EU policy objectives in transplantation: improving quality and safety in the field, increasing the efficiency and accessibility of transplant systems, and increasing organ availability. "European diversity brings opportunities, and we can document and transfer good practices across countries," van der Spiegel commented. Using the example of pioneering lung transplant centres in Austria, van der Spiegel explained that we do not need to replicate this in each and every country across the EU. Rather, we ensure that surrounding countries can utilise this capacity and, collectively, we enhance quality across the continent.

van der Spiegel highlighted how investments in transplant medicine have proved beneficial in making savings to overall healthcare budgets. Here, he demonstrated a United Kingdom study which showed that by being able to move a patient from a long-term kidney dialysis programme to a transplant programme saves, on average, £30,000 per patient.

The session also heard from Penilla Gunther who, through her experience as a member of the Swedish parliament, focused on how patient associations can shape policy in the EU. Gunther explained how change takes time and encouraged joint working to achieve common goals. She commented, "In Sweden alone, there are 5000 patient organisations! Patients should really join forces. This will make their voices heard and help speed up the rate of change."

## Tackling inequalities in organ transplantation: A pathway forward

### ESOT manifesto 2024–2029

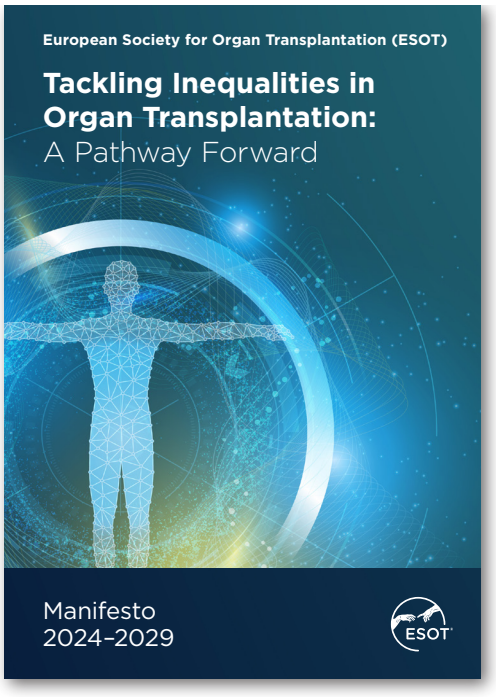
Across Europe, widespread inequalities continue to exist across the organ transplantation pathway in several core areas, including access to treatment, reporting and data collection, healthcare professional knowledge and patient awareness.

Despite the strides made by the EU Action Plan on Organ Donation and Transplantation (2009–2015) in tackling these inequalities, the initial rise in transplantation rates has plateaued in recent years, with some countries even experiencing a decline.

ESOT's political mission is to eliminate inequalities in organ transplantation across Europe. We recognise the need for renewed, collaborative action to drive fair and sustainable improvements in the field.

Explore our new manifesto to learn more about our vision for transforming the organ transplantation landscape between 2024 and 2029.

**esot.org/about-us/partnerships/public-affairs**



# Scientific programme highlights

## Xenotransplantation in the spotlight

Xenotransplantation is one of the hottest topics in transplantation. Across the congress programme, there were several sessions delving into this exciting field.

This included a cutting-edge discussion titled 'Xenotransplantation: Navigating ethical frontiers and societal impact', where participants convened to explore the latest xenotransplantation developments and challenges, as well as the broader implications that accompany this ground-breaking technology.

An expert panel of David Ayares, Matthias Kaiser, Jayme Locke and Eckhard Wolf were joined by Penilla Gunther (Former Member of Swedish Parliament, Founder of FOKUS Patient) and Efstratios Chatzixiros (Adviser, Transplantation Human Organs-Tissues-Cells Blood and Other Products of Human Origin for WHO), who all offered their unique experiences and perspectives in the field.

The session ventured beyond the laboratory, probing the heart of real-world xenotransplantation considerations. Burning questions were answered, and participants unravelled the intricate web of decisions that lie ahead, including equity of access, ethical dilemmas, societal consequences and religious connotations.


## Machine perfusion and preservation labs

Machine perfusion was a major focus in this year's scientific programme, with its growing influence prompting new questions in the field.

Five dedicated hands-on sessions provided an exclusive opportunity for delegates to actively engage and learn alongside experts. With the aim of furthering machine perfusion knowledge, our state-of-the-art practical courses offered a valuable opportunity for attendees of the ESOT Congress 2023 to gain first-hand experience in liver, kidney and lung/heart machine perfusion.

Delegates joined leading experts in a wet lab setting to be guided and tutored through a series of practical machine perfusion techniques, rotating through a range of workstations to enhance their knowledge, experience and technical abilities.

These courses were kindly supported by Aferetica, Bridge to Life, EBERS Medical Technology, Organ Recovery Systems, OrganOx and XVIVO Abdominal. We would also like to thank Daniele Dondossola, Paulo Martins and Georgios Sotiropoulos for their help in organising the labs.

# Pre-congress activities

## The Education Course

### Immunosuppression: A critical step in the transplantation journey

Featuring dynamic lectures, interactive discussions and engaging roundtables, the education course was dedicated to enhancing knowledge of immunosuppression to enhance transplant outcomes.

Throughout the day, distinguished experts delved into immunosuppression in transplantation, covering breakthroughs in immunosuppressive therapies to strategies for optimising patient care. Five hot topics were at the centre of the day: transplant immunology, the management of immunosuppression, balancing the risk of rejection, centring the patient perspective, and future perspectives of immunosuppression.

By shedding light on the current challenges and future directions for transplant medicine, the course provided attendees with valuable insights and practical tools to improve transplant outcomes and patient quality of life.

This course was kindly supported by Takeda.

## ESOT Science Day

### Sharing visions, connecting science

The ESOT Basic Science Committee joined the ESOT sections for Vascularised Composite Allotransplantation (VCA) and the European Cell Therapy and Organ Regeneration Section (ECTORS) in organising the ESOT Science Day. The meeting provided in-depth, cutting-edge talks from leading experts to address the challenges in basic science fundamentals and translational science in transplantation.

Four lively sessions covered clinical cell therapy, bioengineering and regenerative medicine and spatial omics, providing insight into how these new and emerging fields can be translated into clinical practice and provide a brighter future for the lives of patients.

## EDTCO Congress

### Towards a new era in donor coordination

The EDTCO Organ Donation Congress 2023 showcased the latest news and state-of-the-art thinking across organ procurement and transplant coordination.

The event's programme covered the European practice of early potential donor detection (ICOD), pre- and post-mortem donation after circulatory death (DCD) interventions, donation-related challenges with extracorporeal membrane oxygenation and the most recent ethical and legal issues associated with deceased organ donation from a donor coordination point of view.

The congress opened with an overview of where we currently stand with organ donation across Europe, before addressing new trends on end-of-life care in organ donation. Oral presentations covered perspectives from across the continent, from DCD experiences of Swedish and Spanish intensive care nurses to factors determining consent for organ donation after brain death in France.

The sessions explored key innovations in organ donation, covering current practice in kidney and liver living donation and organ donation optimisation inside the body. The day concluded with the ethical and legal challenges involved in organ donation, and featured oral presentations, rousing panel discussions and insights from the United Kingdom in changing from an opt-in to an opt-out consent system.

# Congress awards

## ESOT Leonardo Da Vinci Transplant Research Innovation Award

The prestigious Leonardo Da Vinci Transplant Research Innovation Award celebrates exceptional scientific contributions within the realm of transplantation. The award consists of two categories: one for the most outstanding clinical research presentation and another for the top basic/translational science presentation.

Leading up to the congress, a rigorous selection process identified eight exceptional abstract submissions — four focused on clinical research and four on basic or translational science. The authors of these chosen abstracts were granted a special platform to present their research to the attendees at a dedicated congress session.

Following the presentations, audience members and an expert jury panel engaged in an exciting question-and-answer session with each presenter.

Two awardees were subsequently selected based on the quality of their presentations and answers to the questions asked. ESOT would like to congratulate Anna Christina Dragon for winning the clinical research award and Elisabet Van Loon for receiving the basic science award. Both winners presented their research at the closing plenary session and were rewarded with a €10,000 prize. They will also receive an invitation to submit their work to *Transplant International*.

**Clinical research nominees:**

**ENGINEERED T CELLS OVERCOMING REJECTION BY ANTIBODIES (CORAT CELLS): SELECTIVE TARGETING OF ALLOREACTIVE B CELLS IN SOLID ORGAN TRANSPLANTATION**

*Anna Christina Dragon – Hannover, Germany*

**BCL-6 INHIBITORS POTENTLY INHIBIT ALLOGENEIC T CELL ACTIVATION - A NOVEL MECHANISM OF IMMUNOSUPPRESSION?**

*Louisa Steines – Regensburg, Germany*

**COMBINATION OF TCR-DEFICIENT CAR-TREGS AND ANTI-CD3 MONOCLONAL ANTIBODIES TO PROMOTE TRANSPLANT TOLERANCE**

*Julien Zuber – Paris, France*

**RECIPIENT FCΓR3A POLYMORPHISM INFLUENCES THE PROGNOSIS OF AMR AND THE RESPONSE TO IVIG IN RENAL TRANSPLANTATION**

*Alice Koenig – Lyon, France*

**Basic or translational science nominees:**

**CLINICAL VALIDATION OF AUTOMATED URINARY CHEMOKINE ASSAYS FOR NON-INVASIVE DETECTION OF KIDNEY TRANSPLANT REJECTION: A PROSPECTIVE COHORT STUDY**

*Elisabet Van Loon – Leuven, Belgium*

**RACE-FREE EGFR EQUATION IN KIDNEY RECIPIENTS: A DEVELOPMENT AND VALIDATION STUDY**

*Marc Raynaud – Paris, France*

**DONOR-DERIVED CELL FREE DNA AS A SURVEILLANCE TOOL FOR ACUTE CELLULAR REJECTION IN HEART TRANSPLANTATION: RESULTS FROM THE FREE-DNA CAR STUDY**

*Marta Jimenez-Blanco – Madrid, Spain*

**LONG-TERM OUTCOMES AFTER HYPOTHERMIC OXYGENATED MACHINE PERFUSION (HOPE) AND TRANSPLANTATION OF 1291 DONOR LIVERS USING REAL-WORLD DATA**

*Janina Eden – Zürich, Switzerland*

# Congress awards

## ESOT Stronger Together PRO Award

This award is kindly supported by Immucor

The ESOT Stronger Together PRO Award acknowledges excellence among transplant centres, units, institutions or hospitals in transplantation. Presented by the ESOT President, Luciano Potena, and the ESOT Congress Chairs, Gabriel Oniscu and John Boletis, this award recognised the organisation that has achieved the best average score for their collection of submitted abstracts.

Congratulations to the exceptional team at the Paris Institute for Transplantation & Organ Regeneration (PITOR) who were the winners of this award and achieved the best average score for their submissions. The PITOR group were honoured with a €5000 prize in acknowledgement of their significant contribution to the field. We also congratulate the Cambridge Group who were the runners-up for this award, and we thank them for all of their fantastic efforts and continuous commitment to transplantation.

## The ESOT Legacy Award

The ESOT Legacy Award celebrates individuals and organisations for their truly outstanding and sustainable achievements in the field of organ, tissue and cell donation and transplantation.

This esteemed award recognises long-term contributions across various domains, including research, clinical advancements, training, education and organisation and governance. The award winners were selected by the ESOT Council, the ESOT Executive and multiple representatives of patient associations for their efforts to transform countless lives and make a long-lasting impact on the field.

Congratulations to Maria Rosa Costanzo and Michael Nicholson, who were presented this award at the closing plenary session.

# Congress awards

## Marius Renard Award ESOT and IPTA

The Marius Renard Paediatric Transplant Award is a joint ESOT and International Pediatric Transplant Association (IPTA) award to recognise the best abstract submitted to the congress within the field of paediatric transplantation. Abstracts considered for this award were focused on advancing the field through either clinical innovation or scientific research.

Jon Jin Kim from the United Kingdom was announced as the winner of this award for his outstanding abstract titled, 'Molecular HLA mismatching for prediction of primary humoral alloimmunity and graft function deterioration in paediatric kidney transplantation'. Jon Jin Kim received a certificate of achievement, a €500 prize and has been invited to submit his work to *Transplant International.*

## ETAHP Transplant Care Management Award

ESOT extends its warmest congratulations to Robert van der Stoep (Erasmus Medical Center, Rotterdam), the very first recipient of the new European Transplant Allied Healthcare Professional (ETAHP) Transplant Care Management Award.

Introducing the award, Marleen van Buren (ETAHP Chair) commented, "It is a great pleasure to introduce this new award with ESOT. We understand that optimising patient outcomes cannot solely be achieved through scientific innovations, the collaboration of HCPs is also crucial. This award aims to stimulate innovative and quality improvement projects that support nurses and AHPs in providing care to transplant candidates and recipients within European transplant centres."

Upon receiving the award, Robert discussed his team's project which used educational videos to improve knowledge around heart transplant and patients with a left ventricular assist device. "I want to extend a great thank you to ESOT," added Robert, "Our team were really glad to make this project happen, and we are very happy to receive this award."

# Congress awards

## Digital Transformation in Transplantation Best Abstract Award

The new Digital Transformation in Transplantation Best Abstract Award acknowledges the best abstract in the domain of digital transformation which encompasses a wide range of topics, including AI, big data, e-health and m-health platforms, telemedicine advancements, digitalisation and beyond.

The first recipient of this award was Valentin Goutaudier for his abstract titled 'Development, application and validation of a histological classification automation system for kidney allograft precision diagnostics.' Our sincere congratulations extend to Valentin Goutaudier, who will be granted a prize of €3000 in recognition of his work.

ONASSIS FOUNDATION

This award was kindly supported by the Onassis Foundation.

## Young Greek Investigator Best Abstract Award

The Young Greek Investigator Best Abstract Award acknowledges the author of the best abstract submitted by a Greek national young professional (35 years old or below). Georgios Eleftheriadis was recognised for his outstanding abstract titled 'Home and ambulatory blood pressure in kidney transplant recipients with and without telemedicine monitoring' and received a prize of €1000.


## Best Cardiothoracic Abstract Award

The Best Cardiothoracic Abstract Award is another new award which recognises the author of the best abstract submitted to the ESOT Congress 2023 on heart and/or lung topics.

Congratulations to Lisa Coscia from the US who was presented the award by ECTTA Chair, Cristiano Amarelli. Lisa Coscia's research, titled 'Pregnancy after heart transplant', analysed pregnancy outcomes in heart transplant recipients. The study is recognised as the largest reported series of pregnancies in heart transplant recipients to date.

# ESOT-ETPO workshops

## Workshop 1: Staying healthy

For recipients of life-saving transplants, the path to improve health extends far beyond the moment of donation. It is part of a lifelong journey that begins even before the procedure and continues throughout their lifetime. This perspective was central to the ESOT-ETPO (European Society for Organ Transplantation-European Transplant Patient Organisations) workshop 1, which aimed to explore how the transplant community can successfully integrate physical activity into their lives to stay healthy.

Opening the workshop, Marieke Vandecruys (PhD student from KU Leuven Belgium), underscored the significant benefits of physical activity, but also acknowledged the barriers that transplant recipients encounter. She emphasised the need for proactive solutions, including personalised exercise programmes, greater education among healthcare providers to encourage activity and the creation of physical activity opportunities in a patient's environment and social setting.

Continuing the discussion, Colin White (President of the European Transplant and Dialysis Sports Federation and Treasurer of the World Transplant Games Federation), provided real-world examples of these opportunities. He highlighted how sporting initiatives, like the World Transplant Games, serve as a crucial source of motivation and community, acting as compelling proof that people can go on to live an active life after transplantation.

In closing, White summarised both the mental and physical benefits of these initiatives, leaving the audience with a final remark about the opportunities that exist: "The message I'd like to get across is there is a big community out there. We are a big family and we're powered by the gift of life."

## Workshop 2: Living your life after transplantation. Patient-centred approach and peer support network

The period following transplantation can introduce many challenges that transplant recipients need to navigate. The ESOT-ETPO Workshop 2 aimed to address these challenges by exploring the power of a patient-centric approach and peer support networks in enhancing life after transplantation.

Anna Forsberg (Professor of Transplant Care at Lund University, Sweden) commenced the workshop by presenting 'My Life–my health,' a collaborative project undertaken by ESOT and Takeda*. Discussing the project's vision, Forsberg remarked, "A life that is gained should also be lived. That's the key theme for this project. We want to focus on the person with an organ, not the organ in the person." She introduced the newly developed toolkit box that aims to meet the learning needs of patients, their support networks and healthcare professionals over the course of the transplant journey, which she acknowledged is a constant adaptation process.

The workshop then transitioned into a panel discussion, where patient representatives highlighted importance of peer support for transplant recipients. Speakers including Fiona Loud (Kidney Care United Kingdom), Pisana Ferrari (patient advocate), Aoife Smith (Irish Kidney Association), Peter Carstedt (More Organ Donation) and Borislava Ananieva (European Patient's Forum Youth Group) emphasised the value of patient support groups at both the national and international level.

The conversation underscored how these networks help patients share experiences, access information and find emotional support beyond what a healthcare professional may be able to provide. Smith summarised this, stating, "It gives them a realistic sense of hope that yes this journey will be challenging, but there are ways to live with it and live well with it."

*The "My Life My Health" project has been developed under a healthcare collaboration between the European Society of Organ Transplantation (ESOT) and Takeda that aims to benefit patient care.

# Press and media highlights

## ESOT values the importance of press and media work to promote the latest transplantation research across the world. The ESOT Congress is no exception, and we welcomed journalists onsite and online to the 2023 edition of the meeting.


More than 1,100 press articles were published on research presented at the meeting over the congress period. Spanning over 50 countries, these articles resulted in an estimated opportunities to see figure of over 2 billion people in the media. Coverage was secured in popular public-facing media outlets, such as the Daily Mail and Yahoo, as well as health and trade publications, including Medscape Medical News, Medical Xpress and New Scientist. Hot congress topics covered in this media coverage included how islet transplantation boosts long-term survival in kidney transplant recipients with type 1 diabetes, and how neonatal organ transplantation can offer new hope in the organ shortage crisis.

ESOT would like to thank journalists for their role in expanding the reach of the ESOT Congress 2023 and for their contributions in advancing knowledge and awareness of the latest transplantation research.

# Thank you to our partners

We extend our heartfelt gratitude to our partners for their invaluable support which has played a pivotal role in making the ESOT Congress 2023 a resounding success. ESOT are deeply committed to improving the quality of life for patients with terminal organ disease by means of transplantation, organ regeneration and substitution, and we are glad to share this mission with our partners.

Collaboration remains at the heart of our approach, and we recognise the paramount importance of joining forces and uniting to achieve this mission. Together, we are dedicated to facilitating robust medical education for transplant professionals worldwide, fostering an environment of continuous learning and innovation. Our ultimate aim is to elevate transplant care standards for patients across the globe, and we couldn't do this without the ongoing support from our partners.

Thank you for helping us create a brighter future for transplant patients around the world.

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