FROM THE CHEST

SCTS

December 2025

FROM SCTS

"LOOKING AFTER YOU EVERY BEAT AND BREATH"

Communication Secretary: Mr Sridhar Rathinam

Creative Editor: Rohith Govindraj

WELCOME

SRIDHAR RATHINAM

COMMUNICATION SECRETARY, SCTS

As we approach Christmas and the turn of a new page into 2026, it's incredible to reflect on how quickly 2025 has flown by. This year has been an exciting time for SCTS, marked by numerous changes and developments.

The Communications Committee has been diligently working on various aspects of our communication strategy. This includes enhancing our social media presence to raise the charity's profile, particularly through events like our charity bicycle ride. Additionally, the committee has been focusing on streamlining other communication efforts to ensure a cohesive and effective approach.

This winter issue is packed with exciting articles. We continue to celebrate our heritage by showcasing the contributions of the Leicester ECMO unit. We also celebrate Nisha Nair, our NAHP Inspirational Star, who highlights various aspects of her professional and personal career, emphasizing the importance of teamwork and training.

Cardio-thoracic surgery is a specialty that constantly evolves, and we are excited to introduce a new innovative tool that will aid in long operations: the exoskeleton model from Harefield Hospital.

We also honour the contributions of Marion Ionescu, a great patron and friend of the society. During my time as the Education Secretary, Marion's support allowed us to award an unprecedented number of traveling fellowships.

As the former Education Secretary, it gave me great pleasure to read about the achievements of our traveling fellows, which have reinforced the current mission of SCTS: to offer minimally invasive cardiothoracic surgery and aim towards enhanced recovery after cardiac and thoracic surgery.

In this issue, we also showcase the SCTS Medical Students Committee, introducing their members. It has been a great privilege and honour to serve as the Communications Secretary. We have recently advertised for my replacement and are seeking new talented individuals to join the Communications Committee.

Until the next issue, I wish you all a **Merry Christmas and a Prosperous 2026.**

UNIT HERITAGE: HISTORY OF ECMO IN LEICESTER

CHRIS HARVEY CONSULTANT ECMO SURGEON

The first successful use of ECMO was reported by Donald Hill in 1971. This was an adult patient who had been involved in a motorcycle accident, sustaining poly trauma including a transected thoracic aorta. He subsequently developed acute respiratory distress syndrome and was successfully supported on VA ECMO for 75 hrs. The first report of Neonatal ECMO was by Robert Bartlett in 1975. A newborn with a diagnosis of meconium aspiration syndrome who cannulated via the right carotid artery and the right internal jugular vein.

In the late 70's Warren Zapol, sponsored by the National Institute of Health conducted the first trial of adult ECMO. The trial concluded that ECMO was of little benefit in the management of severe respiratory failure in adults with only a 10% survival in both the treatment and control groups. Studies in children3,4 showed that ECMO was potential of benefit in the management of primary respiratory failure in the new born infants with pulmonary hypertension secondary to conditions such as meconium aspiration, sepsis and congenital diaphragmatic hernia. In addition the use of ECMO for post-operative support of children undergoing repair of congenital heart defects was increasing.

In 1989, in response to the increasing body of evidence supporting ECMO use Mr Richard Firmin (Adult and Congenital Cardiac Surgeon) and Mr. Andrewj Sosnowski (Adult Cardiac Surgeon) traveled to the US to learn the specifics of ECMO patient management. They visited Michigan and learnt from Dr. Robert Bartlett, who is widely acknowledged as the "Godfather of ECMO." They then went to Phoenix, Arizona and learnt from Dr. Mark Schwarz and the then ECMO coordinator, Janie Wagner. Janie later took a year-long sabbatical to become Leicester's first ECMO Nurse Coordinator.

The first patient to be cannulated and managed for severe respiratory failure with ECMO was in August 1989. This was a 34-month-old girl with a history of cystic fibrosis. She developed respiratory failure and failed full conventional management. The team from Leicester travelled to Bristol, cannulated the girl for VV ECMO support and stayed at the patient's bedside for the full 110 hours of the run. This patient survived. This was shortly followed by the first patient from Leicester, a neonate with PPHN.

Given the paucity of evidence supporting the use of ECMO in the adult population it was always envisaged the service in Leicester would solely treat paediatric and neonatal patients. The initial funding was provided by Heartlink, a local charity, founded in 1981 by Gill and Geoff Smart MBE following the birth of their daughter Amanda with complex congenital heart disease. Heartlink continues to support ECMO in Leicester and to date has raised more than £6 million. However the first adult patient, a member of the hospital staff, was placed on ECMO in Dec 1990. For over 20 years Leicester remained the only centre commissioned to provide adult ECMO support.

HISTORY OF ECMO IN LEICESTER

ELSO, the global organization that monitors ECMO results and provides education and guidelines was founded in 1989. Leicester was the 62nd centre to join ELSO and was only the 3rd ECMO centre outside of the US to gain membership.

The number of requests for ECMO support rose quickly and the charitable funding supporting the unit was running out. The local MP, the Right Honourable Greville Jenner MP asked John Major in prime minister question time, “Was he aware of the grave shortage of resources that threatens the Groby Road ECMO unit with closure.” Following the question a trial committee was set up and funding was agreed to perform a randomised controlled trial of neonatal ECMO in the UK. The trial ran from 1993 to 1995 and remains the largest study of neonatal ECMO. The trial was stopped early as the interim analysis showed an overwhelming advantage in utilizing ECMO. Funding to the tune of £4million was secured for three centres to provide ECMO for neonates and paediatric these were Leicester, Great Ormond Street and Newcastle.

In 1994 the permanent nursing team was developed under the leadership of ECMO Coordinator Hillary Killer (1992-2004). Leicester remains the only centre in the UK to retain a permanent team of dedicated, highly trained ECMO specialist nurse who are the cornerstone of Leicester ability to continue to perform ECMO in all ages of patient. Since 2004 the ECMO nursing team has been led by Gail Faulkner who was a nurse on the unit back in 1989 and has now amassed more than 36 years ECMO experience.

Following the success of the UK Collaborative Trial of Neonatal ECMO it was decided that there should be a randomised trial of adult ECMO. The CESAR Trial was again centrally funded and looked to answer the question as to whether adult respiratory ECMO was beneficial. The Chief Investigator of the CESAR Trial was Giles Peek. The recruitment of adult patients ran from July 2001 to August 2006. As with the neonatal trial the CESAR trial was stopped early following randomisation of 180 patients as there was a survival advantage without severe disability at 6 months post randomisation.

In 2007 there was a massive improvement in ECMO technology with a switch from the original roller pump driven systems to centrifugal pumps. The introduction of the Centrimag Levotronics pump gratefully simplified ECMO support, reducing the amount of heparin required to maintain the circuit and therefore reducing bleeding complications. A year later in April 2008 ECMO support was further enhanced with the introduction of the adult dual lumen cannula. This allowed adults to be supported on a single cannula placed in the right internal jugular vein. Leicester was the first centre in the world to utilize this cannula. A single cannula reduces bleeding and infective complications associated. Since 2008 Leicester has supported close to 1000 patients with dual lumen technology and has the largest experience globally.

The CESAR trial was published in Sep 2009 and coincided with the emergence of H1N1 which suddenly resulted innumerous young, previously fit and well patients with severe hypoxic respiratory failure. Leicester was at the forefront of ECMO provision providing support and training to units to help fight the pandemic. Teams from the Royal Papworth Hospital, The Royal Brompton, Aberdeen Royal Infirmary and Wythenshawe Hospital were successfully trained and provided additional support when there were no beds available in Leicester. Data from the patients undergoing ECMO was matched to those who were managed with conventional ITU and this showed that transfer to a unit capable of providing ECMO support was associated with 50% reduction in the chances of dying.

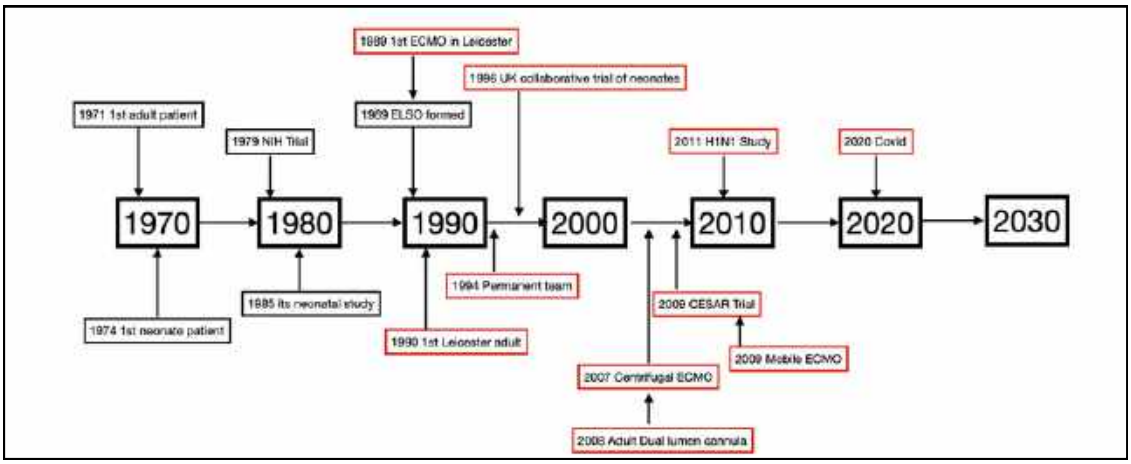
During the swine flu pandemic the increased need to move very sick, hypoxic patients prompted a change in the ECMO service. Until 2009 any adults referred for support were retrieved on conventional ventilation by the team of ECMO fellows. In October 2009 a patient was referred for ECMO who was deemed too sick for safe conventional transfer. He was accepted for ECMO with a retrieval plan to travel to the bedside and cannulate for ECMO at the referral hospital. This is Primary mobile ECMO. The introduction of adult mobile ECMO was followed in 2010 by the first neonatal mobile ECMO, a newborn with a ruptured trachea following the FETO procedure for severe congenital diaphragmatic hernia. This child was cannulated by the ECMO team and transferred to GOSH for tracheal surgery. Since 2009 the mobile team in Leicester has completed almost 900 cases and remains the only centre in the UK to regularly perform paediatric and neonatal primary mobile ECMO.

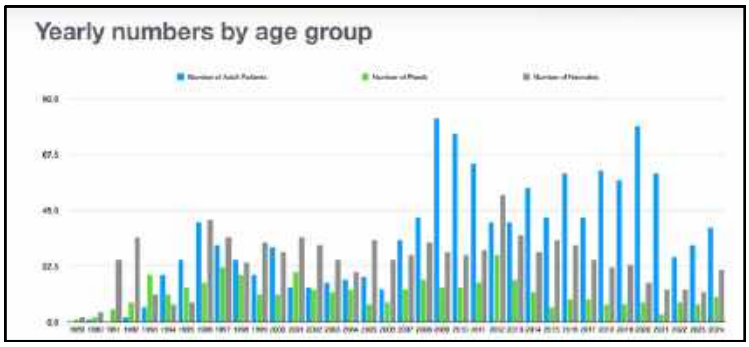
Evidence from the CESAR Trial and the H1N1 pandemic prompted the government to increase ECMO capacity across the UK. Following a formal tendering process 4further centres were commissioned. These included Royal Papworth, Royal Brompton, Wythenshawe and Guy's and St Thomas's Hospitals. Each centre was assigned a defined geographical area and charged with developing close working links with referring hospitals. This has proved to be a great success with the UK having some of the best outcomes from ECMO support globally.

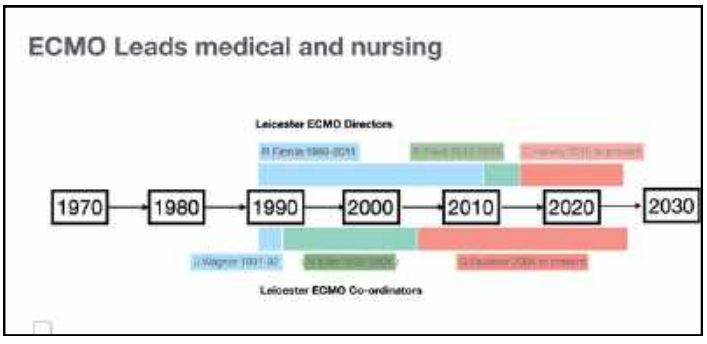
In 2011 after 22 years as ECMO Director Richard Firmin retired. His drive, passion and understanding of the fundamentals of ECMO support was of vital importance in the development of ECMO in Leicester and across the UK. Following his retirement he has continued to share his vast experience and knowledge and has been a key part in the recent opening of a National ECMO Centre in Colombo, Sri Lanka.

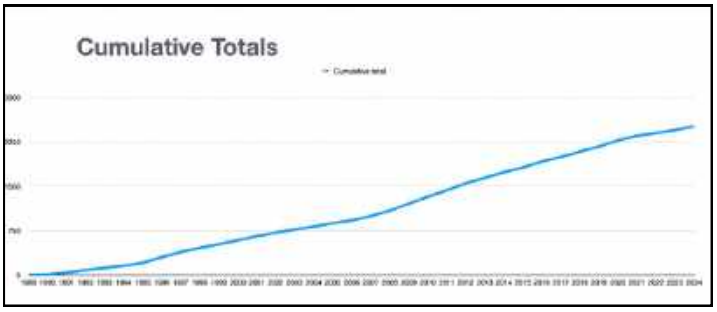
HISTORY OF ECMO IN LEICESTER

On 13th March 2020 we referred a local ENT consultant who had been admitted to one of the hospitals where he worked with a worsening pneumonia. Initial viral screening was negative. On day 3 we received a call from the virology team that his endotracheal secretions had isolated Covid 19. This was the first positive identification of Covid 19 in Leicester. Plans were rapidly escalated across the UK with at one point there was a request from NHSE for the ECMO network to support up to 500 patients across the country. Fortunately this request was based on the worst projections and fortunately never came to fruition with the maximum number of Covid patients supported on ECMO was 83 nationally with a maximum in Leicester of 16. At the peak of Covid we were receiving 20 adult referrals a day. ECMO runs for Covid were longer than for other conditions we had managed previously with high incidence of complications such as bleeding, acute thrombosis and pneumothoraxes.









Summary

The ECMO team in Leicester continues to provide the highest quality of care for both adults and paediatrics. The ELSO registry now has more than 2400 patients who have received their care in Leicester.

LIGHTING THE WAY IN CARDIAC SURGERY: A YEAR OF INSPIRATION, EDUCATION AND GLOBAL IMPACT

NISHANAIR, SENIOR SURGICAL CARE PRACTITIONER, STTHOMAS' HOSPITAL. ACTSCP PRESIDENT, UK

At the 2025 Society for Cardiothoracic surgery (SCTS) Annual Meeting, I was deeply honoured to receive the Inspirational Star of the Year award—an acknowledgement that resonates far beyond personal recognition. It is a celebration of the shared commitment we all hold in thisspecialty: to serve patients with excellence, uplift peers through education, and make meaningful contributions both within and beyond our local institutions. Working in the cardiac surgery unit at StThomas'Hospital, London, my role combines hands-on surgical support with education, mentoring, and global outreach. This award reflects those interconnected aspects of my professional journey over the past year.

In the Heart of Surgery

My clinical responsibilities are rooted in coronary artery bypass grafting (CABG),where I harvest conduits such as the saphenous vein and radial artery and serve as both first and second assistant in the operating theatre.I work closely with a dynamic and skilled surgical team, where each case demands not only technical precision but also trust, clarity of communication, and anunwavering focus on patient safety. It is a privilege to contribute directly to procedures that restore quality of life, and to workwithin a team that values continuous improvement,multidisciplinary collaboration, and excellence in care.

"I'm passionate about empowering the next generation on through technical training and hands-on mentorship. Sharing skills andknowledge is what drives me."

Outside of the theatre, a major focus of mywork has been organizing and deliveringdedicated Educational Days for Surgical Care Practitioners(SCPs), junior doctors, and medical students. These sessions aredesigned to bridge the theory practice divide by offering hands-ontechnical workshops, surgical anatomy teaching, and real timesimulation training. Our aim is to build confidence, inspirecuriosity, and provide a practical foundation for those early intheir surgical careers. It's been particularly rewarding to see manyjunior attendees express a newfound interest in pursuingcardiothoracic surgery, thanks to these immersive sessions.Initiatives like these are not only about technical competence, they are about cultivating resilience, teamwork, and a passion forlifelong learning.

Global Outreach: Surgical Charity Work in Paediatric CardiacSurgery “Beyond borders, beyond barriers delivering paediatriccardiac care where it’s needed most. A global mission of healingand hope.” Another significant part of my journey has been involvement in charitable paediatric cardiac surgery missionsacross underserved regions of the world. Many of the children wetreat suffer from congenital heart defects that, while operable,remain untreated due to limited access to specialized care.

These out reach missions, conducted in collaboration with international cardiac teams, deliver not only life-saving surgeriesbut also hands-on teaching and capacity-building for local clinicians. We prioritize sustainable impact working to ensure that the skills and systems we help develop can endure long after our missions conclude. The experiences are often intense, both clinically and emotionally. But the gratitude from families and the visible transformation in young patients makes every challenge worthwhile . It also re in forces our shared responsibility to extendcare beyond borders whenever we can.

Technical Training and Mentorship

Training colleagues particularly around technical skills such as conduit harvesting,suturing, and assisting technique has been another rewarding aspect of my role. I believethat a collaborative learning environment iscrucial to surgical excellence. As someone who once benefited greatly from patient,skilled mentorship, I aim to pay that forward by creating an open, supportive space for peers to grow. In an era where the technical demands of surgery are increasing, mentorship remains one of the most powerful tools we have toensure continuity of skill, confidence, andinnovation.

Recognition and Reflection

“I am deeply humbled to be the recipient of the SCTSInspirational Star Award 2025, recognized for my contributions to surgical education, clinical excellence, and international paediatric cardiac outreach”.

Looking Ahead

As I look to the future, I remain committed to advancingeducation within the surgical community, strengthening globaloutreach efforts, and continuing to provide high-qualitysurgical support at St Thomas’ .I’m also excited to expandtechnical training initiatives for SCPs and junior teammembers—ensuring that every one in the cardiac theatreenvironment feels confident, equipped, and valued. The pathahead in cardiothoracic surgery is filled with challenges—butalso with tremendous opportunity. I’m grateful for theplatform SCTS provides to connect, collaborate, and celebratethe best of our specialty. As one of my mentors once said, “Werise by lifting others.” That principle continues to guide everystep of my journey.

THE FIRST USE OF A PASSIVE WEARABLE EXOSKELETON TECHNOLOGYIN CARDIOTHORACIC SURGERY AND TRANSPLANTATION

AAMIR AMIN–NTN IN CARDIOTHORACIC SURGERY, ST1-NORTH WESTDEANERY.
ESPEED KHOSHBIN-CONSULTANT IN CARDIAC SURGERY, TRANSPLANTATION AND MECHANICAL CIRCULATORY SUPPORT. HAREFIELD HOSPITAL

Introduction

Having traditionally been employed by the military, exoskeletons are awearable form of technology that passively improve endurance. Inrecent years, the healthcare sector has increasingly explored the potential applications of this transformative technology,particularly in the rehabilitation sector where staff must lift heavy weights or deal with patients with physical disabilities. Long procedures can take their toll on the upper body and shoulders of the operating surgeons. One of the long and demanding procedures in our specialty is lung transplantation. A double lung transplant would take a minimum of six hours even in the hands of an experienced transplant surgeon. We performed the first everdouble lung transplant in a patient with end stage lung disease. The exoskeleton device is easy to use. It acts passively as an extension of your body while dealing with ergonomic challenges that are faced during a long operation.

What We Did

The 7-hour operation was performed by Mr Espeed Khoshbin. He reported a significant reduction in physical strain, particularly in the upper body in addition to a remarkably easy donning-doffing process. “The suit was comfortable throughout the procedure” hesaid. “I felt a significant reduction in my upper body strain. This is important because so many cardiothoracic and transplant surgeons suffer from neck and back-related musculoskeletal issues which can negatively impact their careers”, he further explained. At latest follow up, the patient is progressing very well and hasrecovered swiftly from her surgery.

THE FIRST USE OF A PASSIVE WEARABLE EXOSKELETON TECHNOLOGYIN CARDIOTHORACIC SURGERY AND TRANSPLANTATION

Mr Khoshbin performed the double-lung transplant using the upper body exoskeleton at Harefield Hospital
(photo credit: Mr Aravinda Page)

Why We Did It

Cardiothoracic surgery is a highly demanding specialty with highprevalence of musculoskeletal injuries amongst surgeons. Issues such as neck and back strain can lead to injuries that negatively impact surgeon's career. By introducing this technology, we aimedto address some of the ergonomic challenges surgeons face. By reducing fatigue associated with prolonged surgery the exoskeleton may enhance surgeons' physical capabilities, benefiting not only the surgeon but also potentially improvingpatient outcomes.

What next

We consider this a positive step forward in the evolution of healthcare and application of innovative technologies that improve safety and wellbeing at work. The next step would be to obtain objective assessment of how this technology could help surgeons in their practice

BILAL KIRMANI
CARDIAC CONSULTANT
LIVERPOOL HEART & CHEST HOSPITAL

IONESCU CONSULTANT TEAM FELLOWSHIP AWARD (2021)

I recall sitting in a coronary session of the SCTS Meeting and seeing, for the first time, Dr Piroze Davierwala presenting his series and technique of multivessel minimally invasive coronary artery bypass grafting. I was immediately mesmerised by the idea that - without a robot - patients could be offered complete revascularisation with no sternotomy.

I immediately joined the queue of people who approached him at the end of the session to ask questions, and mine was simple: how can I come and learnthis from you?

Shortly thereafter, I was fortunate enough to be awarded, at virtually the same time, the SCTS Ionescu Consultant Team Fellowship and the European Association for Cardio-Thoracic Surgery Francis Fontan Fund Fellowship in Minimally Invasive Coronary Artery Surgery. Although I was still early on in my consultant career, I had accrued several hundred cases of experience in off-pump coronary artery bypass grafting using techniques such as anaortic, total arterial grafting with sequential anastomoses. These skills provided the foundation I needed to utilise the fellowships to their best effect and indeed both committees had made appropriate experience a prerequisite for the applications. I undertook theoretical and wetlab based training in minimally invasive methods before assembling a team to spend one week with Dr Davierwala in Toronto.

Having previously been obliquely involved in proctoring others in off-pump coronary artery surgery (as the erstwhile registrar for two off-pump surgeons who proctored), I understood the importance of the team in such procedures.

- Anaesthetist. Off-pump surgery requires careful and attentive anaesthesia to allow haemodynamic stability alongside cardiac enucleation.
- Scrub. Having someone who knows the procedure, anticipates instrument requests and can in moments of distraction “give you what you need, not what you asked for”.
- Assistant. OPCAB is more reliant on active assistance than some other cardiac procedures. Mister-blower use, particularly in lateral wall targets, can be difficult for the uninitiated.
- Buddy. Starting new procedures in a unit is invariably easier with a colleague who can share the cognitive and political load.

BILAL KIRMANI
CARDIAC CONSULTANT
LIVERPOOL HEART & CHEST HOSPITAL

IONESCU CONSULTANT TEAM FELLOWSHIP AWARD (2021)

Something I did not expect was the level of involvement the team had with the process and the procedure. While I scrubbed and watched Piroze's artistry up close, my team filled notebooks and notebooks with observations and questions. Minutiae I would never have noticed were scrutinised by those who were able to draw on their expertise to drill down on details. For example, with the chest closed and a small aperture only to the operative field, single lung ventilation is complicated by needing to use the remaining right lung as a buoy for the heart. Some parts of the procedure required apnoea or Valsalva to reach and position the coronary target and such manoeuvres were crucial to be seen by the anaesthetist rather than conveyed back by a surgeon who had visited their proctor alone. Equally, our scrub practitioner and SCP noted equipment choices, table positions, device settings and other details that compound to provide incremental gains. Piroze was a wonderful host, mentor, teacher and proponent, and his carefully curated team provided similar levels of expert guidance for each of us.

This Team Fellowship was therefore invaluable in helping bring the minimally invasive coronary programme to our centre. Andrew Muir, my senior colleague who formed part of the fellowship team, started the procedure in Liverpool a little time before we visited Toronto and has now reached 50 cases. The trip influenced anaesthetic, scrub, assistant and surgical protocols and we expand the service to three surgeons (myself, Andy and Haytham Sabry) this year.

From left to right:
Martin Minnis *(scrub),*
Andrew Muir *(surgeon),*
Dan Burns *(surgical care practitioner),*
Bil Kirmani *(the author),*
Piroze Davierwala *(surgeon and proctor),*
Ali Evans *(anaesthetist) on the final evening dinner.*

IONESCU TRAVEL FELLOWSHIP REPORT

NIKHIL SAHDEV
ST4 CARDIOTHORACIC SURGERY TRAINEE

HOST INSTITUTION: MAYO CLINIC, ROCHESTER, MINNESOTA, USA
HOST CONSULTANT: DR JUAN CRESTANELLO
DATES OF FELLOWSHIP: MAY 2023
FUNDING SOURCE: IONESCU TRAVEL FELLOWSHIP (£5,000)

Purpose of Visit

As a cardiothoracic trainee, I undertook a two-week observer shipat the Mayo Clinic, Rochester, supported by the Ionescu Travel Fellowship. My objectives were to deepen my understanding of complex cardiac surgery, observe best practices in preoperative care, transplant and aortic surgery, and reflect on international models of surgical education and leadership that I could integrate into my future practice.

Clinical and Educational Experience

My visit was hosted by Dr Juan Crestanello, Chair of the Department of Cardiovascular Surgery. Under his guidance, I observed a high volume of advanced adult cardiac surgery, including:

•Management of aortic disease, with insights from Dr Shrestha, a global expert in thoracic aortic surgery
•Septal myectomy for Hypertrophic Obstructive Cardiomyopathy (HOCM) performed by Dr Dearani
•Heart and double lung transplantation
•Redo CABG, hybrid procedures, and minimally invasive valve techniques

Reflection: Impact on My Trainee Development

This fellowship has had a significant influence on how I view my own development and future role as a surgeon. I identified severalkey areas that I can now integrate into my own training and professional growth:

1. **Technical Excellence Through Observation**

Witnessing world leaders in mitral, aortic, and transplant surgery reinforced the importance of mastering technical detail, anticipating complexity, and developing surgical judgement. A particular focus of this visit was to observe the surgical management of HOCM, including septal myectomy, for which the Mayo Clinic is internationally renowned. The exposure will help me refine my understanding and approach during my own operative training.

2. Structured Preoperative Planning

Mayo's model of comprehensive and streamlined pre-assessment was particularly impressive. Patients were often seen, investigated, and counselled in a single coordinated visit, with imaging, blood tests, anaesthetic input, and surgical discussions all arranged seamlessly across disciplines. The ability to organiseand complete essential preoperative investigations within hours — rather than over multiple outpatient visits — not only improves clinical efficiency but also leads to a markedly higher level of patient satisfaction. Patients felt well-informed, prioritised, and supported, which was reflected in their confidence and engagement with the care process.

While I recognise that the Mayo Clinic operates within a private healthcare system, there are still important lessons for the NHS. Elements of this approach — such as better multidisciplinary communication, patient-centred scheduling, and minimisingdelays between assessment and intervention — are transferable and could be adapted to our setting. I aim to apply these insights to improve the preoperative experience for patients in my own practice, particularly in managing complex or high-risk cases where timely coordination is crucial.

3. ***Teaching and Teamwork***

The culture of early morning engagement was striking! Residents consistently arrived early to participate in daily rounds and were actively involved in both patient care and case discussions. Formal teaching sessions were held every Thursday morning, starting early but creating a dedicated and focused space for structured education.

What stood out most was the strong sense of team camaraderie. These sessions were not only academically rich but also fostered peer support, with residents and faculty often sharing breakfast together beforehand. This informal time helped build rapport, trust, and a relaxed environment that encouraged open discussion and learning.

It was clear that this culture of mutual support and consistent teaching contributes directly to both clinical confidence and team cohesion. I found this model deeply inspiring and plan to play an active role in replicating aspects of it — such as structured teaching, informal peer mentoring, and a more unified team culture — within my UK training environment.

Cultural and Historical Appreciation

A highlight of my visit was a tour of Mayowood Mansion, the historic home of Dr Charles H. Mayo, one of the co-founders of the Mayo Clinic. Nestled just outside Rochester, the estate offers more than architectural beauty — it tells the story of a family whose vision and values laid the foundation for what would become one of the world's most respected medical institutions.

The mansion itself reflects the Mayo family's deep commitment to service, innovation, and community, with rooms filled with medical artefacts, family heirlooms, and documents chronicling the early years of the Clinic. Walking through the halls where Dr Charles Mayo once lived brought a profound sense of continuity — from the Clinic's modest beginnings to the global centre of excellence it is today.

This visit gave context to the enduring values of the Mayo Clinic: collaboration, compassion, and putting the needs of the patient first. It also underscored the powerful legacy of physician leadership and philanthropy that still permeates the institution's culture. As a trainee, it was humbling and motivating to see how a clear, patient-centred mission — sustained over more than a century — can shape both clinical excellence and global reputation.

Acknowledgements

I am sincerely grateful to the Ionescu Travel Fellowship Committee for their generous support, which made this opportunity possible. I extend my heartfelt thanks to Dr Juan Crestanello for his exceptional mentorship and kindness throughout the visit, and to all the consultants, residents, and staff who welcomed me warmly and openly shared their expertise.
This has been an incredibly formative experience that will continue to shape my development throughout the rest of my training.

REFLECTIONS ON THE NTN SCTS IONESCU FELLOWSHIP: EVLP AND VALVE REPAIR IN TORONTO AND BRUSSELS

AHMED AL-ADHAMI, MBCHB (HONS), MSC, PGCERT, FRCS CTH
GOLDEN JUBILEE NATIONAL HOSPITAL, GLASGOW
2023

With a foundation rooted in cardiothoracic transplantation and general adult cardiac surgery, and shaped by formative fellowships at Duke University Medical Centre in the United States and the Royal Papworth Hospital in the United Kingdom, I have been privileged to participate in the evolving landscape of implantation, donor organ retrieval, and advanced graft management. To deepen my expertise and understanding in two key areas —ex-vivo lung perfusion (EVLP) and complex valvular reconstruction—I was honoured to receive the SCTS Ionescu NTN Travelling Fellowship. This award enabled me to undertake focused training at two centres of international distinction: Toronto General Hospital and Cliniques Universitaires Saint-Luc in Brussels.

Toronto General Hospital: Integrating Science and Surgery in Lung Perfusion
February–March 2024 | Supervisors: **Dr Shaf Keshavjee & Dr Marcelo Cypel**

Toronto General Hospital stands at the forefront of innovation in thoracic transplantation and is widely acknowledged as a global leader in EVLP. During my time at the centre, I engaged with the TorEx platform—Toronto's proprietary clinical EVLP system—used in the functional assessment and reconditioning of extended-criteria donor lungs. Immersed in the daily workings of this mature programme, I followed donor workflows, explored perfusion parameters, and refined my understanding of graft selection and viability optimisation.
Complementing the clinical immersion, I was afforded the opportunity to visit the institution's preclinical research laboratories, where the original XVIVO system remains in active use for animal model studies. Though I did not participate directly in the experimental work, observing these sessions offered valuable insight into the translational journey from concept to clinical reality—a process rooted in scientific rigour and sustained innovation.

On returning to the UK, I authored the surgical protocol now implemented in the Royal Papworth Hospital EVLP programme. This protocol was specifically tailored to accommodate the logistical frameworks of the NHS and the XVIVO XPS platform; a system that, while distinct from Toronto's TorEx, embodies the same philosophy of organ optimisation and regeneration.

CLINIQUES UNIVERSITAIRES SAINT-LUC, BRUSSELS: CRAFTSMANSHIP IN VALVE RECONSTRUCTION

SEPTEMBER–DECEMBER 2024
SUPERVISORS: PROF GEBRINE EL KHOURY & PROF LAURENT DE KERCHOVE

At Cliniques Universitaires Saint-Luc, I was privileged to work alongside Professors Gebrine El Khoury and Laurent de Kerchove, whose department is internationally renowned for excellence in aortic and mitral valve reconstruction. During my time in Brussels, I actively participated in a comprehensive range of procedures that reflected both the technical sophistication and surgical philosophy of the unit.

Central to the department's activity were the David valve-sparing root replacement, the Ross operation, in both its native-inclusion and Dacron-inclusion forms, and complex mitral valve repairs. These procedures were performed with regularity and consistency, with each type undertaken multiple times per week. I also took part in homograft root replacements for infective endocarditis, a particularly challenging cohort.

The department employed a broad array of aortic valve repair strategies, including decalcification, cusp plication, bicuspidisation/tricuspidisation, free margin resuspension, and leaflet patching. Similarly, the mitral valve portfolio—many of which were undertaken robotically—encompassed degenerative disease, infective pathology, severe annular calcification, and redo procedures.

This immersive experience allowed me to develop a deeper understanding of tailored repair strategies and the decision-making required in complex reconstructive surgery. I am currently finalising a manuscript titled "Aortic Annuloplasty: A Tale of Innovations, Successes, and Failures," which draws on many of the insights gained during this placement.

Professional Progression

Beyond the clinical setting, I was fortunate to attend several international symposia, including the EACTS Aortic Valve Repair and Ross Operation Course, the Maastricht Mitral Masters Course, and the EACTS Mechanical Circulatory Support (MCS) Summit.

Having completed the fellowship, I have been appointed to a locum consultant position at Queen Elizabeth Hospital Birmingham, where I am due to commence later this year. My forthcoming practice will focus on cardiothoracic transplantation, informed by the insights and experiences gained through this fellowship.

The SCTS Ionescu Fellowship has been a transformative experience, allowing for focused exposure to two technically challenging and evolving areas within cardiac surgery. I am grateful to the Society for Cardiothoracic Surgery for supporting this opportunity and to the Ionescu Family for their generous support. As I transition into consultant practice, I carry forward the knowledge acquired and the focus on innovation and excellence that characterised both of the centres I visited.

CLINIQUES UNIVERSITAIRES SAINT-LUC, BRUSSELS: CRAFTSMANSHIP IN VALVE RECONSTRUCTION

SEPTEMBER–DECEMBER 2024
SUPERVISORS: PROF GEBRINE EL KHOURY & PROF LAURENT DE KERCHOVE

Torex Platform in clinical use at Toronto General Hospital
The Torex EVLP system in clinical operation at Toronto General Hospital, where it is used to assess and recondition donor lungs prior to transplantation.

With **Professors Gebrine El Khoury and Laurent de Kerchoveat Cliniques Universitaires Saint-Luc.**

FROM THE CHEST SCTS

ROBOTIC THORACIC SURGERY FELLOWSHIP REPORT
GUY'S HOSPITAL, LONDON
APRIL 2022 – OCTOBER 2022

FELLOW: OLIVER J. HARRISON

Introduction

From April to October 2022, I undertook a six-month robotic thoracic surgery fellowship at Guy's Hospital, London, under the primary supervision of Mr Tom Routledge. This opportunity represented a pivotal phase in my training, bridging the transition between ST7 and ST8 at my home deanery in Wessex (University Hospital Southampton). The primary aim of the fellowship was to gain advanced exposure to robotic thoracic surgery in a high-volume centre and to broaden my experience by training outside my base deanery.

Fellowship Structure and Logistics

This fellowship was arranged as Out of Programme for Training (OOPT), as Guy's Hospital is a GMC recognised thoracic surgery training centre. As such, it allowed seamless integration into my training timeline without delaying my CCT.
I commuted from Southampton to London for the duration of the fellowship, with a door-to-door journey of approximately 90 minutes. The Ionescu Fellowship grant made this affordable and also covered ad-hoc accommodation for on-call commitments (at St Thomas's Hospital), and some daily subsistence costs.

Pre-Fellowship Experience

Prior to the fellowship, I had participated in Southampton's newly established robotic thoracic surgery programme (commenced May 2021). My experience at that stage included:
- Around 20–30 hours of simulation-based training
- Bedside assisting in robotic cases
- Approximately 5–10 hours of patient console time

I commenced the fellowship very much with a beginner's level of robotic surgical competence.

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Clinical Experience at Guy's Hospital

At the time of the fellowship, Guy's Hospital was the highest-volume thoracic surgical unit in the UK, performing over 700anatomical lung resections per annum. This high operative volume provided a rich and varied training environment.

A rough weekly schedule included:
- Theatre: 2 full operative days per week, typically involving 3 major cases per day
- Outpatient Clinic: 1 half-day session
- On-Call Duty: 1 × 13-hour shift per week (including approx. 1 in 6 weekends, no night duties)
- Ward Cover Duty/Admin day

Although the majority of my clinical time was under the supervision of Mr Routledge, I had the opportunity to work with other consultants in both outpatient and operative settings, enhancing the breadth of the experience.

Surgical Training and Progression

Mr Tom Routledge is a highly skilled and dedicated robotic surgical trainer with a structured and effective teaching methodology. Under his mentorship, I progressed from a novice to confidently performing the majority of straightforward major resections within six months. A full breakdown to the operative case volume is seen in Table 1.

Summary of Operative Experience:

- Total procedures performed: 118
- Exposure included:
  - Robotic anatomical lung resections and mediastinal resections
  - Complex open procedures, including sleeve lobectomy
  - Airway procedures such as navigational bronchoscopy
  - VATS procedures including anatomical resections

	Assisted	Supervised	Performed	Teaching
RATS	33	50	0	0
VATS	0	0	16	5
OPEN	0	8	0	0
OTHER	1	5	0	0

The mix of advanced robotic training and complex open surgery provided a well-rounded and intensive surgical experience.

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Team and Work Environment

The multidisciplinary team at Guy's Hospital, from the Dorcas Ward staff to the theatre teams, were exceptionally welcoming, professional, and supportive. The working environment was collaborative, and the social culture was vibrant, with regular gatherings outside of work contributing positively to the fellowship experience. Situated in South East London, Guy's Hospital offers proximity to a wealth of cultural and culinary attractions, including Borough Market. This contributed to a fulfilling lifestyle outside of clinical commitments and enhanced the overall experience.

Conclusion and Acknowledgements

This fellowship was one of the most valuable and formative periods of my thoracic surgical training. The combination of high-volume robotic exposure, expert mentorship, and a supportive team environment made it a truly enriching experience. I am immensely grateful to the Ionescu Foundation for the financialsupport, and to the entire thoracic surgical team at Guy's Hospital for the opportunity to learn and grow in such an outstanding training environment.

SCTS SMALL TRAVEL FELLOWSHIP REPORT: OBSERVERSHIP AT THE LUNG TRANSPLANT UNIT, TORONTO GENERAL HOSPITAL

MS FLORENTYNA POPESCU

I was awarded the Society for Cardiothoracic Surgery (SCTS) Small Travel Fellowship, which enabled me to undertake a two-week observership at the Lung Transplant Unit, Toronto General Hospital, Canada. The unit, under the leadership of Professor Shaf Keshavjee, is internationally recognised for its pioneering work in lung transplantation and for establishing the concept of ex vivo lung perfusion (EVLP).

Peter Munk Cardiac Centre, Toronto General Hospital

During my time in Toronto, I observed three lung retrievals and six lung transplants, in addition to participating in daily intensive care rounds and multidisciplinary team (MDT) meetings. The programme provided invaluable exposure to all aspects of lung transplant care, from donor assessment to long-term patient management.

A particularly instructive case involved donor lungs in which the left lower lobe was consolidated at retrieval. The lungs were subjected to EVLP to assess function and optimise condition. Despite suboptimal gas exchange, the decision was made to implant both lungs with a lobar reduction of the left lower lobe. This case highlighted the clinical utility of EVLP as a strategy to expand the donor pool safely and judiciously, in keeping with Toronto's pioneering contributions to the field [1,2].

Beyond intraoperative learning, I gained insight into pre-transplant evaluation, especially the role of frailty and functional status assessments in patient selection. The team's approach to semi-elective transplantation was particularly noteworthy. By preserving donor lungs at 10°C, midnight transplantation is frequently avoided, thereby promoting improved work-life balance for staff, enhancing perioperative concentration, and contributing to better outcomes [3,4]. I also gained exposure to the use of Perfadex Plus preservation solution, which is now central to their donor lung management.

SCTS SMALL TRAVEL FELLOWSHIP REPORT: OBSERVERSHIP AT THE LUNG TRANSPLANT UNIT, TORONTO GENERAL HOSPITAL

MS FLORENTYNA POPESCU

The fellowship also provided a unique opportunity to interact with an international cohort of fellows and observers from countries including Brazil, Colombia, Jordan, Palestine, Ireland, Sweden, and Spain. Exchanging experiences with colleagues from different healthcare systems offered perspective on the global challenges and innovations within cardiothoracic transplantation. A visit to the unit's research laboratories further underlined the Toronto group's ongoing role at the forefront of translational research.

Finally, I had the privilege of meeting with Professor Keshavjee, who generously discussed future career planning and the opportunities afforded by the International Lung Transplant Fellowship. This meeting was both inspiring and motivating, consolidating my aspiration to pursue a career in cardiothoracic transplantation.

Alongside the academic and surgical learning, this fellowship also provided valuable opportunities for cultural and social enrichment. I was able to explore the vibrant city of Toronto, with its diverse neighbourhoods and rich cultural life. Before commencing the observership, I visited New York, one of my favourite cities, and during the fellowship I was able to reunite with old friends from secondary school in Montreal. These experiences outside the hospital added a unique dimension to the fellowship, making it truly memorable by combining professional development with personal connections and cultural exploration.

I am sincerely grateful to the Society for Cardiothoracic Surgery in Great Britain and Ireland and the late Mr Ionescu for supporting this fellowship. The experience has been instrumental in broadening my understanding of advanced lung transplantation, refining my clinical interests, and reinforcing my determination to pursue further subspecialist training in cardiothoracic transplantation.

IONESCU NTN TRAINEE TRAVELLING FELLOWSHIP 2021 REPORT: CAROLINE TOOLAN
LEANING INTO THE LEARNING CURVE FOR MINIMAL ACCESS MITRAL SURGERY

Throughout my training I was fortunate to work at several centreswhere I could see minimal access cardiac surgery in action; initially video assisted and later using robotic approaches. My initial plans with the Ionescu Fellowship had been to travel to the USA and participate in a dedicated residency in minimal access techniques. However, a pandemic, amongst other things, intervened so I shifted priorities laying the groundwork by exploring simulation training in minimal access cardiac surgery complemented by an observer-ship at the Onze Lieve Vrouwziekenhuis (OLV) Hospital, Aalst, Belgium.

EACTS Port-Access Mitral Valve Repair Drylab Training

This two-day course based in Maastricht, Netherlands is crafted around the use of high-fidelity simulators developed by course organiser Dr Peyman Sardari Nia1,2. Designed to accurately represent valve pathology and recreate the ergonomic and spatial demands of the minimal access approach, it is possible to utilisesurgical repair techniques then assess suture depth, placement and repair success. Surgical technique in minimal access cardiac surgery is only part of the story of course, and the practical sessions were accompanied by presentations and discussion regarding patient selection, imaging interpretation, pearls, and potential pitfalls including how to avoid them. There was a strong emphasis on the Heart Team and integrating knowledge across specialties and disciplines to provide optimal care for the patient. I came out of this experience with a much clearer idea of suture placement and methods to practise back home as well as a greater depth of understanding of valve analysis particularly in more complex pathologies.

I subsequently attended the ISMICS (virtually) and AATS (in-person) providing broad scope into the future possibilities of minimal access surgery as well as a window into how current techniques are implemented globally. This was the first time I had attended AATS however, I would highly recommend it perhaps even at an earlier stage of training. There are some excellent opportunities to expand your network and guide future career development.

IONESCU NTN TRAINEE TRAVELLING FELLOWSHIP 2021 REPORT: LEANING INTO THE LEARNING CURVE FOR MINIMAL ACCESS MITRAL SURGERY

Orsi Academy training & Observer-ship

The Orsi Academy in Melle, Belgium is a state-of-the-art training facility that hosts many minimal access surgery courses in different specialties. It seeks to provide those who want to develop an endoscopic mitral surgery service with the theory and practical skills necessary to navigate this as safely as possible3. The course is taught by Dr Frank Van Praet who spearheads the cardiac surgery department of the OLV hospital in Aalst. He has also been the mentor for many surgeons practicing minimal access mitral surgery here in the UK. I had the good fortune to spend a week either side of the course observing Dr Van Praet's team in action from patient assessment through to the operating theatre. Sandwiching the course between this clinical experience really helped to cement my learning.

The course itself uses cadaveric material and is very high-fidelity using equipment and techniques directly replicated from Dr Van Praet's daily practice. The atmosphere was unhurried which allowed plenty of time to learn and perfect new skills. There was an excellent student to faculty ratio which allowed lots of discussion and rapid feedback. Incredibly valuable were the lectures given by Dr Van Praet. He shares outcomes achieved and lessons learnt through the pioneering work performed with Dr Hugo Vanermen beautifully illustrating the evolution behind today's techniques. I was very impressed by the clear priority of patient safety with every advancement that came from careful assessment of outcomes at every stage. Dr Van Praet encouraged me to see a little of Belgium during my stay to which I obliged and, although beer is not my forte, I did get the opportunity to sample some delicious Belgium waffles as well as day trips to Ghent and Bruges.

I am hugely grateful for the experiences I have gained through the Ionescu Fellowship. I have had the privilege of witnessing how innovation in surgical approaches has been matched by efforts to optimise and distribute the training of such methods to others. Teamwork, careful analysis of results and fine-tuning of reproducible techniques were constants throughout with patient outcomes always front and centre. Thank you to both SCTS and the late Dr Marian Ionescu for these opportunities.

PEDALING THROUGH MEMORIES: A JOURNEY ACROSS EUROPE AND BEYOND

MANINDER SINGH KALKAT

It all began with a simple decision—to get back on the saddle after decades away. Inspired by my son Karan and cycling legend Chris Boardman, I took the plunge into long-distance rides that once seemed impossible. The first few days were tough—aching muscles and sore evenings—but soon, the rhythm of the road became second nature.

Our adventures started in 2009 with Denmark, followed by Holland, the Low Countries, and the scenic Danube route from Regensburg to Vienna. Holland remains a cyclist's paradise: flat landscapes, endless cycle paths, and engineering marvels like the Afsluitdijk—a 23-mile dam protecting the country from the sea. Along the way, we discovered hidden gems like the Kröller-Müller Museum, home to Van Gogh's masterpieces, and tiny towns serving the freshest fish.

Germany's Romantic Road was another highlight, winding through Würzburg's historic streets and fairy-tale castles. Each stop revealed charming villages, towering church steeples, and stories etched in stone.

As the group grew, so did the horizons. Friends from America, India, and Canada joined, and soon we were cycling Oregon's rugged Pacific Coast—a thrilling yet challenging ride along highways with no dedicated paths. Despite the occasional nerve-wracking moments, the scenery and camaraderie made it unforgettable.

PEDALING THROUGH MEMORIES: A JOURNEY ACROSS EUROPE AND BEYOND

MANINDER SINGH KALKAT

Italy's Puglia region was a revelation. Cycling through Bari, Gallipoli, and UNESCO World Heritage sites like Alberobello's trulli houses and Matera's ancient cave dwellings felt like stepping back in time. The turquoise seas, cherry orchards, and warm hospitality made every mile magical.

Other tours took us through Hamburg and Hanover, revisiting childhood tales in Hamelin and Bremen, and later to the French Alps for grueling climbs like Alpe d'Huez—12 hairpin bends and 2,000 meters of sheer determination. Norway was the grand finale: Oslo to Flåm, tracing fjords and waterfalls, and riding the world-famous Flåm Railway, an engineering marvel with breathtaking views.

Some of the greatest rides have been challenging as well amazing like Land's End to John O' Groats or cycling up in the lofty heights of Ladakh in the Himalayas. The company made it all enjoyable and enhanced the pleasure. Cycling has given me more than scenic routes—it's been about friendships, family, and the joy of discovery. Whether you're a seasoned rider or a beginner, Europe offers endless possibilities. Start with Holland or the Danube for gentle rides, or challenge yourself with the Alps and Norway when you're ready.

Pack light, pedal hard, and let the journey surprise you!

Student Education Committee 2025-27

Committee Lead

Benjamin Chapman
University of Oxford

I'm a fifth-year student, having recently completed a PhD investigating myocardial regeneration in neonates. I'm keen to continue the work of the outgoing committee by strengthening mentorship, research and education initiatives.

Communication Lead

Chai Jin Lim
University of Sheffield

As Communications Lead, I'm very passionate about content creation and especially keen to use media to bridge gaps and spark interest in students who may not have access or connections to this incredible field.

Treasurer

Donovan Campbell
Queen's University Belfast

I'm an intercalating MSc student studying Experimental Medicine. As Treasurer, I'll be supporting the committee's events and making sure funding is used to deliver projects with real benefit to students.

Research lead

Eteesha Rao
University of Newcastle

I'm an intercalating student undertaking an MRes in Cardiovascular Sciences. I'll be working to increase student involvement in research and help connect students with supervisors, projects and national initiatives.

Medical School Liaison

Ethan Alford
University of Southampton

I'm a third-year student with a keen interest in thoracic surgery. My role is to support student representatives at each medical school and help link local initiatives with national programmes.

sctsstudenteducation@gmail.com

Student Education Committee 2025-27

Education Lead

Sarah Guo
University of Cambridge

I'm a fifth-year student with a long-standing interest in medical education. I am looking forward to developing new opportunities for students and improving access to educational resources at a national level.

Events Lead

Nikan Hoorijani
University of Glasgow

I'm a second-year student with an interest in minimally invasive cardiac surgery. I'll be coordinating national events and helping to develop partnerships to support a broader calendar of student activity.

Widening Participation Lead

Ananya Mathur
University of Birmingham

I'm a fourth-year student and my aim this year is to make cardiothoracic surgery feel more approachable by developing outreach and support aimed at students with less access to early opportunities.

Mentorship Lead

Jasleen Nagi
Imperial College London

I'm a fifth-year student at Imperial, currently completing a BSc in Cardiovascular Sciences. I'll be leading the committee's mentorship work and helping students find guidance and support from those further along in training.

EDI Lead

Charli Nameghi
King's College London

I'm a fifth-year student at KCL, currently intercalating in Cardiovascular Research. I'll be working to ensure the committee's work is inclusive and that students from all backgrounds feel represented and supported.

sctsstudenteducation@gmail.com

Registration opens on Monday 5th January.
After the success of our 1st event, SCTS will again tackle the London-Brighton Cycle Ride on **Sunday 13th September 2026**. We invite you to join TEAMSCTS, making Heart, Chest & Lung Surgery better.

What is the London to Brighton Cycle Ride?
The London to Brighton Cycle Ride, is an iconic 55 mile cycle ride starting from Clapham Common in South London, finishing on Brighton Seafront. The event is open to all abilities although we recommend training ahead of the challenge so you enjoy the day. You can ride for one of our amazing charity partners, a charity of your choice or just for yourself with no need to raise any sponsorship.

How much is it?
It is £55 per person to take part. This includes a fully supported ride, complimentary water stops and not to mention that we'll be waiting with your medal at the finish on the sea front in Brighton! (£35 trainees and £20 students)

Raising funds
We are asking each rider to aim to raise at least £150. All donations will go to the Society for Cardiothoracic Surgery in Great Britain & Ireland.

The SCTS Annual Dinner 2026

Monday 16th March

The Titanic Belfast
1 Olympic Way, Belfast BT3 9EP
Tickets can be purchased when registering for the Annual Meeting 2026

Tickets £85 each
include welcome drink, tour of titanic galleries, 3 course meal, wine and entertainment.