SCTS CONFERENCE NEWS

The official newspaper of the SCTS Annual Meeting 2026 15–17 March 2026

In this issue

Welcome to Belfast!

WELCOME TO THE 2026 SCTS ANNUAL MEETING, the UK's premier cardio-thoracic surgical meeting. It is a great pleasure to welcome you to Belfast, and the organisers are honoured and delighted by your presence at this meeting. As ever, the meeting will include a wide range of educational formats presenting the latest and best information on new technologies and techniques in cardio-thoracic surgery; the presentations will be of interest to all cardiothoracic surgeons and allied health professionals. By emphasising the areas that are important in your daily clinical work, we hope to create an interactive meeting that fosters the exchange of knowledge and ideas, facilitating discussions and debates between delegates.

This year's meeting will include presentations of the highest quality, from surgical and masterclass presentations to the latest clinical updates and technical innovations. As ever, the meeting will also feature outstanding debates presented by some of the foremost experts in their fields. In addition to the clinical presentations, do not forget to attend this year's Presidential Plenary session to hear the Presidential Address by Mr Aman Coonar (Monday 16th March 09:00-10:30), where the prestigious 'SCTS Lifetime Achievement Award' will be presented to our past-President, Professor Sir Bruce Keogh.

Aman Coonar

Bruce Keogh

Outside the meeting, all delegates are invited to this year's SCTS Gala Dinner on Monday, 16th March. Some spaces are still available. Please ask at the registration desk for further details.

The organisers would like to extend their thanks to the industry for their continued support of the meeting and to all the presenters who have taken the time to contribute to this year's *SCTS Conference News* newspaper.

We hope you enjoy the meeting... and remember to make a note in your diaries for next year's meeting, to be held at the ICC in Birmingham, 14–16 March 2027!

Surgical management of locally advanced lung cancer, and other thoracic malignancies
11:00-12:30 Tuesday 17 March

From MDT to operating theatre: Real-world surgical perspective of lung cancer surgery following emerging neoadjuvant chemo-immunotherapy protocols

Lubna Bakr, Adam Peryt, Aman S Coonar, Giuseppe Aresu
Department of Cardiothoracic Surgery, Royal Papworth Hospital, Cambridge, United Kingdom

Objectives

Along with the novel neoadjuvant protocols come new questions. Establishing the impact on surgical practice is crucial. Often raised is the question of whether the surgical operation will hold more challenges and difficulties following chemo-immunotherapy. This study reports real-life data on surgical implications.

Methods

This study encompassed 50 patients who underwent lung resection surgery for lung cancer following neoadjuvant chemo-immunotherapy. The study spans the period from early January 2023 until the end of October 2025 (Figure 1). The focus was on

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Congenital - Mixed Bag 15:30-17:00 Monday 16 March

Where you are born should not decide whether you live: Mapping the global congenital cardiac surgical workforce

Jeevan Francis[1], Ed Peng[2] 1 Guy's and St Thomas' Hospital, London, United Kingdom. 2 Royal Hospital for Children, Glasgow, United Kingdom

Congenital heart disease (CHD) is the most common congenital anomaly worldwide and one of the most surgically curable causes of child mortality. Yet for most children born with CHD, survival is determined less by anatomy or lesion complexity and more by geography. Each year, approximately 268,000 children die from CHD. More than 95% of these deaths occur in low- and lower-middle-income countries (LLMICs). Six billion people still lack access to safe surgery, and congenital heart surgery sits at the sharpest end of this inequality, where it remains highly effective, well-established, and profoundly concentrated within high-income countries (HICs).

Our study aimed to quantify this imbalance and move beyond anecdotes to data. Specifically, we aim to answer three fundamental questions. First, where are congenital heart surgeons actually located worldwide? Second, how does surgeon availability relate to the size of the paediatric population, national income level, and health expenditure? And third, how many congenital heart surgeons does a country realistically need to meet its epidemiological disease burden?

Jeevan Francis (left) and Mr Ed Peng

To address this, we conducted a global cross-sectional analysis integrating multiple international datasets. The congenital cardiac surgical workforce was identified using CTSNet. Population and demographic data were drawn from the United Nations and World Bank, while disease burden and mortality estimates came from

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From MDT to operating theatre

Continued from page 1

the implications on surgery and pathological staging.

Results

Median age was 71. 98% had ECOG performance status of 0 or 1. 70% were males, and 96% were current or ex-smokers. The surgical approach was planned as minimally invasive in 92% or open in 8%. Table 1 shows that conversion to an open approach occurred in 24% of mini-invasive cases, 55% of which were due to significant adhesions. Emergency conversion due to bleeding occurred in one case. 70% of surgeries were performed using a minimally invasive approach, either robotic or VATS. 89% achieved complete R0 resection. 84% of surgeries were performed by consultant surgeons, not trainees or fellows. Complete pathological response was comparable to the literature at 23%. There was a downstaging of T in 77%. Nodal downstaging occurred in 60% of N2 disease and 87.5% of N1 disease.

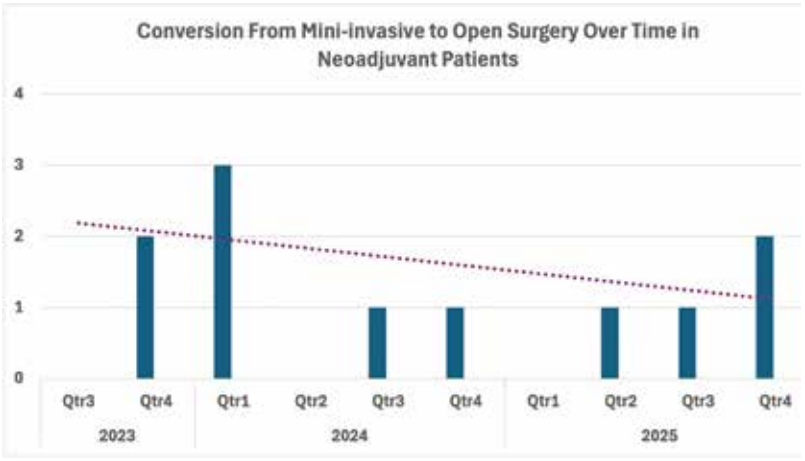

Table 1

Surgical Outcomes	
Conversion from mini-invasive to open approach	11 (24%)
Post-operative hospital stay in days, median (IQR)	4 (2.25-7)
30-day mortality, No.(%)	1 (2%)
Pathological Response	
Complete resolution of tumour, No.(%)	11 (23%)
T downstaging, No. (%)	37 (77%)
N downstaging, No. (%)	20 (40%)
N2 nodal downstaging (cN2/pN0), No.(%)	6 (60%)
N1 nodal downstaging (cN1/pN0), No.(%)	14 (87.5%)

Conclusions

Despite being more technically demanding, surgery for lung cancer following neoadjuvant chemoimmunotherapy was feasible and had good clinical and pathological results, highlighting the role of modern multimodal lung cancer management.

Where you are born should not decide whether you live

Continued from page 1

established global health datasets. This approach allowed us to generate a quantitative, country-level picture of global congenital cardiac surgical capacity.

We found that there were just over 12,000 registered cardiac surgeons worldwide, of which 4,027 specialise in congenital heart surgery. Three-quarters of this workforce is based in HICs and upper-middle-income countries (UMICs), despite these regions accounting for only 16% of the world's children. Nearly half of all countries globally have either one or no congenital heart surgeons at all. In practical terms, this means around 192 million children live in countries where access to congenital heart surgery is effectively absent.

When surgeon numbers are adjusted for the paediatric population, the disparities become even more striking. Low-income countries (LICs) have a median of just 0.15 congenital heart surgeons per million children. In HICs, this figure exceeds nine per million – a nearly 50x difference. In sub-Saharan Africa, the situation is even more severe, with approximately 0.015 surgeons per million children: a 460x disparity compared with HICs. Maps of the global distribution reveal not just gradients, but voids. Large regions of sub-Saharan Africa and South Asia are functionally devoid of surgical capacity for congenital heart disease. In these settings, children are not waiting longer for surgery – surgery simply does not exist.

Descriptive data alone, however, are insufficient. We therefore developed an evidence-based model to estimate the minimum congenital heart surgical workforce required to address the national disease burden. The model incorporates CHD incidence rates, live birth rates, population size, and age structure to project annual surgical demand. A conservative benchmark of 125 operations per surgeon per year was used, reflecting international norms and avoiding inflated productivity assumptions. Importantly, this model was not designed to describe excellence, but to define the bare minimum safe workforce required.

As an example, Madagascar illustrates the human meaning of these numbers. The country has a paediatric population comparable to that of the UK, a higher proportion of children under five, and nearly double the birth rate. Our model estimates that approximately 5,800 congenital heart operations are required annually, necessitating 47 congenital heart surgeons. However, the actual number of practising congenital heart surgeons in Madagascar is zero. This is in the context of around 1,600 CHD-related deaths each year.

Across LLMICs, the model reveals catastrophic workforce shortfalls. Many nations operate at less than 2% of the surgical capacity required to meet local need. Using counterfactual modelling, we identified a critical workforce threshold of approximately 3.76 congenital heart surgeons per million children. Below this level, CHD mortality rises steeply; above it, mortality plateaus. If every country reached this minimum benchmark, an estimated 243,000 child deaths could be prevented each year, 80% of them in LLMICs.

During the time it takes to read this article, several children will die from a surgically curable condition. Most will never see a cardiologist, let alone a surgeon. These findings show that CHD mortality is no longer primarily a clinical problem, but a systems failure – one rooted in workforce planning, training, and health policy. If CHD is curable, yet children continue to die unseen, then the ethical challenge before us is clear: we must measure surgical absence, plan for it, and build systems that ensure where a child is born no longer determines whether they live.

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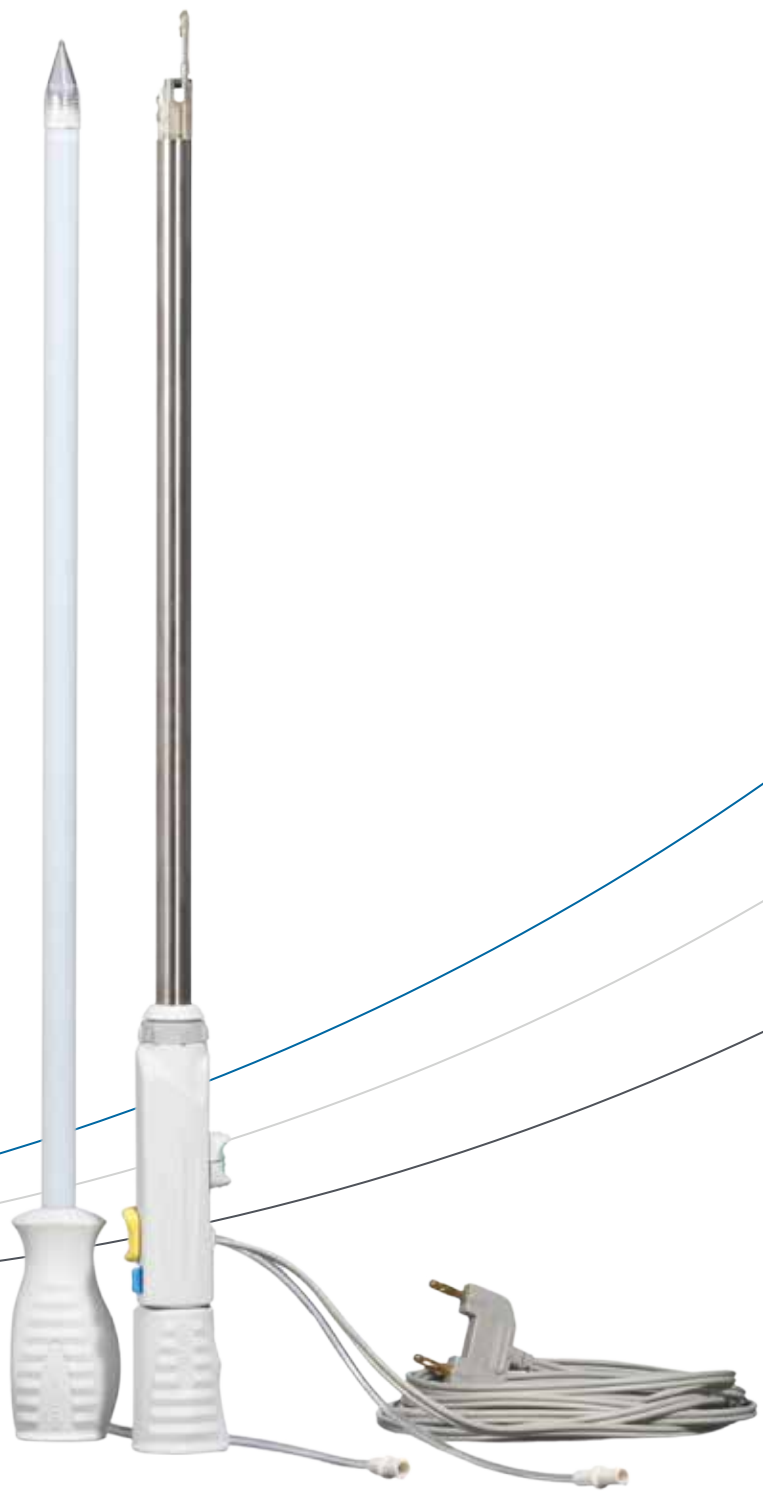

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CARDIOVASCULAR

Evidence-based practice in Thoracic Surgery
11:00-12:30 **Monday, 16 March 2026**

Inequalities in access to surgery for NSCLC: does the hub-and-spoke model deliver equity?

Lauren Kari Dixon National Lung Cancer Audit Clinical Fellow and PhD Candidate, London School of Hygiene & Tropical Medicine

Despite major advances in lung cancer care, access to curative-intent treatment remains one of the most important determinants of outcome for patients with non-small cell lung cancer (NSCLC). In England, thoracic surgical services are organised through a hub-and-spoke model, designed to ensure that patients have equitable access to specialist assessment regardless of where they first present. Whether this configuration has achieved that aim at a national level has remained uncertain.

Using linked national datasets, we examined access to curative-intent treatment for patients diagnosed with stage I–IIIA NSCLC in England between 2015 and 2023. The analysis included over 118,000 patients and drew on data from the National Cancer Registration Dataset, Hospital Episode Statistics and the Radiotherapy Dataset. Curative-intent treatment was defined as surgical resection or radical radiotherapy.

Overall, 60% of patients with potentially curable disease received curative-intent treatment. Surgical resection was performed in 41.6% of patients, while 18.4% received radical radiotherapy. However, where patients were first assessed within the healthcare system mattered. Patients first seen at a thoracic surgical centre were more likely to receive curative-intent treatment than those first seen at non-surgical centres (63.4% vs 58.4%) and were more likely to undergo surgical resection (45.5% vs 39.8%).

These differences persisted after adjustment for tumour stage, age, performance status, comorbidity, frailty and year of diagnosis. First assessment at a thoracic surgical centre remained independently associated with receipt of surgery (adjusted odds ratio 1.22, 95% CI 1.18–1.26) and with receipt of any curative-intent treatment (adjusted odds ratio 1.18, 95% CI 1.14–1.22). In contrast, being first seen at a radiotherapy centre was not independently associated with receipt of radical radiotherapy.

Assessment of variation across providers revealed wide and persistent differences in surgical resection rates between trusts and cancer alliances, even after risk adjustment. This suggests that unwarranted variation in access to surgery remains embedded within the system, despite national service reconfiguration.

Taken together, these findings indicate that access to curative-intent treatment for NSCLC in England continues to be strongly influenced by the trust at which patients are first seen. Despite national service reconfiguration, substantial and unwarranted variation in surgical access persists, indicating a need to further optimise referral pathways and multidisciplinary integration within the lung cancer care system.


Lauren Kari Dixon

Moderated Posters - Thoracic
13:30-15:00 **Tuesday, 17 March 2026**

National Lung Cancer Audit State of the Nation 2026: earlier diagnosis, rising demand and persistent variation

Lauren Kari Dixon National Lung Cancer Audit Clinical Fellow and PhD Candidate, London School of Hygiene & Tropical Medicine

The National Lung Cancer Audit (NLCA) has now published its 2026 State of the Nation report, providing a national overview of lung cancer care for patients diagnosed in England and Wales during 2024. The findings arrive at a critical point for thoracic services, as the benefits of earlier diagnosis increasingly intersect with constraints in capacity, access and pathway efficiency.

A key message from the 2026 report is the continued improvement in stage at diagnosis. Driven largely by the expansion of the NHS Lung Cancer Screening Programme, a greater proportion of patients are now diagnosed with stage I–II disease than in previous years. This represents a major success for lung cancer services and creates an unprecedented opportunity to improve long-term outcomes through curative-intent treatment. However, the report also highlights the consequences of this progress. As more patients become eligible for surgery and other curative treatments, demand for thoracic surgical and oncology services has increased substantially. In England in 2024, 7,878 lung cancer surgeries took place, an increase from 6,547 in 2023. While the absolute number of lung cancer resections continues to rise, waiting times from referral to treatment remain prolonged for many patients, with most exceeding national pathway targets. The State of the Nation 2026 makes clear that service capacity has not yet adapted to keep pace with this growth.

The report also draws attention to patients with stage IIIA non-small cell lung cancer, where potentially curative treatment remains underused. In 2024, only 59% of patients in England and 62% in Wales with stage IIIA disease and good performance status received treatment with curative intent. This finding highlights the complexity of decision-making in this group and underpins a key recommendation for services to review multidisciplinary team processes, referral pathways and access to specialist input, to ensure that all suitable patients are consistently considered for curative treatment.

Variation in care remains a prominent finding. Despite national standards and service reconfiguration, substantial differences persist between organisations and regions in access to curative-intent treatment, surgical resection rates and time to treatment. Updated risk-adjusted indicators and provider-level analyses reinforce the importance of local services interrogating their own performance using the NLCA dashboard and supporting quality improvement initiatives.

Challenges extend beyond surgery. The report also highlights ongoing shortfalls in access to systemic anti-cancer therapy for patients with advanced disease and good performance status, with uptake remaining below national audit standards in many areas and wide variation between regions. Together, these findings suggest that workforce and pathway constraints continue to limit the delivery of evidence-based care.

Importantly, the 2026 report is accompanied by a set of targeted recommendations developed with the NLCA Clinical Reference Group. These focus on multidisciplinary decision-making, pathway optimisation, capacity planning and reducing avoidable delay. The full benefits of screening and modern therapies will only be realised if services evolve to deliver timely and equitable access to curative treatment.

The NLCA State of the Nation 2026 provides both reassurance and challenge. Outcomes following lung cancer surgery remain strong, and progress in early diagnosis is real. Yet unwarranted variation and capacity pressures persist. Addressing these issues will require coordinated action across surgical centres, cancer alliances and integrated care systems, supported by high-quality national audit data.

The full report and data dashboards showing local results are available at: natcan.org.uk/audits/lung/

Aortic Valve and Annulus 13:30-15:00 Tuesday 17 March

Small valve, big problem: Why prosthesis size matters in aortic valve replacement

Joshua J Hon[1], Arian Arjomandi Rad[2], Odhran Harbinson[1], Fadi Al-Zubaidi[2], Vivek Srivastava[2], Rana Sayeed[2], Antonios Kourliouros[2], Thanos Athanasiou[1] 1 Department of Surgery and Cancer, Imperial College London, London, UK 2 Department of Cardiothoracic Surgery, Oxford University Hospitals NHS Foundation Trust, Oxford, UK

The clinical dilemma

Patients presenting with small aortic annuli pose a familiar challenge in valve surgery. Do we accept the haemodynamic compromise of a smaller prosthesis, or do we undertake a root enlargement procedure with its accompanying technical complexity? This question has divided opinion for decades, with conflicting evidence about whether prosthesis size genuinely affects outcomes. Our meta-analysis set out to resolve this uncertainty and, crucially, to understand how small prostheses might influence mortality.

What we did

We conducted a comprehensive systematic review of the literature from inception to March 2025, ultimately analysing twelve studies comprising 9,896 patients. Using a 21/23 mm cut-off to distinguish small from large prostheses, we examined not only mortality outcomes but also haemodynamic parameters and patient-prosthesis mismatch (PPM). The novelty of our approach lay in the mediation analysis – formally testing whether PPM acts as the mechanism linking prosthesis size to adverse outcomes.

Mortality signals

The findings show a clinically important association. Small prostheses were associated with a 23% increase in all-cause mortality (RR 1.23, 95% CI 1.07-1.41, p=0.004). Perhaps more concerning was the 73% increase in 30-day mortality (RR 1.73, 95% CI 1.11-2.68, p=0.015). Whilst the retrospective design of included studies limits causal inference, these effect sizes – if truly causal – would represent substantial harm affecting thousands of patients annually.

The haemodynamic data showed consistent patterns. Indexed effective orifice area was significantly reduced with small prostheses (mean difference -0.13 cm^2/m^2), whilst PPM incidence doubled (RR 2.02, 95% CI 1.36-3.00). Amongst the very smallest prostheses (under 19 mm), one-third of patients developed PPM, with mean gradients exceeding 20 mmHg.

PPM Mediation

When we examined the studies reporting both PPM and mortality data, we found a remarkably strong correlation between their effect sizes. In plain terms, studies showing larger differences in PPM rates also showed larger differences in mortality. This provides preliminary quantitative evidence that PPM may mediate the long-term mortality effect – the inadequate effective orifice area leads to persistent afterload, incomplete ventricular mass regression, and ultimately heart failure.

However, this proposed mechanistic pathway struggles to explain the 73% increase in 30-day mortality. PPM-related haemodynamic deterioration develops over months to years, not days. We examined surgical complexity as an alternative explanation, comparing bypass and cross-clamp times between groups. The differences were negligible – typically under five minutes. The perioperative mortality signal remains unexplained and warrants dedicated investigation.

The valve type paradox

Subgroup analysis revealed an intriguing finding. Studies using only mechanical valves showed no mortality difference, whilst those using only bioprosthetic valves demonstrated substantial increases. This may reflect genuine biological differences in how these valve types perform at smaller sizes, or it may indicate structural valve deterioration being accelerated by suboptimal haemodynamics. Alternatively, this could represent study-level confounding rather than true valve-specific effects. Either way, it suggests the choice of valve technology may matter considerably more in patients with small annuli.

Clinical implications

These findings may have relevance to everyday practice. Root enlargement procedures can be performed safely, with multiple large-scale studies demonstrating mortality rates comparable to standard valve replacement whilst significantly reducing PPM. Given our evidence suggesting both short- and long-term associations between small prostheses and adverse outcomes, the threshold for proceeding to root enlargement might warrant reconsideration.

For younger patients requiring mechanical valves, where lifelong anticoagulation is already accepted, the case for ensuring adequate prosthesis size through root enlargement appears particularly relevant. The observed low utilisation rate of root enlargement (under 2% in our analysis) suggests considerable scope for practice change.

What remainsunknown

Two critical questions emerge from this work. First, what might cause the elevated perioperative mortality with small prostheses if not surgical complexity? Patient selection factors, anatomical characteristics, or technical challenges not captured by operative times could all contribute. The retrospective nature of included studies means we cannot definitively exclude confounding by indication. Second, whilst our correlation analysis is strongly suggestive, it requires validation in larger datasets with individual patient data.

Conclusion

This meta-analysis provides evidence that prosthesis size is associated with important clinical outcomes. The doubling of PPM incidence and its strong correlation with mortality effects support PPM as a plausible mechanism underlying long-term harm. However, the substantial early mortality increase suggests additional perioperative factors may be at play. For patients with small annuli, these findings support careful consideration of root enlargement or alternative strategies, though the observational nature of the evidence requires appropriate caution in interpretation.

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Training 09:00-10:30 **Tuesday, 17 March**

Cardiac surgical training through curriculum-defined index cases: Residents can achieve comparable outcomes to consultants

Ujjawal Kumar[1], Aravinda Page[1,2], Daniel Sitaranjan[1,3], Fadi Al-Zubaidi[1,4], Harry Smith[1,5], Ravi De Silva[1], Shakil Farid[1] 1 Royal Papworth Hospital, Cambridge, UK; 2 Harefield Hospital, London, UK: 3 Morriston Hospital, Swansea, UK; 4 Oxford University Hospitals, Oxford, UK; 5 Hammersmith Hospital, London, UK

Cardiac surgical training faces a perfect storm of challenges. Declining operative volumes, increased case complexity, and the rise of transcatheter interventions have all fundamentally changed the training landscape. Meanwhile, working-hour restrictions limit opportunities, and increased scrutiny of outcomes raises the stakes. Add to this the reduction in training duration in the 2021 curriculum, and the shift to run-through training, where residents may enter cardiothoracic surgical training only two years after medical school graduation – far less surgical experience than previous generations. The fundamental question remains: can residents safely perform cardiac surgery without compromising patient outcomes?

We analysed ten years of data from our centre (Royal Papworth Hospital) to answer this question, focusing on the "index cases" defined by the UK cardiac surgery curriculum: isolated coronary artery bypass grafting (CABG), isolated aortic valve replacement (AVR), and combined CABG + AVR procedures. These operations form the foundation of cardiac surgical practice and represent ideal cases for structured, progressive resident involvement under supervision. From over 16,000 cardiac operations, we identified 11,372 index procedures and conducted propensity-score matching to identify 4,259 matched pairs of resident-led and consultant-led cases.

After propensity matching, the groups were remarkably well-balanced. Demographics, preoperative cardiac function, functional status, medical history, and operative risk scores were similar between groups. However, two important differences emerged: the resident group had a higher mean BMI (30.68 vs 29.64, p=0.009) and were less likely to be never-smokers (38.6% vs 41.3%, p=0.008) – both established risk factors that would prove relevant when examining outcomes.

Despite similar patient risk profiles, procedure selection differed appropriately. Consultants performed more combined CABG + AVR procedures (18.2% vs 14.3%, p<0.001), while residents undertook more isolated CABG cases (66.0% vs 62.6%) – reflecting sensible case allocation with more complex combined procedures reserved for consultants. As expected, residents took longer: cardiopulmonary bypass times averaged 94 vs 89 minutes, and aortic cross-clamp times were 60 vs 56 minutes (both p<0.001). This reflects the learning curve inherent in surgical education.

The results are compelling. In-hospital mortality was comparable between resident-led and consultant-led cases (0.8% vs 1.1%, p=0.114), as were rates of return-to-theatre, postoperative stroke, and renal replacement therapy requirements. Long-term survival showed no significant differences at any timepoint measured (1 month, 6 months, 1 year, 3 years, or 5 years), with a median follow-up of 58 months.

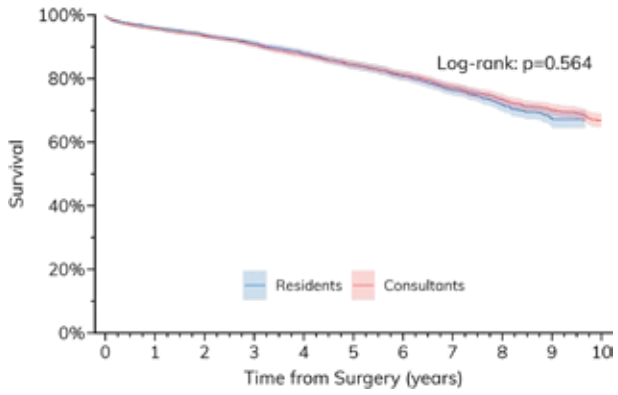

Figure 1: Kaplan Meier plots showing the equivalent long-term survival between resident and consultant-led surgeries.

Two differences did emerge. Deep sternal wound infection rates were marginally higher in the resident group (1.2% vs 0.7%, p=0.033), and hospital stays were one day longer (7 vs 6 days, p<0.001). However, these findings must be interpreted in context: the resident group had higher BMI and more current/former smokers – both well-established risk factors for sternal wound complications. Combined with the longer operative times inherent to the learning process, the small increase in wound infection rates is understandable and does not detract from the overall excellent safety profile.

We also examined each procedure type separately. For isolated CABG, isolated AVR, and combined CABG + AVR procedures, mortality and morbidity remained similar between groups.

This study represents the largest primary comparison of resident and consultant outcomes in cardiac surgery to date. The findings are particularly robust given the rigorous propensity-matching and comprehensive long-term follow-up, which address the selection bias and short follow-up that have limited previous studies. Our results provide compelling evidence that residents can safely perform curriculum-defined index cases with appropriate supervision and patient selection without compromising patient safety or outcomes.

Join us at 09:40 am on Tuesday, 17th March 2026, in the "Training" session as we explore these findings and discuss how structured progressive autonomy can successfully balance educational objectives with patient safety.

Cardiac Aorta Outcomes 11:00-12:30 **Monday 16 March**

EuroSCORE II: Does it really predict mortality after aortic surgery?

Ujjawal Kumar[1], Eteesha Rao[2], Sarah Guo[3], Ismail Vokshi[1,4], Daniel Sitaranjan[1,5], Ravi De Silva[1], Shakil Farid[1] 1 Royal Papworth Hospital, Cambridge, UK; 2 Newcastle University, Newcastle, UK; 3 University of Cambridge, Cambridge, UK; 4 New Cross Hospital, Wolverhampton, UK; 5 Morriston Hospital, Swansea, UK

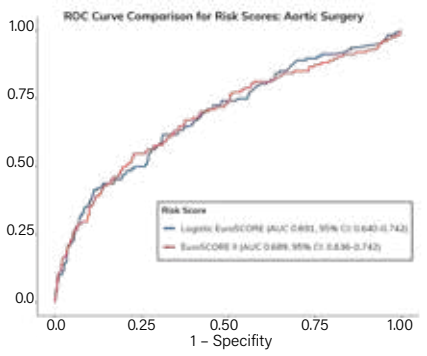

Figure 1: ROC curve analysis comparing predictive power of Logistic EuroSCORE and EuroSCORE II in major aortic surgery.

The logistic EuroSCORE and EuroSCORE II have become the standard tools for predicting mortality in cardiac surgery, guiding clinical decisions and patient counselling worldwide. But do they accurately predict outcomes in patients undergoing complex aortic surgery? This question has remained unanswered despite the widespread use of these models in one of cardiac surgery's most challenging subspecialties.

We analysed all aortic surgery cases performed at Royal Papworth Hospital over a ten-year period (January 2015 to December 2024) to evaluate the predictive performance of both scoring systems. The cohort included 1,935 patients (mean age 64±14 years; 31.8% female) and reflected the complexity of modern aortic surgery: 77.1% of cases were performed based on aneurysm size criteria, and 26.9% were emergency procedures. The median logistic EuroSCORE was 14.48%, and EuroSCORE II was 4.67%. The observed in-hospital mortality rate was 6.6% (n=128).

The findings are notable. Both models demonstrated limited discriminatory ability for predicting mortality. The logistic EuroSCORE showed an area under the curve (AUC) of 0.691 (95% CI 0.640-0.742), while EuroSCORE II achieved an AUC of 0.689 (95% CI 0.636-0.742) – essentially equivalent performance and both substantially below the threshold for good discrimination (AUC >0.75). Surprisingly, the older logistic EuroSCORE performed marginally better than its supposedly improved successor.

Mr Shakil Farid (left), supervisor and senior author of this work, and Dr Ujjawal Kumar, first author of this work

These results highlight a critical gap in current risk assessment. Neither model provides optimal precision for aortic surgery patients, likely because they were developed using broader cardiac surgery populations without adequate representation of aortic-specific variables. Complex aortic repairs vary enormously in technical difficulty and extent of reconstruction – factors not captured by standard EuroSCORE variables.

While aortic surgery-specific scores do exist for certain indications – such as GERAADA (acute Stanford Type A aortic dissection) and ARCH (aortic arch surgery) – these remain niche tools, not achieving the widespread adoption and universal recognition of EuroSCORE. This fragmentation leaves most aortic surgery without reliable risk prediction. We urgently need more comprehensive, universally applicable risk models for aortic surgery that incorporate variables such as the extent and complexity of repair, emergency versus elective status, and specific anatomical considerations. Our team are in the process of developing such models, and we advocate strongly for better integration of aortic surgery-specific risk stratification into future iterations of EuroSCORE.

Join us at 11:00 am on Monday, 16th March 2026, in the "Cardiac Aorta Outcomes" session as we present these findings and discuss how we can move beyond one-size-fits-all cardiac surgery risk models. Our findings challenge current practice and demonstrate why aortic surgery demands dedicated risk prediction tools – not adaptations of models built for other operations.

Atrial Fibrillation and Science 15:30-17:00 **Monday, 16 March**

Beating bias: Identifying research priorities for women undergoing cardiac surgery – we need your help

Julie Sanders King's College London, Guy's and St Thomas' NHS Foundation Trust and St Bartholomew's Hospital, Barts Health NHS Trust

Cardiovascular disease (CVD) is the leading cause of death in women globally, but women are consistently 'underrecognised, undiagnosed, undertreated and under-studied' across all CVD specialities. Less than a third of CVD research participants are women, and this is considerably lower (20%) in cardiac surgery. Therefore, many important questions about symptoms, diagnosis, treatment, and long-term care of women are unanswered.

To identify the top 10 research priorities that need to be addressed, a James Lind Alliance (JLA) Priority Setting Partnership (PSP) for women and cardiovascular disease is underway. PSPs enable clinicians, patients and carers to work together to identify and prioritise evidence uncertainties that could be answered by research. This project, Led by Professor Julie Sanders at King's College London and funded by Heart Research UK is calling on women with lived experience of heart disease, as well as family members, friends, carers, healthcare professionals and anyone passionate about women's heart health to tell us the questions that matter most so that future research can be targeted specifically in these areas of women's heart health. It is important that the experiences and views relating to women undergoing cardiac surgery are represented.

The SCTS has played a pivotal role in heart surgery, congenital heart disease and chest and lung surgery PSPs, and we are delighted that the SCTS is also a partner in the Women and Cardiovascular Disease PSP. Our presentation at the SCTS Annual Meeting on Monday, 16th March, highlights the urgency and importance of this work and seeks support from the SCTS community to respond to the survey.

The survey, open until April 2026, takes just seven minutes to complete and is open to patients, carers, family members, and health care professionals from all areas of heart care – men and women alike. The survey is completely anonymous and marks the first crucial step is shaping research priorities for women and heart disease.

Responses to this first survey will be summarised and then checked against existing evidence to ensure they are not already answered by research. This long list of unanswered questions will be included in a second survey where patients, carers, family members and health care professionals rank to reduce the long list to a shorter list for prioritisation at a final workshop to identify the top 10 priorities for research. We plan to launch the second survey in September 2026, with the priority setting workshop taking place in early 2027.

Women have been consistently underrepresented in cardiovascular research, especially in cardiac surgery research, and this project provides an important opportunity to redress the inequity and reset the research agenda so it better reflects the needs of women

Together, we can beat the bias and drive meaningful change to women's heart health

***Survey open**: February-April 2026 - Please complete via the QR code*
***Project website**: https://www.kcl.ac.uk/research/research-priorities-for-cardiovascular-disease-in-women-a-james-lind-alliance-priority-setting-partnership*
***Email**: beatingbias@kcl.ac.uk*

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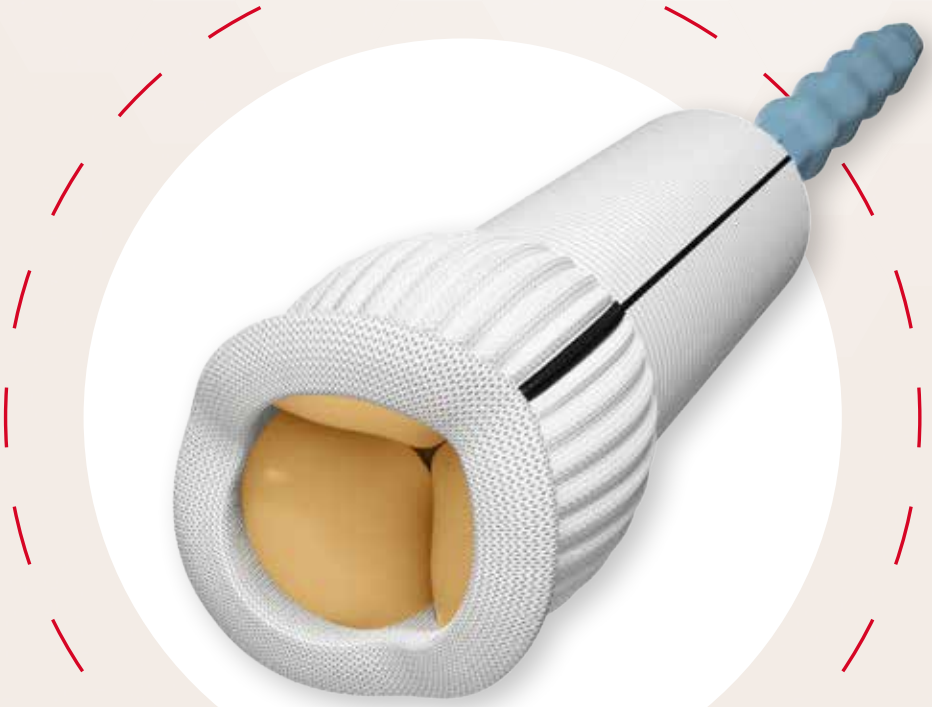

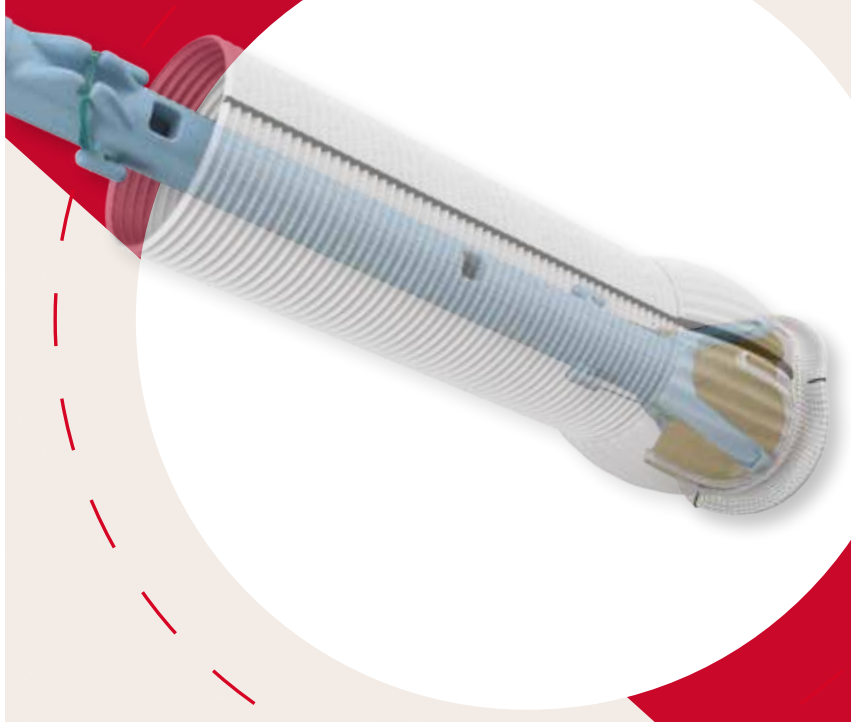

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Reference: Beaver T, Bavaria JE, Griffith B, et al. Seven-year outcomes following aortic valve replacement with a novel tissue bioprosthesis. *J Thorac Cardiovasc Surg.* 2024 Sep;168(3):781-791.

Medical device for professional use. For a listing of indications, contraindications, precautions, warnings, and potential adverse events, please refer to the Instructions for Use (consult eifu.edwards.com where applicable).

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Edwards

Congenital - Mixed Bag 15:30-17:00 Monday, 16 March

Use of right atrial wall to repair severely dysplastic tricuspid valve in an infant with Ebstein's anomaly.

Igor E. Konstantinov[1], Bakhytzhan Nurkeyev[2], Erbol Aldabergenov[2], Elmira Kuandykova[2], Bauyrzhan Tuyakbayev[2], Assel Kabakanova[2], Amangeldy Kerimkulov[2], and Natasha Bocchetta[1,3] 1. Department of Cardiothoracic Surgery, Royal Children's Hospital, Melbourne, Australia; 2. JSC National Scientific Medical Center, Astana, Kazakhstan; 3. Hull University Teaching Hospital, Hull, England

Management of symptomatic infants with Ebstein's anomaly is difficult and requires multidisciplinary expertise. Tricuspid valve repair in patients with Ebstein's anomaly and severely dysplastic tricuspid valve is challenging and may require patch placement to reconstruct rudimentary or absent leaflets. Although it is possible to reconstruct one or all leaflets of the tricuspid valve with a freestanding autologous pericardium and neo-cord, we believe that meticulous preservation of the native cordial apparatus is important. Inasmuch as univentricular palliation may be necessary in some infants, every effort should be made to achieve a bi-ventricular repair, as the long-term results of the patients with Ebstein's anomaly, who underwent univentricular palliation, are of concern. Children with rudimentary or absent leaflets are poorly suited for classical Da Silva cone repair and require patch augmentation. An ideal patch should be made from living native tissues of the patient and has traditionally made from autologous pericardium. However, untreated autologous pericardium is notoriously unpredictable in its shrinkage. A treated pericardium, on the other hand, is no longer a living structure and is not expected to provide growth potential in small children. This technique has recently been published, demonstrating the versatility of the right atrial wall for tricuspid valve repair in children with Ebstein anomaly.

Herein, we describe the use of the autologous wall of the right atrium to reconstruct tricuspid valve leaflets. Due to severe dilatation of the right atrium in patients with Ebstein's anomaly, the right atrial wall is very thin and may provide an ideal living autologous patch for tricuspid valve repair.

The case presentation is of a one-year-old girl with Ebstein's anomaly, a severely dysplastic tricuspid valve, consisting of near absence of the posterior leaflet with failure of delamination, a rudimentary septal leaflet and a multi-fenestrated anterior leaflet with an abnormally large papillary muscle attached to the middle of the anterior leaflet. Intraoperatively, the patient had a midline sternotomy and was commenced on cardiopulmonary bypass in a standard fashion with bicaval cannulation. Once the heart was arrested, the right atrium was incised and the tricuspid valve evaluated, and anatomy confirmed as per preoperative echocardiography. The right atrial autologous pericardial patch was harvested in close proximity to the inferior vena cava, where it was smooth, non-trabeculated, and thin. Next, the posterior and septal leaflets were detached and prepared by dividing the patient's endocardium and dissecting the cords of the posterior leaflet. All cordal attachments of the primary cords were preserved. The next stage was reconstruction of the posterior and septal leaflets via the Cone Procedure, and then reconstruction using the right atrial patch. A water test was performed to assess coaptation of the tricuspid valve leaflets, and then perforations in the anterior leaflet were repaired. To complete the surgery, the atrial septal defect was closed, and the patient was weaned off cardiopulmonary bypass and closed. The patient had a smooth post-operative recovery and at follow-up at three months is asymptomatic and doing well.

This complex case demonstrates the feasibility of a surgical repair of a severely dysplastic tricuspid valve with autologous atrial wall in an infant with Ebstein anomaly. Building on the Cone repair technique described by Da Silva, the use of autologous atrial wall is an ideal alternative to conventional materials, such as untreated/treated autologous pericardium, as it is living and is likely to grow with the patient.

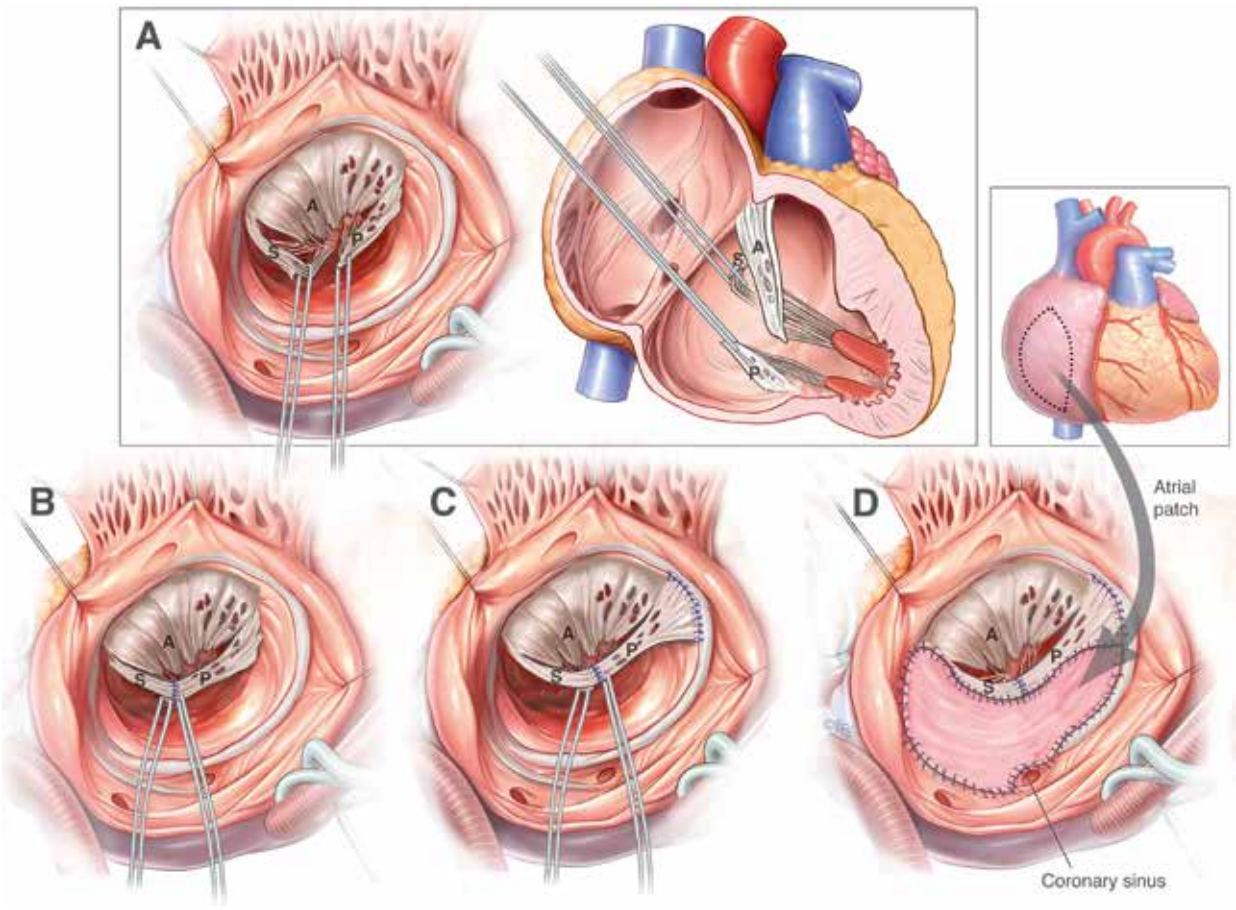


Figure 1: Anatomical drawings of tricuspid valve reconstruction with autologous right atrial wall. A) Dysplastic rudimentary tricuspid valve on initial inspection during surgery. The leaflets were then prepared. B) The posterior and septal leaflets were attached to each other. C) The posterior leaflet was partially reattached to the anatomical annulus. D) The right atrial wall was harvested and used to reconstruct the posterior and septal leaflets.

We are grateful to Aidyn Z. Rakhimbayev, CEO, Bi Group, Gulkhan N. Isabaeva, Director and Uzhalgas M. Muhambetova, Medical Director of the BI JULDYZAI Corporate Charity Fund Group for support that made the surgery described herein possible.

Aortic Valve and Annulus 13:30-15:00 Tuesday 17 March

Surgical rescue and explanation following failed or complicated TAVI: An eight-patient case series

Firas Aljanadi

Alsir Ahmed

Firas Aljanadi, Gwyn Beattie, Alsir Ahmed
Royal Victoria Hospital, Belfast, UK

Introduction

Transcatheter aortic valve implantation (TAVI) has profoundly transformed the management of severe aortic stenosis, particularly in elderly and high-risk patients. Over the past decade, its indications have expanded rapidly, extending to intermediate and even low-risk cohorts and, increasingly, in younger patients with longer life expectancy. While the benefits of TAVI are well established in elderly and high-risk patients with evolving guidelines recommendations in younger patients, this expansion has been accompanied by a parallel rise in serious complications and late device failures that may necessitate urgent or complex surgical intervention.

At this year's SCTS Annual Meeting, we present our single-centre experience of surgical rescue and explantation following failed or complicated TAVI, highlighting the operative challenges, postoperative morbidity and resource implications associated with these demanding cases.

Why surgical rescue after TAVI matters

Although surgical explantation of a TAVI prosthesis remains relatively uncommon, it represents one of the most technically challenging scenarios in contemporary cardiac surgery. Unlike conventional redo aortic valve replacement, these operations frequently involve distorted anatomy, aortic wall-embedded valves, friable tissue, dense adhesions, neo-endothelialisation and involvement of adjacent structures such as the aortic root, mitral valve, left ventricular outflow tract (LVOT), coronary arteries and ascending aorta.

As TAVI volumes continue to increase nationally and internationally, cardiac surgeons are increasingly confronted with the downstream consequences of failed transcatheter interventions. Understanding the complexity and burden of these cases is therefore essential for surgical teams, heart valve programmes and service planners alike.

Our case series

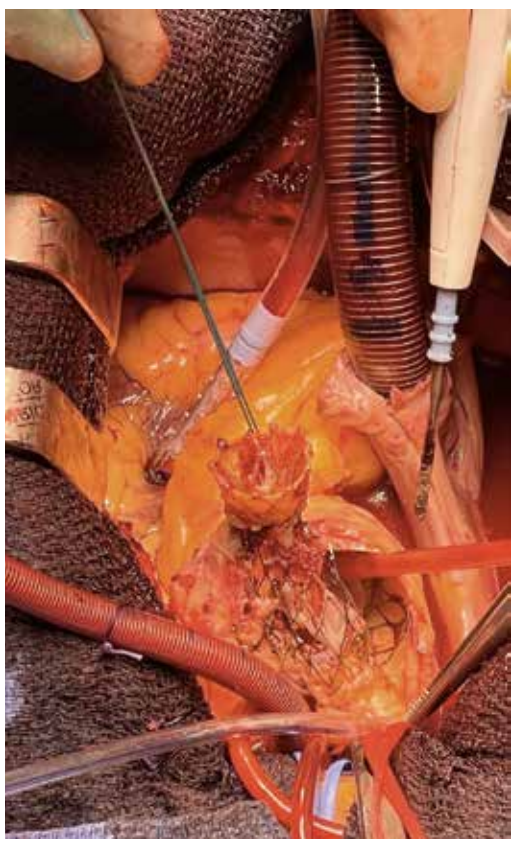
We reviewed eight consecutive patients who underwent urgent or emergent cardiac surgery following failed or complicated TAVI at the Royal Victoria Hospital, Belfast, between 2019 and 2024. The cohort was high risk, with a mean age of 74.8 years (range 66–82) and a mean EuroSCORE II of 26.5%, reflecting significant comorbidity and frailty. Five patients were female, and three were male.

The indications for surgical intervention were diverse and often catastrophic. These included prosthesis embolisation, LVOT obstruction due to valve malposition, annular rupture with ventriculo-aortic discontinuity, infective endocarditis, iatrogenic type-A aortic dissection and severe structural valve degeneration. Several patients were transferred urgently from the catheterisation laboratory in haemodynamic extremis.

Operative complexity

All patients required complete TAVI explantation and surgical aortic valve replacement. However, in most cases, isolated valve replacement was insufficient. Concomitant procedures were common and included coronary artery bypass grafting, mitral valve repair, patch repair of annular or ventricular septal disruption, and ascending aortic replacement. Cardiopulmonary bypass times were prolonged, ranging from 103 to 301 minutes, highlighting the technical difficulty of these operations.

Intra-operatively, surgeons faced hostile surgical fields characterised by neo-endothelialised stent frames embedded in the aortic wall, severely calcified and fragile annular tissue and distorted anatomy following prior interventions. In some cases, coronary compromise or extensive root reconstruction was unavoidable.



Explantation of TAVI

Postoperative morbidity and resource burden

Despite successful surgery, postoperative morbidity was substantial. One patient suffered a stroke, two required re-exploration, one underwent tracheostomy following prolonged ventilation and one developed multi-organ dysfunction. Prolonged mechanical ventilation was common, reflecting both the complexity of surgery and the frailty of the patient population.

The median intensive care unit stay was 18 days, with some patients requiring prolonged critical care support for several weeks. The median total hospital stay was 32 days, highlighting the significant resource utilisation associated with surgical rescue after TAVI failure.

Outcomes and lessons learned

Reassuringly, all eight patients survived to hospital discharge, and pre-discharge echocardiography demonstrated satisfactory function of the surgically implanted prosthetic valves. While this survival rate compares favourably with published registry data, it should be interpreted in the context of considerable morbidity and prolonged recovery.

Our experience reinforces several important messages. First, surgical explantation after TAVI failure is among the most demanding procedures in cardiac surgery and should only be undertaken in centres with appropriate expertise and resources. Second, robust surgical backup is not optional but essential for any TAVI programme. Third, as TAVI expands into younger and lower-risk populations, careful consideration of lifetime valve management strategies is imperative.

Looking ahead

These cases serve as a reminder that while TAVI offers remarkable benefits, it is not without important long-term consequences. When TAVI failure occurs, the surgical solution is rarely straightforward and frequently necessitates complex reconstructive surgery rather than isolated valve replacement. Multidisciplinary decision-making, meticulous pre-operative imaging and surgical teams experienced in advanced redo and root surgery are critical to achieving acceptable outcomes.

As the landscape of aortic valve intervention continues to evolve, cardiac surgeons must remain central to heart valve teams. There is a clear need for concentrated expertise, structured training pathways and robust institutional readiness to manage these high-risk patients safely and effectively.

INTUI: Enhancing Intraoperative Surgical Guidance and Quality Assessment in CABG and Supporting GIRFT Priorities

Reducing technical variation and strengthening intraoperative reliability remain central aims within UK cardiac surgery, particularly as services continue to align with Get It Right First Time (GIRFT) recommendations. In coronary artery bypass grafting (CABG), objective assessment of graft performance at the time of construction is one of the most effective strategies for preventing avoidable postoperative complications.

INTUI, the new software platform within the Medistim MiraQTM Cardiac system, integrates Transit Time Flow Measurement (TTFM) and High-Frequency Ultrasound (HFUS) within a single, streamlined interface. By improving data clarity and simplifying workflow, INTUI supports rapid, confident intraoperative decision-making in the operating theatre.

The platform enables synchronised flow and imaging assessment, facilitates documentation of complex grafting strategies, and produces structured reports suitable for communication with referring teams. These features contribute to education, standardisation, and greater transparency in graft assessment.

Developed in close collaboration with surgical teams and refined through an Early Access programme, INTUI has demonstrated improvements in navigation speed, usability, and visualisation of graft performance. These enhancements promote consistent assessment practices and align with GIRFT's emphasis on reducing unwarranted variation across cardiac units. The underlying Medistim technology is MDR-certified, providing assurance regarding regulatory robustness and long-term clinical applicability.

" If you want to train the next generation of surgeons, if you want to advance your techniques towards more minimally invasive, and if you want to improve the safety of what we do for our patients, we need TTFM." (Dr. Gianluca Torregrossa, ISCAS, ICC 2024, London)

NICE also recommends the MiraQ system as a cost-saving option for assessing graft flow during CABG, estimating a saving of £80.27 per patient compared with clinical assessment alone (2022 review). This external validation reinforces the role of objective intraoperative assessment within UK practice.

With Medistim technology already widely adopted worldwide in CABG, INTUI represents a significant evolution in intraoperative quality assessment, offering UK surgeons a modern platform designed to enhance consistency, efficiency, and technical reliability in coronary surgery.

Cardiac Aorta Outcomes
11:00-12:30 **Monday, 16 March**

Comparison of coronary artery bypass grafting and coronary ostial repair in acute type a aortic dissection with coronary ostial involvement

Oleh Sarhosh Amosov National Institute of Cardiovascular Surgery, Kyiv, Ukraine

Type A aortic dissection is a life-threatening condition that is frequently complicated by malperfusion. Involvement of the coronary arteries may lead to critical malperfusion, which in turn significantly increases mortality. Management of this complication remains controversial, particularly in cases of coronary ostial dissection types B and COIT, where intraoperative mortality may reach up to 26%. There are proponents of immediate coronary artery bypass grafting of the affected vessel, as well as advocates of coronary ostial repair followed by functional reassessment. Numerous factors may influence the decision-making process regarding surgical correction. Coronary ostial repair can be performed using various techniques depending on the nature of the lesion, ranging from simple tear closure to patch reconstruction using autologous pericardium.

Our results confirm the higher mortality in this patient cohort and also demonstrate the feasibility of coronary ostial reconstructive repair with acceptable short-term outcomes. Although the frequency of coronary artery bypass grafting was highest in the subgroup with type C ostial dissections, reconstructive repair was still feasible in selected patients.

Between 2019 and 2025, a total of 345 patients with acute type A aortic dissection underwent surgery at our center, of whom 62 had coronary ostial dissections. Among these, 14 (22.6%) were type A, 25 (40.3%) type B, 11 (17.7%) type C, and 12 (19.4%) COIT. In most cases, we attempted reconstructive techniques, and only in the presence of complex ruptures or inability to deliver cardioplegic solution, we performed coronary artery bypass grafting with suturing of the affected ostium.

Our results confirm the higher mortality in this patient cohort and also demonstrate the feasibility of coronary ostial reconstructive repair with acceptable short-term outcomes. Although the frequency of coronary artery bypass grafting was highest in the subgroup with type C ostial dissections, reconstructive repair was still feasible in selected patients. Future evaluation of long-term outcomes will provide a more comprehensive understanding of the differences between these surgical strategies for the management of coronary ostial dissections.

Coffee Time!

AMAN COONAR

SCTS Conference News spoke to Mr Aman Coonar, a Consultant Thoracic Surgeon at Royal Papworth Hospital, Cambridge and SCTS President, about his career path, the current state and future challenges of cardiothoracic surgery in the UK, and his vision for improving the Society.

Did you always want to enter medicine?
I actually come from quite a medical family; my grandfather was a doctor and was one of the first Western-trained doctors in India. His eldest son was a doctor in India, and my father trained in India and then came to the UK. A career in medicine was certainly a career that was very high up on the list, and although I did consider and explored other careers, I found that medicine had the most meaning. It was almost like it was a calling.

I was always interested in surgery; my father was a surgeon himself. In medical school, I trained in internal medicine and ITU to registrar level, and I also spent time in the lab studying molecular genetics. But in the end, it really was surgery that captured me; I just felt it was the right fit.

Initially, I was drawn to both cardiac and thoracic surgery. As I explored both, I felt that thoracic surgery at the time seemed more progressive, especially with the technologies that were emerging at that time. Even back then, I thought great things were going to happen with minimally invasive surgery, lung cancer care, and I also became very interested in lung transplantation. Having said that, I loved all surgery, including even cardiac!

The other important influence was meeting Jules Dussek, a thoracic surgeon, very early on in my medical school training; in fact, he was my medical school clinical tutor. He was also a thoracic surgeon and went on to become President of the Society for Cardiothoracic Surgery. I particularly remember when, as an SHO in medicine at the London Chest Hospital, I watched Pat Magee operating. He, too, later became President of SCTS. I remember watching the blood drain to the pump, and the heart stop with cardioplegia. It was all extraordinary. I suppose such chance encounters guide you towards something that you may not necessarily have thought about.

Later, when I started operating myself, I realised that, like many surgeons, there are moments when you go into "the zone". The noise fades, time feels different, and you are completely in the now. You're just clear.

Who have been the greatest influences on your career and why?
Undoubtedly, my parents and my family have been the biggest influences on my life and career. When my parents arrived in the UK, they were actually having a 'year or two abroad', and had no real plan to stay. My father was already an oral & maxillofacial surgeon, and my mother was an orthodontist. But as fate would have it, they stayed and did higher training in London, including at Guy's Hospital, where years later I went to medical school.

What are the most valuable lessons in life you would like to share?
One of the most valuable lessons that I'd like to share as a surgeon is to look after your team. I always say that there is no 'I' in team and then joke, but there is a 'me'. Surgery is all about teamwork – look after your team and your team will look after you AND your patient. Another valuable lesson for surgeons is proper preparation, and I always remember the mantra – 'proper preparation produces perfect performance'.

But, the most important life lesson, which is something I have not always abided by, is a work-life balance. Everyone in surgery and cardiothoracic surgery works extremely hard, but I think that physical and mental well-being are really, really important things that are neglected. Although we talk more about nowadays about our mental well-being, I don't think we apply it in our lives as much as were should.

The rates of mental health problems these days amongst not only doctors, but young people, are at historically high levels and I think we have a responsibility to tell people that sometimes you need to step away and take some time out. It's so important that people should recognise that their physical and mental well-being and that of their family is their highest priority, because you can't look after people if you're not looking after yourself.

What do you think are the biggest challenges facing the speciality over the next decade?
Let me start with some general points. The speciality faces different challenges depending on the different parts of it, but as a speciality, we are greater than the sum of our parts. Therefore, if one part is not doing as well as it could be, then it makes everything weaker. I strongly believe that cardiothoracic surgery should remain as a unified speciality, not divided into sub-specialities. That is something I included in my Presidential election manifesto.

I do think that of the four subspecialties, thoracic surgery has improved and changed perhaps the most. We've gone from being almost completely open surgery in small numbers with no real concept of enhanced recovery to being a speciality that is 90% minimally-invasive, that has embraced robotics, and that really has enhanced recovery as a core aspect.

Collectively and collaboratively, thoracic surgery has really embraced system change. For example, we have interacted with trauma networks for the management of rib fractures, we have pushed and embraced and supported lung cancer screening, which means that lung cancer has gone from a disease that presented as an advanced disease to a disease that's now detected by screening and with much, much higher cure rates. We have absolutely transformed the way that we perform lung volume reduction surgery by the widespread adoption of an MDT process and rigorous entry criteria, and we have consolidated our pectus services into a national service. Although those are individual steps, what they represent is not only embracing technologies, but as a system and as individuals embracing a cultural change.

To deliver innovation and clinical transformation, we needed to have the right culture and it has proved to be a culture that critically evaluated technological steps and implemented them in a way that improved patient care, within a cost envelope.

So, our biggest challenge as a speciality is really how we adapt to technological change and innovation. Cardiac surgery, for example, needs to embrace minimally invasive surgery and enhance recovery to the same extent as thoracic surgery; there are units that do this, but there are many units that do not.

Through the SCTS Cardiac Transformation Programme, led by our President Elect Enoch Akowuah, we would like our cardiac surgical units to be part of it so that instead of the improvements taking 25 years, as in the case of thoracic surgery, our cardiac units can produce those changes for patients in five or so years.

I believe that cardiothoracic transplantation in the UK is performing below the best international centres. Of course, there are places of excellence, but overall, the numbers and outcomes are not as good as they could be. That needs a complete culture change, because it's not about the amount of money going into the system, it's how the services are organised and delivered.

Our congenital services are also quite fragile because the units are small, the number of congenital cases is not going up, and there's a loss of senior surgeons to positions overseas. These units need to become units of scale, otherwise they will continue to struggle.

Overall, the challenges are how we embrace technology in a critical but effective way, and how we bring about the cultural changes that transform areas of fragility to areas of strength and growth.

What are your ambitions as President, and how would you improve SCTS to be more effective?
It's really important to me that as President, I use this opportunity of leadership to help guide the Society in the right direction, not just from a clinical standpoint but making sure the Society as a charity is fit for purpose in a very competitive and noisy healthcare environment. We need to be more visible because that helps with fundraising, which helps the Society achieve its missions and potentially reduces charges to members, as well as raising our ability to advocate for our patients and teams

Currently, we have a President and a President Elect; in effect, this means you have two years as a passive President Elect, where you are not really doing very much. As President, you have two years, and you want to achieve many things, but in the first year, you are just familiarising yourself with the Society and then in the second year, you are on your way out.

Therefore, we have put forward a proposal to change the way the presidential system works with the aim of improving transition, continuity and momentum. Our proposal would see a President, Senior President Elect and Junior President Elect working as a Board. Under the proposal, each person would do a one year-post, but they would start working fully from the beginning of it. So, you would have a year as Junior President Elect, Senior President Elect and then President. During their tenure they would be developing policies and working collectively so it would allow them to have the momentum by the time they are in the position to actually deliver policies.

I also believe we need to strengthen our administration by appointing a Chief Operating Officer. We actually have a great person as a volunteer in that kind of role at the moment, with the purpose of improving our visibility, so we can increase our advocacy and fundraising. Ultimately, we want to enhance what we do for our members without increasing their costs. We need to raise the profile of cardiothoracic issues more widely, especially with the general public, because that's what will make us a stronger speciality. For example, we are the Society for Cardiothoracic Surgery, but if you ask the public what that is, they haven't got a clue. So, we've introduced a strapline, 'Making heart, chest and lung surgery better' and revamped our website.

As part of having better visibility as a Society, I believe our loudest voice could be our patients. As a profession, we are about 450 consultants, of whom around 350 are members of the SCTS. In addition, we have allied health professionals, residents and students. Our annual meeting draws well over 1,000 attendees. That's currently 'our voice'. But we treat tens of thousands of patients every year, so we need their voice as well. I want our patient voice to help us advocate. I'd like to see us pull this all together as "friends of SCTS".

I am also very concerned about social mobility, especially with our thriving SCTS student groups and more widely. I'm in a very privileged position; I'm the grandson of a doctor, my father was a surgeon in London, but there are lots of people who don't have those advantages. I think that as a society, we need to find a way of creating greater social mobility. The student fees policy was one of the most disgraceful things that has ever happened to British education; it has actually made it harder for poorer people to go to university, and it's actually an incentive for British-trained graduates to leave the country so they don't have to pay the charge.

The reason it was done was to provide an additional source of funding for universities, but it has actually contributed to universities offering courses that don't really offer as much benefit as they should. It's led to an erosion of investment in the teaching of trade skills. It is financially ruinous for the younger generation and works against social mobility. Every politician who has supported it or raised it should hang their head in shame.

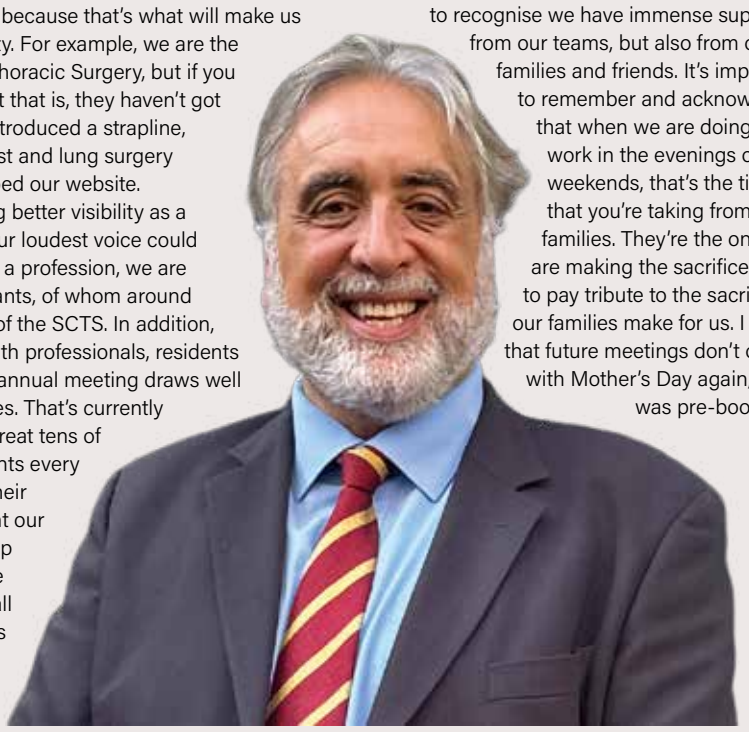
We cannot talk about opportunity while creating structural financial barriers. Talent and hard work, not wealth, should determine who becomes a surgeon. As a Society, we should be prepared to say that clearly.

It has made demanding careers like medicine harder to access for people from less affluent backgrounds. It burdens graduates with debt and encourages them to leave the country. It effectively taxes aspiration.

You're a thoracic surgeon, you're a teacher, and you're a leader. How would you relax when you are not working?
I enjoy cycling, and last year, as part of our new fundraising efforts, we took part in the September London to Brighton bike ride. What initially started out as let's try it out' with five or six people turned into over 30, including surgeons, nurses, patients, and family members. It was great fun. SCTS is doing it again on Sunday, 13 September 2026, and I hope many of you will sign up.

I really enjoy being outdoors and spending time with my family. My wife is a consultant radiologist, and we have six children ranging from 15 to 29, so family is really important to us. We like to travel, but rather than visit the usual tourist spots, we prefer to visit the more traditional places and connect with local people.

I would also like to highlight the enormous support I've had from my wife and family throughout my career. All of us doing cardiothoracic surgery need to recognise we have immense support from our teams, but also from our families and friends. It's important to remember and acknowledge that when we are doing extra work in the evenings or at weekends, that's the time that you're taking from your families. They're the ones who are making the sacrifice. I'd like to pay tribute to the sacrifices our families make for us. I hope that future meetings don't overlap with Mother's Day again, but this was pre-booked!



DO NOT MISS!

Mr Aman Coonar's **Presidential Address** and the

'SCTS Lifetime Achievement Award' to Professor Sir Bruce Keogh

Main auditorium, 09:00-10:30, Monday 16 March

Transplantation and Mechanical Support 11:00-12:30 Monday, 16 March

Does procurement strategy influence survival in DCD heart transplantation? The first systematic review and meta-analysis comparing normothermic regional perfusion and direct procurement and perfusion

Muhammad Raza Sarfraz[1], Tariq M[2], Khan T[3], Shahid S[2], Khan R[2], Gedela H[4], Asif M[3] 1 Bahria University Health Sciences, Pakistan; 2 Faisalabad Medical University, Pakistan; 3 Royal Papworth Hospital NHS Foundation Trust, United Kingdom; 4 Nassau University Medical Center, USA

Heart transplantation remains the gold standard treatment for end-stage heart failure, yet its transformative potential has long been constrained by a critical shortage of suitable donor organs. Donation after circulatory death (DCD) has emerged as one of the most promising solutions to this enduring challenge, significantly expanding the pool of viable donor hearts and offering renewed hope to patients who might otherwise wait indefinitely on the transplant list.

As DCD heart transplantation has grown from cautious early experience into an increasingly mainstream practice, a fundamental clinical question has come to the fore: which procurement strategy delivers the best outcomes for recipients? Two principal approaches have been adopted across transplant programmes worldwide, normothermic regional perfusion (NRP) and direct procurement and perfusion (DPP), yet meaningful head-to-head outcome data have remained sparse. Our systematic review and meta-analysis, to be presented at this year's SCTS Annual Meeting in Belfast, represents the most comprehensive synthesis of available evidence to date.

Two Strategies, One Goal

Two principal approaches dominate current practice, normothermic regional perfusion (NRP) and direct procurement and perfusion (DPP). Although DPP has been widely adopted globally, particularly in the United Kingdom and Australia, to drive the growth of DCD heart transplant programs, NRP continues to generate both enthusiasm and ethical debate.

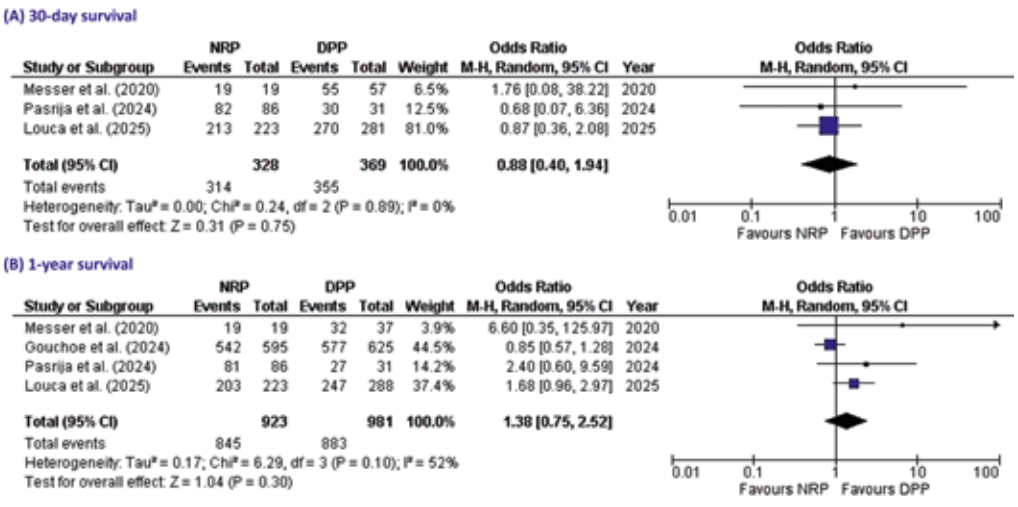


Figure 1 Results

What Our Analysis Found

To provide clarity on this pressing clinical question, our team conducted a comprehensive systematic review and meta-analysis comparing post-transplant outcomes between the DPP and NRP techniques.

We performed an exhaustive literature search across major databases, including PubMed, EMBASE, Scopus, the Cochrane Library, and ClinicalTrials.gov, through October 2025. Our final analysis incorporated four key studies with 1,921 DCD heart transplant recipients, the largest comparative dataset assembled on this question to date. The headline finding is one of equivalence (Figure 1). Thirty-day post-transplant survival was statistically comparable between NRP and DPP cohorts (OR 0.88; 95% CI 0.40–1.94; P = 0.75), as was one-year survival (OR 1.38; 95% CI 0.75–2.52; P = 0.30). Hospital length of stay and intensive care unit duration were also equivalent between groups. ECMO utilisation showed a trend towards lower use with NRP, though this did not reach statistical significance (OR 0.54; P = 0.20).

In practical terms, this means that transplant programmes using either approach can offer recipients comparable short- and mid-term outcomes. Neither technique appears to confer a definitive survival advantage at this level of evidence.

Looking Ahead

Our findings provide reassurance that DCD heart transplantation can be performed safely under either procurement paradigm, with no significant differences in early survival or perioperative outcomes identified to date. The choice of strategy should therefore be guided by institutional expertise, ethical frameworks, and logistical feasibility. That said, four studies and fewer than two thousand patients remain a modest foundation for a decision of this magnitude, and the field requires larger multicenter studies and, where feasible, prospective randomised trials across diverse populations to establish more definitive guidance.

Collaborative research and open scientific exchange, of the kind fostered at meetings such as this, will be essential in defining best practice and ensuring that the expansion of DCD heart transplantation is built on the strongest possible evidence base. In parallel, clear and consistent ethical guidelines from professional societies and regulatory authorities are equally necessary, both to standardise practice across institutions and to support clinicians and families in navigating these complex decisions with confidence.

Muhammad Raza Sarfraz

Mitral Valve Minimal Access 13:30-15:00 Tuesday, 17 March

Early left atrial reverse remodelling after mitral valve surgery: Redefining the window for optimal intervention

Dr Vito D Bruno IRCCS Galeazzi Sant'Ambrogio Hospital, Milan, Italy

Left atrial (LA) dilatation in chronic mitral regurgitation (MR) is a well-established predictor of adverse postoperative outcomes, including atrial fibrillation, heart failure, and reduced survival. Current guidelines recommend mitral valve (MV) repair when LA dilatation reaches significant thresholds, but the capacity for LA reverse remodelling and its clinical implications remain critical areas of investigation.

Our recent study, involving 105 patients undergoing minimally invasive MV surgery, provides new evidence that challenges existing thresholds and underscores the importance of timely intervention to maximise cardiac recovery and improve patients' clinical benefits. LA dilatation reflects chronic volume overload and is associated with structural and functional cardiac deterioration.

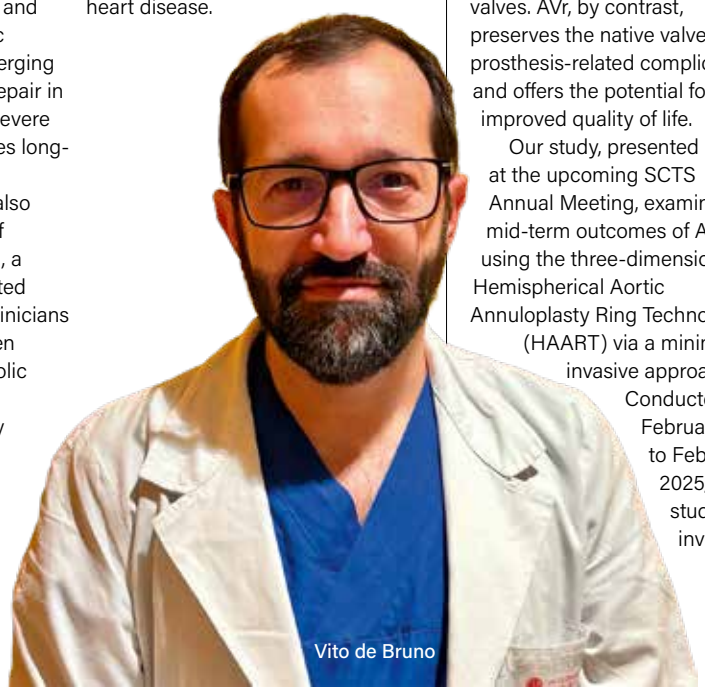
Our findings reveal that 96% of patients undergoing MV surgery had preoperative LA dilatation (LAVi ≥ 34 ml/m^2), with 42% of them exhibiting severe dilatation (LAVi > 60 ml/m^2). Crucially, patients with severe preoperative LA dilatation (LAVi > 60 ml/m^2) demonstrated worse postoperative left ventricular (LV) function, including lower ejection fraction (LVEF: 52.0 ± 10.5% vs. 56.0 ± 8.7%) and greater LV dilatation (LVESVi: 29.1 ± 11.1 vs. 24.4 ± 8.5 ml/m^2). These results align with prior studies linking persistent LA enlargement to impaired LV performance and poorer prognosis. A key finding of our study is the identification of an optimal LAVi cut-off (54.51 ml/m^2) for predicting early LA normalisation post-surgery. This threshold is notably lower than the 60 ml/m^2 often cited in guidelines, suggesting that waiting for severe dilatation may reduce the likelihood of meaningful reverse remodelling.

Early intervention, before LAVi exceeds 55 ml/m^2, could therefore preserve LV function and improve postoperative outcomes. This challenges the traditional "watchful waiting" approach for asymptomatic MR patients. While guidelines emphasise symptom onset or LV dysfunction as triggers for surgery, our data suggest that LA size alone may warrant earlier consideration, particularly in patients with progressive dilatation. Early MV repair, before LAVi surpasses 55 ml/m^2, may mitigate LV dysfunction by reducing volume overload and preventing irreversible fibrotic changes. This aligns with emerging evidence that proactive MV repair in asymptomatic patients with severe MR and LA dilatation improves long-term LV performance.

LA reverse remodelling is also associated with lower rates of postoperative atrial fibrillation, a common complication in dilated atria. By intervening earlier, clinicians may reduce arrhythmic burden and associated thromboembolic risks. Moreover, patients with normalised LAVi post-surgery may experience better long-term durability of repair, as persistent LA enlargement is linked to recurrent MR and reoperation. Our findings advocate for a paradigm shift in MV surgery timing, including LA size as a key decision-making factor.

Future research should explore whether integrating LAVi thresholds into guidelines improves outcomes, particularly in asymptomatic patients. Longitudinal studies are also needed to confirm whether early LA normalisation translates to reduced mortality and morbidity.

In conclusion, this study demonstrates that LA reverse remodelling is achievable but contingent on preoperative LAVi, with a cut-off of 54.51 ml/m± offering the best predictive value. By intervening before this threshold, clinicians can optimise postoperative recovery, preserve LV function, and potentially redefine the standard of care for MR management. In an era of precision medicine, these insights provide a compelling case for earlier, tailored surgical strategies in valvular heart disease.


Vito de Bruno

Aortic Valve Surgery Outcomes and Trends 15:30-17:00 Monday, 16 March

Minimally invasive aortic valve repair with ring annuloplasty

Dr Vito D Bruno IRCCS Galeazzi Sant'Ambrogio Hospital, Milan, Italy

The landscape of cardiac surgery has undergone a remarkable transformation over the past two decades, driven by innovations that prioritise patient outcomes, minimise invasiveness, and improve long-term durability. Among these advancements, aortic valve repair (AVr) has emerged as a compelling alternative to traditional aortic valve replacement (AVR), particularly for patients suffering from aortic regurgitation (AR). While AVR has long been the gold standard, it is not without limitations—most notably, the lifelong need for anticoagulation in mechanical valves and the finite durability of bioprosthetic valves. AVr, by contrast, preserves the native valve, avoids prosthesis-related complications, and offers the potential for improved quality of life.

Our study, presented at the upcoming SCTS Annual Meeting, examines mid-term outcomes of AVr using the three-dimensional Hemispherical Aortic Annuloplasty Ring Technology (HAART) via a minimally invasive approach. Conducted from February 2017 to February 2025, the study involved 22 consecutive AR patients and demonstrates the safety, feasibility, and efficacy of this technique, reinforcing its role as a transformative option in cardiac surgery. The HAART device represents a significant leap forward in AVr technology. Designed to restore the natural geometry of the aortic annulus, the HAART ring provides structural support to the valve, correcting regurgitation and improving leaflet coaptation. Its hemispherical design mimics the native anatomy, ensuring physiological function and long-term stability.

This study utilised two variants of the HAART device (HAART 300 for tricuspid valves and HAART 200 for bicuspid valves) tailored to the specific anatomical needs of each patient and shows encouraging results. The minimally invasive approach was central to the study's success. By reducing surgical trauma, it shortened recovery times and improved patient satisfaction. There were no cases of postoperative mortality, stroke, or acute kidney injury, and only one patient required a permanent pacemaker—a complication rate comparable to or better than AVR. Notably, patients with bicuspid valves had significantly shorter intubation times, suggesting this anatomy is particularly suited to minimally invasive AVr.

Over a mean follow-up of 3.15 years (up to 8.1 years), the study reported an 83.2% five-year freedom from all-cause death and 90% freedom from cardiac death. Only two patients required reoperation (one for endocarditis, another for repair failure at two years), resulting in an 87.5% five-year freedom from reoperation and significant AR. These outcomes surpass those of AVR, especially in younger patients, where reoperation rates tend to be higher. These outcomes compare favourably with those of AVR, where reoperation rates can be higher, particularly in younger patients. This study underscores the advantages of minimally invasive AVr with HAART. It reduces surgical trauma, accelerates recovery, and delivers durable results, making it an ideal option for valve-sparing candidates. The use of tailored HAART devices for different valve anatomies further highlights the versatility and precision of this approach.

While the results are promising, further research is needed to refine patient selection criteria and optimise long-term outcomes. Larger, multicentre studies with longer follow-up periods will be essential to confirm these findings and identify subsets of patients who stand to benefit the most from AVr.

In conclusion, the mid-term outcomes of minimally invasive AVr with HAART devices represent a significant advancement in the treatment of aortic regurgitation. By offering a safe, durable, and patient-centred alternative to AVR, this approach has the potential to redefine the standard of care for AR. As the field continues to evolve, the integration of innovative technologies like HAART will undoubtedly play a pivotal role in shaping the future of cardiac surgery, ultimately benefiting patients and clinicians alike.

SCTS to launch Thoracic Surgery Registry

The Society for Cardiothoracic Surgery in Great Britain and Ireland (SCTS), working in conjunction with Dendrite Clinical Systems, will soon launch the SCTS Thoracic Surgery Registry. The Thoracic Surgery Registry will be a centralised, national platform that will enable thoracic surgeons to submit their data and benchmark their outcomes. The registry has been made possible through an education grant from J&J MedTech.

"The key objective of the SCTS Thoracic Surgery Registry is to get a standardised dataset to collect data from multiple thoracic disease states across England, Wales, Ireland and Northern Ireland, and provide a level of surgical detail that is currently not available," said Mr Kandadai Seshadri Rammohan, Consultant Thoracic Surgeon at Wythenshawe Hospital, Manchester Foundation Trust, and SCTS Thoracic Surgery Audit Lead. "As the registry grows and more data is collected, Dendrite will then be able provide individual consultants with real-time 'Dashboards' so they will be able to see how they compare to the national average."

The desire for surgeons to benchmark themselves against national standards has always been a goal for the SCTS. However, the ability to do this is dependent on several factors including how often data are submitted, it what form the data are submitted, how often and to what extent the data are analysed.

According to Mr Rammohan, currently, there is no mechanism for collecting thoracic surgery activity and outcomes. He explained that if he were asked to provide data on the one-year survival rate for patients undergoing robotic lung resection or open lung resection, he would be unable to do so. One of the key reasons why the Thoracic Surgery Registry was established is to address this data gap.

As well as collecting data on patient demographics, the registry will also record procedural data and, importantly, data on different disease types such as lung cancer, pneumothorax, thymomas, etc., as well as post-operative complications such as infections. In addition, the registry will also include an e-PROMs module that will enable patients to remotely enter their data directly into the registry.

"We are hoping to launch the Thoracic Surgery Registry in the next few months. The key to the success of this project is participation and engagement, so we are actively encouraging all thoracic units to register their interest," he added. "Once the registry is up and running, it is hoped it will collect data on approximately 20,000 thoracic procedures each year. There are 38 thoracic units in England, Ireland, Wales and Northern Ireland, and we hope all these units will contribute their data to this important project."

Johnson & Johnson MedTech has provided funding for the registry through an unrestricted Educational Grant intended to support independent medical education, in accordance with the MedTech Europe Code of Ethical Business Practice and all applicable laws, regulations, and local industry codes of conduct.

Ehab Bishay, Director of Medical Affairs for the surgery business of Johnson & Johnson MedTech, commented: "We are committed to continuous education for all involved in the care of patients and the launch of the SCTS Thoracic Surgery Registry represents an important milestone in enhancing the evidence base for thoracic disease management, in the UK & Ireland. We believe that this initiative will generate vital data that will improve clinical decision-making and drive better outcomes for patients across the UK and Ireland."

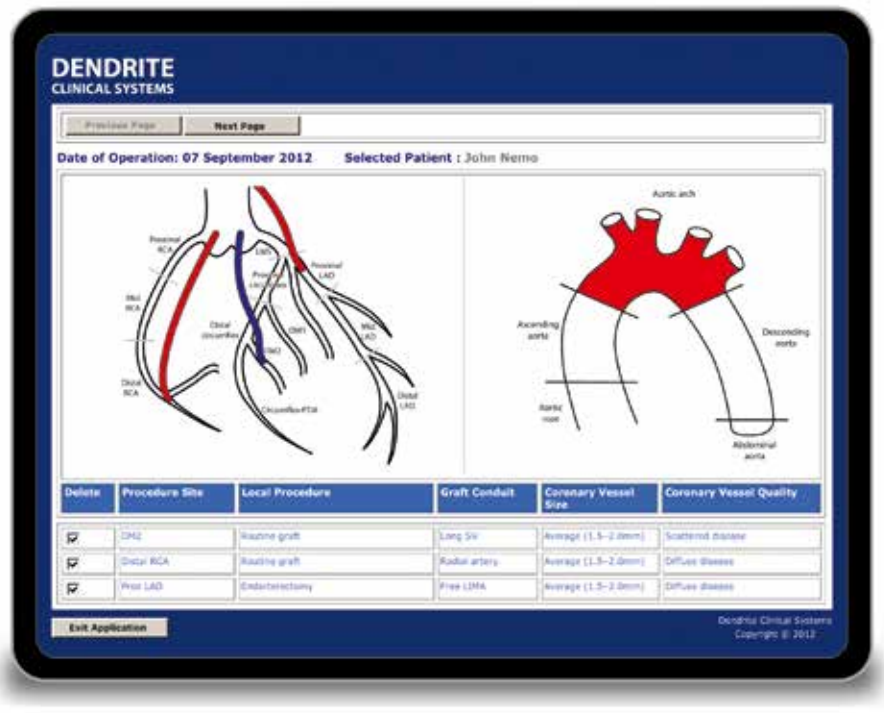
It is important to note that thoracic units can only look at their own data and benchmark their data to the national standard. The Dashboards cannot be used to compare one unit to another unit, and units cannot look at another unit's data.

One key advantage of the Dashboards is the speed at which units can analyse their data, whether units unload their data monthly or quarterly, comparisons can be made in an instant. The data will be presented in useful graphs and tables with the additional functionality of a data export facility to allow the data to be presented at governance and management meetings.

"At the push of a single button, thoracic consultants will be able to generate comprehensive graphs and tables that illustrate their surgical activity and outcomes benchmarked against nationally collected data," said Dr Peter Walton, Managing Director of Dendrite. "Dendrite is very pleased to be able to provide this added-value service to the UK community of thoracic surgeons."

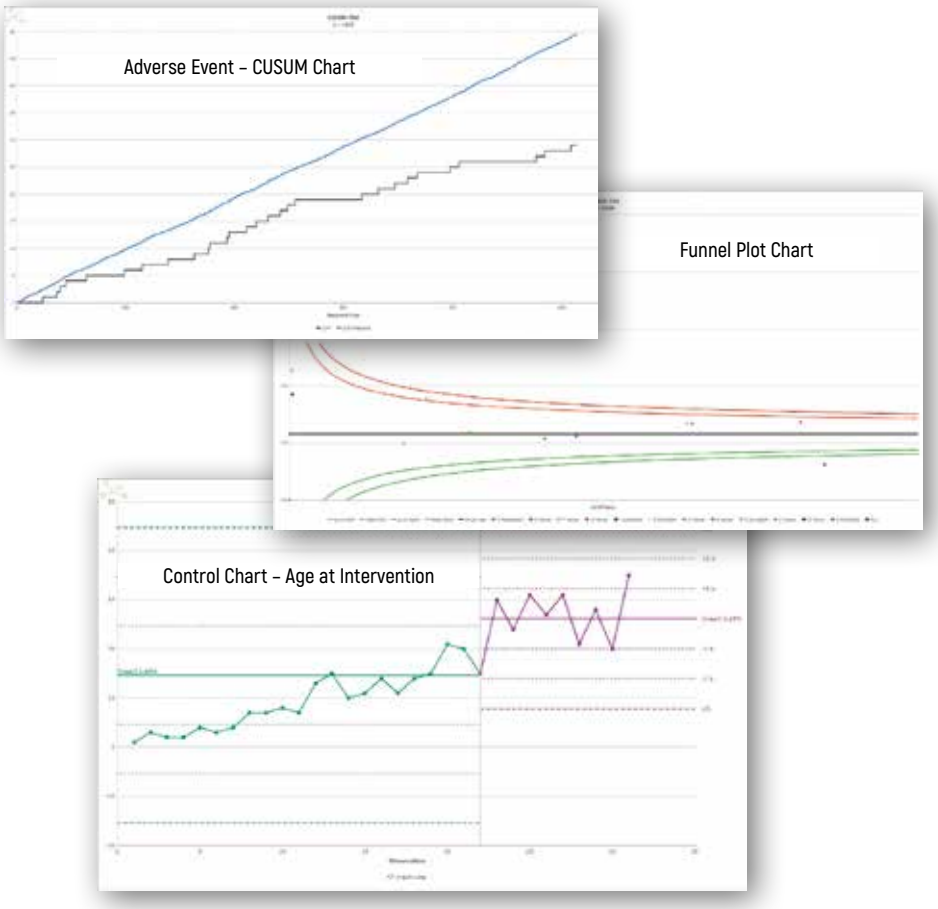
If you or your surgical unit would like to know more about Dendrite's innovative, benchmarking Dashboards and have a Dashboard demonstration, please visit the Dendrite Stand no.36 in the Exhibition Hall.

Cardiac surgery database software with proms and data benchmarking



Covers all cardiac surgery procedures

PROMs function is designed to collect follow-up data directly from patients



Includes comprehensive risk modelling and outcomes benchmarking tools

The system:

- Can be used for hospitals and national registries
- Integrates with other clinical information systems
- Includes export to national registries

To request a demonstration or additional information please contact

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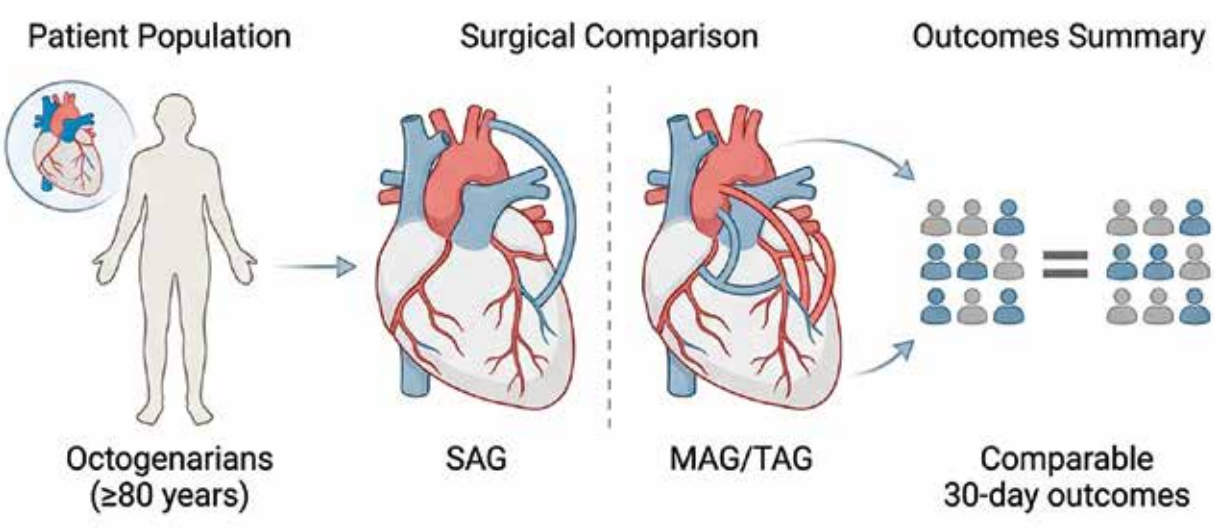
Cardiac Revascularisation 1 15:30-17:00 **Monday, 16 March**

Does the type of bypass graft matter in patients over 80?

Man King Newman Lau Brunel Medical School / Harefield Hospital



Heart bypass surgery, formally known as coronary artery bypass grafting (CABG), is one of the most effective treatments for severe coronary artery disease. But as our population ages, cardiac surgeons are increasingly performing this operation on patients in their eighties. A key question that has long divided the surgical community is: does it matter which type of conduit – the "pipe" used to bypass blocked arteries – we choose in these very elderly patients?

In younger patients, using multiple arterial grafts (typically the internal thoracic arteries from inside the chest wall) is widely regarded as superior to using a single arterial graft supplemented by vein grafts from the leg. Arterial conduits stay open longer and have been associated with better long-term survival in middle-aged patients. But in octogenarians– patients aged 80 and over– the picture is far less clear. Concerns about operative complexity, sternal wound healing, and the simple reality that the survival advantage of arterial grafts may only materialise over a decade or more have led many surgeons to favour simpler, single arterial grafting (SAG) strategies in this age group.

What we did

Our study at Harefield Hospital examined 606 consecutive octogenarians who underwent isolated CABG between 1996 and 2023. Patients were divided into two groups: those who received single arterial grafting (SAG, n=506), and those who received multiple or total arterial grafting (MAG+TAG, n=100). To make a fair comparison– since surgeons naturally select fitter patients for the more complex procedure– we used propensity score matching to create 99 closely paired patients from each group, well balanced across age, comorbidities, and cardiac function. We then compared 30-day mortality, major postoperative complications, and long-term survival using Kaplan–Meier analysis and Cox regression modelling.

What we found

The headline finding was reassuring: there was no statistically significant difference in outcomes between the two grafting strategies. Rates of reoperation for bleeding, neurological events, kidney failure requiring dialysis, tracheostomy, and deep sternal wound infection were all comparable between groups. Thirty-day mortality was 4.0% in the SAG group and 7.1% in the MAG+TAG group — a numerical difference that did not reach statistical significance (p=0.352).

Long-term survival curves told a similar story. At ten years, 72.5% of the SAG group and 71.2% of the MAG+TAG group were still alive. Mean survival in the matched analysis was 15.1 years for SAG versus 13.3 years for MAG+TAG – again, a non-significant difference (p=0.319).

What really predicts outcome?

If conduit choice doesn't drive outcomes, what does? Our regression analyses pointed clearly to patient-specific factors: active congestive heart failure at the time of surgery and diabetes mellitus were independent predictors of 30-day mortality, while poor left ventricular function and left main stem coronary disease showed borderline associations with long-term mortality. The conduit strategy itself was not an independent predictor of either early or late death.

What this means in practice

For clinicians, the message is practical and important: in octogenarians, single arterial grafting is a safe and entirely appropriate strategy for the vast majority of patients. The physiological reserve, comorbidity burden, and life expectancy of very elderly patients appear to attenuate the long-term patency advantages that arterial conduits confer in younger populations. More complex arterial revascularisation should be reserved for carefully selected individuals — for example, those in whom avoiding manipulation of a diseased aorta is a priority.

As the number of elderly patients requiring cardiac surgery continues to grow, these findings support a pragmatic, individualised approach: optimise what matters –functional status, heart failure, metabolic control– rather than pursuing a particular graft number as an end in itself.

Medical Students 2 - Pat Magee Session 10:50-12:20 **Sunday, 15 March**

Evaluating the career progression of Pat Magee student presenters

Akilesh Rathinam[1], Simran Kainth[1], Sunil Bhudia[2] 1. Imperial College London, United Kingdom; 2. Harefield Hospital, United Kingdom

Background

In an ever-changing landscape for medical students, many are keen to gain research experience and one crucial aspect of this is conference presentations. With many conferences, there is a huge barrier for students aiming to present as they are competing with many other submissions, almost all of which are from authors senior to these students who are still early in their career.

This is true for all specialities; however, Cardiothoracic Surgery represents a unique subset of this problem. It is a very small speciality with few posts each cycle and year on year, the competition ratio for ST1 applications remains one of the highest among surgical specialities. As such, many prospective trainees are entrenched in research early on, which adds to the competitive nature of these presentations. This can act as a barrier for medical students who wish to engage with the speciality, and can then reduce the likelihood of these students appreciating the reasons so many surgeons passionately dedicate their lives to Cardiothoracic Surgery.

Patrick Magee was a great surgeon, educator and member of our community and SCTS marks his memory by inviting students to submit abstracts to their Annual Meetings. SCTS introduced the Pat Magee Prize and Student Oral presentation sessions to be an avenue for medical students to gain experience in presenting research at a national conference.

What we did

We aimed to evaluate the success of presenters in their career trajectory as well as the impact of these sessions on student engagement and commitment to Cardiothoracic Surgery.

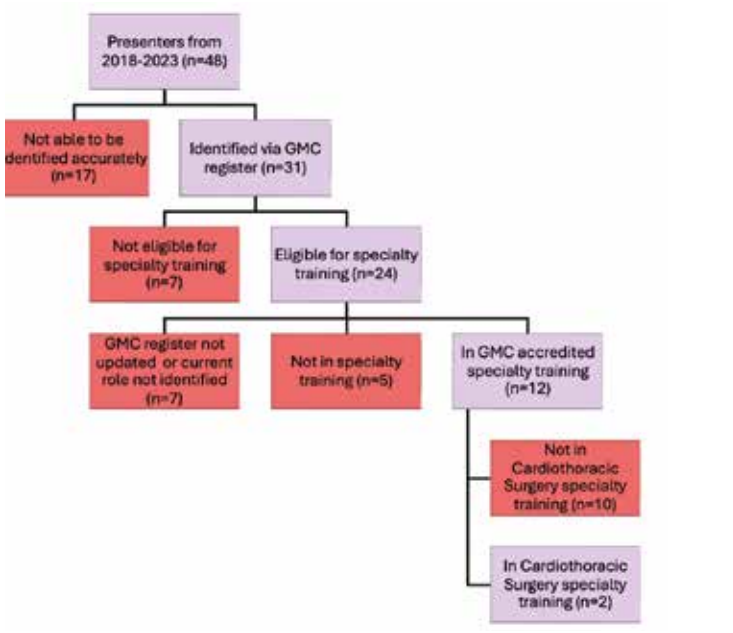


Figure 1. Selection and identification of presenters

Five years of presentations were included from 2018 to 2023, although 2020 was excluded due to a lack of accessible data. Details of presented abstracts and presenters were obtained from programme listings. Presenters were identified through cross-matching their listed name and medical school with a matching doctor listed on the GMC register. For those whose medical school was not listed in the programme listings, identity was confirmed by cross-referencing the GMC register and the medical school listed in it alongside either a professional bio, such as from an NHS Trust or LinkedIn, which contained a project matching the abstract presented or a publication matching the presented abstract, which listed the institution of the presenter.

Presenters were identified as eligible to be in speciality training if their date of graduation was listed as two or more years ago. The current role of previous presenters was identified through GMC register listings of that individual being in a GMC-accredited training program alongside professional bios and affiliated institutions in publications.

What we found

Of the 48 presenters included in the years we reviewed since the introduction of Pat Magee Oral presentations, 31 (64.6%) were able to be identified and confirmed to be on the GMC register. Of these 31, 24 (77.4%) were categorised as eligible to be in speciality training at the time of this review. Of the 24 presenters who could have been in speciality training, 12 (50%) were in a GMC-accredited training programme. Unfortunately, the GMC database had not been fully updated to be representative of the incoming cohort of NTN's, which included five potential NTN's (25%) of the 20 presenters who would have become eligible this year which was confirmed by comparing against trainees who are known to be incoming ST1 NTN's despite not being listed in the GMC's listings. Two presenters were identified via the GMC database as being in accredited Cardiothoracic Surgery training programmes and 1 other presenter was found to be an incoming NTN ST1 in 2025 through professional bios. These three represent 12.5% of the 24 eligible presenters and could be even more given the five unconfirmed presenters who were eligible. The median graduation year of the presenter was 2022, and the average number of years left in the medical degree at the time of presentation was 1.1 years.

Overall, students who were motivated to present at Pat Magee Oral sessions have been successful in their career ambitions, especially when considering the increasingly competitive nature of speciality training in recent years. Even when considering the incredibly competitive nature of Cardiothoracic training, presenters at Pat Magee Oral sessions have been relatively successful in their career ambitions.

Quality Improvement in Thoracic Surgery 13:30-15:00 **Tuesday, 17 March**

Monitoring Surgical Enhanced Care Unit (SECU) activity using standardised benchmarks of the NHS Midlands Enhanced Care Metric Proforma Pilot

AS Rathinam[1,2], HN Ahmad[2], JD Sharman[2], C Johnson[2], K Green[3], M Gibb[2], AG Dawson[2], EJ Caruana[2], A Nakas[2], S Rathinam[2] 1. Imperial College London, United Kingdom; 2. Glenfield Hospital, University Hospitals Leicester, United Kingdom; 3. NHS Midlands, United Kingdom

Background

ERAS (Enhanced Recovery After Surgery) started as a groundbreaking concept that through multimodal perioperative care, length of stay post-operation could be drastically reduced, however, it was met with significant scepticism. Since its initial conception and implementation in Colorectal surgery in Europe, it has grown and now spans across a variety of surgical specialties and countries.

ERAS has become pivotal in modern Thoracic surgical practice as it delivers measurable peri-operative metrics which lead to an improvement in patient outcomes and reduced length of stay. Furthermore, it has recently been further implemented into Cardiac surgical practice.

The NHS Midlands created the MEPCN (Midlands Enhanced Care Peer Network), which involved the creation of a proforma pilot which included metrics for quality assurance and benchmarking for use in monitoring of peri-operative care (Fig 1).

What we did

We aimed to evaluate our SECU (Surgical Enhanced Care Unit) activity and compliance of ERAS principles with structured metrics for quality assurance and benchmarking tools as developed by the regional network by using the NHS Midlands Enhanced Care Metric Proforma Pilot.

The parameters used within this proforma include date of SECU booking, cancellations due to lack of beds, time of admission, time of discharge, discharge destination, SORT (Surgical Outcome Risk Tool) score and DrEaMing (drinking, eating and mobilisation).

Mobilisation was assessed using the MMS (Manchester Mobility Score).

We contributed to the MECPN database from its inception and analysed the data, using it as a tool of validation to measure our ERAS outcomes between August and October 2025. We collected data from 119 patients.

What we found

The timing of SECU bed booking reflects planning and pathway efficiency. 36 patients (31.6%) had their SECU bed booked 7 days prior to surgery, 51 patients (44.7%) had a bed booked 1-7 days before surgery and 27 patients (23.7%) had a bed booked on the day of surgery.

Anticipated length of stay and destination of discharge are crucial factors when considering post-operative recovery of patients. The anticipated length of stay of patients was < 24 hours in 17 patients (15%), 24 to 48 hours in 65 patients (57.5%) and >48 hours in 31 patients (27.4%). The majority of patients were stepped down to the ward upon discharge from SECU as was the case for 105 patients (88.2%) whilst 13 patients (10.92%) were discharged home, and 1 patient (0.8%) was discharged to the discharge lounge. Median SORT model RISK % was 0 with an IQR of 0.00 to 0.77.

DrEaMing outcomes (drinking, eating and mobilising) are a pragmatic and patient centred set of indicators of post-operative recovery. Within 24 hours of surgery or prior to discharge from SECU, DrEaMing outcomes showed 118 patients (99.2%) were able to drink, 116 patients (97.5%) were able to eat, and 114 patients (95.8%) achieved an MMS of ≥5 and 101 patients (84.9%) achieved ≥ 7.

To conclude, the Midlands Proforma Pilot for Enhanced Care Monitoring demonstrates that the implementation of a structured ERAS measuring tool and benchmarking tool in the form of the MECPN provide a strong framework and foundation for monitoring ERAS outcomes in Thoracic surgery.

The Midlands Proforma Pilot for Enhanced Care Monitoring demonstrates that the implementation of a structured ERAS measuring tool and benchmarking tool in the form of the MECPN provides a strong framework and foundation for monitoring ERAS outcomes in Thoracic surgery.

Figure 1, Parameters collected for MECPN database

Quality Improvement in Thoracic Surgery 13:30-15:00 **Tuesday, 17 March**

Health inequities in preventive screening: An exploration of lung cancer screening non-engagement in minority ethnic groups

Shreyaa Ramadore University of Southampton, Southampton

The Lung Cancer Screening (LCS) programme, formerly known as Targeted Lung Health Checks (TLHC), is a milestone event for earlier detection in both respiratory and thoracic surgery. It aims to detect lung cancer at its earliest, most treatable stages through low-dose CT screening. At the previous SCTS Annual Meeting in Edinburgh, I was fortunate to present my research on the surgical outcomes of a regional TLHC programme. Here, earlier detection was shown to increase the likelihood of curative interventions, such as VATS lobectomies, ultimately improving patient prognosis.

Having conducted a service evaluation, I completed a cost-benefit analysis of the programme. Although my research highlighted the clinical successes of the programme, it revealed a troubling trend: disproportionately low uptake among Minority Ethnic communities in comparison to their White British counterparts. This disparity was not reflective of the invited screening population in the area and became a key driver for my current work. I wanted to explore the specific barriers to screening and better understand the complex reasons behind non-participation. This is necessary to help bridge this widening gap in healthcare equity.

Our current research utilised a mixed-methods approach. While quantitative data highlighted the disparities in screening participation, the qualitative component, consisting of semi-structured telephone interviews with LCS non-responders from minority backgrounds, enabled deeper thematic analysis of their perceptions. Despite recruitment challenges, with 12 completed interviews from over 300 contacts, the data provided critical insight into five interrelated themes: lack of awareness and understanding of screening invitations, mistrust of healthcare systems, cultural and linguistic barriers, fear and stigma surrounding lung cancer, and scheduling/ practical difficulties, e.g., work commitments and transport issues.

As a medical student with an interest in thoracic surgery and as someone from a community where similar barriers to healthcare exist, this project was deeply meaningful to me. It also provided a valuable opportunity to build upon my previous study and translate research into meaningful local impact. I have been fortunate to have been able to attend community events where LCS has been promoted and to speak directly with non-responders to the programme to better understand their perspectives, and these experiences will greatly influence my clinical practice going forward.

Lung Cancer Screening Team in Southampton.

This research demonstrated that non-attendance among minority groups is not attributable to a single factor, but rather to a complex combination of informational, cultural, structural, and emotional influences. Addressing these barriers requires culturally sensitive approaches and multilingual communication. The team in Southampton has been engaging directly with community groups to provide education and answer questions in accessible settings. By offering resources in individuals' native languages and encouraging trusted community members to act as advocates, conversations around cancer screening have increased. There has also been an increase in lung cancer screening uptake in these communities, which shows that targeted engagement strategies can make a real difference. By using quantitative data to identify the problem and qualitative insights to address barriers faced by non-responders, these approaches have helped improve participation rates. Importantly, this also highlights how more inclusive strategies can reduce health disparities and improve lung cancer outcomes across communities.

Single Ventricle and Tricuspid Valve 13:30-15:00 Monday, 16 March

Risk factors associated with mortality in patients requiring extracorporeal membrane oxygenation after the Norwood Procedure:

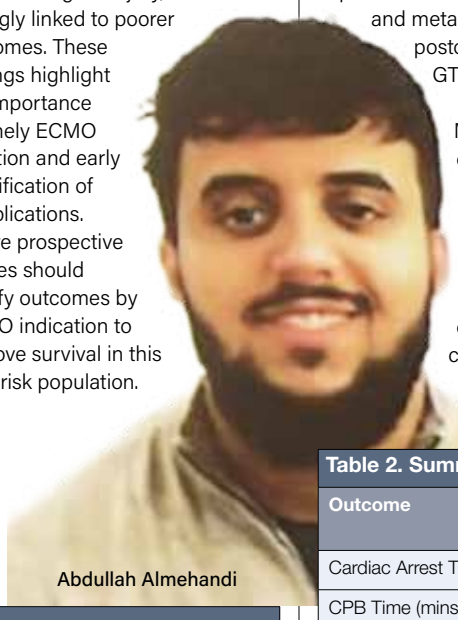
Abdullah Almehandi, Yahya Ali, Mohammad Alhajri, Adel Altarkait, Mohammed Alenezi, Abdulrahman O. Al-Naseem, Hamood Al Kindi, Saif Awlad Thani Department of Cardiac Surgery, Chest Diseases Hospital, Kuwait.

Extracorporeal membrane oxygenation (ECMO) has become an established rescue therapy for neonates with severe cardiac or respiratory failure following the Norwood procedure. Despite advances in care, a substantial proportion require ECMO postoperatively due to refractory low cardiac output, cardiac arrest, or failure to wean from cardiopulmonary bypass (CPB). However, survival after post-Norwood ECMO remains inconsistent, with reported discharge rates ranging from 31% to 61%. To better define factors associated with survival, this systematic review and meta-analysis compared perioperative variables and complications between neonates who survived to discharge following ECMO after the Norwood procedure and those who did not.

A systematic search identified eight eligible studies comprising 1,614 neonates, of whom 41% survived to discharge. Pooled analyses demonstrated that CPB duration (MD=-24.33, p=0.001) and ECMO duration (MD= -52.06, p<0.00001) were significantly longer in non-survivors. These findings suggest that extended CPB may reflect greater surgical complexity or intraoperative instability, while prolonged ECMO dependence possibly indicates failure of myocardial recovery and is strongly associated with mortality.

Complication profiles differed significantly. Non-survivors were associated with higher rates of bleeding (OR= 0.67, p=0.003), neurological injury (OR= 0.55, p<0.0001), and arrhythmias (OR= 0.45, p<0.00001). ECMO indications, including hypoxia, low cardiac output, and extracorporeal cardiopulmonary resuscitation, were largely comparable between groups. Cannulation strategy and shunt management did not demonstrate clear survival differences. Importantly, due to insufficient data, important variables such as birth weight could not be adequately assessed (Table 1).

The findings emphasise that ECMO timing, duration, and associated complications significantly influence outcomes. This study is limited by the retrospective design of included studies and inter-institutional variability in ECMO protocols. In conclusion, among neonates requiring ECMO after the Norwood procedure, longer CPB and ECMO durations are associated with mortality. Complications, including renal failure, bleeding, and neurological injury, are strongly linked to poorer outcomes. These findings highlight the importance of timely ECMO initiation and early identification of complications. Future prospective studies should stratify outcomes by ECMO indication to improve survival in this high-risk population.



Abdullah Almehandi

Table 1. Summary of findings

Outcome	Number of Studies	Number of Patients	Effect Estimate (95% CI, p-value)
Interstage Mortality	3	492	OR= 2.00, 95% CI = 0.88 to 4.56; P = 0.10
ICU LOS	4	4,451	MD= 23.75; 95% CI= 8.55 to 39.01; P = 0.002**
Hospital LOS	6	4,616	MD= 26.04; 95% CI= 17.99 to 34.09; P < 0.00001**
Hospital LOS Post-S2P	4	317	MD= 5.68; 95% CI = 3.11 to 8.25;P < 0.0001**
CPB time (minutes)	4	573	MD= 3.60; 95% CI= -2.84 to 10.04; P = 0.27
Aortic Cross-clamp Time	3	482	MD= 1.06; 95% CI= -10.66 to 12.79; P = 0.86
HCA Time	5	652	MD = 2.28; 95% CI = 0.36 to 4.20; P = 0.02**
Postoperative ECMO	5	4,436	OR= 1.78; 95% CI= 0.78 to 4.05; P = 0.17
Age at stage II palliation	4	504	MD= -22.11; 95% CI= -55.01 to 10.89; P = 0.19
Duration of mechanical ventilation	6	4,594	MD= 3.78; 95% CI= 3.09 to 4.47; P < 0.00001**
Right Ventricular Dysfunction	3	482	OR = 1.05; 95% CI = 0.50 to 2.23; P = 0.89
Vocal cord paralysis	3	4,080	OR = 5.32; 95% CI = 1.26 to 22.48; P = 0.02**
Weight-for-age z-scores	3	419	MD= -0.12; 95% CI= -0.38 to 0.13; P = 0.33
One or more hospitilisation	3	249	OR = 1.50; 95% CI = 0.88 to 2.55; P = 0.14

Single Ventricle and Tricuspid Valve 13:30-15:00 Monday, 16 March

Impact of gastrostomy feeding on outcomes after the Norwood Procedure

Abdullah Almehandi, Akbar Bazarbaev, Adel Altarkait, Yahya Ali, Mohammad Alhajri, Mohammed Alenezi, Ahmed Wahba, Abdulrahman O. Al-Naseem, Hamood Al Kindi, Amir Bastawisy. Department of Cardiac Surgery, Chest Diseases Hospital, Kuwait.

Hypoplastic left heart syndrome (HLHS) is a severe congenital cardiac condition with substantial morbidity and mortality. Infants frequently experience complications complicating nutritional management and often develop oral-motor dysfunction limiting oral feeding. Because nutrition links to improved outcomes, gastrostomy tube (GT) placement is commonly employed, though its impact on survival after Stage I palliation remains unclear. This systematic review and meta-analysis evaluated survival and postoperative outcomes associated with GT use.

A comprehensive search through March 2025 identified studies comparing GT feeding with conventional methods after the Norwood operation. The primary outcome was interstage mortality. Secondary outcomes included operative variables, ventilation duration, ICU and hospital stay, and complications. Random-effects models calculated pooled odds ratios and mean differences.

Eleven studies encompassing 17,706 patients met the inclusion criteria. Interstage mortality did not differ significantly between groups. This is noteworthy because infants requiring GT represent a higher-risk subgroup. The absence of a mortality difference suggests GT placement does not adversely affect survival and may reflect underlying complexity. However, GT recipients experienced longer ICU stays (MD=23.75 days; =0.002), prolonged total hospital stay (MD=26.04 days; p<0.00001), and extended ventilation (MD=3.78 days; p<0.00001). Length of stay after Stage II palliation was also longer (MD=5.68 days; p<0.0001). These findings likely reflect greater baseline complexity rather than complications attributable to the tube. ECMO rates were similar between groups. Nutritional outcomes, measured by weight-for-age z-scores, were comparable. However, higher vocal cord paralysis incidence was observed in the GT group (OR=5.32; =0.02), possibly reflecting prolonged intubation (Table 2).

Substantial inter-centre variability in feeding strategies exists. Limitations include retrospective designs, inconsistent indications for tube feeding, and absence of standardized protocols. In conclusion, GT placement after the Norwood procedure is not associated with increased interstage mortality in HLHS infants. While recipients experience longer stays and higher vocal cord paralysis rates, these findings likely reflect greater clinical complexity. Prospective studies are needed to guide standardized nutritional strategies.

Table 2. Summary of pooled analysis

Outcome	Number of Studies	Number of Patients	Effect Estimate (95% CI, p-value)
Cardiac Arrest Time (mins)	3	92	MD= 1.23, CI= -28.61 to 31.07, p=0.08
CPB Time (mins)	5	636	MD=-24.33, CI= -39.19 to -9.47, p=0.001**
ECMO Duration (mins)	8	1,614	MD= -52.06, CI= -68.22 to -35.89, p<0.00001 **
Hypoxia (ECMO indication)	3	133	OR= 2.56, CI= 0.51 to 12.83, p=0.25
LCOS	2	518	OR= 2.10, CI= 0.26 to 16.91, p=0.49
ECPR	3	788	OR= 0.62, CI= 0.11 to 3.46, p=0.59
Renal Failure	3	1,401	OR= -0.71, CI= 0.16 to 3.24, p=0.66
Bleeding	5	1,501	OR= 0.67, CI= 0.51 to 0.87, p=0.003**
Clipped Shunt	2	56	OR= 0.17, CI= 0.05 to 0.62, p=0.007**
Neurological	5	1,525	OR= 0.55, CI= 0.41 to 0.72, p<0.0001 **
CPR During ECMO	2	51	OR= 0.28, CI= 0.08 to 1.01, p=0.05
Central Cannulation	3	995	OR= 1.09, CI= 0.85 to 1.38, p=0.50
Peripheral Cannulation	5	1,499	OR= 1.13, CI= 0.62 to 2.07, p=0.69
Arrythmia	3	1,451	OR= 0.45, CI= 0.34 to 0.61, p<0.00001**
Tamponade	3	1,451	OR= 0.90, CI= 0.20 to 4.07, p=0.89
GI Bleed	3	1,451	OR= 1.66, CI= 0.31 to 8.86, p=0.51
Pre-ECMO pH	3	1,075	OR= -0.01, CI= -0.04 to 0.02, p=0.51
Pre-ECMO Pi02	3	1,451	OR= -0.34, CI= -3.29 to 2.61, p=0.82

NAHP 8 – Empowering excellence: Innovative approaches to healthcare education and support 13:30-15:00 Tuesday, 17 March

Challenges facing the preassessment cardiac surgery service in managing preoperative medication strategies

Christina Bannister[1], Adam Hart[2], Martin Fajardo-Brown[1], Sunil Ohri[1] 1 University Hospital Southampton NHS Foundation Trust, Southampton, 2 University of Southampton, Southampton

Christina Bannister

	Surgery	Prescribed Medications	Herbal / OTC / Supplements
Patient 1	AVR + CABG	Atorvastatin, Sildenafil	Chlorella, Cinnamon, Garlic, Lion's Mane, Milk Thistle, Multivitamin, Omega 3, Root Ginger, Spirulina, Turmeric
Patient 2	AVR	Aspirin, Atorvastatin, Bisoprolol, Furosemide, Indapamide, Omeprazole and Dymista Nasal Spray	Boswellia Serrata, Glucosamine, Turmeric, Vitamin B12
Patient 3	AVR + MAZE + LAAO	Apixaban, Bisoprolol and Candesartan	Cod Liver Oil, Iron with Vitamin C, Micronised Creatine Monohydrate, Vitamin B1+B6+B12+D3, Ubiquinol CoQ10 softgel, Nytol

This study examines the use of herbal remedies, over-the-counter (OTC) medications and supplements prior to cardiac surgery by elective patients at both University Hospital Southampton and Spire, Southampton. It identifies the interactions occurring with prescribed medications and details the discontinuation time pre-operation. As data surrounding remedies is limited, and with more patients taking alternative medicines, the study highlights the challenges facing the preassessment cardiac surgery service in managing preoperative medication strategies.

The study takes the form of a year-long audit, from January 2025 to December 2025, examining the preassessment clerking forms and medication lists for elective preoperative cardiac surgical patients, identifying patients taking herbal remedies, OTC medications and supplements. Of a total of 714 elective patients, 233 forms showed the use of remedies, around a third of all elective patients. Although most patients were asked, a limitation of this study is the potential omission of either patients not being asked the question at the preassessment or the patient not stating they were taking any remedies. As many are bought over-the-counter in shops or on the internet, there is no prescription that can be checked, so reliance on the patient or relative is key to gaining this information.

When reviewing the preassessment notes, it was identified that a considerable number of cardiac surgical patients were taking herbal remedies, OTC medications and supplements in addition to their prescribed medications, ranging from multivitamins and minerals, including Magnesium, Ferrous Sulphate and Omega 3, to Turmeric, Milk Thistle, Boswellia Serrata and Lion's Mane. Data suggests these should be discontinued at least two weeks before surgery; the Handbook of Perioperative Medicines, created by the UK Clinical Pharmacy Association, states that 'as the number of herbal medicines and their pharmacological effects are vast and varied, the recommendation for elective surgery is to stop all herbal medicines one to two weeks pre-operatively.' The Handbook also states that 'herbal medicines should be withheld during the patient's hospital stay and only restarted once adequate recovery, especially wound healing, has taken place.'

As well as issues surrounding the discontinuation of remedies, there are many interactions that occur whilst the patients are taking prescribed medications; for example Turmeric increases the risk of bleeding as it interferes with clotting by decreasing platelet aggregation, this is particularly noted when taken with anticoagulants and antiplatelets such as Warfarin or Clopidogrel; in addition Garlic, Ginger, Ginkgo and Ginseng all affect coagulation too. To examine this concept, this study looks at the return to theatre rates for bleeding over the year, which may be increased for patients taking herbal medicines, especially if not identified. Additional interactions can occur for diabetic patients when taking Turmeric as it reduces blood glucose and increases the risk of hypoglycaemia, especially when combined with diabetic medications. Other supplements, Siberian Ginseng, Garlic, Horse Chestnut, and Psyllium, may also reduce blood glucose levels. Management of blood glucose levels pre, peri and post-operatively is extremely important to reduce the risk of infection, accelerate wound healing and prevent critical complications such as organ dysfunction and myocardial infarction.

A select number of case studies highlighted the remedies taken by patients at preassessment.

To conclude, there has been a surge of patients in the UK taking herbal remedies, OTC medications and supplements and monitoring of these appears sparse, especially when combining them with prescribed medications. Education and guidance must be given to patients regarding use, interactions and discontinuation pre surgery. To conclude, the preassessment service must ensure that both prescribed and OTC medications are recorded precisely and learn from the impact they have.

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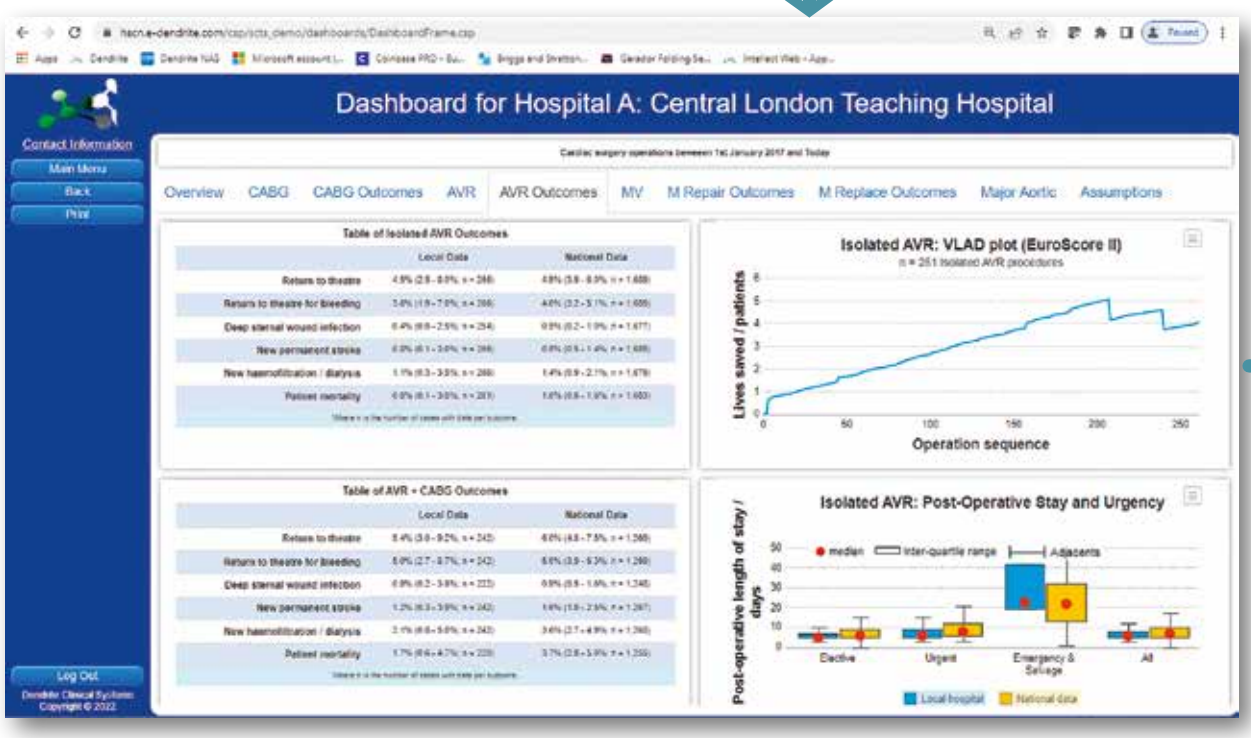

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Moderated Posters - Cardiac 11:00-12:30 Monday, 16 March 2026

Bridging the gap in aortic care: Patient voices in the qualitative component of the DECIDE TAD Programme

Riccardo Abbasciano[1], Lisa Skinner[2] 1. University of Leicester; 2. Aortic Dissection Awareness UK & Ireland

Thoracic Aortic Disease (TAD) remains a very serious condition, often characterised by a latent phase of aneurysm growth preceding an acute presentation. While international guidelines recommend cascade screening for relatives of affected individuals to enable early detection and preventative treatment, real-world uptake is poor. To understand this disparity, we conducted a mixed-methods study combining a national survey with focus groups and interviews, applying behavioural science frameworks to analyse the barriers to effective screening.

A defining feature of this study was the deep integration of patient perspectives through co-production. We partnered with Aortic Dissection Awareness UK & Ireland (ADA-UKI), ensuring that patients and relatives were not merely passive subjects but active partners in the research process. A team of clinicians and patient-researchers jointly produced the survey drafts, refining content and structure through public involvement.

This collaboration ensured the research remained clinically relevant and patient-centred. Engagement with ADA-UKI facilitated the recruitment of participants for focus groups and provided a quantitative context to the lived experiences of TAD survivors through a national survey. This partnership demonstrates that involving patients in study design yields data that purely clinical approaches might miss, particularly regarding the emotional and logistical burdens of care.

Cardiothoracic surgery has traditionally relied on quantitative outcomes—mortality, morbidity, and survival rates. However, these metrics cannot explain why evidence-based interventions, such as cascade screening, fail in practice. This study addressed that deficit by applying behavioural science models—including the Unified Theory of Acceptance and Use of Technology and the Theory of Planned Behaviour—to interpret patients and clinician experiences.

Qualitative analysis allows us to examine the complex motivations and deterrents that dictate health behaviours. While

quantitative data confirmed that only 47% of dissection survivors and 21% of relatives in our cohort received genetic testing, it was the qualitative work that identified the root causes: fragmented services, inconsistent clinician knowledge, and patient confusion regarding testing pathways.

The study identified a significant gap in shared decision-making, with only 27% of probands and 13% of relatives reporting involvement in decisions about their care. Participants described a system where they felt forced to "chase" information and appointments, effectively negating their positive intentions to screen.

Key barriers included:

- **Systemic Fragmentation:** A lack of clear pathways meant patients often managed their own care coordination.
- **Psychological Burden:** Anxiety regarding insurance implications and the complexity of genetic risk information exceeded the health literacy capabilities of many patients.
- **Information Deficit:** Over 60% of probands reported that their General Practitioner offered no information on lifestyle management or family implications.

Conversely, the primary facilitator for screening was altruism – the desire to protect family members from the same fate. Participants expressed a strong preference for digital Decision Support Tools (DSTs) to consolidate reliable information and support shared decision-making.

From Evidence to Action: The DECIDE TAD Programme

These findings have directly informed the next stage of our work. The clear demand for accessible, consolidated information and the identified barriers to screening justified the need for a specific intervention. This logically led to the DECIDE TAD programme, a National Institute for Health Research (NIHR) Programme Grant for Applied Research (PGfAR), which is currently ongoing.

This programme aims to co-design and evaluate a Decision Support Tool (DST) to enable informed, personalised decisions for probands and families. By moving beyond statistical risk presentation to include narrative-based communication and value clarification, we aim to close the gap between clinical guidelines and patient reality. The tool and its accompanying implementation guide have been developed, and will be piloted in two UK aortic centres in the next few months, before moving to a national randomised controlled trial from 2027.

Figure Legend: Conceptual Map representing the underpinning theories and themes of the study. *DST: Decision Support Tool; SDT: Self-Determination Theory; TAD: Thoracic Aortic Disease; TPB: Theory of Planned Behaviour; UTAUT: Unified Theory of Acceptance and Use of Technology.*

Waiting for session title.

"Building" an Aortic Centre: Service Expansion and Quality Monitoring at Hammersmith Hospital

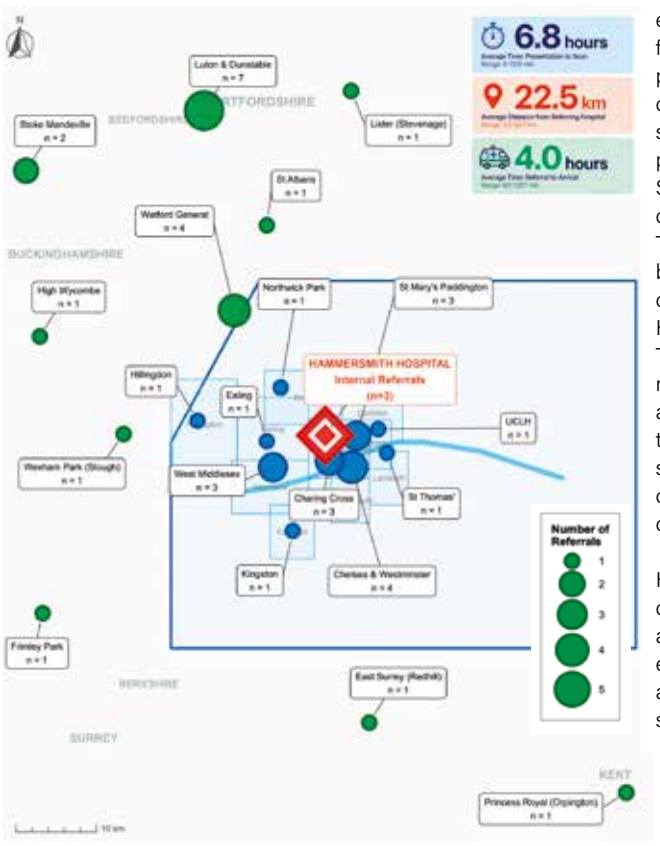
Riccardo Abbasciano
Hammersmith Hospital, Imperial College Healthcare NHS Trust, London

The provision of care for complex aortic pathology requires a robust, governed framework to manage high-acuity patients effectively. In the past three years, we undertook a structured expansion of the aortic service at Hammersmith Hospital. In this article, we outline our experience establishing a dedicated Aortic Centre, the dynamics of our referral network, and our initiative to monitor aortic remodelling as an internal quality metric.

Service expansion commenced in 2022 with the appointment of two consultants specialising in aortic surgery. A critical component of this setup was the ability to accept referrals from a wide geographical pool. As illustrated in our referral network analysis, over a 30-month period, the service managed 42 acute aortic syndromes referred from 21 different hospitals.

Integrated into the Northwest London regional dissection rota, we strived to function as flexibly as possible. We frequently accepted referrals while not formally on-call, providing capacity when other regional aortic centres faced constraints due to concomitant emergencies or bed pressures. This approach ensured that patients across a broad catchment—extending from Bedfordshire to Surrey and Kent—received timely access to life-saving intervention. The average time from scan to intervention was 4 hours (the average time from presentation to scan was 6.8 hours).

To ensure safety during this expansion, we adhered strictly to the current specifics recommended for Aortic Centres. Procedural complexity increased in a phased manner, supported initially by dual consultant operating and external proctoring. We established a dedicated Aortovascular Multidisciplinary Team (MDT) to standardise care between cardiac and vascular specialities, complemented by an anaesthetic clinic for high-risk elective cases. To support sustainability, we introduced a formal Aortic Fellowship and secured funding for a dedicated Aortic nurse. This infrastructure allowed for 24/7 ad hoc MDT support for emergencies and streamlined transfer pathways.



Clinical Outcomes The mean age of the patients managed was 66 years; surgical strategy was tailored to the pathology: 23 patients (54.8%) underwent Hemiarch replacement, while 19 patients (45.2%) required a Frozen Elephant Trunk (FET) procedure. Despite the high acuity of the caseload — where more than one in ten patients presented in a critical preoperative state — outcomes remained comparable to established benchmarks.

As part of our governance strategy, we continuously monitor our surgical efficacy, not only during the hospital stay, but also in the longer follow-up period, specifically regarding aortic remodelling. We believe that for acute Type A aortic dissections involving the arch, the extent of distal remodelling is a vital marker of long-term success.

We performed a comparison of early radiological remodelling between the FET and Hemiarch cohorts. Remodelling was quantified by calculating the ratio of the True Lumen maximum diameter to the total Aortic Lumen diameter at four anatomical levels.

The results of this internal monitoring have been encouraging. At the early follow-up (mean 384 days), patients in the FET group demonstrated significantly superior remodelling in the proximal descending aorta. Specifically, at the level of the distal anastomosis, the median True Lumen ratio increased by 39.0% in the FET group compared to 16.4% in the Hemiarch group (p=0.015). The difference was even more marked at the tracheal carina and persisted as well down to the T6 level, although no significant difference was observed at the level of the celiac tripod.

The establishment of the Hammersmith Aortic Service demonstrates that a phased approach complying with established recommendations allows for the safe and sustainable expansion of aortic care and ensures that increased procedural volume translates into high-quality patient outcomes.

NAHP 8 - Empowering excellence: Innovative approaches to healthcare education and support 13:30-15:00 Tuesday, 17 March

Exploring the contribution of the Family Liaison Nurse (FLN) role in cardiac intensive care unit

Jane Warner, Moriom Bibi and Rosalie Magboo St Bartholomew's Hospital, London, UK

Jane Warner

A new Family Liaison Nurse (FLN) service introduced in the cardiac intensive care unit (ICU) has significantly improved communication and emotional support for families, according to a recent service evaluation.

Families and friends of critically ill patients who had cardiac surgery often experience high levels of stress, anxiety and uncertainty, particularly when clinical information about their loved one is complex. To address this, the ICU at St Bartholomew's Hospital in London introduced a dedicated FLN role to provide consistent communication, emotional support, and a clear point of contact for relatives.

The FLN aimed to see the relatives within 72 hours of the patient's admission to the ICU, with the initial meeting focusing on exploring the family structure and dynamics to identify risk factors for increased anxiety levels. The conversation also promotes the development of a therapeutic relationship with the family. Working alongside the psychology, palliative care teams, chaplaincy and social workers, the FLN coordinates the psychosocial care to ensure a holistic approach is given to relatives.

After a year of implementation, a service evaluation was conducted over a period of three months to gather feedback from family members and ICU staff through questionnaires and informal interviews and determine the impact of the role to our service. The findings showed overwhelmingly positive responses to the new role.

Families reported feeling better informed about their loved one's condition and more supported during what is often a distressing time. Many highlighted the value of having a named nurse who could explain care plans in accessible language and act as a bridge between the clinical team and relatives. One relative said:

"Listening to and understanding my needs has been crucial in my ability to cope with this storm. FLN became my safe port... Having someone to rely on who understands and can help me make a 'worst-case scenario' back-up plan is crucial. Without the FLN's ability to translate my needs into practical steps and clearly list those steps, I wouldn't have been able to stay as strong as I have been so far."

ICU staff also noted benefits, including improved communication flow and reduced time spent responding to non-urgent family queries, allowing bedside nurses to focus on direct patient care.

One staff member commented that the FLN role "has transformed the care that we offer our families and patients on ICU. This role brings continuity of care and an accessible single point of contact at a very challenging time for families. Being embedded within the ICU multi-disciplinary team takes the pressure off the nurses and the medical team. Due to the nature of the close working relationship between families and our FLN, we are better prepared to deliver the holistic care that each family requires."

Based on the evaluation of findings, the ICU plans to continue the FLN service and explore opportunities for further development. The role supports the department's commitment to compassionate, family-centred care, especially after complex cardiac surgery and highlights the importance of addressing the needs of both patients and their loved ones.

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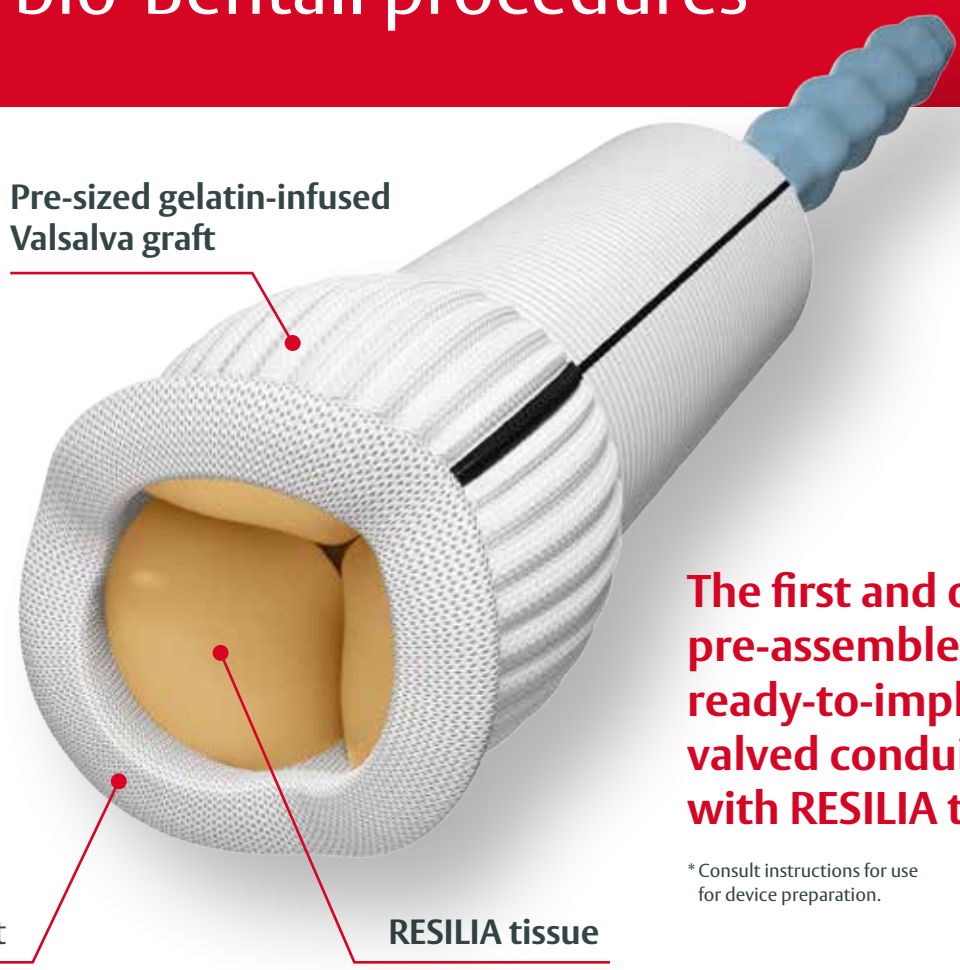

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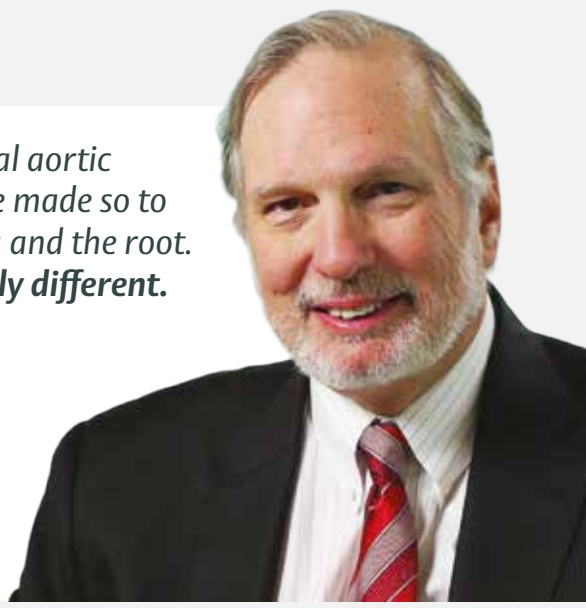
The design of the sewing ring of **KONECT RESILIA AVC is designed for root procedure.** *It is superior in every aspect. It can be put in supra-annular or intra-annular position"*



Joseph Bavaria, MD, FACS, FRCS
Jefferson Health

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Reference: Beaver T, Bavaria JE, Griffith B, et al. Seven-year outcomes following aortic valve replacement with a novel tissue bioprosthesis. *J Thorac Cardiovasc Surg*. 2024 Sep;168(3):781-791.

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NAHP 6 - Better care, better outcomes: Innovation and QI in Cardiothoracic Surgery 15:30-17:00 Monday, 16 March

A quality improvement project exploring the effects and feasibility of very early day 0 physiotherapy intervention for patients undergoing thoracic surgery

Elliott Pattison
Cardiothoracic/Cardiac rehabilitation physiotherapist

Sarah Jeffery Highly specialist physiotherapist cardiothoracics

Background

In our centre currently, most thoracic patients are routinely reviewed on day one post-surgery, often resulting in this cohort being left for 12-24 hours before their first physiotherapy review. Some centres have already implemented an ERAS-style service for surgical patients with good success, and some have begun reviewing patients on the day of surgery. It is also not uncommon, particularly in the USA, for patients to be de-lined and ready for home on the same day as their surgery. This reduces length of stay (LOS), cost to the system, incidences of hospital-acquired illness and improves patient experiences and outcomes.

Objectives

To explore whether a day zero thoracic service is feasible within our centre and current staffing.

Whether day zero intervention reduces post-operative pulmonary complications (PPCs), LOS, the number of required physiotherapy contacts, average cost per patient (CPP), and incidences of ITU re-admissions.

Methods

Baseline data was collected on our current practice for 115 patients. This data included LOS, prevalence of PPCs, number of physio contacts, average cost and number of ITU re-admissions. PPCs were identified using the Melbourne group score (MGS). We began networking with MDT colleagues to develop a process that allows us to be aware of patients who have entered recovery and enables us to give the appropriate intervention. Physiotherapists began reviewing patients in recovery (often within an hour of surgery) with the aim of walking them to the ward. Patients who were not appropriate to walk still received intervention in the form of a chest review, breathing and shoulder exercises and/or another form of mobilisation. In instances where patients were not appropriate for therapy intervention in recovery, patients were reviewed on the ward later that day.

Results

Data for the intervention group were collected from 100 patients (time-limited further collection of data for the intervention group). When compared to baseline data, the intervention group showed that average LOS dropped by 1.2 days (Figure A), the required number of physiotherapy contacts dropped by 0.43 contacts per patient (Figure B), and incidences of PPCs dropped by 3.26% (Figure C).

In addition to the data gathered above, we also looked at the cost savings between the baseline and intervention group based on the most recent Department for Health and Social Care's baseline costing for NHS beds in different care settings. Based on the average length of stay, the bed cost for patients undergoing thoracic surgery was a minimum of £1770.90, compared with £1316.72 for the intervention group. This equates to a minimum cost saving of £454.18 per patient undergoing thoracic surgery. It is important to note that these figures do not include any care the patient receives whilst occupying the bed, but rather the baseline cost of opening and staffing the bed itself. The overall cost saving is therefore likely to be much higher than the figure outlined above, but due to the differing nature of what treatment patients require whilst admitted, it is impossible to calculate this figure accurately. The total minimum cost saving between the baseline and intervention group is £45,418.

The number of patients that required re-admission to ITU was recorded in both groups and can be seen illustrated in Figure D. Though the number of patients readmitted to ITU is low, there is a clinically significant difference between the number of re-admissions to ITU in the pre-intervention group compared to the post intervention group (8 compared to 2). This may be linked to the reduction in PPC rates in the intervention group.

Conclusions

This quality improvement project shows that very early physiotherapy post thoracic surgery reduces LOS, risk of ICU readmission, CPP and risk of developing PPC's within the limitations of the project. It is also feasible on current staffing levels during the hours that the physiotherapy team works. We are continuing to explore how we can maximise the number of patients that can be reviewed, as there are currently patients who enter recovery after hours and are therefore unable to be reviewed by a physiotherapist. Future developments are aimed at potentially developing a twilight service to increase the number of patients we are able to see and educating recovery staff to mobilise patients to the ward who are appropriate.

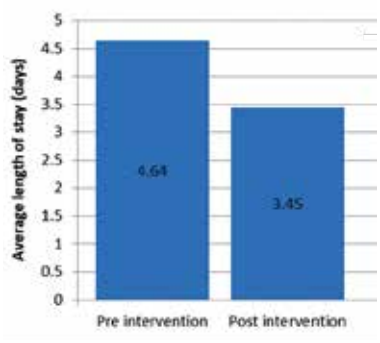

Figure A: Average length of stay pre and post intervention

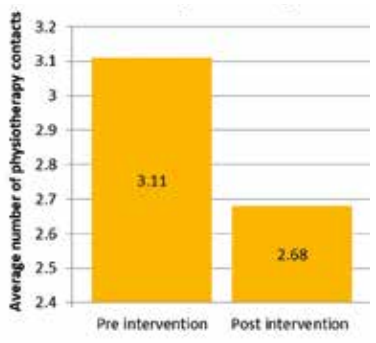

Figure B: Average number of physiotherapist contacts pre and post intervention

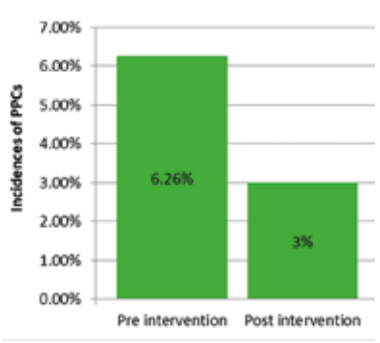

Figure C: Number of patients who developed post operative pulmonary complications

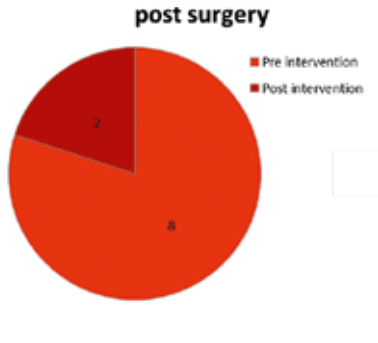

Figure D: Number of patients re-admitted to ICU post surgery

The impact of Plus Sutures on Surgical Site Infections in Cardiac Surgery at University Hospitals of Leicester NHS Trust

Background

University Hospitals of Leicester (UHL) actively participates in monitoring and addressing surgical site infections (SSIs) aiming to reduce SSI rates and improve patient outcomes.

UHL has a dedicated SSI Surveillance Group who are part of the Infection Prevention (IP) Team that conducts surveillance using electronic systems as well as paper records to monitor alert organisms and conditions e.g. those that can cause harm and outbreaks.

In December 2022 the IP team commenced an SSI programme which triggered a process of robust monitoring and measurement of SSIs across the Trust starting with Cardiac Surgery.

Historically, Plus Sutures were not used in any clinical specialty within UHL apart from the Maxillo-Facial Department which accounted for 4% of the Trusts total annual volume of absorbable sutures.

Institution

UHL operates three main hospital sites: Leicester Royal Infirmary, Leicester General Hospital, and Glenfield Hospital. It serves a population of 1.1 million residents across Leicester, Leicestershire, and Rutland and is one of the largest Trusts in the country.[1]

Adult Cardiac Surgery is undertaken at Glenfield Hospital. It offers a wide range of cardiac surgical procedures, including valve repair and replacement, coronary artery bypass grafting (CABG), and surgery for thoracic aortic conditions.

2019

The Challenge

In their 2019 SSI National Survey GIRFT noted that SSIs can lead to increased morbidity and mortality in patients following any surgical procedures and are associated with delayed discharges, readmissions and re-operations thus can result in hugely varied patient experience postoperatively and impose a significant cost to the NHS.[2]

2022

The Process

The trust-wide SSI surveillance programme began in 2022 and was undertaken by the IP team in Cardiac Surgery. SSI rate along with severity, in terms of depth of infection, was measured monthly for a period of 6-months from December 2022 until May 2023. During this period Plus Sutures were not used within Cardiac Surgery

A total of 384 patients who had undergone various cardiac procedures including CABG, valve repair/replacement and repairs to the septum were included in the surveillance programme.

Data was collected via reviewing and cross-referencing paper and electronic records across the surgical pathway including pre-operative, intra-operative and post-operative (30-day follow-up).

Patient demographics in terms of mean age, diabetic status, smoking status, ASA scores, emergency surgery and BMI were assessed and considered similar throughout the time period.

Alongside SSI rate/severity, compliance to NICE Guidelines [3] was measured throughout the time frame both via patient records and visual observations. This included appropriate antimicrobial prophylaxis, glucose levels ≤11mmol/l and normathermia maintained in theatre, skin preparation and use of Iodophor Impregnated drapes.

2024

Following the introduction of Plus Sutures, surveillance of a further 389 patients was conducted for an additional 6-month period from February 24 through to July 2024 using the same process.

The Intervention

Surgical care bundles were introduced by the Department of Health in 2010 as a means to reduce SSIs.[4] In 2021 NICE recommended that Plus Sutures should be included into surgical bundles for preventing surgical site infection in the NHS for people who need wound closure after a surgical procedure when absorbable sutures are an appropriate option.[5]

Plus Sutures are a range of synthetic, absorbable sutures with triclosan (Irgacare MP), a purified medical grade antimicrobial.[5]

During the summer of 2023 task & finish group meetings were held with the Cardiac Team at Glenfield Hospital to review the first sets of SSI Surveillance data. The care bundle that was in place at this time was also reviewed with the objective of identifying any improvements that could be made. It was agreed that better compliance to patient decolonisation and hair removal was required.

In June 2023, UHL transitioned all absorbable sutures to Plus Sutures throughout the entire Trust. The implementation commenced in June 2023 and was completed in

Thinking About Tricuspid Valve 09:00-10:30 Tuesday, 17 March

Validation of the TRI-SCORE for predicting outcomes after tricuspid valve surgery: A 10-year study

Sarah Guo [1], Ujjawal Kumar [2], Ruhina Alam [2], Talal Fazmin [2], Anirudh Krishnakumar [1], Aniruddh Prabhu [1], Aravinda Page [3], Narain Moorjani [2]

1 University of Cambridge, Cambridge, UK: 2 Royal Papworth Hospital, Cambridge, UK; 3 Harefield Hospital, Cambridge, UK

Introduction

Isolated tricuspid valve surgery (ITVS) remains one of the most complex and high-risk areas of contemporary cardiac surgery. Patients are often referred late, frequently presenting with advanced right ventricular dysfunction and systemic manifestations of right heart failure. In this setting, accurate risk stratification is critical; it guides operative decision-making, supports appropriate timing of intervention and enables meaningful patient counselling. The TRI-SCORE was developed as a procedure-specific risk-prediction model to estimate in-hospital mortality in patients undergoing ITVS Unlike broad cardiac surgical risk tools like EuroSCORE, the TRI-SCORE focuses on pathology-specific parameters, focused on right heart failure: age, NYHA functional class, clinical signs of right heart failure, right ventricular dysfunction, daily diuretic requirement, renal function, bilirubin level, and left ventricular ejection fraction.

Our findings

This study aimed to validate the TRI-SCORE in a contemporary real-world cohort and compare its performance with established cardiac surgical risk models. We conducted a retrospective analysis of all patients undergoing ITVS for tricuspid regurgitation between January 2015 and December 2024. Thirty-two patients were included in the study, with a mean age of 61.8 years, and 53.1% of the cohort were female. Functional tricuspid regurgitation was the predominant indication for surgery, reflecting current trends in referral patterns, and tricuspid valve repair was the most frequently performed procedure.

Sarah Guo

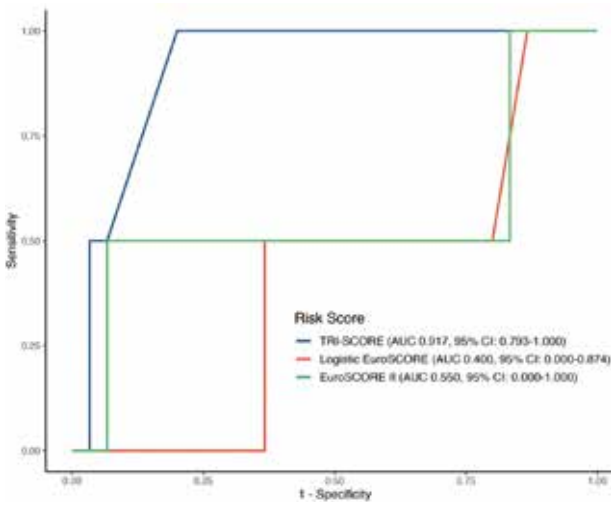

Figure 1. Receiver operating characteristic (ROC) curves comparing the predictive performance of TRI-SCORE, Logistic EuroSCORE, and EuroSCORE II for in-hospital mortality following isolated tricuspid valve surgery.

Predictive performance of the TRI-SCORE was assessed against Logistic EuroSCORE and EuroSCORE II using receiver operating characteristic (ROC) curve analysis, with in-hospital mortality as the primary endpoint. The observed in-hospital mortality rate was 6.3%. The mean TRI-SCORE corresponded to a predicted mortality risk of 9.5%, compared with 7.8% using Logistic EuroSCORE and 2.9% using EuroSCORE II. On ROC analysis, the TRI-SCORE demonstrated superior discrimination for predicting in-hospital mortality, with an area under the curve of 0.917 (95% CI: 0.793–1.000, Figure 1). This performance exceeded that of both conventional cardiac surgical risk models, which are largely derived from populations dominated by left-sided valve and coronary artery procedures.

> This 10-year study demonstrates that the TRI-SCORE provides strong discriminatory performance for predicting in-hospital mortality in patients undergoing isolated tricuspid valve surgery, outperforming traditional cardiac surgical risk models.

Relevance to contemporary surgical practice

These findings have significant implications for clinical practice. Risk prediction in tricuspid surgery has historically been challenging. Conventional models do not adequately capture the impact of right ventricular dysfunction, venous congestion, and multi-organ impairment – key determinants of outcome in this patient group. The TRI-SCORE addresses this gap by focusing on clinically meaningful variables that reflect the underlying disease process. Importantly, all parameters included in the TRI-SCORE are routinely available during standard preoperative assessment. This makes the model practical for day-to-day use in multidisciplinary team discussions, preoperative counselling, and operative planning. It may also support earlier referral by identifying patients whose risk profile is beginning to escalate, before irreversible right ventricular failure develops.

Although based on a single-centre experience, this study reflects contemporary practice in ITVS, where functional tricuspid regurgitation predominates, and valve repair is preferred where feasible. The findings reinforce the growing recognition that tricuspid surgery requires dedicated risk-stratification tools rather than reliance on models developed for broader cardiac surgical populations. The TRI-SCORE offers a pragmatic solution that bridges the gap between complex statistical models and clinically usable bedside tools. Further validation in larger, multicentre cohorts will be essential to confirm generalisability and to explore the role of the TRI-SCORE beyond in-hospital mortality, including the prediction of medium- and long-term survival, right heart failure-related hospital readmission, the need for reintervention, and longer-term functional recovery.

Conclusions

In summary, this 10-year study demonstrates that the TRI-SCORE provides strong discriminatory performance for predicting in-hospital mortality in patients undergoing isolated tricuspid valve surgery, outperforming traditional cardiac surgical risk models. Its simplicity, clinical relevance, and reliance on readily obtainable preoperative data make it a valuable addition to the modern tricuspid surgery toolkit, supporting better-informed decisions for surgeons and patients alike.

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5. © NICE 2021. MEDICAL TECHNOLOGY GUIDANCE: PLUSSUTURES FOR PREVENTING SURGICAL SITE INFECTION. Available from: https://www.nice.org.uk/guidance/mtg59 [Accessed: December 05, 2025] All rights reserved. Subject to Notice of rights. NICE guidance is prepared for the National Health Service in England. All NICE guidance is subject to regular review and may be updated or withdrawn. NICE accepts no responsibility for the use of its content in this product/publication

Mirtal Valve Surgery outcomes 11:00-12:30 **Monday, 16 March**

Redo cardiac surgery via right mini thoracotomy: Do we always need the cross-clamp?

Youssef Abouelela, Ronak Rajani, Tiffany Patterson, Paolo Bosco, Gianluca Lucchese, Rajdeep Bilkhu St Thomas's Hospital, London, United Kingdom

Youssef Abouelela

Redo cardiac surgery remains technically challenging and invasive. Re-entering the chest through a previous sternotomy can carry significant risks. Extensive mediastinal dissection may be required to free all the cardiac structures, particularly in the context of redo mitral valve surgery. This can increase operative time, the potential for bleeding and the overall invasiveness of surgery. As surgical teams continue to refine minimally invasive access strategies, an important question emerges: Whether a less invasive approach can be utilised in the context of redo cardiac surgery?

In selected patients, a right mini thoracotomy approach with peripheral cardiopulmonary bypass (CPB), moderate hypothermia, and ventricular fibrillation may provide a safe and efficient alternative. By avoiding repeat sternotomy and complete dissection of the mediastinum, thereby potentially eliminating the need for aortic cross-clamping in specific cases, there may be a resultant reduction in the invasiveness of the procedure.

Between 2022 and 2025, nine consecutive patients underwent redo valve or cardiac mass surgery through a right mini thoracotomy using this technique at our centre. All procedures were performed via right mini thoracotomy with peripheral CPB, moderate hypothermia, and ventricular fibrillation, without aortic cross-clamping. To ensure safety, patients with more than mild aortic regurgitation were excluded.

The primary endpoint of the study was in-hospital mortality. Secondary endpoints included hospital length of stay and postoperative complications.

The cohort had a mean age of 63 years, and two-thirds of the patients were male. The majority of procedures involved mitral valve surgery. Six patients (66.7%) underwent mitral valve replacement alone. One patient underwent combined mitral and tricuspid valve replacement. Another patient had mitral valve replacement with tricuspid repair. The final patient underwent excision of a right atrial mass.

The median cardiopulmonary bypass time was 131 minutes. Importantly, there was no in-hospital mortality. There were also no cases of perioperative stroke or myocardial infarction.

Postoperative outcomes were encouraging. All patients were extubated within six hours, demonstrating early recovery and favourable hemodynamic stability. Three patients (33.3%) developed postoperative atrial fibrillation. Three patients (33.3%) required blood product transfusion. Median intensive care unit stay was 3.8 days, and median total hospital stay was 9.7 days.

Avoiding aortic cross-clamping offers several theoretical and practical advantages in redo surgery. First, it eliminates the need for extensive aortic mobilisation, which can be particularly challenging in reoperative cases due to adhesions with, for example, the pulmonary artery, and proximity of previous bypass grafts or prostheses. Second, fibrillatory arrest under moderate hypothermia simplifies myocardial management while reducing the risks associated with cross-clamp manipulation, including embolisation or aortic injury. Third, the right mini thoracotomy approach limits surgical trauma compared to repeat sternotomy and may result in faster postoperative recovery.

Patient selection remains critical. This technique is most appropriate for patients without significant aortic regurgitation and for cases in which intracardiac exposure can be safely achieved via a right thoracotomy, which must be confirmed by careful preoperative clinical and radiological evaluation. It also requires familiarity with operating on a fibrillating heart and, importantly, established experience in minimal-access surgery.

In conclusion, although the sample size in this series is small, the absence of mortality and major complications supports the feasibility and safety of this approach in carefully selected patients. As experience grows, this strategy may become an increasingly valuable option in the setting of redo valve or cardiac mass surgery.

Surgical management of locally advanced lung cancer, and other thoracic malignancies 11:00-12:30 **Tuesday, 17 March,**

Lung Resection following Neo-Adjuvant Chemoimmunotherapy in Non-Small Cell Lung Cancer

Aurora Sonkin, Jeesoo Choi, Jose Alvarez Gallesio, Sohail Sadiq, Henrietta Wilson, Steven Stamenkovi St. Bartholomew's Hospital, London,

Approximately 20-25% of patients diagnosed with Non-Small Cell Lung Cancer (NSCLC) present with resectable disease. Despite undergoing curative surgery, disease recurrence occurs in 30-55% of cases.[1] Previously, neo-adjuvant chemotherapy alone was used to reduce recurrence risk, but this conferred only a modest absolute improvement in five-year recurrence-free survival (approximately 5-6%) and was associated with low rates of pathological complete response (pCR)[1], compared with surgery alone.

The Checkmate 816 trial established the safety and efficacy of neo-adjuvant chemoimmunotherapy (neoCT/IO) compared with chemotherapy alone in patients with resectable NSCLC.1 Promising results from phase III trials suggest that neoCT/IO is associated with significantly higher rates of major pathological response (MPR) and pCR, alongside improved event-free and overall survival outcomes, without compromising peri-operative safety.[2] Accordingly, the International Association for the Study of Lung Cancer consensus recommendations now favour neoCT/IO over upfront surgery in all resectable stage IIIA and IIIB NSCLC, irrespective of PD-L1 expression.[3]

Nevertheless, surgical resection following neoCT/IO may be complicated by immunotherapy-related adverse effects[4], intra-operative complexity, due to adhesions and tumour fibrosis, as well as surgical delay. Robot-assisted thoracic surgery (RATS) may help mitigate these surgical challenges, due to the enhanced precision, dexterity and visualisation afforded by the minimally-invasive approach.[5]

Table 1: Distribution of Pre-Operative T and N stages

N stage / T stage	N0	N1	N2
T1	0%	13.2%	5.3%
T2	5.3%	13.2%	23.7%
T3	2.6%	5.3%	10.5%
T4	2.6%	0%	18.4%

We conducted a retrospective analysis of 38 consecutive patients with histologically confirmed NSCLC, who received neoCT/IO followed by surgical resection via RATS, video-assisted thoracic surgery (VATS) or open thoracotomy, between May 2022 and June 2025 at St. Bartholomew's Hospital, London.

Our primary objectives were to assess the efficacy of neoCT/IO in resectable stage II-IV NSCLC, focusing on surgical outcomes, adverse effects and pathological response.

38 patients underwent RATS (81.6%), VATS (15.8%) or open (2.6%) resection after 2-4 cycles of neoCT/IO. The distribution of pre-operative T and N stages is shown in the table below.

Chemoimmunotherapy-related adverse effects occurred in 68.4% of patients, most commonly nausea/vomiting (31.6%), fatigue (26.3%), constipation (15.8%) and mucositis (10.5%).

Adhesions were present in 60.5% and conversion from RATS or VATS to open thoracotomy was required in only 3 (7.9%) patients (1 RATS and 2 VATS, respectively). Surgical complications occurred in 34.2%, including prolonged air leak (21.2%), empyema (5.3%), new atrial fibrillation (5.3%) and hyponatraemia (5.3%).

Pathology of specimens demonstrated pCR in 15.7% and MPR in 26.3%, with R0 resection achieved in 81.6% of patients.

Our findings support the safety and feasibility of resection following neoCT/IO in stage II-IV resectable NSCLC, with surgical complication rates comparable to those observed in the literature of patients not undergoing neo-adjuvant treatment. NeoCT/IO in resectable NSCLC was associated with favourable R0 resection rates, consistent with those reported in prior clinical trials. Additionally, RATS after neoCT/IO is feasible, with a low conversion rate (3.2%), comparable to that seen in patients undergoing RATS without neoCT/IO (1.5%).

Future research should aim to identify which biomarkers and pathological characteristics most accurately predict improved surgical and long-term outcomes, thereby refining patient selection and optimising the therapeutic benefit of neoCT/IO. Moreover, superior downstaging following neoCT/IO compared to other neoadjuvant regimens challenges current definitions of resectability and highlights the need to re-evaluate existing staging frameworks and surgical decision-making criteria in potentially resectable disease.

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NAHP 8 - Empowering excellence: Innovative approaches to healthcare education and support 13:30-15:00 **Tuesday, 17 March**

Supporting psychological well-being in cardiac surgery: Introducing our new surgery school

Louise Pope University Hospitals Sussex NHS Foundation Trust

Facing cardiac surgery can feel like stepping into the unknown. For many patients, the lead-up to their operation is marked by anxiety, uncertainty, and a sense of overwhelm. At our regional cardiac centre in Brighton, Sussex, we recognised that while physical preparation is well established across local prehabilitation programmes, psychological readiness remains less consistently addressed. This gap is significant, as psychological well-being influences recovery, engagement with care, and overall patient experience — a point highlighted by Ng *et al.* (2022). In response, our team launched a new service-development initiative: a Cardiac Surgery School designed to support both the mind and body in the run-up to surgery.

Why psychological preparation matters

Patients awaiting cardiac surgery frequently report heightened stress, low mood, and worries about the procedure and recovery. These emotional pressures can affect postoperative mobilisation and adherence to Enhanced Recovery After Surgery (ERAS) principles. Research also shows that unrealistic expectations and a low sense of control can undermine recovery, and perioperative depression and anxiety may be associated with increased postoperative mortality — a relationship highlighted by Takagi *et al.* (2017). Although prehabilitation programmes are becoming more common, psychological preparation is not yet a routine part of preoperative pathways. Our aim was to integrate this aspect.

Our vision: a more prepared, more empowered patient

Our clear goal: to design and pilot a cardiac surgery school that strengthens both psychological and physical preparedness, and to test its feasibility in everyday clinical practice. To shape the programme, we drew on best practice from an established tertiary-centre model and listened closely to our own patients. In a survey of postoperative patients, we asked whether an educational event addressing both physical and psychological readiness would have helped them before surgery. Their feedback strongly supported the need for such an intervention.

The cardiac surgery school: what we delivered

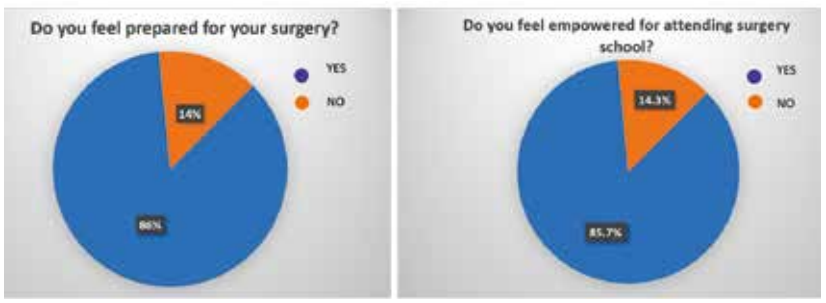
In June 2025, we launched our first 2.5-hour, face-to-face, multidisciplinary session. The curriculum covered enhancing functional capacity, increasing physical activity, nutrition and diabetes optimisation, lifestyle changes to support recovery, and psychological preparation, including

expectation-setting, coping strategies, and anxiety-reduction techniques.

A particularly valued element of the session was the contribution of an expert patient, who shared their lived experience of cardiac surgery. Their perspective helped normalise common fears, reduce uncertainty, and offer authentic reassurance. We also built in time during the interval for informal conversations, giving patients the opportunity to approach members of the multidisciplinary team with individual questions — something that consistently helped to ease anxieties and clarify concerns. Patients were encouraged to bring a support person too, recognising the vital role carers play throughout the recovery journey.

Pilot results: early signs of impact

The pilot session welcomed 53 attendees, including 28 patients and their support persons. Fourteen patients completed a feedback survey (50% response rate). Among them, 86% reported feeling more prepared for surgery, with 85.7% scoring 8 or higher (0–10 scale), feeling more empowered. Many described increased confidence, clearer expectations, and improved psychological readiness.



Across two further Surgery School events, 100% of patients reported that they would recommend surgery school to other patients, and nearly all demonstrated having a 2 point or more drop in anxiety levels.

Pilot and preliminary results

Two further surgery school events have reinforced these early findings. Across these sessions, 100% of patients reported that they would recommend surgery school to others, and nearly all demonstrated a reduction of two points or more in their anxiety levels. While these results are preliminary and self-reported, they offer a promising early signal that a surgery school model can positively influence patient preparedness and overall experience.

What's Next?

Psychological preparedness is a modifiable — yet often under-addressed factor in cardiac surgery care. Our early experience suggests that a surgery school is a feasible, scalable, and low-risk way to support patients more holistically. Our next steps include a formal evaluation using ERAS data to compare outcomes between attendees and non-attendees, embedding the programme as a quarterly service, and expanding access through online delivery, including live-link sessions and pre-recorded content for patients with travel constraints or emergency admissions.

In summary, this work signals a meaningful and structured shift toward a more patient-centred and psychologically informed approach to cardiac surgery — one that recognises mental readiness as a core component of recovery. Evidence from Leivaditis *et al.* (2025) and Hall *et al.* (2025) reinforces the value of psychosocial support and psychological prehabilitation in improving surgical outcomes. Together, these findings strengthen the case for embedding structured psychological preparation within preoperative pathways, a gap that the surgery school model directly addresses. As the programme evolves, it offers a clear opportunity to shape future cardiac surgery care so that psychological support becomes a routine, evidence-based part of every patient's journey.

Quality Improvement in Thoracic Surgery 13:30-15:00 **Tuesday, 17 March**

Person-centred care (PCC) in thoracic surgery – integrating the Gothenburg model into discharge processes improves patient satisfaction

Aamir Amin[1], Jessica Doerr[1], Andrew Bridgeman[1], Kath Hewett[1], Caroline Gee[1], Siobhan Keegan[1], Annabel Sharkey[1], Felice Granato[1] 1 Division of Lung Cancer and Thoracic Surgery, Wythenshawe Hospital, Manchester University NHS Foundation Trust

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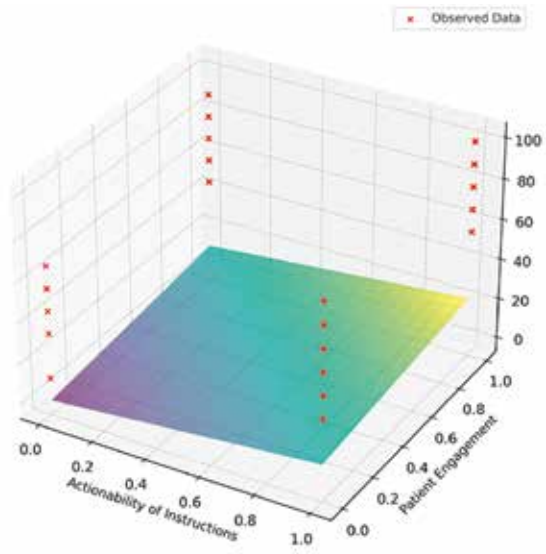

Figure 1. 3-D regression analysis of PCC domains with satisfaction scores

What we set out to do...

Person-centred care (PCC) has become a defining expectation of contemporary healthcare, championed by NICE and reinforced across Royal Colleges and national policy. Yet in surgical practice - particularly at the point of discharge - PCC can be difficult to operationalise amid competing priorities, time pressures and variable communication structures. At Wythenshawe Hospital, our thoracic surgery team set out to translate the principles of the Gothenburg Model of PCC into practical, measurable improvements in discharge processes and to test whether this could meaningfully enhance the patient experience.

How we achieved it . . .

This work was deliberately designed as both prospective research and a quality improvement project, using iterative Plan-Do-Study-Act (PDSA) cycles. We began with a baseline assessment of discharge experience using a customised patient satisfaction questionnaire (PSQ) spanning nine domains relevant to thoracic surgical in-patients. Early findings were sobering: overall satisfaction with existing discharge processes was modest, at 63% (n=70), signalling that "routine" discharge workflows can leave important person-centred needs unmet.

The intervention was co-produced with a multidisciplinary team (MDT) engagement and direct patient input - an essential PCC principle in itself. We introduced a new electronic discharge proforma designed to embed PCC domains into everyday discharge documentation and conversations. This was followed by targeted staff education and re-circulation of the questionnaire across subsequent PDSA cycles to assess impact and sustainability.

What drives patient satisfaction . . .

The improvement was both impactful and sustained. Following the introduction of the MDT-informed discharge proforma, satisfaction increased by 28% to 91% (n=44), remaining high at 90% (n=53) thereafter, suggesting not only an immediate benefit but also durability across cycles. Statistical testing corroborated these changes: a Kruskal-Wallis comparison of satisfaction scores demonstrated clear differences across phases ($H(2)=98.04$, $p<0.001$), with post hoc analyses confirming significant differences between groups ($p<0.001$).

Beyond demonstrating improvement, we were keen to understand what drove satisfaction. Multiple linear regression (Figure 1) showed that all nine PCC domains significantly predicted overall satisfaction ($\pm \approx 11.1$, $p < 0.001$). In practical terms, this reinforces a key message: patient experience at discharge is not dictated by a single "good conversation" or leaflet, but by a structured set of person-centred behaviours and systems that collectively shape how supported, informed, and involved patients feel.

Why this matters for thoracic surgery . . .

For a specialty that often measures success through clinical outcomes, this project offers a complementary perspective: discharge is a pivotal clinical moment where high-quality thoracic surgery can still be undermined by fragmented communication or insufficient individualisation. Our findings suggest that embedding PCC in discharge processes - through co-designed tools, MDT ownership, and education - can deliver measurable, reproducible gains in patient satisfaction. As we look ahead, we see clear opportunities to extend this work beyond the specialist interface, including exploration of GP and primary care perspectives to strengthen continuity and person-centred support after hospital discharge.

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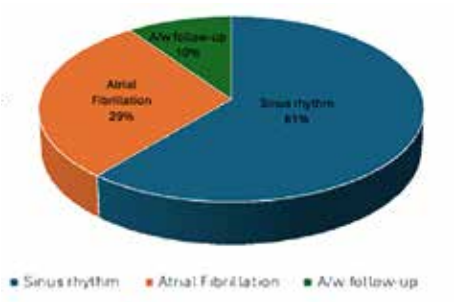
Atrial Fibrillation And Science 15:30-17:00 Monday, 16 March, 2026

Hybrid convergent procedure followed by endocardial catheter ablation for Atrial Fibrillation management: A UK multicentre audit

Rona Lee Suelo-Calanao[1], Rommerico Floresca[1], Jane Caldwell[1], Gemma Hudson[1], Mahmoud Abdelaziz[2], Nicolas Nikolaidis[2], Joseph Saint John[2], Cha Rajakaruma[3], Ahmed Ashoub[4], Maya Raivadera[4], Raisa Bushra[4], Shincy Joseph[4], Lognathan Balacumaraswami[5], Prakash Nanjaiah[5], Avishek Samaddar[5], Alessia Rossi[6], Lowela Borja[6], Charina Mamino[6] Mahmoud Loubani[1] 1. Hull University Teaching Hospitals NHS Trust; 2. Royal Wolverhampton NHS Trust; 3. University Hospitals Bristol NHS Trust; 4. University Hospitals Birmingham NHS Trust; 5. University Hospital North Midlands NHS Trust; 6. Mid and South Essex NHS Foundation Trust

Rona Lee Suelo-Calanao



Outcomes after two phases of hybrid convergent procedure

Background

Atrial fibrillation (AF) significantly increases the risk of stroke and heart failure, leading to higher mortality after cardiac surgery (Doll *et al,* 2023). Current guidelines recommend antiarrhythmic drugs and catheter ablation (CA) as first-line therapy. However, these treatment plans show limited long-term success for persistent AF (Delurgio *et al,* 2020). Patients undergoing CA for persistent AF often require multiple ablation procedures, particularly those in long-standing AF. Good transmural lesions can be created with surgical ablation, but it is associated with increased risk of perioperative complications. The concept of "hybrid" ablation emerged to theoretically enhance the advantages of both minimally invasive surgical ablation and CA procedures while seeking to improve rhythm outcomes, reduce invasiveness and incidence of perioperative complications. This multicentre audit aims to assess the incidence of perioperative complications and the freedom from persistent and long-standing AF/atrial flutter (AFL) following the Hybrid Convergent procedure and endocardial catheter ablation for AF management in the UK.

Methods

All UK cardiac units performing Hybrid Convergent Procedures were invited to participate; of which, six cardiac centres participated. The audit included adult patients treated from the start of the service to the present. Each unit secured approval from its clinical governance committee and used a standardised questionnaire to collect anonymised data pre-operatively, intra-operatively, and post-operatively, as well as data on the last follow-up. This was submitted to the primary investigator via a secure NHS mail platform and stored on a protected drive.

A total of 160 patients were identified. The management plan comprises 2 phases: Phase 1 is the epicardial ablation performed by a cardiac surgeon. This is performed by inserting a specifically designed vacuum-assisted unipolar RF probe via a subxiphoid access. The aim is to create multiple contiguous and parallel lesions across the LA posterior wall under pericardioscopic guidance. Phase 2 is the endocardial ablation performed by an electrophysiologist. The aim of the procedure is to perform electro-anatomical mapping, touch-up ablations and gap closure. Both procedures aim to create parallel, overlapping linear lesions to fully isolate the left atrial posterior wall and the antra of the four pulmonary veins.

Out of the total identified patients, 155 underwent epicardial ablation, and 144 completed both phases, including endocardial ablation. Some are excluded due to poor access, adhesions, and unmanageably high oesophageal temperature.

Results

The last follow-up was between six months and two years after completing the two phases of the procedure. The overall outcomes showed that, of 144 patients, 88 (61%) maintained sinus rhythm, while 42 (29%) reverted to AF/atrial flutter. This was recorded using a 12-lead electrocardiogram (ECG) and/or a Holter monitor. It was also noted that patients who had a single ablation prior to undergoing a hybrid convergent procedure showed a stable restoration of sinus rhythm compared to those who had two or more previous ablations. Also, more patients who had a three-month to six-month interval from phase 1 to phase 2 remained on sinus rhythm compared to the other group. Furthermore, 39 (65%) out of 60 patients who had an atrial clip applied to the left atrial appendage remained in stable sinus rhythm. No bleeding complications or major adverse cardiovascular events were reported during or after the procedures.

Conclusion

The Hybrid Convergent procedure, followed by endocardial catheter ablation, is a safe and effective treatment for managing persistent and long standing persistent Atrial Fibrillation.

Future Plan

Perform a single-centre propensity match study on the effectiveness of the Convergent hybrid procedure versus antiarrhythmic drugs and stand-alone CA ablation in patients with persistent and long-standing persistent AF.

Single Ventricle and Tricuspid Valve Session 13:30-15:00 Monday, 16 March

VSD-dependent systemic outflow: 25-year experience in a single centre

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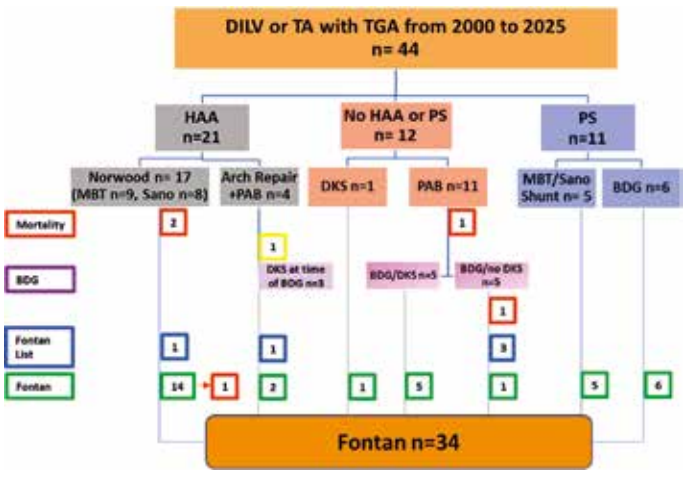

Figure 1. Pathways and results for surgical management of DILV/TA with TGA

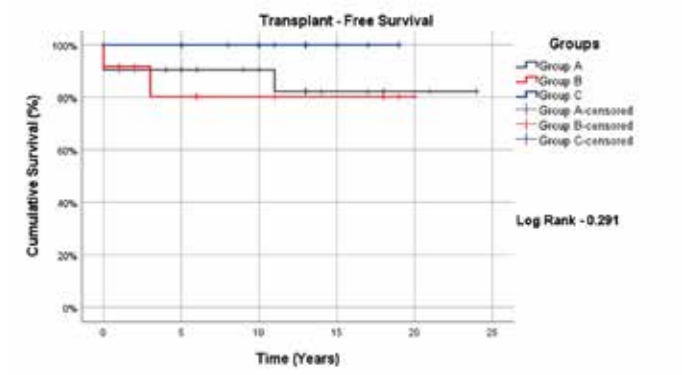

Figure 2. Kaplan–Meier curves for transplant-free survival

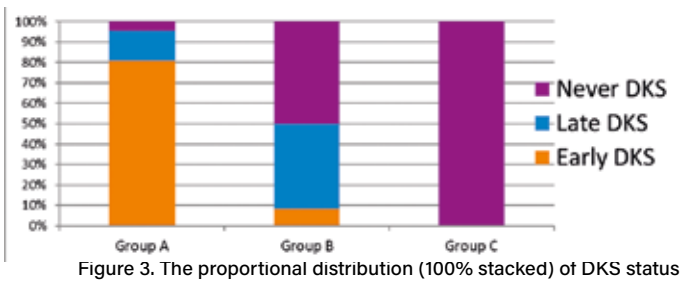

Figure 3. The proportional distribution (100% stacked) of DKS status per group

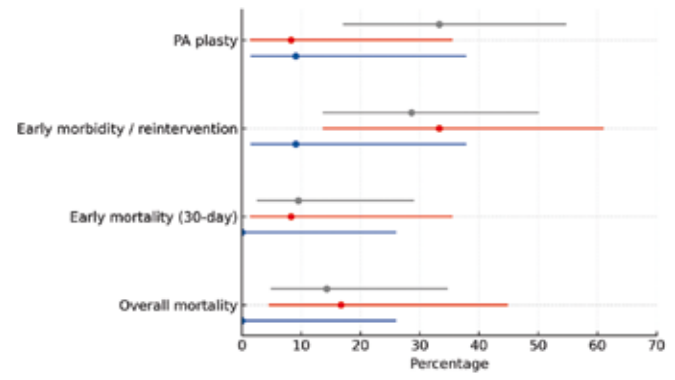

Figure 4. Morbidity & mortality by group — Cleveland dot plot of proportions with 95% CIs

In double-inlet left ventricle (DILV) and tricuspid atresia (TA) with transposition of the great arteries (TGA), systemic output from the dominant left ventricle crosses a ventricular septal defect (VSD)–previously referred to as the Bulboventricular foramen–into a rudimentary right ventricle that gives rise to the aorta.[1-3] Clinically, this cohort of patients often lies along a spectrum: at one extreme, interrupted or hypoplastic aortic arch (HAA) with an actually or potentially restrictive VSD; at the other, pulmonary stenosis (PS)/atresia with a large, non-restrictive VSD and lower SOTO risk.[2-5] Variation in VSD size and the relationship between the infundibular septum and the great arteries predisposes to systemic outflow tract obstruction (SOTO), which may be present at birth or develop during staged palliation.[5]

Once significant SOTO develops, intracardiac relief—particularly VSD enlargement—carries non-trivial risks including conduction injury and restenosis, whereas bypass solutions such as the Damus–Kaye–Stansel (DKS) anastomosis reliably abolish the gradient; this supports anticipating SOTO rather than reacting late.[5-6]

This study examines a 25-year single-centre experience in DILV/TA with TGA, stratified by initial physiology and index strategy, to quantify transplant-free survival, Fontan completion and re-intervention burden, and to identify factors associated with SOTO progression.

Forty-four patients were included (A: 21 [48%]; B: 12 [27%]; C: 11 [25%]). Initial operations comprised Norwood-type reconstruction (n=18), aortic arch repair with pulmonary artery banding (PAB; n=4), PAB alone (n=11), and modified Blalock-Taussig-Thomas (mBTT) shunt or Bidirectional Glenn (BDG) procedure (n=10). After PAB, SOTO necessitated Damus–Kaye–Stansel (DKS) at the time of BDG (8/15, 53%); PS phenotypes demonstrated a lower SOTO risk (reported 1/11, 9%). Re-interventions (12/44, 27%) included PA plasty, band adjustment, re-coarctation treatment and septostomy. At a median follow-up of 10.9 years (IQR 5.0–17.9), overall survival was 39/44 (89%) with three early and two late deaths. Fontan completion occurred in 34/44 (77%). Within this cohort, DKS performed later in the pathway did not increase mortality.

These findings support early recognition of SOTO risk and an anatomy-driven strategy with a low threshold for definitive systemic outflow solutions in high-risk neonates

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14-16 MARCH 2027

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Mirtal valve surgery outcomes 11:00-12:30 **Monday, 16 March**

Comparing the outcomes of mitral valve repair using annuloplasty ring vs partial band – a systematic review and meta-analysis

Roberts T[1], Kutywayo K[2], Koulourodias M[3], Mayooran N [3], Boulemden A[3], Szafranek A[3] 1. University College London, Medical School; 2. Glenfield Hospital, University Hospitals of Leicestershire; 3. Trent Cardiac Centre, Nottingham University Hospitals

Mitral regurgitation is the most common valvular abnormality worldwide, and surgical repair remains the primary intervention for the dysfunctional mitral valve. A durable mitral valve repair hinges on annuloplasty. We investigated whether the choice of device matters.

Understanding the mitral valve

The mitral valve is a dynamic, saddle-shaped functional unit that changes in size and shape throughout the cardiac cycle to facilitate efficient filling and coaptation. It consists of anterior and posterior leaflets, with the posterior leaflet possessing a greater surface area and attaching to the left ventricular myocardium via the subvalvular apparatus. This complexity means that surgical intervention must respect the valve's natural geometry if long-term function is to be preserved.

Broadly speaking, annuloplasty can be conducted via two means. The partial, "C-shaped" band is designed to support the posterior annulus and the inter-trigonal region, leaving the anterior leaflet-aortic continuity undisturbed and allowing for natural valve motion. The full ring, by contrast, provides complete 360-degree circumferential support to the entire annulus. Both approaches aim to reduce annular dilatation and restore coaptation; however, understanding of the pros and cons to each device is paramount in the patient-centred decision-making process.


Thomas Roberts

The case for each device

Proponents of partial band annuloplasty highlight several practical and physiological advantages. Because sutures are placed only along the posterior annulus, operative time is reduced, sparing critical time spent on cardiopulmonary bypass. Additionally, leaving the anterior annulus unaltered (provided the original annulus is stable) preserves natural valve motion and reduces the risk of systolic anterior motion (SAM), a potentially serious complication. Full ring annuloplasty, on the other hand, offers the theoretical advantage of superior and more durable annular stabilisation - with some studies suggesting that complete circumferential support may better withstand the mechanical stresses of an active annulus over time.

Despite these competing claims, contemporary comparative evidence has been lacking. No systematic review had synthesised data from the last decade, where meaningful advances in annuloplasty device materials, surgical technique, and three-dimensional echocardiographic assessment of mitral valve dynamics.

Methods

Conducted in accordance with PRISMA 2020 guidelines, our systematic review searched PubMed/MEDLINE for studies published between January 2013 and January 2025 comparing full ring versus partial band annuloplasty in mitral valve repair. Of 164 records identified, 24 met our inclusion criteria. Six studies provided sufficient comparative data for formal meta-analysis using random-effects modelling. Statistical analysis was performed using R Studio and GraphPad Prism, with risk ratios and odds ratios calculated as effect measures.

Key findings

Baseline demographics were comparable between device groups across included studies, with a weighted mean follow-up of 40 months.

The most clinically significant finding concerned repair durability. Meta-analysis of five studies demonstrated a lower risk of recurrent moderate-to-severe mitral regurgitation with partial bands (RR 0.56, 95% CI 0.28–1.10), with full rings associated with more than twice the odds of recurrence (OR 2.29, p = 0.037). For patients and surgeons alike, the long-term competence of the repair is a paramount concern, and our findings suggest partial bands may hold an advantage in this respect. (Figure 1)

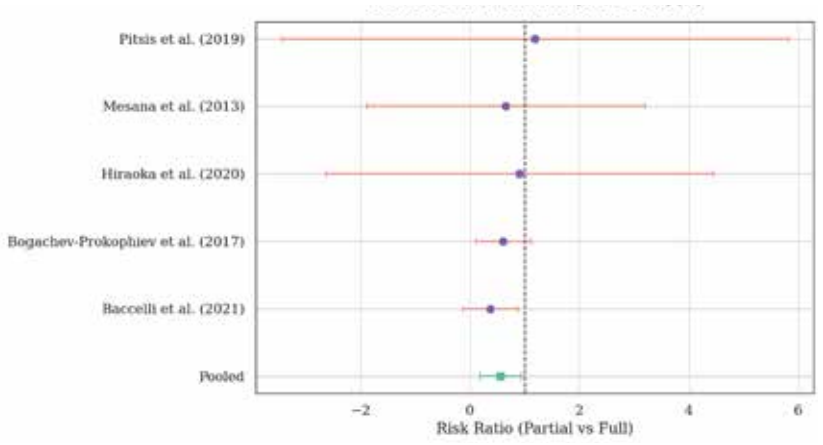

Figure 1

A second meaningful difference emerged in postoperative atrial fibrillation. Full ring annuloplasty was associated with significantly higher odds of new AF compared to partial bands (OR 1.30, p = 0.024). This may reflect altered annular geometry and increased atrial mechanical stress associated with complete circumferential constriction, though the precise mechanism warrants further investigation.

> This meta-analysis represents the most contemporary synthesis of comparative evidence on these two widely used annuloplasty strategies. Limitations of the underlying literature (including the use of aggregate rather than individual patient data, variability in outcome definitions, and heterogeneity in follow-up duration) highlight the ongoing need for well-designed prospective and ideally randomised, comparative studies. Until such evidence is available, our findings offer a framework to inform device selection guided by anatomy and surgical judgement.

Reassuringly, both devices performed equivalently across the majority of safety endpoints. Operative mortality at 30 days and late follow-up were comparable, as were most other postoperative complications (bleeding, thromboembolism, endocarditis, etc.). Mean transvalvular gradients were similar between groups (3.52 vs 3.26 mmHg, p = 0.579), and interestingly, there was no significant difference in cross-clamp time, indicating no added technical burden with either approach.

Implications for Practice

These findings suggest that device selection may carry meaningful clinical consequences, with partial band annuloplasty associated with lower rates of recurrent regurgitation and postoperative AF, without compromising operative safety or efficiency.

That said, these results should not be interpreted as a universal endorsement of bands over rings. As with all aspects of mitral valve surgery, the underlying pathology, annular anatomy, and individual surgical expertise must guide device selection. In patients with complex annular dilatation or specific anatomical considerations, full circumferential support may remain the appropriate choice. What this analysis does support is a more evidence-informed approach to an area that has long been driven by institutional tradition and personal preference.

Looking Ahead

This meta-analysis represents the most contemporary synthesis of comparative evidence on these two widely used annuloplasty strategies. Limitations of the underlying literature (including the use of aggregate rather than individual patient data, variability in outcome definitions, and heterogeneity in follow-up duration) highlight the ongoing need for well-designed prospective and ideally randomised, comparative studies. Until such evidence is available, our findings offer a framework to inform device selection guided by anatomy and surgical judgement.

Affiliations: University College London Medical School; Glenfield Hospital, University Hospitals of Leicestershire; Trent Cardiac Centre, Nottingham University Hospitals.

Medical Students 2 - Pat Magee Session 10:50-12:20 **Sunday, 15 March**

Early outcomes after off-pump vs on-pump CABG in LV systolic dysfunction: An updated meta-analysis

Carolyn C.Y. Liu[1], Sunil K. Bhudia[2], Nandor Marczin[3], Shahzad G. Raja[2] 1. Brunel Medical School, Brunel University London; 2. Department of Cardiac Surgery, Harefield Hospital, London; 3. Department of Anaesthesia & Critical Care, Harefield Hospital, London

Patients with left ventricular systolic dysfunction (LVSD) undergoing coronary artery bypass grafting (CABG) remain a particularly high-risk group, where early postoperative complications can substantially influence recovery, resource utilisation and long-term outcomes. Whether these patients fare better with off-pump coronary artery bypass (OPCAB) or conventional on-pump CABG (ONCAB) has been debated for decades. Cardiopulmonary bypass may contribute to morbidity through inflammatory activation, haemodilution and embolic risk, whereas OPCAB avoids these physiological stresses but requires considerable technical expertise and careful patient selection. To help clarify the evidence, the authors performed an updated systematic review and meta-analysis specifically focusing on early outcomes in LVSD patients.


Carolyn C.Y. Liu

Following PRISMA methodology, the team reviewed randomised and observational studies comparing OPCAB and ONCAB in patients with ejection fraction ≤40%, drawing data from PubMed, Embase and the Cochrane Library. The primary endpoint was 30-day mortality, with secondary endpoints including neurologic, respiratory, renal, cardiac and infective complications that typically impact early recovery. DerSimonian–Laird random-effects modelling with assessment of heterogeneity was used for statistical synthesis.

Across 22 studies involving 36,270 patients, the results consistently favoured off-pump surgery. OPCAB was associated with a significant reduction in 30-day mortality (odds ratio 0.73, p<0.001). Important early complications were also less frequent with OPCAB, including stroke, pulmonary complications, myocardial infarction, atrial fibrillation, renal failure, infection and reoperation for bleeding. These findings suggest that in patients with LVSD, avoiding cardiopulmonary bypass may mitigate a range of physiological stressors that disproportionately affect this vulnerable cohort.

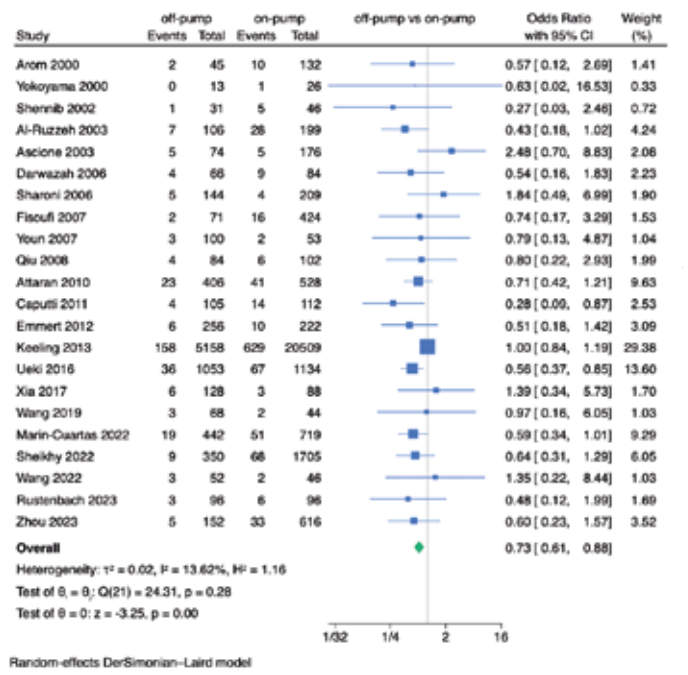

Figure: Forest plot of 30-day mortality

> Although this updated analysis reinforces an early advantage for OPCAB in LVSD, longer-term outcomes require further study. Key questions remain regarding graft patency, completeness of revascularisation and survival beyond 30 days. High-quality prospective studies focusing specifically on LVSD are needed to determine whether the early benefits translate into sustained long-term advantage.

The clinical implications of these findings are considerable. In LVSD, early morbidity often dictates the postoperative trajectory: stroke carries a profound neurological burden; renal dysfunction prolongs critical care stay and worsens both short- and long-term outcomes; pulmonary complications delay mobilisation; and reoperation for bleeding increases transfusion requirements and infection risk. The observed reductions in neurological, renal, respiratory and bleeding events therefore translate into meaningful advantages in early recovery and hospital resource use.

However, interpretation must remain grounded in the clinical context. Success with OPCAB depends heavily on coronary anatomy, target-vessel quality, haemodynamic tolerance during displacement and surgeon or institutional experience with beating-heart techniques. In cases where haemodynamic stability is uncertain or where complete revascularisation may be compromised, ONCAB remains a sound and often preferred approach. As the meta-analysis included a substantial number of observational studies, residual confounding and selection bias cannot be entirely excluded; the findings strengthen but do not definitively prove a causal benefit.

Although this updated analysis reinforces an early advantage for OPCAB in LVSD, longer-term outcomes require further study. Key questions remain regarding graft patency, completeness of revascularisation and survival beyond 30 days. High-quality prospective studies focusing specifically on LVSD are needed to determine whether the early benefits translate into sustained long-term advantage.

2026 SCTS ANNUAL MEETING

UNIVERSITY DAY - SUNDAY 15TH MARCH

	HALL 2A	MR 1A/B	HALL 2B	MR2/B	MR 3B	MR 3A	HALL 1D
09:00-10:30	Cardiac - Aorta	Cardiac - Mitral	Management Of Early Stage NSCLC	Building a Culture of Evidence-Based Care	Medical Students 1	Edwards Wetlab	NAHP Wetlab & Drylab Congenital
10:30-10:50	Coffee/Tea and Networking						
10:50-12:20	Cardiac - Aortic Dissection	Cardiac - Minimally Invasive	Chest Wall Conditions	Crafting Better Researchers: Skills for Scholarly Success	Pat Magee Session	Edwards Wetlab	NAHP Wetlab & Drylab Congenital
12:20-12:30	Grab lunch bag						
12:30-13:30	TADCT Lunchbox	Edwards Lifesciences Lunchbox	Zimmer Biomet Lunchbox	Creed Healthcare Lunchbox	Lunch		
13:30-15:00	Cardiac - MCS + Transplant	Challenges in Tricuspid Valve - BHVS	Surgery on the Thymus Gland	Inside the Chest: Innovations Reshaping Thoracic Surgery	Medical Students 3	Edwards Wetlab	NAHP Wetlab & Drylab Congenital
15:00-15:30	Coffee/Tea and Networking						
15:30-17:00	Cardiac - Revascularisation	Cardiac - Arrhythmia Surgery	Challenges in the Management of Locally Advanced NSCLC	Clear the Way: Airway Strategies and the Mdt Approaches After Cardiothoracic Surgery	Medical Students 4	Edwards Wetlab	NAHP Wetlab & Drylab Congenital
17:00-19:00	Trainee Meeting (17:00 - 18:00)	Welcome Reception (Exhibition Hall)					

MONDAY 16TH MARCH

	HALL 2A	MR 1A	MR 1B	HALL 2B	STUDIO	MR 2A/B	MR 3A	MR 3B	HALL 1D
09:00-10:30	Presidential Plenary - Main Auditorium								WICTS & Edwards Wetlab
10:30-11:00	Coffee/Tea and Networking (Exhibition Hall)								
11:00-12:30	Cardiac Aorta Outcomes	Mitral Valve Surgery Outcomes	Transplantation and Mechanical Support	Improving Perioperative Outcomes in Thoracic Surgery	Evidence-based Practice in Thoracic Surgery	Elevating Expertise: Mastering Advanced Clinical Skills for Exceptional Patient Care	Moderated Posters - Cardiac	Management of the Right Ventricle Outflow Tract	WICTS & Edwards Wetlab
12:30-13:30	Lunch (Exhibition Hall)							Pet Therapy (Bar One) (12:00-14:00)	
13:30-15:00	Transformation Plenary - Main Auditorium							Single Ventricle and Tricuspid Valve	WICTS & Edwards Wetlab
15:00-15:30	Coffee/Tea and Networking (Exhibition Hall)								
15:30-17:00	Atrial Fibrillation and Science	Cardiac - Revascularisation	Aortic Valve Surgery Outcomes and Trends	Surgical Management of Chest Wall Conditions	Screening and Management of Early Lung Cancer	Better Care, Better Outcomes: Innovation and QI in Cardiothoracic Surgery	Moderated Posters - Thoracic	Congenital - Mixed Bag Humanitarian Work and Workforce in Congenital World	WICTS & Edwards Wetlab
19:30-00:00	Gala Dinner							Congenital Committee (17:00 - 18:00)	Transplant Committee - Boardroom 1 (17:00 - 18:00)

TUESDAY 17TH MARCH

	HALL 2A	MR 1A/B	MR 3B	HALL 2B	STUDIO	MR 2A/B	MR 3A	HALL 1D
09:00-10:30	Thinking About Tricuspid Valve	Cardiac Beyond Routine	Cardiothoracic Training	Lung Volume Reduction	SCTS and EDI in Cardiothoracic Surgery: "How we all can do better"	Bridging Protocol and Pathways: QI-driven Pathways in Cardiothoracic Surgery	Moderated Posters - Cardiac	Wellness Lounge
10:30-11:00	Coffee/Tea and Networking (Exhibition Hall)							
11:00-12:30	Cardiac Aorta 2	Cardiac Revascularisation 2	Cardiac Operative Strategy	Surgical Management of Locally Advanced Lung Cancer, and Other Thoracic Malignancies	Role of Research in Speciality Sustainability	International Session: Digital technology: the good, the bad and the ugly	Moderated Posters - Cardiac	Wellness Lounge
12:30-13:30	Lunch (Exhibition Hall)						Pet Therapy (Bar One) (12:00-14:00)	
13:30-15:00	Mitral Valve Minimal Access	Aortic Valve and Annulus	Cardiac Research and Thoracic Research	Quality Improvement in Thoracic Surgery	Research PSP and Hackathon	Empowering Excellence: Innovative Approaches to Healthcare Education and Support	Moderated Posters - Thoracic	Wellness Lounge
15:00	Close							

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Cardiac Aorta 2 11:00-12:30 **Tuesday, 17 March**

Sheffield-quad: a structured perfusion platform for modern complex aortic surgery

Roberto Marsico, Jack Satchwell, Rebecca Friar, Sean Colley, Paul Beatson, Olaniran Omodara, Syed A Sadeque, Govind Chetty, Stefano Forlani, Renata Greco Cardiothoracic Surgery, Northern General Hospital, Sheffield, United Kingdom

Complex aortic surgery in the modern era demands flexibility. Cannulation strategy, cerebral and multi-organ protection, preference for antegrade flow, urgency of presentation and anatomical variation all influence intraoperative decision-making. In many cases, strategy evolves during the operation itself, often requiring intraoperative adaptation.

Across centres, and even within individual teams, this reality has led to legitimate differences in approach. While operative strategies may vary, we found value in a consistent framework.

At Sheffield Teaching Hospitals, our multidisciplinary aortic team recognised the need for a system capable of accommodating evolving surgical scenarios while remaining simple, practical, safe and reproducible. From this requirement, we developed the Sheffield-Quad system, or S-QUAD.

Our aim was not to dictate a single optimal cannulation strategy. Rather, it was to reduce risk and expand operative possibilities within case variability. S-QUAD is a structured and adaptable perfusion platform designed to support dynamic intraoperative decision-making.

Technically, the S-QUAD circuit is a pre-assembled, standardised cardiopulmonary bypass (CPB) configuration with four arterial limbs, designed to facilitate simultaneous systemic and antegrade cerebral perfusion (ACP) while remaining compatible with multiple cannulation strategies. The system runs from a single centrifugal arterial pump. Blood flow is divided between limbs using Hoffman clamps and monitored in real time with ultrasonic flow probes, allowing precise independent flow control within each line. This configuration enables perfusion of up to four vascular compartments simultaneously. Cannulation strategies can be transitioned seamlessly during CPB without reconfiguring the circuit. As the system is primed alongside the primary circuit, it is immediately deployable. Continuous myocardial perfusion can be maintained, as the cardioplegia pump is not required for ACP.

Although de-airing multiple lines demands attention, the system is designed to allow this to be handled efficiently by the scrub team without disrupting operative flow.

Many centres deliver multi-site perfusion using bespoke or ad hoc circuit modifications, occasionally requiring more than one pump or intraoperative reconfiguration of lines. In contrast, S-QUAD provides a ready-to-use, single-pump platform with all potential options available from the outset. This versatility is achieved without additional infrastructure or financial burden.

Since 2022, we have used S-QUAD in a large series of complex aortic procedures, majority including acute aortic syndromes receiving arch reconstructions or ascending aorta replacements with open distal anastomosis. Multiple cannulation strategies have been employed according to anatomy and surgical preference, including axillary, brachiocephalic, femoral and direct aortic approaches.

ACP has been established in a range of configurations, involving unilateral, bilateral, indirect and direct arch vessel cannulation. In all the arch cases, controlled simultaneous systemic and ACP has been maintained throughout reconstruction, with selected cases incorporating continuous myocardial perfusion.

Early clinical outcomes have been encouraging and consistent with contemporary standards for complex aortic surgery. Full data analysis and detailed results will be presented at the SCTS Annual Meeting, Belfast 2026.

The S-QUAD reflects the collaborative evolution of our Aortic Surgery Group, progressing from concept through refinement and validation to become an established pillar of our practice. Its greatest value has been cultural as much as technical. Surgeons, scrub team, anaesthetists and perfusionists operate from a shared, standardised platform that allows tailored solutions without delay.

Complex aortic surgery will always require judgement. We developed and adopted S-QUAD to ensure that such judgement is supported by structure. In doing so, we aim to make decision-making safer, calmer and reproducible.

Aortic Valve and Annulus 13:30-15:00 **Tuesday, 17 March**

Left ventricular remodelling following the david procedure: observations from a single-centre experience

Jayantika Uniyal-Roberto Marsico, Tsun Hin Chester Lam, Olaniran Omodara, Renata Greco, Syed A Sadeque, Stefano Forlani, Govind Chetty Northern General Hospital, Sheffield, United Kingdom

The David procedure, or valve-sparing aortic root replacement, has become an established approach in the management of aortic root aneurysms. By preserving the native aortic valve while addressing root pathology, it maintains physiological valvular dynamics and avoids prosthetic valve-related complications. An important and less explored question, however, is how left ventricular remodelling evolves once a compliant native root is replaced with a synthetic conduit.

The native aortic root contributes to ventricular–arterial coupling through its elastic properties. In contrast, currently available synthetic grafts are less compliant. This disparity may alter ventricular loading conditions. Whether such mechanical differences translate into measurable changes in left ventricular geometry remains uncertain. Our analysis aimed to explore this interaction within our institutional experience.

Our study

We performed a retrospective review of consecutive patients who underwent the David procedure at Sheffield Teaching Hospitals during a defined study period. The cohort included individuals with connective tissue disorders, bicuspid aortic valve disease, and degenerative pathology. Serial echocardiographic assessment was used to evaluate post-operative changes in left ventricular geometry during follow-up.

Reverse Remodelling

Early clinical outcomes were favourable, and symptomatic status improved in the majority of patients. A consistent observation during follow-up was a reduction in left ventricular mass in a substantial proportion of individuals. This trend was particularly evident among patients presenting with pre-operative aortic regurgitation. In this subgroup, relief of chronic volume overload may plausibly contribute to regression of eccentric hypertrophy. We observed that patients with more advanced ventricular dilation pre-operatively appeared to demonstrate more marked structural regression over time. These findings represent observational associations within our cohort and full data analysis and detailed results will be presented at the SCTS Annual Meeting in Belfast, 2026.

Concentric remodelling

Despite overall regression in ventricular mass in many patients, a subset developed a pattern consistent with concentric remodelling during follow-up. In these individuals, relative wall thickness increased despite a reduction in cavity size. This observation raises the possibility that altered ventricular–arterial interaction following graft implantation may influence remodelling patterns in certain patients. While causality cannot be established in a study of this size, the finding merits further investigation and will be explored more comprehensively in our forthcoming presentation.

Clinical implications

Our experience supports the established clinical benefit of the David procedure, particularly in patients with pre-operative aortic regurgitation. However, the emergence of concentric remodelling in a proportion of patients highlights the complexity of post-operative ventricular adaptation. These observations reinforce the importance of structured longitudinal surveillance. Given the single-centre nature of this experience, broader multicentre collaboration will be essential to better characterise these remodelling patterns.

Conclusion

The David procedure remains a reference standard for valve-sparing aortic root surgery, offering excellent early outcomes and favourable ventricular remodelling in many patients. Within our cohort, we observed regression of left ventricular mass alongside evidence of heterogeneous remodelling responses. Although exploratory in nature, these findings suggest that ventricular adaptation after root replacement may vary between individuals. We believe this experience provides a rationale to expand the analysis within a larger, multicentric collaborative framework to better understand long-term ventricular–arterial dynamics following valve-sparing root surgery.

Transplantation and Mechanical Support 11:00-12:30 **Monday, 16 March**

Changing Mindsets: the role of artificial intelligence in optimising heart transplant outcomes

Stuti Doshi[1], Dr David Varghese[2] 1. University of Buckingham, UK, 2. Golden Jubilee National Hospital, Glasgow, UK

Heart transplantation (HTx) remains the gold standard, and for many patients with end-stage heart failure, is the only definitive treatment. Despite advances in surgical and perioperative care, transplant recipients continue to experience significantly higher mortality than the general population. The transplant pathway involves a range of challenges at both pre- and post-transplant stages. Notably, in the pre-transplant stage, these include underutilisation of donor organs and the risk of primary graft failure (PGF), while post-transplant outcomes are affected by complications such as cardiac allograft rejection (CAR) and long-term cardiac allograft vasculopathy (CAV). This systematic review explored the emerging role of artificial intelligence, including machine learning (ML) and deep learning (DL) in addressing these challenges across the heart transplant pathway.

Optimising pre-transplant decision-making

Donor heart utilisation remains strikingly low, with approximately 23% of offered hearts proceeding to transplantation. Traditional donor–recipient size matching relies on relatively crude anthropometric estimations, which may contribute to unnecessary organ refusal. Recent DL-based imaging models have demonstrated expert-level accuracy in predicting total cardiac volume (TCV), achieving near-perfect correlation with ground-truth measurements (r = 0.995) and minimal percentage error. Such models may enable more precise donor–recipient matching, potentially expanding the donor pool and improving efficiency in organ allocation.

Primary graft failure remains the leading cause of early post–heart transplant mortality. Conventional tools such as the RADIAL score demonstrate only modest discrimination (AUROC 0.53) in predicting the risk of PGF. In contrast, ML-based models analyse multiple pre-transplant variables, including heart failure severity, ischaemic time, and donor–recipient sex mismatch, allowing more comprehensive risk stratification at the point of organ allocation. This enhanced variable integration translates into significantly improved predictive performance (AUROC 0.69, p<0.001), supporting earlier identification of high-risk recipients, with the potential to improve early post-transplant outcomes.

Enhancing post-transplant surveillance

Post-transplant management remains equally complex. Cardiac allograft rejection affects approximately one-third of recipients, while cardiac allograft vasculopathy represents a leading cause of long-term graft failure. Current surveillance strategies rely heavily on endomyocardial biopsy and conventional risk scoring systems, both of which are subject to inter-observer variability and limited predictive capacity. ML-based histopathological grading systems have demonstrated expert-level performance in detecting and classifying rejection, reducing inter-grader variability and potentially decreasing reliance on invasive biopsy protocols, thus potentially improving patient quality of life. Furthermore, when ML algorithms are integrated with conventional clinical risk scores, they show improved accuracy in predicting the future development of CAV, years before clinical manifestation. Such predictive capability introduces the possibility of earlier intervention, personalised immunosuppression strategies, and improved long-term graft survival.

Clinical implications and limitations

The integration of AI into heart transplantation signals a shift from reactive management towards predictive, data-driven care. By enhancing donor selection, refining risk stratification, and strengthening longitudinal monitoring, AI has the potential to improve both short- and long-term outcomes. However, significant limitations remain. Current studies are predominantly retrospective cohort designs with limited heterogeneity, which can make models more prone to overfitting. Sample sizes, although substantial in some datasets, require broader multicentre validation. Ethical considerations, including transparency, potential algorithmic bias, and clinical accountability, must also be addressed prior to widespread implementation. Thus, prospective, nationwide datasets and collaborative registries will be essential to ensure robust multivariate modelling and safe translation into clinical practice.

Conclusion

Artificial intelligence holds considerable promise across the heart transplant pathway. From improving donor organ utilisation to enhancing the prediction of rejection and complications, AI-driven tools may augment surgical decision-making, optimise patient outcomes, and improve the quality of life. While further validation is required, integrating ML and DL into cardiac transplantation represents an exciting frontier in precision surgery.

SCTS EDUCATION

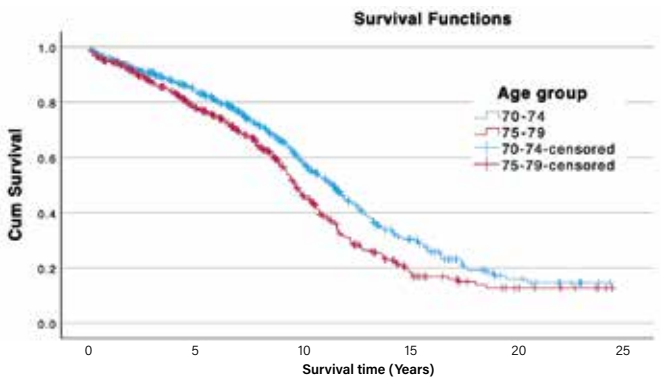
SCTS EDUCATION COURSES		Location	Date
ST3.2	**Non-Operative Technical Skills for Surgeons**	Bristol Simulation Centre	26 – 27 February 2026
Vital training on human factors using simulation in both cardiac and thoracic surgery.			
	Revision & Viva Course for FRCS CTh	Virtual & Ashorne Hill	13 - 14 (Virtual) & 15 – 16 (F2F) April 2026
Two days of online revision presentations followed by 2 days of face to face viva training targeted at those sitting the FRCS CTh examin May 2026.			
ST5.2	**Cardiothoracic Intensive Care and Critical Conditions Course**	Ashorne Hill	27 – 28 April 2026
Two days of targeted, small group teaching aimed at the critical conditions component of the FRCS CTh examination.			
ST3.1	**Operative Cardiothoracic Surgery Course**	Medizin im Grünen, Germany	7 – 8 May 2026
Live operating in cardiac and thoracic surgery including CABG, AVR and VAT slung resections.			
	SCTS Harefield Core Thoracic Organ Transplantation Course	STaR Centre	28 - 29 May 2026
Two days focused on understanding the principles of transplantation and learning the techniques of heart and lung transplantation.			
ST5.1	**Cardiothoracic Surgery Sub-specialty Course**	Medizin im Grünen, Germany	18 - 19 June 2026
Live operating in either cardiac or thoracic subspecialty including aortic root, mitral valve, off pump, sublobar and complex lung resections.			
ST7.1	**Cardiothoracic Pre-Consultant Course**	Keele Anatomy & Surgical Training Centre	1 - 2 July 2026
Pre-Consultant human cadaveric operating course in cardiacor thoracic subspecialties.Advanced complex operating includingVSD repair,aorticarch, surgeryfor AF,double sleeve, carinal resection and more.			
ST2	**Essential Skills in Cardiothoracic Surgery Course**	Nottingham City Hospital	21 – 22 September 2026
Combined ST2 course encompassing broad introduction to both cardiac and thoracic surgery, operative techniques and peri-operative management.			
	Portfolio Pathway (formerly CESR) Course	Ashorne Hill	6 November 2026
One day course aimed at preparation for Portfolio Pathway submission for Trust Appointed Doctors.			
ST4	**Core Cardiothoracic Surgery Course**	Ashorne Hill	14 – 17 November 2026
Two day wetlab and small group teaching on core subspecialty cardiac topics, including mitral valve surgery, surgery for AF and congenital cardiac surgery.			
ST7.2	**Leadership and Professionalism Course**	Ashorne Hill	26 – 27 November 2026
Two day course for senior trainees and Trust appointed Doctors – What you need to know as a New Consultant and were afraid to ask!			
ST1	**Introduction to Cardiothoracic Surgery Course**	Ashorne Hill	4 December 2026
One day introduction to the speciality of Cardiothoracic surgery, National training programme, SCTS Education and opportunity to meet peers.			

For more information, reach out to mara@scts.org. **Please note:** Some course dates are subject to change, most up to date information will be available on our website (www.scts.org)

Aortic valve surgery outcomes and trends 15:30-17:00 Monday, 16 March

Seventy and still surgical: sAVR outcomes from Yorkshire Heart Centre

Fathima Shafra Mubarak, Mohammad Daji, Kalyana Javangula, Pankaj Kaul, Sotiris Papaspyros, Walid Elmahdy, Antonella Ferrara, Betsy Evans, Yama Haqzad Leeds General Infirmary, Leeds, United Kingdom



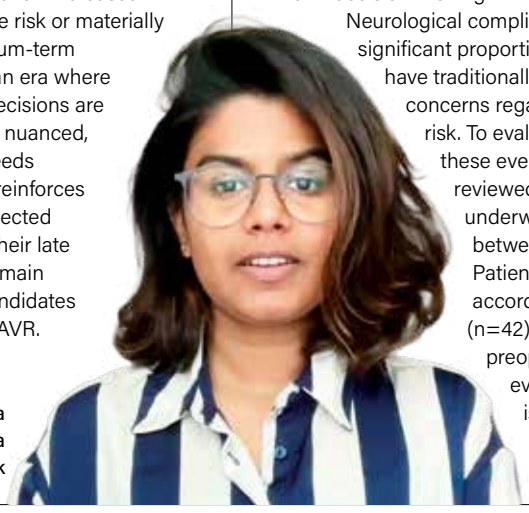
With TAVI indications continuing to expand, there is an increasing tendency to view patients in their late seventies as transcatheter candidates by default. However, does chronological age within this decade truly translate into worse surgical outcomes? 25 years of experience at the Yorkshire Heart Centre provides a clear and reassuring answer.

In this retrospective analysis, we at Leeds General Infirmary reviewed 999 patients who underwent elective isolated surgical aortic valve replacement between 2000 and 2025. Patients were stratified into two cohorts: aged 70–74 years (n=533) and 75–79 years (n=466) to determine whether advancing age within the septuagenarian range influenced perioperative or long-term outcomes.

The findings were strikingly consistent. Early mortality was low and identical between groups, with in-hospital mortality of 1.3% and 30-day mortality of 1.5% in both cohorts. Stroke rates remained low at 1.6% overall. Although permanent pacemaker implantation was numerically higher in the 75–79 group (3.2% vs 2.3%), this difference was not statistically significant.

The long-term outcomes showed that 10-year survival was 51.8% in patients aged 70–74 and 44.8% in those aged 75–79, with no significant separation between Kaplan–Meier curves. Early survival exceeded 98% in both groups, with only modest divergence emerging beyond seven years.

For contemporary UK Heart Teams, these data are highly relevant. In the septuagenarian population, advancing age alone did not confer an increased perioperative risk or materially worse medium-term survival. In an era where treatment decisions are increasingly nuanced, this large Leeds experience reinforces that well-selected patients in their late seventies remain excellent candidates for surgical AVR.



Fathima Shafra Mubarak

Cardiac beyond routine 09:00-10:30 Tuesday, 17 March

Neurological events in infective endocarditis: Is early surgery safe?

Fathima Shafra Mubarak, Mohammad Daji, Kalyana Javangula, Pankaj Kaul, Sotiris Papaspyros, Walid Elmahdy, James O'Neill, Betsy Evans, Yama Haqzad, Antonella Ferrara Leeds General Infirmary, Leeds, United Kingdom

The optimal timing of surgery in patients with infective endocarditis (IE) who have sustained recent neurological events remains a frequent and challenging discussion within UK Heart Teams. While historical practice often favoured delaying intervention after stroke, contemporary guidelines increasingly support earlier surgery in stable patients, reserving delay primarily for intracranial haemorrhage. In this context, a recent single-centre analysis from the Yorkshire Heart Centre provides timely real-world evidence to inform decision-making.

Neurological complications occur in a significant proportion of IE patients and have traditionally been associated with concerns regarding perioperative risk. To evaluate the true impact of these events, we retrospectively reviewed 264 patients who underwent surgery for IE between 2015 and 2025. Patients were stratified according to the presence (n=42) or absence (n=222) of preoperative neurological events, defined as transient ischaemic attack (TIA) or ischaemic stroke, with haemorrhagic stroke cases excluded. The primary endpoints were postoperative morbidity and 30-day mortality.

The study demonstrated reassuringly comparable outcomes between the two groups. Rates of postoperative neurological dysfunction, multisystem failure, renal, pulmonary, septic and gastrointestinal complications were not significantly different in patients with preoperative neurological events compared with those without. Despite the cohort's recognised high risk, as reflected by a mean EuroSCORE II of 10.8, early mortality remained similar between groups. Thirty-day mortality was 14.3% in patients with neurological events versus 10.4% in those without, a difference that did not reach statistical significance.

The data suggest that the presence of a preoperative ischaemic neurological event alone should not automatically prompt deferral of surgery in patients with IE. When carefully selected and managed within a multidisciplinary Heart Team framework, patients can proceed to surgery without a demonstrable increase in early mortality or major postoperative morbidity. This aligns closely with evolving guideline recommendations that advocate earlier surgical intervention in stable patients while maintaining caution in the setting of intracranial haemorrhage.

In summary, this Yorkshire Heart Centre experience supports a more proactive surgical approach in infective endocarditis patients who have sustained TIA or ischaemic stroke. For cardiothoracic teams navigating increasingly complex timing decisions, these data provide further reassurance that appropriately selected patients can safely undergo timely surgery with acceptable outcomes.

NAHP 8 - Empowering excellence: Innovative approaches to healthcare education and support 13:30-15:00 Tuesday, 17 March

Defining the learning curve: A surgical care practitioner's journey to independent LSV harvesting

Rebecca Wragg University Hospitals of North Midlands NHS Trust

Background

The role of the Surgical Care Practitioner (SCP) within UK cardiothoracic surgery continues to evolve in response to increasing service demand and workforce pressures. As SCP responsibilities expand, so too does the need for efficient and effective training. Traditional apprenticeship models lack standardisation, leading to variable training durations and competency outcomes. A structured, evidence-based training pathway is essential for consistent skill acquisition and patient safety. This study evaluates the training pathway for SCPs to achieve full independence in Long Saphenous (LSV) harvesting and first-assist duties in cardiac surgery.

Why does this matter?

SCPs are increasingly relied upon to support cardiac surgical services. However, training is resource-intensive, and there's little objective data on how long it takes to achieve independence.

Training time has a dual cost; it affects service delivery and patient safety. Pro-longed supervision increases pressure on theatre lists, but inadequate training risks patient harm. The aim was to identify a training duration that balances both. Un-derstanding this learning curve matters for workforce planning, rota design, and super-vision models.

Methods

The training period of a junior SCP was prospectively analysed, undertaking structured exposure to LSV harvesting and first-assist duties in cardiac surgery (April 2024 – July 2024). The predefined endpoint was an independent, non-supervised practice, with the trainer unscrubbed. Data collected included:

Patient demographics

- Case urgency and complexity
- Procedural exposure
- Number of vein segments harvested

Results

Thirty-two procedures were required to achieve full independence. The patient cohort (mean age 68 years, 91% male) had significant co-morbidities, including hypertension (78%) and diabetes (25%). Most cases were urgent or emergency (58%), with 84% being isolated coronary artery bypass grafts (CABG) and 16% combined CABG and valve procedures. Thirty-two procedures were required to achieve full independence. The patient cohort (mean age 68 years, 91% male) had significant co-morbidities, including hypertension (78%) and diabetes (25%). Most cases were urgent or emergency (58%), with 84% being isolated coronary artery bypass grafts (CABG) and 16% combined CABG and valve procedures. Over the training period, a mean of 3 LSV segments were harvested per patient, culminating in a total of 78 segments, with 50% harvested from the right leg. This proficiency was attained over 64 days, averaging 5 supervised cases per week. Importantly, this learning occurred within a high-volume, clinically realistic environment — not a protected simulation model or artificially simplified case mix.

Implications

As cardiothoracic services continue to navigate workforce pressures, SCPs are increasingly integral to maintaining operative flow and continuity. Demonstrating that independence in LSV harvesting can be achieved within thirty-two cases provides benchmarking data for departments designing SCP training pathways. A defined learning curve supports governance and credentialing, enhances patient safety through structured progression, provides transparency for consultants and trainees and reinforces SCP professional development. Investment in structured training yields a rapid, measurable return in service capability.

Conclusion

Structured, high-volume training enables SCPs to achieve competent and independent practice within a short timeframe. This study demonstrates that with a dedicated training ethos and regular exposure to a varied case mix, it is feasible to develop proficient SCPs efficiently, supporting service delivery in complex cardiac surgery. As the profession continues to mature, defining and measuring these learning curves will be essential. Structured data, rather than assumptions, must guide how we train the evolving cardiothoracic workforce.

Cardiac Revascularisation 2 11:00-12:30 Tuesday, 17 March

Can urgent cardiac patients safely wait for surgery at home? – The Urgent@Home Pathway.

Violeta Hernandez-Manzano
Liverpool Heart and Chest Hospital

In most cardiac units, the word urgent usually means admission. Patients listed for urgent surgery stay in the hospital while waiting for theatre availability, even if they are clinically stable. Over time, this has become routine practice. But in a system under constant bed pressure, we began to question whether it was always necessary.

At Liverpool Heart and Chest Hospital, we developed the Urgent@Home pathway to explore whether carefully selected, stable patients could safely wait for surgery at home rather than occupying an inpatient bed.

Traditionally, stable patients requiring urgent CABG or valve surgery would remain on the ward for optimisation and monitoring until their operation. While safe, this approach often resulted in prolonged pre-operative stays, contributing to bed pressures and exposing patients to the downsides of hospital admission, like HAP and general deconditioning.

The Urgent@Home pathway was designed with strict selection criteria. Only haemodynamically stable patients, following full assessment and optimisation, were considered by the Cardiologist and Surgeon of the Week. Clear safety-netting advice, direct lines of communication, and structured follow-up were built into the pathway. This way, we identified patients for whom hospital admission was not adding clinical value.

Between November 2024 and October 2025, 117 patients were enrolled onto the Urgent@Home pathway, including 46 CABG ± valve patients transferred with acute coronary syndrome. These were compared with 343 similar ACS transfer patients who underwent surgery via the traditional inpatient pathway between November 2023 and October 2024.

Following the introduction of Urgent@Home, the mean pre-operative length of stay was significantly reduced from 10.8 days to 1.2 days ($p < 0.001$). Importantly, this did not adversely affect perioperative outcomes. Mean ICU stay was comparable (3.9 vs 3.0 days, $p = 0.14$), and postoperative length of stay reduced from 8.9 to 6.3 days ($p = 0.03$). There was no increase in 30-day mortality, postoperative complications or adverse events while patients awaited surgery at home.

We also asked patients about their experience. Every single patient surveyed described awaiting surgery at home as a positive experience, and all would recommend it to others.

One patient reflected that being at home allowed them to "relax in the comfort of my home and prepare in my mind for my operation." Another valued the practical freedom: "It gave me time to get things ready on the farm." Others spoke about having time to arrange personal affairs and eat properly, which are meaningful aspects of autonomy that are often lost during hospital admission.

Reassurance was a recurring theme. Patients consistently highlighted the importance of regular contact with the cardiac team. As one patient put it, "[the coordinator] called frequently to see how I was, which was very reassuring." Another said, "I was always in touch… I could always reach out."

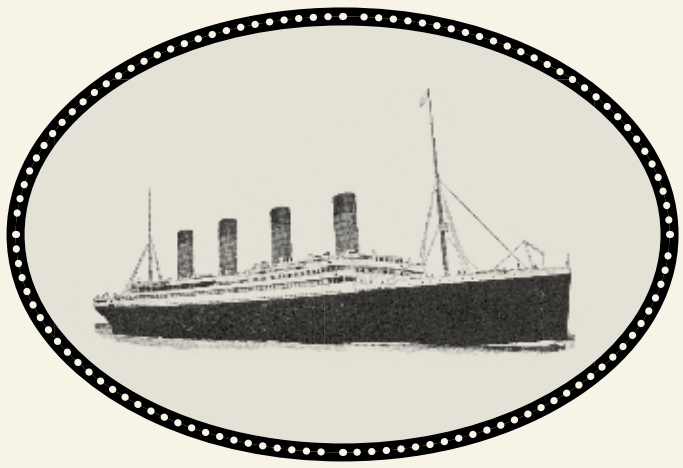
Feeling safe at home was essential. Almost all patients reported feeling fully supported while awaiting surgery, and communication around surgery dates and plans was described as clear and timely.

As a trainee, these figures and feedback were a reminder that innovation in surgery is not only about technical excellence in theatre. Sometimes it lies in improving the experience around the operation, reducing unnecessary hospital days while maintaining safety and human connection; these are the fundamental pillars of the Urgent @ Home pathway.

SCTS

ANNUAL DINNER

2026



Monday 16th March
Titanic Belfast

DRESS CODE
Black Tie/Gala

18:00 - 19:45
Welcome Drinks & Tour
of the Titanic galleries

19:45
Call for dinner

22:15
Entertainment

01:00
Carriages

Please arrive early to enjoy the
Titanic galleries and exhibits.

There is no organised transport to the
Titanic. Please make your own way.

There is no table plan. The dinner is free seating.

Limited tickets available. If you are interested
in buying a ticket, please check at the dinner
desk in the registration area.

TITANIC
BELFAST

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Screening and management of early lung cancer
15:30-17:00 **Monday, 16 March**

Three-Dimensional CT reconstruction in anatomical lung resection: Choosing the right tool

Jamal Khan Royal Victoria Hospital, Belfast

The growing use of anatomical segmentectomy in thoracic surgery has increased the demand for precise pre-operative anatomical understanding. As surgeons aim to achieve oncological adequacy while preserving lung function, particularly in early-stage lung cancer, three-dimensional (3D) CT reconstruction has become an important adjunct to conventional two-dimensional imaging. With several platforms now available, selecting the most appropriate system for routine practice remains a practical challenge.

My presentation at this year's SCTS Annual Meeting compares five commonly used 3D CT reconstruction platforms—Synapse Vincent, IQQA-3D, Visible Patient, OsiriX/Horos, and 3D Slicer—focusing on their usability, workflow integration, and clinical relevance in anatomical lung resections.

Complex segmentectomies require accurate identification of bronchovascular anatomy, recognition of anatomical variants, and a clear understanding of tumour–margin relationships. Although high-quality 2D CT remains essential, translating these images into a reliable three-dimensional mental model can be difficult, particularly for subsegmental resections. Evidence increasingly suggests that 3D reconstruction improves anatomical orientation and operative confidence and may reduce conversion rates during minimally invasive surgery.

A key theme across available platforms is the trade-off between automation and flexibility. Highly automated systems prioritise speed and consistency, while more flexible platforms allow greater anatomical control but require increased time and expertise.

An important limitation shared by all current platforms is their reliance on inspiratory-phase CT imaging. Reconstructed models therefore represent an inflated lung, while surgery is performed on a deflated lung, potentially leading to overestimation of resection margins. Surgical judgement and anatomical knowledge therefore remain essential.

In summary, no single 3D reconstruction platform is universally superior. The optimal choice depends on case complexity, institutional resources, and surgeon experience. Used appropriately, 3D CT reconstruction enhances surgical planning and confidence, but it should be viewed as a decision-support tool rather than a substitute for sound surgical judgement.

Quality Improvement in Thoracic Surgery 13:30-15:00 **Tuesday, 17 March**

Exploring the Use of WhatsApp Groups in the Thoracic Postoperative Period

Jade Qu East Suffolk and North Essex NHS Foundation Trust, Ipswich, United Kingdom

Our department is a National Centre for Pectus Surgery, with patients travelling from across England for operative management. Patients recruited to the RESTORE trial are offered correction of pectus excavatum (PE) using either the Nuss or Ravitch procedure. Routine surgical correction for PE was decommissioned in 2019, with only severe cases now eligible for NHS funding after review by a national expert multidisciplinary team (MDT), a requirement in place since 2023.

Since its introduction in 1987, the Nuss procedure has undergone multiple refinements to optimise both correction of the chest wall deformity and peri-operative pain management. Contemporary multi-modal analgesia combines intraoperative cryoanalgesia, post-operative lidocaine patches, and multiple oral analgesics to support recovery. Fixation methods have also evolved, with the use of multiple bars, crossed bars, and stabilisers to improve reinforcement and security of the metal bars within the thoracic cavity.

The procedure, however, carries unique risks related to the insertion and positioning of metal bars to elevate the sternum and costal cartilages, as well as the dissection required within the anterior mediastinum for passage of the bar to the contralateral side.

To support patients, individual WhatsApp groups were created for each patient undergoing the Nuss procedure as part of the RESTORE trial between August 2024 and May 2025. We analysed the use of these groups.

Results

A total of 52 groups were created, with a mean of 6.7 members per group, including family members, secretarial and research staff, and the operating surgeon. Each group exchanged an average of 67 messages: 20 from clinicians, 19 from patients, and 17 from friends or family. On average, family members sent 1.6 messages per day, patients 2.5, and clinicians 2. Patients initiated conversations in 28% of instances and family members in 20%, with a mean clinician response time of 94 minutes. Pain management was the most common topic raised.

Clinicians sent an average of 7.2 images per group, typically pre- and post-operative imaging, while patients sent around 4 images, often querying wound appearance or chest shape.

Notably, 15 patients attended external hospitals post-operatively, and in all cases our team was informed via WhatsApp within 24 hours. Two patients were subsequently readmitted to our hospital through discussion in their group.

Conclusion

WhatsApp groups were found to be an effective and immediate tool for supporting patients in the post-operative period following complex thoracic surgery, requiring only a small time investment from clinicians. This approach enhanced communication, encouraged early patient and family engagement, and enabled prompt specialist input in managing surgical complications or emergencies related to the implanted bars.

NAHP 8 – Empowering excellence: Innovative approaches to healthcare education and support 13:30-15:00 **Tuesday, 17 March**

Enhancing Nursing Staff Confidence in Delirium Recognition and Management after Cardiac Surgery through Multi-Modal Quality Improvement Framework

The Delerium Working Group MDT. Top from left: Mary Morris, Rhona Sloss, Giampaolo Martinelli, Alexa Bond, Julie Bye, John Ridgway, Lily Atherton. Bottom: Racquel Acala, Miriam Fortune, Mikki Hjerpe, Joan Peralta, Esther Balce, Sophie Bench, Shannon Primavera

Joan Peralta King's College Hospital NHS Foundation Trust

Delirium remains one of the most pervasive yet under-recognised complications following cardiac surgery. Characterised by an acute and fluctuating disturbance in attention, awareness, cognition, and perception, it affects approximately 20% of cardiac-surgical patients and up to 80% of those admitted to intensive care units. It is associated with increased mortality, prolonged hospitalisation, long-term cognitive decline, psychological sequelae, and significant impacts on the physical and psychological safety of both patient and staff.

Although long recognised on the divisional risk register within our London cardiac ICUs, delirium remained framed as a broad risk without clearly defined drivers or targeted actions, resulting in fragmented improvement efforts and limited sustainable change. Improving outcomes after cardiac surgery demands not only technical excellence but also deliberate, system-wide vigilance toward perioperative neurocognitive complications. Recognising the clinical and organisational impact of delirium, we established the Delirium Working Group to design and implement a structured, multidisciplinary quality improvement programme embedded within routine ICU practice.

Building infrastructure for sustainable change

The initiative began with a core team comprising an ICU consultant, a matron, a senior nurse, and a pharmacist, tasked with updating the local delirium guideline. As the scope of the challenge became clearer, engagement expanded to include allied health professionals (OT, PT, SLT), ACCP, Nurse Educator, Psychologist, and Patient Representative. The inclusion of lived experience proved transformative. Through recorded narratives and active participation in MDT meetings, the patient representative reframed delirium from an abstract clinical risk to a profoundly personal experience. This perspective shaped our priorities and communication strategies.

A distributed leadership model was adopted, encouraging open contribution across disciplines while maintaining strategic alignment. Monthly multidisciplinary meetings, supported by structured QI methodology, ensured momentum and accountability.

Co-designing interventions through data and engagement

Baseline assessment across four critical care units identified key domains requiring intervention: limited nursing confidence in recognising delirium, uncertainty regarding pharmacological and non-pharmacological management, variability in communication with patients and families, and environmental constraints hindering orientation and early rehabilitation.

Driver diagrams were used to delineate contributory environmental, educational, and communication-related factors influencing practice. Potential interventions were prioritised using the PICK methodology to balance impact and feasibility within existing resource constraints.

The resulting strategy was deliberately multi-modal. It comprised a standardised, evidence-based clinical guideline; structured teaching sessions embedded within nursing team days and induction programmes incorporating simulation-based learning; cross-site delirium forums to promote shared learning and standardisation; a dedicated Delirium Awareness Week to enhance institutional visibility; visually accessible educational materials; and sustained communication via newsletters, electronic updates, and clinical huddles.

Education was conceptualised not as a discrete event but as a sustained cultural intervention. Implementation fidelity and impact were monitored through four-weekly multidisciplinary QI meetings, employing repeated measurement and statistical process control methodology. Quarterly audits of nursing staff confidence, delirium assessment, and adherence to delirium management protocol undertaken between July 2024 and June 2025 facilitated continuous evaluation, iterative refinement, and sustained performance improvement.

Measurable and sustained outcomes

Implementation of the programme was associated with significant and sustained improvements in nursing confidence. Confidence in pharmacological management increased from 58% to 83.9%, while confidence in non-pharmacological strategies rose from 68% to 90%. Confidence in early recognition improved from 64% to 90%, and in patient and family education from 58% to 82%.

Importantly, these shifts translated into observable practice changes. Access to essential personal property—an often overlooked but critical non-pharmacological intervention of delirium—increased from 35% to 85%. Engagement in active rehabilitation rose from 66% to 91%, accompanied by improvements in mobility scores. Delirium assessment rates also improved, reflecting stronger integration of cognitive screening into routine care.

Lessons for cardiothoracic practice

Three principles emerge from this initiative. First, meaningful improvement in delirium recognition and management requires more than guideline revision; it necessitates cultural transformation supported by visible leadership and robust QI infrastructure. Second, multidisciplinary collaboration—including patient partnership—enhances both legitimacy and impact. Delirium lies at the intersection of physiology, pharmacology, psychology, and environment; no single discipline can address it in isolation. Third, education must be multi-modal, iterative, and embedded within daily practice to achieve sustainability. Confidence is not built through isolated lectures but through repeated exposure, simulation, shared dialogue, and reinforcement.

As cardiothoracic surgery continues to advance in technical sophistication, equal attention must be given to cognitive and functional recovery. By strengthening nursing confidence and fostering collaborative ownership, we can meaningfully reduce the burden of delirium and improve our patients' lived experience.

NAHP 6 - Better care, better outcomes: Innovation and QI in Cardiothoracic Surgery 15:30-17:00 Monday, 16 March

Homebridge: bridging the gap between admission and cardiac surgery

Ana Alves Guys and St Thomas' NHS Foundation Trust, St Thomas' Hospital, London

A remote monitoring pathway enabling cardiac surgery patients to safely await their operation at home while improving hospital capacity and patient experience

The HomeBridge Pathway enables suitable cardiac surgery patients to safely await their operation at home through structured remote monitoring. Early results show improved patient experience and a reduction of nearly 50% in pre-operative inpatient bed occupancy while maintaining patient safety.

Increasing demand for adult cardiac surgery continues to place considerable pressure on inpatient capacity across NHS cardiac centres. At St Thomas' Hospital in London, patients referred for urgent cardiac surgery are frequently admitted from emergency departments or district general hospitals and remain in hospital while awaiting an operative date. Although

many of these patients stabilise following initial assessment and medical optimisation, they often remain as inpatients due to the absence of a structured pathway allowing safe discharge prior to surgery.

These prolonged pre-operative admissions have several consequences. They reduce bed availability for new acute cases, increase the risk of hospital-acquired complications, and can negatively affect patient experience. For many patients, waiting in the hospital for surgery can be stressful and disruptive, particularly when they are otherwise clinically stable.

To address this challenge, the cardiac surgery team developed the HomeBridge Pathway, a quality improvement initiative designed to enable suitable patients awaiting cardiac surgery to safely return home while remaining under structured clinical supervision. The aim was to improve patient experience and optimise inpatient bed capacity while maintaining robust clinical oversight.

The pathway was developed through multidisciplinary collaboration involving advanced clinical practitioners, cardiac surgeons and administrative teams. Initial service evaluation demonstrated that many patients admitted with coronary artery disease or severe valvular pathology remained hospitalised purely while awaiting surgical scheduling. Root cause analysis identified the absence of a clear protocol for remote monitoring and escalation as a key barrier to safe early discharge.

The HomeBridge Pathway introduced clearly defined inclusion and exclusion criteria to identify appropriate patients. Eligible individuals include those admitted with acute coronary syndromes or severe valve disease who have stabilised clinically, are haemodynamically stable, symptomatically improved, and have completed their pre-operative work-up. Patients with high-risk coronary anatomy, significant ventricular dysfunction, ongoing symptoms, or other indicators of clinical instability are excluded to ensure patient safety.

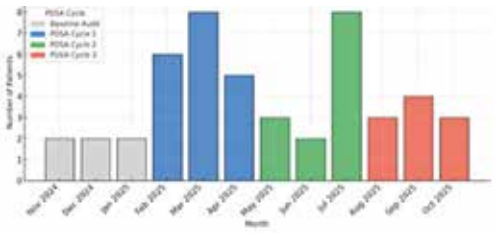

Figure 1: HomeBridge Pathway: Patients per month by PDSA cycle

Patients enrolled in the pathway are discharged home with clear safety-netting advice and direct contact details for the cardiac surgery team. Structured remote monitoring is then provided by specialist nursing staff. Patients receive a follow-up telephone review approximately 48 hours after discharge and subsequently every 72 hours while awaiting surgery, with an additional call 24 hours prior to admission. During these reviews, clinicians assess symptoms and overall clinical status. If deterioration is suspected, the case is escalated to the cardiothoracic surgical team and rapid readmission can be arranged if required.

Early outcomes following implementation have been encouraging. Patients enrolled in the pathway waited at home for surgery for an average of 12.8 days compared with a previous inpatient waiting time of approximately 24.3 days. This represents an estimated 47% reduction in inpatient bed occupancy associated with pre-operative waiting. Importantly, safety has been maintained, with a low emergency readmission rate of approximately 3% and no reported adverse incidents directly related to the pathway.

Patient feedback has also been consistently positive. Many patients report greater comfort and reduced anxiety when waiting for surgery at home rather than in hospital. Being able to remain in a familiar environment and spend time with family has been highlighted as a significant benefit.

From a service perspective, the pathway has improved patient flow and helped relieve pressure on inpatient beds, enabling resources to be prioritised for patients requiring immediate care. It also supports broader NHS priorities relating to elective recovery and more efficient use of healthcare resources.

Future developments will focus on integrating digital remote monitoring platforms, including electronic patient portals that allow patients to submit symptom questionnaires and vital sign data such as blood pressure and heart rate. This will further enhance clinical surveillance and communication between patients and the cardiac surgery team.

The HomeBridge Pathway demonstrates that structured remote monitoring can safely bridge the waiting period before cardiac surgery while improving both patient experience and hospital efficiency. As healthcare systems continue to face increasing demand, innovative pathways such as HomeBridge may offer a scalable model for improving care delivery across surgical specialities.

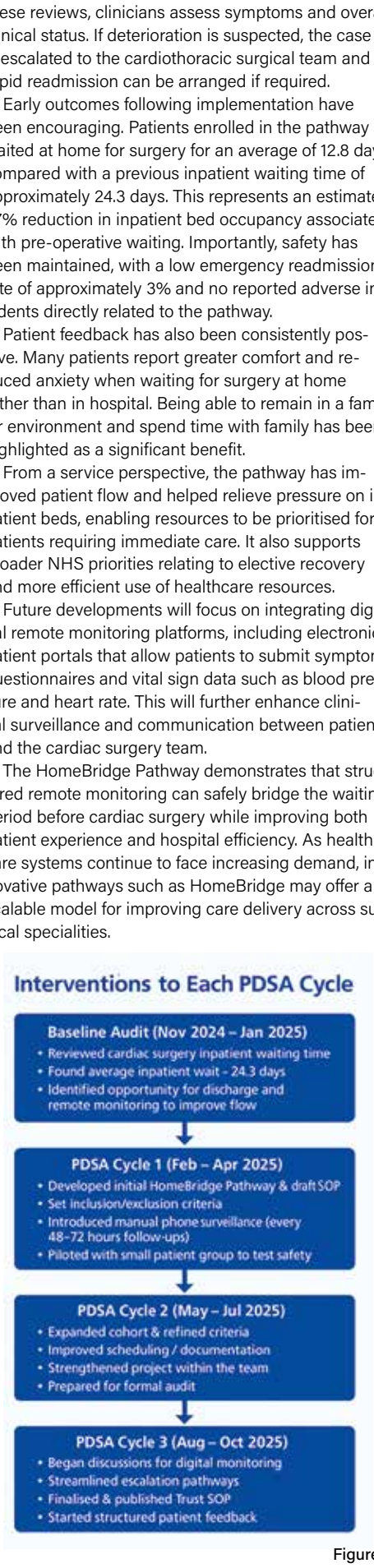

Figure 2

Aortic Valve and Annulus 13:30-15:00 **Tuesday, 17 March**

From pixels to practice: AI-integrated 3D printing for precision cardiac surgery

Jayantika Uniyal Sheffield Teaching Hospitals, Sheffield

Three-dimensional (3D) printing has transformed surgical planning and anatomical education in the field of congenital heart disease (CHD). By facilitating patient-specific anatomical visualization, physical models allow surgical teams to navigate complex spatial relationships, refine operative strategies, and enhance multidisciplinary communication. Despite these clear clinical advantages, routine adoption has been hindered by a significant technical bottleneck: the labour-intensive process of manual image segmentation. This step, which converts raw medical imaging into printable digital models, often requires hours of expert intervention and remains the primary driver of cost.

Recent breakthroughs in artificial intelligence (AI)—specifically deep learning–based segmentation—offer a robust solution to this challenge. By automating anatomical reconstruction, AI has the potential to transition 3D printing from a bespoke innovation into a scalable, standard clinical tool.

Automating the cardiac modelling workflow

Traditional segmentation requires the manual delineation of cardiac chambers, the myocardium, and great vessels across hundreds of individual image slices. This method is not only time-consuming but also inherently subject to inter-operator variability. AI-driven segmentation replaces this manual effort with trained convolutional neural networks capable of identifying anatomical structures with high precision and speed.

Recent studies indicate that deep learning models, particularly U-Net-based architectures, have been successfully applied to computed tomography (CT), magnetic resonance imaging (MRI), and three-dimensional rotational angiography (3DRA). Reported accuracy—measured by Dice similarity coefficients—consistently ranges from 0.78 to 0.93, representing a 10–12% improvement over conventional methods. Most significantly, processing times have been reduced from approximately 6–10 hours of manual labour to under 30 minutes. Furthermore, the incorporation of graph-matching algorithms has enabled the classification of vessel connectivity in anatomically complex cases, facilitating whole-heart reconstructions suitable for high-fidelity clinical applications.

Clinical utility in congenital and structural surgery

AI-generated segmentations have demonstrated high anatomical fidelity when translated into 3D-printed models. These models serve as critical assets for preoperative planning, intraoperative orientation, and high-stakes simulation training. Surgeons consistently report an improved understanding of intracardiac relationships, particularly in complex congenital defects where two-dimensional imaging provides insufficient spatial context.

The clinical impact of this technology is substantial. Previous non-AI workflows demonstrated that nearly 50% of surgical plans were modified following a review of 3D-printed models. By eliminating the segmentation bottleneck, AI ensures that these diagnostic benefits are delivered more efficiently and consistently across a broader patient population.

Beyond physical printing, these AI-generated datasets also support augmented reality (AR) and virtual reality (VR) platforms, permitting immersive exploration of patient-specific anatomy.

Educational and economic considerations

The integration of AI-enabled 3D printing offers significant advantages for surgical training. Trainees can practice rare or complex procedures on realistic anatomical replicas within a risk-free environment, thereby improving spatial comprehension and technical confidence. From an operational perspective, automation markedly reduces labour costs and turnaround times. This shift makes the routine integration of 3D printing more feasible, particularly within resource-constrained healthcare systems that cannot justify the high personnel costs of manual modelling.

Limitations and future directions

Despite these encouraging advancements, the current literature is characterized by several limitations. Most available data stem from single-centre feasibility analyses using relatively small datasets. Validation is often performed internally, which raises questions regarding the generalizability of these models across diverse imaging qualities and anatomical variations. Furthermore, objective clinical outcomes—such as reductions in operative time, complication rates, or long-term patient benefits—remain inconsistently reported.

Future research must prioritize the standardization of AI segmentation pipelines and validate performance across multiple institutions. Seamless integration into existing hospital imaging systems will be essential for widespread adoption.

Conclusion

AI-integrated 3D printing represents a pivotal advancement in patient-specific cardiac care. By automating the segmentation process, AI addresses the primary barrier to scalability, enabling the rapid and cost-effective generation of accurate anatomical models. While current evidence is promising, robust multicentre validation is necessary to confirm its clinical efficacy. As these technologies mature, AI-enabled 3D printing is poised to become a cornerstone of precision cardiac surgery and modern surgical education.

Moderated Posters - Cardiac 11:00-12:30 **Monday, 16 March**

SCTS 2026: Bridging training, technology, and translational research in cardiac surgery

Ayush Balaji Hull University Teaching Hospital Trust, Hull

At the upcoming SCTS meeting, I will be presenting a portfolio of work spanning congenital cardiac surgery training and workforce development, simulation-based technical education, translational peri-operative physiology, adult aortic valve replacement outcomes research, and emerging intra-operative visualisation technologies.

One presentation will explore barriers and motivators influencing the pursuit of congenital cardiac surgery, based on an international multi-level survey distributed through the Aspiring Congenital Heart Surgeons Association (ACHSA). This work assesses trainee and surgeon perceptions across training stages, including exposure, confidence, and factors influencing career intent. The survey highlights strong interest in congenital cardiac surgery but also identifies inconsistent confidence and modest exposure as recurring themes. Motivators include early exposure, mentorship, and access to international fellowships, while commonly cited deterrents include limited job availability, job insecurity, and perceived discouragement.

A second presentation will outline the development of an open-source 3D-printable coronary anastomosis simulator designed to support technical skills development outside the operating theatre. The simulator was created using CAD design and low-cost fused deposition modelling (FDM) printing, with a modular platform that replicates sternotomy working constraints. It supports structured practice of proximal and distal coronary anastomosis, internal mammary artery graft orientation, graft lay angle optimisation, and visuospatial training. The design files and supplementary printable templates have been prepared for open-source distribution to support adoption and modification across training programmes. We are also developing an additional simulator platform specifically designed for off-pump coronary training.

Another will explore the translational rationale for pre-operative creatine supplementation in infants with congenital heart disease. This review evaluates creatine physiology in infancy, the burden of failure-to-thrive in CHD patients, and the potential role of supplementation in improving skeletal muscle mass and myocardial bioenergetics. The review identifies supportive evidence from basic science and heart failure models, while highlighting the absence of clinical trials evaluating creatine supplementation specifically in CHD infants. The work outlines the evidence gap and the rationale for future prospective studies evaluating safety, dosing, and clinical outcomes.

We will deliver two presentations reporting our retrospective analyses of adult patients undergoing isolated aortic valve replacement, focusing on postoperative arrhythmias. One analysis compares warm, cold, and alternating cardioplegia strategies, while the second compares normothermic versus hypothermic cardiopulmonary bypass temperature management. These studies examine clinically significant arrhythmias, including new-onset atrial fibrillation, conduction disturbances requiring pacing, and ventricular arrhythmias. The findings suggest that cardioplegia strategy and bypass temperature management do not significantly alter postoperative arrhythmia incidence, supporting the importance of considering broader patient and operative contributors to electrophysiological outcomes.

Finally, I will present a technical review evaluating the feasibility of small-form-factor high-definition camera systems for direct intra-cardiac visualisation during ventricular-level congenital repairs, including ventricular septal defect closure and right ventricular overhaul procedures. This work examines the limitations of conventional exposure, particularly where visualisation is restricted by the tricuspid valve apparatus, deep defect location, and complex trabeculations. The review assesses currently available micro-camera systems and outlines their potential role as a real-time intra-operative adjunct for guidance and immediate inspection of repair completeness.

Special thanks to Prof Mahmoud Loubani for supporting our work, to Prof Attilio Lotto, Mr Tim Jones, Mr Giuseppe Pelella, and Prof Ignacio Lugones for supporting our projects with ACHSA, and to Mr Nabil Hussein for his guidance with multiple projects. I am also grateful to the wider team, including Mr Mohamed Sherif, Dr Rishab Makam, Akshay Balaji, Dr Ujjawal Kumar, Dr Mubashar Nadeem, Dr Natasha Bocchetta, Nikan Hoorijani, Abdelrahman Azam, and all others who have contributed to this work.

Looking forward to sharing these projects at SCTS and meeting everyone soon.

Cardiac Revascularisation 1 15:30-17:00 **Monday 16 March**

Re-evaluating arterial grafting in CABG: Focus on moderately reduced LVEF

Shahzad Raja and Tamer Abdalghafoor
Harefield Hospital, London

Coronary Artery Bypass Grafting (CABG) remains a vital intervention for coronary artery disease. The optimal grafting strategy, specifically between single arterial grafting (SAG) and multiple arterial grafting (MAG), is a subject of ongoing clinical discussion. While MAG is often favoured for its potential long-term benefits, its universal superiority, particularly in specific patient cohorts, warrants closer examination. In our presentation, we summarised a recent study investigating short-term outcomes and long-term survival of SAG versus MAG in patients with moderately reduced left ventricular ejection fraction (LVEF 30–50%) undergoing CABG.

The study analysed a retrospective cohort of 1,958 CABG patients (1,535 SAG, 423 MAG). To ensure a robust comparison, propensity score matching was applied, yielding two balanced groups of 652 SAG and 326 MAG patients. The primary endpoint was long-term all-cause mortality, with secondary endpoints including 30-day mortality and major postoperative complications, notably deep sternal wound infection (DSWI).

Initially, MAG patients were younger and had fewer comorbidities, indicating a selection bias. However, after matching, baseline characteristics were comparable. Postoperative outcomes were largely similar between groups, with one significant exception: DSWI incidence was notably lower in the SAG group (1.5%) compared to the MAG group (3.7%, $p = 0.033$).

Contrary to some expectations, long-term survival favoured SAG, with a 71.9% survival rate in SAG patients versus 65.0% in MAG patients ($p = 0.027$). Cox regression analysis further elucidated predictors of long-term mortality. Independent predictors included female sex (Hazard Ratio [HR] 1.54, $p = 0.041$) and increasing age at surgery (HR 1.03, $p < 0.001$). A trend towards elevated risk was also observed for prior cardiac surgery (HR 2.64, $p = 0.060$). Importantly, MAG was not found to be an independent predictor of improved long-term survival in this patient population.

This study highlights that in CABG patients with moderately reduced LVEF, long-term mortality is more significantly influenced by patient-specific factors such as age, sex, and surgical history than by the arterial grafting strategy. The findings suggest that SAG, especially when combined with off-pump techniques, may offer a safer approach, particularly given the lower DSWI rates and superior long-term survival observed in this cohort. These results advocate for a personalised approach to revascularisation, emphasising individual patient characteristics over a generalised preference for multiple arterial grafts in this specific patient group. Further research is encouraged to validate these findings and inform clinical guidelines.

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Aortic Valve Surgery Outcomes and Trends 15:30-17:00 **Monday, 16 March**

Long-term clinical outcomes in patients age 50–70 years old undergoing surgical aortic valve replacement

Jeremy Chan, Maria Comanici, Pradeep Narayan, Tim Dong, Daniel P Fudulu, Gianni D Angelini Bristol Heart Institute, Bristol, United Kingdom

Choosing the optimal prosthetic valve for patients aged 50–70 years undergoing surgical aortic valve replacement (SAVR) remains one of the most debated issues in contemporary cardiac surgery. Over the past decade, biological valves have increasingly been favoured, despite ongoing uncertainty about their long-term durability compared with mechanical alternatives. This large national study provides an important insights into this evolving practice.

Using data from the UK national cardiac surgery database, supported by the British Heart Foundation, we performed a retrospective analysis of over 11,000 patients aged 50–70 who underwent first-time, isolated SAVR between 2013 and 2025. Trends in valve choice were examined alongside early and long-term clinical outcomes, including survival and major valve-related complications.

We observed a marked increase in the use of biological prostheses, rising from 58% in 2013 to over 71% by 2024. While overall survival was excellent in both groups, mechanical valves were associated with a statistically significant survival advantage over long-term follow-up. Patients receiving mechanical valves also experienced lower rates of infective endocarditis and repeat valve intervention, reflecting their superior durability.

However, these benefits came at a cost. Mechanical valves were associated with higher rates of stroke and major bleeding, highlighting the ongoing risks of lifelong anticoagulation. In contrast, biological valves offered lower thromboembolic and bleeding risk but a greater likelihood of future reintervention.

Jeremy Chan

Gianni D Angelini

Mitral Valve Surgery outcomes 11:00-12:30 **Monday, 16 March**

National variation in mitral valve repair: Why, who and where matters

Jeremy Chan Bristol Heart Institute, Bristol, United Kingdom

Mitral valve repair is widely recognised as the optimal surgical treatment for degenerative mitral valve disease, offering better survival and long-term outcomes than valve replacement. Despite this, repair is not universally adopted. In this important national study, investigators used data from the UK's National Institute for Cardiovascular Outcomes Research (NICOR) to explore how the use of mitral valve repair varies across surgeons and hospitals—and why.

The study analysed over 8,000 patients who underwent first-time isolated mitral valve surgery for degenerative disease between 2010 and 2019. Using advanced multilevel logistic regression models, the authors were able to disentangle patient-level factors from surgeon- and hospital-level influences on whether a patient received repair or replacement.

Several patient characteristics were associated with a lower likelihood of repair, including older age, female sex, and higher body mass index, while better cardiac function and renal status increased the chance of repair. However, the most striking findings related to provider-level variation. Surgeon experience emerged as the dominant factor: high-volume surgeons were dramatically more likely to perform mitral valve repair than their lower-volume counterparts. Hospital effects were present but notably smaller.

Importantly, more than a third of the overall variation in repair rates could be attributed to differences between surgeons and hospitals, highlighting substantial unwarranted variation in care. These findings raise critical questions about equity, training, referral patterns, and how best to standardise access to optimal surgical treatment.

Cardiac Revascularisation 1 15:30-17:00 **Monday, 16 March**

National variation in the adoption of off-pump coronary artery bypass grafting

Jeremy Chan, Maria Comanici, Tim Dong, Daniel P Fudulu, Gianni D Angelini Bristol Heart Institute, Bristol, United Kingdom

The debate surrounding on-pump (ONCAB) versus off-pump (OPCAB) coronary artery bypass grafting has persisted for decades, with conflicting evidence regarding long-term outcomes. This large national study offers contemporary insight into how practice has evolved in the UK—and what it means for patient outcomes.

Using data from the UK national cardiac surgery database via the British Heart Foundation Data Science Centre, the investigators analysed over 88,000 patients who underwent first-time, isolated coronary artery bypass surgery between 2013 and 2025. Patients were categorised according to surgical technique, allowing assessment of temporal trends, early outcomes, and long-term clinical events.

Over the study period, the use of OPCAB declined modestly, from 12.7% in 2013 to 11.0% in 2024, suggesting a gradual shift in surgical practice. Early outcomes were reassuring, with excellent and comparable in-hospital survival between the two techniques. However, important differences emerged during longer-term follow-up.

Patients undergoing ONCAB demonstrated superior long-term survival compared with those treated using OPCAB. In addition, OPCAB was associated with significantly higher cumulative rates of myocardial infarction, repeat revascularisation, and stroke. These findings raise important questions about graft durability, completeness of revascularisation, and patient selection in off-pump surgery.

Aortic Valve Surgery Outcomes and Trends 15:30-17:00 **Monday, 16 March**

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Jeremy Chan, Maria Comanici, Pradeep Narayan, Tim Dong, Daniel P Fudulu, Gianni D Angelini Bristol Heart Institute, Bristol, United Kingdom

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However, these benefits came at a cost. Mechanical valves were associated with higher rates of stroke and major bleeding, highlighting the ongoing risks of lifelong anticoagulation. In contrast, biological valves offered lower thromboembolic and bleeding risk but a greater likelihood of future reintervention.

Training 09:00-10:30 **Tuesday, 17 March**

Comparison of Operative Experience Between ST1 and ST3 Entry Cardiothoracic Surgical Trainees in the United Kingdom

Jeremy Chan, Maria Comanici, Daniel P Fudulu, Gianni D Angelini Bristol Heart Institute, Bristol, United Kingdom

In the evolving landscape of UK cardiothoracic surgery, the transition from ST3 to ST1 entry routes has sparked significant debate regarding its impact on trainee experience.

To address this uncertainty, we perform a study utilising the JCST dataset to analyse the operative volumes of 290 trainees who began higher surgical training from 2007 onwards. By focusing on 145 individuals with validated eLogbooks, we categorised operative exposure into 13 major procedures as defined by the 2021 curriculum to determine if one pathway offered a technical advantage over the other.

Our findings suggest that, for the most part, the training route does not dictate the quantity of operating performed. There was no statistically significant difference in total operative numbers between the two groups, with ST3-entry trainees recording a median of 378.0 cases compared to 372.0 for ST1-entry trainees ($p = 0.84$). This parity extended to cardiac-themed trainees, where surgical volumes remained comparable despite the differing entry points and structural timelines of the two programs ($p = 0.20$).

However, our data revealed a notable divergence within thoracic-themed training, where ST1-entry trainees achieved significantly higher case volumes than their ST3 counterparts. Thoracic residents in the ST1 pathway recorded a higher number of cases than those entering at ST3 ($p = 0.04$), highlighting robust exposure that may stem from increased case availability or a more focused training emphasis.

Ultimately, while both pathways provide a broadly equivalent foundation, the ST1 route appears to offer a distinct edge in thoracic operative volume. These findings indicate that while the training routes differ in structure, they are successfully producing surgeons with comparable hands-on experience.

Management of the Right Ventricle Outflow Tract 11:00-12:30 **Monday, 16 March**

Bovine versus porcine stented bioprostheses for pulmonary valve replacement: a meta-analysis

Chris J Bond[1,2], Clare P Herd[2], Joseph George[3], Jeevan Francis[4], Olivia MT Frost[5], Mihika Agarwal[2], Avishek Ray[2], Paul F Clift[1], Massimo Caputo[6], Timothy J Jones[3,2], Nick Freemantle[7], Nigel E Drury[3,6] 1 Department of Adult Congenital Cardiology and Cardiac Surgery, Queen Elizabeth Hospital Birmingham, Birmingham, UK; 2 Department of Cardiovascular Sciences, University of Birmingham, Birmingham, UK; 3 Department of Paediatric Cardiac Surgery, Birmingham Children's Hospital, Birmingham, UK; 4 Department of Cardiothoracic Surgery, Aberdeen Royal Infirmary, Aberdeen, UK; 5 St George's Hospital Medical School, University of London, London, UK; 6 Bristol Medical School, University of Bristol , Bristol, UK; 7 Institute of Clinical Trials and Methodology, University College London, London, UK.

Chris Bond and Nigel Drury

Pulmonary valve replacement (PVR) is the most common redo-operation in older children and adults with congenital heart disease (CHD). We previously surveyed the practice of congenital surgeons in the UK and Ireland, finding that 78% of respondents favoured the use of a stented bioprosthesis for PVR in adults, with bovine pericardial valves preferred by ten times more surgeons than porcine xenografts, correlating with their practice in the aortic position.

Both types of bioprosthetic valve undergo structural valve degeneration (SVD) but there is evidence that the mechanisms differ, with bovine pericardial valves most commonly failing through progressive commissural fusion, whereas porcine xenografts are more prone to failure by leaflet tearing. These mechanistic differences in valve failure suggest that their durability may be affected by haemodynamics and that data on the rates of SVD in the aortic position may not be directly transferable to the pulmonary position, which would impact on the frequency of reintervention. This is particularly important in patients with CHD who often undergo PVR in adolescence or early adulthood, leading to a lifetime burden of reinterventions, and the

Continued on page 38

Congenital - Mixed Bag 15:30-17:00 **Monday, 16 March**

Del Nido versus St. Thomas' blood cardioplegia in the young (DESTINY) trial: a multi-centre randomised controlled trial in children undergoing cardiac surgery

Nigel E Drury[1,2,3], Yongzhong Sun[2], Kelly Handley[2], Ruth Evans[2], Manjinder Kaur[2], Martin Kostolny[4], Serban Stoica[3,5], Carin van Doorn[6], Timothy J Jones[1,2], Massimo Caputo[3,5] 1. University of Birmingham, Birmingham, UK; 2. Birmingham Children's Hospital, Birmingham, UK; 3. University of Bristol, Bristol, UK; 4. Great Ormond Street Hospital for Children, London, UK; 5. Bristol Royal Hospital for Children, Bristol, UK; 6. Leeds Children's Hospital, Leeds, UK.

Cardioplegia is fundamental to arresting the heart and protecting against ischemia–reperfusion injury during the repair of intracardiac defects in children. However, myocardial injury still occurs routinely following aortic cross-clamping, as demonstrated by the ubiquitous release of troponin after cardiac surgery. Myocardial protection remains a key determinant of heart function and outcome following surgery, and minimising organ damage has recently been identified as a priority for research in children with congenital heart disease. Del Nido cardioplegia has been widely adopted for paediatric cardiac surgery in North America and elsewhere, but has not previously been available in the United Kingdom, where St Thomas' blood cardioplegia predominates. Del Nido appears to have practical advantages over St Thomas', but there is a paucity of high-quality randomised data on whether it improves myocardial protection.

We therefore conducted a prospective, patient and assessor-blinded, randomised trial at four UK centres (Birmingham, Bristol, Leeds, and Great Ormond Street, London) to determine whether del Nido cardioplegia improves myocardial protection in children undergoing cardiac surgery compared with St. Thomas' blood cardioplegia. Children with congenital heart disease of all ages undergoing surgery on cardiopulmonary bypass (CPB) with cardioplegic arrest were recruited; the major exclusion criteria were predicted cross-clamp time <30 minutes, preoperative inotropic support, emergency surgery or parents decline to consent. Participants were randomised 1:1 to del Nido or St. Thomas' blood cardioplegia and followed up for 30 days. The primary outcome was the area under the curve for plasma hs-troponin-I in the first 24 hours as a marker of myocardial protection, analysed by intention-to-treat. Secondary outcomes included vasoactive inotrope score (VIS), lengths of stay in ICU and hospital, and aortic cross-clamp time.

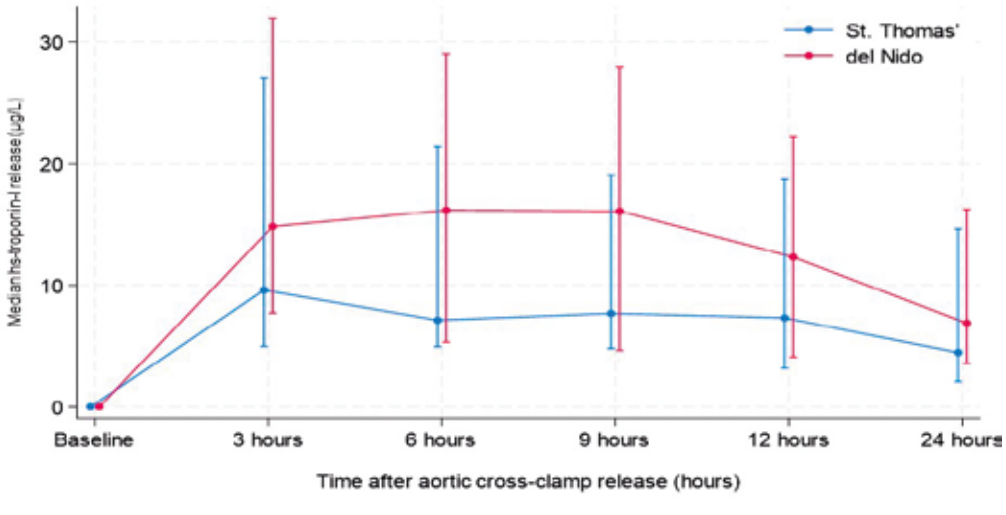

Figure 1. Median hs-troponin-I release in the first 24 hours after surgery with inter-quartile range by treatment group.

Between February 2021 and October 2024, 112 eligible children were randomised to receive del Nido (n=55) or St Thomas' blood (n=57) cardioplegia. Whilst the trial was stopped early due to ongoing issues with supply of the investigational medicinal product (IMP) and limited funding, we found evidence of a difference in hs-troponin-I favouring the St Thomas' group: del Nido (283µg/L/h, IQR 112-495) versus St Thomas' (144µg/L/h, IQR 81-469), mean difference 199 (95% CI -5-403, p=0.055), although this difference was not statistically significant (figure 1). Prespecified sub-group analyses did not show a differential treatment effect due to age (interaction p-value=0.36), anticipated incision or resection of ventricular myocardium (p=0.50), or cyanosis (p=0.17), although for centre, there was some evidence of a possible interaction (p=0.010). Exploratory sub-group analyses suggested that systemic temperature >32°C favoured St Thomas' (mean difference 489, 95% CI 115-864, p=0.061), espe cially without topical cooling (mean difference 769, 95% CI 293-1245, p=0.059).

> This trial challenges the current thinking that del Nido cardioplegia offers improved surgical efficacy without compromising myocardial protection.

For the secondary outcomes, VIS ≥10 was more common (RR 1.43, 95% CI 1.02-2.01, p=0.04) and hospital stay longer (10 days, IQR 6-16.5 v 7 days, IQR 5-10, p=0.01) with del Nido, but no difference in cross-clamp time (95 mins, IQR 58-134 v 85 mins, IQR 59-120, p=0.16) was observed. Whilst there were no differences in the other secondary outcomes, most were in the direction of favouring the St Thomas' group.

In conclusion, this trial challenges the current thinking that del Nido cardioplegia offers improved surgical efficacy without compromising myocardial protection. We found no reduction in total aortic cross-clamp time with del Nido and evidence that mild hypothermic or normothermic CPB may be associated with greater myocardial injury, suggesting that myocardial temperature drift in the absence of frequent redosing with cold cardioplegia is an important consideration. We therefore advocate that if del Nido cardioplegia is used, measures may be warranted to maintain relative hypothermia of the myocardium to ensure adequate protection.

Continued from page 36

recent James Lind Alliance Priority Setting Partnership identified reducing reoperations in children and adults with CHD as a national research priority.

We therefore conducted a meta-analysis to compare freedom from SVD and reintervention between bovine and porcine valves in the pulmonary position in patients with CHD. We searched Medline, Embase, CENTRAL, LILACS, reference lists, and other sources to identify all series reporting outcomes of PVR in CHD by valve type from January 2000 to June 2025. Individual patient data were extracted from Kaplan-Meier plots, reconstructed using the R package IPDfromKM, and grouped frailty models were used to assess outcome differences.

We identified 16 non-randomised series with data on 2,370 valves: 1,579 bovine pericardial valves, mostly CE Perimount or Magna Ease, and 809 porcine xenografts, mostly Hancock II or Mosaic. In an unadjusted analysis, we found that bovine pericardial valves showed a higher rate of SVD (HR 2.12, 95% CI 1.42-3.18, p=0.0002, figure 1) and required earlier reintervention (HR 1.62, 95% CI 1.18-2.23, p=0.003, figure 2), with significant divergence within three years of implantation.

These data support the hypothesis of a difference in outcomes between prosthesis types in the pulmonary position, and raises concerns that bovine pericardial valves, the most commonly used bioprostheses for PVR, are associated with worse outcomes than porcine xenografts in patients with CHD. However, there are many confounding variables, such as age at implantation, valve size, implantation technique, postoperative antiplatelet or anticoagulation therapy, which are difficult to adequately account for. We are currently analysing NICOR data on 3,500 surgical PVRs to further explore this signal but the influence of confounding variables and potential selection biases will limited our ability to draw firm conclusions on causality. We therefore propose a definitive multi-centre randomised trial to compare valve types, aiming to identify the best bioprosthesis for PVR and reduce the lifetime burden of repeated procedures on patients and the NHS.

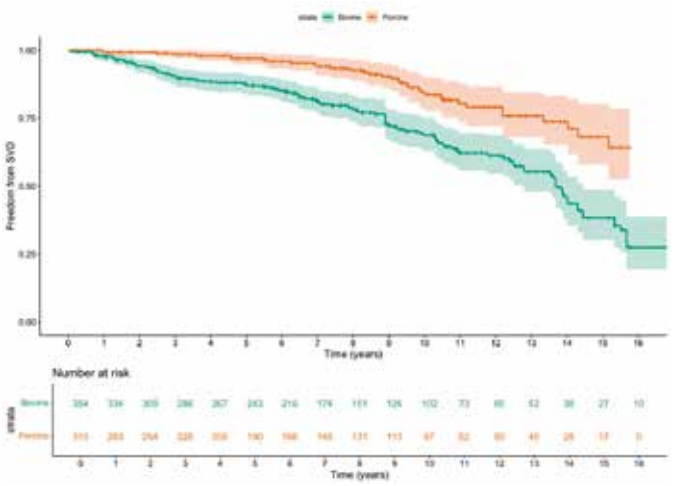

Figure 1. Freedom from structural valve degeneration by valve type.

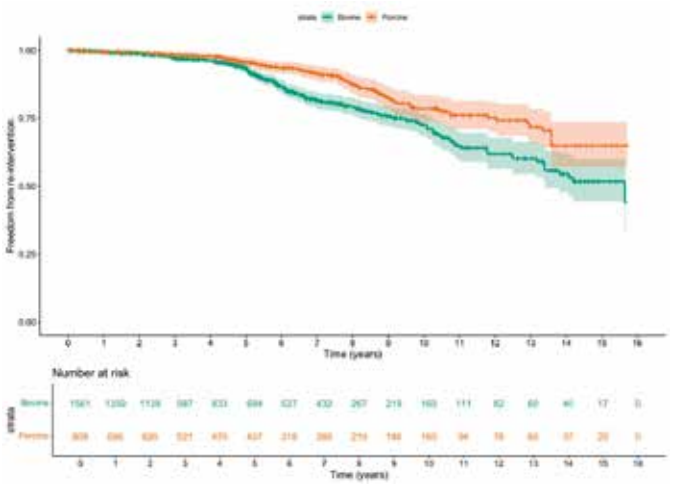

Figure 2. Freedom from reintervention by valve type.

Atrial Fibrillation And Science 15:30-17:00 **Monday, 16 March**

Single-centre experience: Encompass Clamp for AF ablation in cardiac surgery

Kalampalikis Lazaros St Bartholomew's Hospital, Barts Health NHS Trust

In cardiac surgery, preoperative Atrial fibrillation (AF) is commonly diagnosed, with a prevalence that ranges from 6% to 40% and is associated with a significant increase in mortality and morbidity (stroke, heart failure, prolonged length of stay, and readmissions). Its effects are projected to rise substantially over the coming years.

Surgical ablation (SA) has evolved from the original cut-and-sew Cox-maze to the Cox-maze IV (CM) variation, which uses energy devices to create bi-atrial lesion sets. It remains the gold-standard surgical technique for long-term maintenance of sinus rhythm (SR), with consistently high success rates reported. Contemporary guidelines recommend concomitant surgical AF ablation (Class I/A for mitral surgery, IIa/B for non-mitral) and left atrial appendage (LAA) exclusion (Class IB) in appropriately selected patients. However, widespread adoption of SA remains limited, particularly in non-mitral surgery. Pathophysiologically, the posterior left atrial (LA) wall is clinically significant, as

it is the most common site of non-pulmonary vein triggers and AF re-entrant drivers. Consensus therefore emphasises that, at a minimum, complete pulmonary vein isolation (PVI) plus posterior LA wall isolation (BOX lesions) should be performed within the AF-CARE framework for durable rhythm outcomes.

The Isolator Synergy EnCompass clamp is a novel bipolar radiofrequency device designed to deliver epicardial, transmural lesions of the LA posterior wall and pulmonary veins on the beating heart. The device is guided around the LA via a magnetic "glidepath", with minimal dissection and without a left atriotomy. Early data (TRAC-AF) report one-year freedom from atrial arrhythmia of 87% and two-year freedom of 80%, with 30-day mortality of 1.5% and no device-related serious adverse events.

We analysed 42 consecutive patients undergoing concomitant SA with the EnCompass clamp between October 2024 and January 2026, representing the largest experience in a single NHS tertiary centre to date. The primary endpoint was restoration of sinus rhythm (SR). Median age was 67.5 years, and 16.6% were female. AF was long-standing in 27 patients and paroxysmal in 15. 55% of operations were non-mitral procedures, including complex aortic cases, reflecting real-world adoption. A full CM or box-and-left-sided-lesion set was performed in 16 patients (38%), whereas 26 patients (62%) underwent only EnCompass clamp lesions. LAA exclusion was routinely added. Ischemia times were universally lower than with previously used devices. The primary endpoint was achieved in 61% of patients (11/15 with paroxysmal AF and 15/27 with long-standing AF). The majority of patients were discharged on anti-arrhythmic treatment and anticoagulation, with appropriate postoperative optimisation. PPM implantation was required in three patients, consistent with the reported literature ranges of 1.6–14%. Interim follow-up at one year, using a combination of ECG, Holter strips, device interrogation, and echocardiography, showed preserved results. No major adverse events/device-related complications were noted during the index hospital stay or early follow-up. Failure to restore SR was associated with longer preoperative AF duration, larger left atrial size (at least moderate LA enlargement was observed in almost all patients who remained in AF), and procedural complexity. Finally, the device could be easily incorporated into a hybrid strategy combining SA with staged EP completion therapy.

Several limitations were identified. The study is a single-centre, retrospective analysis of a relatively small cohort, with inherently limited statistical power to detect modest differences in clinical endpoints. Follow-up is restricted to 1 year with heterogeneous rhythm-monitoring strategies, risking under-detection or inaccurate estimates of freedom from AF. Underlying pathophysiology and patient characteristics complicated the attribution of outcomes to the clamp itself. Standardisation of patient selection and follow-up protocol is essential. Future comparisons of propensity-matched populations (different devices or CM lesion sets) are warranted and could be easily implemented in our high-volume department to define the long-term durability and cost-effectiveness

Our initial data using the Isolator Synergy EnCompass clamp are encouraging. It represents a safe, efficient, and reproducible solution for delivering consistent PVI and posterior LA wall lesions, without significant prolongation of cross-clamp and ischemia time, as it can be safely performed on bypass. This could facilitate the wider application of guideline recommendations and allow surgeons to perform, at a minimum, a BOX lesion set during non-mitral operations, without opening the left atrium.

NAHP 8 – Empowering excellence: Innovative approaches to healthcare education and support 13:30-15:00 **Tuesday, 17 March**

Evaluating patient feedback after participation in a prehabilitation exercise class for heart transplant candidates

Emma Louise Graham Golden Jubilee National Hospital, Glasgow

Introduction

Patients awaiting heart transplantation frequently experience significant physical deterioration, which can negatively impact quality of life, functional capacity, and post-operative outcomes.[1,2] As patients may wait several months before receiving a transplant, this period presents a valuable opportunity to deliver Prehabilitation services aimed at optimising both physical and psychological readiness for surgery.[3,4] The Physiotherapy Department at the Golden Jubilee National Hospital has launched a physiotherapy-led Prehabilitation exercise class specifically for patients awaiting heart transplantation.

Aim

The aim of this study is to evaluate patient feedback following participation in a physiotherapy-led Prehabilitation exercise class tailored for individuals on the heart transplant waiting list; to gather patient perspectives to inform service development.

Method

A physiotherapy-led group exercise class for inpatient and outpatient heart transplant candidates was introduced at the Golden Jubilee National Hospital. Patients were invited to attend the class twice weekly. After attending one session, participants were asked to complete a 10-item electronic feedback questionnaire. The questionnaire assessed satisfaction, wellbeing, perceived physical ability, and social benefits.

Data were collected over a 12-month period (March 2025–March 2026). A total of 25 patients completed the questionnaire within this timeframe. Responses were thematically analysed, resulting in the identification of four key themes (Table 1):

- Physical and emotional improvements
- Supportive guidance and education
- Team inclusion
- Frequency

Table 1: Key themes

Theme	Description	Example quote
1. Physical and Emotional Improvements	Patients reported noticeable gains in fitness and emotional wellbeing.	"Yes, definitely. I could feel the difference after the class and was able to repeat the exercises at home, noticing daily improvement in fitness."
2. Supportive Guidance and Education	Participants valued the physiotherapist-led guidance, which enhanced their understanding of health management and boosted confidence.	"It was great having physiotherapy led education sessions, keep doing what you're doing!"
3. Team Inclusion	The supportive group environment fostered motivation and a sense of belonging.	"It's always more fun with more people attending – and there are benefits in talking amongst others pre and post op."
4. Frequency	Participants expressed a desire for more frequent sessions.	"Only twice a week, could it be three times? Encourage more people to attend; the more attendees per class, the better!"

Results

The data indicate that physiotherapy-led prehabilitation classes are well-received and beneficial for heart transplant candidates. Participants reported improvements in both physical and emotional well-being. A large proportion of responses highlighted increased exercise tolerance, enhanced muscle strength, and greater adherence to regular exercise. Team inclusion and emotional support also emerged as important elements of the patient experience, with many describing how shared experiences and peer encouragement positively influenced engagement. One of the most prominent findings related to frequency: 75% of patients expressed a desire for more frequent classes. Moving forward, the aim is to establish this exercise class as a standardised Prehabilitation service within the heart transplant pathway. This will involve integrating classes more closely with clinic appointments and strengthening collaboration with the multidisciplinary team (MDT) to enable earlier intervention at the first point of patient contact.

The service has already begun to evolve, with the introduction of a structured education component in every session to enhance patients' health literacy. Future plans include inviting guest speakers and MDT members to contribute to sessions, ensuring patients receive comprehensive, timely pre-operative information.

Conclusion

The findings strongly support the value of physiotherapy-led prehabilitation within the heart transplant pathway. Patients not only experience meaningful physical improvements but also benefit emotionally and socially from peer support and the group environment. The clear demand for increased class frequency highlights the importance of this service in preparing patients for heart transplantation. By formalising the programme, embedding structured education, and strengthening MDT collaboration, the service is well-positioned to deliver an enhanced, patient-centred prehabilitation model that optimises readiness for surgery and supports improved postoperative outcomes.

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Atricure	8
EACTS	8a
Medivate	9
Bristol Myers Squibb	9a
Johnson & Johnson MedTech I Abiomed	10
R&D Surgical Ltd	11
Pulmonx	12
Surgical Holdings – Fehling Instruments	13
Anser Medical Ltd	13a
Haemonetics	14
Aortic Dissection Awareness UK & Ireland	15
Medistim	16
BVM Medical	17
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