



APHRS NEWSLETTER

JULY 2026 | NO.85

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THE NEXT ERA OF ELECTROPHYSIOLOGY

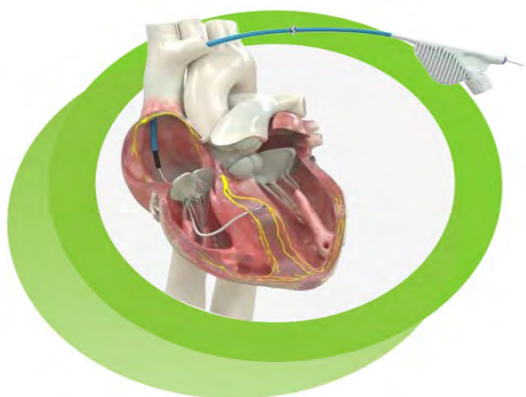
Written by: David Cleghorn

Director Office Medical Affairs Cardiac Rhythm and Ablation Management Asia Pacific

Delivering the right cardiac technology for the right patient

Electrophysiology is undergoing a fundamental shift toward more physiologic, minimally invasive, and patient-specific therapies. Across pacing and defibrillation, innovation is increasingly focused on reducing hardware burden, preserving anatomy, and aligning therapy with the heart's natural conduction system.

Within this evolving landscape, a new generation of technologies is enabling clinicians to tailor therapy selection based on patient need - expanding options across conduction system pacing, leadless pacing, and extravascular defibrillation.



Conduction system pacing is rapidly emerging as a key advancement in cardiac rhythm management, with increasing adoption of left bundle branch area pacing (LBBAP) to better replicate natural cardiac activation. The OmniaSecure™ defibrillation lead has been developed to support this transition, addressing longstanding challenges associated with traditional ICD lead design, including size, deliverability, and long-term durability. With a lumenless architecture engineered to reduce fracture risk and a small profile designed for targeted delivery, OmniaSecure demonstrates strong implant success and stable electrical performance, supported by global clinical data

In the LEADR LBBAP Global Trial, OmniaSecure demonstrated 100% defibrillation efficacy at implant, 97.9% freedom from lead-related major complications at three months, and 95.4% physician-reported implant and 95.4% physician-reported implant success, with no reported fractures through current follow-up, supporting both safety and performance in the LBBAP position^{1,2}.

Clinically, OmniaSecure enables more precise access to physiologic pacing targets, facilitating the broader adoption of LBBAP and supporting a shift away from conventional right ventricular pacing strategies. As part of the “Next Era of Electrophysiology” framework, it represents a foundational innovation – anchoring the move toward therapies that more closely align with the heart’s intrinsic conduction system while also addressing long-term lead performance considerations.

Micra™ AV2: Expanding the role of leadless pacing



Leadless pacing has transformed cardiac device therapy by eliminating transvenous leads and subcutaneous pockets, significantly reducing procedural complexity and long-term complications. Micra™ AV2 builds on this strong foundation, backed by more than a decade of clinical experience with leadless pacing across the Micra portfolio, with over **300,000 patients implanted worldwide** and a growing body of published clinical evidence.

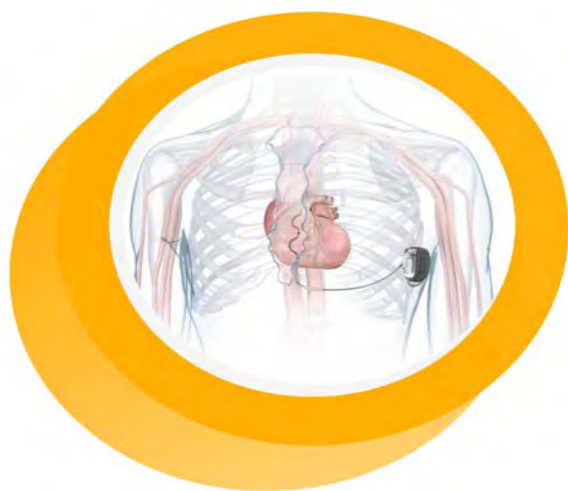
It enables atrioventricular (AV) synchrony through accelerometer-based detection of mechanical atrial

activity, allowing clinicians to deliver AV-synchronous pacing in a single-device system without the need for an atrial lead. Technological advancements in Micra AV2 further enhance its clinical applicability, including automated algorithms that personalise AV synchrony settings and reduce manual programming requirements by more than 50% compared with earlier systems, as well as improved performance across a broader range of heart rates.

With projected battery longevity of **approximately 15 - 16 years, more than 80% of patients are expected to require only one device for life, supporting** long-term therapy durability without increasing device size.^{3,4}

Together, these advancements allow Micra AV2 to move beyond niche use cases and support broader adoption in patients requiring AV synchrony. Within the Next Era framework, it represents a key evolution toward leadless, physiologic, and patient-centred pacing, aligning innovation with improved access and long-term clinical value.

Aurora™ EV-ICD: Redefining defibrillation without transvenous leads



Implantable cardioverter-defibrillators (ICDs) remain essential for the prevention of sudden cardiac death, yet traditional transvenous systems are associated with challenges related to intravascular leads, including long term complications and vascular access limitations. The Aurora™ EV ICD system introduces an alternative approach through extravascular lead placement, positioning the lead in the mediastinal space outside the heart and vasculature while maintaining proximity for effective therapy delivery. This design aims to avoid complications associated with transvenous leads while preserving. Importantly, the system retains key therapeutic capabilities expected of modern ICDs, including antitachycardia pacing (ATP), defibrillation, and backup bradycardia pacing, delivered within a single device platform. Clinical

evidence from the Enlighten EV-ICD Post-Approval Registry, which includes over 700 patients across more than 100 centres globally, demonstrates 74% ATP success, 100% defibrillation success of spontaneous episodes, and no reported cases of mediastinitis, sepsis, or endocarditis related to the system, supporting both efficacy and safety in real-world use.⁵⁻⁷

Early registry findings also show consistent performance with pre-market studies, including high implant success (~97%), effective defibrillation at implant (~99%), and low rates of major complications through hospital discharge.

These data reinforce the clinical viability of an extravascular approach while maintaining expected ICD therapy performance.⁵⁻⁷

Within the Next Era of Electrophysiology, Aurora EV ICD represents a significant step toward extravascular therapy, combining preservation of patient anatomy with comprehensive device functionality and expanding treatment options for a broader patient population.

References

1. Vijayaraman P, Liu X, Denman R, et al. *Safety and performance of a novel defibrillation lead for left bundle branch area placement: primary results of the LEADR LBBAP clinical trial*. Heart Rhythm. Published online 17 October 2025.
2. Crossley GH III, et al. *Lead Evaluation for Defibrillation and Reliability (LEADR) study: safety, efficacy, and reliability of a novel defibrillation lead*. Heart Rhythm. 2024;21:1914–1922.
3. Leal MA, et al. *Device longevity of a leadless pacemaker family*. Future Cardiology. 2025;21(10):753–758.

4. Leal MA, et al. *Atrioventricular synchrony algorithm modelling of a leadless pacemaker family: a virtual patient analysis*. Cardiovascular Engineering and Technology. 2025;16(4):410–422.
5. Crozier I, et al. *Real-world safety and efficacy of the extracardiac ICD through six months: Outcomes from the Enlighten study post-approval registry*. Presented at APHRS 2025, Yokohama, Japan; and published in Heart Rhythm (2025).
6. Boersma LVA, et al. *The Enlighten EV-ICD post-approval registry: study design and early results*. Heart Rhythm O2. 2025;6:64–69.
7. Friedman P, Murgatroyd F, Boersma LVA, et al. *Efficacy and safety of an extracardiac implantable cardioverter-defibrillator*. New England Journal of Medicine. 2022;387(14):1292–1302.

HRS 2026: KEY TAKE-HOME MESSAGES

Written by: Dr Jeremy William, Cardiologist and EP/Pacing Fellow – Alfred Hospital, Melbourne, Australia & A/Prof Sandeep Prabhu, Cardiologist and Electrophysiologist - Alfred Hospital, Melbourne, Australia

The HRS annual meeting is the highlight meeting for the international EP community, and HRS 2026 continued this tradition of showcasing the best and most innovative that our community has to offer. HRS 2026 was held April 22-26 in Chicago, Illinois. It was the largest HRS on record, with over 10,000 attendees, 150 exhibitors and 3,700 scientific abstracts. In this newsletter update, we share some of the highlights of the scientific program and late breakers.

1. PFA as first-line therapy for persistent AF

The late-breaking clinical trials sessions brought us the highly anticipated 12-month results of the AVANT GUARD study (Wazni et al., simultaneously published in the NEJM), marking the first randomized trial to evaluate pulsed field ablation (PFA) utilizing a pentaspline catheter system as a first-line therapy for treatment-naïve persistent atrial fibrillation. Ablation demonstrated clear superiority over antiarrhythmic drug (AAD) therapy, achieving a 56% success rate in the PFA arm compared to just 30% in the AAD arm (absolute difference of 26%, $p < 0.001\%$). As a strength of the protocol, arrhythmia recurrence rigorously assessed via continuous implantable cardiac monitors. The trial protocol also mandated routine inclusion posterior wall isolation in addition to pulmonary vein isolation; however, the impact of this decision remains unclear.

Notably, enrolment was briefly paused mid-study after six neurological events (5 cardioembolic events, one air embolism event). The trial then safely resumed under stricter protocols: excluding patients with a CHADS-VASc > 4 , mandating 24-hour pre-procedural thrombus screening, uninterrupted anticoagulation, and targeting an ACT > 350 s prior to transseptal access. With three-year ICM follow-up ongoing, these early data strongly support PFA as a viable initial rhythm control strategy in persistent AF, extending the early-intervention paradigm already established for paroxysmal AF.

2. Bringing PFA to the ventricle

Vivek Reddy presented 6-month outcomes from the Sphere-9 Early Feasibility Study, examining the safety and efficacy of PFA in the ablation of scar-related VT. The study involved 40 patients across 10 centers and specifically recruited patients with ischemic cardiomyopathy. The cohort reflected a high-risk population, with mean LVEF of approximately 30%, roughly one third having undergone a previously failed ablation and a further third presenting in VT storm. Mapping was predominantly substrate based rather than functional, and centers varied in their preference for radiofrequency versus pulsed field energy, harnessing the catheter's flexible dual-energy technology. Acute non-inducibility was achieved in all 40 patients. Two safety events of note occurred, a stroke and an unexpected case of phrenic nerve injury following endocardial radiofrequency delivery to a thinned, aneurysmal posterobasal scar, which in retrospect was considered a setting better suited to pulsed field energy given the risk of collateral damage to adjacent structures.

At 6-month follow-up, freedom from recurrent VT of 65%. The authors hypothesize that recurrent arrhythmia at 6-month reflects the presence of reversible electroporation and subsequent recover. In an interview with HRS TV, Dr Reddy also discussed unpublished preclinical data examining lesion depth and durability with sequential energy delivery using the same latic-tip catheter. Two consecutive pulsed field lesions produced depth comparable and improved durability to radiofrequency followed by pulsed field, with less variability between cases, while pulsed field followed by radiofrequency offered no additional depth over pulsed field alone. He noted, however, that preclinical depths of eight to nine millimeters have not been reproduced clinically, a discordance he likened to a similar pattern previously observed with radiofrequency energy and one that remains incompletely understood. The landscape of VT ablation has the potential to shift dramatically as we learn more about the impact of this ablation modality in the ventricle.

3. Leadless CSP: the next frontier

Vivek Reddy also presented follow-up data of the LEAP 2 study, examining the safety and efficacy of a novel leadless conduction system pacemaker system. The system is designed to achieve capture of the conduction system via an extendable electrode advanced through the interventricular septum toward the left bundle area, building on a prior acute pass-and-pull study presented at HRS 2025. The device has since been modified to incorporate a deflectable delivery sheath, which Dr Reddy described as substantially improving the system's precision to target the desired septal location. The cohort presented in the late breaking trial comprised 18 patients implanted via a jugular approach, with both single and dual chamber configurations, and the device left in place for chronic follow-up rather than removed after acute measurement.

Notably, three device dislodgement events occurred: two before discharge and one between discharge and one month follow-up. This was attributed to inadequate fixation rather than a flaw in lead placement itself. In the remaining patients, pacing thresholds and sensing were excellent and stable through one month. However, the authors commented that while the implant reliably achieves left bundle area pacing, reproducible left bundle branch capture. The device is being redesigned with anti-rotation features to address dislodgement, and a pivotal trial using the jugular approach is anticipated to begin within the following year, with a transfemoral delivery option planned for later development. Reddy noted that his outlook on the feasibility of leadless conduction system pacing had shifted considerably more favorably compared with the prior year. This novel technology is promising if the hurdles of consistent conduction system capture and dislodgement risk can be resolved.

4. Left atrial appendage occlusion: the great debate

A highlight of the Heart Rhythm Society (HRS) scientific sessions in recent years has been the fiery debate sessions, and this year's left atrial appendage occlusion (LAAO) showdown was no exception. With a high volume of LAAO trial data published over the past year, the EP community remains divided on best practices. Consequently, a highly anticipated session pitting advocates of LAAO against critics drew a packed, standing-room-only crowd.

Arguing for the "Pro" position, Dr. Osama Wazni made a compelling case for the routine inclusion of LAAO alongside atrial fibrillation (AF) ablation, particularly for patients unable to tolerate long-term oral anticoagulation. He underscored the enduring stroke risk that persists post-ablation, heavily driven by widespread medication non-adherence and substantial long-term arrhythmia recurrence rates. Taking the "Con" position, Dr. David Birney and Prof. Peter Kistler pushed back aggressively. They argued that for lower-risk patients, the case for routine occlusion is effectively untestable due to the extraordinarily low baseline event rates following a successful ablation. For higher-risk cohorts, they contended that the current supporting evidence, most notably the OPTION trial, was fundamentally flawed by the inclusion of all-cause mortality in its primary composite endpoint. Furthermore, they cautioned that device-related thrombosis (DRT) and peri-device leak rates may paradoxically offset any intended mechanical stroke prevention benefits. Both sides found common ground in their anticipation of the ongoing LAOS IV trial, pointing to it as the pivotal study most likely to finally settle this evolving clinical question.

Final thoughts

The presentations and debates at HRS 2026 underscore a truly exciting time for the field of EP. Once-novel technologies are finally maturing into highly versatile and capable clinical standards. Furthermore, the continued advancement of technologies provides immense excitement for scientific advances in the pipeline. As we continue to refine these platforms and tailor treatment strategies for our patients, the future of EP looks incredibly promising. This truly is the *Golden Age* of EP! We eagerly anticipate APHRS 2026 in Busan, where more exciting trials will be presented.

HEART RHYTHM ASSOCIATION SINGAPORE (HRAS) ADVANCING ELECTROPHYSIOLOGY EDUCATION AND COLLABORATION

Written by: A/Prof Swee-Chong Seow, Singapore,
President, Heart Rhythm Association Singapore
Senior Consultant, National University Heart Centre Singapore



Heading

It has been a distinct honour and professional privilege to serve as President of the Heart Rhythm Association Singapore (HRAS) from 1 January 2025 to 31 December 2026. HRAS is guided by its mission to promote research, education, training, prevention, and optimal care in the management of heart rhythm disorders, with the overarching aim of improving outcomes for patients with arrhythmias in Singapore and the wider region.

The Society was founded to foster solidarity among clinicians managing arrhythmia patients and those requiring cardiac implantable electronic devices (CIEDs). This spirit of collaboration remains central to HRAS today. It is reflected not only in our advocacy efforts—where we provide a unified voice on policy matters and clinical guidelines—but also in our commitment to education at every level, from healthcare professionals to patients and the broader public.

During my tenure, I sought to strengthen these core objectives through structured educational initiatives, enhanced regional collaboration, and the development of platforms for meaningful professional engagement.

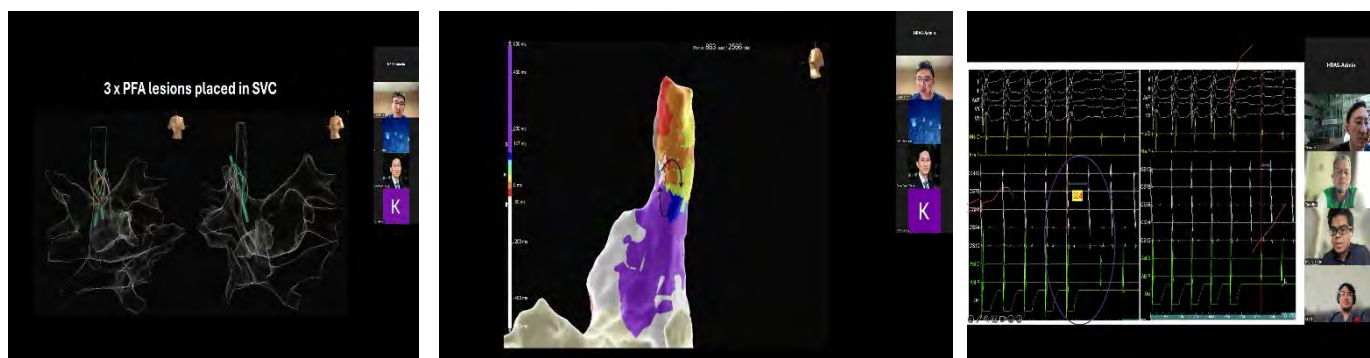
Regional Collaboration and Knowledge Exchange

A key strategic focus during this period was the expansion of regional collaboration. Recognising the importance of shared expertise in advancing electrophysiology (EP) practice, HRAS established monthly teaching and case-sharing sessions in partnership with EP societies from Malaysia, Indonesia, India, and the Philippines.

These sessions provided a regular forum for:

- Presentation of complex EP and device cases
- Interpretation of intracardiac tracings
- Exchange of diverse clinical perspectives

This initiative significantly enhanced cross-border academic interaction and fostered a collegial environment conducive to collective learning.



In addition, HRAS collaborated with the **Asia Pacific Heart Rhythm Society (APHRS) Young Electrophysiology Club**, organising **two dedicated sessions annually**. These sessions were particularly

impactful in supporting early-career electrophysiologists and strengthening regional professional networks.



Re-establishing Professional Engagement

In parallel with virtual initiatives, efforts were made to restore in-person interaction. **Quarterly dinner meetings** were organised to facilitate direct engagement among members, providing an environment for candid discussion, professional networking, and exchange of ideas.

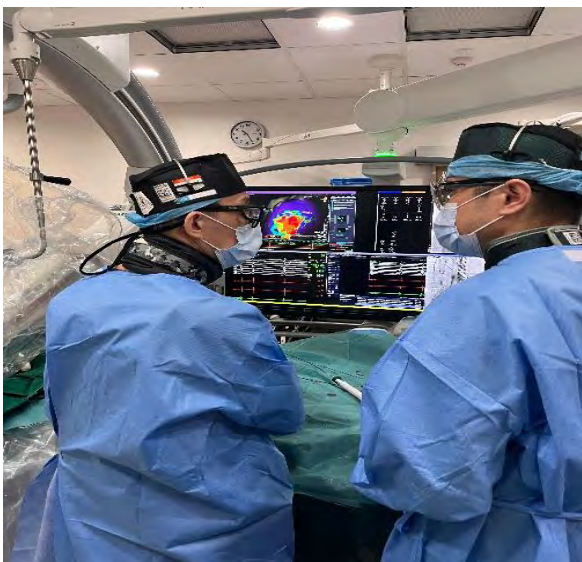
These gatherings were instrumental in reinforcing the sense of community within HRAS and complemented the Society's academic activities.

Nurturing the next generation of EP in our region

The APHRS (Asia Pacific Heart Rhythm Association) Clinical Immersion programme is targeted at early to mid-career Cardiac Electrophysiologists, granting the awardee a 2- week attachment to a Centre of Excellence for exchange of ideas, collaboration and exposure to alternative approaches and workflows as well as strategies in the management of arrhythmia patients.

HRAS was honoured to kick-start the revival of this important initiative in conjunction with APHRS by hosting 2 foreign physicians at the National University Heart Centre Singapore and the National Heart Centre Singapore respectively.

This is our society's contribution to the growth and development of regional expertise; on top of the training of overseas Fellows in our tertiary hospitals.



Expansion of Educational Programmes

The HRAS Unknown EGM Symposium

A major milestone during this period was the introduction of the **HRAS Unknown EGM Symposium**, modelled after the highly regarded "Unknown Electrogram" sessions conducted at international meetings such as HRS and APHRS.

These sessions are widely recognised for their:

- Interactive format
- Case-based learning approach
- High educational value

The inaugural symposium was held in May 2025 at Marriott Tangs Singapore, followed by a subsequent meeting in May 2026 at Conrad Orchard Singapore

Key features of the symposium included:

- Presentation of challenging and illustrative EGM cases
- Interactive audience participation
- Expert panel discussions

Importantly, the symposium was designed as a hybrid event, enabling participation from international fellows and trainees, thereby improving accessibility and inclusivity.



The success of these meetings reflects the strong demand for practical, case-based EP education.

The inaugural meeting attracted 214 attendees (onsite and virtual) from 26 countries

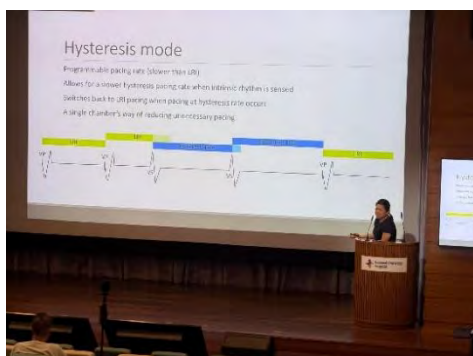
Additional Educational Initiatives

To further strengthen training across different domains of electrophysiology, HRAS organised:

- **ECG Course (February 2026)** - Focused on foundational and advanced electrocardiographic interpretation for residents, fellows and allied health professionals



- **CIED Course (June 2026)** - Covering device implantation, programming, and troubleshooting using simulated electrograms and programmers



These courses complemented the Society's ongoing educational efforts, not just for physicians but for allied health professionals such as nurses and cardiac physiologists, to address key learning needs across varying levels of expertise.

Jumping on the Social Media bandwagon

Recognizing the big role that social media plays in the current age, HRAS launched its own Instagram channel "hrassocials", in addition to its existing dedicated website <https://www.singaporeheartrhythm.org/>

The hope is that this platform will serve not only as a means to notify members, affiliates and the public of upcoming events, but also as a resource to educate on arrhythmias, therapeutic options and new technologies in an engaging manner.

Annual Scientific Meetings

The HRAS Annual Scientific Meeting (ASM) and General Practitioner Symposium, held in September 2025 and September 2026, remained central to the Society's academic calendar.

These meetings served to:

- Disseminate current developments in arrhythmia management
- Promote interdisciplinary collaboration
- Engage both specialists and primary care physicians



Supporting Training and Capacity Building

HRAS has continued to prioritise the training of fellows, particularly those from regional countries working towards subspecialisation in electrophysiology. Through its educational platforms and partnerships, the Society has contributed to capacity building and the development of future leaders in the field.

Industry and Institutional Partnerships

HRAS educational initiatives were strengthened through collaboration with industry partners, including Abbott, Biotronik, Biosense-Webster, Boston Scientific and Medtronic,

Such partnerships enabled:

- Delivery of high-quality, small group educational workshops
- Incorporation of emerging technologies
- Expansion of training opportunities

These collaborations were aligned with the broader objective of improving patient care through physician education.

Collaboration with Global and Regional Associations



Pulse Day is an annual global awareness initiative dedicated to raising awareness about cardiac arrhythmias. The day aims to inspire people everywhere to take simple yet impactful steps towards protecting their heart health, such as becoming more informed about their heart's rhythm, checking their pulse regularly and seeking medical advice whenever an irregularity is detected.

Led by the European Heart Rhythm Association (EHRA) in partnership with its sister societies including:

- Asia Pacific Heart Rhythm Society (APHRS)
- Heart Rhythm Society (HRS)
- Latin American Heart Rhythm Society (LAHRS)

HRAS was involved in Pulse Day, helping to raise awareness on arrhythmia in general and atrial fibrillation in particular. Apart from holding talks to primary healthcare practitioners, social media was leveraged to reach out to the public in the form of short educational videos.



Governance and Organisational Leadership

The progress achieved during this period was made possible through the collective efforts of the HRAS Council (2025–2026), comprising Dr Seow Swee Chong (President), Dr Daniel Chong (Vice President), Dr Tan Vern Hsen (Secretary), Dr Paul Lim (Treasurer), Dr Eric Lim (Scientific Chair), Dr Yeo Wee Tiong, Dr Pipin Kojodjojo, Miss Liang Shu Fen as Council Members and Dr Ching Chi Keong (Immediate Past President).

Personal Reflection

Looking back, I am deeply humbled by the opportunity to serve in this capacity. The progress we have made is not the work of any one individual, but rather the collective effort of an engaged and committed community. My role has been to facilitate, coordinate, and support initiatives that align with our shared vision of excellence in arrhythmia care.

Through strengthening partnerships, expanding educational programmes, and creating platforms for meaningful engagement, I believe we have taken important steps towards advancing the mission of HRAS. At the same time, these efforts have reinforced the values that define our Society—collegiality, curiosity, and a steadfast commitment to improving patient outcomes.

It has been a privilege to lead, to learn, and to serve. I remain confident that HRAS will continue to thrive as a beacon of excellence in heart rhythm care, both within Singapore and across the region.

EP LAB SPOTLIGHT: THE ELECTROPHYSIOLOGY TEAM OF THE LABAID CARDIAC HOSPITAL, DHAKA, BANGLADESH

Written by: S Mokaddas Hossain¹, APM Sohrabuzzaman², Mohsin Hossain³, TS Kler⁴

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Hospital Overview

Labaid Cardiac Hospital located in the Capital city Dhaka of Bangladesh. Bangladesh is one of the densely populated countries in the Southeast Asia. Estimated total Population of Bangladesh in 2025 is around 175.7 million making the 8th most population country in the World. Dhaka Metropolitan Area population in 2025 is about (24.65 million) 24,653,000. Labaid Hospital comprises Cardiology, Medicine, Electrophysiology and Pacing, Cardiovascular Surgery department.



Fig-1 a) Bangladesh Map showing location of Labaid Cardiac Hospital at Capital city Dhaka (Left)
b) Picture of Labaid Cardiac Hospital (Right)

Department of Cardiac Electrophysiology and Pacing

The Electrophysiology (EP) section was founded on 13 July 2004. Size of EP Cathlab is 1056 sq ft. Dr TS Kler first did EPS and RFA of an AVNRT on 25 September 2004. He also implanted an AICD in the same day in Labaid Cathlab, our team comprises three senior physicians and 5 junior doctors. Two of our senior consultants have EP training from abroad. Technicians are locally trained by different workshop headed by foreign experts. Our EP machine belongs to Prukas system and RFA machine is Stockert from Biosense Webster. We have irrigation system for RFA. Labaid EP Lab has no 3D Electroanatomic color mapping system.

In 2025, 268 different types of arrhythmias (SVT, VT) were ablated. Among 268 cases Atrioventricular nodal reentry tachycardias (AVNRT) were 157, Atrioventricular reentry tachycardias (AVRT) were 95, Ventricular Tachycardias (VT) were 11, others were 5 cases. One case of Atrial Flutter (AFL) was successfully diagnosed and ablated by innovative technique. One hundred twenty-four (124) different types of Devices Implanted and

Generator replaced including cardiac resynchronized therapy (CRT), Conduction system pacing (CSP), leadless pacemaker (Micra). The number of EP cases are increasing day by day. Complex cases are often referred to our hospital from another centre.

1924 our EP department was involved with Epidemiological study for atrial fibrillation in Bangladesh in collaboration with Sydney, Australia. Research shows the Burden of atrial fibrillation in the Asia-Pacific Region is changing.⁴ Prevalence of AFib in Bangladeshi population is 4.1 %, world standard is 1.5 to 5.5%. AFib burden in Bangladesh is 9%, world standard is 5% to 11%.² At present our EP lab is not involve in research work with other country.

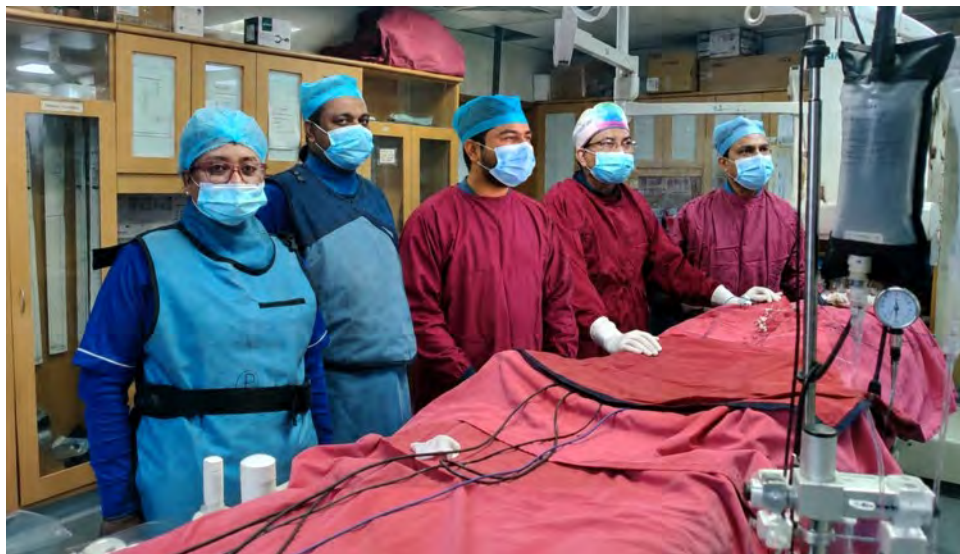


Fig-2 Images of the working Electrophysiology Laboratory of Labaid Cardiac Hospital



Fig-3 Picture of Hospital Doctors after successful EPS & RFA of a right sided counter clockwise CTI depended atrial flutter (by innovative technique)



Fig-4 Images showing analysis of intra cardiac ECG on the monitor during cathlab induced tachycardia

Some of the cases done in Labaid Cardiac Hospital EP lab are briefly shown below: -

Case 1: Successful radiofrequency ablation of an atrial flutter using two CS catheter instead of duodecapolar (Halo) catheter of a 50 y lady (innovative technique)

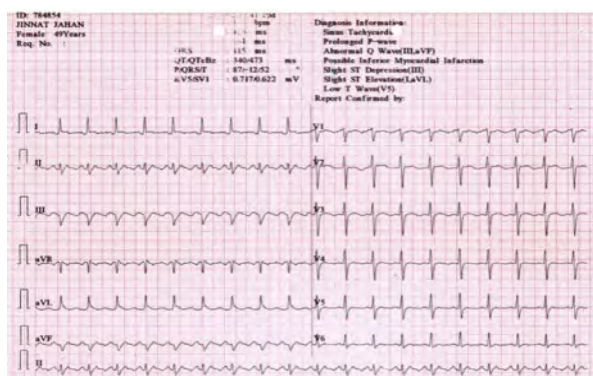


Fig-5 Surface 12 lead ECG showing AFL

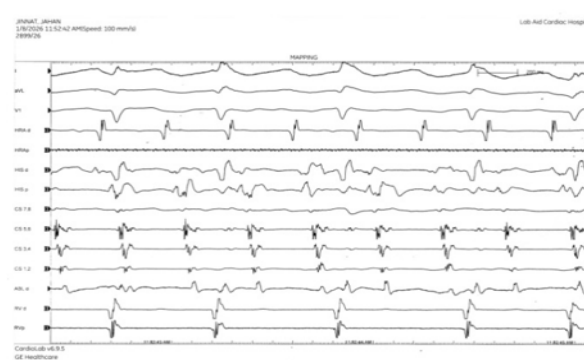


Fig-6 Intracardiac ECG showing right sided AFL



Fig-7 Intracardiac ECG Showing ABL & break down of AFL with long sinus pause due to lazy sleeping SA node

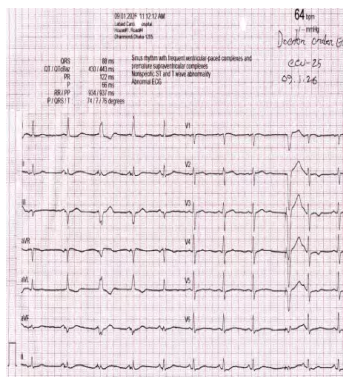


Fig-8 Surface ECG after ABL & follow up showing sinus rhythm, no recurrence of AFL

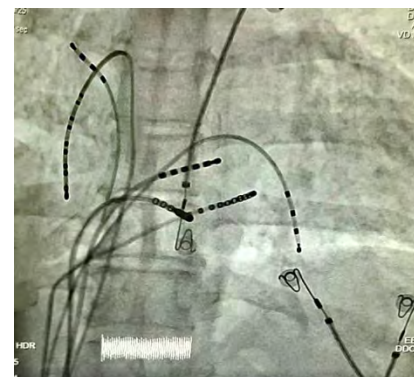


Fig-9 Intracardiac EP catheter showing two polaris deca, one in coronary sinus another one at lateral wall of RA in front of crista-terminalis

Case 2: Conduction System Pacing (CSP), Left Bundle Branch (LBB) of a 72y old man with history of recurrent syncope, sinus bradycardia & atrial fibrillation

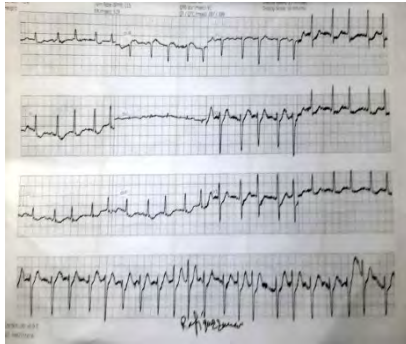


Fig-10 Surface ECG Showing Atrial Fibrillation before CSP

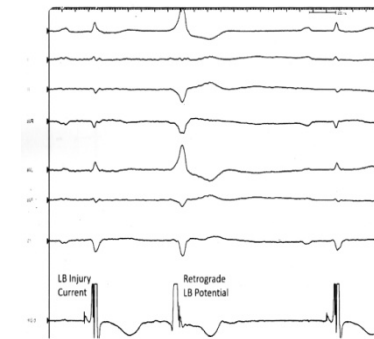


Fig-11 Intracardiac EGM showing COI & LBB potential during PVC

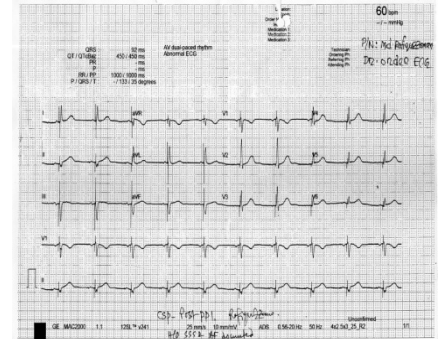


Fig-12 Post CSP surface ECG with regular narrow complex pacing



Fig-13 Contrast showing screwing of CSP lead in left bundle branch

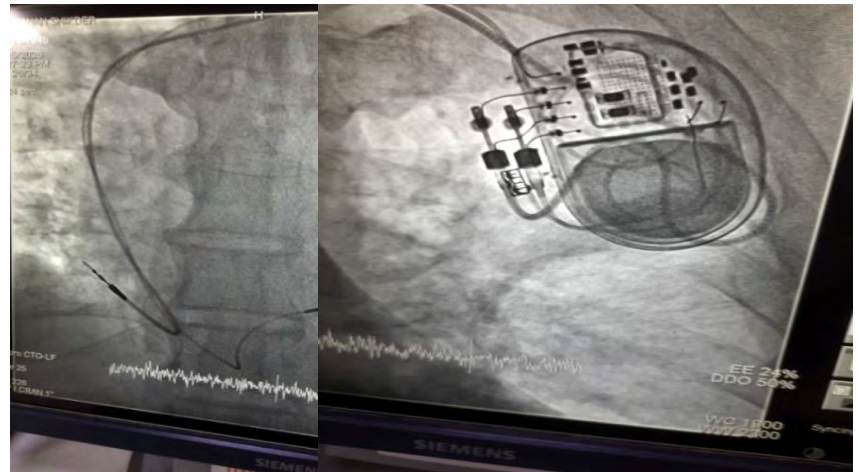


Fig-14 Image showing CSP lead & generator

Case 3: Leadless & Pocketless Pacemaker (Micra) implant

A 72 Y old lady was subjected for leadless pacemaker implantation due to recurrent chest wall pacemaker pocket infection on both sides.

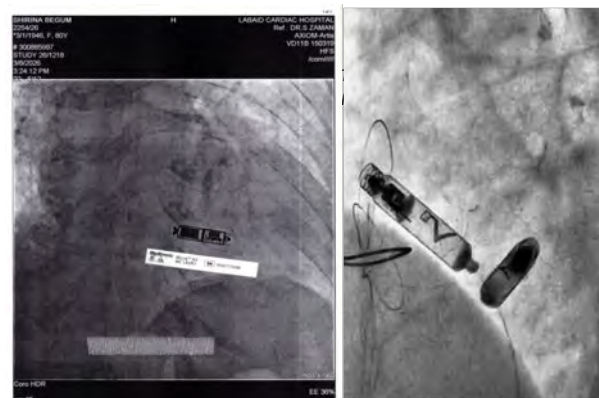


Fig-15 Leadless & Pocket less permanent pacemaker implant in right ventricular through right femoral vein

Training

Labaid EP lab has limitation of giving training to others, as it has no 3D Electroanatomic color Mapping system. Even then country physicians and technicians are taking training in this department. Research and clinical Fellows are welcome in this department. Bangladesh Medical and Dental Council (BMDC) registration is required for hands-on experience.

Academic Activity

Labaid Electrophysiology team perform and conduct clinical cases. The result of activities has been published in many of the prestigious Journals in home and abroad. Article accepted and published are shown in reference.^{1,2,3} Article accepted in abroad are shown in reference.^{4,5} In different APHRS meeting accepted article were presented as poster.⁶

Hospital Information

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Website: <https://www.labaidgroup.com>

References

1. S M Hossain Sadi. Electroanatomic non-fluoroscopic three-dimensional (3D) Voltage mapping for diagnosis and radiofrequency ablation of arrhythmias. Review Article: Published in APHRS Asia Pacific Heart Rhythm Society; News: Mar, 2018; No. 35
2. S Mokaddas Hossain, A P M Sohrabuzzaman, Baren Chakraborti, Abduz Zaher. Atrial Fibrillation Burden in Bangladesh; _ Abstract accepted & presented in 17th APHRS Conference 27th September 2024 in Sydney, Australia.
3. S Mokaddas Hossain, A P M Sohrabuzzaman. Diagnostic and Therapeutic Dilemma of a wide complex tachycardia; Abstract accepted and presented in IPDI conference in Bangladesh 2024.
4. Wong, Christopher X, Hung Fat-Tse, S Mokaddas Hossain, Prosanthan Sander. The Burden of atrial fibrillation in the Asia-Pacific Region. Nature Reviews Cardiology Journal, 2024; Vol-21, Issue No.12, Page 841-843. Accepted for publication/ in press.
5. HARRY G MOND AND ALESSANDRO PROCLEMER, Asia Pacific Coordinator from Bangladesh. S Hossain the 11th World Survey of Cardiac Pacing and Implantable Cardioverter-Defibrillators: Calendar Year 2009. PACE 2011; 34:1013-1027.
6. S Mokaddas Hossain, APM Sohrabuzzaman. A wide complex tachycardia with diagnostic dilemma. Abstract accepted for presentation and publication during APHRS meeting at Melbourne, Australia on 19 to 21 Nov, 2015.

GETTING TO KNOW: DR HYOUNG-SEOB PARK

APHRS Global Relations & Endorsement Committee Chair

Why did you choose to enter medicine and above all, prefer to specialize in Electrophysiology?

During my residency, I became increasingly interested in cardiology because I was fascinated by how directly we can impact patients' lives by treating the heart.

My interest in electrophysiology developed naturally during my master's program, when I worked on a research topic related to ventricular tachycardia ablation using a three-dimensional CARTO mapping system. That experience naturally led me to develop a strong interest in electrophysiology.

Later, during my fellowship training, I had the opportunity to observe and participate in various EP procedures, and I found them both intellectually stimulating and clinically rewarding. Seeing how catheter ablation could effectively treat patients with arrhythmias made me even more certain about my path. That is how I ultimately decided to become an electrophysiologist.

What do you regard as the most significant development in Electrophysiology in the recent past?

In my view, three developments have been particularly significant in electrophysiology in recent years: pulsed field ablation (PFA), leadless pacing, and conduction system pacing.

First, PFA is rapidly transforming the field of atrial fibrillation ablation by offering a tissue-selective energy source that may improve procedural safety and reproducibility, especially for pulmonary vein isolation.

Second, leadless pacing represents a major step forward by reducing device-related complications associated with transvenous leads and surgical pockets, while providing an effective pacing option for selected patients.

Third, conduction system pacing is changing the way we approach bradyarrhythmias by enabling more physiological ventricular activation compared with conventional right ventricular pacing.



Overall, these technologies are helping us provide arrhythmia care that is not only effective, but also safer and more tailored to each patient.

Can you talk about an accomplishment that you are particularly proud of?

One accomplishment I am particularly proud of is introducing and expanding zero-fluoroscopy catheter ablation in my practice. Since 2020, I have performed more than 1,500 fluoroless ablation procedures, aiming to eliminate radiation exposure for both patients and the EP lab staff.

Since early last year, I have also been performing pulsed field ablation (PFA) entirely as a fluoroless procedure. Based on this experience and commitment, our center has been designated as an international training center for zero-fluoroscopy PFA, and I have been actively involved in organizing and delivering a range of educational programs for visiting physicians and trainees.

If you could have an alternative career, what would it be and why?

If I could have an alternative career, I would probably become a computer programmer. I have been interested in computer programming since I was young, and I have always enjoyed solving problems through logic and creativity.

If I had not gone to medical school, I imagine I would be working in programming or in a field related to artificial intelligence, building tools and technologies that can make a meaningful impact in everyday life.

What are your hobbies and interests outside of medicine?

Outside of medicine, I enjoy listening to music and playing the guitar. Music helps me relax and reset after busy days in the EP lab, and I find it refreshing to focus on something creative and completely different from my clinical work. I also love watching movies, as it helps me clear my mind and recharge.

**What are your thoughts about some of the emerging technologies, and the way they will shape the future care of arrhythmia patients?**

Emerging technologies are rapidly transforming the way we diagnose and treat arrhythmias, and I believe they will make electrophysiology care safer, more precise, and more patient-centered. Pulsed field ablation (PFA) is a great example, as it has the potential to improve the safety and procedural consistency of atrial fibrillation ablation while maintaining strong clinical outcomes.

At the same time, the growing adoption of zero-fluoroscopy procedures will continue to reduce radiation exposure and improve the working environment in the EP lab. In addition, AI and digital health technologies, including wearable monitoring and advanced data analytics, will support earlier detection of arrhythmias and help enable more personalized decision-making.

Who has inspired you the most in your life and why?

I have been fortunate to be inspired by my mentors, Professor Yoon-Nyun Kim and Professor Seongwook Han, who were part of the arrhythmia team at my hospital. Their leadership and dedication have profoundly shaped my career as an electrophysiologist.

What is the funniest thing that has happened to you recently?

One of the most meaningful and enjoyable moments for me recently was a family trip to Hawaii early last year. It was a great chance to take a break from my busy schedule, spend quality time with my family, and simply enjoy the moment. We shared many small but memorable experiences and laughs during the trip, and it remains one of my happiest recent memories.

What is your best life advice, motto or favorite quote?

My favorite advice is: “Stay consistent, stay curious.” In electrophysiology, there is always something new to learn—whether it is a new technology, a new dataset, or a new approach to complex arrhythmias. Consistency builds skill and trust over time, while curiosity keeps you open-minded and progressive. I also believe in focusing on what truly matters: doing what is best for patients, supporting your colleagues, and continuing to grow as both a clinician and a person.

What advice would you give to your younger self?

If I could give advice to my younger self, I would say: start learning about artificial intelligence earlier and stay open to new technologies. AI is becoming an essential part of modern electrophysiology—from ECG interpretation and risk prediction to improving workflow efficiency and supporting more personalized treatment strategies.

I would also remind myself to develop strong fundamentals in clinical reasoning and data analysis, because AI is most powerful when it is used wisely and critically. In the end, the goal is not to replace physicians, but to use AI as a tool to deliver safer, faster, and better care for our patients.

What are your thoughts about some of the emerging technologies, and the way they will shape the future care of arrhythmia patients?

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REPORT ON APHRS-EHRA IMMERSION PROGRAM

Written by: Hao Huang

My Observership in Grenoble University Hospital

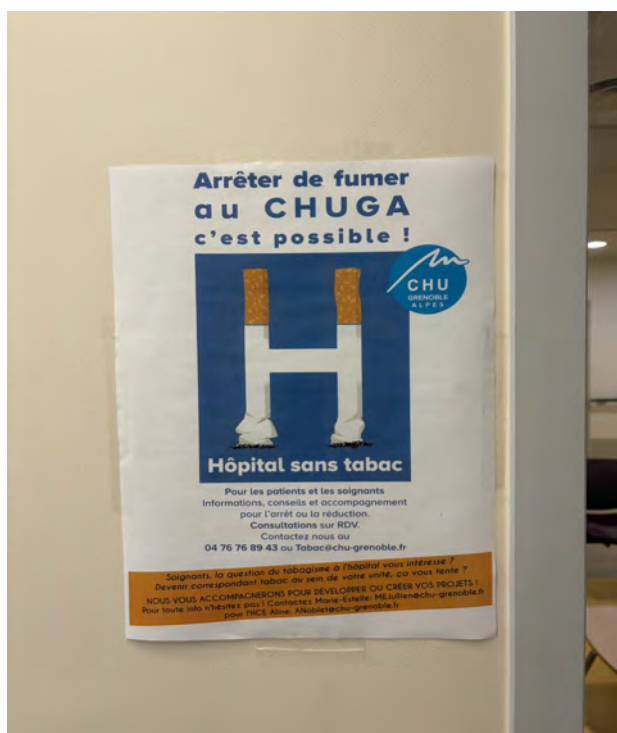
I still remember how exciting I was when receiving the offer letter that I had been selected for the APHRS-EHRA Immersion Program 2026. It was also my first opportunity to deeply immersed in the professional and daily life of European colleagues in my field. After an urgent visa application process, I crossed over 8,000 kilometers to the other part of the globe. When I arrived at Grenoble University Hospital on a bright sunny morning, surrounded by blue skies and snow-covered Alps, this whole journey appeared almost like a pilgrimage to me.



Grenoble Alpes University Hospital is a French teaching hospital established in 1974, with more than 2,000 beds. As the largest hospital in the Grenoble and Isère region, its clinical workload was even heavier than I had imagined. One of my earliest impressions came on the very first day: after orientation to the ward on the 8th floor, Professor Pascal Defaye arranged me to a nurse, who guided me to the catheterization lab downstairs on the ground floor. Though we could take the elevator, she hurried rapidly down the staircases without pause. That brief moment immediately reflected the fast-paced atmosphere here, and it also marked the beginning of my observership.



During the two-weeks program, I closely followed senior electrophysiologists through their daily workflow, including procedures in the catheterization laboratory, inpatient clinics and consultation rooms, as well as teaching activities. The schedule was remarkably intense. The cardiac center consists of six units, and the workday often extended beyond 6 p.m. I followed Professor Defaye during one of his consultations. In that afternoon, he rushed back and forth between two rooms, seeing patients continuously for over four hours without any break. I noticed that the rest of the medical team worked just as intensely, reminding me that medical staffs around the world share the same dedication and tireless commitment.



One aspect that differed significantly from my experience in China was the organization of diagnostic tests. In many Chinese hospitals, patients often need to travel between different departments for ECGs or device interrogations before returning to the clinic for the final diagnosis and prescription. At Grenoble University Hospital, however, most routine examinations are completed directly within the consultation rooms. Nurses had often already performed ECGs before the physician was ready. This streamlined process greatly reduced unnecessary movement for patients and strongly reflected a patient-centered philosophy of care.

The place where I spent most of my time was the electrophysiology laboratory. The center has two dedicated pacing and electrophysiology labs, performing approximately ten procedures per day. I observed a remarkable number of leadless pacemaker implantations—almost every day during my stay. The operators' proficiency was astonishing; many could complete an entire implantation within approximately thirty minutes.



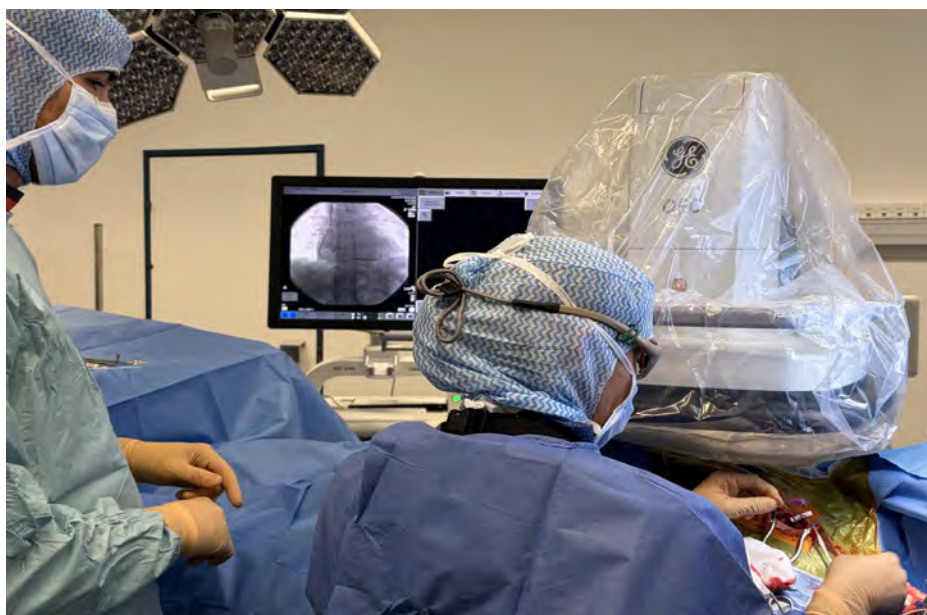
Beyond leadless pacing, I also had my first opportunity to observe a real-world WiSE-CRT implantation case. The patient had already received a right ventricular lead, but implantation of a coronary sinus lead had failed because a target vein was not available. One week earlier, this patient had undergone implantation of the subcutaneous battery and intercostal ultrasound transmitter. Therefore, the portion I observed was the implantation of the wireless left ventricular endocardial receiver electrode.

Overall, the procedure appeared highly complex and technically demanding. At our own center, when coronary sinus lead implantation proves difficult, we usually attempt His-Purkinje system pacing as a rescue strategy. Although I did not directly ask the operator whether conduction system pacing had been considered in this case, I suspect that for this patient—with dilated cardiomyopathy and nonspecific intraventricular conduction delay—the team may have believed that His bundle or left bundle branch pacing would not achieve adequate resynchronization. This likely also suggests differences in institutional preference and experience.



Interestingly, during my observership, I did not observe any His bundle pacing or left bundle branch pacing. One reason may be the limited time for my stay here. It happened that nearly all the patients I encountered had sinus node dysfunction rather than atrioventricular block. However, when I discussed this with senior physicians, they mentioned that for patients with second-degree or higher atrioventricular block, approximately half would receive left bundle branch area pacing in this center, while His bundle pacing is no longer routinely attempted. On the other hand, for CRT candidates, the center still strongly favors coronary sinus lead implantation, which is undoubtedly related to their extensive experience with CS techniques. I observed one complete CRT implantation, from skin incision to wound closure, which was finished within only one hour, which was truly impressive.

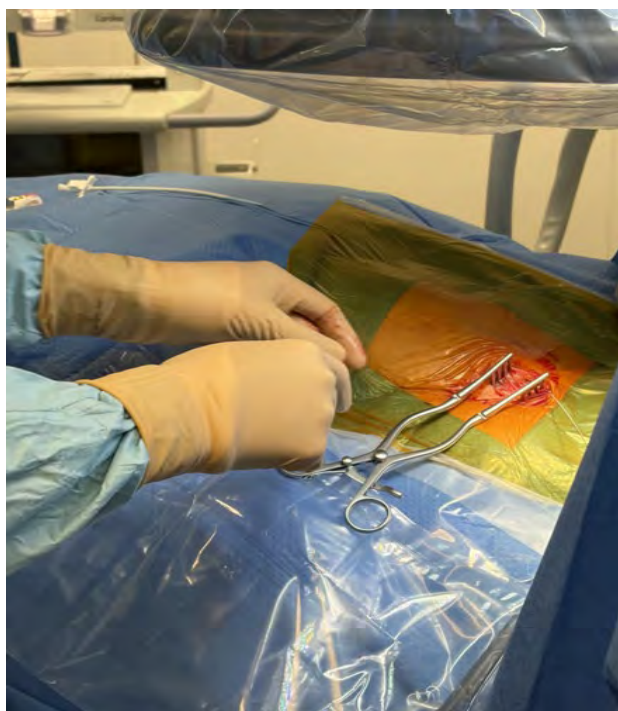
Several aspects of procedural workflow and medical culture at Grenoble University Hospital also left me thinking deeply. A routine dual-chamber pacemaker implantation could often be completed with only one operator, one nurse, and one anesthesiologist, sometimes even without the presence of a device engineer. The procedures were remarkably quiet, smooth, and efficient. Because patients were under anesthesia, there was less intraoperative communication and verbal explanation compared with my domestic experience. I really like the portable machine with all the settings of fluoroscopic parameters, which really facilitates the operator. Of course, there were also tense moments. I still remember the seconds of sinus arrest that occurred after electrical cardioversion for intraoperative atrial fibrillation. For the most of time, everything just goes well.



Apart from the efficiency of the surgeries, I was impressed by the small but thoughtful details of individualized patient care. One memorable case involved a 78-year-old gentleman undergoing pacemaker implantation. During pocket creation, the operator spent extra time ensuring that the pocket was neither too deep nor too low, and additionally fixed the upper portion of the generator to the subcutaneous tissue with a suture to prevent downward migration. Compared with the otherwise fluid workflow, this step took noticeably longer. When I asked about the reason, the operator explained that the patient was an enthusiastic skier, and the pocket tension

needed to be optimized to preserve his postoperative comfort and mobility. I found this consideration so touching, and that was such a special reason characteristic of the Alps region.

Another detail I repeatedly noticed was the strict sterility practice: every time the operator touched either the open wound or the generator, the outer gloves were removed and replaced immediately. Such meticulous attention to detail contributes to minimizing infection, one of the most serious complications in cardiac implantable electronic devices. These are valuable lessons that I hope to incorporate into my own future practice.



I also observed several procedural preferences different from those at my home institution. For atrial lead implantation, physicians at Grenoble often initially preferred positioning the lead on the right atrial lateral wall rather than in the right atrial appendage. However, in several cases, fixation on the lateral wall proved suboptimal and unstable, and the lead was eventually repositioned to the appendage. They explained that some studies suggest long-term right atrial appendage pacing may negatively affect atrial remodeling and increase the future risk of atrial fibrillation. For my worries, their experience suggests that atrial lateral wall pacing rarely causes perforation. This remains somewhat controversial, and my own understanding is that both pacing sites likely have similar effects on atrial conduction. Looking ahead, Bachmann bundle pacing may provide a more physiological approach to atrial pacing. This is currently one of the focuses of my own clinical and translational studies, and I hope there will be opportunities for future collaboration and academic exchange with European colleagues in this field.

One particularly pleasant surprise was the devices of MicroPort, which held a notable market share at this center, whereas they are encountered much less frequently in my own daily practice. Their engineers proudly introduced several advantages of their ICD systems compared with other products. Although the pricing is regulated by the country and generally similar across brands, MicroPort ICDs feature optimized battery management, potentially prolonging device longevity and reducing generator replacement procedures. In addition, their ventricular tachycardia discrimination algorithms are designed to more accurately differentiate ventricular tachycardia from atrial fibrillation or atrial flutter, thereby reducing inappropriate shocks and improving patient comfort. Seeing a Chinese company recognized internationally in this field gave me a strong sense of pride, and also encouraged me to pay greater attention to their technologies in future practice.





At the end, I would like to express my sincere gratitude to Professor Pascal Defaye, the head of the Arrhythmia Center at Grenoble University Hospital, for kindly inviting me and providing this chance for observation. He offered tremendous support throughout my visa application, and thoughtfully arranged my observership in different sections. I deeply admire not only his extraordinary expertise, but also his genuine care for both patients and colleagues.

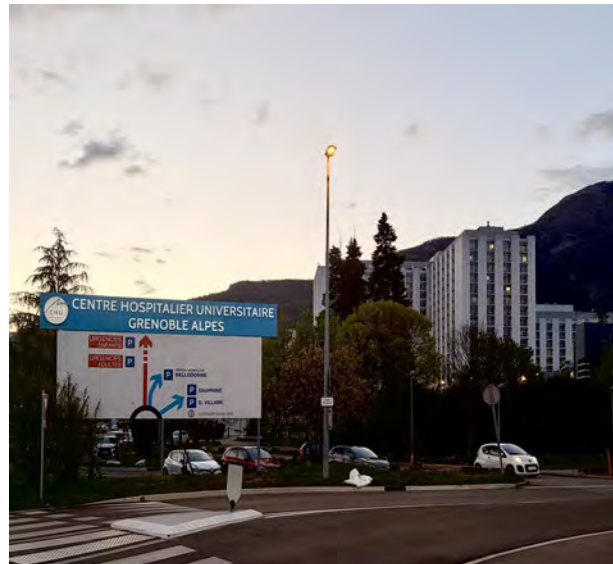
I am equally grateful to every colleague I met during my stay in Grenoble. Despite their demanding schedules, they generously shared fascinating cases, procedural insights, and valuable clinical experiences with me. The professionalism and dedication of French physicians left a profound impression on me—it reminded me that doctors around the world are, in many ways, remarkably alike.

I would also like to thank every patient I encountered in Grenoble. Despite the language barrier, they showed me extraordinary understanding and kindness. Every patient was entitled as a teacher in my journey of learning and practice.

Besides, special thanks also go to Serena Chong from APHRS, whose prompt coordination and support made my entire program run so smoothly.

Most importantly, I would like to thank APHRS and Biotronik for organizing and supporting such a meaningful program. Initiatives like this create invaluable opportunities for physicians around the world to connect, learn from one another, and exchange the latest ideas and technologies in arrhythmia management.

I sincerely hope this program will continue in the future, enabling more healthcare professionals worldwide to access the most up-to-date therapies and concepts in heart rhythm society, benefiting the whole patients in our mutual community.





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References

1. Nilsson KR, Birgersdotter-Green U, Saleem-Talib S, et al. Leadless atrial versus transvenous pacing for sinus node dysfunction: one-year outcomes from the Leadless ARRIVE real-world study. EP Europace. Published online April 14, 2026. doi:10.1093/europace/euag072

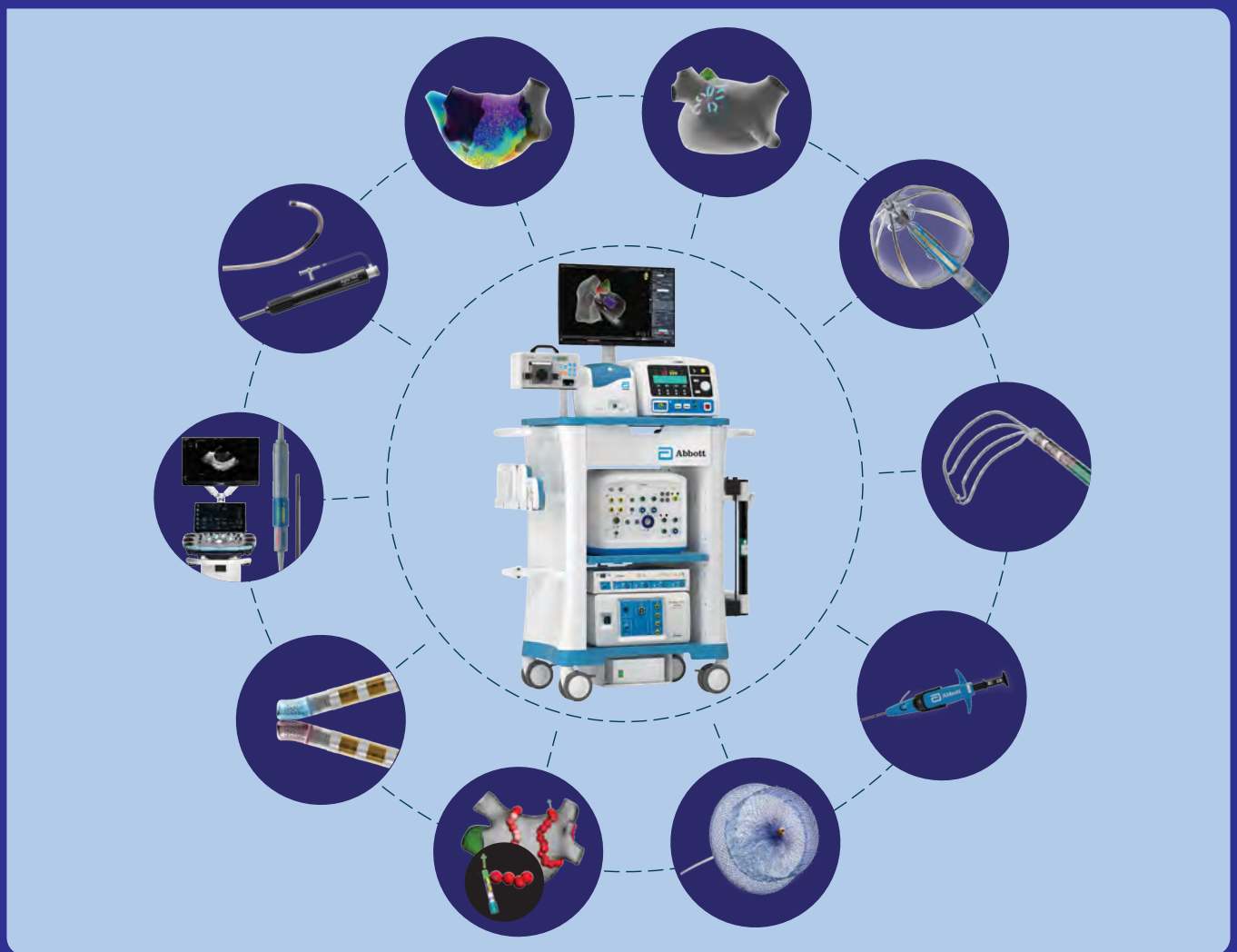
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PFA in APAC, from Promise to Practice

Launch of a new
regional report on AFib
care and PFA adoption

Boston Scientific, in collaboration with the Asia Pacific Heart Rhythm Society (APHRS), is pleased to present the findings of a new regional report exploring the evolving role of pulsed field ablation (PFA) in atrial fibrillation (AFib) management across Asia Pacific (APAC).

Developed through a survey of electrophysiologists across Australia, China, Japan and South Korea, and complemented by in-depth physician interviews and literature review, the report examines current perspectives on PFA, barriers to adoption, future trends in rhythm-control and priorities for advancing AFib care across the region.

Join us for the report launch, findings and recommendations presented by **Dr. Ahmed Abdelaal**, chief medical officer, APAC, Boston Scientific and **Prof. Hung-Fat Tse**, 2nd vice president, APHRS.

Key speakers



Dr. Ahmed Abdelaal
Chief medical officer, APAC
Boston Scientific



Prof. Hung-Fat Tse
2nd vice president
APHRS

Webinar details



Tuesday, July 28, 2026



10:00 AM (UTC+8) China

11:00 AM (UTC+9) Japan, South Korea

12:00 PM (UTC+10) Australia - Eastern Standard Time

**Duration: 45 minutes*



Click here to join ZOOM webinar

Meeting ID: 990 0667 7108

Passcode: 134482

**Webinar will be conducted in English, simultaneous interpretation will be available in Mandarin and Korean.*

Topics covered

- The growing burden of AFib across APAC
- Electrophysiologist perspectives on the clinical value of PFA
- Current adoption trends and barriers across APAC healthcare systems
- Factors influencing referral pathways, patient access and system readiness
- Priorities for advancing AFib care and rhythm-control strategies across the region



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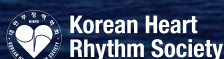
Key Dates

**Late-Breaking Abstract
Submission Open**
30 July (Thu.)

**Early-bird Registration
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**Hotel Reservations
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