

MEDIA RELEASE

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For Immediate Publication

NUHCS IS FIRST IN SINGAPORE TO OFFER MINIMALLY INVASIVE SURGICAL ALTERNATIVE FOR PATIENTS SUFFERING FROM DANGEROUS HEART RHYTHM DISORDER

Surgical cold therapy ablation for atrial fibrillation can now be done through keyhole surgery alongside other minimally invasive valve procedures in the same sitting

SINGAPORE — Atrial fibrillation (AF) is the most common heart rhythm disorder in the world. Worryingly, its prevalence also increases with age. According to a global study in 2019, this hidden killer affects a staggering 59.7 million people worldwide.¹ In the last two years, over 80 per cent of the patients seen for heart rhythm disorders at the National University Heart Centre, Singapore (NUHCS) suffer from AF. If left untreated, patients face higher risks of stroke, heart failure and death.

Treatment depends on each individual, and may involve medication or interventions to reset the heart rhythm. One type of intervention is known as cardiac ablation, a method of intentionally creating precise areas of scarring to block or interrupt abnormal electrical signals within the heart. This can be done surgically or non-surgically, usually using heat (radiofrequency ablation) or cold (cryoablation) energy. Surgical ablation is commonly done when the patient requires open heart surgery for a related heart valve condition. This combination surgery would typically have to be done via a fully open chest surgery.

In July 2024, NUHCS performed Singapore's first minimally invasive complete cryoablation surgery for AF, reducing surgical risks, complications, and offering a shorter length of stay in the hospital as well as faster recovery for eligible patients. Since then, six more patients have undergone this procedure, known as **minimally invasive CryoMaze**.

"Traditionally, CryoMaze has been done via a fully open chest surgery and was the only way to achieve a complete ablation in patients who require heart valve surgery. This ablation procedure has a documented success rate of over 70 per cent in preventing AF recurrence," shared Dr Chang Guohao, Consultant, Division of Adult Cardiac Surgery, Department of Cardiac, Thoracic and Vascular Surgery (CTVS), NUHCS, who performs the keyhole cryoablation surgeries at NUHCS.

Patients with AF usually suffer from associated heart valve conditions affecting the mitral and/or tricuspid valve, and these conditions would be treated together in the same surgery. Patients who previously had to undergo a fully open chest surgery now

¹ Li H, Song X, Liang Y, Bai X, Liu-Huo W-S, Chao T et al. Global, regional, and national burden of disease study of atrial fibrillation/flutter, 1990–2019: results from a Global Burden of Disease Study, 2019. *BMC Public Health* 2022;22:2015.

have the option of keyhole surgery to achieve surgical AF CryoMaze while receiving heart valve surgery in the same sitting.

“With the minimally invasive CryoMaze option now available at NUHCS, not only is the AF treatment safer and less traumatic for eligible patients requiring surgical ablation, but their recovery time is also reduced by about half,” said Dr Chang.

This minimally invasive alternative not only shortens recovery time and enhances clinical outcomes and patient experience, but also underscores NUHCS’s commitment to delivering the best cardiovascular services to meet evolving healthcare needs.

Chinese Glossary

National University Heart Centre, Singapore (NUHCS)	新加坡国立大学心脏中心 (国大心脏中心)
Atrial fibrillation	心房颤动
Cardiac ablation	心脏消融术
Radiofrequency ablation	射频消融
Cryoablation	冷冻消融
CryoMaze	冷冻迷宫手术
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About the National University Heart Centre, Singapore (NUHCS)

The National University Heart Centre, Singapore (NUHCS) is an academic, national specialist centre under the National University Health System (NUHS). NUHCS brings together the resources, expertise and capabilities in the areas of Cardiology, Cardiothoracic and Vascular Surgery to better meet the needs of the growing number of patients with heart disease and raise the future generation of medical professionals.

As one of two national heart centres in Singapore for the treatment and management of complex cardiovascular diseases, NUHCS offers six core clinical programmes

including Heart Failure & Cardiomyopathy, Structural Heart Disease, Acute Coronary Syndrome, Heart Rhythm, Congenital & Structural Heart Disease and Women's Heart Health. The centre has been awarded two institutional Peaks of Excellence for its Minimally-invasive Cardiothoracic Surgery and Aortic Centre Programme, and has been ranked top in Singapore for three consecutive years in 2022, 2023 and 2024 for the specialty of Cardiac Surgery in Newsweek's "World's Best Hospital" Award.

Comprising a team of internationally-recognised cardiologists and surgeons from the cardiothoracic and vascular specialties, NUHCS serves as a referral national centre for cardiothoracic and vascular conditions and provides a comprehensive approach to the treatment of these patients. The holistic patient-care approach is backed by leading translational research at the Cardiovascular Research Institute (CVRI) and Cardiovascular Metabolic Translational Program, all of which complements these advanced quaternary clinical services to deliver state-of-the-art treatment solutions to the most challenging heart, lung and circulatory diseases.

NUHCS services span across four locations to serve the western and central locations in Singapore:

- NUHCS at National University Hospital (NUH), Kent Ridge - Main Operations
- NUHCS Heart Clinic @ Ng Teng Fong General Hospital (NTFGH)
- NUHCS Heart Clinic @ Jurong Medical Centre (JMC)
- NUHCS Heart Clinic @ Alexandra Hospital (AH)

For more information, visit: <https://www.nuhcs.com.sg>.