

# médico

A QUARTERLY PUBLICATION OF GP LIAISON CENTRE, NATIONAL UNIVERSITY HOSPITAL



National University  
Heart Centre,  
Singapore (NUHCS)

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- Breast Cancer Therapies and The Heart: *What Should You Know?*
- Chest Pain Clinic at NTFGH
- Primary Care Guide to Peripheral Artery Disease
- TAVI Programme
- Treatment of Atrial Fibrillation in Primary Care

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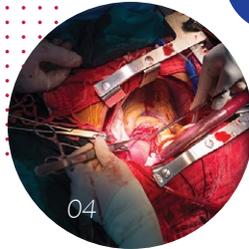
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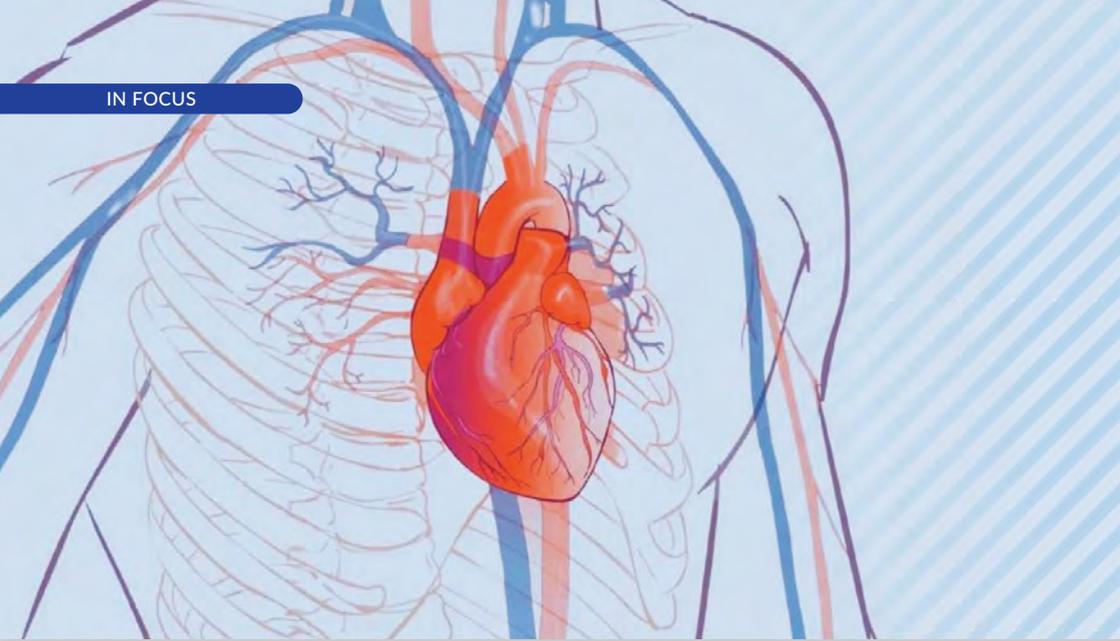
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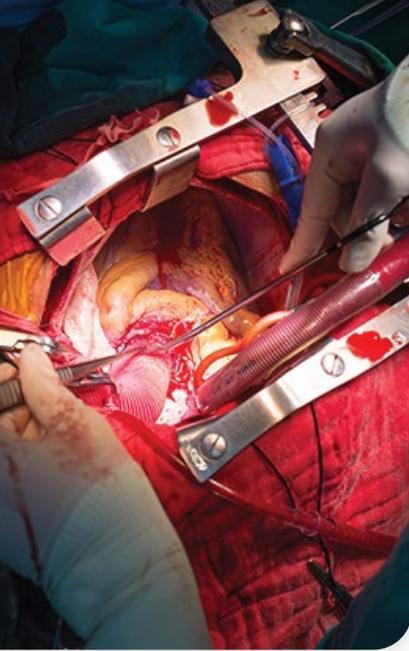


## AORTIC PROGRAM

### *- Upcoming Academic Pillar for the Department of Cardiac, Thoracic and Vascular Surgery (CTVS)*

Although aortic surgery sounds like a very specialised area, it actually involves a few disciplines across our campus: vascular surgery, radiology, cardiac surgery, cardiology and genetic; just a few to mention.

Aging population around the globe leads to an increase in the number of cases related to aortic conditions. Singapore is not an exception and it is the main reason why NUHCS would like to bring this area to a new level and develop a holistic one-point service for this complex patient. A strong academic team from every discipline contributes to this effort. Old-time experts at our campus like Dr Kristine Teoh and Dr Julian Wong (both senior consultants), nourishing new generation of surgeons like Dr Ng Jun Jie (Consultant) and Dr Jai Ajitchandra Sule (Associate Consultant) are interested to take this challenge and bring it forward to a new academic level.



Clinical service is under upgrade too. It would add on a specialised coordinator available for direct call. The aortic clinic which opened for a couple of months has appointments already booked up to October currently. Strong coordination with the structural teams from cardiology and cardiovascular genetic consultation would be to provide high levels of outpatient service for aortic patients.

Surgical approach demands a more sophisticated technique to manage aortic disease across an entire length of the aorta. Hybrid approach with combination of open surgery and stenting enforced by high quality imaging would put more emphasis on modern operation strategy.

The basic science is another reason why aortic program is on the rise. Recently an acquired grant of 1.8 million Singapore dollars for 3D vessel modeling has received ethical approval for single cell multi-omics study for patients with aortic aneurysm and aortic dissection. It lays down a bright opportunity for collaborative work at the National University of Singapore (Professor Roger Foo, Assistant Professor Roshni) and internationally.



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# TREATMENT OF ATRIAL FIBRILLATION IN PRIMARY CARE

Atrial fibrillation (AF) is the most common clinically significant arrhythmia and will be a growing burden on the healthcare system as our population ages. It occurs in 2-4% of adults and its prevalence rises sharply with age. AF significantly increases the risk of stroke, heart failure and death regardless of age group and preventing these outcomes is a cornerstone of its management.

Patients over the age of 65 years should be screened for AF using pulse palpation. Although wearables can now record single lead ECGs that are suggestive of AF, it still needs to be confirmed on a standard ECG. A 12-lead ECG in AF will have an irregular rhythm with no discernible P waves. Non-valvular AF (NVAF) is the most common form in Singapore and these patients do not have significant mitral stenosis or mechanical prosthetic heart valves. The ABC strategy as proposed by the European Society of Cardiology summarises the important aspects of its management and can be widely applied in primary care, especially for less complex patients with NVAF.<sup>1</sup>

## Anticoagulation / Avoid Stroke

AF increases stroke risk five-fold overall, and in particularly high-risk patients, this could be as high as 20% per year! Patients with moderate or worse risk for stroke can be identified by calculating their CHA<sub>2</sub>DS<sub>2</sub>-VASc score. They should generally be offered oral anticoagulation if there is no high risk of bleeding. For NVAF, direct anticoagulants (e.g. apixaban, dabigatran and rivaroxaban) are generally preferred to vitamin K antagonists (e.g. warfarin) due to their predictable dosing and lower risk of intracranial haemorrhage. Antiplatelet drugs are not recommended for stroke prevention in AF patients as they are not as efficacious but still increase the risk of bleeding complications.

## Better Symptom Control

Patients can be managed using either a rate or rhythm control strategy to minimise their symptoms. There is no clear prognostic advantage to either strategy, so it needs to be tailored to patients' functional status and preferences. Older and sedentary patients are usually less symptomatic and can do well with just rate control agents (beta blockers, non-dihydropyridine calcium channel blockers, digoxin). An initial lenient target of <110 bpm at rest is reasonable, but this can be tightened up if patients are still symptomatic (<80 bpm at rest and 110 bpm with moderate exercise).

Younger and more active patients, on the other hand, tolerate AF less well and may require rhythm control strategies. This usually requires referral to a specialist.

## Cardiovascular and Comorbidity Optimization

Concomitant risk factors increase the risk of adverse cardiovascular outcomes and worsen symptom control in AF patients. Hence, they should be routinely screened and aggressively managed according to guidelines. These include diabetes mellitus, hypertension, hyperlipidaemia, obesity, and sleep apnoea. Lifestyle factors like smoking, alcohol and a physical inactivity must also be addressed for the same reasons. An integrated, multidisciplinary approach in primary care is preferred to provide holistic care for these patients.

Less complex AF patients can be optimally managed in primary care with some attention to guideline-based management. As our population ages, the role of the family physician will become ever more critical in minimising devastating and adverse outcomes in patients.

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Primary care cardiology; Cardiac critical care;  
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## TAVI Programme

### The Aging Population

It is expected that structural heart disease will become more prevalent in the coming few years. Singapore's life expectancy has increased from 77.8-year-old at the beginning of the 3<sup>rd</sup> millennium to 83.6-year-old in the year 2020. This steady increase was contributed not only by an improvement in all sectors in healthcare including prevention, detection and treatment of medical condition but also by better standard of life in Singapore.

### Structural Heart Disease

Structural heart disease (SHD) is defined as a form of heart disease that refers to a defect within the heart that you are either born with or have developed with aging. With advanced age, one of the most common and serious type of SHD is aortic stenosis. Patient with aortic stenosis (AS) have restricted opening of the aortic valve and when become severe, it will cause significant symptoms causing difficulty in their daily life activities and potentially sudden death without appropriate treatment. The only effective therapy for this condition will be to replace the aortic valve. With the recent advancements, trans-catheter aortic valve replacement (TAVI) has now become an alternative to open heart surgery to replace the diseased aortic valve in AS patients.

## TAVI for AS Treatment

The nature of the procedure is less invasive as compared to open heart surgery. The procedure is performed mainly with sedation and local anesthesia to the puncture site in which in majority of the case will be the right femoral artery. The valve used for the procedure is made from animal tissue, thus eliminated the need for long term anticoagulation. The TAVI valve will be crimped to smaller size and inserted into a tube like sheath before inserted into the patient artery and finally advanced toward the heart to replace the diseased valve. The procedure is performed on the beating heart without the need to put the patient on the bypass machine.

## NUHCS TAVI Experience

We performed our first TAVI procedure in 2010. Over the years, with the increasing procedure experience and advancement in technology, TAVI, which initially performed for only high risk surgical risk patients, now can be used to treat almost all patients with severe AS. With slightly over 200 procedures performed at our centre, our patient outcome was comparable to international standard in terms of procedural success, mortality, stroke and other complications.

## Age is Just a “Number”

As the saying goes, you are only as old as you feel. With the increasing age of our population, it is expected that the prevalence of aortic stenosis as one of the most common SHD will increase. TAVI has shown to be able to offer a less invasive curative treatment for this patient population. In the end, it is not the years in your life that



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## BREAST CANCER THERAPIES AND THE HEART: *What Should You Know?*

Breast cancer is the leading cause of cancer in females worldwide and in Singapore. Mortality rates have improved over the years with the advancement in therapeutic options ranging from surgery, chemotherapy, targeted agents, endocrine therapy and radiation therapy. Unfortunately, these survival gains come at the price of increasing cancer therapeutics-related cardiotoxicity. Cardiovascular disease is the main cause of mortality in women above 70 years old, especially among those surviving more than five years after their breast cancer diagnosis.<sup>1</sup> Hence, it is important for primary healthcare physicians and cardiologists to screen breast cancer patients and survivors for potential cardiotoxic events during daily patient care.

### **Anthracyclines and Trastuzumab**

Doxorubicin, a type of anthracycline, is one of the most active chemotherapy drugs used to treat breast cancer. Trastuzumab (Herceptin), an anti-human epidermal growth factor receptor 2 (HER2) targeted agent is indicated in patients with early-stage and metastatic HER2-positive breast cancer. Both doxorubicin and trastuzumab are associated with left ventricular systolic dysfunction, with most patients being asymptomatic and only picked up on cardiac imaging done during surveillance or for other purposes. Data suggests that left ventricular systolic dysfunction associated with anthracycline usually occurs within the first year of treatment,<sup>2</sup> hence it is important for cardiac screening during and after treatment. Currently, patients receiving trastuzumab require mandatory cardiac assessment every three months. Unfortunately, surveillance frequency after anthracycline and trastuzumab treatment varies among international guidelines.

## Endocrine Therapies

Aromatase inhibitors (AI) (e.g. letrozole) and tamoxifen are typically recommended for a minimum of five years to reduce the risk of disease recurrence in oestrogen or progesterone receptor positive (ER/PR+) breast cancer patients. It is imperative to ensure that the cardiometabolic profile of breast cancer patients is well controlled as breast cancer and cardiovascular disease share similar risk factors such as advancing age, diabetes, obesity and sedentary lifestyle. Tamoxifen is associated with an increase in body fat composition and marked hypertriglyceridaemia. Tamoxifen and AI increase the risk of diabetes, especially when used for more than two years. Evidence also suggests that patients on tamoxifen have a higher risk of venous thromboembolic events compared to non-users and AI users. Patients on AI are at risk of developing angina and myocardial infarction compared to those on tamoxifen due to increased endothelial dysfunction.<sup>1</sup>

## Radiation Therapy

Radiation therapy (RT) to the chest can damage cardiac structures and symptoms usually occur one to three decades after exposure. RT can precipitate premature atherosclerosis in the ostial and proximal segments of epicardial vessels, resulting in angina, acute coronary syndrome or sudden cardiac death. Heart valve leaflet calcification, fibrosis and retraction can also develop many years after RT, requiring surgical valve replacement in severe cases. Hence, patients with prior chest RT should undergo cardiac screening 5-10 years after exposure.



Surgery

Radiation  
TherapyChemo  
TherapyHormone  
TherapyTargeted  
Therapy

Bisphosphonates

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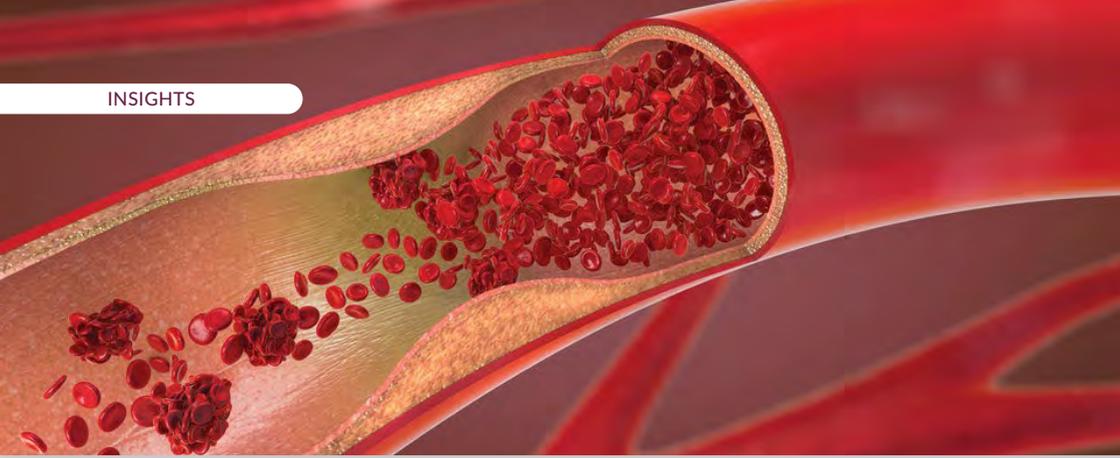
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## PRIMARY CARE GUIDE TO PERIPHERAL ARTERY DISEASE

Atherosclerotic disease is a diffuse systemic process. Conventional medical training tends to focus only on the atherosclerosis of the coronary arteries. As clinician's roles expand more broadly to include cardiovascular disease in general, it is essential that we are familiar with the significance of peripheral artery disease.

Peripheral artery disease is estimated to affect 13% of those above the age of 50.<sup>1</sup> It is a progressive atherosclerotic disease where an atherosclerotic plaque causes arterial narrowing or occlusion. This leads to a significant reduction in blood flow to the lower extremities. The vast majority of patients have associated vascular risk factors such as smoking, diabetes, dyslipidemia, and inflammation.<sup>2</sup> Most of the affected patients are without the classic symptom of intermittent claudication, however, 40% do experience such pain on walking.<sup>3</sup>

As it is a systemic disease, more than half of patients with peripheral artery disease will have ischemic heart disease and a third will have cerebrovascular disease. Within five years of diagnosis, up to 15% of patients with intermittent claudication will die from cerebrovascular disease.<sup>4</sup> On the other hand, most patients with claudication have stable or improvement in leg symptoms at five years. However, up to 25% of symptomatic patients will require intervention and 3.3% will require amputation.<sup>5</sup> Once the severe blockage has markedly reduced blood flow (critical limb ischemia), complications occur including sores and wounds in the limb that require amputation. At this stage, the overall survival for the patient is worse than that of cancer. Five-year all-cause mortality is 50% compared with 17% for prostate cancer, 19% for breast cancer, 40% for cervical cancer, and 44% for colon cancer.<sup>6</sup>

The classic symptom of claudication is characterised by an aching or burning sensation in the muscles of the leg. This pain is reliably triggered by walking a set distance and is then relieved within minutes of resting. Much like stable angina, intermittent claudication is never present at rest or positional in nature. If the patient gives a history that is not suggestive of claudication, one must consider non-vascular alternatives. For example, leg pain from spinal stenosis is relieved by positional change and be associated with leg weakness. Osteoarthritis is often bilateral and localised in the region of the joints. The pain is not readily resolved by rest. Other neurologic conditions like lumbar nerve root irritation can be elicited by maneuvers such as straight leg raise test. There are also other non-atherosclerotic vascular causes. For example, patients with venous claudication often have a history of deep venous thrombosis, edema below the knees, and venous skin changes. The pain is relieved by the elevation of the legs. In young smokers, the condition of Buerger's disease (thromboangiitis obliterans) is a condition where the vessels of the digits are inflamed, swollen, and can become blocked with the formation of thrombi.

Management of peripheral artery disease mainly occurs in the primary care setting and involves risk factor identification and modification. Multiple cohort studies have shown that PAD patients who continued to smoke have a higher risk of amputation and survival at five years is only half compared with non-smokers.<sup>7</sup> It is the single most important modifiable risk factor and smoking cessation should be counseled aggressively. Secondly, antiplatelets reduce the risk of major cardiovascular events. Clopidogrel was shown to be better than Aspirin in preventing vascular complications in a randomised control trial.<sup>8</sup> Statin therapy is shown to reduce all-cause mortality and incidence of stroke in patients with PAD by 22%. The current recommendation is to reduce LDL cholesterol to 1.8 mmol/dL by ESC guideline.<sup>9</sup> Thirdly, blood pressure-lowering with ramipril is recommended as first-line therapy in guidelines worldwide and has been shown to improved pain-free walking distance. Lastly, meta-analyses of RCTs have shown that six months of supervised exercise improved walking distance. The benefit to walking ability and quality of life is similar in those who had angioplasty or supervised exercise therapy. The most effective regimen is walking for more than 30 minutes at least three times a week to the point of near-maximal pain. The results are best seen after six months.<sup>10</sup>

As a marker of systemic atherosclerosis, PAD requires a comprehensive clinical approach that promotes prevention, detection, and timely intervention. When a patient does report symptoms, revascularisation intervention by surgical or endovascular means is typically reserved when there is significant impairment in function and quality of life is affected. To achieve the best outcome for patients with atherosclerotic burden, contemporary clinicians should have a solid foundation about the natural history of PAD and treatment strategy. This will lead to a reduction in cardiovascular complications and improved outcomes of patients with PAD.

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## CHEST PAIN CLINIC AT NTFGH

An increasing number of patients experiencing chest pains are going to the emergency department (ED) where waiting times can be long and testing is expensive especially when the patient is admitted. Patients who are seen at the cardiology specialist outpatient clinic (SOC) often need to wait for several weeks for their first appointment and may return for several hospital visits before a definitive diagnosis can be formed. The waiting time may also lead to anxiety.

To address the current inefficiencies, a pilot nurse-led, cardiologist-supervised rapid access chest pain clinic (RACPC) was set up to improve the diagnostic pathway for such patients. Under this pilot model, patients seen at the primary care clinics with ongoing chest pain or electrocardiogram (ECG) changes suggestive of acute coronary syndromes are immediately sent to the ED. Other patients would be referred to the RACPC for evaluation within 24 working hours. At the RACPC, a specialist chest pain nurse reviews patients' risk profiles, performs blood tests and treadmill ECG before they are reviewed by a consultant cardiologist. The entire process would take less than three hours with patients receiving a complete diagnosis and treatment plan by the end of their single visit to the hospital.

To date, more than 1000 patients have been seen, with referrals coming from all six NUP polyclinics. Waiting time for evaluation by a cardiologist decreased by 98% compared to a traditional outpatient referral. On average, the patient only requires 1.5 hospital visits compared to three from before. Consequently, healthcare expenditure fell by 20.7% with inpatient bed days due to chest pains decreasing by 24.7%. 9 out of 10 highly recommended the service.

Selected from a total of 200 entries from 89 hospitals across 16 countries, this programme was recognised at the Asian Hospital Management Awards 2020, with an excellence award in the patient experience improvement category. Access to RACPC will be rolled out to all GP clinics within the NUHS Primary Care Network in 2021.



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## Why did you choose adult cardiac surgery as your specialisation?

Cardiothoracic surgery, as a specialty, has achieved remarkable milestones in every aspect over the past 70 years since the successful use of the heart lung machine on the first human by John Gibbons in 1953.

Throughout the years, cardiothoracic surgery remains a surgical frontier with limitless challenges and with each challenge, I see an opportunity.

The specialty of cardiothoracic surgery has its trying times. The educational process to complete the training to become a cardiothoracic surgeon is a long and arduous one. Workloads and work hours are often labelled as excessive and stressful with little time for formal didactic teaching, individual studying, personal and family recreation. Why then, one might ask, would anyone want to become a cardiothoracic surgeon? I will describe how and why I chose this path in the next few paragraphs.

To be a cardiothoracic surgeon has been a childhood ambition. I was first acquainted with heart surgery from a science magazine which I subscribed to as a student at 10 years of age. There was an article featuring surgery for a patient who sustained a stab wound to the heart. This got me interested in cardiac surgery and I begin to explore this specialty.

During undergraduate medical training, there was limited coverage of cardiothoracic surgery in our clinical rotations. Fortunately, two very eminent cardiac surgeons in Singapore shaped and confirmed my decision in becoming a cardiac surgeon. These two surgeons were exemplary role models and stimulated me to pursue a cardiac surgical career.

I attended the Asian Cardiothoracic Surgery Specialty Update Course as a 4th year medical student and that was where I met Professor Lee Chuen Neng who was then the Head of Cardiac, Thoracic and Vascular Surgery. He was very inspiring and provided much opportunities to keep that passion within me growing. I was introduced to Associate Professor Theodoros Kofidis (current Head of Department of Cardiac, Thoracic and Vascular Surgery), who mentored me in cardiothoracic surgery and various aspects of clinical research. Through these opportunities, I got to know the specialty more and confirmed my passion for cardiothoracic surgery as my lifelong career choice.

After 13 years of practising medicine, with most of the time spent in this specialty, I still enjoy going to work each day, interacting with patients and their families, participating in complex cardiothoracic surgical procedures with a team of dedicated surgical colleagues, anesthetists, perfusionists, nurses and other medical professionals. This team shares a common goal in being committed to deliver the best medical care possible to our patients.



“

*As a cardiothoracic surgeon, saving lives one by one brings about a joy that far outweighs the fatigue and frustrations. Practice in this field of medicine does not get any better than this.*

”

## What excites you about the future or advancements in your field of treating ageing population in Singapore?

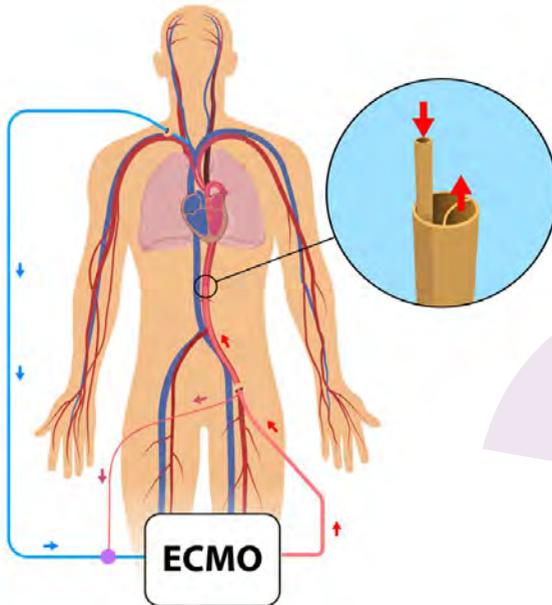
With the rapidly ageing population in Singapore and the relatively affluent lifestyle, we will be seeing more patients with coronary artery disease. The future of coronary artery bypass graft surgery is twofold - access and conduits.

Many of our patients are naturally and understandably worried when they are first told that coronary artery bypass surgery (CABG) is the recommended treatment option for them and it is performed via a median sternotomy. This incision breaks the sternum and opens the chest cavity to reach the heart and lungs. With such major trauma to the body, especially in our weaker and older patients, the body takes a longer time to heal.

In 2021, NUHCS has reached a new institutional peak of excellence with its minimally invasive and hybrid cardiothoracic (MICTS) programme, where a team of dedicated specialists is led by Associate Professor Theodoros Kofidis, provides this new option for cardiac surgery. Minimally invasive access via the left mini-anterolateral thoracotomy for CABG for our ageing population is an attractive option that brings about significant reduction in blood transfusion requirements, postoperative pain, length of stay and a faster return to normal activities.

In addition, usage of more arterial conduits (radial artery and the right internal mammary artery) improves long-term patency of the bypass grafts and brings about improved prognosis for coronary artery disease.

Combining both developments, we, the cardiac surgical fraternity aims to add quality to life.



## Can you tell us how does the Extra Corporeal Membrane Oxygenation (ECMO) inter hospital transfer programme benefits the patients?

The Extracorporeal Membrane Oxygenation (ECMO) Programme is a well-established program in NUHCS. Every patient on ECMO is taken care of by a dedicated and committed team of specialists (including intensive care physicians, cardiothoracic surgeons, highly specialised nurses, perfusionists and other medical specialists) available 24/7. The inter-hospital transfer programme enables the ECMO team to institute ECMO support for patients in critical conditions who are not in NUH. This enables a wider outreach for the provision of this subspecialised modality of care to patients in need.



## Do you have any tips to share with our primary care physicians in managing patients who are recovering from any cardiac surgery?

Whilst tertiary specialist care is important in the management of patients with cardiovascular diseases, I could not emphasise more on the critical role played by our primary care partners in co-managing this complex group of patients to reduce the rate of postoperative complications, readmissions and in the long run, improve overall health.

In the immediate post-surgical phase after median sternotomy for conventional cardiac surgery, it is important to manage patient's expectations in a stepwise approach to return to normal physical activities. Optimum pain control and medications to relieve cough can enhance post-operative recovery. This will also help to encourage our patients to mobilise. Some patients will be issued with a chest binder / SternaSafe® device after surgery to provide good support and stabilisation of the sternum. It is important that they wear it so as to reduce the risk of sternal wound infections, sternal dehiscence and respiratory complications.

Patients who undergo cardiac surgery, be it for coronary artery disease, or valvular heart disease, usually have a compromised ejection fraction. As such, their medications are meticulously titrated postoperatively prior to discharge. It is important that they adhere to these medications prescribed and any strict fluid regime (if any) that is advised.

Last but not least, optimum management of their cardiovascular risk factors is key to ensuring good long-term outcomes after cardiac surgery.

## Describe your most rewarding experience you have had with a patient?

I had a patient who was transferred under my care when I was the consultant cardiothoracic surgeon on call. He was a working professional in his late 40s who sustained an out of hospital arrest while at work. Fortunately, return of spontaneous circulation was achieved with good quality bystander CPR for ten minutes. Coronary angiogram showed severe left main coronary artery disease with occlusion of the left anterior descending artery and the right coronary artery. An intra-aortic balloon pump (IABP) was inserted and he was transferred to NUHCS for urgent coronary artery bypass graft surgery. Upon arrival at the Cardiothoracic ICU, he was further stabilised.

When talking to the wife who was in tears, I learnt that he is the sole breadwinner of the family who also had two young children and two elderly parents to take care of. I felt a great impetus to help save his life and restore normality to his family. I performed an urgent coronary artery bypass graft surgery on the weekend to address the left anterior descending artery, circumflex artery and the right posterior descending artery. The surgery went well and he was extubated the next day and managed to be weaned off IABP support. In the course of the next five days, he underwent intensive physiotherapy and was discharged well on the 6th post-operative day. To date, it is three years after his surgery and he is back to his previous job and family commitments. Every year, he will invite me and the team who took care of him to his house for a simple Deepavali celebration where he will prepare the traditional feast.

Practice in this field of medicine does not get any better than this. It is extremely rewarding to be part of the life-saving team that made a difference to him and his family and forge a lasting friendship thereafter.



## THE HEART TRUTH- NUHCS Mandarin Symposium 2020

On 29 August 2020, NUHCS held the biennial public symposium on a virtual platform for the first time via live video streaming on YouTube. Due to the COVID-19 pandemic, the public symposium could not take place in its usual event format where hundreds of participants would gather to discuss concerns about their heart health and engage with doctors from NUHCS in person.

More than 500 people tuned in to watch the live video stream on their computers, mobile phones, tablets or smart TVs. Delivering a symposium in this manner, without a live audience, was a different experience. Helping to keep viewers engaged through the 90-minute symposium was local radio DJ Anna from Hao FM 96.3, who moderated the event.

Three speakers from the Department of Cardiology, NUHCS – Assistant Professor Low Ting Ting, Consultant, Assistant Professor Yeo Tee Joo, Consultant, and Professor Tan Huay Cheem, Senior Consultant, delivered bite-sized information about heart health issues. They shared about the key differences in heart attacks between men and women, cardiac rehabilitation treatment for patients during the pandemic, as well as the trends and development of coronary angioplasty. The symposium was well-received, reaching a good mix of mandarin speakers in Singapore who participated in the lively Q&A session by posting questions through the live chat functions.

The virtual public symposium video is also available on NUHCS' YouTube channel where viewers can re-watch the session and also share it with their families and friends. This enables us to reach out to potentially an even more viewers.

# GPLC

## NUH GP Liaison Centre

October – December 2021

At the National University Hospital (NUH), we recognise the pivotal role general practitioners (GPs) and family physicians play in general healthcare provided within the community. As such, we believe that through closer partnerships, we can deliver more personalised, comprehensive, and efficient medical care for our mutual patients.

The General Practitioner Liaison Centre (GPLC) aims to build rapport and facilitate collaboration among GPs, family physicians and our specialists. As a central coordinating point, we provide assistance in areas such as patient referrals, continuing medical education (CME) training, and general enquiries about our hospital's services.

Through building these important platforms of shared care and communication, we hope that our patients will be the greatest beneficiaries.

### FOR ASSISTANCE, PLEASE FEEL FREE TO CONTACT US

Tel: +65 6772 2000 / +65 6772 4829  
(GP referral appointments and other enquiries)

Fax: +65 6777 8065  
Email: [gp@nuhs.edu.sg](mailto:gp@nuhs.edu.sg)

### NUH Continuing Medical Education (CME) Events

At NUH, we strive to advance health by integrating excellent clinical care, education and research. As part of our mission, we are committed to providing regular **CME** events for GPs and family physicians. These events aim to provide the latest and relevant clinical updates practical for your patient care.

Organised jointly by the **GPLC** and the various clinical departments within **NUH**, our specialists will present different topics in their own areas of specialties in these symposiums.

For more information on our **CME** events,  
please visit: [www.nuh.com.sg/GPLC](http://www.nuh.com.sg/GPLC)