Singapore Prevention & Cardiac Rehabilitation Symposium 2025

Reimagining Cardiac Rehabilitation and Prevention:

Thinking Outside the Box

3 and 4 Oct 2025 | Orchard Hotel Singapore

PROGRAMME BOOK

Organised by: 55th | Singapore Heart Foundation Your Heart · We Care

Conference Secretariat: MIMS

HEART WELLNESS PROGRAMME

Singapore Heart Foundation's Heart Wellness Programme is the only structured community-based cardiac rehabilitation programme for patients who have completed their cardiac rehabilitation in the hospitals. It is also for individuals who are at risk of contracting heart disease.

Who Should Join?

Individuals with heart disease or those who are at risk due to health conditions such as diabetes mellitus, high blood pressure, high blood cholesterol or obesity.

About the Programme

- Rehabilitation
- Nutrition Consultation
- Health Talks and Workshops

How to Apply

A referral from a cardiologist or family doctor is required to certify that the applicant is fit to exercise in the community. Applicants should reach out to SHF to book their first appointment with us, so that we may assess their suitability for our programme.

What Are the Fees

Assessment Fee - $25*
Exercise Fee - $50* (10 sessions)
Nutrition Consultation - Complimentary
*Inclusive of GST

Scan this QR code for the referral form

Bishan

9 Bishan Place, #07-01
Junction 8 (Office Tower)
Singapore 579837

T: 6354 9348
E: hwc1@heart.org.sg

Fortune Centre

190 Middle Road, #04-34
Fortune Centre
(Retail Section)
Singapore 188979

T: 6336 9337
E: hwc2@heart.org.sg

Bukit Gombak

810 Bukit Batok West Ave 5
#02-02
Bukit Gombak Sports Hall
Singapore 659088

T: 6337 9318
E: hwc3@heart.org.sg

55th Anniversary

Singapore Heart Foundation
Your Heart We Care

CONTENTS

Be the Lifeline Your Community Needs

Equip your clinics with an AED and prepare your staff to respond to cardiac emergencies with the Singapore Heart Foundation's AEDs in Primary Care Clinics Initiative!

Exclusive Offer
ends 31 Dec 2025

Buy an AED for
$2,415* (Usual price: $3,300)

Lease an AED for
$55/month*

Register your AED in the national registry and be certified in BCLS+AED for free!^

*All prices before GST.
^Terms and conditions apply.

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Step Up Save a Heart

Every donation of $120 helps provide free CPR+AED training to 2 caregivers of heart patients and cardiac arrest survivors.

1 pair - $15
4 pairs - $55
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Singapore Prevention & Cardiac Rehabilitation Symposium 2025

WELCOME MESSAGE

Reimagining Cardiac Rehabilitation and Prevention:
Thinking Outside the Box

Welcome to the Singapore Prevention & Cardiac Rehabilitation Symposium 2025 (SPCRS 2025).

This year's theme challenges all of us – clinicians, researchers and healthcare leaders – to look beyond convention. "Reimagining Cardiac Rehabilitation and Prevention: Thinking Outside the Box" is not just a tagline. It is a call to rethink how we approach cardiovascular care in a world shaped by complexity, rapid change and growing demands.

Despite decades of medical advancement, cardiovascular disease remains the world's leading cause of death. Traditional approaches, while foundational, are no longer sufficient on their own. New realities are shaping patient care: biological and lifestyle factors, digital tools and the increasing complexity of social and environmental influences – all of these require us to question the status quo and explore innovative models of prevention and rehabilitation.

SPCRS 2025 is designed to do just that. Over the course of the symposium, we will spotlight emerging strategies, from wearable technologies and virtual care models to community-based interventions and personalised medicine. Our aim is to bridge the gap between clinical insight, scientific evidence and real-world practice.

Many of the most impactful shifts in cardiac care began as ideas that challenged convention. Today, we ask: What will drive the next leap forward?

We invite you to engage, challenge and co-create. Whether you're here to share research, exchange ideas or learn from new perspectives, we hope that this symposium inspires meaningful conversations that translate into better outcomes for patients.

Thank you for being part of this ongoing journey.

Dr Violet Hoon
Chairperson, Organising Committee
SPCRS 2025

Singapore Prevention & Cardiac Rehabilitation Symposium 2025

ORGANISER

Singapore Heart Foundation
Since 1970
Your Heart *We* Care

The Singapore Heart Foundation (SHF) has been a social service agency at the forefront of the battle against heart disease since 1970. Driven by an unwavering vision of a healthier Singapore population, SHF is dedicated to promoting better heart health for every individual living in Singapore through evidence-based information and practices that keep every heart beating healthily.

Through strategic life-saving initiatives underlined by the three core pillars of **Prevention, Rehabilitation and Resuscitation**, the SHF upholds its enduring mission to champion heart health and alleviate the effects of cardiovascular disease and stroke. It aims to prevent not only physical suffering but also the premature loss of precious lives. The SHF also extends a helping hand to those in need by offering financial assistance to heart patients in moments of crisis and ensuring that they receive the timely support and medical care that they require.

We believe that every heartbeat matters and that by nurturing healthier hearts and helping those in need, we can make a significant impact on the lives that we touch. Together, we forge a path towards a brighter and healthier future, one heartbeat at a time.

Singapore Prevention & Cardiac Rehabilitation Symposium 2025

SPCRS 2025 COMMITTEES

ORGANISING COMMITTEE

Chairperson
- Dr Violet Hoon

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- Dr Jeanne Ong

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- Clin A/Prof Swee Yaw Tan
- Asst Prof Tee Joo Yeo

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- Ms Jacqueline Leong
- Ms Ann Loh
- Mr Kenneth See
- Ms Rachel Stephens
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- Clin Asst Prof Zijuan Huang
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- Ms Samantha Ng
- Ms Stephanie Quek
- Mr Qamaruzaman Syed Gani
- A/Prof Verena Tan
- Dr Laureen Wang
- Dr Luo-Kai Wang
- Ms Gladys Wong
- Adj A/Prof Raymond Wong

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Australia
- Prof Robyn A. Clark

Hong Kong
- Dr Ngai-Yin Chan

Indonesia
- Dr Abdul Halim Raynaldo

United States
- Prof Kathy Sietsema
- Prof Wen-Chih Wu

LOCAL FACULTY

- Dr Lohendran Baskaran
- Dr Jeremy Chai
- A/Prof Mark Yan Yee Chan
- Ms Stephanie Chan
- Asst Prof Jocelyn Han Shi Chew
- Ms Magdalene Chia
- Mr Daniel Fletcher
- Prof Roger Foo
- Mr Wei Chek For
- Mr Michael Khoo
- A/Prof Angela Koh
- Dr Jean-Paul Kovalik
- A/Prof Jason Lee
- Dr Matthew Boon Wah Liew
- Dr Paul Chun Yih Lim
- Ms Shi Jia Loke
- Ms Nadiah Binte Mohamed Rahim
- Ms Li Xin Ong
- A/Prof Emily Ortega
- Dr Pinakin V. Parekh
- A/Prof Doreen Tan
- Prof Huay Cheem Tan
- Physician Nick Tan
- Ms Susan Tan
- Ms Valerie Tan
- Dr Xiang Ren Tan
- Ms Tricia Teo
- Ms Kit Cheng Ting
- Prof Wenru Wang
- Asst Prof Su Ren Wong
- Dr Su-Yin Yang
- Ms Li Yao
- Dr Colin Yeo
- Asst Prof Sungwon Yoon

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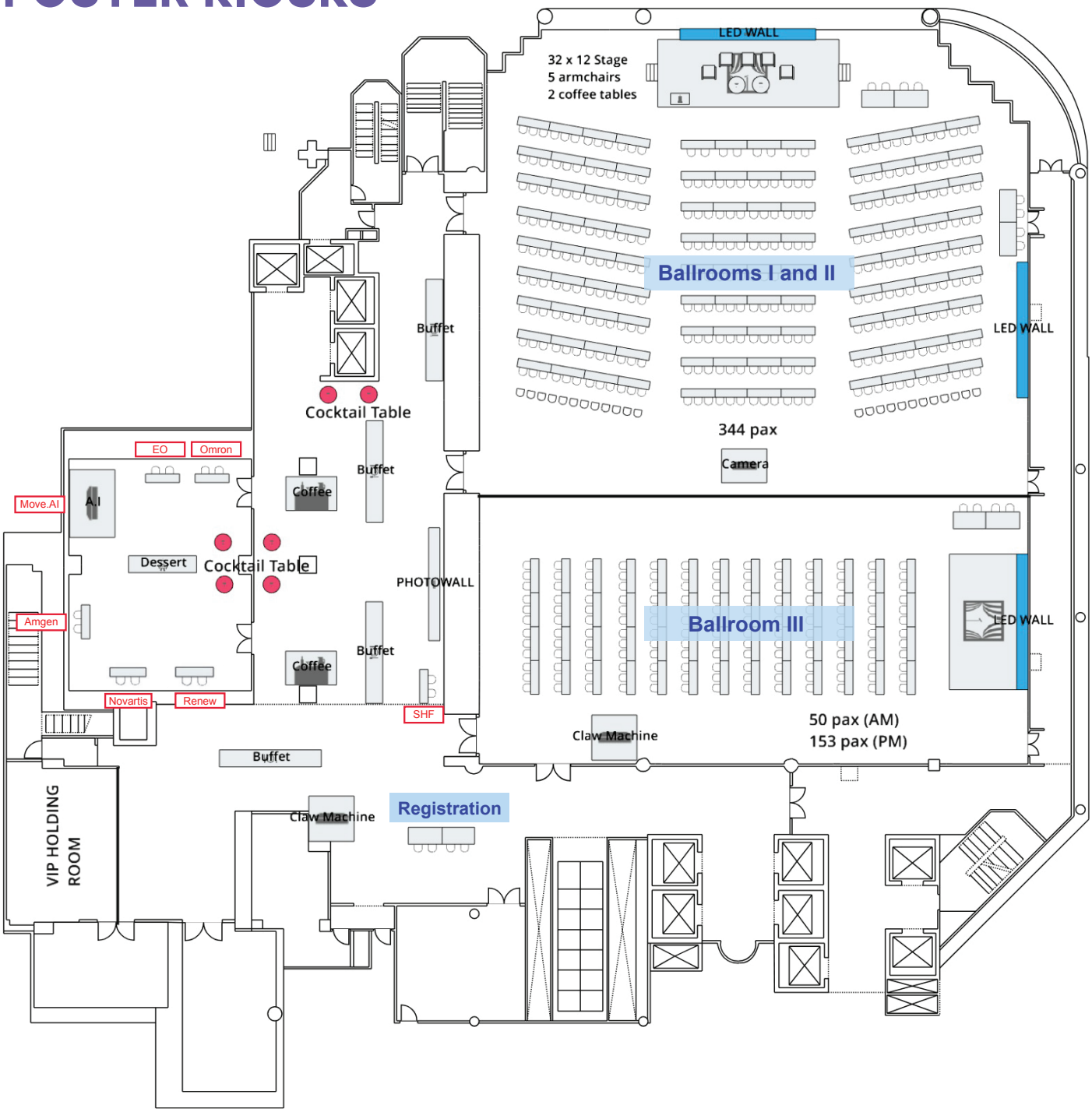

Legend :

e-Poster kiosks

HEART SUPPORT FUND

The Heart Support Fund provides financial assistance to underprivileged heart patients who require surgery, treatment or emergency relief. Heart patients may approach their hospital's medical social workers to apply for the fund.

Areas of Support:

Defray the cost of a **mechanical heart device**

Subsidise a **heart transplant**

Offer **emergency relief assistance**

Provide **transport subsidy** for follow-up visits

Sponsor **medical and mobility devices**

How to apply

Heart patients may approach their hospital's medical social workers to facilitate the application.

Who to contact

For enquiries, please call 6354 9348/70 or email us at rehab@heart.org.sg.

Scan this QR code for more information

55th Anniversary

Singapore Heart Foundation
Your Heart We Care

PROGRAMME

Singapore Prevention & Cardiac Rehabilitation Symposium 2025

PROGRAMME OVERVIEW

DAY ONE | 3 Oct 2025, Friday

08:00AM – 09:00AM **On-Site Registration | Exhibition and E-Poster Viewing**

08:30/09:00AM – 10:30AM **Pre-Symposium Workshops**

09:00AM **Workshop 1: From East to Heart: Evidence-Based Traditional Chinese Medicine Remedies for Modern Cardiac Care** | Ballroom III (Level 3)
Physician Nick Tan (Come Here TCM Clinic)

08:30AM **Workshop 2: Broadening Horizons: Engaging Exercise Options in the Cardiac Rehabilitation Journey** | Cypress Room (Level 2)
Mr Haja Mydin Yah Kathier (National Heart Centre Singapore), Ms Samantha Ng (National Heart Centre Singapore), Mr Michael Khoo (National Heart Centre Singapore), Ms Nadiah Binte Mohamed Rahim (National Heart Centre Singapore)

09:00AM **Workshop 3: Cardiopulmonary Exercise Testing Workshop** | Nutmeg Room (Level 2)
Prof Kathy Sietsema (Emeritus Professor of Medicine, Harbor-UCLA Medical Center; UCLA School of Medicine), Dr Laureen Wang (National University Heart Centre, Singapore @ Alexandra Hospital), Dr Violet Hoon (Tan Tock Seng Hospital), Mr Keith Chua (Tan Tock Seng Hospital)

09:00AM **Workshop 4: Cardiac Prehabilitation Workshop** | Juniper Room (Level 2)
Dr Geetha Kayambu (National University Hospital), Ms Li Xin Ong (National University Hospital), Ms Tricia Teo (National University Hospital), Ms Kit Cheng Ting (National University Hospital), Ms Li Yao (National University Heart Centre, Singapore)

10:30AM – 11:00AM **Coffee/Tea Break | Exhibition and E-Poster Viewing**

11:00AM – 11:20AM **Opening Ceremony** | Ballrooms I and II (Level 3)

Welcome Speech
Prof Huay Cheem Tan (Chairman, Singapore Heart Foundation)

Opening Speech
Dr Violet Hoon (Chairperson, SPCRS 2025 Organising Committee)

Speech by Guest of Honour
Dr Koh Poh Koon (Senior Minister of State, Ministry of Health and Ministry of Manpower)

Opening Performance
Singapore Heart Foundation's Healthy Heart Support Group

11:20AM – 12:35PM **Keynote Address 1 – Strategies for Metabolic Health and Healthy Ageing** | Ballrooms I and II (Level 3)

Case Study of Obesity and Cardiovascular Disease in Asians and Asian Americans: Strategies for Assessment and Intervention
Prof Wen-Chih Wu (Medical Director, Brown University Health Cardiovascular Wellness and Prevention Center; AACVPR Immediate Past President)

The Role of Diet and Exercise in Managing Obesity
Dr Jean-Paul Kovalik (Duke-NUS Medical School)

Cardiovascular Ageing
A/Prof Angela Koh (National Heart Centre Singapore)

Pharmacological Therapies in Lipid Lowering in Primary Prevention
Dr Jian Jing Tan (The Cardio Clinic)

Panel Discussion/Q&A Session
Chairpersons: Asst Prof Tee Joo Yeo (National University Heart Centre, Singapore) and Dr Matthew Boon Wah Liew (Asian Heart & Vascular Centre)

PROGRAMME OVERVIEW

12:35PM – 01:50PM **Lunch**

01:50PM – 03:05PM **Keynote Address 2 – Exercise Prescription and Cardiopulmonary Exercise Testing** | Ballrooms I and II (Level 3)

Cardiopulmonary Exercise Testing: Applications in Cardiology
Prof Kathy Sietsema (Emeritus Professor of Medicine, Harbor-UCLA Medical Center; UCLA School of Medicine)

Consumer Atrial Fibrillation Screening: Evidence and Challenge
Dr Ngai-Yin Chan (Deputy Hospital Chief Executive, Princess Margaret Hospital)

Cardiac Rehab in Heart Failure
Dr Abdul Halim Raynaldo (Chairman, Cardiovascular Prevention and Rehabilitation Working Group, Indonesian Heart Association)

Artificial Intelligence in Action: CVS.AI's Approach to Addressing Heart Disease
Dr Lohendran Baskaran (National Heart Centre Singapore)

Panel Discussion/Q&A Session
Chairpersons: Clin A/Prof Swee Yaw Tan (National Heart Centre Singapore) and Dr Luo-Kai Wang (National Heart Centre Singapore)

03:05PM – 03:35PM **Coffee/Tea Break**

03:35PM – 05:05PM **Parallel Tracks**

Track A | Ballrooms I and II (Level 3)

Supporting Heart Health with Music Therapy: A Holistic Approach to Cardiology
Ms Stephanie Chan (Singapore General Hospital)

Diet for Heart Longevity
A/Prof Verena Tan (Singapore Institute of Technology)

Benefits of Hydrotherapy in Cardiac Rehabilitation
Ms Shi Jia Loke (Changi General Hospital)

Moving with Purpose: Transition from Physical Activity to Structured Exercise
Ms Valerie Tan (Transcend Physiotherapy)

Beyond the Hospital Walls: Building the Compassionate Connection in Fostering "Caring Begins with Me" (A Patient's Perspective and Passion in Patient Care and the Impact of Healing)
Ms Magdalene Chia (Caring Hearts Support Group, National University Heart Centre, Singapore)

Panel Discussion/Q&A Session
Chairperson: Dr Lip Ping Low (Low Cardiology Clinic) and Dr Jeremy Chai (National Heart Centre Singapore)

Track B | Ballroom III (Level 3)

Impact of Heat Stress on Human Brain Physiology and the Implications for Mental Health
Dr Xiang Ren Tan (National University of Singapore)

Are Marathons and High-Intensity Interval Training Suitable for Heart Patients or Even Regular People?
Asst Prof Tee Joo Yeo (National University Heart Centre, Singapore)

Another Perspective: Traditional Chinese Medicine for Heart Health – Heart Attack and Stroke Treatment
Physician Nick Tan (Come Here TCM Clinic)

Health Coaching for Sustainable Lifestyle Change in Heart Health
Ms Susan Tan (Society of Behavioural Health Singapore)

Panel Discussion/Q&A Session
Chairpersons: Asst Prof Siang Chew Chai (Changi General Hospital) and Mr Qamaruzaman Syed Gani (National University Hospital)

05:05PM **End of SPCRS Day 1**

PROGRAMME OVERVIEW

DAY TWO | 4 Oct 2025, Saturday

08:15AM – 08:45AM **On-Site Registration | Exhibition and E-Poster Viewing**

08:30AM – 09:15AM **Oral Presentation and Judging** | Cypress Room, Neroli Room, Nutmeg Room, Juniper Room (Level 2)

09:00AM – 10:15AM **Keynote Address 3 – Psychosocial, Habit, Cognitive Behaviour and Social Media** | Ballrooms I and II (Level 3)

Effectiveness of Cardiac Rehabilitation Programmes Versus Standard Care on Medication Adherence
Prof Robyn A. Clark (Matthew Flinders Distinguished Emeritus Professor, College of Nursing and Health Sciences, Flinders University)

From Heartbreak to Heartwise: The Psychophysio Collective
Dr Su-Yin Yang (Woodlands Health)

Mental Health and Cognitive Challenges in Cardiovascular Care
Asst Prof Su Ren Wong (National University Hospital)

If Time Were a Currency, How Would You Spend It? Exploring Differences in People with Chronic Disease and Those Without
A/Prof Emily Ortega (Singapore University of Social Sciences)

Panel Discussion/Q&A Session
Chairpersons: Dr Violet Hoon (Tan Tock Seng Hospital) and Dr Paul Chun Yih Lim (The Heart Specialist Clinic)

10:15AM – 10:45AM **Coffee/Tea Break | Exhibition and E-Poster Viewing**

10:45AM – 12:00NN **Keynote Address 4 – Digital and Artificial Intelligence: The Future of Prevention (Integrating Digital and Artificial Intelligence in Cardiac Rehab)** | Ballrooms I and II (Level 3)

A New Era in Cardiac Rehabilitation Delivery: Gaps and Strategies
Prof Wen-Chih Wu (Medical Director, Brown University Health Cardiovascular Wellness and Prevention Center; AACVPR Immediate Past President)

Increasing ACCESS to Heart Care for the Most Underserviced Populations
Prof Robyn A. Clark (Matthew Flinders Distinguished Emeritus Professor, College of Nursing and Health Sciences, Flinders University)

Wearables for Heart Rate and Electrocardiogram Monitoring During Exercise and at Rest: The Ultimate Comparison
Dr Colin Yeo (Changi General Hospital)

Can We Use the Digital World to Tackle Insulin Resistance?
Prof Roger Foo (NUS School of Medicine and National University Heart Centre, Singapore)

Acute Myocardial Infarction – Allied Health-Oriented, Patient-Centred, and Digitally Enabled Care (AMI–HOPE)
A/Prof Mark Yan Yee Chan (NUS School of Medicine and National University Heart Centre, Singapore)

Panel Discussion/Q&A Session
Chairpersons: Prof Wenru Wang (National University of Singapore) and Prof Huay Cheem Tan (National University Heart Centre, Singapore)

PROGRAMME OVERVIEW

12:00NN – 01:00PM **Debate** | Ballrooms I and II (Level 3)

Weight Loss: The Epic Showdown
Moderator: Dr Pinakin V. Parekh (Trident Heart Centre)

Team 1: Diet and Exercise
- Prof Wen-Chih Wu (Medical Director, Brown University Health Cardiovascular Wellness and Prevention Center; AACVPR Immediate Past President)
- Asst Prof Tee Joo Yeo (National University Heart Centre, Singapore)

Team 2: Pro-Medication
- Dr Ngai-Yin Chan (Deputy Hospital Chief Executive, Princess Margaret Hospital)
- Dr Jean-Paul Kovalik (Duke-NUS Medical School)

Team 3: Artificial Intelligence
- Asst Prof Jocelyn Han Shi Chew (National University of Singapore)
- Prof Robyn A. Clark (Matthew Flinders Distinguished Emeritus Professor, Flinders University, College of Nursing and Health Sciences)

01:00PM – 01:10PM **Award Presentation and Closing**

PUBLIC FORUM | 4 Oct 2025, Saturday

09:30AM – 09:45AM **Opening Ceremony** | Ballroom III (Level 3)

Welcome Speech
Asst Prof Tee Joo Yeo (Committee Chairperson, Heart Wellness Centre, Singapore Heart Foundation)

Speech by Guest of Honour
Dr Choo Pei Ling

National University Heart Centre, Singapore (NUHCS) Caring Hearts Support Group Performance

09:45AM – 11:00AM **Public Forum** | Ballroom III (Level 3)

Skip the Queue, Not the Care: Pharmacists, Telehealth and You
Mr Daniel Fletcher (Changi General Hospital)

Heat Management for Human Health and Potential
A/Prof Jason Lee (National University of Singapore)

How to Lite Up Your Sodium-Heavy Foods
Mr Wei Chek For (Khoo Teck Puat Hospital)

Panel Discussion/Q&A Session
Chairpersons: A/Prof Doreen Tan (National University of Singapore) and Asst Prof Sungwon Yoon (Duke-NUS Medical School)

11:00AM – 11:30AM **Refreshments for Participants**

SPEAKERS' BIOGRAPHIES AND SYNOPSES

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Dr Lohendran Baskaran
Director, CVS.AI Senior Consultant National Heart Centre Singapore
Singapore

Dr Lohendran Baskaran is a cardiologist and clinician–scientist at the National Heart Centre Singapore (NHCS), where he leads the CardioVascular Systems Imaging and Artificial Intelligence (CVS.AI) lab. His research focuses on using artificial intelligence, advanced imaging and data-driven approaches to enhance the detection, prediction and prevention of coronary artery disease.

Dr Baskaran is the principal investigator of the Global Pretest Study for Coronary Artery Disease, which looks at how ethnicity affects heart disease risk in countries like the USA, UK, Uganda, India and Pakistan. He also contributes to the A2D2 Consortium, which supports the research of diagnostic, prognostic and predictive biomarkers and treatment for atherosclerosis. Dr Baskaran has also contributed to the Society of Cardiovascular Computed Tomography/North American Society of Cardiovascular Imaging Expert Consensus Document on Coronary CT Imaging of Atherosclerotic Plaque (2021). His work has also been cited in the 2021 ACC/AHA Guidelines on the Evaluation of Chest Pain.

Dr Baskaran's goal is to harness the power of cardiac imaging and artificial intelligence to advance early detection, improve risk prediction, and ultimately enhance outcomes for patients with heart disease, particularly within diverse Asian populations.

KEYNOTE ADDRESS 2 – EXERCISE PRESCRIPTION AND CARDIOPULMONARY EXERCISE TESTING

ARTIFICIAL INTELLIGENCE IN ACTION: CVS.AI'S APPROACH TO ADDRESSING HEART DISEASE

3 Oct 2025, 01:50PM – 03:05PM

Cardiovascular disease (CVD) remains a leading cause of death and morbidity in Singapore, driven by an ageing population and lifestyle-related risk factors. Early and accurate diagnosis is essential to improving outcomes, and cardiac imaging plays a critical role.

CVS.AI recognises the growing burden of CVD and its impact on public health. It harnesses the power of artificial intelligence to enhance cardiac imaging and support timely, data-driven clinical decisions. By integrating AI with imaging technologies, diagnostic accuracy, efficiency, and patient care are improved.

This talk elaborates on CVS.AI's ongoing projects and innovations towards transforming cardiovascular care in Singapore and globally.

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Dr Jeremy Chai
Associate Consultant
Cardiology
National Heart Centre Singapore
Singapore

Dr Jeremy Chai is an associate consultant in cardiology at the National Heart Centre Singapore. His clinical interests are in cardiac rehabilitation, heart failure and echocardiography.

PARALLEL TRACKS

TRACK A: PANEL DISCUSSION/Q&A SESSION

3 Oct 2025, 03:35PM – 05:05PM

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Asst Prof Siang Chew Chai
Senior Consultant
SingHealth
Changi General Hospital
Singapore

Dr Siang Chew Chai is a senior consultant cardiologist at Changi General Hospital in Singapore. He holds a fellowship in Advanced Echocardiography from Alberta, Canada.

His research focuses on the application of advanced echocardiography in valvular heart disease, congestive cardiac failure, ischaemic heart disease and endocrine disorder.

In addition to his clinical role, Dr Chai also serves as a clinical assistant professor at Duke-NUS Medical School.

PARALLEL TRACKS

TRACK B: PANEL DISCUSSION/Q&A SESSION

3 Oct 2025, 03:35PM – 05:05PM

SPEAKERS' BIOGRAPHIES AND SYNOPSES

A/Prof Mark Yan Yee Chan

Associate Professor and Senior Consultant
NUS School of Medicine/
National University Heart Centre, Singapore
Singapore

A/Prof Mark Chan, MBBS, PhD, is an associate professor with tenure at the Department of Medicine, Yong Loo Lin School of Medicine, National University of Singapore (NUS), and senior consultant cardiologist at the Department of Cardiology, National University Heart Centre, Singapore. He is an interventional cardiologist with a special interest in caring for patients with acute and chronic coronary syndromes.

In 2019, he received the National Medical Research Council Clinical Scientist Senior Investigator Award. He supervises translational research and clinical trials of acute myocardial infarction at the Cardiovascular Research Institute, NUS, and is the overall principal investigator of the National Acute Myocardial Infarction: Allied Health-Oriented,

Patient-Centred and Technology-Enabled (AMI-Hope) program. A/Prof Chan has published more than 200 peer-reviewed papers in journals such as *JAMA*, *Circulation*, the *European Heart Journal*, *Nature Cardiology Reviews* and *Nature Communications*. This year, he was appointed co-director of the Cardiovascular Disease National Collaborative Enterprise (CADENCE) National Clinical Translational Program that will integrate existing cardiovascular research capabilities across academic and public health institutions into world-class peaks of excellence.

KEYNOTE ADDRESS 4 – DIGITAL AND ARTIFICIAL INTELLIGENCE: THE FUTURE OF PREVENTION (INTEGRATING DIGITAL AND ARTIFICIAL INTELLIGENCE IN CARDIAC REHAB)

ACUTE MYOCARDIAL INFARCTION – ALLIED HEALTH-ORIENTED, PATIENT-CENTRED, AND DIGITALLY ENABLED CARE (AMI–HOPE)

4 Oct 2025, 10:45AM – 12:00NN

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Dr Ngai-Yin Chan
Deputy Hospital Chief Executive
Princess Margaret Hospital
Hong Kong

Dr Ngai-Yin Chan is currently the Deputy Hospital Chief Executive (Clinical Services) of Princess Margaret Hospital and the Director (Cardiology) in Kowloon West Cluster of Hong Kong Hospital Authority. He is also an honorary clinical associate professor of the Department of Medicine & Therapeutics of the Chinese University of Hong Kong. He was a past president of the Hong Kong College of Cardiology. He has diverse research interest on catheter cryoablation, epidemiology and community screening of atrial fibrillation, ICD and pacing therapy, left atrial appendage occlusion, preventive cardiology and cardiac rehabilitation. He is the first author of over 50 peer-reviewed manuscripts and abstracts. He is the editor of the textbook titled *The Practice of Catheter Cryoablation for Arrhythmias*. Dr Chan is an all-round cardiologist and has published extensively in the areas of cardiac electrophysiology, interventional cardiology and preventive cardiology in high-impact journals like the *Journal of the American College of Cardiology*, *Heart*, *EuropAce*, *Heart Rhythm* and the *Canadian Journal of Cardiology*. He is the editor-in-chief of the *Journal of the Hong Kong College of Cardiology*.

KEYNOTE ADDRESS 2 – EXERCISE PRESCRIPTION AND CARDIOPULMONARY EXERCISE TESTING

CONSUMER ATRIAL FIBRILLATION SCREENING: EVIDENCE AND CHALLENGE

3 Oct 2025, 01:50PM – 03:05PM

DEBATE

WEIGHT LOSS: THE EPIC SHOWDOWN

4 Oct 2025, 12:00NN – 01:00PM

Hear each team present the strengths and limitations of exercise and diet, medication, and artificial intelligence in addressing weight loss.

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Ms Stephanie Chan
Senior Music Therapist
Singapore General Hospital
Singapore

Ms Stephanie Chan, MT-BC, is a board-certified medical music therapist with a focus on acute hospital healthcare settings. She holds a degree in Music Therapy from Berklee College of Music and began her clinical work in the United States, which continues to inform her practice at Singapore General Hospital.

Ms Chan applies evidence-based music therapy interventions to support patients' emotional, physical and cognitive well-being. Her approach includes techniques from neurologic music therapy to promote functional outcomes, alongside interventions that help manage pain, reduce anxiety, encourage self-expression and foster resilience. These approaches are relevant across diverse patient populations, including individuals in cardiac, neurological, palliative and critical care.

Driven by a passion for holistic, patient-centred care, Ms Chan integrates music therapy into broader treatment plans to enhance quality of life in medically complex environments. She values collaborative practice and works closely with interdisciplinary teams to ensure care is responsive, compassionate and effective. Through clinical work, education and advocacy, she continues to promote the role of music therapy in supporting dignity, connection and healing in healthcare.

PARALLEL TRACKS

TRACK A: SUPPORTING HEART HEALTH WITH MUSIC THERAPY: A HOLISTIC APPROACH TO CARDIOLOGY

3 Oct 2025, 03:35PM – 05:05PM

Music gives patients a safe space to express themselves, process their experience, and find motivation, especially when words are hard to come by. This session introduces how music can play a valuable role in cardiac care and rehabilitation. Learn evidence-based techniques that can help cardiac patients work toward functional gains and stay engaged in their recovery. This session also presents real-case examples on post–cardiac event patients with low mood, anxiety or emotional overwhelm, who were helped by music therapy to reconnect with their sense of self in an acute hospital setting.

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Asst Prof Jocelyn Han Shi Chew
Assistant Professor
National University of Singapore
Singapore

DEBATE

WEIGHT LOSS: THE EPIC SHOWDOWN

4 Oct 2025, 12:00NN – 01:00PM

Hear each team present the strengths and limitations of exercise and diet, medication, and artificial intelligence in addressing weight loss.

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Ms Magdalene Chia
Lead
Caring Hearts Support Group
National University Heart Centre, Singapore
Singapore

Ms Magdalene Chia is a survivor of coronary heart disease who has since become a patient advocate and certified health coach. She currently serves as the lead of the Caring Hearts Support Group (CHSG), a voluntary initiative driven by heart patients at the National University Heart Centre, Singapore. Ms Chia is a patient and family partner with the National University Health System and a member of the Consumer Panel at the Agency of Care Effectiveness.

Passionate about patient-care, Ms Chia has been leading CHSG since its inception in 2018. She spearheads the development of various programmes aimed at fulfilling CHSG's vision of transforming patient lives through emotional support, friendship and education. Drawing from her experience as a coronary artery disease survivor, Ms Chia collaborates with medical experts and healthcare stakeholders in building a compassionate connection beyond hospital walls.

Under Ms Chia's leadership, CHSG has grown into an inspiring multigenerational support system and community for all ages, from newborns to centenarians.

Ms Chia holds a professional certificate in health coaching from the National University of Singapore Yong Loo Lin School of Medicine, a Bachelor in Business Administration degree from U21 Global and a Master in Tourism and Travel Management degree from the University of Nottingham, United Kingdom.

PARALLEL TRACKS

TRACK A: BEYOND THE HOSPITAL WALLS: BUILDING THE COMPASSIONATE CONNECTION IN FOSTERING "CARING BEGINS WITH ME" (A PATIENT'S PERSPECTIVE AND PASSION IN PATIENT CARE AND THE IMPACT OF HEALING)

3 Oct 2025, 03:35PM – 05:05PM

The post-discharge journey of cardiac patients is often marked by isolation. In this presentation, the speaker draws from her lived experience as a coronary artery disease survivor and as the lead of the Caring Hearts Support Group, sharing insights on recovery, peer support, and health coaching. This session advocates community-based strategies that bridge clinical care and lived experience, and offers a roadmap for professionals and policymakers to reimagine rehabilitation as a holistic, compassionate, community-driven journey that enhances healing and long-term well-being.

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Mr Keith Chua
Senior Physiotherapist
Tan Tock Seng Hospital
Singapore

Mr Keith Chua is a senior physiotherapist at Tan Tock Seng Hospital (TTSH). He graduated from the University College of London with a Master in Advanced Physiotherapy: Cardiorespiratory. He works in the cardiac rehabilitation clinic and the coronary care unit. He currently leads the cardiac service for physiotherapy at TTSH, and he is currently an associated faculty at the Singapore Institute of Technology.

PRE-SYMPOSIUM WORKSHOPS

WORKSHOP 3: CARDIOPULMONARY EXERCISE TESTING WORKSHOP

3 Oct 2025, 09:00AM – 10:30AM

Get practical tips on setting up a cardiopulmonary exercise testing (CPET) lab. Get hand-on experience on interpreting common clinical cases. Learn more about technical and quality control issues and how to manage them.

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Prof Robyn A. Clark
Matthew Flinders Distinguished Emeritus Professor
College of Nursing and Health Sciences
Flinders University
Australia

Matthew Flinders Distinguished Emeritus **Professor Robyn A. Clark** previously held a joint appointment as Professor of Cardiovascular Research at Flinders University's Caring Futures Institute and as clinical chair and director of Nursing and Midwifery Research at the Southern Adelaide Local Health Network. She was the inaugural recipient of the NHMRC National Institute of Clinical Studies PhD Scholarship supported by the National Heart Foundation and completed an NHMRC Fellowship (CIA) at QUT in 2013 and Heart Foundation Future Leader Fellowship in 2020. Prof Clark is a life member of the Australian College of Critical Care Nurses and the Australasian Cardiovascular Nurses Association. She holds fellowships with the American Academy of Nursing (FAAN), Royal College of Nursing, American Heart Association (FAHA), Cardiac Society of Australia and New Zealand (FCSANZ) and European Society of Cardiology (FESC). Prof Clark is internationally recognised for her research program focused on improving access to evidence-based cardiovascular care for underserved populations, including women, the elderly, rural and remote communities, low literacy and low socioeconomic groups, and Aboriginal and Torres Strait Islander peoples. She has received over $30 million in research funding, including 28 category 1 projects, and has published more than 300 peer-reviewed papers with an H-index of 43.

KEYNOTE ADDRESS 3 – PSYCHOSOCIAL, HABIT, COGNITIVE BEHAVIOUR AND SOCIAL MEDIA

EFFECTIVENESS OF CARDIAC REHABILITATION PROGRAMMES VERSUS STANDARD CARE ON MEDICATION ADHERENCE

4 Oct 2025, 09:00AM – 10:15AM

Cardiac rehabilitation programs provide structured education and support that significantly enhance patients' understanding of their medications and their importance in managing their condition. This, in turn, leads to better adherence to prescribed medication regimens.

KEYNOTE ADDRESS 4 – DIGITAL AND ARTIFICIAL INTELLIGENCE: THE FUTURE OF PREVENTION (INTEGRATING DIGITAL AND ARTIFICIAL INTELLIGENCE IN CARDIAC REHAB)

INCREASING ACCESS TO HEART CARE FOR THE MOST UNDERSERVICED POPULATIONS

4 Oct 2025, 10:45AM – 12:00NN

To improve access to heart care for underserved populations, strategies should focus on addressing social determinants of health, leveraging technology, and implementing targeted interventions. These approaches can help overcome barriers like poverty, lack of insurance, and geographic limitations, ultimately reducing health disparities.

DEBATE

WEIGHT LOSS: THE EPIC SHOWDOWN

4 Oct 2025, 12:00NN – 01:00PM

Hear each team present the strengths and limitations of exercise and diet, medication, and artificial intelligence in addressing weight loss.

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Mr Daniel Fletcher
Specialist Pharmacist
Changi General Hospital
Singapore

Mr Daniel Fletcher is a specialist pharmacist at Changi General Hospital with 20 years of clinical experience. He holds postgraduate qualifications in Clinical Pharmacy, Public Health and Medical Education and is also a board-certified cardiology pharmacist. His practice focuses on the optimisation of pharmacotherapy for complex cardiac conditions, with a strong emphasis on patient-centred care, safety and continuity across healthcare settings.

In addition to his clinical responsibilities, he is deeply engaged in education, faculty development, and mentoring of healthcare professionals in research and practice improvement. He also contributes to national-level workgroups focused on workforce planning, service redesign and innovation in pharmaceutical care.

He recently led a nationwide workgroup that developed the position paper on cardiology pharmacy, outlining a progressive vision for the evolving role of pharmacists in cardiovascular care. The paper advocates for expanded prescribing roles, integration into multidisciplinary care pathways, and the use of digital health solutions to improve patient outcomes and healthcare system efficiency.

Looking ahead, Mr Fletcher is committed to advancing a future-ready pharmacy workforce that is responsive, collaborative and well-equipped to meet the evolving demands of healthcare.

PUBLIC FORUM

SKIP THE QUEUE, NOT THE CARE: PHARMACISTS, TELEHEALTH AND YOU

4 Oct 2025, 09:45AM – 11:00AM

As Singapore's population ages, pharmacists are taking pivotal roles in telehealth to deliver timely, accessible and sustainable care. Using video consultations, remote monitoring and mobile health tools, they support patients in managing conditions like heart failure and post–heart attack recovery at home. Programmes such as AMI-HOPE show that pharmacist-led telemonitoring reduces readmissions, optimises medications and strengthens care transitions. Aligned with Healthier SG, these services enable safe titration, counselling and early intervention, easing system burden while empowering patients. With robust digital and clinical frameworks, pharmacists can provide high-quality, convenient care, helping patients skip the queue, not the care.

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Prof Roger Foo
Professor
NUS School of Medicine/
National University Heart Centre, Singapore
Singapore

Professor Roger Foo is Zayed bin Sultan Al Nahyan Professor at the National University of Singapore (NUS) School of Medicine, Vice Dean of Research; director of the National University Health System (NUHS) Cardiovascular Metabolic Disease Translational Research Programme, Cardiovascular Research Institute; advisor to the NUHS Clinician Scientist Academy; and senior consultant cardiologist at the National University Heart Centre, Singapore. He is an NUS medical school graduate and spent 20 years abroad on specialist training before returning to Singapore in 2013. His training was undertaken at Kings College Hospital, London, and Addenbrooke's Hospital, Cambridge. He was a Wellcome Trust fellow at Albert Einstein College of Medicine, New York, and returned to Cambridge to start a group as British Heart Foundation fellow and consultant physician before eventually returning to Singapore. His lab was the first to publish an epigenomic map of the failing human heart. More recently, he has published an in-depth analysis of the human cardiac chromatin 3D organisation, elucidating its changes during the heart disease response. The lab deep-dives into the heart epigenome in continuing aspirations to discover mechanisms of disease for new therapies or biomarkers. Today, he spends a lot of time mentoring young scientist, alongside growing research on heart disease prevention and targets for new drug development.

KEYNOTE ADDRESS 4 – DIGITAL AND ARTIFICIAL INTELLIGENCE: THE FUTURE OF PREVENTION (INTEGRATING DIGITAL AND ARTIFICIAL INTELLIGENCE IN CARDIAC REHAB

CAN WE USE THE DIGITAL WORLD TO TACKLE INSULIN RESISTANCE?

4 Oct 2025, 10:45AM – 12:00NN

Project RESET is a National Medical Research Council–funded cohort study for which we are recruiting Singaporeans who are apparently well, to characterise their underlying (subclinical) disease profiles. Emerging data insights point to a very high abundance of insulin resistance in this group, who are non-diabetic.

We are working through digital and smartphone means to engage with our cohort and encourage meaningful behavioural changes aimed at improving insulin resistance and, therefore, positive long-term cardiovascular outcomes.

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Mr Wei Chek For
Principal Dietitian
Khoo Teck Puat Hospital
Singapore

Mr Wei Chek For is a principal dietitian from Khoo Teck Puat Hospital, with more than 15 years of practice in dietetics. His strong interest is in nutrition for heart health, obesity management and geriatric nutrition.

PUBLIC FORUM

HOW TO LITE UP YOUR SODIUM-HEAVY FOODS

4 Oct 2025, 09:45AM – 11:00AM

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Dr Violet Hoon
Senior Consultant Cardiologist
Department of Cardiology
Tan Tock Seng Hospital
Singapore

Dr Violet Hoon is a senior consultant cardiologist in the Department of Cardiology at Tan Tock Seng Hospital. She heads the cardiac rehabilitation services and is part of the team in the heart failure service.

Dr Hoon received her medical education at the National University of Singapore (NUS) Yong Loo Lin School of Medicine. She is an accredited heart failure specialist under the European Society of Cardiology and a certified cardiac rehabilitation specialist under the American Association of Cardiovascular and Pulmonary Rehabilitation.

She is an avid clinician innovator who completed the Singapore Biodesign Innovation Fellowship in 2023 and is currently also appointed NHG CMTi Innovator Educator.

PRE-SYMPOSIUM WORKSHOPS

WORKSHOP 3: CARDIOPULMONARY EXERCISE TESTING WORKSHOP

3 Oct 2025, 09:00AM – 10:30AM

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KEYNOTE ADDRESS 3 – PSYCHOSOCIAL, HABIT, COGNITIVE BEHAVIOUR AND SOCIAL MEDIA

PANEL DISCUSSION/Q&A SESSION

4 Oct 2025, 09:00AM – 10:15AM

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Dr Geetha Kayambu
Principal Physiotherapist
National University Hospital
Singapore

Dr Geetha Kayambu is a principal physiotherapist specialising in critical care research at the National University Hospital. She obtained her PhD at the School of Medicine, University of Queensland, in 2015 from Australia and was awarded the National University Health System Allied Health Excellence Award in 2023. She has served as a clinician for 20 years and is director of research for the Department of Rehabilitation. She has been instrumental in critical care preceptorship, promoting research interest among physiotherapists, overseeing the direction of potentially high-impact research in physiotherapy and motivates local and overseas research collaborations. She has authored and peer reviewed several publications and has been invited as speaker at national and international conferences and webinars. She mentors staff clinically and in research and supervises students in cardiothoracic critical care. Her research interests include novel rehabilitation in intensive care, cardiac and thoracic prehabilitation, point of care ultrasound and early mobilisation of critically ill patients.

PRE-SYMPOSIUM WORKSHOPS

WORKSHOP 4: CARDIAC PREHABILITATION WORKSHOP

3 Oct 2025, 09:00AM – 10:30AM

Cardiac prehabilitation has been shown to reduce the risks of death and rehospitalisation for patients with coronary artery disease. This workshop engages participants in a virtual patient's journey through the mental and physical preparation for a cardiac surgery, from prehabilitation to rehabilitation. Encounter each member of the cardiac prehabilitation team and learn their crucial roles. Learn the art of pre-exercise prescription, cognitive and pain management, and much more through a step-by-step approach to curating a cardiac prehabilitation programme designed for all health professionals.

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Mr Michael Khoo
Physiotherapist
National Heart Centre Singapore
Singapore

Mr Michael Khoo has been a physiotherapist at the National Heart Centre Singapore for 15 years. He works with cardiac patients, guiding their rehabilitation to restore their confidence, strength and quality of life, supporting their rehabilitation journey from the intensive care unit to the intermediate care area, to the general ward, to outpatient cardiac rehab and beyond.

PRE-SYMPOSIUM WORKSHOPS

WORKSHOP 2: BROADENING HORIZONS: ENGAGING EXERCISE OPTIONS IN THE CARDIAC REHABILITATION JOURNEY

3 Oct 2025, 08:30AM – 10:30AM

This presentation will discuss the integration of functional training and high-intensity interval training (HIIT) in cardiac rehabilitation. Functional training focuses on movements that enhance strength, balance, and independence in daily life, while HIIT provides an efficient approach to improving aerobic capacity and cardiovascular health when applied safely. Practical examples of functional exercises will be outlined, with guidance on progressing from low-intensity to more advanced formats.

Speakers will also share their exergaming journey, from trying out different platforms and assembling exergaming rig, to patient selection to ensuring patient safety.

SPEAKERS' BIOGRAPHIES AND SYNOPSES

A/Prof Angela Koh
Director and Senior Consultant
National Heart Centre Singapore
Singapore

A/Prof Angela Koh is the director of Cardiovascular Ageing and Longevity and clinician scientist at the National Heart Centre Singapore. She leads a highly active National Medical Research Council–funded clinical translational research programme in cardiovascular ageing, with the fundamental objective of transforming cardiovascular health of older adults through actionable science. She is principal investigator of population-based cohort and clinical trial studies in cardiovascular disease in older adults. She sits in the leadership council of the American College of Cardiology for geriatric cardiology. Also a past recipient of the World Heart Federation Emerging leader programme, she currently serves in the advisory board for the World Heart Federation emerging leaders programme.

KEYNOTE ADDRESS 1 – STRATEGIES FOR METABOLIC HEALTH AND HEALTHY AGEING

CARDIOVASCULAR AGEING

3 Oct 2025, 11:20AM – 12:35PM

Cardiovascular ageing contributes to cardiovascular disease in older adults. This talk discusses how ageing affects cardiovascular disease pathogenesis in older persons, with an emphasis on examining possible strategies to prevent, retard or reduce cardiovascular disease burdens on our ageing population.

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Dr Jean-Paul Kovalik
Assistant Professor
Duke-NUS Medical School
Singapore

Dr Jean-Paul Kovalik received his MD PhD degree at Vanderbilt University Medical Center. He underwent clinical training in internal medicine, endocrinology and nephrology at Duke University Medical Center prior to moving to Singapore. He is now assistant professor at Duke-NUS Medical School and associate consultant at the Singapore General Hospital Department of Endocrinology. His clinical interests include diabetes, obesity and diabetic kidney disease. He is engaged in metabolism research with a focus on insulin resistance and diabetic kidney disease.

KEYNOTE ADDRESS 1 – STRATEGIES FOR METABOLIC HEALTH AND HEALTHY AGEING

THE ROLE OF DIET AND EXERCISE IN MANAGING OBESITY

3 Oct 2025, 11:20AM – 12:35PM

Obesity is a global health burden that drives many disease pathologies. We now have effective pharmacologic and surgical approaches to treat obesity. However, given the scale of the problem and costs involved, lifestyle modification will remain the foundational approach for most patients. This talk will discuss the important roles and limitations of these interventions for treating obesity.

DEBATE

WEIGHT LOSS: THE EPIC SHOWDOWN

4 Oct 2025, 12:00NN – 01:00PM

Hear each team present the strengths and limitations of exercise and diet, medication, and artificial intelligence in addressing weight loss.

SPEAKERS' BIOGRAPHIES AND SYNOPSES

A/Prof Jason Lee
Director
Heat Resilience and Performance Centre
National University of Singapore
Singapore

A/Prof Jason Lee is an associate professor at the Yong Loo Lin School of Medicine, National University of Singapore. He directs the Heat Resilience and Performance Centre and co-leads the Human Potential Translational Research Programme. He studies the physiological demands associated with passive and exertional heat stress and how humans adapt to ensure optimum performance and survival. A/Prof Lee co-chairs the Heat Injury Clinical Practice Guidelines at the Ministry of Health, Singapore, and was the past chair for the Scientific Committee on Thermal Factors at the International Commission on Occupational Health (2018–2024). He is on the management committee at the WHO-WMO Global Heat Health Information Network (GHHIN) and leads the GHHIN Southeast Asia Hub to scale up efforts in managing the complex health risks posed by rising ambient temperatures. A/Prof Lee is a member of the Expert Advisory Group at the Rockefeller Foundation.

PUBLIC FORUM

HEAT MANAGEMENT FOR HUMAN HEALTH AND POTENTIAL

4 Oct 2025, 09:45AM – 11:00AM

Rising temperatures have catapulted heat stress into a critical global threat to human health, well-being, and performance. Heat stress compromises the three fundamental pillars of health – diet, exercise, and sleep – thus increasing the risk of heat-related injuries, decreasing work productivity, and impairing decision-making. The elderly and those with chronic diseases are disproportionately affected, thus underscoring the need for a comprehensive and multidisciplinary approach, to develop and implement targeted interventions, promote awareness, and leverage research to inform policy and practice. By taking proactive measures, we can reduce the harmful effects of heat stress and create a healthier, more resilient society.

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Dr Matthew Boon Wah Liew
Consultant
Asian Heart & Vascular Centre
Singapore

Dr Matthew Boon Wah Liew is currently a senior consultant cardiologist at Asian Heart & Vascular Centre with a special interest in interventional cardiology. He graduated from the National University of Singapore (NUS), School of Medicine, in 2003. He completed his basic specialty training in internal medicine, obtained his MRCP (United Kingdom) in 2008 and achieved FRCP (Edinburgh) in 2020. He entered cardiology training in 2009 and graduated as a full-time cardiologist in November 2012. He did his interventional cardiology training as a fellow at Kaohsiung Chang Gung Memorial Hospital, Taiwan, from 2014 to 2015. He served as a senior consultant, interventional cardiologist, at Changi General Hospital from 2019 to 2023 and was the chief of the Department of Cardiology, Changi General Hospital, from January 2019 to October 2023.

KEYNOTE ADDRESS 1 – STRATEGIES FOR METABOLIC HEALTH AND HEALTHY AGEING

PANEL DISCUSSION/Q&A SESSION

3 Oct 2025, 11:20AM – 12:35PM

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Dr Paul Chun Yih Lim
Senior Consultant Cardiologist
The Heart Specialist Clinic
Singapore

Dr Paul Lim is a cardiologist and electrophysiologist at Mount Elizabeth Hospital Singapore.

He graduated with a Bachelor of Medicine and Surgery from the National University of Singapore in 2004 and obtained membership at the Royal College of Physicians with a Master of Medicine from the National University of Singapore in 2009. He was board accredited for cardiology in 2014. He completed his advanced electrophysiology fellowship at the Barts Heart Centre NHS Trust, London, UK, in 2017 and attained accreditation as European Heart Rhythm Association Certified Electrophysiology Specialist and Certified Cardiac Device Specialist in 2019.

He specialises in managing cardiac disorders, and his area of expertise is in treatment with complex heart rhythm disorders with catheter ablation using advanced mapping techniques and implantation of cardiac implantable electronic devices such as pacemakers, defibrillators, and cardiac resynchronisation therapy devices.

He continues to serve as an adjunct assistant professor at the Duke-NUS medical school and is a visiting consultant at the National Heart Centre Singapore, Seng Kang Hospital and Khoo Teck Puat Hospital. He also the treasurer of the Heart Rhythm Society Singapore and is the Young Electrophysiologist Chairman of the Asia Pacific Heart Rhythm Society.

KEYNOTE ADDRESS 3 – PSYCHOSOCIAL, HABIT, COGNITIVE BEHAVIOUR AND SOCIAL MEDIA

PANEL DISCUSSION/Q&A SESSION

4 Oct 2025, 09:00AM – 10:15AM

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Ms Shi Jia Loke
Principal Physiotherapist
Changi General Hospital
Singapore

Ms Shi Jia Loke is a principal physiotherapist at Changi General Hospital, where she leads the Cardiac Rehabilitation Service. Being a certified clinical exercise physiologist (American Society of Sports Medicine), Ms Loke works closely with the care team to deliver holistic, personalised physical activity and exercise programmes. She has a keen interest in chronic disease management and empowers patients for self-management, in line with population health. Ms Loke completed her Master in Clinical Investigation at the National University of Singapore and is looking forward to championing evidence-based innovation and evaluations for best clinical outcomes.

PARALLEL TRACKS

TRACK A: BENEFITS OF HYDROTHERAPY IN CARDIAC REHABILITATION

3 Oct 2025, 03:35PM – 05:05PM

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Dr Lip Ping Low
Founder
Low Cardiology Clinic
Singapore

PARALLEL TRACKS

TRACK A: PANEL DISCUSSION/Q&A SESSION

3 Oct 2025, 03:35PM – 05:05PM

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Ms Nadiah Binte Mohamed Rahim
Senior Physiotherapist
National Heart Centre Singapore
Singapore

Ms Nadiah Binte Mohamed Rahim is an experienced physiotherapist specialising in cardiac rehabilitation, with expertise in both one-to-one and group programmes. She is committed to guiding patients through safe recovery, tailoring exercise to individual needs while building confidence and independence.

With a focus on patient education, she empowers individuals to better understand their condition and manage risk factors. She integrates evidence-based strategies to promote functional recovery and long-term self-management.

PRE-SYMPOSIUM WORKSHOPS

WORKSHOP 2: BROADENING HORIZONS: ENGAGING EXERCISE OPTIONS IN THE CARDIAC REHABILITATION JOURNEY

3 Oct 2025, 08:30AM – 10:30AM

This presentation will discuss the integration of functional training and high-intensity interval training (HIIT) in cardiac rehabilitation. Functional training focuses on movements that enhance strength, balance, and independence in daily life, while HIIT provides an efficient approach to improving aerobic capacity and cardiovascular health when applied safely. Practical examples of functional exercises will be outlined, with guidance on progressing from low-intensity to more advanced formats.

Speakers will also share their exergaming journey, from trying out different platforms and assembling exergaming rig, to patient selection to ensuring patient safety.

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Mr Haja Mydin Yah Kathier
Senior Principal Physiotherapist
National Heart Centre Singapore
Singapore

PRE-SYMPOSIUM WORKSHOPS

WORKSHOP 2: BROADENING HORIZONS: ENGAGING EXERCISE OPTIONS IN THE CARDIAC REHABILITATION JOURNEY

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SPEAKERS' BIOGRAPHIES AND SYNOPSES

Ms Samantha Ng
Principal Physiotherapist
National Heart Centre Singapore
Singapore

With 25 years of dedicated service at the National Heart Centre Singapore, **Ms Samantha Ng** has been working with patients in cardiac rehabilitation, guiding them through their recovery journey. Her expertise spans rehabilitation management, individualised exercise prescription and patient education, ensuring that patients are empowered to take an active role in improving their heart health.

PRE-SYMPOSIUM WORKSHOPS

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Speakers will also share their exergaming journey, from trying out different platforms and assembling exergaming rig, to patient selection to ensuring patient safety.

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Ms Li Xin Ong
Principal Occupational Therapist
National University Hospital
Singapore

Ms Li Xin Ong is a principal occupational therapist specialising in cardiovascular health at the National University Hospital. She holds a Master in Advanced Clinical Practice from Brunel University London. She has been helping to develop the role of occupational therapy in cardiovascular care in the hospital and aims to enable individuals to participate in meaningful occupations and encourage healthy lifestyle behaviour changes.

Ms Ong is passionate about empowering and equipping patients to self-manage chronic conditions. Her holistic approach includes improving patients' well-being by equipping them with strategies to cope with psychosocial factors such as stress, depression and anxiety.

PRE-SYMPOSIUM WORKSHOPS

WORKSHOP 4: CARDIAC PREHABILITATION WORKSHOP

3 Oct 2025, 09:00AM – 10:30AM

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SPEAKERS' BIOGRAPHIES AND SYNOPSES

A/Prof Emily Ortega
Dean
School of Humanities and Behavioural Sciences
Singapore University of Social Sciences
Singapore

A/Prof Emily Ortega is the dean of the School of Humanities and Behavioural Sciences at the Singapore University of Social Sciences (SUSS). A sport psychologist by training, A/Prof Ortega has worked with some of Singapore's best athletes, helping them to achieve their sporting aspirations to consistently perform at their very best and win gold medals in competitions. Previously the head of the psychology programmes at SUSS, A/Prof Ortega played a pivotal role in developing the psychology undergraduate and postgraduate curricula. She leads the PQRST Lab which focuses on research in psychophysiology, quality of life, stress and time use, with a specific research interest in heart rate variability and wearable or portable devices for measuring and quantifying stress and overall well-being.

KEYNOTE ADDRESS 3 – PSYCHOSOCIAL, HABIT, COGNITIVE BEHAVIOUR AND SOCIAL MEDIA

IF TIME WERE A CURRENCY, HOW WOULD YOU SPEND IT? EXPLORING DIFFERENCES IN PEOPLE WITH CHRONIC DISEASE AND THOSE WITHOUT

4 Oct 2025, 09:00AM – 10:15AM

This presentation shares insights from a longitudinal study on time use and well-being in Singaporeans with and without chronic diseases, spanning the COVID-19 transition to the new normal. The study examined quality of life and heart rate variability (HRV), alongside sleep, eating, and exercise patterns. Findings show people with chronic conditions had lower HRV and quality of life, slept less, and spent more time on meals. Those without chronic conditions slept longer on weekends and exercised more, though their activity declined after transition, while people with chronic conditions slightly increased exercise during this period.

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Dr Pinakin V. Parekh
Medical Director/Consultant Cardiologist
Trident Heart Centre
Singapore

Dr Pinakin V. Parekh is a UK fellowship-trained cardiologist who graduated from the National University of Singapore and completed his cardiology residency at the National Heart Centre Singapore. He further trained in advanced interventional cardiology at the Liverpool Heart and Chest Hospital in the UK. He is accredited by the UK General Medical Council and is a member of the British Cardiovascular Intervention Society.

His clinical expertise includes managing chronic cardiovascular risk factors such as high blood pressure, cholesterol, diabetes and obesity, as well as evaluating symptoms like chest pain, breathlessness and palpitations. He holds a graduate diploma in family medicine, reflecting his belief in seamless care from primary to specialist settings.

Dr Parekh subspecialises in interventional cardiology, performing coronary angiograms and angioplasties, including emergency interventions for heart attacks and cardiac arrests. He is proficient in advanced imaging and physiological techniques, managing complex cases such as left main disease, bifurcations, calcified lesions and chronic total occlusions.

He is a visiting consultant at Woodlands Health Campus and Khoo Teck Puat Hospital and a fellow of numerous international cardiology societies. He actively teaches at local medical schools, contributes to international conferences, and frequently appears in media to promote heart health awareness.

DEBATE

WEIGHT LOSS: THE EPIC SHOWDOWN

4 Oct 2025, 12:00NN – 01:00PM

Hear each team present the strengths and limitations of exercise and diet, medication, and artificial intelligence in addressing weight loss.

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Dr Abdul Halim Raynaldo
Chairman
Cardiovascular Prevention and Rehabilitation Working Group
Indonesian Heart Association
Indonesia

Dr Abdul Halim Raynaldo is a cardiologist with special interest and subspecialty in preventive cardiology. With extensive clinical experience, he provides a full spectrum of care, from advanced cardiac diagnostics to prevention and treatment of cardiovascular diseases.

Dr Raynaldo currently serves as the chairman of the Cardiovascular Prevention and Rehabilitation Working Group. Under his leadership, the group has been actively engaged in conducting research, publishing scientific papers in international journals, speaking at national and international conferences, developing service standards and competencies for healthcare professionals, and fostering collaborations with organisations and partners around the world.

His notable achievements include speaking engagements at major events such as INAPREVENT, the Medan Cardiovascular Update, and the Annual Scientific Meeting of the Indonesian Heart Association, where he has contributed to both workshops and symposium. He is also recognised for his active contributions to international publications, particularly on topics related to cardiac prevention and rehabilitation.

KEYNOTE ADDRESS 2 – EXERCISE PRESCRIPTION AND CARDIOPULMONARY EXERCISE TESTING

CARDIAC REHAB IN HEART FAILURE

3 Oct 2025, 01:50PM – 03:05PM

Heart failure (HF) prevalence and burden have risen globally, including in Indonesia, where HF contributes significantly to disability. Yet cardiac rehabilitation (CR), a Class IA guideline-recommended multidisciplinary intervention, remains underused worldwide.

CR integrates exercise training, risk factor management, and psychosocial support, improving capacity and quality of life, as well as reducing hospitalisations and mortality. Exercise prescription is guided by baseline CPET or 6-minute walk test and tailored via the functional intensive interval training principle. While centre-based CR is traditional, access is expanding through home-based, hybrid and virtual models that leverage technology for monitoring and delivery, offering scalable patient-centred solutions to enhance outcomes in HF care.

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Prof Kathy Sietsema
Emeritus Professor of Medicine
Harbor-UCLA Medical Center
UCLA School of Medicine
USA

Dr Kathy Sietsema received her medical degree from Northwestern University Medical School and took postgraduate training in internal medicine at the University of California Davis and the University of Washington. She then completed a fellowship in pulmonary medicine at Harbor UCLA Medical Center in the division headed by Dr Karlman Wasserman, where she became interested in exercise physiology. She joined the faculty of UCLA at Harbor-UCLA Medical Center and worked there for the remainder of her career, doing original research in exercise function and in the application of cardiopulmonary exercise testing in clinical and research. She served as director of the Pulmonary and Critical Care fellowship programme for 10 years and as chief of the division for 14 years. As an emeritus professor, she continues to write and teach on topics related to cardiopulmonary exercise testing both at her home institution and in national and international venues.

PRE-SYMPOSIUM WORKSHOPS

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KEYNOTE ADDRESS 2 – EXERCISE PRESCRIPTION AND CARDIOPULMONARY EXERCISE TESTING

CARDIOPULMONARY EXERCISE TESTING: APPLICATIONS IN CARDIOLOGY

3 Oct 2025, 01:50PM – 03:05PM

Cardiopulmonary exercise testing (CPET) measures blood pressure, heart rate, electrocardiogram, breathing and gas exchange during graded exercise. A key parameter is oxygen uptake (VO_2), which reflects metabolic demand and defines maximal exercise capacity. Peak VO_2 is a global indicator of health, fitness and survival across populations, including those with heart failure, congenital heart or lung disease, and surgical risk. CPET supports diagnosis of unexplained symptoms, personalised assessment of known conditions, and rehabilitation planning. Its ability to profile impairment, identify limiting factors, and guide tailored interventions makes CPET valuable in both clinical decision-making and patient care.

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Mr Qamaruzaman Syed Gani
Principal Physiotherapist
National University Hospital
Singapore

Mr Qamaruzaman Syed Gani is a principal physiotherapist with keen interests in critical care rehabilitation, cardiac rehabilitation, including heart failure. He is also an associate faculty at the Singapore Institute of Technology, covering the chronic disease module as well as the simulation-based learning (cardiopulmonary) module. He also has a keen interest in clinical education and has mentored undergraduate physiotherapy students as well as observers interested in physiotherapy. He has received invites to present at the Muslim Healthcare Outreach Programme, the SingHealth Duke-NUS Education Conference, the Heart Failure Society Singapore Annual Scientific Meeting, and the Singapore Prevention & Cardiac Rehabilitation Symposium. He received the National University Hospital Model Exemplary Staff Award in 2025. He is currently the treasurer of the Healthcare Service Employees' Union (NUH Branch).

PARALLEL TRACKS

TRACK B: PANEL DISCUSSION/Q&A SESSION

3 Oct 2025, 03:35PM – 05:05PM

SPEAKERS' BIOGRAPHIES AND SYNOPSES

A/Prof Doreen Tan
Associate Professor
National University Heart Centre, Singapore
Singapore

A/Prof Doreen Tan is an associate professor at the National University of Singapore (NUS) Department of Pharmacy and Pharmaceutical Sciences. She is also a cardiology specialist pharmacist practicing at the National University Heart Centre, Singapore. She previously headed Khoo Teck Puat Hospital's Pharmacy Department, crossed to corporate development as assistant director of the Value Office before joining NUS Department of Pharmacy full time.

A/Prof Tan continues to lobby for the rational use of cardiovascular (CV) pharmacotherapy and the value of CV team pharmacists in her role as board member of the International Society of Cardiovascular Pharmacotherapy (ISCP), through the founding of the "A to Z of CV Pharmacotherapy" webinar series and the ISCP CLAP (Catalysing Real-World Cardiovascular Pharmacotherapy).

Active with practice and precision medicine research, A/Prof Tan wrote the grant for the implementation of individualisation of antiplatelets using CYP2C19 in clinical practice, fondly called "iRight4Me Antiplatelet Therapy", which enrolled its 1,007th patient in February 2024 before its conclusion. She is an appointed member of the National University Health System's Steering Committee for Pharmacogenomics. As part of her role in the workgroup of education and training in the steering committee, she proactively wove cardiology-related pharmacogenomics into the undergraduate and Doctor of Pharmacy curriculum. A/Prof Tan is also co-investigator for Precision Health Research's Clinical Implementation Pilot.

PUBLIC FORUM

PANEL DISCUSSION/Q&A SESSION

4 Oct 2025, 09:45AM – 11:00AM

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Prof Huay Cheem Tan

Senior Consultant Cardiologist, National University Heart Centre, Singapore
Chairman, Singapore Heart Foundation
Singapore

Prof Huay Cheem Tan is the founding director, senior consultant cardiologist and senior advisor of the National University Heart Centre, Singapore (NUHCS). He is also chairman of the Singapore Heart Foundation, immediate past president of the Asia Pacific Society of Interventional Cardiology, past president of the Singapore Cardiac Society and founding member of the AICT-AsiaPCR, an international interventional cardiology meeting.

He received the Singapore Cardiac Society Lifetime Achievement Award in 2022, the National Medical Excellence Award for Most Outstanding Clinician in 2023, the Excellent Team Award in 2011, the Ministry of Health Distinguished Senior Clinician Award in 2017, and the National Day Award for Public Service Administration (Bronze) in 2016 and (Silver) in 2023. He also received the Chien Foundation Lifetime Achievement Award in PCI in 2023 and the Bangladesh LIVE Lifetime Achievement Award in 2024. In 2025, he was given the Singapore Health Quality 2025 Superstar Award as Exemplar Leader Clinician.

He is a regularly invited faculty in international cardiology meetings, a visiting professor to 11 university-affiliated hospitals in China, and founding editor of the AsiaIntervention journal.

KEYNOTE ADDRESS 4 – DIGITAL AND ARTIFICIAL INTELLIGENCE: THE FUTURE OF PREVENTION (INTEGRATING DIGITAL AND ARTIFICIAL INTELLIGENCE IN CARDIAC REHAB)

PANEL DISCUSSION/Q&A SESSION

4 Oct 2025, 10:45AM – 12:00NN

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Dr Jian Jing Tan
Cardiologist
The Cardio Clinic
Singapore

Dr Jian Jing Tan is a doctor with more than 15 years of experience. His area of subspecialty is in cardiac imaging, preventive cardiology and cardiac rehabilitation. He was a consultant cardiologist prior to entering private practice, and he has board certifications in echocardiography and cardiac computed tomography and is also trained in cardiopulmonary exercise test.

He graduated from the National University of Singapore in 2006 and obtained his Master of Medicine (Internal Medicine) and Membership of Royal College of Physicians (UK) in 2011. He became an accredited specialist in cardiology in 2017 and became a Fellow of the Academy of Medicine Singapore in 2021. He also obtained a Graduate Diploma in Sports Medicine in 2021.

Dr Tan is an advocate for preventive medicine, encouraging his patients to adopt holistic approaches. He was the director of the Acute Myocardial Infarction Programme and Cardiac Rehabilitation in Changi General Hospital. He is a certified cardiac rehab practitioner and believes that exercise is beneficial for most patients. Being a SAF scholar and a clinical assistant professor for both the Yong Loo Lin School of Medicine and Duke-NUS Medical School, Dr Tan has been actively involved in the education of doctors, nurses and, most importantly, patients. He always prioritises the delivery of the best patient-centred car**e.**

KEYNOTE ADDRESS 1 – STRATEGIES FOR METABOLIC HEALTH AND HEALTHY AGEING

PHARMACOLOGICAL THERAPIES IN LIPID LOWERING IN PRIMARY PREVENTION

3 Oct 2025, 11:20AM – 12:35PM

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Physician Nick Tan
Founder/Physician
Come Here TCM Clinic
Singapore

Dr Nick Tan is a Singapore-registered traditional Chinese medicine (TCM) physician with a unique background bridging emergency medicine and traditional healing. A former senior medic in the SAF Medical Corps, he trained personnel in CPR and life-saving techniques. Transitioning to TCM, he earned a bachelor's degree from Guangzhou University of Chinese Medicine and an advanced diploma from Singapore College of TCM, blending combat clinical training with ancient wisdom.

Today, he is the founder of Come Here TCM Clinic, a modern family practice integrating evidence-based TCM with holistic cardiac care. A passionate speaker, he has delivered health talks at corporations and grassroots events, advocating TCM's role in preventive care. At this symposium, he will explore synergies between TCM and conventional approaches to heart health.

PRE-SYMPOSIUM WORKSHOPS

WORKSHOP 1: FROM EAST TO HEART: EVIDENCE-BASED TRADITIONAL CHINESE MEDICINE REMEDIES FOR MODERN CARDIAC CARE

3 Oct 2025, 09:00AM – 10:30AM

Can ancient wisdom and modern science be combined to heal the heart? This interactive workshop explores evidence-backed traditional Chinese medicine (TCM) remedies – from food/herb formulations to physical therapies – that complement conventional cardiac care. Discover how TCM's holistic principles align with contemporary cardiology, learn to debunk TCM myths, and discuss the practical strategies to integrate these approaches safely into patient care.

PARALLEL TRACKS

TRACK B: ANOTHER PERSPECTIVE: TRADITIONAL CHINESE MEDICINE FOR HEART HEALTH – HEART ATTACK AND STROKE TREATMENT?

3 Oct 2025, 03:35PM – 05:05PM

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Clin A/Prof Swee Yaw Tan
National Heart Centre
Singapore

KEYNOTE ADDRESS 2 – EXERCISE PRESCRIPTION AND CARDIOPULMONARY EXERCISE TESTING

PANEL DISCUSSION/Q&A SESSION

3 Oct 2025, 01:50PM – 03:05PM

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Ms Susan Tan
President
Society of Behavioural Health Singapore
Singapore

Ms Susan Tan is a leading voice in health and wellness coaching in Singapore, with a mission to bridge behavioural science and clinical practice to improve health outcomes. She serves as president of the Society of Behavioural Health Singapore (SBHS) and chair of its health coaching chapter, where she leads SBHS efforts to build health-and-wellness coaching competency and training, hoping to integrate health coaches into multidisciplinary care teams. She also sits on the advisory board for the Healthy Longevity Research Clinic Singapore.

With a background in public health and over 20 years of cross-sector experience, Ms Tan has worked extensively with healthcare institutions, including the Health Promotion Board, the National University of Singapore, Nanyang Technological University, and the National University Polyclinics to train clinicians in motivational interviewing and lifestyle medicine,

She is also the founder and CEO of ECI Consulting Holdings, a social enterprise focused on building sustainable lifestyle change in corporate and community settings.

Ms Tan is a passionate advocate for reimagining chronic disease management through collaborative care models that empower both providers and patients. Her current work supports Singapore's Healthier SG movement by championing health coaching as a key lever for lifestyle-based prevention and cardiac rehabilitation.

PARALLEL TRACKS

TRACK B: HEALTH COACHING FOR SUSTAINABLE LIFESTYLE CHANGE IN HEART HEALTH

3 Oct 2025, 03:35PM – 05:05PM

Sustainable lifestyle change is critical in prevention and rehabilitation, but many individuals struggle with long-term adherence. Health coaching draws from behavioural science to build motivation, health literacy and self-efficacy while navigating barriers to change.

This session highlights how health coaching complements clinical care, especially in multidisciplinary teams managing cardiovascular risk. Through case examples and practical insights, we will explore how coaching supports lifestyle change in physical activity, nutrition, smoking cessation, and stress management. Participants will gain a clear understanding of what health coaching is – and is not – and how it bridges the gap between intention and action in cardiac care.

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Ms Valerie Tan
Senior Physiotherapist
Transcend Physiotherapy
Singapore

Ms Valerie Tan is a senior physiotherapist specialising in cardiac and pulmonary rehabilitation. She holds an honours degree in physiotherapy from Trinity College Dublin and is a certified cardiac rehabilitation professional, accredited by the American Association of Cardiovascular and Pulmonary Rehabilitation.

Ms Tan spent 8 years at Tan Tock Seng Hospital (TTSH) as a physiotherapist. There she co-led the rehabilitation of high-risk patients, including those with heart failure and complex cardiopulmonary conditions, working closely with a multidisciplinary team to provide patient-centred care.

She has also contributed actively to healthcare education and programme development. She led ICU physiotherapy competency training and developed clinical protocols to elevate practice standards. In recognition of her efforts, she received the NHG Teaching Award for Allied Health Educators in 2024.

Ms Tan currently works in the private sector, where she continues to provide specialised care for cardiorespiratory patients through individualised, evidence-based rehabilitation.

PARALLEL TRACKS

TRACK A: MOVING WITH PURPOSE: TRANSITION FROM PHYSICAL ACTIVITY TO STRUCTURED EXERCISE

3 Oct 2025, 03:35PM – 05:05PM

This presentation highlights the essential shift from general physical activity to structured exercise in cardiac rehabilitation. It explores the clinical benefits of targeted exercise, common barriers to this transition, and practical strategies – such as education, assessment-driven prescriptions, progressive exposure and behavioural support – to help clinicians guide patients effectively.

Participants will gain valuable insights to enhance rehabilitation outcomes by integrating structured exercise as a core component of cardiac care.

SPEAKERS' BIOGRAPHIES AND SYNOPSES

A/Prof Verena Tan
Associate Professor
Singapore Institute of Technology
Singapore

A/Prof Verena Tan is a qualified and experienced dietitian with diverse experience spanning clinical nutrition, research and academia. She currently serves as an associate professor and the programme leader for the BSc (Honours) in Dietetics and Nutrition at the Singapore Institute of Technology (SIT). She started her career as a dietitian at Tan Tock Seng Hospital and a lecturer at Temasek Polytechnic. After completing her PhD at the Yong Loo Lin School of Medicine, National University of Singapore, she pursued roles in research and development at the Singapore Institute of Clinical Sciences, A*STAR, as well as in leading corporate companies such as Abbott Nutrition Asia-Pacific R&D and FrieslandCampina Development Centre.

A/Prof Tan has a keen interest in nutrition research and has been awarded numerous grants for her pioneering research work in elderly nutrition, probiotics in plant-based nutrition for optimal health, and creating a novel Asian Mediterranean Diet. Dr Tan has also collaborated on projects funded by Prima Group, MOE, NAMIC, NUHS, and SIT, focusing on sustainable foods, and improving nutrition in patients. Recently, Dr Tan secured over $7 million from A*STAR and NMRC to lead the innovation of elder-friendly food solutions and conduct diet-intervention studies.

PARALLEL TRACKS

TRACK A: DIET FOR HEART LONGEVITY

3 Oct 2025, 03:35PM – 05:05PM

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Dr Xiang Ren Tan
Senior Research Fellow
National University of Singapore
Singapore

Dr Xiang Ren Tan is a senior research fellow at Heat Resilience & Performance Centre and is affiliated with the Human Potential Translational Research Programme at National University of Singapore. He earned his PhD in Exercise Physiology from the National University of Singapore in 2018, leading the first human exercise trials with magnetic resonance imaging, in collaboration with the Clinical Imaging Research Centre. His doctoral research focused on exertional dehydration and hyperthermia's effects on brain and muscle physiology. He has received several research and education awards, including the Hernandez Memorial Scholarship, GSSI Young Scholar Travel Grant, ACSM Student Foundation Award, and teaching excellence awards. His research interests include applied exercise physiology, thermal physiology and brain health.

PARALLEL TRACKS

TRACK B: IMPACT OF HEAT STRESS ON HUMAN BRAIN PHYSIOLOGY AND THE IMPLICATIONS FOR MENTAL HEALTH

3 Oct 2025, 03:35PM – 05:05PM

The brain is particularly susceptible to heat stress. Research demonstrates that both the structure and function of the human brain can be compromised by exposure to elevated temperatures, associated with declines in physical performance, cognitive ability, and mental well-being – even a 1°C rise in ambient temperature has been linked to a greater likelihood of depression and anxiety.

This presentation reviews current evidence on the effects of heat stress on brain function, discusses proposed mechanisms of impairment, addresses the implications for mental health, and outlines potential strategies for enhancing heat resilience in a warming world.

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Ms Tricia Teo
Senior Dietitian
National University Hospital
Singapore

Ms Tricia Teo has been a senior dietitian at the National University Hospital since 2012. She graduated with a Bachelor of Nutrition and Dietetics from Flinders University of South Australia in 2011. She specialises in seeing patients with cardiac conditions and has a keen interest in critical care and surgical nutrition. She also has a special interest for education and is a core clinical educator for the Dietetics department, helping to mentor the next generation of dietitians. She is a former member of the Dietitians Association of Australia and a current member of the Singapore Nutrition and Dietetics Association.

PRE-SYMPOSIUM WORKSHOPS

WORKSHOP 4: CARDIAC PREHABILITATION WORKSHOP

3 Oct 2025, 09:00AM – 10:30AM

Cardiac prehabilitation has been shown to reduce the risks of death and rehospitalisation for patients with coronary artery disease. This workshop engages participants in a virtual patient's journey through the mental and physical preparation for a cardiac surgery, from prehabilitation to rehabilitation. Encounter each member of the cardiac prehabilitation team and learn their crucial roles. Learn the art of pre-exercise prescription, cognitive and pain management, and much more through a step-by-step approach to curating a cardiac prehabilitation programme designed for all health professionals.

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Ms Kit Cheng Ting
Senior Nurse Clinician
National University Hospital
Singapore

PRE-SYMPOSIUM WORKSHOPS

WORKSHOP 4: CARDIAC PREHABILITATION WORKSHOP

3 Oct 2025, 09:00AM – 10:30AM

Cardiac prehabilitation has been shown to reduce the risks of death and rehospitalisation for patients with coronary artery disease. This workshop engages participants in a virtual patient's journey through the mental and physical preparation for a cardiac surgery, from prehabilitation to rehabilitation. Encounter each member of the cardiac prehabilitation team and learn their crucial roles. Learn the art of pre-exercise prescription, cognitive and pain management, and much more through a step-by-step approach to curating a cardiac prehabilitation programme designed for all health professionals.

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Dr Laureen Wang
Consultant
National University Heart Centre, Singapore
Alexandra Hospital
Singapore

Dr Laureen Wang is a consultant in the division of cardiology at Alexandra Hospital and the National University Heart Centre, Singapore. She is also the head for the Well programme (preventive care) at Alexandra Hospital. Her areas of interest include preventive cardiology, cardiac rehabilitation, and women's heart health.

PRE-SYMPOSIUM WORKSHOPS

WORKSHOP 3: CARDIOPULMONARY EXERCISE TESTING WORKSHOP

3 Oct 2025, 09:00AM – 10:30AM

Get practical tips on setting up a cardiopulmonary exercise testing (CPET) lab. Get hand-on experience on interpreting common clinical cases. Learn more about technical and quality control issues and how to manage them.

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Dr Luo-Kai Wang
Consultant
National Heart Centre Singapore
Singapore

Dr Luo-Kai Wang subspecialises in cardiac computed tomography and cardiac rehabilitation at the National Heart Centre Singapore. He also has a keen interest in sports cardiology and sports medicine.

KEYNOTE ADDRESS 2 – EXERCISE PRESCRIPTION AND CARDIOPULMONARY EXERCISE TESTING

PANEL DISCUSSION/Q&A SESSION

3 Oct 2025, 01:50PM – 03:05PM

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Prof Wenru Wang
Professor
National University of Singapore
Singapore

Prof Wenru Wang is a full professor at Alice Lee Centre for Nursing Studies, National University of Singapore. She specialises in chronic illness and long-term care, focusing on cardiovascular health, cardiac rehabilitation, diabetes management, and active ageing. Her research integrates psychosocial interventions with innovative technologies (mHealth, telemedicine, AI) for health promotion and secondary prevention. As principal investigator, she has secured over 30 competitive grants totalling nearly SGD 10 million and published nearly 300 peer-reviewed papers in top medical and nursing journals. A recognised expert, she has been appointed as an associate editor for the *European Journal of Cardiovascular Nursing* and serves as an editorial board member for several renowned international nursing journals. In recognition of her contributions, she was named a fellow of the American Academy of Nursing (2020) and inducted into Sigma's International Nurse Researchers Hall of Fame (2023).

KEYNOTE ADDRESS 4 – DIGITAL AND ARTIFICIAL INTELLIGENCE: THE FUTURE OF PREVENTION (INTEGRATING DIGITAL AND ARTIFICIAL INTELLIGENCE IN CARDIAC REHAB)

PANEL DISCUSSION/Q&A SESSION

4 Oct 2025, 10:45AM – 12:00NN

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Asst Prof Su Ren Wong
Senior Principal Occupational Therapist
National University Hospital
Singapore

Asst Prof Su Ren Wong is a senior principal occupational therapist and occupational therapy research lead at the Department of Rehabilitation, National University Hospital, and also an assistant professor at the Health and Social Sciences Cluster, Singapore Institute of Technology. She received her Bachelor of Occupational Therapy from the University of Queensland and completed her PhD in Kinesiology, Nutrition and Rehabilitation at the University of Illinois at Chicago. In her clinical work, Asst Prof Wong provides therapy services to help patients with mental illness, chronic pain and cardiac conditions to live fulfilling and meaningful lives. Her research interests focus on the value of occupations and occupational therapy in the context of illness, hospitalisation and critical care. She is currently running an ongoing clinical trial to investigate the use of early and intensive occupational therapy in critical care for patients who underwent coronary artery bypass graft surgery.

KEYNOTE ADDRESS 3 – PSYCHOSOCIAL, HABIT, COGNITIVE BEHAVIOUR AND SOCIAL MEDIA

MENTAL HEALTH AND COGNITIVE CHALLENGES IN CARDIOVASCULAR CARE

4 Oct 2025, 09:00AM – 10:15AM

While cardiovascular interventions are often lifesaving and critical in nature, associated mental health and cognitive challenges may be overlooked. As such, patients' quality of life may be affected. This presentation highlights the mental health and cognitive challenges associated with cardiovascular conditions and explores the possible interventions that could be considered for holistic care.

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Prof Wen-Chih Wu
Medical Director
Brown University Health Wellness and Prevention Center
AACVPR Immediate Past President
USA

Dr Wu Wen-Chih is a board-certified cardiologist who practices at Providence, Rhode Island, medical director of the Brown University Health's Cardiovascular Rehabilitation programme, immediate past president of the American Association of Cardiovascular and Pulmonary Rehabilitation and Professor of Medicine and Professor of Epidemiology at Brown University. He has clinical and research expertise in the areas of preventive cardiology and outcomes with specific emphasis in obesity, diabetes and insulin resistance.

KEYNOTE ADDRESS 1 – STRATEGIES FOR METABOLIC HEALTH AND HEALTHY AGEING

CASE STUDY OF OBESITY AND CARDIOVASCULAR DISEASE IN ASIANS AND ASIAN AMERICANS: STRATEGIES FOR ASSESSMENT AND INTERVENTION

3 Oct 2025, 11:20AM – 12:35PM

This presentation discusses how the definition of obesity applies to Asian-Americans and what are its implications in clinical management.

KEYNOTE ADDRESS 4 – DIGITAL AND ARTIFICIAL INTELLIGENCE: THE FUTURE OF PREVENTION (INTEGRATING DIGITAL AND ARTIFICIAL INTELLIGENCE IN CARDIAC REHAB)

A NEW ERA IN CARDIAC REHABILITATION DELIVERY: GAPS AND STRATEGIES

4 Oct 2025, 10:45AM – 12:00NN

This presentation discusses different methods of cardiac rehabilitation delivery, practice and management implications to meet the cardiovascular needs of the 21st century.

DEBATE

WEIGHT LOSS: THE EPIC SHOWDOWN

4 Oct 2025, 12:00NN – 01:00PM

Hear each team present the strengths and limitations of exercise and diet, medication, and artificial intelligence in addressing weight loss.

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Dr Su-Yin Yang
Head
Department of Psychology Service
Woodlands Health
Singapore

Dr Su-Yin Yang heads the Department of Psychology Service at Woodlands Health. She completed her PhD in Academic Studies (Health Psychology) at the Institute of Psychiatry, Psychology and Neuroscience, King's College London in 2016.

Dr Yang's main clinical and research areas focus on improving the lives of people with chronic pain and chronic disease through interdisciplinary collaborative models of care. She holds an adjunct faculty position at Lee Kong Chian School of Medicine in her specialist area of pain psychology and holds a visiting research scientist position at the Rehabilitation Institute of Singapore.

Dr Yang has published articles in both health magazines and international journals and has peer-reviewed articles for journal publication. She has a special interest in preventive health and healthcare innovations and a patent application for a brain computer interface (BCI) to identify and extract electroencephalogram signals.

KEYNOTE ADDRESS 3 – PSYCHOSOCIAL, HABIT, COGNITIVE BEHAVIOUR AND SOCIAL MEDIA

FROM HEARTBREAK TO HEARTWISE: THE PSYCHOPHYSIO COLLECTIVE

4 Oct 2025, 09:00AM – 10:15AM

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Ms Li Yao
Senior Nurse Clinician
National University Heart Centre, Singapore
Singapore

Ms Li Yao is a highly accomplished advanced practice nurse at the National University Heart Centre, Singapore, with 20 years of experience in healthcare. Specialising in cardiothoracic surgery, she has an expertise that spans both inpatient and outpatient care, including complex wound management. Ms Yao is committed to improving patient outcomes through evidence-based practices and enhancing departmental efficiency.

PRE-SYMPOSIUM WORKSHOPS

WORKSHOP 4: CARDIAC PREHABILITATION WORKSHOP

3 Oct 2025, 09:00AM – 10:30AM

Cardiac prehabilitation has been shown to reduce the risks of death and rehospitalisation for patients with coronary artery disease. This workshop engages participants in a virtual patient's journey through the mental and physical preparation for a cardiac surgery, from prehabilitation to rehabilitation. Encounter each member of the cardiac prehabilitation team and learn their crucial roles. Learn the art of pre-exercise prescription, cognitive and pain management, and much more through a step-by-step approach to curating a cardiac prehabilitation programme designed for all health professionals.

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Dr Colin Yeo
Senior Consultant
Changi General Hospital
Singapore

Dr Colin Yeo is a senior consultant for cardiology at Changi General Hospital and a visiting consultant at National Heart Centre Singapore. His subspecialty interest is in adult clinical electrophysiology. His research publications includes lipoprotein(a) in cardiovascular disease, cardiac arrhythmias, cardiac implantable electronic device and hereditary arrhythmia syndromes.

He is also adjunct associate professor for Yong Loo Lin School of Medicine, adjunct assistant professor for Duke-NUS and teaching faculty for Lee Kong Chian School of Medicine, where he is actively involved in medical education.

KEYNOTE ADDRESS 4 – DIGITAL AND ARTIFICIAL INTELLIGENCE: THE FUTURE OF PREVENTION (INTEGRATING DIGITAL AND ARTIFICIAL INTELLIGENCE IN CARDIAC REHAB)

WEARABLES FOR HEART RATE AND ELECTROCARDIOGRAM MONITORING DURING EXERCISE AND AT REST: THE ULTIMATE COMPARISON

4 Oct 2025, 10:45AM – 12:00NN

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Asst Prof Tee Joo Yeo
Senior Consultant National University Heart Centre, Singapore
Assistant Honorary Secretary, Singapore Heart Foundation
Singapore

Asst Prof Tee Joo Yeo is presently a senior consultant with the Department of Cardiology at the National University Heart Centre, Singapore (NUHCS). He also serves as the director of the Cardiac Rehabilitation Unit at NUHCS.

He graduated from Yong Loo Lin School of Medicine, National University of Singapore, in 2004 with an MBBS, and he obtained MRCP (UK) and MMED (Int Med) in 2009. In 2013, he received specialist accreditation in cardiology and was also certified as a clinical exercise specialist by the American College of Sports Medicine.

Asst Prof Yeo was awarded the MOH Training Scholarship to complete subspecialty fellowships in cardiovascular prevention and rehabilitation at the Toronto Rehabilitation Institute from 2014 to 2015, as well as sports cardiology at St George's University of London from 2015 to 2016. He is also passionate in research and obtained a Master of Clinical Investigation degree from the National University of Singapore in 2015.

Asst Prof Yeo has been a World Health Organization Ischaemic Heart Disease Rehabilitation 2030 Development Group Member since 2019. He is the country representative for the International Council for Cardiovascular Prevention and Rehabilitation. He is also a board member of the Singapore Heart Foundation.

KEYNOTE ADDRESS 1 – STRATEGIES FOR METABOLIC HEALTH AND HEALTHY AGEING

PANEL DISCUSSION/Q&A SESSION

3 Oct 2025, 11:20AM – 12:35PM

PARALLEL TRACKS

TRACK B: ARE MARATHONS AND HIGH-INTENSITY INTERVAL TRAINING SUITABLE FOR HEART PATIENTS OR EVEN REGULAR PEOPLE?

3 Oct 2025, 03:35PM – 05:05PM

The benefits of exercise are well known, but is exercise still possible after a heart attack or in someone living with heart disease?

More and more people are participating in sporting activities such as marathons and high-intensity interval training. Find out if these are suitable for heart patients and hear about the benefits and risks, as well as the importance of preparticipation screening.

DEBATE

WEIGHT LOSS: THE EPIC SHOWDOWN

4 Oct 2025, 12:00NN – 01:00PM

Hear each team present the strengths and limitations of exercise and diet, medication, and artificial intelligence in addressing weight loss.

SPEAKERS' BIOGRAPHIES AND SYNOPSES

Asst Prof Sungwon Yoon
Assistant Professor
Duke-NUS Medical School
Singapore

Asst Prof Sungwon Yoon is a population health and health services researcher at Duke-NUS Medical School. Her work focuses on innovative health behaviour interventions and care models to improve chronic illness management; translational research to enhance patient experience and healthcare delivery; and social determinants of health and health disparities in underserved populations. She has methodological expertise in mixed-methods and implementation science. Her research has yielded valuable insights into care engagement, medication adherence, and digital health adoption in patients with complex health conditions, including diabetes, hypertension, hyperlipidaemia and cancer. In addition to her role in research, she teaches courses and workshops on qualitative and mixed methods, and actively mentors graduate medical students. She received her doctorate from London School of Hygiene & Tropical Medicine and previously served as a policy analyst at Korea Development Institute, a national think tank, and at the National Assembly before transitioning to academia.

PUBLIC FORUM

PANEL DISCUSSION/Q&A SESSION

4 Oct 2025, 09:45AM – 11:00AM

ABSTRACTS

ABSTRACTS

Category: CARDIAC REHABILITATION EXERCISE/SPORTS

Mrs Nimisha Konde
CR-000238

Abstract Title: "Heart–Brain Axis", Occupational Therapy in Hypertensive Menopausal Women

Aim: To assess the preventive impact of occupational therapy interventions on fatigue, cognition and menopausal symptoms in hypertensive menopausal women.

Methods: The study included menopausal women aged 45-60 years, stage 1 hypertension with mild cognitive impairment (MoCA core 20-26). Whereas women with surgical menopause and chronic illness were excluded. The subjects included in study were assessed on MoCA (Montreal cognitive assessment), FSS (Fatigue severity Scale), MRS (Menopause rating scale).

The subjects were recruited as per inclusion criteria and screened using the Montreal Cognitive Assessment (MoCA). Outcome measures used were, Fatigue Severity Scale (FSS) to assess the severity of fatigue. Menopause rating scale (MRS) to assess menopause related symptoms in women.

The subjects were given 30 minutes occupational therapy intervention for 2 weeks, 5 days a week, which included Yoga, aerobic exercises and cognitive games.

At baseline and post 2 weeks of intervention subjects were reassessed for outcome measures.

Results: A significant change was observed in the score of FSS (50.83 ± 2.81; 46.16 ± 3.34), MRS (31.00 ± 2.51; 27 ± 1.58), MoCA (22.66 ± 0.74; 25.33 ± 0.745).

Conclusion: This study concluded that occupational therapy with life-style based interventions can enhance quality of life of menopausal women.

ABSTRACTS

Category: CARDIAC REHABILITATION EXERCISE/SPORTS

Dr Reganedgary Jonlean
CR-000236

Abstract Title: The Use of Yoga-Based Cardiac Rehabilitation in Coronary Artery Diseases Indicated for Cardiac Rehabilitation: A Systematic Review and Meta-Analysis

Aim: According to the American Heart Association (AHA) and European Society of Cardiology (ESC), cardiac rehabilitation is indicated for several cardiovascular conditions. Yoga has been found to have robust beneficial effects for health. This systematic review aims to elucidate the impact of yoga-based cardiac rehabilitation in the management of cardiovascular diseases for which cardiac rehabilitation is indicated.

Methods: This systematic review is conducted following the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) 2020 and its extensions. The inclusion criteria are randomized trials that assess yoga for cardiac rehabilitation with or without comparators for patients diagnosed with any conditions indicated for cardiac rehabilitation by AHA and ESC. Minimum follow-up duration for studies is at least 2 months. Exclusion criteria are studies written in languages other than English and Indonesian, and other than randomized trials. PubMed, Cochrane Library, MEDLINE, EbscoHOST, and Europe PMC were searched from January to July 2025. Descriptive and statistical analyses were conducted. Outcomes assessed are the effect on various clinical and psychological parameters. Meta-analysis was conducted using the Review Manager (RevMan) software version 5.4.1 when possible. Risk of Bias 2 (RoB 2) tool was used to assess the risk of bias. $P < 0.05$ was chosen as the statistical significance point.

Results: 9 studies were included in the analysis. The studies revealed the significant effect favoring yoga-based cardiac rehabilitation on mortality, quality of life, major cardiovascular events, blood pressure, left ventricular ejection fraction, cholesterol levels, blood glucose levels, body mass index (BMI), frequency of negative affect, and perceived stress. No adverse event was recorded in any of the included studies. The risk of bias of the included studies varies between low to high.

Conclusion: Yoga-based cardiac rehabilitation may prove to be an effective and beneficial cardiac rehabilitation modality in the management of coronary artery disease.

ABSTRACTS

Category: CARDIAC REHABILITATION EXERCISE/SPORTS

Mr King Fung Wong
CR-000228

Abstract Title: Implementation of Multidisciplinary Heart Failure Rehabilitation Program on Physical, Psychological and Self-Management Outcomes in Advanced Heart Failure Patients

Aim: Background: Cardiac rehabilitation remains an integral part of heart failure (HF) management but often precluded in vulnerable groups such as patients with advanced HF, being at increased risk of symptoms burden, functional status decline, all-cause mortality and rehospitalization. Hesitancy in referring vulnerable groups may led to poor outcomes in this cohort.

Aim: To implement a Multidisciplinary Cardiac Rehabilitation (MDCR) program to enhance patients' exercise tolerance, quality of life, self-care self-efficacy, and psychology in our advanced HF cohort.

Methods: Patients with advanced HF were enrolled in a 12-16 sessions MDHF rehabilitation program. The program included individualized exercise training, health education, lifestyle redesign, and symptom management, facilitated by physiotherapists, occupational therapists, and rehabilitation nurses. Multicomponent parameters were assessed, including submaximal treadmill stress test (TST), 6-minute walk test (6MWT), Kansas City Cardiomyopathy Questionnaire (KCCQ-12), N-terminal pro b-type natriuretic peptide (NT-proBNP) blood test, Self-Care of Heart Failure Index - Chinese Version (SCHFI-CV), Self-Care Self-Efficacy Scale (SCSES), and Hospital Anxiety and Depression Scale (HADS), were conducted before and after the program.

Results: From 11/2021 to 01/2025, 92 patients (72 men; 78%) with a mean age of 53.8 ± 10.6 and mean left ventricular ejection fraction 25.5% ± 7.9% were enrolled. Post-program results showed a 29.4% increase ($p<0.001$) in the submaximal TST result, an 8.9% increase ($p<0.001$) in 6MWT distance, a 5.3% improvement ($p<0.001$) in KCCQ-12 scores, and a 39.5% decrease ($p < 0.001$) in NT-proBNP levels. Statistically significant improvements were observed in all sub-scales of SCHFI-CV ($p<0.05$) and SCSES ($p<0.001$), as well as in HADS scores ($p<0.005$). There were no deaths, heart transplant or durable ventricular assist device implant as primary outcome in this cohort during follow-up periods.

Conclusion: The MDCR program significantly enhanced exercise capacity, improved health related quality of life, self-management technique, and psychological well-being in our cohort of advanced HF patients.

ABSTRACTS

Category: CARDIAC REHABILITATION EXERCISE/SPORTS

Mr E Ian Siew
CR-000246

Abstract Title: Auxobrace: An Inflation-Based Wearable Brace for Targeted Post-Sternal Support

Aim: The project investigates the development of Auxobrace, a wearable rehabilitation device designed to improve recovery after open-heart surgery. While existing external chest supports offer general compression, they often lack adjustability, comfort, and patient adherence. Auxobrace aims to address this gap by exploring an inflation-based mechanism capable of applying controlled, targeted forces on the torso to stabilise the sternum, reduce pain, and enhance mobility.

Methods: We developed a series of inflatable cell architectures bonded from thermoplastic polyurethane (TPU) fabrics. The design leverages controlled inflation to modulate compression locally, allowing forces to be redistributed towards critical areas such as the sternum while maintaining comfort at surrounding regions. Prototypes were tested on mannequins equipped with force sensors to evaluate pressure distribution, followed by trials that will be conducted with healthy volunteers (n=20) to assess comfort, usability, and wearability during everyday movements (e.g., sitting, walking, bending, arm-raising).

Results: Preliminary mannequin tests indicated that the inflation-based system achieved more consistent force application compared to vacuum-based jamming (previous pneumatic concept), particularly around the sternum. Initial test on oneself (designer and also previous patient) suggested that the brace was comfortable for up to 60 minutes of wear, with reported benefits in perceived support and mobility. The modular inflatable design also enabled fine-tuned adjustments that existing chest binders cannot provide.

Conclusion: Auxobrace demonstrates the potential of inflation-based compression to deliver targeted, adaptable support for post-sternotomy care. By balancing stability with comfort, the device offers a promising pathway for improving rehabilitation outcomes and patient adherence. Future work will focus on clinical validation with postoperative patients and optimisation of the design and distribution of targeted pressure points and long-term wearability.

ABSTRACTS

Category: CARDIAC REHABILITATION EXERCISE/SPORTS

Dr Yi Vern Kwong
CR-000232

Abstract Title: Structured Cardiac Rehabilitation in Spontaneous Coronary Artery Dissection: Experience from an Institutional Registry

Aim: We describe the clinical characteristics, functional outcomes, and tolerability of supervised Phase II CR in patients with SCAD from our institutional registry.

Methods: Patients with SCAD diagnosed between 2019–2024 were identified from our registry. Demographic and clinical data, treatment modality, and left ventricular function were documented. Participation in CR was recorded, with functional assessment by six-minute walk test (6MWT), maximum heart rate (HR), and heart rate–walking speed index (HRWSI) before and after CR. Descriptive analyses were performed. Data is presented descriptively with table 1 summarizing individual patient descriptors.

Results: Of 11 patients in the registry all were female (mean age 44.9 years), 45% were referred to and completed CR (4 attended CR at our centre and 1 at another restructured hospital) (mean age of CR participants was 40.6 years). Two patients had undergone PCI prior to cardiac rehabilitation.

Of the 4 patients who participated in CR at our centre, all patients completed 12 out of 12 CR sessions. Baseline mean 6MWT distance was 438.5 m, improving to 469.75 m at programme completion. Mean Maximum HR achieved during CR was 91-110 bpm (table 1).

Baseline mean HRWSI was 1.11 (SD 0.32), with post-CR mean 1.12 (SD 0.29). Individual changes ranged from –0.08 to +0.17, with two patients showing a reduction. Overall, HRWSI remained stable, suggesting tolerable exercise capabilities without adverse haemodynamic responses.

Symptoms during CR sessions were common with chest discomfort in 3 patients, but all completed the programme without major adverse cardiovascular events.

Conclusion: CR was safe and feasible in SCAD patients, with modest improvements in functional capacity and high programme completion. Symptoms during CR were common but manageable. Modest improvements in functional capacity were observed. These findings highlight the importance of structured CR in SCAD, while underscoring the need for tailored protocols to address symptom burden and patient concerns.

ABSTRACTS

Category: CARDIAC REHABILITATION EXERCISE/SPORTS

Ms Rasyiqah Ahad
CR-000168

Abstract Title: Improving Cardiac Rehab Phase II Enrolment Rate in Gleneagles JPMC, Brunei Darussalam – 5 Year Study

Aim: Cardiac Rehabilitation (CR) Phase II program, also known as outpatient CR program, is an intervention that has widely shown beneficial health outcomes for patients who suffered from Acute Myocardial Infarction (AMI), who undergone cardiac procedures such as percutaneous coronary intervention (PCI), open-heart surgery, and those with cardiac chronic condition who would benefited from the program such as heart failure. Despite proven effectiveness, the program is still underutilised, as seen in Gleneagles JPMC cardiac centre where in 2017 – only about 30% of referred patients were successfully enrolled to the program.

This study aims to improve enrolment rate of patients referred to the CR Phase II program by up to 50% by 2022. Enrolment is defined as attending at least one initial session of the program.

Methods: A multidisciplinary team consisting of cardiologists, cardiac rehab nurses, physiotherapists and the hospital's management team was formed to review the current CR program. To analyse the root causes of the low enrolment rate, quality improvement tools such as the cause-and-effect analysis tool was used, and patient surveys were deployed to validate the identified root causes. Based on the root causes, the team together formulated solutions and conducted interactive Plan-Do-Study-Act (PDSA) cycles to test out the interventions.

Results: Key interventions implemented include: (1) the creation of a new workflow included in the CR outpatient program policy, (2) clearly defining eligible patients by applying inclusion and exclusion criteria, (3) automatic referral process for CR Phase II program from inpatient discharges, (4) sending appointment reminder messages with follow-up reminder if patient did not attend the first appointment, (5) improved data management of CR appointments through shared Excel spreadsheets, and (6) updated discharge leaflet for patients to improve the content in layman's terms. As a result, improvement in enrolment rate to CR Phase II program was observed. Average enrolment rate has improved from 30% in 2016-2017 to 57% in 2018-2022. We also observed improvement in average referral rate, from 30% in 2016-2017 to 73% in 2018-2022.

Conclusion: Implementation of interventions through evidence-based quality improvement methodology has resulted in improvement in enrolment rate to CR Phase II program.

ABSTRACTS

Category: CARDIAC REHABILITATION EXERCISE/SPORTS

Dr Reinata Digjaya
CR-000206

Abstract Title: Preoperative Handgrip Strength and Physical Activity Level: Do They Associate with Length of Stay After Coronary Artery Bypass Grafting Surgery?

Aim: Coronary artery bypass grafting (CABG) significantly reduces morbidity and mortality in patients with coronary artery disease. However, postoperative complications (POCs) can prolong hospital length of stay (LoS), increasing the burden on healthcare systems. Prior studies have suggested associations between physical activity level (PAL), handgrip strength (HGS), and POCs, and between POCs and LoS. However, direct relationships between PAL or HGS and LoS remain unclear. This study aimed to examine the associations between preoperative PAL and HGS with LoS in patients undergoing CABG.

Methods: A cross-sectional observational study was conducted using medical records of post-CABG patients at Dr. Hasan Sadikin General Hospital, Bandung, Indonesia. Preoperative PAL was assessed using the Global Physical Activity Questionnaire (GPAQ), and HGS was measured for both hands. Total sampling was applied, and data were analyzed using Spearman correlation and independent t-tests.

Results: No statistically significant correlations were found between LoS and right-hand HGS ($p = 0.537$), left-hand HGS ($p = 0.536$), or combined HGS ($p = 0.436$). Similarly, no significant association was observed between PAL and LoS ($p = 0.174$). However, a non-significant trend was noted where patients with higher preoperative PAL had shorter LoS.

Conclusion: Preoperative HGS and PAL were not significantly associated with postoperative LoS among CABG patients. Nevertheless, a trend toward shorter hospitalization in patients with higher physical activity suggests the need for further prospective studies to clarify potential prognostic value.

ABSTRACTS

Category: CARDIAC REHABILITATION EXERCISE/SPORTS

Ms Cherlene Nah
CR-000240

Abstract Title: Predictors of Functional Capacity Improvement After Cardiac Rehabilitation

Aim: The 6-minute walk test (6MWT) is a common measure of functional capacity after cardiac rehabilitation programme (CRP). However, improvement varies across patients. This study investigates the predictors of functional capacity improvement after cardiac rehabilitation.

Methods: A retrospective cohort study included patients with recent myocardial infarction who completed phase II CRP at Khoo Teck Puat Hospital between 2022 to 2024. The program consisted of supervised exercise with telemetry monitoring and the primary outcome is 6MWT distance improvement post-program. Potential predictors include age, sex, Diabetes Mellitus (DM) diagnosis, height, left ventricular ejection fraction (LVEF), number of sessions attended and pre-program 6MWT distance.

Results: A total of 353 patients were analysed (mean age 59.3±10.3 years, height 166.4±7.8 cm, LVEF 49.7±12.9%). The cohort was predominantly male (88.4%) and 34.3% had DM. Patients attended a mean of 7.4±1.3 sessions. Mean pre-program 6MWT distance was 404.5±84.4m, with an improvement of 64.2±54.1m post program.

Pearson correlation revealed a significant negative correlation between pre-program 6MWT distance and 6MWT improvement (r = -0.27, p<0.01).

Multiple linear regression with stepwise regression identified DM (β = −14.34, p=0.016), number of sessions (β = +4.50 per session, p=0.044), and height (β = +0.98, p=0.008) as significant predictors. Other factors were not statistically significant. This model explained 5.5% of outcome variance. In heart failure patients (LVEF<40%), an alternative model explained 9% of variance, and found session attendance (β = +8.47) strongly associated with improvement.

Conclusion: Patients without DM, taller individuals, and those attending more sessions achieved greater 6MWT improvements, particularly in the heart failure subgroup. Baseline functional capacity was inversely related to improvement. These results underscore the importance of programme adherence, physical characteristics and comorbidity burden in maximising CRP benefits.

ABSTRACTS

Category: CARDIAC REHABILITATION EXERCISE/SPORTS

Dr Muhammad Kashani Mohd Kamil
CR-000242

Abstract Title: Challenges Interpreting T-Wave Inversion in a Female Para-Cyclist with Cerebral Palsy: A Case Report

Aim:

Background: Para-cyclists with cerebral palsy (CP) present distinctive cardiovascular screening challenges. Electrocardiographic (ECG) T-wave inversion ≥1 mm in two contiguous leads is considered pathological, yet distinguishing this from training-induced remodeling is confounded by sex-specific ECG norms, endurance-related cardiac adaptations, and CP-associated autonomic dysfunction. Limited normative ECG data in female athletes and CP-related autonomic had complicated interpretation.

Aims: To determine the etiology of anterior T-wave inversions abnormalities in a 30-year-old female Paracyclist with cerebral palsy in order to inform medical clearance for return to competition.

Methods:

The patient was referred to the Sports Medicine Clinic, Universiti Malaya Medical Centre (UMMC) for evaluation of atypical chest discomfort and T-wave inversion in anterior leads (V1–V4). Comprehensive cardiovascular assessment was performed including detailed history, physical examination, Cardiopulmonary Exercise Testing (CPET), Dobutamine Stress Echocardiography, and Cardiac Magnetic Resonance Imaging (MRI) with perfusion. The case was referred to cardiologist for further evaluation and opinion.

Results:

Physical examination revealed a split second heart sound (S2) with no signs of heart failure. Family history was notable for early-onset heart disease in a sibling. Resting ECG showed average 2.5mm T-wave inversion at V1-V4. CPET demonstrated an oxygen pulse (O_2/HR) of 9.6mL/beat, slightly below normative values for females. Cardiac MRI with perfusion showed no structural abnormalities and no perfusion defects or fibrosis, but revealed a mildly reduced left and right ventricular ejection fractions of 43 % and 41 %, respectively. Dobutamine stress echocardiography showed appropriate augmentation of left ventricular function. No evidence of cardiomyopathy or ischemia was identified.

Conclusion:

In this female Para-cyclist with CP, anterior T-wave inversions likely reflect benign athletic remodeling modulated by CP-related autonomic influences. Further evaluation categorized her in low risk of cardiovascular diseases.

This case highlights a structured and multidisciplinary evaluation facilitates accurate risk stratification and allow safe athletic participation without unnecessary restrictions in competitive sport.

ABSTRACTS

Category: CARDIAC REHABILITATION EXERCISE/SPORTS

Ms Hannani Husna Binti Mohd Tajaharull
CR-000270

Abstract Title: Mapping Assessment Measures for Return to Work Among Coronary Heart Disease Patients: Protocol for a Scoping Review

Aim: This review aims to explore existing assessment measures of RTW in CHD patients, highlighting commonly used assessments and classifying each by measurement approach (direct versus indirect assessment).

Methods: This scoping review will use the Arksey and O'Malley framework and will follow PRISMA-ScR guidelines. The following four electronic databases: ProQuest, Scopus, Web of Science, and PubMed will be used to search relevant English language studies published from 1995 onward. A sample Boolean query will be: ("Coronary heart disease OR ischemic heart disease) AND (return-to-work OR work resumption) AND (assessment OR evaluation OR tools) AND factors". Rayyan AI will be used to screen title/abstract and full-text articles. Eligible studies are those that report RTW assessment during the off-work and work reintegration phase in patients with CHD. Two reviewers will independently read through the full text, and disagreements during the screening will be resolved through discussion and finding a consensus.

Results: The screening process and data synthesis will commence from June to August 2025, and the findings will be reported by September 2025. We will present a data-charting table summarising study characteristics, such as author, year, study design, country, study aim, methods, population, RTW rate and summary of findings. Plus, we will conduct a thematic analysis to identify and classify direct and indirect RTW measurement approaches.

Conclusion: This ongoing review will synthesise RTW assessment measures in CHD, particularly within the context of a cardiac rehabilitation program. The findings may help clinicians evaluate RTW efficacy and tailor rehabilitation to patients' occupational needs.

ABSTRACTS

Category: CARDIAC REHABILITATION EXERCISE/SPORTS

Ms Kai Lei Kassie Teh
CR-000183

Abstract Title: Reducing Wait Times in Outpatient Cardiac Rehabilitation Through Therapy Assistant-Led Exercise Classes

Aim: Cardiac rehabilitation (CR) is a multidisciplinary program proven to reduce mortality, hospital readmissions, and improve functional outcomes. Supervised exercise is a core component, with patients recommended to perform 150–300 minutes of moderate or 75–150 minutes of vigorous-intensity aerobic exercise weekly. At Tan Tock Seng Hospital, increased awareness and referrals to the outpatient CR clinic have led to a surge in demand, causing wait times for exercise classes to extend to 2-3 weeks—despite 9 weekly classes accommodating up to 7 patients each. Early supervision and timely access to exercise classes is vital to ensure exercise safety, compliance, and self-management.

The project aims to reduce wait times in CR and ensure timely access to exercise by optimizing resources through upskilling therapy assistants (TAs) to lead supervised CR exercise classes.

Methods: Commencing in September 2024, therapy assistants underwent a structured one-month training program comprising education, job shadowing, and competency assessments. TA-led classes were introduced twice weekly (Tuesdays and Thursdays), each lasting 1.5 hours for up to 3 patients. These sessions run in parallel with the one-on-one initial assessment slot conducted by the physiotherapist, maximizing rehabilitation gym use. Before each class, the physiotherapist will prescribe individualised exercise plans. The TA will lead the session, monitor patient performance and make minor adjustments, with physiotherapists available to oversee any significant modifications.

Results: The introduction of the TA-led classes added 6 exercise class slots weekly, reducing average wait times from 2-3 weeks to 1-1.5 weeks. Two TAs were successfully trained and reported increased empowerment and job satisfaction. The initiative improved scheduling flexibility and expanded service capacity.

Conclusion: Introduction of Therapy Assistant-led Exercise Classes has effectively reduced wait times and enhanced access to timely care. This model demonstrates a scalable strategy for addressing manpower demands while maintaining quality rehabilitation services.

ABSTRACTS

Category: CARDIAC REHABILITATION EXERCISE/SPORTS

Ms Hui An Koh
CR-000245

Abstract Title: Proposed Study: Effectiveness of Heart Rate Variability Biofeedback Training in Patients Undergoing Cardiac Rehabilitation (HRV CARE)

Aim: Heart Rate Variability (HRV) measures the variation in time between heartbeats, reflecting autonomic nervous system stress response. Lower HRV indices are associated with poorer cardiovascular health, prompting research into HRV biofeedback training for cardiac and emotional self-regulation. While Cardiac Rehabilitation Programmes (CRP) traditionally reduce recurrent cardiovascular events through improved health behaviors and fitness, there's potential to enhance outcomes by incorporating psychophysiological interventions like HRV biofeedback. This approach could empower patients in managing cardiac conditions both physically and psychologically. This multidisciplinary randomized controlled trial investigates the efficacy of integrating HRV biofeedback and stress management strategies into a local exercise-based CRP, examining its impact on cardiovascular clinical and non-clinical risk factors in patients with ischemic heart disease (IHD) or recent myocardial infarction (MI).

Methods: This study will recruit patients with IHD or MI from Ng Teng Fong General Hospital's eight-session CRP. The control group receives standard moderate-intensity exercise and stress management education materials for self-study. The intervention group undergoes additional HRV biofeedback training during each exercise session. The team proposes to investigate relationships between HRV, emotions, physical activity participation, 6-minute walk test results, and clinical outcomes like lipids and HbA1c. Questionnaires, cardiovascular fitness tests, and lab tests are administered at baseline, 6 months, and 1 year. HRV is measured at every session to monitor trends.

Results: As a primary outcome, the team hypothesize that HRV indices would increase across both groups but with greater improvement for the intervention group who receive additional HRV biofeedback.

Conclusion: If the proposed study can demonstrate a positive impact that HRV biofeedback training and stress management has on clinical and non-clinical outcomes, it will be recommended for psychophysiological therapy to be incorporated into CRP to enhance usual care. The inclusion of this component may further optimize clinical outcomes of patients with IHD or MI, than what exercise-based CRP may provide.

ABSTRACTS

Category: CARDIAC REHABILITATION EXERCISE/SPORTS

Dr Mohammad Afies Sjughiarto
CR-000122

Abstract Title: Functional Aerobic Capacity Gains Through Phase II Cardiac Rehabilitation in Coronary Artery Disease: A Study of Associated Factors

Aim: This study aimed to investigate the association of different physical activity statuses on functional aerobic capacity (FAC) and CRF categories, and to identify predictors of FAC in CAD patients.

Methods: This cross-sectional study included 104 CAD patients who underwent exercise stress testing. Participants were categorized into three groups: (1) those who completed phase II CR within 30 days, (2) those who engaged in regular exercise without formal CR, and (3) those who were physically inactive. FAC ratio (achieved METs vs. predicted METs) was used to classify patients into four CRF categories based on FAC thresholds (A: 130%). The Kruskal-Wallis test and quantile regression analyses were employed to assess the association between rehabilitation status, FAC, and relevant predictors.

Results: Rehabilitation status significantly associated FAC score (p=0.047). Compared to the physical inactivity group, those who completed phase II CR demonstrated significantly higher FAC (p=0.011). Physical inactivity exhibited the lowest FAC (mean 0.58) and were predominantly classified into CRF category A (poor). Phase II CR consistently demonstrated a positive association on FAC across all quantiles compared to physical inactivity with statistical significant at the 50th (coef=0.157, p=0.048) and 75th quantiles (coef=0.26, p=0.011). Residual ischemia demonstrated a significant negative association at the 50th and 75th quantiles on FAC score (coef -0.275, p=0.005 and coef -0.238, p=0.025, respectively).

Conclusion: Phase II CR was significantly associated with higher FAC scores, particularly in patients with moderate to high FAC. An individualized CR program, encompassing physical exercise and education, may assist patients with residual ischemia.

ABSTRACTS

Category: CARDIAC REHABILITATION EXERCISE/SPORTS

Dr Arnengsih Nazir
CR-000205

Abstract Title: Walking Towards Recovery: Functional Gains in Post-CABG Patients with Different Ejection Fractions

Aim: Coronary artery disease (CAD) from atherosclerotic plaque can cause myocardial ischemia and ventricular dysfunction. Patients may have normal or reduced ejection fraction (EF), both potentially lower cardiorespiratory fitness (CRF) as measured by the 6-minute walk test (6MWT) and predicted maximal oxygen uptake (VO2 max). Coronary artery bypass graft (CABG) restores myocardial perfusion, while Phase II cardiac rehabilitation (CR) promotes recovery. Limited studies have examined whether baseline EF affects 6MWT and VO2 max improvement after Phase II CR. This study aimed to describe and compare changes in 6MWT and predicted VO2 max in post-CABG patients with normal and reduced EF after Phase II CR, and assess these against minimal clinically important difference (MCID) thresholds.

Methods: A retrospective descriptive study of post-CABG patients completing Phase II CR at Dr. Hasan Sadikin Central General Hospital (October 2023–March 2024). Data included demographics, risk factors, EF classification, 6MWT, and predicted VO2 max (Nury method) before and after CR. Changes were categorized using MCID values (≥36.1 m for 6MWT; ≥1.0 ml/kg/min for VO2 max).

Results: Thirty patients met the inclusion criteria: 23 with normal EF and 7 with reduced EF. In the normal EF group, 6MWT improved from 358.6 m to 394.1 m (+35.5 m) and VO2 max from 12.91 to 14.59 ml/kg/min (+1.68). In the reduced EF group, 6MWT rose from 418.0 m to 493.4 m (+75.4 m) and VO2 max from 16.85 to 17.28 ml/kg/min (+0.43). Greater 6MWT gains in reduced EF may reflect lower baseline performance or adaptation differences. Normal EF showed proportionally greater VO2 max improvement. EF, baseline fitness, comorbidities, and CR duration may influence these changes.

Conclusion: Phase II CR produces meaningful improvements in functional capacity after CABG, irrespective of EF. These results support its broad use to enhance recovery, including in reduced EF.

ABSTRACTS

Category: CARDIAC REHABILITATION EXERCISE/SPORTS

Ms Shintia Surya Putri
CR-000227

Abstract Title: "210 Minutes a Week": A High-Volume Aerobic Exercise Prescription for a Complex Post-PCI Patient with Obesity and Hypertension

Aim: Obesity and hypertension significantly exacerbate cardiovascular risk in patients following percutaneous coronary intervention (PCI). Although cardiac rehabilitation (CR) plays a critical role in secondary prevention, the optimal dosing of aerobic exercise (AE), particularly in high-risk individuals, remains insufficiently addressed in clinical practice. Therefore, this study aims to evaluate the safety, feasibility, and effectiveness of a high-volume AE program (≥210 minutes/week) in improving cardiorespiratory fitness, functional outcomes, and body composition in a 54-year-old male patient post-PCI with obesity and hypertension.

Methods: The patient joined a six-week, phase II CR program combining hospital-based and home-based AE, totaling 210 minutes per week. Hospital sessions were conducted twice weekly using a treadmill at 40–60% of maximum heart rate (RPE 11–14), while home-based sessions five times a week consisted of moderate-intensity walking, guided by the talk test. The program was complemented by daily static stretching and personalized education on lifestyle, nutrition, and exercise adherence. Effectiveness was assessed before and after the program using measures of aerobic fitness (VO_2max, METs, 6-minute walk distance), physical activity level (IPAQ), spirometry, and detailed body composition analysis.

Results: Post-intervention, the patient showed marked improvement in VO_2max (17.72 to 20.18 mL/kg/min), METs (5.06 to 5.76), and 6-minute walk distance (+82 meters). The IPAQ score rose from 495 to 800 MET-min/week, reflecting a moderate physical activity level shift. Body composition improved: fat percentage decreased by 1.2%, visceral fat by 0.5%, and waist/hip circumference by 1–6 cm. Skeletal muscle mass increased slightly. Pulmonary function improved (FVC from 55% to 63%, FEV1 from 62% to 68%), indicating reduced respiratory restriction. The program was completed fully, without adverse events.

Conclusion: A structured 210-minute/week moderate-intensity AE program is safe, feasible, and effective in improving cardiorespiratory and metabolic outcomes in post-PCI patients with obesity and hypertension. High-volume CR protocols may offer superior benefits in complex cardiac cases.

ABSTRACTS

Category: CARDIAC REHABILITATION EXERCISE/SPORTS

Ms Faizah Jali
CR-000157

Abstract Title: Physiotherapy-Led Phase II Cardiac Rehabilitation in a Young NSTEMI Survivor with Triple Vessel Disease: UMMC Case Study

Aim: This case report underscores the critical role of physiotherapy in Phase II cardiac rehabilitation for a young survivor of non-ST elevation myocardial infarction (NSTEMI) with triple vessel disease. It highlights how targeted, evidence-based physiotherapy interventions not only restore functional capacity but also empower long-term behavioral change to mitigate future cardiovascular risk.

Methods: A 38 year old male with dyslipidemia presented with exertional chest discomfort and was diagnosed with NSTEMI and triple vessel disease (TVD). Following percutaneous coronary intervention (PCI) to the left anterior descending (LAD) and left circumflex (LCx) arteries, he was classified as low risk based on a baseline Modified Bruce Protocol stress test (12.9 METs). He enrolled in a six-session, physiotherapy-led Phase II cardiac rehabilitation program, which incorporated aerobic conditioning (using an upright bike, treadmill, and cross-trainer), progressive resistance training (with dumbbells and sandbags), and structured warm-up/cool-down routines. Exercise intensity was prescribed using the Karvonen method (60–85% target HR). Sessions included education on pacing strategies, safe exercise progression, and symptom monitoring.

Results: Following six sessions of Phase II cardiac rehabilitation, the patient demonstrated significant improvement in functional capacity. The 6-minute walk test (6MWT) distance increased from 475 m to 624 m (31.4% improvement), reaching 95.8% of the predicted distance, with stable vitals and no post-exercise symptoms. On the Modified Bruce protocol exercise stress test (EST), duration improved from 15:52 to 17:33 minutes, and peak workload increased from 12.90 to 13.40 METs. Termination was due to fatigue, and although isolated premature ventricular contractions (PVCs) were observed at peak, they resolved during recovery. Heart rate recovery remained consistent at 21 bpm. These findings indicate improved aerobic capacity, cardiac efficiency, and clinical stability. Functionally, the patient returned to work and driving, remained symptom-free while successfully adopting pacing strategies and lifestyle modifications.

Conclusion: Structured, physiotherapy-led cardiac rehabilitation played a pivotal role in restoring aerobic capacity, functional independence, and cardiovascular self-management in this young NSTEMI survivor. This case highlights the importance of physiotherapists as integral members of the cardiac rehabilitation team, delivering evidence-based exercise prescriptions and education to optimize recovery and reduce the risk of recurrence.

ABSTRACTS

Category: CARDIAC REHABILITATION EXERCISE/SPORTS

Mr Muhamad Aliff Abdul Latir
CR-000161

Abstract Title: Hybrid Endurance–Strength Training in Phase II Cardiac Rehabilitation: Multidisciplinary Consensus on Feasibility, Safety, and Implementation

Aim: To establish multidisciplinary expert consensus on the feasibility, safety, exercise prescription, outcome measures, and technology integration for the Hybrid Endurance–Strength Training (HybEST) protocol in Phase II CR.

Methods: A three-round modified Delphi study was conducted between July and September 2025. Twenty CR experts—including cardiologists, rehabilitation physicians, physiotherapists, sports scientists, and exercise physiologists—were invited. Consensus was defined as ≥ 75% agreement on a 7-point Likert scale. Round 1 comprised 72 structured statements across six thematic areas and open-ended questions.

Results: Sixteen experts (80% response rate) completed Round 1. Of 72 items, 62 (86.1%) achieved consensus. Key agreements included:

- Eligibility: Inclusion and exclusion criteria for enrolment.
- Safety: Mandatory pre-exercise screening with CPET or treadmill stress testing, plus ongoing clinical monitoring.
- Exercise Prescription: Endurance training 3–5 sessions/week, 20–40 minutes at 50–70% HRmax; strength training 2–3 sessions/week, 8–10 exercises, 1–3 sets of 10–15 repetitions at moderate intensity.
- Outcome Measures: Functional capacity (6MWT), muscle strength (HHD), body composition (bioimpedance), physical activity (IPAQ), quality of life (SF-36), and self-efficacy (SEE scale).
- Supervision, Monitoring, and Technology Integration: Real-time supervision during exercise, physiological monitoring during supervised and home-based sessions, and weekly remote follow-up via phone or digital platforms. Wearable devices (e.g., HR, SpO_2, activity trackers) were endorsed, with data used to guide clinical decisions. Training exercise professionals in technology use and tailoring tools to patient needs were also prioritized.

Four items, including some aspects of self-monitoring and specific technology features, did not reach consensus and will be re-evaluated in Round 2.

Conclusion: Round 1 established strong agreement on core eligibility criteria, safety protocols, training prescription, outcome measures, and technology integration for the HybEST protocol in Phase II CR, forming a foundation for refinement and future clinical validation.

ABSTRACTS

Category: CARDIOVASCULAR DISEASE PRIMARY PREVENTION/RISK STRATIFICATION/EPIDEMIOLOGY

Ms Christine Mei Leng Tioh
CDPP-000156

Abstract Title: Evaluating a Preventive Heart Health Programme for Perimenopausal Women – Empowering Sustainable Healthy Habits Through Behaviour Change Strategy

Aim: Post-menopausal women face increased cardiovascular risk, yet few tailored interventions address both menopausal symptoms and heart health. Lifestyle interventions like health coaching may support physical and emotional well-being during this transition, but evidence remains limited.

This study aimed to evaluate the impact of a health coaching intervention on menopausal symptoms, cardiovascular knowledge and risk, physical activity, self-efficacy, and quality of life in midlife women, and to explore perspectives on programme feasibility and acceptability.

Methods: A prospective mixed-methods study was conducted, and the sample size is N=60. Participants received individualised health coaching and completed self-reported questionnaires at three assessment timepoints, which includes the Menopause Rating Scale (MRS), Utian Quality of Life Scale (UQOL), Global Physical Activity Questionnaire (GPAQ), Cardiovascular Disease Knowledge, Attitudes and Practices (CVD-KAP-29), Self-Efficacy in Managing Chronic Disease Scale (SEMCD-6), and Atherosclerotic Cardiovascular Disease (ASCVD) Risk Score. Quantitative data were analysed using Wilcoxon signed-rank and Stuart-Maxwell tests.

Results: Significant improvements were observed in MRS somatic domain ($Z = 2.357$, $p = 0.018$) and psychological domains ($Z = 2.533$, $p = 0.011$), but not urogenital symptoms. In the UQOL, the health domain showed a significant increase ($Z = 2.868$, $p = 0.004$), while emotional, occupational, and sexual domains did not. GPAQ analysis revealed no significant changes in physical activity levels ($\chi^2 = 0.67$, $p = 0.414$). The mean score of the CVD-KAP at baseline is 37.64 (SD = 5.12), which increased to 38.99 (SD = 4.85) after 12 months. No significant change was observed in SEMCD-6 scores.

Conclusion: Health coaching led to meaningful improvements in menopausal symptoms and perceived health, supported by participants' positive feedback on personalised care. Although changes in physical activity and cardiovascular risk were modest, this approach shows promise. Integrating tailored coaching into routine care with stronger long-term support may boost its impact on women's health.

ABSTRACTS

Category: CARDIOVASCULAR DISEASE PRIMARY PREVENTION/RISK STRATIFICATION/EPIDEMIOLOGY

Dr Mery Natalia Hutapea
CDPP-000224

Abstract Title: Unveiling the Cardio-Kidney-Metabolic Axis in Acute Heart Failure: A Comparative Analysis of Diabetic and Non-Diabetic Patients

Aim: To compare the cardio-kidney-metabolic (CKM) profile—assessed through LVEF, serum creatinine, and A1C—between diabetic and non-diabetic acute heart failure (AHF) patients, and to examine the impact of glycemic control on cardiorenal function within the diabetic subgroup.

Methods: This retrospective cohort study included 104 patients admitted with AHF between January 2023 and December 2024, comprising 52 with type 2 diabetes mellitus (T2DM) and 52 without T2DM. Eligible patients were adults (≥18 years) hospitalized for acute decompensated heart failure or pulmonary edema, with available echocardiographic data. Exclusion criteria included patients on chronic dialysis or those with incomplete records. Clinical parameters collected upon admission included LVEF by echocardiography (Biplane Simpson), serum creatinine, and A1C. Statistical analyses involved intergroup comparisons and correlations within the diabetic subgroup.

Results: Patients with T2DM had significantly lower LVEF (37.3 ± 11.7% vs. 49.0 ± 9.3%) and higher serum creatinine (2.34 ± 1.35 mg/dL vs. 1.56 ± 0.82 mg/dL) compared to non-diabetics ($p = 0.0012$ and $p = 0.003$, respectively). Within the diabetic group, A1C showed a strong inverse correlation with LVEF ($r = -0.62$, $p = 0.0001$) and a strong positive correlation with creatinine ($r = 0.58$, $p = 0.0012$). Diabetic patients with poor glycemic control (A1C ≥ 6.5%) had significantly lower LVEF (32.1 ± 8.9%) and higher creatinine (2.37 ± 0.96 mg/dL) than those with good control (40.6 ± 9.7% and 1.58 ± 0.83 mg/dL; $p = 0.004$ and $p = 0.002$, respectively).

Conclusion: Type 2 diabetes mellitus (T2DM) aggravates cardiac and renal impairment in AHF, with poor glycemic control exerting an additive deleterious effect. A1C correlates strongly with LVEF and creatinine, highlighting its role as a metabolic and CKM burden marker. These findings highlight the potential of A1C-guided strategies to optimize management of diabetic patients with AHF, along with supporting the broader paradigm of CKM-focused prevention and rehabilitation.

ABSTRACTS

Category: CARDIOVASCULAR DISEASE PRIMARY PREVENTION/RISK STRATIFICATION/EPIDEMIOLOGY

Dr Jielin Yew
CDPP-000229

Abstract Title: Cost-Effectiveness of Universal Screening for Primary Aldosteronism (PA): A Curable Form of Hypertension

Aim:

PA is a treatable and potentially curable cause of hypertension. Despite increased cardiovascular risks in PA, less than 1% of hypertensive patients worldwide are screened.

Aim: To determine the cost-effectiveness of PA screening in patients with hypertension in Singapore.

Methods:

Using a base case of a hypertensive 40-year-old adult, the analysis was conducted from a healthcare system perspective. A cost-utility framework integrating a decision tree for diagnostic classification and treatment, and a Markov model to simulate the patient's lifetime health and cost outcomes was used. Four strategies were evaluated: screening 1% of high-risk tertiary care patients (current practice – Strategy 1), screening all high-risk tertiary care patients (Strategy 2), screening all high-risk primary care patients (Strategy 3) and universal screening of all hypertensive primary care patients (Strategy 4). Cost inputs were obtained from published sources and expert consultations with a willingness-to-pay threshold (WTP) of SGD $75,000/QALY.

Results:

Over a lifetime horizon, Strategy 4 provided the best decision against the criterion of cost-effectiveness. Patients accrued 7.17 QALYs at an incremental cost of SGD $6,798 with corresponding ICER of SGD $12,908/QALY gained and the highest net monetary benefit of SGD $509,978 compared to current practice. Strategy 4 remained cost-effective across all starting ages and time horizons, except at 10 years, where Strategy 3 was most efficient, yielding 4.25 QALYs/patient at an incremental cost of SGD $449 and ICER of SGD $9,706/QALY gained. Probabilistic sensitivity analysis indicated that Strategy 4 consistently had the highest probability (>75%) of being cost-effective at the WTP of SGD $75,000/QALY.

Conclusion:

Universal screening for PA in all hypertensive patients in primary care is a cost-effective long-term strategy. In healthcare systems with limited resources and shorter time outlook, screening of only patients at high-risk of PA may be preferred. These results support the implementation of universal screening for PA locally.

ABSTRACTS

Category: CARDIOVASCULAR DISEASE PRIMARY PREVENTION/RISK STRATIFICATION/EPIDEMIOLOGY

Mr Andi Muhammad Zharfan
CDPP-000268

Abstract Title: Short-Term Exposure of Fine Particulate Air Pollution and Ventricular Arrhythmia in High-Risk Patients: A Systematic Review and Meta-Analysis

Aim: This study aimed to assess published evidence to investigate the association between short-term exposure to fine particulate matter with the risk of VAs in high-risk patients.

Methods: PubMed, Web of Science, Embase, and CENTRAL databases were used to identify studies examining the short-term association between daily increases in fine particulate air pollutants [particulate matter with aerodynamic diameter ≤2.5 μm (PM2.5) or ≤10 μm (PM10)] and the incidence of ventricular arrhythmias recorded by ICDs. We included studies with exposure periods up to seven days (lag 0-7). Statistical heterogeneity was assessed using I^2 statistics and the Q-test. A random-effects model was used to pool the estimates, with results presented as odds ratios (OR) and 95% confidence intervals (CI) for VAs per 10 μg/m³ increase in PM2.5 and PM10 concentrations.

Results: Of 824 articles identified, ten studies from North America (USA and Canada) and Europe (Italy, UK, and Sweden) met the inclusion criteria. Pooled analysis demonstrated increased VA risk within 7 days for each 10 μg/m³ increment in PM2.5 [OR: 1.018 (95% CI: 1.001 to 1.036)] and PM10 [OR: 1.020 (95% CI: 1.004 to 1.035)]. Both associations were statistically significant.

Conclusion: Our results demonstrate that short-term exposure to fine particulate matter is associated with increased risk of ventricular arrhythmias in high-risk patients. Although our findings are not clinically significant, the risk increases substantially with higher air pollution levels, posing greater threats to populations living in highly polluted areas. These findings should alert clinicians to the significant role of air pollution and incorporate various preventive measures to reduce the risk of ventricular arrhythmia, especially during the highly polluted period.

ABSTRACTS

Category: CARDIOVASCULAR DISEASE PRIMARY PREVENTION/RISK STRATIFICATION/EPIDEMIOLOGY

A/Prof Amar Nagila
CDPP-000170

Abstract Title: Tumor Necrosis Factor-A Level in Essential Hypertensive Patients and Its Association with Cardiovascular Disease Risk Factors

Aim: Cardiovascular disease is one of the leading causes of death worldwide, and hypertension is a major contributor. About 95% of hypertension cases are classified as essential hypertension. More than half of the people with hypertension also have additional cardiovascular risk factors. Research has shown that the immune system, particularly through pro-inflammatory pathways, plays a key role in the development of hypertension. Tumor necrosis factor-alpha (TNF-α) is a pro-inflammatory cytokine that activates important cell signaling pathways in response to inflammation and injury. Elevated TNF-α levels are a strong predictor of future cardiovascular disease, and reducing these levels with medication can lower the risk of heart attack and stroke. The aim of this study was carried out to measure TNF-α levels in essential hypertensive patients and investigate its association with cardiovascular disease (CVD) risk factors.

Methods: This comparative cross-sectional study was conducted at Dhulikhel Hospital, Kavrepalanchok, Nepal. A total of 180 participants were enrolled, including 90 known cases of essential hypertension and 90 normotensive, apparently healthy individuals. Socio-demographic and anthropometric data were collected, and blood samples were taken to measure serum TNF-α, hsCRP, glucose and lipid profile. TNF-α levels were measured using the sandwich ELISA method, while glucose and lipid profiles were analyzed using standard biochemical methods.

Results: Essential hypertensive patients had significantly higher TNF-alpha levels than normotensive people ($p<0.001$). Significant association were seen between TNF-a and modifiable risk factors, like BMI, physical activity, and LDL. A significant correlation was noted between TNF-alpha levels and a number of known CVD risk factors, such as blood pressure, body mass index (BMI), and age. Additionally, TNF-a was substantially associated with the hypertensive patients' treatment status.

Conclusion: There is significant difference in TNF-a level between hypertensive and normotensive group. TNF-a and modifiable risk factors like physical activity, BMI and LDL level had significant association.

ABSTRACTS

Category: CARDIOVASCULAR DISEASE PRIMARY PREVENTION/RISK STRATIFICATION/EPIDEMIOLOGY

Dr Aaron KH Ho
CDPP-000233

Abstract Title: Real-World Assessment of Low-Density Lipoprotein Cholesterol Goal, Disease and Financial Burden Among Patients with ASCVD in Singapore

Aim: Cardiovascular disease (CVD) is a major cause of morbidity and mortality in Singapore, accounting for nearly one in three deaths. Elevated low-density lipoprotein cholesterol (LDL-C) is a key modifiable risk factor for atherosclerotic cardiovascular disease (ASCVD), and international guidelines recommend intensive LDL-C lowering. However, real-world data on LDL-C target attainment and its economic burden in Singapore are limited.

The aim of this study is to evaluate LDL-C goal attainment, treatment patterns, disease burden, and direct healthcare costs among patients with ASCVD in Singapore.

Methods: This was a retrospective observational cohort study of 300 consecutive post-myocardial infarction patients at the National University Hospital. Eligible patients had ASCVD, at least one year of follow-up, and ≥1 LDL-C measurement. Outcomes included attainment of guideline-recommended LDL-C targets (<2.6 mmol/L local, <1.8 mmol/L ESC/EAS, <1.4 mmol/L very high risk), lipid-lowering therapy use, major adverse cardiovascular events (MACE), healthcare resource utilisation, and direct costs.

Results: The mean age was 60.9 years; 82% were male. At one year, 80.7% achieved LDL-C <2.6 mmol/L, 47.3% achieved <1.8 mmol/L, and only 18.3% achieved <1.4 mmol/L. With regards to oral lipid lowering therapy, high-intensity statin use rose from 23.0% at baseline to 95.7% at discharge, while ezetimibe use increased modestly from 8.3% to 13.0%. LDL-C control was not significantly associated with MACE at one year. Healthcare utilisation was moderate, averaging 1.1 ED and hospitalisation readmissions, 3.2 outpatient visits, and an average total annualized cost of $1003 for statin therapy, emergency/hospital readmissions, and outpatient care.

Conclusion: In this real-world Singapore cohort, LDL-C goal attainment was suboptimal, especially at stringent thresholds, despite near-universal high-intensity statin use. These findings highlight the need for earlier adoption of combination therapies, systematic follow-up, and enhanced adherence strategies to reduce residual cardiovascular risk and associated healthcare costs.

ABSTRACTS

Category: CARDIOVASCULAR DISEASE PRIMARY PREVENTION/RISK STRATIFICATION/EPIDEMIOLOGY

Mr Conor Luck
CDPP-000160

Abstract Title: Understanding Providers' Perspectives on the Implementation of CHAMP in Polyclinics: A Qualitative Study of Barriers and Facilitators

Aim: CHAMP (CHronic diseAse Management Program) is an AI-based digital health intervention implemented at National University Polyclinics (NUP) to improve hypertension management and prevention for patients and providers. CHAMP consists of a patient-facing WhatsApp-based chatbot that promotes home blood pressure (BP) monitoring, a patient risk stratification system, and a clinician support system linked to electronic medical records (EMR). This study aimed to identify factors influencing the implementation of CHAMP in polyclinics from the perspectives of physicians, care managers and care coordinators.

Methods: We conducted semi-structured interviews with sixteen family physicians, four care managers and two care coordinators across seven polyclinics where CHAMP was implemented. Interviews were audio recorded and transcribed verbatim. Data were analysed deductively using two frameworks: the Consolidated Framework for Implementation Research and the Unified Theory of Acceptance and Use of Technology. Barriers and facilitators were extracted and mapped from the codes.

Results: All healthcare provider groups viewed the adaptability of CHAMP, its free-of-charge nature, its usefulness for patients, and the influence of polyclinic champions as key facilitators. Key barriers for all groups included the lack of evidence of CHAMP's clinical impact and the competition of CHAMP with other responsibilities. Aside from these, the perceived barriers and facilitators differed between physicians and care managers/care coordinators, with care managers/care coordinators viewing CHAMP and its implementation more favourably than physicians. Care managers and care coordinators expressed satisfaction with how CHAMP helped reduce their workload by facilitating the transfer of BP data into the EMR. However, physicians highlighted unclear guidelines for enrolment, additional burden of enrolment, and potential disruption of personal workflows.

Conclusion: Providers' perspectives highlight the promise and challenges of implementing digital tools for hypertension management and prevention. The differences in attitudes between physicians and other members of the care team illuminate the need for tailored strategies to support different roles during the implementation of CHAMP.

ABSTRACTS

Category: CARDIOVASCULAR DISEASE PRIMARY PREVENTION/RISK STRATIFICATION/EPIDEMIOLOGY

Dr Arthur Yong
CDPP-000244

Abstract Title: Validation of an Integrated Kiosk for Cardiometabolic Health Assessment in a Real-World Healthcare Set-Up

Aim: Routine capture of cardiovascular vitals and body composition in busy clinics is manpower-intensive and prone to human error. Automated kiosks may streamline workflows and standardise measurements. To validate the reliability and accuracy of an integrated cardiometabolic kiosk (Medi-Kiosk) for weight, height, BMI, systolic/diastolic blood pressure (SBP/DBP), pulse rate, protein mass, fat mass, body-fat percentage, and basal metabolic rate (BMR) against manual measurements and a reference bio-impedance device.

Methods: Prospective single-centre study at the National Heart Centre Singapore (Jul 2023–Jul 2025). Vitals were obtained manually and via kiosk in 168 outpatients; body composition was measured by kiosk and InBody 770 in 163. Reliability was quantified with intraclass correlation coefficients (ICC); agreement and bias were assessed with Passing–Bablok regression and Bland–Altman analyses.

Results: Reliability was excellent for weight, height, BMI, protein mass and BMR (ICC ≥0.92); good for pulse rate, fat mass and body-fat percentage (ICC 0.78–0.87); and moderate for blood pressure (SBP/DBP ICC 0.64–0.68). Bland–Altman plots showed tight agreement for most measures, with wider limits noted for blood pressure and adiposity indices. Passing–Bablok indicated near-unity slopes and minimal bias for most parameters.

Conclusion: In outpatient practice, the kiosk produced clinic-grade measurements for core vitals and body-composition metrics, supporting automated, standardised assessments. Because aging typically increases fat mass, reduces muscle mass, and lowers BMR, the kiosk's body-composition outputs can help flag patients at risk of sarcopenic obesity and frailty, enabling earlier intervention and longitudinal monitoring.

ABSTRACTS

Category: CARDIOVASCULAR DISEASE PRIMARY PREVENTION/RISK STRATIFICATION/EPIDEMIOLOGY

Asst Prof Rajesh Kumar Yadav
CDPP-000171

Abstract Title: Association Between Serum Tumor Necrosis Factor-α Level and Albuminuria in Patients with Type 2 Diabetes Mellitus

Aim: Type 2 diabetes mellitus (T2DM) accounts for about 95% of all diabetes cases. Diabetic nephropathy, its most common microvascular complication, is a major cause of morbidity and mortality. Tumor necrosis factor-alpha (TNF-α), a pro-inflammatory cytokine, contributes to its development by attracting immune cells, increasing vascular permeability, and promoting extracellular matrix production. The aims of this study was carried out to find the association between Serum Tumor Necrosis Factor -α level and albuminuria in patients with Type 2 Diabetes Mellitus.

Methods: This cross-sectional study was conducted at Dhulikhel Hospital, Kavre, Nepal. A total of 93 participants with a confirmed diagnosis of Type 2 Diabetes Mellitus were enrolled. Sociodemographic and anthropometric data were collected, and blood samples were analyzed for serum TNF-α, blood glucose, urea, creatinine, and HbA1c levels. TNF-α was measured using the sandwich ELISA method, while other biochemical parameters were assessed using standard clinical chemistry methods. Urinary microalbumin was measured by immunonephelometry, creatinine by the spectrophotometric method, and the albumin-to-creatinine ratio (ACR) was calculated.

Results: Among 93 individuals 54 were Normoalbuminuric, 28 Microalbuminuric, and 11 were Macroalbuminuric. TNF-α showed a weak positive correlation with ACR (Albumin Creatinine ratio) (r=0.102) but was not statistically significant. Serum TNF α was increased in the patient along with an increased level of Albumin creatinine ratio (ACR) levels. TNF α was not found to be significant with different degrees of albuminuria (p=0.41). TNF α level was positively correlated with age (r=0.088), BMI (r=0.114), Duration of Diabetes (r=0.071), FBS (r=0.079), PPBS(r=0.071), Urea (r=0.014), Creatinine (r=0.061) values.

Conclusion: There is a positive correlation between ACR and TNF α level (r= 0.102) but was not statistically significant in Type 2 DM patients. Although serum TNF α was not found to be significant with different degrees of albuminuria, the median values of serum TNF α were in increasing order along with different degrees of albuminuria. It can suggest that TNF α can participate in the progression of Diabetic Nephropathy.

ABSTRACTS

Category: CARDIOVASCULAR DISEASE PRIMARY PREVENTION/RISK STRATIFICATION/EPIDEMIOLOGY

Dr Jan Paula Dela Pena
CDPP-000093

Abstract Title: Cardiac Rehabilitation Knowledge, Awareness, and Practices Among Medical Practitioners in Manila Doctors Hospital

Aim: This study aims to assess the knowledge, attitudes, and practices of cardiologists, internal medicine, family medicine, cardiac surgery consultants, fellows, and residents regarding CR, as well as identify the CR referral trends at Manila Doctors Hospital (MDH) from January 2018 to October 2024.

Methods: A cross-sectional survey was conducted among selected physicians in MDH, wherein 99 responded, yielding a 61% response rate. The survey examined clinical factors that influence referral practices and incorporated a hypothetical case scenario to collect open-ended responses about physicians' management preferences.

Results: 91% of physicians indicated they would refer the hypothetical case to CR, though management practices varied. The primary factor influencing CR referral was perceived long-term benefits, followed by financial considerations (22%), patient profiles and medical histories (11%).

Conclusion: Despite positive CR attitudes, physician knowledge, referral systems, and patient finances hinder effective CR implementation.

ABSTRACTS

Category: CARDIOVASCULAR DISEASE PRIMARY PREVENTION/RISK STRATIFICATION/EPIDEMIOLOGY

Dr AA Ayu Dwi Adelia Yasmin
CDPP-000239

Abstract Title: The Impact of Obesity on Carotid Intima-Media Thickness Among Patients with Hypertension

Aim: The purpose of this study was to investigate the effect of obesity on increased vascular thickness which is indicated by increased Carotid Intima-Media Thickness (CIMT) among patients with hypertension.

Methods: A cross-sectional study was conducted on adult hypertensive patients treated at Cardiology Polyclinic in Prof Ngoerah General Hospital, Bali. CIMT was measured at the left and right common carotid artery using high-resolution B-mode ultrasound. Clinical characteristics and echocardiography measurements were also collected. We compared the average CIMT values between obese and non-obese patients considering that obesity is a comorbidity that is commonly found in hypertensive patients.

Results: This study included 82 hypertensive patients who were dominated by men (53.4%). The mean age of subjects was 57.5 years old. The average CIMT was significantly higher in subjects with central obesity (waist circumference ≥ 90 cm in men and ≥ 80 cm in women) compared to subjects without central obesity (0.77 ± 0.18 mm vs. 0.66 ± 0.19 mm, p=0.016). However, when using body mass index criteria (BMI ≥25 kg/m2), no significant differences were found in the obese group compared to the non-obese group (0.73 ± 0.19 mm vs. 0.67 ± 0.18 mm, p=0.109). A positive correlation was observed between BMI and CIMT (r = 0.25, p=0.025), and also between waist circumference and CIMT (r = 0.22, p=0.049).

Conclusion: Obesity is associated with increased carotid intima-media thickness in hypertensive patients, indicating greater subclinical atherosclerosis. Hence, weight reduction strategies should be prioritized as part of comprehensive cardiovascular disease prevention in this population.

ABSTRACTS

Category: DIGITAL HEALTH–ARTIFICIAL INTELLIGENCE IN CARDIAC REHABILITATION

Mr Zhe Hong
AI-000266

Abstract Title: Personalized Risk Evaluation and Secondary Vascular Event Prevention with a Genomics-AI Network (PREVENT-AGAIN)

Aim: The aim was to develop and validate a genomics-integrated machine learning model to predict recurrent cardiovascular events in post-myocardial infarction patients from a multi-ethnic Asian cohort.

Methods: The study included a subset of 619 patients who experienced at least one ACS event from the Singapore Coronary Artery Disease Genetics Study (SCADGENS) for model training. Of these 134 cases (21.7%) had recurrent ACS. The model was built by integrating a wide range of clinical, lifestyle, and genomic data, including PRS. The model's performance was evaluated by its Area Under the Curve (AUC), sensitivity, and specificity.

Results: The model demonstrated strong predictive performance with an AUC of 0.817. It achieved a sensitivity of 83% and a specificity of 71%. Key predictors included a combination of clinical, lifestyle, and genomic variables, highlighting the value of a comprehensive, integrated approach. The model is currently undergoing a clinical trial at Tan Tock Seng Hospital to identify patients at high risk of recurrent ACS so that stepped-up interventions can be implemented to reduce the risk of recurrence.

Conclusion: The PREVENT-AGAIN model successfully demonstrated strong performance in cardiovascular secondary prevention by integrating a broad array of clinical and genomic data. This approach provides precise risk stratification for diverse populations, offering a valuable tool for guiding personalized treatment strategies and enhancing patient care.

ABSTRACTS

Category: DIGITAL HEALTH–ARTIFICIAL INTELLIGENCE IN CARDIAC REHABILITATION

Mr Govind Mukundan
AI-000265

Abstract Title: Personalized Risk Evaluation and Secondary Vascular Event Prevention with a Genomics-AI Network (PREVENT-AGAIN) Using a Decision Tree Approach

Aim: The aim was to develop and validate a genomics-integrated machine learning model to predict recurrent cardiovascular events in post-myocardial infarction patients from a multi-ethnic Asian cohort.

Methods: A cohort of 619 patients who experienced at least one ACS event from the Singapore Coronary Artery Disease Genetics Study (SCADGENS) was used for model training. The model, based on a boosted decision tree approach, integrated a comprehensive panel of factors, including clinical data, lifestyle information, and PRS. The model's predictive performance was evaluated using standard metrics, including discriminative ability, sensitivity, and specificity.

Results: The model demonstrated strong predictive performance, with high discriminative ability (Area Under the Curve = 0.794). It achieved a high sensitivity of 80%, indicating its ability to accurately identify high-risk patients, and a high specificity of 78% for identifying low-risk individuals. The model's key predictors were identified through feature importance analysis, highlighting the value of a comprehensive, integrated approach. This model is currently undergoing a clinical trial at Tan Tock Seng Hospital to identify patients at high risk of recurrent ACS so that stepped-up interventions can be implemented to reduce the risk of recurrence.

Conclusion: The PREVENT-AGAIN decision tree model successfully demonstrated superior performance by integrating genomic and clinical data for cardiovascular secondary prevention. Its robust performance provides a basis for a clinical decision support system to accurately stratify risk in diverse populations and guide personalized treatment strategies, thereby enhancing patient care.

ABSTRACTS

Category: DIGITAL HEALTH–ARTIFICIAL INTELLIGENCE IN CARDIAC REHABILITATION

Ms Anis Asyikin Abdul Aziz

AI-000079

Abstract Title: MyHeartCoach in Action: Comparing Telerehabilitation and Conventional Cardiac Rehabilitation on Cardiovascular Health

Aim: Conventional center-based cardiac rehabilitation has been limited by geographical distance, transportation issues, and time limitations. Web application options present potential, although their efficacy and patient compliance are still uncertain. This study seeks to evaluate web-based telerehabilitation and traditional rehabilitation for cardiovascular responses, body composition, and vital signs in cardiac patients.

Methods: A prospective experiment involving 19 cardiac patients compared conventional cardiac rehabilitation (CBCR) with web-based cardiac rehabilitation (WBCR) for a duration of 8 weeks. Treatment outcomes encompassed VO_2peak, blood pressure, BMI, body fat, visceral fat, and resting heart rate.

Results: The research revealed no statistically significant difference in results between the CBCR and WBCR groups ($p > .05$). All patients exhibited a significant elevation in post-test Peak VO_2 relative to pre-test values ($p < .05$).

Conclusion: In conclusion, telerehabilitation exhibits an impact comparable to that of conventional cardiac rehabilitation in stable cardiac patients.

ABSTRACTS

Category: DIGITAL HEALTH–ARTIFICIAL INTELLIGENCE IN CARDIAC REHABILITATION

Dr Reijefki Irlastua
AI-000193

Abstract Title: Low-Cost Hybrid Cardiac Rehabilitation for Hypertrophic Obstructive Cardiomyopathy (HOCM) Post-Myomectomy: Functional Recovery & Return to Work – A Case Study

Aim: A 45-year-old active female with rare symptomatic HOCM Post-Myomectomy exhibited extreme functional impairment, with a baseline predicted metabolic equivalents (METs) 2,5. Due to geographical and socioeconomic barriers, including a 52 km distance to the hospital, a low-cost hybrid cardiac rehabilitation program was essential. This approach addressed the high travel costs of regular visits—estimated at approximately Rp 8,000,000 or $500 USD over two months for a chartered car—by providing over 80% transportation cost savings, thereby ensuring accessibility. The primary aim of this program was to evaluate the effectiveness of the low-cost hybrid model in improving functional capacity, ultimately facilitating her return to work.

Methods: Post-myomectomy baseline assessment (prior to CR): 6-minute walk test (6MWT) 162 m, predicted METs 2.5, VO_2max 8.81 mL/kg/min, Timed Up and Go (TUG) 18 s, New York Heart Association (NYHA) Class III. An 8-week hybrid CR program combined limited in-person sessions with tele-rehabilitation (WhatsApp video consultations, structured home exercises), supervised by local healthcare for safety. Functional outcomes (6MWT, TUG, predicted VO_2max, METs, NYHA class) were measured at baseline, week 4, and week 8.

Results: After 8 weeks, functional capacity improved: 6MWT from 162 m to 216 m; TUG from 18s to 11s; predicted VO_2max from 8.81 to 10.46 mL/kg/min; METs from 2.5 to 3.5; NYHA class improved from Class III to Class II. Dyspnea reduced, and the patient now performs household chores but has not yet returned to full-time work. No complications were reported.

Conclusion: A low-cost hybrid cardiac rehabilitation model improved functional status in this HOCM patient. This rare case highlights how targeted, home-resource-leveraged interventions, supported by local healthcare supervision, enabled meaningful recovery and potential return to productive activity. This program offers a cost-effective option for patients with access and financial barriers through hybrid rehabilitation.

ABSTRACTS

Category: DIGITAL HEALTH–ARTIFICIAL INTELLIGENCE IN CARDIAC REHABILITATION

Emily Ortega
AI-000285

Abstract Title: What Happens in Between Patient Visits? A Case Study of SelfBase as a Bridge to Enhancing Patient Post-Op Recovery

Aim: In cardiology, patient monitoring is often limited to clinic visits, leaving healthcare professionals dependent on self-reported information to assess exercise, sleep, stress, and medication adherence. This creates a gap in understanding patients' day-to-day health and recovery. To address this, Tech Doctor developed SelfBase, a cloud platform that integrates data from wearable devices, patient-reported outcomes, and clinical records to generate actionable insights and digital biomarkers. The platform collects real-time physiological data from devices such as Fitbit and applies proprietary algorithms to produce over 3,000 insights, including heart rate variability, heart rate recovery, sleep quality, physical activity, and breathing rate, all directly relevant to cardiovascular health.

Methods: One key application is post-operative recovery, where SelfBase tracks step count, heart rate, and sleep to provide an objective picture of recovery in elderly patients after surgery, helping clinicians deliver more tailored support. The platform can also detect and communicate potential risks through continuous biometric monitoring, while automatically recording lifestyle, symptoms, and treatment adherence on a timeline to support better collaboration between patients and physicians.

Results: In this presentation, we will share some of the uses of SelfBase in quantifying post-surgery recover and post-discharge recovery success.

Conclusion: By turning wearable data into clinically meaningful digital biomarkers, SelfBase gives cardiologists a more complete view of patient health between visits, enabling more precise monitoring, personalized care, and improved long-term outcomes.

ABSTRACTS

Category: POLICY AND STRATEGY/NURSING AND ALLIED HEALTH

Ms Christine Mei Leng Tioh

PS-000159

Abstract Title: Evaluating a Preventive Heart Health Programme for Perimenopausal Women – Empowering Sustainable Healthy Habits Through Behaviour Change Strategy

Aim:

Post-menopausal women face increased cardiovascular risk, yet few tailored interventions address both menopausal symptoms and heart health. Lifestyle interventions like health coaching may support physical and emotional well-being during this transition, but evidence remains limited.

This study aimed to evaluate the impact of a health coaching intervention on menopausal symptoms, cardiovascular knowledge and risk, physical activity, self-efficacy, and quality of life in midlife women, and to explore perspectives on programme feasibility and acceptability.

Methods:

A prospective mixed-methods study was conducted, and the sample size is N=60. Participants received individualised health coaching and completed self-reported questionnaires at three assessment timepoints, which includes the Menopause Rating Scale (MRS), Utian Quality of Life Scale (UQOL), Global Physical Activity Questionnaire (GPAQ), Cardiovascular Disease Knowledge, Attitudes and Practices (CVD-KAP-29), Self-Efficacy in Managing Chronic Disease Scale (SEMCD-6), and Atherosclerotic Cardiovascular Disease (ASCVD) Risk Score. Quantitative data were analysed using Wilcoxon signed-rank and Stuart-Maxwell tests.

Results:

Significant improvements were observed in MRS somatic domain ($Z = 2.357$, $p = 0.018$) and psychological domains ($Z = 2.533$, $p = 0.011$), but not urogenital symptoms. In the UQOL, the health domain showed a significant increase ($Z = 2.868$, $p = 0.004$), while emotional, occupational, and sexual domains did not. GPAQ analysis revealed no significant changes in physical activity levels ($\chi^2 = 0.67$, $p = 0.414$). The mean score of the CVD-KAP at baseline is 37.64 (SD = 5.12), which increased to 38.99 (SD = 4.85) after 12 months. No significant change was observed in SEMCD-6 scores.

Conclusion:

Health coaching led to meaningful improvements in menopausal symptoms and perceived health, supported by participants' positive feedback on personalised care. Although changes in physical activity and cardiovascular risk were modest, this approach shows promise. Integrating tailored coaching into routine care with stronger long-term support may boost its impact on women's health.

ABSTRACTS

Category: POLICY AND STRATEGY/NURSING AND ALLIED HEALTH

Dr Aditi Soman
PS-000062

Abstract Title: Assessment of Physical Activity Levels, Facilitators and Barriers of Physical Activity in Children Aged 8-14 Years After Surgery for Congenital Heart Disease, Post 6-9 Months – a Survey

Aim: To assess physical activity levels, facilitators, and barriers of physical activity levels in children aged 8-14 years after surgery for congenital heart disease, post 6-9 months.

Methods: The study employed a cross-sectional design with purposive sampling, recruiting 40 participants from a population of 6-9 months post-operative CHD patients. The PAQ-C questionnaire for older children and the face validated questionnaire for perceived facilitators and barriers of physical activity in children aged 8-14 were used in the study.

Results: The descriptive statistical analysis was done using Microsoft excel. 75% of children agreed that anxiety or fear related to physical activity acts as an emotional barrier, 65% of children expressed strong agreement that psychological stress or trauma associated with their heart condition, along with fear of failure or not fulfilling expectations, 62.5% of participants strongly agreed that their perception of physical limitations imposed by their heart condition discourages physical activity.

Conclusion: The children aged 8-14 years post-surgery for congenital heart disease exhibit moderate levels of physical activity. Key facilitators of physical activity include support from family and friends, availability of age-appropriate sports, participation with other children facing similar health challenges while barriers to physical activity include anxiety or fear related to physical activity, negative comments or lack of encouragement from healthcare professionals, low self-esteem or lack of confidence and physical pain or discomfort.

ABSTRACTS

Category: POLICY AND STRATEGY/NURSING AND ALLIED HEALTH

Asst Prof Yanhong Dong

PS-000169

Abstract Title: Digital Cognitive Training Intervention for High-Risk Adults with 3 Highs: Implementation and Early Insights

Aim: Middle-aged adults with "3 Highs", i.e., diabetes, hypertension, and/or hyperlipidemia face elevated cognitive decline risk. While multidomain interventions like the FINGER study show efficacy, evidence in non-Western populations is scarce. Despite high chronic disease prevalence in Singapore, cognitive prevention for this group is underemphasized. This study investigates clinical efficacy and implementation outcome of an adapted digital "Train-Your-Brain" (TYB) program delivered in the primary care setting for high-risk adults with 3 Highs.

Methods: 100 adults (aged 40-64) with relevant chronic conditions were recruited from Singapore polyclinics and randomized (early intervention vs. waitlist control). This study adopted a sequential multiple-assignment randomized trial (SMART) design. The group-based TYB program (8 weekly 1-hour digital sessions), previously piloted in MCI/stroke groups, was adapted for chronic conditions. It included psychoeducation on risk factors, cognitive strategies, lifestyle/mood management, goal-setting, and group discussions. The RE-AIM framework evaluated effectiveness (cognitive tests: MoCA, SDMT; clinical measures; questionnaires) and implementation outcomes. Stakeholder feedback (surveys, focus groups) using the COM-B model assessed suitability and sustainability.

Results: Participants' mean age was 57.2 years; 31% male. Despite mean baseline cognitive scores indicating normal cognition (MoCA=26.5; SDMT=51.0), significant risk factors were prevalent: 36% had a high Total Risk Score (≥3), 47% reported subjective cognitive complaints, and 41% screened positive for early impairment (AD8≥2). Clinical efficacy and implementation results are pending.

Conclusion: This study addresses the gap in implementation science for salutogenic cognitive programs in Asia. Baseline findings confirm middle-aged Singaporeans with chronic conditions are at high risk for future cognitive impairment. The adapted TYB program is hypothesized to improve cognition and psychosocial health. Implementation outcomes will determine the feasibility of disseminating TYB as a clinical service within Singapore's primary care polyclinics, providing critical evidence for scaling cognitive prevention strategies in this high-risk population.

ABSTRACTS

Category: POLICY AND STRATEGY/NURSING AND ALLIED HEALTH

Dr Dinithi Vidanage

PS-000218

Abstract Title: A Hidden Burden: Sedentary Lifestyle and Heart Disease Risk Among Garment Factory Workers in Colombo District, Sri Lanka

Aim: The present study aimed to assess the sedentary lifestyle behaviors and risk factors for heart diseases among a selected group of garment factory workers in Colombo, Sri Lanka.

Methods: A descriptive cross-sectional study was conducted with 320 participants recruited by convenient sampling method, from four garment factories in Colombo District, Sri Lanka. A pre-tested interviewer-administered questionnaire was used to obtain data after the ethical approval (RP/S/2023/50). A descriptive analysis (frequencies, percentages, mean±SD) and Pearson's correlation were conducted using SPSS 25.0.

Results: The mean age ± SD of the sample was 39 ± 12 years, with a majority being females (67.5%). The occupation categories included machine operators (62%), cutting helpers (21%), administrative supervisors (15%), security officers (1%), and drivers (1%). Around 9.1% reported hypertension, and 8.8% were on antihypertensives. The majority (90%) were not engaged in exercises and 54.7% were overweight/obese. The majority (89.1%) did not practice diet control, while 75.9% used to have junk food at least once/day. Mean working hours of the participants were 8.8±1.1hours. Prolonged sitting time of 7.19±1.5 hours was reported by machine operators, while 75% of the participants reported work-related stress and reduced sleep time (6.1±1.1hours). Sleep time was negatively correlated with age (p=0.014, r=-0.13) and the number of working hours (p=0.05, r=-0.10), while the systolic (p=0.000, r=0.27) and the diastolic blood pressure (p=0.002, r=0.17) were correlated with age.

Conclusion: The participants reported multiple lifestyle practices that are unfavorable for cardiac health. Thus, it is crucial to promote lifestyle modifications, including regular physical exercise, a healthy diet, weight management, and blood pressure control, to mitigate the risk of heart diseases in this vulnerable group.

ABSTRACTS

Category: POLICY AND STRATEGY/NURSING AND ALLIED HEALTH

Mrs Salma Alhebshi

PS-000230

Abstract Title: Adherence to Traditional Emirati Food and Health Perceptions Among Adults

Aim: The present study aimed to assess the sedentary lifestyle behaviors and risk factors for heart diseases among a selected group of garment factory workers in Colombo, Sri Lanka.

Methods: A cross-sectional online survey involving 439 participants assessed the frequency of traditional food consumption, health perceptions, and demographic variables. While 76% of participants rated traditional foods healthy, only 28% reported consuming them frequently. Adherence was notably higher among females and participants aged 35 and above. Emirati nationals consumed more protein-rich and fat-based traditional dishes than non-nationals.

Results: A culturally tailored food frequency questionnaire was developed, featuring 28 traditional Emirati food items categorized into six groups: grains and legumes (5 items), dairy and fermented dairy (6 items), fermented and dried fish/meats (4 items), fruits and vegetables (10 items), seeds (2 items), and local honey (1 item). Adherence levels for each group were calculated using recoded frequency scores, classified as low, medium, or high. Despite generally positive perceptions of the health benefits of traditional foods, overall adherence remained low. No significant correlation was found between adherence to Emirati food groups and BMI or meal-skipping behaviors. Adults who viewed traditional foods as healthy were more likely to eat them, but barriers such as unavailability and unfamiliarity often stood in the way.

Conclusion: These findings reveal a gap between what people perceive as healthy and what they eat. Reintroducing traditional foods through increased access, familiarization, and cultural celebration could help reconnect people with their food heritage while promoting more nutritious, more sustainable local food options.

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