The Cardiovascular Research Institute
On 16 February 2012, NUHCS participated in a groundbreaking meeting called the ‘Live in Interventional Cardiology in APAN (Asia-Pacific Advanced Network) 2012’, held in Chiang Mai, Thailand. This was a significant milestone as it marked the first time that the field of Interventional Cardiology leveraged on the APAN network as a means for broadcasting live cases.

Traditionally, satellite transmission was used for live transmission in major interventional cardiology meetings. While the audiovisual quality was top notch with virtually no lag time, the setup was laborious and cost can be prohibitive. APAN is a non-profit organization that provides the backbone network connecting the research and education networks of its Asia Pacific member countries and to other research networks around the world. Using existing high performance fiber-optic cable network of National University of Singapore, we could transmit live cine-angiographic pictures and simultaneously discuss in a ‘face-to-face’ manner with experts from three other centres, namely Japan Osaka University, Taiwan National University and Thailand Siriraj Hospital. The session was chaired by Dr Ikeno Fumiaki from Stanford University. This is yet another fine example of the synergy that NUHCS enjoys by being integrated with NUS in the current National University Health System (NUHS) setup.

With expert technical support provided by Mr Ebenezer Jessen from Advanced Surgery Training Center (ASTC) at National University Hospital, the setup was easy and the whole proceeding led by A/Prof Tan Huay Cheem went smoothly. During the 90-minute discussion, we studied a recorded case on retrograde technique in percutaneous coronary intervention of chronic total occlusion by Prof Shinsuke Nanto and A/Prof Satoru Sumitsuji from Osaka University; and two live cases on carotid and subclavian intervention by A/Prof Paul Kao from Taiwan National University. The session was both educational and stimulating. The audiovisual quality was reasonable and was available at virtually no cost. This opens up the door for further collaboration among academic centers and hospitals in the world.

We would like to thank Dr Christopher Khor (University Digestive Centre), Mr Ebenezer Jessen (ASTC) and A/Prof Davide Lomanto (Director, ASTC) for their support in making this transmission possible.

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It is the joy and pride of every researcher, to be able to share what they have been working on. Imagine my excitement, when I was given the opportunity to present at the annual post-graduate conference as well as the Asia Pacific evidence based medicine conference for doctors, nurses and healthcare workers.

My journey started in 2010 as I was introduced to A/Prof Carolyn at the start of my year three. Having zero clinical experience, but being so greatly intrigued by this four-chambered pump and acute medicine, I could hardly wait to start. Starting a project was definitely not easy, our first project met with some roadblocks but we learnt important lessons and found ourselves in this second project for which we were thankful to be given a chance to work on. We picked up many previous papers documenting significant differences amongst males and females presenting with Acute Coronary Syndromes in the western countries, and these significant differences were starting to gain some clinical ground in Singapore. Yet we were short of studies amongst Asia and Singapore documenting the same differences! At the same time, we found ourselves blessed by the extensive database collected over five years, in six different hospitals, and we had the help of statisticians to analyse our more than 15000-strong cohort.

Winning the SMA-Wong Hock Boon society best poster presentation was the icing on top of the cake, but the real prize—the ‘cake’ itself was the journey I embarked upon while undertaking this project. Behind that one day of presentation were many other hours spent reading papers, discussing, analyzing results that the statisticians so efficiently churned, and making a poster while going through rounds and rounds of edit. We were also tapping on a database, one that many doctors over six public hospitals worked hard over five years to painstakingly put together. Behind me of course, supporting my project, giving me all the much needed advice, input and help with figures were a group of professors, statisticians and doctors for which I am grateful towards.

At the end of the day, it was not the prize that made me really proud, it was simply the chance given to be able to talk about something so close to my heart, a chance for people to listen to my cause and a chance for me to speak for Asian women, and literally, their hearts. More recently, our findings were even presented to the public in a symposium for women’s heart health by Prof Carolyn and our study findings was featured in the press. That part, I think, was one of the most rewarding moments of my life. The journey has just begun - a paper’s on the way, the women’s heart health clinic is up and running, and I am more motivated than ever, to trudge on.
The 12-lead ECG was recorded in a 25-year-old man who presented with weakness in all his four limbs. What are the ECG abnormalities?

Answer in Page 8

Our heart centre recently treated a patient with atrial fibrillation using the Amplatz® Cardiac Plug (St Jude Medical Inc). This is an alternative device to the Watchman® device (Boston Scientific) which we have been using for the past two years. We were privileged to have Professor YY Lam from Hong Kong help us with this procedure.

This marks the first successful implant in Singapore and Southeast Asia. The availability of two treatment platforms in our centre allows more options for patients needing such therapies. Atrial fibrillation is an irregular heart rhythm that predisposes patients to stroke. Besides anticoagulation and surgery, left atrial appendage device closure is now offered to suitable patients as an alternative choice. This is especially important in patients experiencing difficulties with anticoagulation (such as those with high fall risks or bleeding risks).
NUHCS, IN COLLABORATION WITH NTU

develops new biodegradable septal defect occluders

A/Prof James Yip

NUHCS collaborated with NTU researchers Prof Freddy Boey and A/Prof Subbu Venkatraman from the School of Materials Science and Engineering and developed two new cardiac septal occluders. These can potentially help patients who suffer cryptogenic strokes made worse by a patent foramen ovale (PFO), a congenital defect found in 15% of people. Unlike existing cardiac plugs which are made of a nickel alloy called nitinol, these new cardiac plugs are made of bioabsorbable materials (polylactide-co-ε-caprolactone or PLC). It completely disappears from the body once it has done its job of sealing these congenital defects.

Two of these prototype designs, the double umbrella occluder and the chinese lantern occluder were tested in a Yorkshire swine model via percutaneous techniques from the femoral vein. It was shown to be effective in causing full closure of defects which were artificially created as early as one month after implantation. These new septal occluders do not leave any foreign material in the heart in the long term and potentially may not cause as much arrhythmias as the conventional occluders. These devices have been patented and work is in progress for human trials overseas.

References
The MitraClip mitral valve repair programme was launched recently on 21 February 2012. This is a new percutaneous valve repair system that allows selected patients with severe mitral valve regurgitation to be treated without having to undertake open heart surgery.

Patients referred are first reviewed by a dedicated team of imaging, heart function and structural interventionists and surgeons before performing this procedure. Pre-testing often involves a transesophageal echocardiogram (with 3D capability) to assess the valve in greater detail. The procedure is done under general anesthesia with TEE guidance. An access is made in the right femoral vein, after which, a steerable guiding catheter is placed across the atrial septum. A specialized clip delivery system allows a small clip to be positioned near the regurgitant jet. The system is repositionable.
and allows real-time assessment of the clip on cardiac hemodynamics. The clip is released only when significant reduction of mitral regurgitation is achieved. Patients stay for approximately three days after this procedure.

The initial training was done at the University of Virginia Heart Centre, which is one of the centres of excellence for this procedure in the United States. We were proctored by Dr Scott Lim, who like us, is trained in adult congenital heart disease but now performs mostly adult structural interventions. Our team consists of A/Prof James Yip, A/Prof Poh Kian Keong, Dr Raymond Wong, Dr Jimmy Hon, Dr Evelyn Lee, structural sonographer Ms Amy Koh, SN Jesuza and SN Brenda. Together, we successfully treated 8 patients during our launch.

I would like to thank the senior management of NUHCS, A/Prof Tan Huay Cheem and A/Prof Yeo Tiong Cheng for allowing us the opportunity to set up this programme. I would also like to thank my cardiology colleagues, in particular the NUHCS heart failure team, valve programme, A/Prof Ling Lieng Hsi and Dr Daniel Yeo (TTSH) for helping us select patients who were suitable, and Ms Li Geying, who helped in coordinating patient testing and procedure. A big thank you to cardiac operations, non-invasive department and CCU nurses who helped accommodate the programme’s demands. Special thanks goes to A/Prof Adrian Low, Sister Chua Clye Phing and all the interventionists and catheterization laboratory staff who made this possible.

Vscan, a smartphone-size imaging machine from GE Healthcare, is a new tool that allows physicians to carry ultrasound technology in their pockets. It is FDA-approved, and received the CE Mark from the European Union and the Medical Device License from Health Canada. Vscan is optimized for high-quality abdominal, urological, cardiac, obstetric and pediatric imaging. With the tool, clinicians can diagnose and treat patients faster, literally peering through the external body surface into internal organs in real time during clinic or bedside consults.

Cardiologists in particular can indeed move away from stethoscope-based diagnostic methodology to directly and accurately view myocardium, pericardium, and heart valves and aorta transthoracically in any examination room. Moreover, colour flow images can offer additional dimensions to valve diagnostics [Doppler ultrasound for the estimation of pressure gradients is not available at this time].

The user interface is intuitive; the device can be controlled using the thumb. In addition, there is an intelligent workflow enhancement. The battery upon fully charged can provide an hour of scanning time, or about 30 patients based on an average of two minutes per scan. To simplify data exportation and organization, Vscan can be linked via USB to a PC for information processing.

Vscan is extremely handy and somewhat essential in my Heart Failure and Cardiomyopathy Clinics, where I can image my patients with myriad pathologies literally during every visit for tracking of left ventricular functions, volumes, and extent of remodelling. I love the portability and ease of use of the Vscan when rounding in the Coronary Care Unit. I stop hazarding guesses about the ventricular and valvular functions in heart failure and hypotensive patients, gaining extra confidence in my management of complex cases in the process.

In conclusion, Vscan provides a mini-revolution to the ways cardiologists and physicians ‘look’ at patients’ heart.
Severe Hypokalaemia

The ECG shows sinus rhythm with a ventricular rate of about 62 beats per minute. The PR interval is normal. The QTU interval is prolonged to 0.6s. The most prominent finding are the very tall U waves (red arrows) in leads V2 to V5 (U wave in V3 = 4mm). The T waves appear blunted in leads V4 to V6 and they are inverted in leads V1 to V3 (blue stars). In lead V4, the U wave and the T wave are almost equal in height. In leads II, III and aVF, the U waves and the T waves have merged giving broad TU complexes. The above ECG abnormalities are highly suggestive of severe hypokalaemia. The patient’s muscle weakness was due to thyrotoxic periodic paralysis and his serum potassium at the time the ECG was recorded was 1.6 mmol/L.

The ECG is a useful tool for the diagnosis of hypokalaemia. As the serum potassium decreases, the U wave becomes progressively taller. On the other hand, the T wave behaves in an opposite fashion and becomes progressively flatter and may even become inverted when the hypokalaemia is very severe. In addition, ST segment depression and first and second degree (Wenckebach type) atrioventricular block may also be seen. It is possible to use the ECG to roughly estimate the degree of hypokalaemia. For example, if the U wave is taller than the T wave in the same lead, the serum potassium is usually lower than 2.7 mmol/L.
The outpatient pharmacy at NUH Main Building has been serving all patients, including cardiac patients all these years. The waiting time has increased over the months from November 2010 to March 2011 with an average waiting time of 37 minutes. Our target then was to serve 95% of our patients within 30 minutes and bring the average waiting time to less than 30 minutes.

One of our key initiatives, First Time Quality (FTQ) electronic prescribing (E-Rx) which enables pharmacy staff to pre-pack prescription before the arrival of our patients, was critical in shortening wait time. However, the percentage of doctors utilizing electronic prescribing has maintained at only about 15 percent over the past few years.

With the relocation of NUHCS and the establishment of the Pharmacy@Heart Clinics in April 2011, we conducted and have been tracking an improvement project for cardiac patients since February 2011. This project evaluates the pharmacy situation from all perspectives to streamline the work process, aiming to reduce the pharmacy waiting time for patients at the Heart Clinic. We aimed to achieve it by increasing the number of electronic prescriptions through educating our doctors and patients about electronic prescribing.

Our goals were achieved as E-Rx ordering rate significantly improved from 15% to 40%. The overall average E-Rx waiting time is now reduced from 20 mins to 7 mins. With the increase use of E-Rx, our doctors are now well versed in the prescription process, hence, less revisions are needed in the pharmacy. Patient feedback also shows that they prefer the E-Rx over the paper Rx.

Since the stabilization of our service in June 2011, we are happy to share that our doctors continue to achieve 40% prescribing rate and 98% of our heart clinic patients wait less than 20 minutes. We will monitor and continue to encourage doctors to use E-Rx for the benefits of our patients!

“Since the stabilization of our service in June 2011, we are happy to share that our doctors continue to achieve 40% prescribing rate and 98% of our heart clinic patients wait less than 20 minutes.”
The Go Red for Women Symposium is a collaboration between National University Heart Centre, Singapore and Singapore Heart Foundation. The topic for that Sunday’s afternoon was ‘Women, do you know what your top killer is?’ It is a common misconception that the answer is breast cancer. The truth is that it is heart disease and stroke, which claims the lives of eight times more women than breast cancer in Singapore. In fact, one in three Singaporean women dies from heart disease and stroke each year.

The aim of this symposium was to bring attention to women in Singapore that amidst caring for their family, they need to recognise and not ignore the signs and symptoms that women experience when heart disease hits them.

Using a comprehensive and holistic approach to teach the audience what they need to know and how to get there, we gathered five of our specialists who spoke during this symposium—a cardiologist, A/Prof Carolyn Lam; an advanced practice nurse, Ms Karen Koh; a senior dietician, Ms Liong Suet Mei; a senior physiotherapist, Ms Cammy Tsai and an occupational therapist, Ms Ngooi Bi Xia.

We were honoured to have Minster of State for Health Amy Khor grace the event, and she said “Mention heart disease and people imagine an older men…but the fact that heart disease affects women just as profoundly has been underemphasised.” She also noted that women’s risk increases after menopause.

During the symposium, the audience was treated to lively presentations by enthusiastic presenters. We also had a great audience who participated eagerly when asked to stand up and do simple stretching exercises they can practice at home. They were also treated to a meditation session to help them manage stress as the heart-mind connection is strong in women.

The afternoon was very well received, we received excellent feedback, it was in all, a tremendous success.
A five-year long study focusing specifically on heart failure in 5,000 patients across Asia Pacific, led by Prof Mark Richards and A/Prof Carolyn Lam of the National University Heart Centre, Singapore, is the first of its kind in the region. The study will gather and analyze data from 10 countries across Asia to look at sudden cardiac death in heart failure. With this data, representing a rich resource in understanding heart failure in Asian patients, doctors will be able to understand and identify the risks of sudden cardiac death. The long term goal is to improve survival in Asian patients with heart failure.

To achieve this, clinician researchers from 10 countries - Singapore, Hong Kong, Thailand, Korea, China, Indonesia, Malaysia, Philippines, India and Japan, team up to enrol their patients into a shared registry for the study. This is made possible by a S$5.5 million grant by Boston Scientific.

According to Western statistics, sudden cardiac death accounts for about 50 per cent of deaths in heart failure and that sudden cardiac death is a preventable cause of death by the implantation of a cardiac defibrillator. The World Health Organization has projected that the largest increases in cardiovascular disease worldwide are occurring in Asia. Yet, in Asian populations, the lack of knowledge of the epidemiology of sudden cardiac death and ignorance regarding the risk of sudden death associated with heart failure, may be depriving many Asian patients of potentially life-saving device therapy.

The previous local study on congestive heart failure among elderly patients, conducted from 1991 to 1998, showed that heart failure admission rose by more than 40 per cent over the last decade. A/Prof Carolyn Lam says “there is an urgent need to fill the knowledge gaps regarding the mortality burden of this disease, as well as understand the barriers that prevent quick and easy access to potentially life-saving devices.”
The CVRI is the recently created research limb of the NUHCS. It is a young Institute having been founded in October 2009 with the appointment of Professor Mark Richards as Director. Since its birth the CVRI has steadily grown in staffing and capacity. Its wet lab base comprises half of the 8th floor of the new Translational Medicine Building (MD6). CVRI took up residence there in October 2011 having been in temporary accommodation on A*STAR floor space in the Brenner building up to that point. Under the able management of Dr Liew Oi Wah, the laboratory now houses a total of 30 scientists, research assistants and students arranged in several teams, each dedicated to particular cardiovascular research projects.

Dr Liew Oi Wah has the role of general manager of the laboratory and leads with good humoured but eagle eyed style. Oi Wah has overseen the equipping and staffing of the laboratory since April 2010. She and her team achieved the coordinated shift into the new lab with military precision. Together with Ms Jenny Chong, they oversee the storage of biological samples (now numbering over 100,000) from the NUHCS Centre Grant cohort studies in heart failure, heart valve disease and emergency department acute presentation cohorts in addition to other sample sets. Along with their team of skilled research assistants, they also undertake development of new immunoassays for prospective cardiovascular biomarkers and coordinate assays of NUHCS samples and those of our growing numbers of research collaborators. Our research collaborators include local groups in paediatric nephrology, and the MACC (under Dr Chris Chen) as well as overseas investigators from as far afield as Hong Kong and New Zealand.

The lab has built up a portfolio of methods for potential application to many different cardiovascular research questions. In vitro cell culture is overseen by Dr YT Chen whose cultures of human cardiomyocytes, vascular smooth muscle cells and endothelial cells currently provide material to explore mechanisms in heart failure and in mitral valve disease.

Dr Eliana Martinez runs small animal models of heart disease including the rat coronary ligation model of myocardial infarction followed by adverse ventricular remodelling and heart failure. Currently this model is being used to explore the effects of H2S donating drug on cardiac injury and the role of microRNA changes in that process.

Dr Peipei Wang is an expert in conducting experiments on the isolated perfused heart and currently her team are focussed on behaviour of cardiac microRNAs and the effects of H2S donors and of the endogenous cardioprotective peptide Urocortin 2 in the setting of cardiac ischaemia–reperfusion injury.

Dr Wong Lee Lee coordinates our microRNA theme with input into the extraction of RNA and analysis of microRNA array data from in vitro, animal tissue and human clinical plasma samples. The lab’s research thrust into the role of microRNAs in acute and chronic cardiac injury is conducted in partnership with Prof Jeyaseelan’s group from Biochemistry.

The lab hosts clinical scientists Dr Mark Chan and Dr Chester Drum. Dr Chan pursues studies of platelet function and Dr Drum is hiring a team of research assistants and a post-doc researcher to attack an array of projects focussed on rapid reporting detection systems and tests aimed at a theragnostic approach to management of thrombosis.

We welcomed the arrival of Prof Dominique de Kleijn from Utrecht in June. Prof De Kleijn will be Deputy Director CVRI (Basic Science) and brings with him a wealth of experience in both large and small animal models of cardiac injury and a track record in researching the molecular pathology of cardiac injury and inflammation.

The team is growing, the pace is mounting and CVRI is poised to evolve from capacity building to a time when pilot studies have evolved into completion of full projects and the generation of publications and potentially translatable findings signal our “coming of age” to the global biomedical community.
Jessica Ng Yan Xia working in the Sample Processing Suite. Staff at CVRI are a happy lot.

Tissue culture specialist, Chng Yhee Cheng, setting up some cell-based assays.

Dr. Eliana Martinez (back) and research assistant Shera Lilyanna (front), working on animal models for cardiac injury, miRNAs and hydrogen sulphide donor drugs.

Dr. Wong Lee Lee (front) and a startled research assistant Lim Jia Yuen (back) extracting RNA for miRNA profiling studies.

Post-doctoral fellow Dr. Zhou Yue (left), research assistant Jason Low Kar Sheng (middle) and visiting scientist Dr. Wang Da Ying (right) analyzing samples on the Nanodrop spectrophotometer.

Laboratory head for CVRI’s tissue and blood sample repository, Jenny Chong Pek Ching, at her workstation.
This was an inaugural course on transcatheter aortic valve implantation in Asia. It was organised to help physicians and surgeons who were keen to set up TAVI in their own centre. Aside from Dr Jimmy Hon and myself (course directors), A/Prof James Yip, A/P Poh Kian Keong from NUHCS, we had the privilege of having Dr Lynette Teoh (Department of Diagnostic Imaging) to share her experience on using computed tomography to help with TAVI.

Participants from China, Thailand and the Philippines joined this 2-day workshop which consisted of didactic lectures on TAVI (this included the epidemiology and natural history of aortic stenosis, the tips and tricks on balloon aortic valvuloplasty, echocardiographic pearls in TAVI, research and clinical updates), hands-on training in vascular closure devices and balloon aortic valvuloplasty. It also included a wet laboratory session on cardiac and aortic valve anatomy. The in-depth discussion allowed participants to see how the various cardiac structures could be affected during TAVI. This workshop culminated in a tour of the Edwards Lifesciences facility, which allowed participants to understand how the transcatheter and surgical valves were fabricated.

The feedback from the participants was excellent and we look forward to conducting our next course in 2013.
7TH ASIAN CARDIOTHORACIC SURGERY SPECIALTY UPDATE COURSE

22 – 24 NOV 2012 NATIONAL UNIVERSITY HOSPITAL SINGAPORE

Building on the success of previous years, the 7th Asian Cardiothoracic Surgery Specialty Update Course will feature cutting-edge, evidence-based and clinically relevant information on present and future directions in contemporary cardiac and thoracic surgery.

Who will benefit from the course:
- cardiothoracic & vascular surgeons
- trainees
- nurses
- perfusionists
- cardiothoracic anaesthesiologists & intensivists
- interventional radiologists
- researchers
- allied health professionals

Our faculty includes outstanding trainers and speakers from Singapore, Thailand, Hong Kong, UK and Austria. Join us this November in Singapore for 3 days of first-class educational experience!

Visit our website www.acssuc2012.org for the latest course and registration updates!
National University Heart Centre, Singapore (NUHCS) organised another successful introductory course in interventional cardiology with hands-on training on vascular models and virtual-reality simulator on 14 and 15 April 2012. Held for the 7th time, the course has become a branded event in the region with overwhelming participation from local and overseas attendees such that the number has to be curtailed to ensure that participants derive maximal benefits from the intensive training. This year’s event attracted not only local participants but also doctors from Malaysia, China, Australia, Hong Kong, Malaysia, Philippines and Indonesia. The course not only attracted cardiologist fellows but also cardiothoracic and vascular surgeons and industry representatives who wish to learn about percutaneous coronary angioplasty.

The course provides comprehensive training in transfemoral and transradial access, right selection of catheters, tips and tricks of wire techniques and catheter intervention, on simulator models in classroom as well as in the actual invasive catheterisation laboratory. This year, there was the addition of basic intravascular ultrasound (IVUS) training for the attendees. For many, it is an exciting experience to be donning lead aprons, be exposed to real radiation in the catheterization laboratory and observing various radiation safety, and treading guidewires, balloons and stents into coronary heart model under fluoroscopic guidance. The faculties had a wonderful time interacting with the attendees with many expressing their interest to pursue full-fledged interventional cardiology fellowship at NUHCS.
The humble electrocardiogram (ECG) was first described in 1902 by Willem Einthoven using a string galvanometer comprising a fine quartz string coated in silver, with the tracing recorded on a photographic plate. An early commercial version of the ECG required the subject to immerse his limbs in containers of salt solution rather than the small adhesive electrodes of modern times to allow recording of electrical signals across the heart.

Today, more than a hundred years later, this somewhat archaic technology still retains relevance. The ECG is used in Emergency rooms, wards and clinics all over the world to diagnose emergencies like acute myocardial infarction (heart attack), arrhythmias (heart rhythm abnormalities), structural heart abnormalities, and even electrolyte imbalances. This feat is made even more impressive considering the pace of technological advancement in this current day and age, which sees new inventions becoming obsolete in a matter of a few short years.

The beauty of the ECG lies in its simplicity – it is merely a recording of minute electrical voltage changes over time across the chest, reflecting conduction within the heart. There are no fancy graphics, animations or complicated calculations or algorithms. Yet it is this same simplicity that is also its bane.

To the trained eye, these plain squiggly lines provide vital clues to events occurring within the heart, and allow for the diagnosis of myriad conditions. To the uninitiated, these same lines are regarded with fear and mystery.

It was with this purpose of “debunking” the mystery surrounding the ECG that Dr Seow Swee Chong and Prof Chia Boon Lock embarked on a symposium held on 7 April 2012, catering to family physicians (GPs) as part of NUHCS’ ongoing contribution to professional and public education.

Dr Seow is a Cardiac Electrophysiologist while Prof Chia is an Emeritus Professor and a well-known stalwart in medical education.

Through a series of lectures over the afternoon, the speakers introduced basic concepts and explained the principles behind the derivation of the ECG, including the physiological mechanisms that result in the final tracing seen. Armed with an understanding of why these voltage changes occur and what they mean, the listener would feel more confident when approaching the ECG and be able to extrapolate from it.

A total of 68 GPs attended the symposium, which saw important and common ECG patterns and medical conditions being discussed. Numerous real life examples were presented to allow the listeners to recognise minor variations in presentation of similar conditions. More importantly, the participants were guided on how to make logical sense of these tracings and recognize important patterns pertinent to daily medical practice.
Hippocrates once said that ‘Healing is a matter of time, but it is sometimes also a matter of opportunity’. NUHCS was presented with an opportunity to partner with the Singapore Chinese Orchestra and our local pop icon Dick Lee to host a charity fund raising concert in celebration of the Return of the Mad Chinaman. This fund raising event comes at a crucial time for NUHCS as it spearheads life-saving cutting edge treatments for our needy patients and supports these patients through The Heart Fund. It was a tremendous opportunity to work alongside a unique partnership that infused east-west melodies and the result was something that took many by surprise. For the majority of us who aren’t regular cultural aficionados of Chinese classical music, the stirring accompaniment of the erhu, suona and sheng blended with the electric guitar, piano and drum set might seem odd, but the luxuriant arrangement done by Dick Lee suited his melodies perfectly like a snugly fitted drug eluting stent embedded in a stenosed coronary vessel.

The soft soothing lighting that bounced off the wooden panels contrasted and accentuated the bright red sharply tailored suit that Dick Lee wore during the first half of his performance. This was an intimate and sentimental journey of Dick Lee’s alter ego,
the mad chinaman’s early foray into the pop scene in 1989 and his first commercially successful album, the mad chinaman, which incidentally was fashioned not out of psychosis but out of sheer rage that emerged out of the tragic events in Tiananmen Square during that year. But unbeknown to many of us non-diehard fans of Dick’s early compositions, was his talent to write Cantonese pop hits for the likes of Leslie Cheung, Sandy Lam and Jacky Cheung. He indulged the captivated audience with his Cantonese rendition (in perfect Cantonese intonation) of his composition of Jui (The search of my life). Not bad from a Peranakan boy whose early knowledge of Cantonese was the scolding he received from his mom. The first half was a whimsical soiree of songs across Asia and appealed to the discerning oldies lovers with songs such as Sukiyaki and Bengawan Solo. Dick also introduced his guest vocalist Ms Tay Kewei who crooned effortlessly alongside the grand piano with songs from his Hong Kong repertoire such as ‘Lover’s tears’ and ‘Traces of Love’.

The second half started rapturously with a quick outfit change from Dick in a dapper suit and set pieces which included songs from his musicals such as ‘Forbidden City’ and the evergreen ‘Beauty World’. However Ms Alemay Fernandez nearly upstaged Dick with her powerful and goose bump inducing crescendo when she belted out ‘When all the tears have dried’. It left the audience bereft. She was rewarded with a thunderous applause and Dick’s admission that this was the Alemay Fernandez moment.

The encore was a deferential poke at the government as being ‘evil’ in making everyone sing one of his National Day compositions ‘Home’, which to date is still one of his proudest pieces. It encapsulates his feelings and what Singapore means to him as ‘this is home truly, where I know I must be’. By this time, the audiences were clamoring for more and it was left to Dick to perform solo with his final encore and his toe tapping ‘你你我我’ which translates to you and me. It was a fitting tuneful melody which left everyone with a happy melody as they made their way home.

The evening was a great success with a respectful sum of S$220,000 raised by the end of it thanks to the generosity of many donors who came forward in support of the NUHCS Heart fund to heal our patients. NUHCS owes its debt of gratitude to the Singapore Chinese Orchestra and Dick Lee for allowing us to partner with them for this worthy cause.
happenings

A/Prof Carolyn Lam, Cardiologist, NUHCS & Ms Liong Suet Mei, Snr Dietitian, NUH
Guest speakers at SPH March to Health & Wellness Forum – 3 March 2012

A/Prof Adrian Low
Featured on Medscape Education
Cardiology: The Complex Case of …
Which is the Culprit Lesion? CME
www.medscape.org/viewarticle/759428
8 March 2012

Cardiac Dept Secretaries’ Lunch
CTS Retreat – Update on Complex Coronary Surgery – 7 April 2012

A/Prof Tan Huay Cheem appeared on Daniel Martin radio show, Radio 938 – 5 June 2012

A/Prof Tan Huay Cheem
Professional round in Kunshan City First Hospital
Awards

AAMS Best Publication Award - GOLD
Risk Factors and Clinical Outcomes for Contrast-induced Nephropathy After Percutaneous Coronary Intervention in Patients with Normal Serum Creatinine.
Dr Eric Chong, A/Prof Poh Kian Keong, Dr Shen Liang, A/Prof Tan Huay Cheem

Clinician Scientist Award (CSA)
Dr Chester Drum

Singapore Medical Association-Wong Hock Boon(SMA-WHB) Best Poster Award, February 2012
Sex Differences in Acute Coronary Syndrome Among Asians: A Nationwide Study.
Yong Loo Lin School of Medicine Annual Graduate Scientific Congress.
Soh Harn Wei Crystal, Chen Qifeng, Sim Ling Ling, Gao Fei, Dr Peter Chang, Dr Mark Chan, A/Prof Tan Huay Cheem, A/Prof Yeo Tiong Cheng, Dr Edgar Tay, A/Prof David Foo, Dr Goh Ping Ping, Dr Fazlur Jaufeerally, Dr Eric Chong, A/Prof Koh Tian Hai, A/Prof Terrance Chua, A/Prof Carolyn Lam

FY 2012 MOH Healthcare Quality Improvement & Innovation (HQI2) Fund Award
Blood transfusion in CABG surgery patients: strategies to reduce the use of blood products in a tertiary cardiothoracic unit.
Dr Kristine Teoh

Conferment of Visiting Professorship by HeBei University Affiliated Cangzhou Central Hospital
A/Prof Tan Huay Cheem was conferred Visiting Professorship on the 15 Mar 2012 by HeBei University Affiliated Cangzhou Central Hospital. This is the 6th Professorship title that he has received from many Chinese universities and their affiliated hospitals.

Values in Action Award
Junainah Bte Ahmad Usari
Heart Clinic @ L1
Lee Ai Lin
Heart Clinic @ L1
Tan Lay Ping, Wendy
Heart Clinic @ L1
Sahara Binte Sam
Heart Clinic @ L1
De Castro Maridel Labios
Diagnostic Cardiology

The Royal College of Surgeons of Edinburgh (RCSEd) International Medal
Prof Lee Chuen Neng was awarded The Royal College of Surgeons of Edinburgh (RCSEd) International Medal in recognition of his achievements and contributions as a leading international cardiothoracic surgeon. Professor Lee received this honour at a diploma ceremony held on Friday, 29 June 2012 in the 500-year-old College.
Stars @ NUH

Winning the Values-In-Action Award

Chua Li Hoon

My mind drew an instant blank when I learnt that I had been awarded the VIA award. Seconds later, a sense of accomplishment filled my heart as it dawned on me that my efforts were recognised and appreciated.

I have been a Clinic Coordinator in Heart Clinics, National University Heart Centre, Singapore (NUHCS) since March 2010. My job is to ensure smooth operations, preserve and enhance customer satisfaction within the clinic to ensure that every patient has the best possible experience.

In our line of work, my team and I face a host of different individuals who walk through the doors as heart patients in various degrees of discomfort, anxiety and pain. While these patients wait anxiously for their diagnosis, it is important that they feel care, concern and empathy showered upon them. This is exactly what my team aims to achieve as our overall objective. Through TEAMWORK, each of us works and collaborates in our various roles and functions to ensure that the operations within the Heart Clinics are smooth and seamless. RESPECT is not only rendered to each other within the team, but it also flows both upward and downward between management and ground crew. This provides a solid foundation and maintains a high level of INTEGRITY on the team structure and dynamics. As much as we put ourselves in each other’s shoes, we would also consistently place ourselves in the shoes of our patients, strive to understand their pain and provide the care that they need and crave for with our COMPASSION.

Through these key values, we believe in striving for EXCELLENCE in the things that we do. We believe in TRICE.

This award has shown me that NUHCS is a place where good work is appreciated and recognition given. This is especially rewarding given the highly intensive, patient-centred environment that both my team and myself faced within NUHCS as part of our everyday work. I would strongly encourage the team in NUHCS to not be discouraged by the various forms of pressure. We should stay strong in light of these adversities, fall back on our core team spirits and work together to manage the expectations of our patients. I believe that as long as we strive to practice and incorporate the core values of TRICE in our work, we will emerge stronger and better. Do not be discouraged. Do not fall. Help each other so that we will win the race.

“...The VIA award recognizes NUHS staff for their display of TRICE values in their daily work. The TRICE values comprises of Teamwork, Respect, Integrity, Compassion and Excellence. Staff are nominated and then judged by an independent panel based on the consistency of their behavior, how they perform above their call of duty and their positive influence on their team and environment.

Congratulations to Ms Chua Li Hoon, Clinic Coordinator of Heart Clinics, NUHCS who was awarded the top three VIA award!


18. Cardiol Res Pract. 2012;2012:240497. Myocardial restoration: is it the cell or the architecture or both? Vu DT, Kofidis T.


### Abstracts

**Asia Pacific Congress of Heart Failure, Chiang Mai, February 2012**


**International Congress of Cardiology, Hong Kong, 24-26 February 2012**

1. Left ventricular diastolic function and left atrial remodelling in low-flow aortic stenosis with preserved ejection fraction versus normal-flow aortic stenosis. – Soo WM, Ling LH, Chan MY, Loh JP, Poh KK.

**10th Asia Pacific Evidence-based Medicine & Nursing Workshop & Conference, Singapore, February 2012**


**8th International Congress of Update in Cardiology and Cardiovascular Surgery, Antalya, Turkey, 1 – 4 March 2012**


**Heart Rhythm Society 2012, Boston, USA, 9 – 12 May 2012**

1. Increased carotid intima-media thickness and arterial stiffness are more strongly associated with lone atrial fibrillation than with common atrial fibrillation. – LinYC, Sum KK, Gong L, Foo CD, Wong RC, Seow SC, Ling LH.

**11th Euro-ELSO Congress, Rome, Italy, 11 – 13 May 2012**

1. Meeting increasing demands: ECLS nurse specialist training, credentialing and education. – Johansen A, Best D, MacLaren G.

2. Role of ECMO in the management of biventricular heart failure from infective endocarditis. – Singh H, Lopez C, MacLaren G, Caleb M.
1. Increased baseline left ventricular mass and volume as well as subclinical systolic dysfunction predict subsequent deterioration in left ventricular ejection fraction in patients with aortic stenosis – Lee GK, Soo WM, Ruan W, Chong E, Tay E, Poh KK.

2. Predictors of worsening left ventricular hypertrophy in patients with aortic stenosis – Lee GK, Soo WM, Ruan W, Chong E, Tay E, Poh KK.
new doctor on board

Dr Kang Giap Swee
Registrar to Associate Consultant, Dept of CTVS

upcoming events

Cardiology GP CME – Update on Atrial Fibrillation Management
4 August 2012, 2:00pm – 4:00pm
NUHS Tower Block, Level 10, Seminar Room T10-03/04

World Heart Day Run
15 September 2012
Details will be available on www.nuhcs.com.sg

7th Asian Cardiothoracic Surgery Specialty Update Course
22 – 24 November 2012,
NUHS Tower Block Auditorium
http://www.acssuc2012.org