



Featured Doctors of the Month



Dr Wong Weng Kin
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Dr Wong is an Interventional Nephrologist. He completed a one year fellowship training in vascular access Intervention at the Chang Gung Memorial Hospital, Taiwan. Currently, he runs a weekly Diagnostic and Interventional Nephrology (DIN) Clinic to manage haemodialysis patients with vascular access dysfunction. He also performs tunneled haemodialysis catheter insertion, ultrasound assessment of vascular access and various vascular access endovascular interventions.

Transforming Care from Internal Medicine to Interventional Medicine: Use of Stent Graft In Vascular Access

Importance of vascular access for haemodialysis

Vascular access is essential to survival for all end-stage renal disease (ESRD) patients on haemodialysis (HD). However, only limited vascular access options are available on any one patient.

Pathophysiology of vascular access failure

The pathophysiology of vascular access stenosis is a combination of patient factors (e.g. integrity of vessels prior to surgery), surgical factors (e.g. response of the anastomosis and access to surgical stretching and angulations) and dialysis factors (e.g. inflammatory and coagulation response to repeated needling, turbulence access flow and low and/or oscillatory shear stress on and off dialysis). Expression of cytokines and growth factors due to repeated cannulation stimulates neointimal hyperplasia, the pathological lesion in AVF and AVG stenosis.

Management of vascular access stenosis

The standard management of vascular access stenosis is percutaneous transluminal angioplasty (PTA). Surgical revision is often warranted if endovascular therapy fails. However, the 1-year primary and secondary post-PTA patency for AVF stenosis remains poor at 26 to 64% and 81 to 86%, respectively. New devices such as stent-graft (covered stent) and drug coated balloon are under extensive studies in the hope for prolonging access patency.

Common indications for stent grafts use in vascular access

Stent graft combines the features of a stent with the features of a segment of graft material, either PTFE or Dacron. It has been studied and used to treat vein-graft anastomosis stenosis, cephalic arch stenosis, central vein stenosis and PTA-induced vascular rupture.

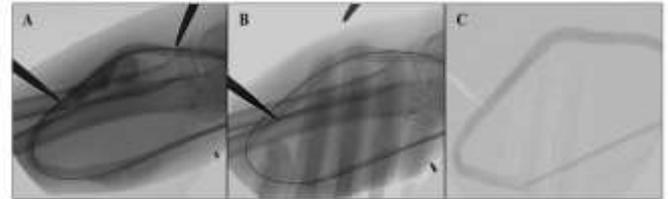


Figure 1: A. Stent graft was introduced to cover the pseudoaneurysms via 0.035" hydrophilic guide wire (before deployment). B. Stent graft was deployed with manual external compression of pseudoaneurysms. C. Final angiography (after stent graft deployment and balloon dilatation) revealed no endoleak.



Figure 2: CT angiography 3D reconstruction of an AVG, seven months after stent graft repair of a venous puncture site pseudoaneurysm. The arrow indicates the site of needle cannulation for HD.



Dr Sophia Archuleta
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Programme Director, Infectious Diseases Senior Residency Program, National University Health System

Dr. Sophia Archuleta is a Senior Consultant in Infectious Diseases and heads the HIV Programme at the National University Hospital. She is also a clinician educator and serves as Programme Director of the National University Health System ID Senior Residency Programme. Her clinical expertise, and primary interest, is in the care of people living with HIV and its associated conditions.

HIV in Singapore

In Singapore, a cumulative total of 7,140 HIV-infected residents have been reported as of end 2015. Although Singapore is considered to have a low level HIV epidemic, the annual number of newly-diagnosed HIV cases has remained steady at ~450 per year since 2008 with no significant declines. In 2015, ~40% of cases presented with late-stage infection reflecting missed opportunities for earlier diagnosis. Early diagnosis, testing and linkage to care & antiretroviral treatment enables people living with HIV/AIDS (PLHA) to have a normal life expectancy and reduces HIV transmission.



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The Multi-disciplinary Infectious Diseases Clinic (MIDC)

The MIDC at NUH was established in 2010. Our program utilises the skills and expertise of a multi-disciplinary team to provide holistic and specialised clinical care for HIV in both inpatient and outpatient settings. The programme also educates healthcare workers, both within and outside of NUH, in providing inclusive and best practice care to PLHA. Additionally, the programme conducts clinical, behavioural and operational research that aims to advance knowledge of HIV/AIDS and its impact on Asia.

Health Care Worker (HCW) HIV Education Series

Even now, 30 years after the first HIV cases in Singapore, there remains a gap in HIV-related knowledge and lack of training opportunities among our HCWs while PLHA continue to face stigma and confidentiality concerns in their interactions with us. The HCW HIV Education Series, comprising of four sequential modules, was conceptualised to address these issues and aims to improve the HIV-related knowledge and skills of healthcare professionals. The series is jointly organised by the NUH MIDC and the Institute of Infectious Diseases and Epidemiology, Tan Tock Seng Hospital.

The first two modules (HIV Basics and Working with PLHA) were launched on 11 June and 20 August 2016 with over 100 participants. We look forward to hosting Modules 3 and 4 on Basic and Advanced HIV Clinical Care in early 2017. If you or your staff are interested to participate please email us at hiv_program@nuhs.edu.sg.

General enquiries

For any non-patient related enquiries about the HIV Program or MIDC Team, please email: hiv_program@nuhs.edu.sg

In The News

Innovations for Better Care

To ease stress for the family while providing patients with the best level of care, the NUH kicked off a new initiative in April 2013, setting up Ward 42 as an innovation centre to pilot new models of care. This is the ward that implements ground-up ideas and try out new workflows. The aim is to improve patient safety, workflow efficiency and the overall experience of patients and staff.



A Patient- Centric Culture

There are a number of new initiatives focusing on engaging next-of-kin (NOKs) more actively in their loved ones' care. For example, visiting hours stretch from 9am to 8pm daily in Ward 42. By the time patients are discharged, their family members and caregivers will know what needs to be done and would have seen how the nurses keep a wound clean or even done it themselves under supervision. This removes the need for special pre-discharge training.

Another initiative is that NOKs are encouraged to be present when doctors do their morning rounds. The goal is to promote more direct – and therefore more efficient and effective – communication between the medical team, patients and their families. The family receives prompt updates, while the doctors can more easily and accurately obtain relevant information about the patient's condition and daily situation.

This not only assists doctors in providing better in-hospital treatment, but also allows the team to better understand the family's expectations and the care they are able to provide at home, which is important in planning the patient's post-discharge care. "Once patients and family members understand that these new initiatives require their active cooperation to achieve the best possible outcome, they tend to place a greater level of trust in the medical team", says Associate Professor Reshma A Merchant.

Power to the Nurses

Empowering nurses to play a more active role in decision-making has been equally important in this movement to test new practices. "They know their patients very well, and they can share information with us that we may not otherwise know," says A/Prof Merchant. With this in mind, nurse-led ward rounds were implemented in Ward 42 during which nurses give relevant patient updates directly to doctors. The nurses could also order physiotherapy or occupational therapy for patients without waiting for a doctor to make the referral.

Direct Benefits

Moving forward, more new programmes are in the pipeline for Ward 42, including an e-portal where patients can check their daily activity plans and read information pertaining to their health conditions. A new monitoring system, Visimobile, will also be introduced to monitor patients' vital signs electronically, thereby freeing up nurses to spend more quality time with their patients.

Food Sources of Protein & Risk of Incident Gout in the Singapore Chinese Health Study



Researchers from Duke-NUS Graduate Medical School and NUH found that eating soy and other beans is not associated with an increased gout risk.



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The key findings from the research shows that the intake of soy foods and legumes are not associated with an increased risk of gout. However, dietary intake of animal protein, especially poultry, fish and shellfish, increases gout risk, as consistent with published literature. There is no statistically significant association with intakes of other protein sources - eggs, dairy products, grains, nuts & seeds.

Since antiquity, patients with gout have been advised to restrict eating food with high protein/purines (both meat and plant-based) based on the assumption that uric acid is derived from the breakdown of purine.

This study and its findings are important because this is the first Asian prospective study which involved 51,114 middle aged to elderly Chinese men and women who were followed over 11 years. 2,197 developed incident gout and their mean age was 61 years. The results showed that after adjusting for confounders, dietary consumption of soy foods and legumes did not increase the risk of developing gout. In fact, people who consumed the largest quartile (4th) of soy and non-soy legumes had a 15% **lower** risk of developing gout compared to those who consumed the lowest (1st) quartile amount.

The finding is supported by six other studies conducted in Japan and Taiwan, which showed that eating soy does not increase blood uric acid levels.

On the contrary, a positive association with poultry and fish/shellfish was found. Participant who consumed the highest quartile of poultry had 27% **higher** risk of developing gout compared to those who ate the lowest quartile. Likewise, those who consumed the highest quartile of fish/shellfish had 16% **higher** risk of gout compared to those who consumed the least. The consumption of red meat was positively associated with the risk of gout, but this was attenuated after additional adjustment for other dietary variables.

In light of this new finding, gout patients need not and should not avoid protein-rich plant-based food such as legumes (including soy) as these foods have other nutritional benefits. In addition, they should reduce the meat protein intake. Gout patients should substitute some high-protein seafood and meat with soy and other beans for protein, researchers urged.

The findings from this population-based cohort of Chinese subjects living in Singapore provides new information for updating dietary recommendations for the prevention of gout that would be applicable to other Asian populations.

A Volunteering Heart

Volunteers chip in to help NUH Elderly



NUH has been engaging volunteers like Mr Kng to help its elderly patients, mainly those who suffer from delirium and confusion, in activities that stimulate their minds and aid their recovery. These activities include fitting objects, colouring, sorting cards by their suits, solving crossword puzzles and stacking up a tower of Jenga blocks, a game which trains mental skills. Mr Kng, one of the volunteers, said he has noticed that this generally leads to an improvement in the patients' mental alertness and cognitive ability. For instance, they may be able to better remember the day of the week or their own age. Previously, only occupational therapists conducted such activities. But with more helping hands, patients now spend one or two hours every alternate day on these games, compared with less than half an hour in the past. Mr Kng's time at NUH is unlike the typical befrienders programme. "For these confused patients, it's good for them to have something that stimulates their minds. "If it's just chatting with them, they are likely to talk in a circular manner.

They ask you the same questions, and the chit-chat may not be as beneficial." Ms Koh Mei Jiao, a nurse clinician at NUH, said patients could also be thinking when conversing, such as when recounting their past, but the need to complete tasks in cognitive activities makes them more active mentally. She decided to recruit volunteers to engage patients in cognitive activities after seeing the idea in practice during a study trip to New York. "Studies have shown that constant engagement with the elderly in cognitive activities can help to stimulate their minds and prevent their cognitive function from worsening," she said. Family members are also encouraged to continue involving patients in similar activities when they are discharged and go home.

What's Happening @ NUH



The Liver Transplant Symposium 2016
14 – 16 Oct 2016
NUHS Tower Block Auditorium

The Liver Transplant Symposium 2016, organised by the National University Centre for Organ Transplantation (NUCOT) aims to advance knowledge and expertise in liver transplantation, through multi-disciplinary collaborations of the transplant community to further improve the care and outcomes of our patients.

For more information and to register, please log onto <http://www.livertransplantsymposium.sg/>

Upcoming CME Event

Date	Topic
*15 Oct	Diabesity in General Practice
22 Oct	New Strategies in Treating Colorectal Cancer in NUH

Registration & lunch will start at 1.00 pm

*Event Venue:

Hotel Jen Tanglin Singapore
Malacca II / Penang I, Level 2A
1A Cuscaden Rd
Singapore 249716

Please visit our CME Portal at <https://nuhcme.com.sg/> for registration. For registration enquiries you may contact the GP Liaison Centre at gp@nuhs.edu.sg