



SPECIAL DELIVERY



NEWS FROM SINGAPORE'S ACADEMIC TERTIARY HOSPITAL FOR WOMEN AND CHILDREN

JAN-FEB 2014 | VOL 62 | ISSUE 01

RESEARCH

03 New trial results: better blood pressure management with DIVA System

EDUCATION

04 Raising the new healthcare generation

MEDICAL

06 Encephalitis in children - infection or a misdirected immune system?

GIVING

12 Giving sick children a reason to smile



AN ENDURING HEART FOR CHILDREN

Research and education fund named after Singapore's longest-serving paediatrician in public healthcare

A distinguished figure in healthcare whose dedication to public service has few equals, Professor Tan Cheng Lim has shaped the practice and landscape of paediatric medicine in Singapore throughout an illustrious career spanning five decades.

To honour the nation's longest-serving paediatrician in public healthcare, the SingHealth Duke-NUS Paediatrics Academic Clinical Program – Singapore's largest paediatric healthcare and education network – has established the Tan Cheng Lim Research & Education Fund to advance clinical research and support education in paediatric medicine.

An endowed fund in perpetuity, the Tan Cheng Lim Research & Education Fund supports clinical research in paediatric medicine, paediatric cancers and blood disorders, and public healthcare scholarships in paediatric medicine.

"With 50 years of clinical practice, medical research and education, Prof Tan has been prolonging and improving the lives of countless patients and their families, contributing to medical science and bringing up future medical practitioners," said Professor Kenneth Kwek, Chief Executive Officer, KK Women's and Children's Hospital (KKH).

"The Tan Cheng Lim Research & Education Fund pays tribute to his tremendous work and seeks to multiply it many times over to make a lasting impact on paediatric health for the benefit of generations to come."

"The job of being a doctor gives us two main advantages...it is never boring, and...one is doing good by serving humanity while at work."

Professor Tan Cheng Lim
Emeritus Consultant, Department of Paediatric Subspecialties, KKH

Dear Prof Tan,
Thank you for your dedication to teaching us. We enjoyed your tutorials & your unselfish sharing of your experience. *Janica*

Continued on page 2...

AN ENDURING HEART FOR CHILDREN

Continued from page 1...

A PIONEER IN PAEDIATRIC MEDICINE

Prof Tan answered the first of many calls to duty in 1973, serving as President of the Singapore Paediatric Society. He subsequently helmed the paediatrics department at Alexandra Hospital (1974-1977), Singapore General Hospital (1977-1997) and KK Women's and Children's Hospital (1997-1999), firmly laying the foundations for paediatric medicine in Singapore.

A devoted clinician-mentor and educator, Prof Tan has trained, nurtured and inspired

many generations of healthcare professionals in Singapore and the region to pursue their passion for service in healthcare.

Prof Tan continues to contribute to paediatric medicine as Emeritus Consultant, Department of Paediatric Subspecialties, KKH; a member of the SingHealth Institutional Review Board; and Adjunct Professor, Duke-NUS Graduate Medical School and Yong Loo Lin School of Medicine, National University of Singapore.



Prof Tan Cheng Lim with paediatric medical students at a tutorial in KKH, 2013.

ABOUT THE PROF



Prof Tan Cheng Lim (back row, left), with medical staff and patients at the Paediatric (East) Department, Mistri Wing, Singapore General Hospital, in the early 1970s.

Age: 75

Family: My wife, two daughters and two grandchildren, aged six and ten.

Hobbies: Travelling with my family, and photography to remember loved ones and holidays abroad.

Favourite food: All deep-fried meats!

Personal motto: Show kindness to all. We walk this way but once.

How I end my day: Watching the English Football League on TV and hopefully sleeping more soundly - provided Manchester United wins!

PROF TAN CHENG LIM ON A LIFETIME IN HEALTHCARE

Paediatric haematology oncology... is my chosen speciality as it is an interesting and challenging field that helps to save the lives of precious children who are ill, and supports parents during a time of helplessness and devastation.

I am truly indebted to my mentor... the late Dr Tan Kwang Hoh, whom I was blessed to have as my department head, when I was a Medical Officer in paediatrics. He planted the seeds for my decision to be a paediatrician

with his interesting teaching, constant encouragement and timely advice.

I am also really thankful to my other mentor, Dr Chan Sing Kit, for her deep commitment to her work and caring nature. Their friendship is something I treasure.

A good doctor possesses... true compassion, empathy and professionalism.

They are approachable and fully knowledgeable, with inner confidence and yet showing humility.

They also truly appreciate the help of their fellow healthcare workers.

My vision for healthcare is... for every patient to receive care from dedicated, well-trained, knowledgeable and efficient healthcare professionals.

The Research & Education Fund is created to develop such individuals, and through them, to advance paediatric medicine for the enduring benefit of every child.

TRIAL AFFIRMS BETTER MANAGEMENT OF BLOOD PRESSURE BY DIVA



A KKH anaesthetist demonstrates the use of the DIVA system in managing a patient's blood pressure during caesarean section under spinal anaesthesia.

New trial results¹ show that the Double Intravenous Vasopressor Automated (DIVA) System affords superior control of maternal blood pressure in women undergoing caesarean section under spinal anaesthesia when compared with manually-administered vasopressors.

Developed by doctors at KK Women's and Children's Hospital (KKH), the DIVA System detects and responds rapidly to low blood pressure and/or slow heart rate in real-time by auto-administering a precise amount of the recommended medication to manage low blood pressure (vasopressor). The system uses an advanced decision algorithm to enhance patient safety.

The trial results reinforce earlier findings from a preliminary study conducted on 55 women, showing that the DIVA System is clinically more effective in maintaining blood pressure during caesarean sections under spinal anaesthesia than traditional physician-administered techniques using conventional blood pressure monitoring.²

Low blood pressure can occur in up to 60 percent of women undergoing caesarean sections under spinal anaesthesia. This can cause nausea, vomiting and, in severe cases, result in reduced blood flow to the baby unless medical intervention is provided.

NEW TRIAL RESULTS SHOW BETTER BLOOD PRESSURE MANAGEMENT WITH DIVA SYSTEM

Putting the DIVA System to the test, the KKH team conducted a randomised controlled double-blinded trial¹, involving 213 women who underwent elective caesarean delivery under spinal anaesthesia.

The system was enhanced with a more responsive vasopressor delivery algorithm, enabling swifter intervention to manage changes in maternal blood pressure.

Compared to women whose vasopressors were manually administered, women who underwent management by the DIVA System had:

- **Better systolic blood pressure control**
- **Reduced incidence of nausea**

References

- 1 Sng BL, Tan HS, Sia AT. Closed-loop double-vasopressor automated system vs. manual bolus vasopressor to treat hypotension during spinal anaesthesia for caesarean section: a randomised controlled trial. *Anaesthesia*. 2014 Jan;69(1):37-45.
- 2 Sia AT, Tan HS, Sng BL. Closed-loop double-vasopressor automated system to treat hypotension during spinal anaesthesia for caesarean section: a preliminary study. *Anaesthesia*. 2012 Dec;67(12):1348-55.



RAISING THE NEW HEALTHCARE GENERATION

The Education Office at KK Women’s and Children’s Hospital (KKH) is on a mission to nurture future generations of healthcare professionals passionate about providing quality patient care.

Established in April 2012, the Education Office facilitates the enrolment and attachment of nearly 300 medical students and residents at KKH each month. To ensure that these budding healthcare professionals receive effective training, the office plays a strategic role in structuring curriculum to enhance the educational outcomes of various training and learning programmes run by KKH’s specialist disciplines.

The Education Office collaborates closely with a diverse range of departments, disciplines and institutions to enhance educational outcomes. In particular, the office is currently working with medical specialists in KKH and the National University of Singapore (NUS) to develop the curriculum, as well as facilitate clinical teaching, attachments and internships, for a new paediatric track within the NUS Master of Nursing Programme.

“Education is important because it enables us to drive sustainable and effective care for patients now and in the future.

As a leading tertiary referral centre for women’s and children’s healthcare, we have a unique role to advance professional medical education and research that will continually better the care that we are able to provide our patients.”

Professor Chay Oh Moh
Campus Director, Education Office, KKH

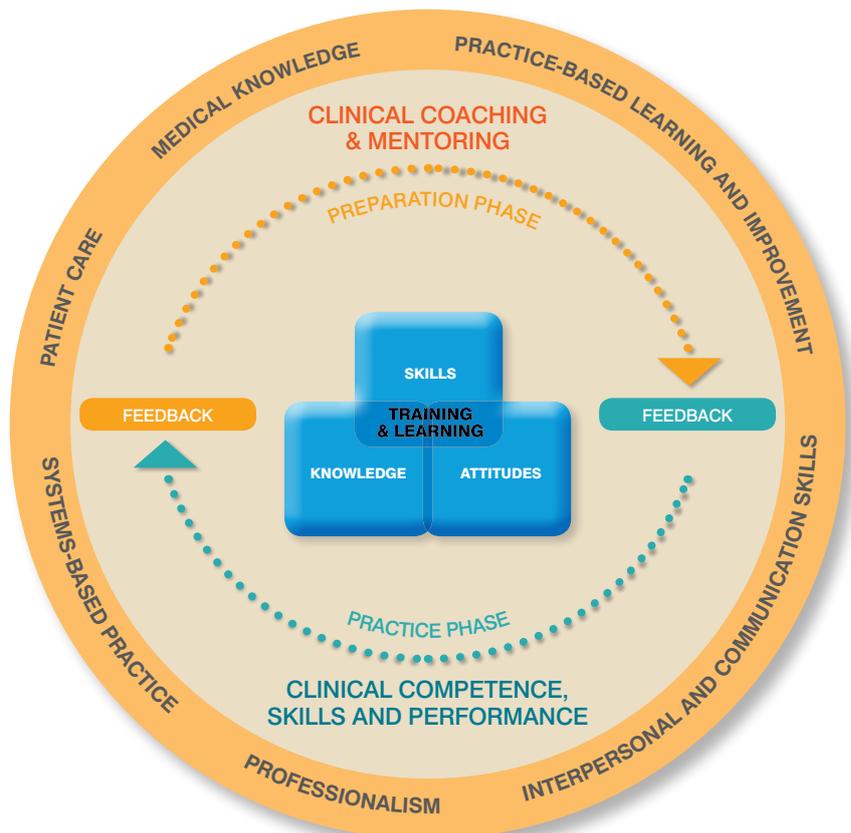


Figure 1. A custom-designed educational framework for a preparatory course to meet the learning needs of medical residents.

NEW CLINICAL EXAM PREPARATORY COURSE

In August 2013, the Education Office designed a new training and learning framework (Figure 1) and curriculum for a preparatory course conducted by the Department of Paediatrics at KKH. The new curriculum incorporates educational theories and andragogy principles to enhance the medical residents' learning and prepare them to meet MRCPCH* examination standards.

The office also partnered with the Paediatrics Academic Clinical Program and the Department of Paediatrics to survey 15 preparatory course participants from KKH who subsequently underwent the clinical examination.

Through an anonymous questionnaire, students provided feedback on the effectiveness of the preparatory course in refining their clinical skills and preparing them to meet the clinical examination standards.

More than 90 percent agreed that the preparatory course helped them to better understand the expectations of the actual MRCPCH clinical examination, identify gaps in medical knowledge, and improve on their focused history gathering and physical examination skills. More than 80 percent felt that the preparatory course helped them refine their overall clinical examination techniques, and improve their time management, communication skills and confidence level, which are important during the stressful examination period. Overall, more than 80 percent would recommend the preparatory course to their peers.

Based on these positive results, the preparatory course will be continued in 2014. An abstract based on this survey was submitted to the Yong Loo Lin School of Medicine, and was presented at the 11th Asia Pacific Medical Education Conference in January 2014.

ENHANCED SUPPORT FOR CLINICAL EDUCATORS

To enhance the development of inter-professional education, in August 2013, the Education Office partnered with the Academic Medicine Education Institute (AM.EI) Advocacy Workgroup to survey medical professionals at a SingHealth Duke-NUS education conference.

From 61 collected surveys, a majority (72%) of the respondents shared that more could be done to recognise educators. The four main areas that respondents valued most were academic titles, awards, faculty development courses and protected time. Respondents also expressed interest in education programmes on assessment and feedback, basic pedagogy / improving teaching methods, research workshops and overseas attachment scholarships.

The Education Office is currently working closely with the AM.EI Advocacy Workgroup to examine the best ways to meet training needs and strengthen support for educators across SingHealth and Duke-NUS Graduate Medical School (GMS).

DIRECTOR PROFILES

Campus Director, Education Office, Professor Chay Oh Moh has championed medical education and research for over 12 years. She continues to lead in her roles as Professor, Duke-NUS GMS and Yong Loo Lin School of Medicine; Associate Designated Institutional Official, KKH, SingHealth Residency; and Senior Consultant, Respiratory Medicine Service, Department of Paediatrics, KKH.



"To safeguard the sustainability of quality healthcare for our children and their children, it is imperative that we invest in the best possible education for our next generation of healthcare professionals. No less important is the need to cultivate in them the right values of compassion, integrity and teamwork."

Deputy Campus Director, Education Office, Associate Professor Tan Thiam Chye has won many awards for his deep dedication to medical education and mentorship. A founding coordinator for the Duke-NUS GMS Obstetrics and Gynaecology Clerkship, Assoc Prof Tan also publishes extensively and fosters research partnerships in his roles as Associate Professor, Duke-NUS GMS, and Senior Consultant, Department of Obstetrics & Gynaecology, KKH.



"As boats look to the lighthouse for direction, so will students follow our paths. Our mission is to unlock each student's potential and unleash their talents; and education is the key. Mentorship is a privilege for us to influence the next generation of doctors. Teaching is also infectious. Go ahead and spread it!"

ENCEPHALITIS IN CHILDREN

Infection or a misdirected immune system?

Dr Terrence Thomas, Consultant; Dr Simon Ling, Associate Consultant; Dr Derrick Chan, Senior Consultant, Neurology Service; and Dr Lena Das, Consultant, Rheumatology & Immunology Service, from the Children's Neuroimmunology Clinic, KK Women's and Children's Hospital

Encephalitis and meningitis are serious childhood illnesses that may result in physical and learning disabilities. At KK Women's and Children's Hospital (KKH), 173 children were treated for encephalitis and meningitis over a five-year period from 2008 to 2012.

SYMPTOMS

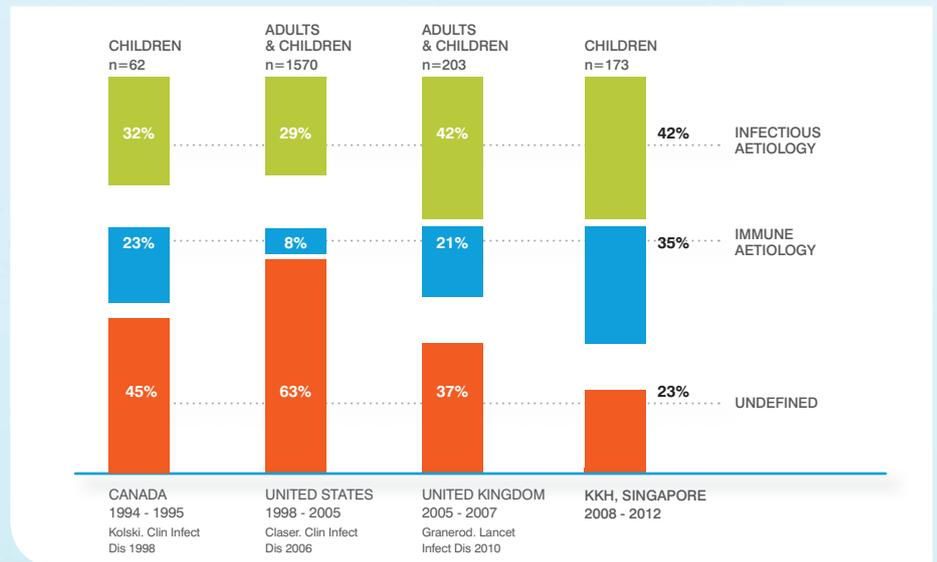
In encephalitis, inflammation within the brain tissues gives rise to symptoms of encephalopathy, fever, headache, seizures, and focal neurological deficits. Children with meningitis, in which the meninges or coverings of the brain become inflamed, exhibit additional symptoms of neck stiffness and photophobia.

Children with encephalopathy become overly sleepy or drowsy. This can sometimes be subtle and the only symptom is a change in behaviour. Some children become overfriendly or disinhibited, while others may fluctuate rapidly between an elevated mood and sudden bouts of sadness and crying. Parents may feel their child has become a different person. Young infants and babies may only exhibit excessive irritability or a high-pitched incessant cry.

CAUSES

Contrary to popular belief, brain infections are the cause in only 30 to 40 percent of patients with encephalitis. We now know

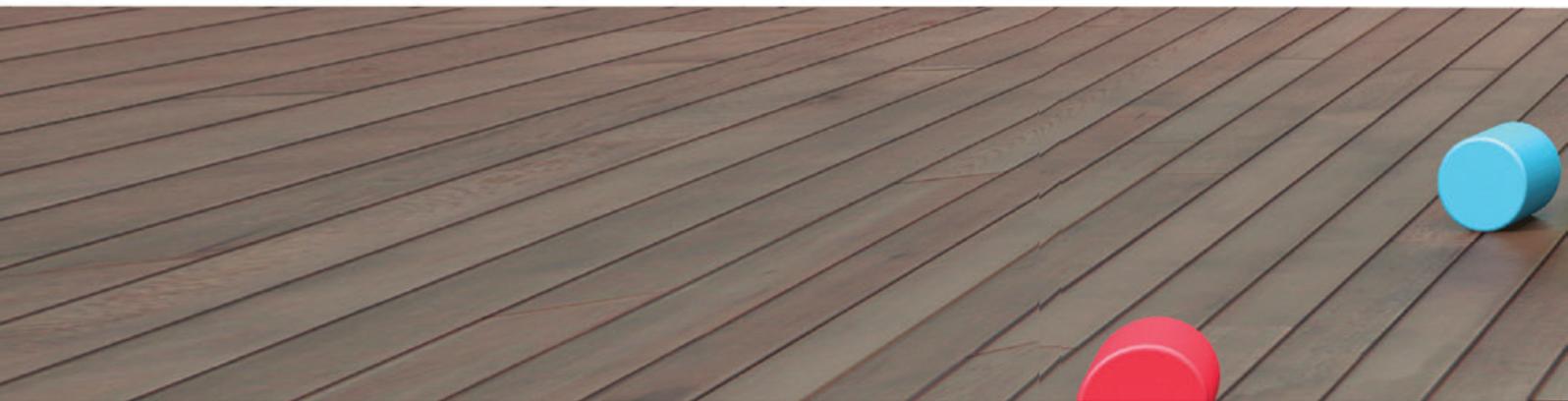
Figure 1. A comparison of the aetiology of encephalitis across several countries. At KKH, immune and infectious aetiologies account for nearly equal proportions.



that a sizable number of affected children have an immune encephalitis, which is encephalitis caused by a malfunctioning or misdirected immune system (Figure 1).

Immune encephalitis can be caused by a para-infectious disorder – in which the immune system inadvertently causes brain or meningeal inflammation in the process of fighting a minor infection elsewhere in the body.

The minor infection is usually due to a common virus or bacteria causing an upper-respiratory tract infection or gastroenteritis. Less often, children can have an auto-immune encephalitis, in which the body's own immune system attacks the brain in a concerted and directed manner. Immune encephalitis is the result of a strong but confused immune system, rather than a weak immune system.



TREATMENT

Children with encephalitis may become sick very rapidly, and require intensive care treatment. At KKH, children receive early empirical treatment with high-dose antibiotic and antiviral medications after initial stabilisation. Anti-epileptic medications are given in the event of seizures. Blood and cerebrospinal fluid samples, obtained via a lumbar puncture and nasopharyngeal secretions are collected to identify infectious pathogens and to look for inflammation in the brain and meninges. Brain imaging – either a computed tomography or magnetic resonance imaging (MRI) scan – may show characteristic patterns that help delineate a particular encephalitis syndrome (Figure 2).

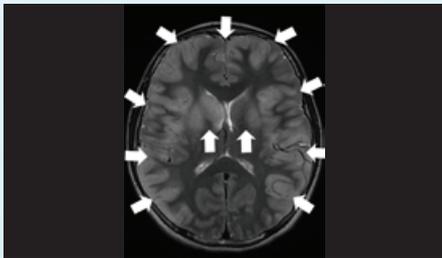


Figure 2. MRI brain scan from a patient with immune encephalitis following a mycoplasma throat infection. The white arrows indicate multiple areas of brain swelling, seen as lighter shades of grey.

Children with an uncomplicated illness typically improve in the first week, with no long term sequelae from the infection. However, persistent symptoms or poor recovery despite anti-infective treatments indicate a more serious illness, raising the suspicion of autoimmune encephalitis. Occasionally, there can be an initial improvement followed by a return of symptoms in the second week.

In children with severe illness, a second tier of investigations is performed to look for rare and unusual infections, and a careful evaluation of the immune system is done. Specialised tests for auto-antibodies are done depending on the child's clinical symptoms. A repeat lumbar puncture for

cerebrospinal fluid and an MRI brain scan is usually necessary.

Immune treatments – high dose steroids, immunoglobulins, plasma exchange or cyclophosphamide – need to be administered early, as late treatment may confer an unfavourable outcome. In most children, these treatments are begun before the results of the immune system-related investigations become available.

Children with complicated encephalitis often require long term immunotherapy and neuro-rehabilitation. At KKH, medical care is provided by a multidisciplinary team of doctors, nurses and pharmacists from specialties including neurology, infectious disease, rheumatology, diagnostic imaging and intensive care. The hospital also has a comprehensive neuro-rehabilitation programme with a team of occupational therapists, physiotherapists, speech-language pathologists and neuropsychologists to help children and their parents work through the physical and cognitive disabilities that result from the illness.

RESEARCH

A team of researchers at KKH are studying ways to differentiate infections from immune encephalitis early in the course of the illness, so that the appropriate therapy can be expedited. The team is also exploring methods to identify and treat refractory status epilepticus, a complication of encephalitis in which seizures continue for days and weeks despite multiple antiepileptic medications.

The Children's Neuroimmunology Clinic at KKH provides multidisciplinary care for children with a range of neuroimmunology disorders, such as acute inflammatory demyelination, central nervous system vasculitis and encephalitis.

The clinic's specialist team's shared goal is to help children affected by these complicated and yet treatable conditions have an enjoyable childhood and lead fruitful lives.

WARNING SIGNS OF ENCEPHALITIS IN CHILDREN

Fever with any of the following symptoms:

- Excessive drowsiness and sleepiness, out of proportion to the fever
- Inconsolable, persistent irritability in an infant, out of proportion to the fever
- Marked change in behaviour and personality
- Neck pain or stiffness
- Seizures
- Focal neurological deficits, such as dysphasia, limb weakness or ataxia



MANAGING MENOPAUSE — THE ROLE OF THE GP

Dr Ang Seng Bin, Head, Menopause Unit, Department of Obstetrics & Gynaecology; Family Physician, Consultant and Head, Family Medicine Service, KK Women's and Children's Hospital

Menopause is a natural event in women, characterised by the permanent cessation of menses due to the ovaries' loss of function. While most women transition into menopause with few or no issues, some may experience bothersome symptoms, which can be alleviated through medical assistance and intervention.

NATURAL MENOPAUSE

Natural menopause is defined by the permanent cessation of menstruation for 12 consecutive months. The diagnosis is retrospective and laboratory tests are only required to exclude other medical causes that may mimic menopause symptoms. These can include thyroid problems, tumours, and medication such as niacin, calcium channel blockers and nitroglycerin.

In Asia, the age range for menopause is 45-55 years, and the average age for natural menopause is 50 years. In Singapore, the average age for natural menopause is 49 years. While genes play an important role in determining the age at which a woman undergoes menopause, smoking has been shown to bring forward the age of menopause by about 2.5 years. Chemotherapy and surgery involving the pelvic organs can also cause women to reach menopause at an earlier age.

In 2012, close to 30 percent of the local population was aged between 45 and 65 years. As approximately 50 percent of women going through menopause will experience some symptoms, the number of women seeking consultation for issues relating to menopause is expected to be substantial.

Concordantly, the Menopause Unit at KK Women's and Children's Hospital (KKH) is seeing a 30 percent increase in women seeking consultation for issues relating to menopause, in recent years. In addition, more women are presenting with vasomotor symptoms of hot flushes compared to those seen in previous studies^{1,2}.



SYMPTOMS AND MANAGEMENT

Women undergoing the menopause transition most commonly seek medical advice for hot flushes, irritability and sleep disturbance.

Hot flushes

Hot flushes can start to occur about two years before the final menstrual period and peak about a year after the final menstrual period. The usual experiences of hot flushes are short-lived, lasting between five to ten minutes per episode. The frequency of hot flushes can vary from once every few days, to two to four times an hour. Hot flushes also occur in varying levels of severity, necessitating different types and combinations of intervention (Table 1).

Table 1. Severity and management of hot flushes

SEVERITY	SYMPTOMS	MANAGEMENT
Mild	<ul style="list-style-type: none"> Sensation of heat without sweating 	<ul style="list-style-type: none"> Lifestyle management
Moderate	<ul style="list-style-type: none"> Sensation of heat with sweating Able to continue activity 	<ul style="list-style-type: none"> Trial of lifestyle management Hormone therapy if lifestyle measures fail
Severe	<ul style="list-style-type: none"> Sensation of heat with sweating, causing cessation of activity 	<ul style="list-style-type: none"> Lifestyle management Hormone therapy after weighing the risks and benefits

Adapted from www.fda.gov/downloads/Drugs/DrugSafety/InformationbyDrugClass/UCM135338.pdf³

Lifestyle management measures, such as stress management and exercise, can often improve symptoms for mild to moderate hot flushes. Women with severe symptoms, or those who do not see improvement with lifestyle management, may consider hormone therapy, which remains the most effective treatment for hot flushes.

Women who experience hot flushes for more than 30 minutes per episode should also seek medical advice to exclude medical conditions such as hyperthyroidism and brain tumours.

Irritability and sleep disturbance

The menopause transition is often associated with irritability and sleep disturbance. However, these symptoms appear to be strongly associated with hot flushes – if severe hot flushes occur during sleep, they can often cause sleep disturbance, and thus irritability. Otherwise, the menopause transition appears to have no effect on sleep or association with irritability. Menopause can trigger depression in women with a previous history of depression or life stressors.

Common measures to alleviate irritability and sleep disturbance include improved sleep hygiene, stress management, mind-body therapies and maintaining an active and supportive social life.

The primary care physician can lead the patient in identifying and addressing other potential causes, which may include depression, anxiety, joint pain, back ache, stress and caffeine consumption.

SEX AFTER MENOPAUSE

A decreased oestrogen level following menopause can lead to changes in a woman's sexual functioning. This can lead to sexuality issues such as dyspareunia, and intimacy and libido issues. Vaginal dryness can also occur and may increase in severity with time.

Female sexuality issues following menopause should be addressed by the primary care physician through a holistic assessment of the patient's sexual, medical and psychosocial history.

Measures can be taken to improve psychological well-being and intimacy, while medication and substances that can aggravate vaginal dryness should be avoided. The use of vaginal lubricants and topical oestrogen can also be considered.

WARNING SIGNS DURING MENOPAUSE

Menopause is a natural life stage that all women will experience. However, a woman should see her doctor if her menopausal symptoms are affecting her life and activities.

In particular, symptoms that would require tertiary management include post-menopausal or unexplained vaginal bleeding, pelvic mass or any other medical issues that may require surgical intervention.

References

- Loh FH, Khin LW, Saw SM, Lee JJ, Gu K. The age of menopause and the menopause transition in a multiracial population: a nation-wide Singapore study. *Maturitas* 2005; 52:169-80.
- Chim H, Tan BH, Ang CC, et al. The prevalence of menopausal symptoms in a community in Singapore. *Maturitas* 2002; 41:275-82.
- Guidance for Industry – Estrogen and Estrogen/Progestin Drug Products to Treat Vasomotor Symptoms and Vulvar and Vaginal Atrophy Symptoms — Recommendations for Clinical Evaluation [online]. Available at: www.fda.gov/downloads/Drugs/DrugSafety/InformationbyDrugClass/UCM135338.pdf. Accessed January 14, 2014.



Dr Ang Seng Bin graduated with an MBBS from the National University of Singapore and completed a Masters of Medicine in Family Medicine. He further pursued and completed the Fellowship Programme at the College of Family Physicians, Singapore. Dr Ang currently heads the Family Medicine Service and the Menopause Unit at KKH. He is also active in his roles as Adjunct Assistant Professor, Duke-NUS Graduate Medical School, and Associate Program Director, SingHealth Residency Family Medicine Program.

COMMON PAEDIATRIC CONDITIONS THAT REQUIRE SURGERY

Edited by: Dr Low Yee, Head and Senior Consultant, Department of Paediatric Surgery; Deputy Chairman, Division of Surgery, KK Women's and Children's Hospital

At a recent forum for general practitioners, specialists from the Division of Surgery at KK Women's and Children's Hospital (KKH) shared updates on some common surgical conditions encountered in their practice. A summary of these updates follow:

FLAT FEET

Dr Tay Guan Tzu, Associate Consultant, Department of Orthopaedic Surgery, KKH

The most common cause of flat feet is generalised ligament laxity. If a child with flatfeet has an associated tight posterior complex, surgical intervention may be required. Rigid flat feet due to tarsal coalition do not exhibit an arch on the tip-toe test, and surgery will be required if the child is symptomatic. The primary healthcare physician should be on the lookout for symptomatic cases of flat feet. These should be referred for further investigation and treatment.

SCOLIOSIS

Dr Reuben Soh, Associate Consultant, Department of Orthopaedic Surgery, KKH

Scoliosis is a common spine-related problem for young children. A simple test, which can be conducted by a general practitioner, is the Adam's forward bend test – which demonstrates asymmetry of the ribs due to undiscovered scoliosis of the spine. Loss of trunk symmetry can also be attributed to scoliosis, and such cases should be referred for a formal standing X-ray, to diagnose and assess severity of the condition. Red flags, such as pain, neurological symptoms or bowel and bladder dysfunction, warrant an expedited referral.

CHILDHOOD EYE CONDITIONS

Dr Zena Lim, Visiting Consultant, Ophthalmology Service, KKH

Itchy eyes and excessive blinking are commonly due to allergic conjunctivitis. Treatment includes avoiding offending allergens and the application of mast cell stabiliser eye drops.

Congenital glaucoma, which can potentially lead to blindness, often presents with a bulgy eye in its late stage. A triad of blepharospasm, photophobia and tearing necessitates urgent referral.

For early diagnosis of childhood cataract and retinoblastoma, it is important to conduct red reflex testing in children. Retinoblastoma can be life-threatening, and an untreated cataract can result in amblyopia and irreversible vision loss.

PAEDIATRIC PLASTIC SURGICAL CONDITIONS

Dr Gale Lim, Associate Consultant, Department of Plastic, Reconstructive and Aesthetic Surgery, KKH

Some paediatric conditions require plastic surgery management. These include:

- Dermoid cysts, which are benign congenital lesions around the eyebrow. Imaging is recommended

for lesions suspected of having intracranial extension. Complete excision is recommended.

- Congenital giant nevi, which are dark-colored, often hairy patches of skin. The rate of transformation to malignant melanoma has been reported to be eight to thirty percent. It is recommended that the lesion be surgically removed as early as possible.

CHEST WALL ANOMALIES

Dr Loh Yee Jim, Consultant, Cardiothoracic Surgery Service, KKH

Pectus excavatum is the most common deformity of the anterior chest wall, and is characterised by depression in the breastbone. Most cases are diagnosed at birth or in the first two years of life, and the condition is expected to worsen as the child grows. Treatment may be conservative or surgical.

Pectus Carinatum is a protrusion of the chest over the sternum, and may be associated with severe childhood asthma, scoliosis or a positive family history. The condition usually presents earlier in girls and later in boys (age 11-14 years). Cases should be referred for tertiary assessment and treatment may include bracing and surgery.

COMING SOON

Paediatric Surgery Forum GP Forum for Paediatric Health 2014

Date : 24 May 2014 (Saturday)

Fee : S\$10 per pax (Includes lunch, tea and parking)

Time : 1.00pm to 5.00pm

Venue : KKH Auditorium, Training Centre, Level 1, Women's Tower

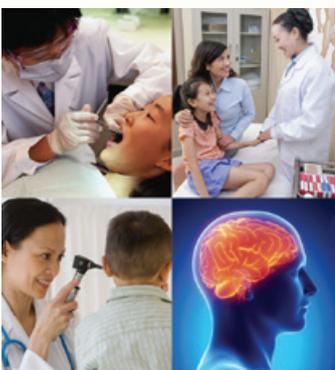
Programme Highlights:

- Paediatric ENT conditions
- Common dental conditions
- Neurosurgical conditions
- Paediatric airway disease



For full details of KKH forums, scan this code with your smart phone now.

For more details, please call +65 6394-8746 (Monday to Friday, 8.30am to 5.30pm) or log on to www.kkh.com.sg.



IMPROVING PERINATAL CARE IN CAMBODIA

Dr Sharon Foo and Dr Tan Shu Qi, Department of Obstetrics & Gynaecology, KK Women's and Children's Hospital

Cambodia struggles with postpartum haemorrhage, eclampsia, sepsis and obstructed labour as leading causes of maternal death in childbirth. Other factors that impact greatly on healthcare standards include basic standards of living – poor sanitation and hygiene, nutrition and access to obstetric care for pregnant women – and deeply ingrained traditional midwifery beliefs, such as the misinterpretation of eclampsia in pregnant women to be demonic possession. These can negatively influence the management of obstetric emergency situations and reduce the prognosis for both mother and fetus.

The availability of trained healthcare personnel is imperative to successfully manage obstetric emergencies, such as postpartum haemorrhage, eclampsia and maternal collapse during pregnancy and childbirth, and to ensure optimal patient outcomes.

CORE OBSTETRIC EMERGENCY TRAINING IN KAMPONG CHHNANG, CAMBODIA

Located 91 kilometers northwest of Phnom Penh city, the province of Kampong Chhnang has a population of 538,163 people, with the main livelihoods of agriculture and fishing.

In July 2013, our team, consisting of KKH doctors, midwives and a neonatal nurse conducted a two-day comprehensive Combined Obstetric Resuscitation and Emergency Training (CORE) course at Kampong Chhnang Hospital, the province's largest district hospital. Our goal was to share skills and knowledge on basic obstetric emergency care to help local midwives mitigate potentially preventable intrapartum causes of maternal deaths.

The course was attended by 56 midwives, from each of the 39 health centres and three district hospitals in Kampong Chhnang. The midwives were taken through a series of didactic lectures on infection control, common obstetrics emergencies, clinical audit and data collection. Using a series of interactive simulation drills, they were taught practical skills to treat postpartum haemorrhage, eclampsia and maternal collapse – the leading causes of maternal mortality in Cambodia.

We educated the midwives on the warning signs and symptoms of serious



A KKH doctor demonstrates the actions necessary to manage post-partum haemorrhage.

medical conditions, enabling them to better triage cases requiring early tertiary referral. The importance of teamwork and communication in providing effective intervention was also emphasised through the simulation drills.

By "training the trainers", we hope that these midwives will in turn facilitate similar training workshops to pass on vital medical skills and knowledge to other healthcare providers in more rural areas of Kampong Chhnang. In this way, management of maternal obstetrics emergencies will experience sustained improvements in the near future.

TEAMWORK BOOSTS HEALTH OUTCOMES

In situations of limited resource, an established workflow effectively optimises maternal health outcomes. It also enables standardisation of practice across wider areas of healthcare, and creates common

ground for conducting audits. Evaluating available resources and planning actions for emergencies can reduce delays in coordinated intervention for patients, facilitate coordination and communication within the team, and aid practice under stimulated conditions.

This mission was also a valuable learning experience for us, as we reflected on the ways medicine can be effected under the constraints of limited resources and medical supplies. It was very humbling to learn that our medical counterparts in other countries work under very difficult and challenging circumstances.

With advancements in medical technology, helping our fellow workers in the field reminds us of the importance of revisiting medical basics, the need for personal touch and the strength of the human spirit in endeavouring to save lives. Most importantly, we learned that even in a situation with limited resources, we can make a difference through the simple act of imparting basic medical skills and principles to those who need them.

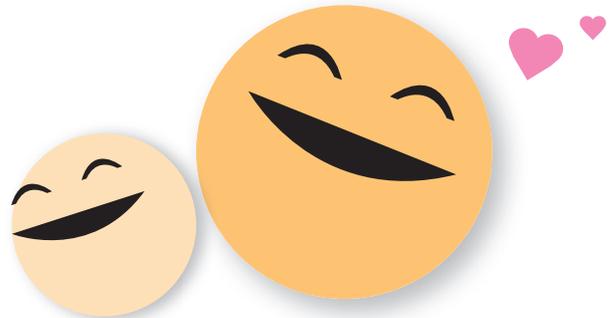


Kampong Chhnang midwives work together during a simulation drill of pre-eclampsia management.



KKH GIVES because every woman and child deserves good health.

GIVING SICK CHILDREN A REASON TO SMILE



Kevin* has a medical condition which requires him to make regular visits to KK Women's and Children's Hospital (KKH). His family manages on a low income, and as a result, they are rarely able to afford family outings.

In August 2013, Kevin and his parents, along with fellow KKH patients and their caregivers, embarked on a day trip to the Cloud Forest at Gardens by the Bay, accompanied by a team of volunteers from the Keppel Group. The team returned in November, sponsoring an interactive arts fiesta at Marina at Keppel Bay for the children and their caregivers.

"Children from low-income families often do not have many opportunities for outings, due to financial constraints, and the fact that their caregivers may have long working hours," shared KKH Senior Medical Social Worker, Eleen Lim.

"So it is wonderful when volunteers come forward to sponsor fun activities for this group of young patients. Their caregivers and siblings come along too, so the child has a great time bonding with their loved ones and the volunteers. It also helps them to forget about their illnesses for a while," she added.

"We are all part of a community, and I wish to give freely where I can, to benefit those around me," says Keppel volunteer Tay Jia Wei. "My hope is for these little patients to be able to live life to the fullest, and become healthy again."

In 2013, the Keppel Care Foundation made a gift of \$30,000 to the hospital in support of the KKH Health Endowment Fund (KKHHEF). The KKHHEF provides financial support for medical treatment to needy patients at KKH, and funds education, research and disease prevention programmes for women and children.

* Not his real name



Patients and caregivers with Keppel volunteers at the Cloud Forest, Gardens by the Bay.



Patients and Keppel volunteers having fun with sand art at Marina at Keppel Bay.

Make a difference in the lives of women and children

For more information on how you can volunteer at KKH or make a gift to the KKHHEF, please contact Christine or Xian Hui at **+65 6394 2329/8439**, or email **development@kkh.com.sg**.

Scan this code with your smart phone to find out more.



Medical Editorial Committee:

Associate Professor Anne Goh
Head and Senior Consultant,
Department of Paediatrics, Allergy Service,
KK Women's and Children's Hospital
Adjunct Associate Professor,
Duke-NUS Graduate Medical School

Adjunct Associate Professor Nancy Tee
Head and Senior Consultant,
Department of Pathology and Laboratory Medicine,
KK Women's and Children's Hospital
Academic Vice Chair (Clinical),
Pathology Academic Clinical Program
Adjunct Associate Professor,
Duke-NUS Graduate Medical School

Dr Serene Lim
Senior Consultant,
Department of Paediatric Anaesthesia,
Senior Consultant, Children's Pain Service,
KK Women's and Children's Hospital

Associate Professor Tan Thiam Chye
Senior Consultant,
Department of Obstetrics and Gynaecology,
Deputy Campus Director, Education Office,
KK Women's and Children's Hospital
Associate Professor, Duke-NUS Graduate Medical School
Assistant Professor, Yong Loo Lin School of Medicine, NUS

Contact information:

KK Women's and Children's Hospital
100 Bukit Timah Road
Singapore 229899
Tel: 6-CALL KKH (6-2255 554) | Fax: 6293 7933
Website: www.kkh.com.sg
Email: corporate.communications@kkh.com.sg
We are on facebook. 'Like' us for updates and news about KKH.
www.facebook.com/KKH.sg

If you would like Special Delivery to be delivered to another address, please contact us at corporate.communications@kkh.com.sg or 6394 8048.