# SMA NEWS

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# MEDICAL OPTIMISATION FOR OUR ARMED FORCES

# SMA NEWS

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**PUBLISHER**
Singapore Medical Association
2 College Road
Level 2, Alumni Medical Centre
Singapore 169850
Tel: (65) 6223 1264
Fax: (65) 6224 7827
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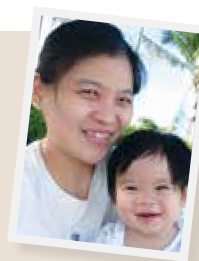
I am very pleased and honoured to present this special collaboration issue, which was almost a year in the making. It started in August 2014 as an idea to celebrate doctors in service, but as discussions with colleagues in the Singapore Armed Forces (SAF) took place, it gradually grew into a full issue to happen this year in conjunction with SG50!

Special thanks to Dr Jipson Quah and MAJ (Dr) Tan Mian Yi, my personal friends, for their effort in getting this collection of articles together. Much thought was given to ensure that we cover as many aspects of the SAF as we could, given the time and physical constraints.

I've had the good fortune to work with male colleagues who are SAF regulars (eg, Hong Yee, Leonard, Joachim and Alvin, to name but a few) and have always been impressed by their strong sense of duty and efficiency in getting things done. That set me wondering about "Army doctors" and what they do on a day-to-day basis.

Do remember that I've never served National Service (NS), unless you count having children as NS, and I do have a vested interest in knowing more for the sake of my two sons who will serve NS one day. I hope this insight into the myriad responsibilities and abilities of the SAF Medical Corps will be as inspiring and assuring to you as it is to me.



Dr Tan Yia Swam is an associate consultant at the Breast Department of KK Women's and Children's Hospital. She continues to juggle the commitments of being a doctor, a mother, a wife and the increased duties of *SMA News* Editor. She also tries to keep time aside for herself and friends, both old and new.

*Yia Swam*
Editor

# SEEK, SAVE, SERVE

Dr Jipson Quah is a medical officer who has recently completed his National Service and is currently attached to the Department of Pathology at Singapore General Hospital. He enjoys music-making, fitness-related activities and editorial work in his free time.

*Jipson Quah*
Guest Editor

**"Our nation called as need arose**
**For stations in the field**
**To treat our fallen brothers all**
**The wounded and the ill**
**Our pioneers rallied to this call**
**Then thousands joined this band**
**And soon a new cry could be heard**
**A ringing through the land"**

Excerpt from the Medical Corps' Song, *Medics of the Field*

What a year it has been for Singapore! We celebrated our nation's 50th birthday, hosted a splendid SEA Games, and mourned the passing of our nation's founding father, Mr Lee Kuan Yew. Throughout these momentous events, a constant pillar of strength was working tirelessly behind the scenes to ensure mission success — the SAF. In this issue, we celebrate the contributions of our medical colleagues working in the SAF Medical Corps, a true heavyweight in the national healthcare landscape. Having just completed my NS as a medical officer (MO), this issue holds great significance on a personal level.

*SMA News* has put together an SAF-themed issue to share more about the practice of military medicine in Singapore. As the healthcare landscape changes and the medical fraternity become more populous, it is necessary to highlight this key medical establishment, which provides excellent medical services outside the conventional medical/clinical practice. These include humanitarian/disaster relief missions, aero/naval medical evacuation and combating of bioterrorism. In this issue, you will read about the variety of roles that the SAF Medical Corps play, its specialty tracks and the challenges of practising military medicine.

Like a hospital, the SAF Medical Corps has a chief, ably assisted by various service chiefs (akin to heads of departments). Within each department, there are specialist consultants, registrars, MOs and medics, all working in teams to serve the patient population of the SAF. Visiting national servicemen consultants also frequently lend their expertise and volunteer their services to the SAF. In addition, there are public health, dental, physiotherapy and civil defence services provided to the general public. With the breadth and scope of medical practice and services provided, it is indeed a national healthcare juggernaut.

The *SMA News* Editorial Board extends our thanks to Chief of Medical Corps, COL (Dr) Tang Kong Choong, for agreeing to this SMA-SAF collaboration and Head of General Staff, MAJ (Dr) Tan Mian Yi, for helming it. Also, special thanks to MAJ Chin Kok Yee, who aided us by providing content for the issue. Lastly, we are grateful to all our contributors, both within and outside of SAF, who have worked under tight deadlines to make this special issue possible. ◆

# MILITARY MEDICINE AND SINGAPORE

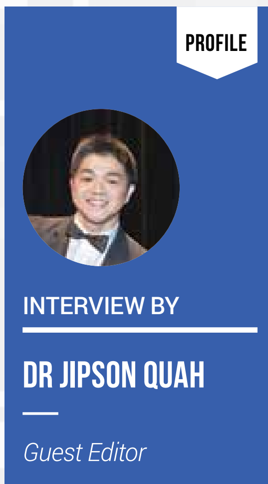
## AN INTERVIEW WITH COL (DR) TANG KONG CHOONG

COL (Dr) Tang Kong Choong joined the SAF in 1992 when he received the Local Study Award (Medicine). After completing his Bachelor in Medicine and Surgery, he returned to serve the SAF in May 1998. He held several key appointments in the Navy Medical Service and Headquarters Medical Corps before taking on the positions of Chief Naval Medical Officer (CNMO) and Commander Force Medical Protection Command in 2011. In May 2015, COL (Dr) Tang was appointed as Chief of SAF Medical Corps.

COL (Dr) Tang was responsible for planning the naval medical support for Operation Flying Eagle in the aftermath of the Boxing Day tsunami in Dec 2004. In 2008, he was sent on a recce mission to Afghanistan, in preparation for SAF's first medical deployment, codenamed Operation Blue Ridge. During his clinical posting at The Alfred, Melbourne in 2009, he contributed towards the disaster management effort of the devastating Victorian bush fires.

**COL (Dr) Tang Kong Choong (TKC)** holds a Masters of Medicine in Anaesthesiology from National University of Singapore. He is a consultant anaesthetist with Tan Tock Seng Hospital and a consultant in Diving and Hyperbaric Medicine with the Singapore General Hospital Hyperbaric and Diving Medicine Centre, and is also a board member in the Agri-Food & Veterinary Authority.

PROFILE



INTERVIEW BY

DR JIPSON QUAH

*Guest Editor*

## INTRODUCTION TO THE SAF

**Dr Tang, how have your roles and responsibilities evolved since your new appointment as the Chief of Medical Corps (CMC)?**

***TKC:*** Compared to my previous role as CNMO, my new appointment requires a deeper understanding and consideration of issues at the organisational and strategic level. For the SAF, maintaining strong public support for National Service (NS) is crucial for the defence of our nation. To this end, the Medical Corps is committed to providing quality healthcare and emergency medical care should an incident occur within the SAF. It begins by first ensuring that our servicemen are properly classified. Secondly, when they are ill or they get injured, we ensure that the best resources are available for their care. Without responsive medical support and quality healthcare, confidence in the NS institution can easily be eroded. Therefore, my role as CMC is to coordinate and improve the SAF medical system and to provide comprehensive and excellent support to the SAF.

**The SAF Medical Corps not only has a role in defence and protecting full-time National Servicemen (NSF) and regulars, but is also involved in medical diplomacy. How are these different roles performed?**

***TKC:*** In medical diplomacy, it is about how we continue to strengthen relationships with our regional neighbours and other countries. A case in point was the recent disaster relief deployment to Nepal by SAF. Though Nepal is not our immediate geographic neighbour, Singapore has had a long history of the Gurkhas deployed in Singapore. Hence, there was a compelling need to respond and provide humanitarian assistance. The Medical Corps maintains the capability and readiness to respond to any disaster in the region. We have medical personnel who are always on standby and they form the first line of response. We also depend on both our in-house regulars and Operationally-Ready National Servicemen (NSmen) specialists if the need for a surgical team deployment arises. For the Nepal relief mission, I was heartened to see how numerous NSmen specialists volunteered to be on standby and were prepared to deploy if the need arose.

## MILITARY MEDICINE IN THE NATIONAL HEALTH LANDSCAPE

**How is military medicine currently being practised in the SAF and how does it differ from conventional specialties?**

***TCK:*** Traditionally, military medicine comprises aviation and hyperbaric medicine, field surgery and sports medicine. However, with the SAF Medical Corps running 32 primary healthcare clinics, specialists and dental clinics and ancillary services like physiotherapy, we are like another healthcare cluster in Singapore. The practice of military medicine in the SAF is hence very broad and includes public health, occupational medicine, family medicine and even emergency medicine.

Of course, the SAF leads in the practice of aviation and hyperbaric medicine. Our air force doctors and staff on duty are always on standby for search and rescue operations. This service extends to the whole of Singapore and our nearby waters. If a ship out at sea runs into an emergency, the SAF will respond to its call for help. At the Singapore General Hospital Hyperbaric Diving Medicine Centre, which caters to regional commercial and recreational divers, we provide a 24-hour standby service for injured divers who require treatment for decompression sickness. We also collaborate with the Changi General Hospital Sports Medicine Centre to strengthen knowledge on treatment of sports injuries, thus contributing to the sports medicine community in Singapore.

**The medical fraternity often question how the civilian doctor population can play a role in the NS institution. So how do we, as a profession, work together for the best interests of the patient-soldier?**

***TKC:*** From the SAF standpoint, we rely on the national healthcare system to take care of our servicemen so I feel that the best thing our civilian colleagues can do is to continue to provide good medical care to our servicemen and maintain their professionalism in the management of SAF personnel when they are seen in the local hospitals or clinics. Based on the diagnosis, we will seek to deploy the serviceman appropriately in the military context. The disposition of the soldier in a military setting eventually remains the responsibility of the SAF.

Another way that civilian doctors can contribute is through their participation in SAF advisory panels and boards as visiting consultants, as well as by lending their specialist expertise and opinion to help us improve on the classification and deployment of soldiers.

**Recently, Dr Janil Puthucheary, a senior consultant in paediatrics and a Member of Parliament, volunteered as a security trooper under the newly launched Volunteer Corps scheme. What are the volunteer roles that our colleagues can play in the SAF Medical Corps?**

***TKC:*** We welcome doctors, nurses, radiographers and laboratory technicians, among others, to volunteer their expertise in the SAF. Having expertise in these fields is useful in reinforcing our training programmes in the SAF Medical Training Institute. Many of our NSmen medics, who may not be in the medical profession, need regular skills refresher training. They will benefit

tremendously from the experience and expertise of these volunteers who will work alongside our regular medical trainers. I would like to highlight that the SAF Medical Corps has a long history of working with medical volunteers. From the early 1970s, we had many doctors and nurses volunteering their services in the newly formed Combat Support Hospitals. Today we have esteemed colleagues like Prof Low Cheng Hock who has been involved in our Advanced Trauma Life Support programme for a long time; A/Prof Kenneth Mak, A/Prof Aymeric Lim and Dr Nelson Chua, who have gone over and beyond their call of duty to contribute in the SAF.

**What was the SAF Medical Corps' role in the SG50 SEA Games and events?**

***TKC:*** The SAF Medical Corps provided medical support for the Opening and Closing Ceremonies (OCC) as well as for all the competition venues throughout the 28th SEA Games 2015 (SEAG15), held in Singapore from 5th to 16th June 2015. More than 200 SAF medical personnel were deployed across 19 medical posts for the SEAG15 OCC, and more than 100 SAF medics augmented the medical support at all SEAG15 competition and training venues. In addition, the SAF Medical Corps conducted professional training for approximately 500 Volunteer Paramedic Assistants, who assisted in medical coverage throughout SEAG15.

## ON A MEDICAL CAREER WITH SAF

**Tell us more about your SAF career and anaesthesia practice. What led you to decide to join the SAF Medical Corps?**

***TKC:*** As CMC, I take my appointment and responsibilities very seriously, and so naturally, most of my time is spent in the SAF. Most of my time in the SAF is spent meeting my staff and SAF leadership, visiting different medical units in the SAF and also establishing linkages and opportunities for the Medical Corps both in Singapore and internationally. As an anaesthetist, I try to spend about two sessions per week in Tan Tock Seng Hospital (TTSH) to maintain my practice. I really enjoy the time there because I get to interact with patients, residents and medical officers (MOs). Occasionally, when the workload varies, I calibrate my clinical commitments accordingly. I attend continuing medical education (CME) activities regularly and whenever the opportunity arises, I try to acquire new skills such as the use of ultrasound for regional anaesthesia. Although I am a consultant, I recognise my limitations and seek the advice of other senior consultants whenever I encounter complex cases.

I think my decision to join the SAF is quite interesting because back in 1992 when I was a recruit, I had a negative experience at the medical centre. I remember asking myself, "*Why did this doctor treat me that way?*" Then it struck me that I could do something about it rather than accept the situation. That year, I was one of six scholars offered the Local Study Award in medicine. When that opportunity presented itself, I saw the potential to do something different and it also helped that the award would provide some financial assistance for my studies. As my career progressed and I rose through the ranks, I decided to stay on, as I enjoy the unique blend of work that the SAF offered — both clinical and policy-making.

**Would you encourage more medical students and doctors to join the SAF Medical Corps, since there is a scholarship?**

***TKC:*** That's a very good question. I think we can do with more medical students and doctors because there is more we can do to improve the medical system in the SAF. However, every doctor we bring into the armed forces is one doctor we take out of the local healthcare sector. I know how short of staff our hospitals are and so that is something we're very careful about. Human resource is the only resource that Singapore has, so we need to manage this precious resource of doctors in public service very judiciously. The good thing is that when our doctors leave the SAF, they bring with them added skillsets that will

allow them to add value in the public sector. I think the challenge with recruitment lies in the fact that most 19-year-olds who apply to study medicine will be very focused on having a conventional clinical career. It will not be easy to convince them that they will need to devote time for medical administration if they join the SAF. To this end, we do have the provision for our doctors to specialise and also spend time in the hospital every week while they are in SAF to maintain their clinical skills and competencies.

## ON SAF COLLABORATION WITH EMERGENCY DEPARTMENTS

**In recent years, there has been two large collaborations between SAF and Ministry of Health (MOH) — firstly, to rotate pre-enlisted MOs in emergency departments (EDs) and secondly, to position SAF MOs in the department during certain hours. Can you tell us more about how these initiatives have fared?**

***TKC:*** The idea of rotating pre-enlistees for anaesthesia or emergency medicine postings came about because we received feedback from MOs who had no prior postings in acute or emergency medicine. They expressed their concern about facing their first collapse case while serving their NS. When we raised this possibility, we knew we would face a lot of inertia and even resistance because this would take up extra time and could disrupt residency training. Fortunately, we had the strong support from MOH, especially from Prof Satku, then Director of Medical Services at MOH, who saw the need to train our doctors before they serve NS.

Through this initiative, we have been able to help MOs develop competency and confidence to manage P1 emergency cases. This is evident in some of the recent cases where resuscitation and evacuation were required. It has really made a difference, as our MOs felt confident in managing these cases on their own. I am confident that this initiative will continue to make a positive difference and enhance the care we provide to our NS boys.

As for the placement of SAF MOs at selected hospital EDs, ED staff certainly welcomed the presence of SAF MOs to manage SAF servicemen who seek medical care at the EDs. Our MOs have also given good feedback, as they get to manage a mix of P1 and P2 cases with the ED staff, in addition to SAF personnel who present at the ED. This helps to give more breadth and depth to their clinical practice within the SAF. Of course, we are still studying the long term sustainability of this initiative as we need to ensure that the operational demands of the SAF are not compromised.

**Do you think NS can be formalised into a military medicine residency?**

***TKC:*** I think the question is whether NS can first be considered an elective posting that can count towards their residency training. What you have suggested is quite interesting, but not easy to work out because to get it accredited as an elective and count towards residency, we will need to subject the SAF posting to the entire Accreditation Council for Graduate Medical Education (ACGME) system. To fulfil these requirements, you must have many consultant supervisors and one must clock all their cases, hours of training and CME.

In the larger conversation that we must have with MOH/ACGME is whether it is even possible to consider this. One potential issue is that we have very differing job scopes for NSFs. One can be a battalion MO, staff officer, or medical centre MO in different services. So how do we meaningfully accredit the training and consolidate it into a single residency? It's a good idea, but I think it will be quite challenging.

## PERSONALLY SPEAKING

**What are some of your hobbies outside of SAF and TTSH?**

***TKC:*** Being in the SAF, I make it a point to keep fit. I do this by making time to go to the gym, run around my estate and swim laps when my children go for their swimming lessons. We spend Saturdays as a family and attend church on Sundays. I also enjoy reading and am currently reading a book on food production and food security called *The End of Food* by Paul Roberts. It's an interesting commentary on the fragility of the global food industry including a very scathing analysis of how large food manufacturers are driving up costs for consumers!

**Any last thoughts for our readers?**

***TKC:*** Throughout my career, I have appreciated the fact that most of our SAF doctors have been viewed favourably as clinicians. Personally, I am appreciative that TTSH has appointed me as a consultant in the department, as they value me as a fellow colleague and clinician, not just as a soldier. Our hospital colleagues also recognise the different roles that we play in humanitarian, relief and rescue operations. As clinician-administrators, we are here to provide the best healthcare in the SAF and to develop policies that will benefit the national population. And should our services be called upon by the people of Singapore, we are always ready to respond. ◆

# THE NS EXPERIENCE

I remember my first day of enlistment quite clearly. It was a humid Monday morning in March when I trudged up the hill at Dempsey Road, where the former Central Manpower Base (CMPB) was located. In a single-storey building next to the small circular driveway, where Huber's Butchery & Bistro is currently located, I took my SAF oath in a room packed with Singaporeans from all walks of life. At the quadrangle, we boarded a three-tonner truck, which whisked us off to some distant location to collect our gear.

The journey in the truck was rocky, hot and sticky. Amid the roar of the engine and hissing of the brakes, there was an uncomfortable silence. I was among strangers embarking on an unknown journey, leaving behind the comforts of home and family. At the army supply depot, we were led down a large hallway and hurriedly fitted with equipment. Each of us was issued four sets of uniforms, thick cotton green t-shirts and socks, a pair of stiff heavy leather boots, water canteens, mess tins, and other strange-looking equipment unfamiliar to me at that time. The helmet was a heavyset steel tin-can that looked like it came from the Vietnam War era and the black running shoes had thin rubber soles. Apparently, arch support and midsoles had not been invented then. Everything was stuffed into a voluminous "Ali Baba" bag made of thick green canvas, so named because one could possibly stow one of the 40 thieves in it. We were then taken to the commando jetty where a landing ship, the ramped powered lighter (RPL), was waiting to transport us to Pulau Tekong.

In those days, most of the difficulty and hardship that one suffered could be attributed to the lack of information. It was the era before the internet and smartphones, with not much knowledge available to prepare one for what lay ahead in basic military training. Recruits were literally "blur like *sotong*" because most had no clue what was required of them. There was no blog to read about the experience of others, no forum to discuss army preparation and no YouTube to watch *Ah Boys to Men*. It was not until I was on the RPL watching the shoreline of Singapore receding that reality hit home; there was no escape. I cannot say that I enjoyed my three months in Pulau Tekong — it was physically demanding and emotionally tough, especially for an 18-year-old.

Six years later, I returned to embark on the medical officer cadet course (MOCC), a six-month training programme for our cohort of male doctors who had completed housemanship. This time, things were very different. I remember that first day of re-enlistment very well too. We were in a similar army truck, but this time, instead of an uncomfortable silence, there was much bantering and cautious laughter as we returned to the military with our medical school classmates. We knew what to expect and many of us had physically conditioned ourselves for the training ahead. We were more mature after surviving housemanship (which was, arguably, more gruelling than army training!) and could rely on each other for moral support. We were among friends. I would not have guessed then that among us were the future Chief of Medical Corps and Chief Air Force Medical Officer.

One experience that stood out during MOCC was the jungle training in Brunei. Our section of cadets (Wee, Wong, Wong, Wu and Yap), having lost our checkpoint, had set up camp to pass the night. The jungle quite literally sprang to life after dark and was filled with a cacophony of noises. The swooping, swishing, crackling and cackling kept us up for the better part of the night, and it felt like we could be hit by a swinging creature any moment. At about 3 am in the morning, our camp was overrun by a swarm of army ants. At 4 am, as I lay in my hammock shivering after a rainstorm, with my bottom gently swaying barely two inches off the forest floor and the sound of ants rustling underneath, I stared into the forest and saw the dark vegetation magically illuminated by two bands of light. The night sky lit up in a purplish glow above us, while the forest floor glowed in green phosphorescence. It looked as if the entire jungle was sandwiched and floating in a band of twilight.

After MOCC, I was posted back to Dempsey Road camp. By that time, CMPB had moved to Depot Road, leaving the Headquarters Medical Corps (HQMC) and the SAF Band behind. I was assigned as a staff officer to Col (Dr) Lionel Lee, then Chief of Medical Corps. HQMC, consisting of a cluster of separate small buildings set among shady banyan trees, was a very serene and peaceful camp to work in. Staff officers would have meals at the canteen, which is the site now occupied by PS.Cafe. Administrative work was not a skill taught in medical school; we had to learn how to draft meeting minutes, write official correspondences and organise events on the job. Those were the early days of office intranet, dial-up modems and work plan presentations done using frames of developed film cast on a white screen by slide projectors.

My third and longest phase of army life was my assignment to an armoured medical company and being called back as an Operationally-Ready National Serviceman (NSman). My first high key training took place more than ten years ago and I have

Illustration: Dr Kevin Loy

PROFILE

TEXT BY

## DR WONG TIEN HUA

Dr Wong Tien Hua is President of the 56th SMA Council. He is a family medicine physician practising in Sengkang. Dr Wong has an interest in primary care, patient communication and medical ethics.

been called back almost every year since. Being posted to a unit helped me forge new friendships, as people from different backgrounds bonded with one another in training from year to year. Camaraderie goes beyond the annual two weeks of training, as many NSmen gather on social occasions and celebrate important life events. Many of my army buddies have come to me for medical consultation, for they consider me to be someone they could trust, a feeling that is mutual. It was these strong bonds that convinced me to extend my National Service (NS) commitment so that I could go through the battalion assessment exercise with these men.

I have witnessed the gradual transformation of the SAF from the time of my first enlistment. Lightweight Kevlar helmets, waterproof Gore-Tex boots and proper running shoes are some of the big improvements that have benefited the soldiers. One will not be able to appreciate these unless one has had the experience of donning the old equipment. Try running around in a heavy steel helmet in tropical heat and one would immediately appreciate the vast reduction in weight afforded by Kevlar. Cookhouse food has improved to the point that I found myself looking forward to meals during In-Camp Training. Above all, the training methodology has evolved with the times; now, there is a strong emphasis on ownership of training among NSmen and commanders can decide how the yearly training should be conducted.

The one experience that stood out during my training was the opportunity to take part in Exercise Wallaby in Australia. We had spent four days in the open terrain and were preparing for the final push to our exercise objective. It was past midnight as I was returning to my medical company on completing my briefing and planning at the battalion headquarters. The November evening was cool and a dry wind was sweeping across the open field. As my eyes adjusted to the night, shimmering blades of tall grass swaying gently came gradually into focus under the silvery light of the moon. With no light pollution in the Australian outback, I was able to gaze up at a crystal clear sky filled to the brim with billions of stars and distant galaxies. That was truly breathtaking!

I do not think my NS experience was particularly special, as many in our medical profession have gone through the same training and would have their individual stories to tell. However, the NS experience is unique to Singaporeans because few countries afford their doctors such an opportunity away from mainstream medical practice.

NS training is tough — it demands one's time and necessitates sacrifice away from work and family, but it is unquestionably an experience unlike any other. ◆

# BEYOND THE CALL OF DUTY

**The SAF Medical Corps plays a crucial role in maintaining the health of our soldiers and optimising their combat performance. Beyond that, it also renders medical assistance to our neighbouring countries in need and helps to spearhead regional medical initiatives. Six senior commanders of the SAF Medical Corps, each outstanding specialists in their own field, from the Civil Defence Force, Biodefence Centre, Army, Air Force, Navy and Military Medicine Institute (MMI) share how their respective services respond to the call of duty to *seek excellence, save lives and serve the SAF.***

PROFILE

TEXT BY

**SLTC (DR) NG YIH YNG**

SLTC (Dr) Ng Yih Yng is an SAF emergency physician and holds a Master in Public Health and Business Administration from Johns Hopkins University. He holds the rank of COL as the CMO in the SCDF. He is actively involved in EMS research in Asia and is also the Vice-Chairman of the Asian EMS Council.

## SINGAPORE CIVIL DEFENCE FORCE

All SAF medical officers (MOs) have unconventional careers compared to their peers. I have had the unique experience of working in military preventive medicine, although I am an emergency physician by training. I have "toured" Timor Leste as a United Nations peacekeeper for three months, organised the Boxing Day tsunami epidemiological surveillance, managed a chain of over 30 SAF primary care clinics as Deputy Commander of MMI and coordinated with the US Armed Forces to send our SAF medical personnel, including National Servicemen (NSmen) doctors, to run a surgical team in Afghanistan.

In addition to my training in emergency medicine and public health, the military leadership development and training in medical administration I have received in SAF, provided a valuable foundation for my secondment as the Chief Medical Officer (CMO) of the Singapore Civil Defence Force (SCDF) in 2012.

As the CMO of SCDF, I have had the privilege to drive and implement a coordinated Ministry of Health (MOH)-Ministry of Home Affairs Emergency Medical Services (EMS) masterplan. The last three years have seen the introduction of new equipment and drugs, such as intraosseous needles, professional grade defibrillators that transmit ECG wirelessly by 3G connectivity, tramadol, Penthrox inhalers and faster class III ambulances, in our efforts to upgrade SCDF's capabilities.

The use of systems thinking, acquired from SAF staff processes, has also helped me to holistically review our EMS system, leading to the strengthening of medical leadership structures, improved paramedic education and workforce transformation by cross-deploying firefighters as emergency medical technicians.

Finally, to benchmark our EMS, we've compared our efforts against some of the best EMS systems in Arizona, Milwaukee, Seattle, Tokyo, Taipei and Seoul, leading to transformative initiatives that have doubled bystander cardiopulmonary resuscitation rates from 22% (2012) to 47% (2014) nationally.

## BIODEFENCE CENTRE

SAF's contributions to infectious diseases prevention extend beyond Singapore to the wider regional and global scientific community. The SAF has built upon existing scientific research in infectious diseases prevention and control. For example, its seminal study[1] on the efficacy of ring chemoprophylaxis with oseltamivir in the 2009 H1N1 influenza has significantly advanced the understanding of medical protection measures.

The SAF has since developed expertise in biodefence matters and participated in international military and scientific meetings. In addition, SAF staff has also been seconded to the World Health Organization (WHO) — a clear recognition of the quality and expertise of SAF personnel.

Notably, at the height of the H5N1 avian influenza outbreak in 2007, I was given the opportunity to assist the WHO office in Indonesia. Being trained and qualified as a preventive medicine physician and infectious diseases epidemiologist, I was intimately involved in the development of the avian influenza pandemic preparedness and response plan for the country. Subsequently, I was appointed as advisor to the Assistant Director General for Health Security and Environment at the WHO headquarters in Geneva from 2010 to 2012, and have since been actively shaping international health policies.

These opportunities for secondment were also extended to other SAF personnel. During the 2014 MERS-CoV outbreak in the Middle East, Ms Christine Gao, Head Epidemiology Section of SAF Biodefence Centre, was sent to WHO to assist with the response. These secondments serve to enhance the professional exposure and training of our personnel and at the same time, benefit the SAF through the networks established with international biodefence experts.

The fight against emerging infectious diseases (EIDs) is not something that SAF can undertake on its own due to the global nature of EIDs and the global health security concerns.

The SAF builds on its strong biodefence framework by leveraging on both local and international partners. Locally, the SAF collaborates with agencies and institutions such as the Defence Science Organisation, MOH, National Environment Agency, Agri-Veterinary Authority of Singapore, Saw Swee Hock School of Public Health and local hospitals to build the necessary linkages for exchange of information and expertise. Internationally, the SAF has also established collaborations with our regional and international military counterparts to optimise research efforts and to ensure timely exchange of information on EIDs.

PROFILE

TEXT BY

**LTC (DR) VERNON LEE**

LTC (Dr) Vernon Lee is Head of the SAF Biodefence Centre. He is in charge of preparedness, surveillance and response to infectious diseases in the Singapore military. He is also an associate professor at Saw Swee Hock School of Public Health and the Deputy Director for Communicable Diseases in MOH, spearheading public health policies, disease response, and research activities.

*References*

**1.** Lee VJ, Yap J, Cook AR, et al. Oseltamivir ring prophylaxis for containment of 2009 H1N1 influenza outbreaks.N Engl J Med. 2010; 362:2166-74.

*Legend*

**1.** LTC (Dr) Vernon Lee works closely with his counterparts in the WHO.

PROFILE

TEXT BY

**COL (DR) POON BENG HOONG**

COL (Dr) Poon Beng Hoong holds the appointments of Chief Army Medical Officer and Commander, SMTI. He is a family physician by training and also holds an MBA with specialisation in healthcare management.

*Legend*

**1.** The inaugural joint medical socio-civic mission between the Vietnam People's Army and the SAF to locals at Vinh Phuc province, Hanoi, from 15 to 18 April 2015.

# ARMY MEDICAL SERVICES

Through National Service (NS), the Army conscripts the Singapore male population every year to train them as soldiers and to form fighting units. Upon completion of full-time NS, they will continue to serve in their NS units to ensure the operational readiness of the Army. Every cohort comprises males from all walks of life with different aptitudes and capacity for physical activities. They are expected to carry heavy loads and perform strenuous tasks in our tropical climate.

Besides training for battle, the Army is also regularly called upon to organise large-scale complex national events such as the annual National Day Parade. It is also tasked to respond to natural disasters in our neighbouring countries and to provide support and relief to those affected.

The Army Medical Services (AMS) plays an important role in supporting the mission of the Army. To ensure the safety and well-being of our soldiers during training and operations, the medical support in both peacetime and operations needs to be robust and of high exacting standards.

Through the headquarters and subunits, the AMS oversees the training of all the medical vocationalists and units (including the Combat Support Hospitals), manages medical matters of the ground units, provides injury rehabilitation to maximise soldier performance, and ensures operational readiness to respond to Humanitarian Assistance and Disaster Relief (HADR) operations when called upon.

Through the SAF Medical Training Institute (SMTI), medics, paramedics, nurses and MOs are trained to deliver the best care validated by evidence and international best practices. Effective team training of the medical units and Combat Support Hospitals ensures that, in military operations, they will take on crucial roles to treat combat injuries and perform life-saving surgeries. All our MOs are trained and certified to provide Advance Trauma Life Support, while the surgical teams also undergo more advanced training in trauma management.

The Soldier Performance Centre in the AMS works closely with the local sports medicine fraternity to utilise the latest medical evidence to reduce injuries and to optimise the performance of our soldiers through regular improvements to the Army's training policy and physical equipment.

Over the years, the AMS has participated in numerous socio-civic missions and HADR operations such as the 2004 Indian Ocean tsunami and the 2015 Nepal earthquake. We have constantly maintained a high level of readiness of our personnel and equipment for swift deployment. Lessons learnt from these deployments are incorporated into the development of the Army's surgical capabilities.

In summary, the AMS oversees a wide span of responsibilities. It is through the dedication and professionalism of its people that the AMS has grown from strength to strength over the years.

# REPUBLIC OF SINGAPORE AIR FORCE MEDICAL SERVICE

The medical service of the Republic of Singapore Air Force (RSAF) traces its roots back to 1968, when it began as a medical centre providing support to the (previously known as) Singapore Air Defence Command.

Since then, the RSAF Medical Service (AFMS) has undergone rapid changes and reorganisations, each furthering its ability to support the RSAF in its different stages of development and operational needs. AFMS is responsible for three main areas of medical operations, namely medical training, medical research and capability development. The AFMS headquarters oversees the planning and deployment of assets for operational medical support for all RSAF local and overseas activities. This entails developing and executing medical support for local and overseas flying, ground-based air defence deployments and heliborne search-and-rescue missions. In addition, AFMS is responsible for providing aeromedical evacuation (AME) for any injured SAF personnel requiring medical repatriation from overseas. This includes the assessment for fitness-for-flight, the optimal mode of AME platform (military or commercial platforms), configuration of medical equipment and deployment of the AME teams to perform in-flight critical care.

The AFMS has a specialist centre known as the RSAF Aeromedical Centre (ARMC). Inaugurated in 1982, ARMC has developed into a centre of excellence in aviation medicine after more than 30 years of operations. ARMC is a one-stop specialist centre that provides a comprehensive range of aviation medicine services for all RSAF airmen. ARMC focuses on aircrew health, medical selection, aviation physiology training and human performance programmes through four main specialist domains:
(1) Clinical Aviation Medicine;
(2) Aviation Psychology;
(3) Aviation Physiology and Crew Safety Enhancement; and
(4) Performance Maximisation.

In 2009, RSAF commissioned a new suite of training equipment that enabled ARMC to conduct third-generation Aviation Physiology Training (APT) for RSAF airmen. The suite of APT equipment included the human training centrifuge, spatial disorientation trainer, air force night vision integrated laboratory, ejection seat trainer and altitude (hypobaric) chamber (to be upgraded in 2016). ARMC has also implemented the APT e-learning initiative to better educate airmen about physiological threats in air operations.

In 2014, aviation medicine was formally accredited as a medical subspecialty in Singapore. ARMC, with National University Health System as the sponsoring institution, will run a national programme, known as the Aviation Medicine Subspecialty Training Programme, to train aspiring aviation medicine physicians in Singapore.

PROFILE

TEXT BY

COL (DR) GAN WEE HOE

COL (Dr) Gan Wee Hoe is concurrently the Chief Air Force Medical Officer and Assistant Chief Medical Corps (Capability Development and Systems Integration). He holds dual specialist accreditations in occupational medicine and aviation medicine. He sits on the Civil Aviation Medical Board and Chief Medical Informatics Officer Council (Ministry of Health), and is a member of the Subspecialty Specialist Training Committee for aviation medicine.

*Legend*

**1.** A group photo of AFMS personnel during the SAF Medical Corps Workplan Seminar.

1

PROFILE

TEXT BY

SLTC (DR) CHOW WEIEN

SLTC (Dr) Chow Weien is concurrently the Chief Naval Medical Officer and Commander Force Medical Protection Command. He oversees the SAF Biodefence Centre and Medical Response Force. He is also a SAF cardiologist.

*Legend*

**1.** Preparing the Deep Search and Rescue 6 submarine rescue vessel for action.

# NAVY MEDICAL SERVICE

From a humble beginning with just two wooden ships, the Republic of Singapore Navy (RSN) has become a modern, versatile and respected modern force today. The office of Senior Medical Officer was formed in 1971 to support the fledgling Navy, and this has since transformed into the current Navy Medical Service (NMS).

Generations of full-time National Servicemen (NSF), NSmen and regular MOs have come through NMS to serve on board the missile gunboats, missile corvettes, patrol vessels, mine counter measure vessels, landing ship tanks, submarines and frigates. It is definitely not a task for the faint-hearted, as our MOs have to work independently in austere environments for prolonged durations out at sea, away from any shore hospital.

It is the strength of our NSmen that has contributed to the successful development of the RSN naval surgical capability. The RSN is one of the few navies in the world where surgeries can be conducted on board a ship. This capability is regularly exercised when we render much needed medical and surgical assistance to remote islands in the region during our socio-civic missions. Of note, foreign navies have commended the RSN for our accomplishments. This is a very high accolade indeed.

What motivates us in the NMS is our need to support and defend Singapore's every day. To this end, our MOs are required to:

1. Possess professional skills and knowledge to support ships that are deployed for prolonged durations during training and operations. More importantly, they are deployed on board ships to safeguard Singapore waters and to ensure maritime security by protecting our vital sea-lanes of communication.
2. Train "under pressure" in underwater medicine to support divers and submariners at the Naval Diving Unit and on board the submarine rescue vessel, MV *Swift Rescue*.
3. Become "fly docs" as part of the RSN naval aviation capability (naval helicopter).

NMS has been deployed for several significant operations such as HADR mission in Aceh (Boxing Day tsunami), peace support operations in the Northern Arabian Gulf (where we assisted in post-war reconstruction efforts in Iraq), anti-piracy operations in the Gulf of Aden, and search and recovery operation for AirAsia QZ8501 earlier this year.

As we celebrate SG50 and reflect on our past achievements, we also look ahead with confidence that the commitment and dedication of our people will enable us to achieve greater things for the RSN, so that we can continue to defend our waters and protect our every day.

I would like to thank every doctor and medic (past and present) who has helped build NMS into a credible medical force that can support the wide spectrum of RSN operations. We can indeed be proud of what we have achieved.

## MILITARY MEDICINE INSTITUTE

The mission of the Military Medicine Institute (MMI) is to sustain and enhance the health of the SAF forces, in peacetime and war, through the provision of primary and specialist healthcare as well as emergency medical care. These are delivered through a network of medical centres, dental centres and specialist clinics run by NSF, NSmen, Defence Executives, as well as civilian medical staff. MMI is also the governing body for healthcare policies, medical classification and health promotion in the SAF.

To safeguard the health of our soldiers, MMI constantly benchmarks itself against standards in the public healthcare institutions and takes alignment with established clinical practice guidelines. MMI employs a medical governance system that taps on the expertise and experience of eminent senior doctors in the public sector, in the form of advisory boards and visiting consultants. This ensures that MMI delivers the best medical care to our soldiers, while keeping up with the changes in the healthcare landscape. Other initiatives, such as the Physician Partnership Programme, where experienced civilian family physicians are deployed in selected medical centres to provide mentorship to NSF MOs, and the SAF Cardiac Fitness Centre, where a partnership with National Heart Centre Singapore has enabled expeditious access to world-class specialist cardiac investigations and care, have also integrated MMI with the nation's larger healthcare ecosystem.

While primary and specialist healthcare optimises the health and deployability of each soldier, the provision of swift and robust emergency medical care allows for tough and realistic training. In this area, MMI medical centres are always on standby to respond to medical emergencies that may arise during rigorous military training. To maintain the proficiency of medical personnel, medical centres conduct frequent resuscitation drills and refresher training. Modern medical facilities and resuscitation equipment, mirroring those in government hospital emergency departments, further serve to strengthen the trust and confidence of the soldier and the public.

In caring for our soldiers, MMI faces unique challenges, as well as opportunities.

Every soldier is a Singaporean son, brother, husband or father. Given the conscript nature of NS, taking care of the serviceman frequently involves managing his family as well. This is especially the case with NSF, where anxious parents often ask more questions than the patient himself. Nonetheless, it is in MMI's interest to reassure all parents that a robust medical system is in place to take care of their children, for our servicemen's commitment to the nation's defence stems partly from their family's support.

Every year, more than 20,000 young Singaporean males are enlisted into NS, and they go on to become NSmen who return for In-Camp Training for the next ten or more years. This constantly replenished "captive" audience represents an excellent opportunity for health promotion. By encouraging healthy lifestyles such as eating right, smoking cessation and reduction in obesity, MMI's health promotion efforts play a big role in the health of a large proportion of Singaporeans. Through imbibing practices that can stay with these NSmen for their lifetime, we hope to reduce the eventual burden of chronic diseases on the nation. ◆

PROFILE

TEXT BY

**SLTC (DR) LIM HOU-BOON**

SLTC (Dr) Lim Hou-Boon holds the appointment of Commander of the MMI. He is an aviation medical officer who joined the SAF in 1995 under the Local Study Award (Medicine) scheme. SLTC (Dr) Lim is also an ophthalmologist who practises at the Singapore National Eye Centre.

*Legend*

**1.** Resuscitation and treatment facilities in the new generation medical centres.

PROFILE

TEXT BY

## MAJ (DR) SOH TECK HWEE

MAJ (Dr) Soh Teck Hwee currently holds the post of Deputy Commander Military Medicine Institute (PHS). He is also a military psychiatrist who derives immense joy from helping NSFs complete their two years of national service. Between these roles, he is either on the hunt for good food or his next diving vacation.

*Legend*

**1.** The Psychology Care Centre family at the Military Medicine Institute

The first reaction I often get from people when they hear that I am a military psychiatrist is a look of scepticism with a healthy dose of wariness. Psychiatrists in general are pretty much used to this look regardless of our area of subspecialty. This is often followed by the two inevitable questions, "Can you read my mind?" followed by "So how do you diagnose people who *keng* (Army slang for malingering)?"

This light-hearted dig at myself illustrates some of the misconceptions that some people may have about the practice of psychiatry, especially in the SAF.

There is currently no "official" definition of military psychiatry. It has often been described as the practice of psychiatry in the context of the military environment and the management of mental health issues arising from military service. Personally, I have found the most apt description published in a psychiatric bulletin from the Royal College of Psychiatry, which describes military psychiatry as an "occupational service" to maintain the mental health of individuals in the armed forces.

There are distinct differences between a civilian environment and a military environment, the latter brings with it a unique set of operating challenges. This fact, coupled with the nature of National Service (NS) in Singapore, which is based on a universal conscription system, means that mental health issues can arise from both healthy people being placed in an unfamiliar environment as well as from patients with existing mental illness serving NS. Therefore, the mandate of the military psychiatrist to ensure the mental health of the soldiers goes beyond that of simple treatment to one that includes prevention and optimisation.

In 1973, LTC (Ret) (Dr) Fong Yeng Hoi started the psychiatric services in the SAF. He laid the foundation of what was to become and still is one of the hallmarks of military psychiatric practice — a complete holistic occupational health approach to psychiatry, focusing on not only clinical well-being but also the development of policies and the shaping of the military environment to ensure that our soldiers are able to perform at their best psychologically in the challenging military environment.

This approach requires an in-depth understanding of the military environment and the ability to contextualise it to the practice of psychiatry. The psychiatrist forms a part of the greater SAF mental health ecosystem, which also comprises defence psychologists, counsellors and unit commanders.

Military psychiatry can be broadly divided into three categories — clinical healthcare provision, mental health policies and operational mental health support.

Our colleagues in the national healthcare system and generations of doctors who serve as full-time National Servicemen (NSF) will be well acquainted with the Psychological Care Centre (PCC), which provides clinical treatment to servicemen. PCC includes the psychological medicine inpatient centre, more fondly known as the SAF ward, which used to be located in Alexandra Hospital and is slated to be relocated in the later part of the year. The mental health issues treated at PCC range from temporary adjustment difficulties to psychiatric illness with age of onset in early adulthood, such as depression and psychosis. A key component of the clinical practice not often seen in hospital practice is unit liaison, where the clinicians (including counsellors and psychologists) work closely with the unit to ensure that the serviceman is able to adapt to the military environment and to mitigate the impact of the environment on the illness and vice versa. The majority of my consultations end with a telephone call or an email to the unit commander. This enables me to get a better understanding of the soldiers' situation in camp, explain to the commander the nature of the illness and its effects on the soldier's ability to perform, as well as discuss how we can work to help him get better without compromising mission readiness.

A lesser known aspect of military psychiatry is its role in shaping the milieu of the SAF with regard to mental health. This is far-ranging and encompasses policy setting, mental health screening, guidelines and standards, as well as mental health education and promotion. A key area that the psychiatrist works closely with the Defence Psychology Department (DPD) is that of ensuring psychological well-being and the development of mental resilience. The holy grail of any clinician is thus not treatment but better prevention of mental illness.

Another major area in military psychiatry is its role in operations. From "shell shock" in the First World War to post-traumatic stress disorders from the War on Terror, there are recognised psychological costs to military missions. This extends to peacetime training incidents, even psychological trauma from being exposed to scenes of carnage and disaster during humanitarian missions. The military psychiatrist works with counsellors from the SAF counselling centre and DPD to develop strategies to mitigate the impact of such incidents. These include established protocols for incident management, screening and follow-up to evidence-based treatment approaches such as eye movement desensitisation reprocessing, stress debriefing and cognitive behavioural therapy.

Thus, the military psychiatrist has two roles — that of a psychiatrist and an officer. Although it can sometimes be challenging to align therapeutic goals to that of organisational demand, with sound clinical judgement and an in-depth understanding of the military environment, guided by SAF core values, we can achieve mission success to ensure the mental well-being of our soldiers. ◆

**WE SAW A LOT OF WAR WOUNDS AND TRAUMA CASES, FROM GUNSHOT WOUNDS TO LIMBS THAT WERE BLOWN OFF OR HAD TO BE AMPUTATED. BEING IN DEPLOYMENT IMPARTS A SENSE OF MISSION AND REALISM TO YOUR WORK AND IT BRINGS HOME THE PICTURE THAT WAR IS REAL, AND WE MUST BE PREPARED AT ALL TIMES.**

**— MAJ (Dr) Soh on his personal takeaway as part of the medical team deployed at a field hospital in Afghanistan.**

# MAXIMISING PERFORMANCE AND SAFETY

PROFILE

TEXT BY

### LTC (DR) JEREMIAH CHNG

LTC (Dr) Jeremiah Chng is Head of Naval Underwater Medicine Centre. He oversees the diving and hyperbaric medical support for all naval underwater operations and drives the research and development of underwater medicine in the RSN. He completed his Masters in Public Health in 2012 and is an occupational medicine specialist.

## UNDERWATER MEDICINE

The birth of underwater medicine in Singapore can be traced back to the 1960s when the Republic of Singapore Navy (RSN) received her first hyperbaric chamber. Since then, the Navy Medical Service (NMS) has regularly sent medical officers (MOs) to the United States, Canada and Australia for training in diving and hyperbaric medicine. By the end of the 20th century, NMS had established a robust medical support system for military diving and submarine operations, as well as a 24/7 emergency hyperbaric oxygen treatment capability for all recreational and commercial divers operating in Singapore and the region. As the only national resource in hyperbaric medicine, NMS also provided medical consultancy in compressed air works to support projects such as the construction of underground tunnels for the Mass Rapid Transit projects in the 1980s and 1990s.

Diving and hyperbaric medicine is a specialised field of medicine that deals with the physiological effects of working "under pressure" in the underwater environment. Failure to accurately diagnose and treat diving-related injuries may result in permanent injuries or even death.

Till this day, very little of diving and hyperbaric medicine is taught in medical school. Therefore, all our MOs need to undergo an intensive two-week underwater medicine course to equip them with the fundamental skills and knowledge. In fact, we have extended the course to benefit doctors practising in the public sector and doctors from the region. The course was renamed Singapore Hyperbaric and Underwater Medicine Course and is conducted once a year. It is accredited nationally by Ministry of Manpower and accredited internationally by the Diving Medical Advisory Committee.

The development of underwater medicine has expanded tremendously since the first RSN submarine, RSS *Conqueror*, started operation in 2000. The RSN now boasts a state-of-the-art submarine rescue vessel, MV *Swift Rescue*, and NMS operates a full suite of three multi-place hyperbaric chambers, a high dependency ward and a general ward to support treatment of submariners from distressed submarines.

The development of deep expertise in submarine medicine, as part of underwater medicine, ensures that our MOs are able to support current and new RSN submarines and to develop Singapore as a regional submarine rescue hub. Our close collaboration with Singapore General Hospital Hyperbaric and Diving Medicine Centre has also enabled NMS to continue to contribute at national and regional levels by providing essential 24/7 emergency treatments to SAF military divers as well as recreational and commercial divers.

## MILITARY SPORTS MEDICINE

Military sports medicine in the SAF started in the early 1980s, with the establishment of the Physical Performance Laboratory, which functioned as a centre for exercise stress testing. Over time, the evolution and expansion of roles and functions saw the emergence of physiotherapy services being provided, and the entity was renamed Soldier Performance Centre (SPC) in 1988. Today, SPC has expanded to include three sections — sports medicine, performance maximisation and occupational health.

Military sports medicine is important to the SAF given the physically demanding nature of military training and the varying physical fitness level of full-time National Servicemen prior to enlistment. SPC's programmes and initiatives have contributed significantly to training safety, musculoskeletal and heat injury prevention and management, performance maximisation and obesity management.

To equip our medical personnel with the appropriate skills and knowledge, the SAF sends regular MOs for overseas programmes to further their education in this emergent field. Currently, regular MOs who specialise in sports medicine undergo the Subspecialty Training Committee's Sports Medicine Training Programme.

SPC has also developed a Military Sports Medicine Training Programme for all Army regular MOs to equip them with core competencies in the areas of prevention and management of heat and musculoskeletal injuries in the military, and in soldier performance maximisation. The programme involves participation in sports medicine, physiotherapy and podiatry clinics, laboratory-based practicum sessions, and research projects. Additionally, all regular Army MOs attend a six-month postgraduate diploma course in sports and exercise medicine at Queen Mary University of London.

PROFILE

TEXT BY

### MAJ (DR) NOREFFENDY BIN ALI

MAJ (Dr) Noreffendy Bin Ali is currently Head of SPC at Army Medical Services Headquarters. He also runs clinic sessions as a resident physician at Changi Sports Medicine Centre.

## AVIATION MEDICINE

Aviation medicine has its foundations in the physiology and psychology of man in flight. It is the science of how man affects flight and vice versa.

It is omnipresent in the business of aviation — from the selection of a potential aviator candidate to the optimisation of performance and enhancement of aircrew safety, down to tailored and elaborate treatment plans, even for the most common ailments.

Aviation medicine in the military is like a close sister to sports medicine, where the athlete reaches speeds greater than the speed of sound in a pressurised vessel while enduring G-forces up to nine times his body weight, which threatens to hurl him into unconsciousness.

It is the elegant balance of maximising performance and safety through monitoring, education and research. Processes such as annual medical screenings, spatial disorientation training and fatigue management research work in tandem to ensure the aviator is medically fit, primed for optimum performance and armed with the right skills to overcome the specific psychological factors experienced in flight.

Additionally, psychological assessment of the mental and emotional states of pilots is equally important. Understandably, it is possible to lose the licence to fly based on the severity of a medical or psychological condition. Hence, there is the unique challenge of building rapport and trust with the patient so that open reporting becomes a culture.

Aviation medicine, though vast, is undoubtedly still in its infancy. The future in space travel ensures the continued growth and development of this area of medicine. ◆

PROFILE

TEXT BY

### MAJ (DR) MAGDALENE LEE

MAJ (Dr) Magdalene Lee received her aviation medicine training at King's College London, the Royal Air Force Centre of Aviation Medicine and the Republic of Singapore Aeromedical Centre.

# DUAL-TRACKED CAREER

SAF regular medical officers (MOs) undertake a dual-tracked career. When compared to our civilian counterparts, we are exposed to an exciting range of responsibilities beyond clinical medicine, such as healthcare policy-making, military exercises and disaster-relief operations. However, there is a trade-off, with less clinical exposure during the SAF-based phases of our career and truncated[1] post-graduate medical training due to our military commitment.

Anecdotally, those who have made a transition back into full-time medical practice as doctors-in-training have "fortunately" eased into their new roles without major hiccups, *somehow*. However, some might wonder if it is "unsafe" for us to practise after a significant hiatus from clinical medicine. Having completed this cross-over recently, I offer my perspective on the enabling factors beyond this screen of serendipity.

In my observation, despite the speed of medical advancement, most changes are evolutionary rather than revolutionary. In a span of three years, we have seen new therapeutic modalities come and old ones going out of vogue, but the general principles of medical management remain the same. Admittedly, I pale in comparison with my more academically-inclined counterparts who have seemingly internalised every management flowchart in major clinical practice guidelines. However, I still kept abreast of major developments within my chosen subspecialty despite being away from clinical practice, and thus, I do eventually arrive at the same treatment regime or management plan (albeit slower due to time spent double-checking medical references).

There are some stereotypic traits associated with physicians, including patience, attention to details and the ability to translate esoteric clinical signs into ten differential diagnoses. Although the context is different, SAF medico-administrative work utilises similar qualities, which laid strong foundations ahead of my return to clinical practice. For example, while establishing an electronic medical records system for the SAF, I sat through hours of meetings with in-house information technology experts, sifting through the nuances and potential manners of interpreting every contractual clause, to safeguard SAF's interests. Through the day-to-day operations in ensuring the smooth-running of SAF medical centres, or devising and executing medical support plans for military training, I was conditioned to think holistically, pre-empt problems and formulate appropriate countermeasures. Furthermore, the occasional trouble-shooting of unexpected incidents provided opportunities to develop problem-solving and decision-making qualities under stressful circumstances. These same skills are also frequently required by practising clinicians in managing complicated cases and patients.

To sum up, SAF regular MOs have to contend with truncations in post-graduate medical training, as well as the transition between SAF work and clinical practice. While this may appear daunting to the observer, I am convinced that these challenges are surmountable with a reasonable amount of hard work. Personally, it has also been a pleasant revelation that qualities honed by the SAF could be cross-applied to a great extent in clinical practice, adding confidence that success on both SAF and clinical fronts need not be mutually exclusive. ◆

PROFILE

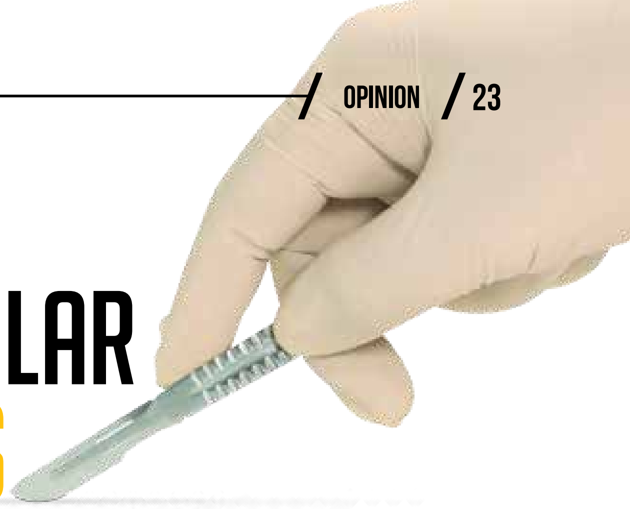
TEXT BY

**MAJ (DR) KWAN KAH WAI CLARENCE**

MAJ (Dr) Kwan Kah Wai Clarence is currently pursuing full-time post-graduate medical training under the SingHealth Gastroenterology Senior Residency Programme.

*Note*

1. For SAF regulars specialising in medical disciplines, post-graduate medical training (residency and senior residency) typically takes place in two separate three-year blocks at pre-defined points of SAF careers, straddling across a period of full-time SAF rotation.



# THE CASE FOR SAF REGULAR SURGICAL SPECIALISTS

One might question the rationale and value of having regular surgeons and anaesthetists in a small armed forces that does not have military hospitals, especially when we have a ready pool of National Servicemen (NSmen) surgeons and anaesthetists staffing wartime surgical units and volunteering for SAF missions.

Without detracting from the contributions of the NSmen, here are some strong and valid reasons for the SAF to have its own in-house surgical specialists.

### DEVELOP NICHE SURGICAL SERVICES FOR SAF PERSONNEL

Myopia is a serious problem that affects 80% of the population. The SAF Vision Performance Centre offers photorefractive keratectomy for personnel who sign up for critical combat vocations such as fighter pilots, commandos, divers and submariners, whose myopia would have otherwise made them ineligible for recruitment. Without SAF's in-house ophthalmologists, it would not be possible to select, screen and follow-up on the patients involved and ensure that the servicemen are fit for their jobs.

### SUPPORT SAF'S PEACETIME ROLES

The Republic of Singapore Navy has a world-class submarine support and rescue vessel — the MV *Swift Rescue*. It houses a mini-submarine that can dock with a sunken submarine to rescue its crew, a hyperbaric chamber complex and an intensive care facility. This ship was deployed twice in the last two years in search of downed commercial aircraft and was successful in discovering the fuselage of one of them. In the event of a distressed submarine scenario in the region, the Navy would be able to mobilise and deploy a large medical team with expertise in critical care and diving and hyperbaric medicine, at short notice. This is where SAF anaesthetists serve an essential and crucial role in the care of casualties requiring intensive care.

### MAINTAIN SURGICAL CAPABILITIES

War invokes images of blast injuries and mangled limbs, underscoring the importance of trauma surgery in the field or at sea. Maintaining an effective surgical wartime capability is a mammoth task even (or perhaps especially) in a country not at war. SAF surgeons and nurses take the lead in training our National Service units in trauma surgery and conducting research into new innovations in trauma care. They form the backbone of surgical teams that are deployed in response to natural disasters and as part of peacekeeping efforts.

On a personal note, the path to becoming a surgeon while being an SAF regular has taken longer than the "civilian" route. At times, the challenge of juggling military responsibilities while trying to "keep my hands wet" has had me rushing from a camp at one end of the country to an operating theatre at the other, and taking on extra on-call duties on weekends and public holidays. However, at the end of the day, it is satisfying to have fulfilled a personal ambition and to know that my skills will be of direct service to the SAF and the nation. ◆

PROFILE

TEXT BY

**LTC (DR) SHALINI ARULANANDAM**

LTC (Dr) Shalini Arulanandam was the first female to take up the Local Study Award (Medicine) in 1998. She joined the Navy as a medical officer in 2004 and completed her surgical training in otorhinolaryngology this year. She is currently on the Health Manpower Development Programme in London specialising in Airway and Voice.

# TOP KNIFE: AVIATION MEDICINE IN ACTION

Photo:
Blair Bunting Photography

Another hill top zips by outside the canopy, its peak towering above us. Here we are, travelling at 500 knots (that's roughly about 926 km/h, more than twice as fast as the fastest car in the world) and at 500 feet above the Arizona desert. The roar of the engines change slightly as the F-16 pitches into a 25 degree climb; the G-suit, seemingly having a mind of its own, was starting to do its thing again and squeezing the lower body uncomfortably like a sausage. This is the *pop*.

A hundred things happen all at once as the aircraft levels off, giving the uplifting feeling of the negative-G for a split second, followed by a right bank to see the ground. I hear the pilot state with remarkable sangfroid, "*tally* the target…" and the aircraft begins to dive. An alien yet paradoxically visceral female voice sounds out over the intercom in quick succession, "altitude, altitude" — that's the aircraft's altitude low warning. The bombs are dropped with punctilious precision, and the aircraft proceeds to pull up at 5Gs, with the G-suit doing its squeeze again. A customary bank is initiated to catch a glimpse of the bombs landing on target, followed by an almost instantaneous jolt back to wings-level position.

A 4G turn to the left ensues, followed by the release of chaff and flares, with the all too familiar female voice prompting, "chaff, flares", in case we don't realise they have been released. After an interminably long time *jink-ing* around avoiding enemy fire, the aircraft rolls back to wings-level position at 5,000 feet for us to catch a breather before setting up for the next attack run…

In flying operations, there is no room for errors in communication. To avoid any confusion, words used by pilots are succinct and precise. Here are some of the commonly used operational brevity words, also commonly known as pilot lingo:

***Bandit*** — An aircraft identified as an enemy based on theatre identification criteria.

***Bogey*** — A radar or visual air contact whose identity is unknown.

***Friendly*** — A positively identified friendly contact.

***Tally*** — Sighting (of a target, bandit, bogey or enemy position).

***No Joy*** — No visual contact (with the target, bandit or landmark).

***Furball*** — A turning fight involving multiple aircrafts with known bandits and friendlies mixed.

***Pop*** — Starting climb of an air to surface attack.

***Jink*** — Directive call to perform an unpredictable manoeuvre to negate a gun tracking solution.

***Bingo*** — Fuel state needed for recovery.

***Scramble*** — Take off as quickly as possible.

***Knock it off*** — Directive call to cease air combat manoeuvres, attacks or activities.

*Legend*

**1.** Top Knife II course students.
**2.** Peace Carvin II, the RSAF detachment in Luke Air Force Base, celebrated its 20th anniversary on 11 Dec 2013.

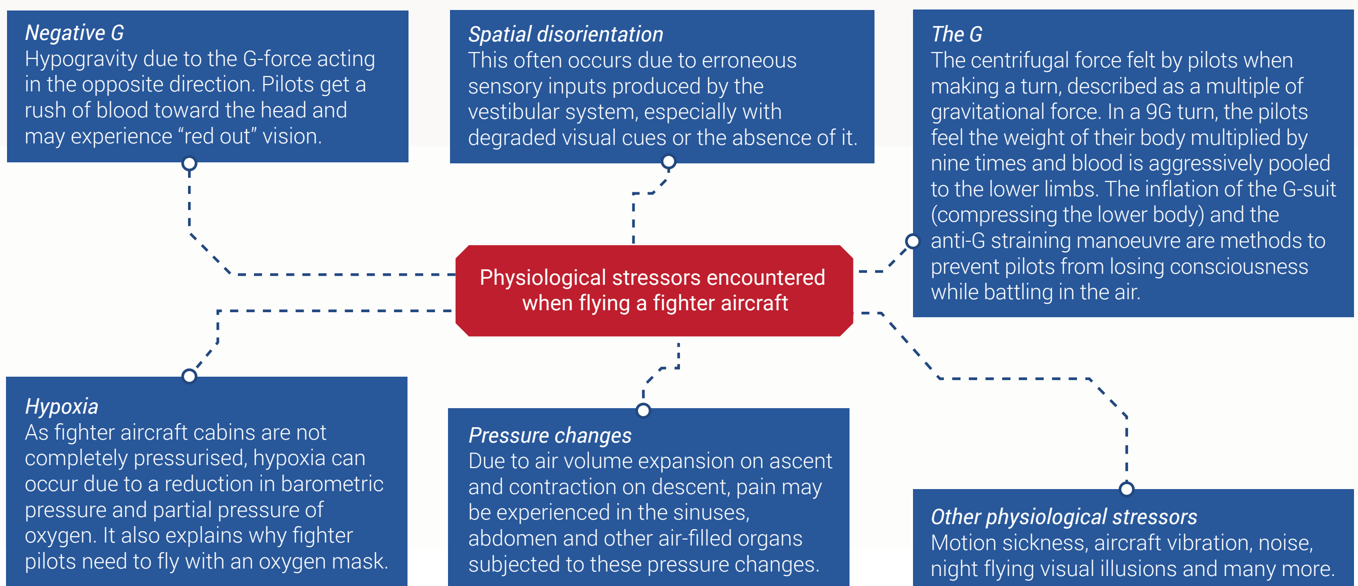
*Photos by Dr Benjamin Tan*

## IT AIN'T ALL GLAMOUR

In all honesty, there really isn't much about a fighter cockpit that's even remotely close to being pleasant. The Plexiglas® bubble canopy acts like a great big glasshouse and the cockpit heats up very quickly in the Arizona desert. The flying gear is chunky and uncomfortable and the helmet hot and heavy. You cannot see below nose-level because of the oxygen mask, so you need to move your head a lot more to see things in that new blind spot. Your throat is perpetually dry from the unceasing supply of dry air from the mask. Add to that the incommodious cabin, the rock-hard seat and the smell of jet exhaust and aircraft oil. And there's the ongoing din of the jet engine in the background, even if you only hear the sound of your laboured breathing.

To the seasoned fighter pilots, all the unpleasantness is part and parcel of their daily routine. "It's just not the most comfortable workplace," some say. Despite that, they have to stay focused on the task of the day; this could be pulling 9Gs to get their aircraft into position to shoot down the *bandit* while avoiding a mid-air collision at 700 knots, or flying perilously close to the ground in a surface attack mission to drop bombs on an enemy target. Every manoeuvre a potential catastrophe, every second potentially the last. There is only room for perfection in precision. Such is the stressful "office" of the fighter pilot.

As part of our training to be aviation medical physicians, or flight surgeons as they are called in the United States Air Force (USAF), we are all taught during residency training the basic physiology of flight and how the human body is never really meant for the empyrean. We know fighter pilots are subjected to numerous physiological stressors such as acceleration force (G), spatial disorientation, pressure changes and visual illusions. These problems are further compounded by the high workload in their stressful "offices". Knowing the theory is one thing, but there is nothing like putting yourself in the cockpit to experience the full impact of the fighter pilot's job. Since 1991, the USAF's Air Education and Training Command has put together a course for flight surgeons to do just that — be a fighter pilot for two weeks!



## DOCTORS LEARNING TO BE FIGHTER PILOTS

Conducted at Luke Air Force Base, the premier F-16 training base in the USAF, the Top Knife II course purports to teach flight surgeons the essentials of flying and operating the F-16 Fighting Falcon. Besides revising the "medical stuff" of fighter flying such as the Gs, spatial disorientation and flying with night vision goggles, a large portion of the academics involve teaching the flight surgeons how to operate the flight controls and radars. Using computer aided instruction and flight simulators, course students are given the chance to fly, operate and fight the F-16. The apogee of the course comes in the second week, when students are strapped into the back seat of a F-16 to fly with the operational pilots, and perform what they had rigorously studied and practised the week prior. Graduates from this course will officially be called the Viper Docs.

Without exception, the experience is a massive adrenaline rush for all Top Knife II graduates. But fun aside, the exposure is invaluable because the experience of operating the F-16 aircraft (with its attendant physiological stressors in full force) can never be fully taught nor appreciated through didactic learning. Workload takes on a whole new meaning as you are trying to fly the aircraft, work the appropriate modes of the radar to find the target, avoid being shot down by hostile enemy and yet still maintain your wits about you to manoeuvre your aircraft in three-dimensional space. Snap decisions must be made in time frames which are alien to most doctors, while keeping a tight watch over fundamental (yet still critically important) parameters such as fuel state, aircraft attitude and altitude, air speed, etc. The ability to think at the speed of light, maintain composure under duress and to plan three to four steps ahead of time are distinct qualities which have become synonymous with the best fighter pilots. "I am humbled by how you guys train to get here and how you do this with such consistency every single day," I said in admiration to the pilot who flew with me on my last sortie. "It's easy when you practise it every day," he replied.

## THE PRACTICE OF AVIATION MEDICINE

Indeed, fighter pilots are a rare breed. It takes several years and a few million dollars to train a fighter pilot — possibly the only profession which eclipses that of a doctor's. It is not surprising that it is harder to train or find a good fighter pilot than a good surgeon; for one, fighter pilots are expected to be at their prime at a much younger age due to the physical demands of the profession. In our practice of aviation medicine, we attempt to put every trained pilot back to flying whenever they are afflicted by medical conditions. Great care is taken to ensure that their full recovery and optimum physical conditioning is achieved. However, that may not be always possible; medical conditions which are degenerative or chronic in nature may persist. This is when difficult decisions about their flying disposition have to be carefully considered and made after having understood the exact requirements and demands of their job. The risks and responsibilities associated with such Daedalian decisions is the quintessence of aviation medicine.

③

With seemingly erudite and industrious allies in the form of flight surgeons, one might expect an alacritous show of warmth and gratitude in return. "Truth be told, we don't like doctors." This came curtly from a very senior and illustrious USAF fighter pilot we met on the course. "We cannot believe that there is anyone, other than God and ourselves, who can decide our destiny. We fighter pilots live to fly and no one should be able to take that away from us." You see, fighter pilots are a very confident, highly motivated and passionate group of professionals, who leave nothing to chance. And because interactions with the doctor may yield surprises with regard to their fitness to fly, they very seldom seek medical attention. Therefore, unlike most doctors, aviation medicine physicians usually face "patients" who significantly downplay their symptoms or deny them outright. Over the years, aviation medicine physicians have learned to hone that special ability to pick up hints during casual conversations, or detect subtle behavioural changes in pilots to identify those who may need medical help. However, identifying a pilot in need is one thing, convincing them to seek medical attention is another.

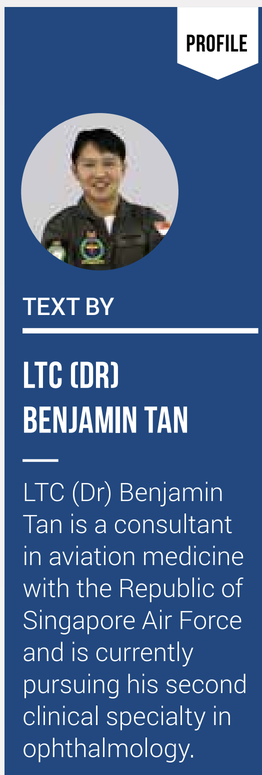
An important part of our job as aviation medicine physicians, therefore, is to cultivate trust from our clients — the pilots. Only with trust can we convince the pilots that we are there for their best interest, and that we will go out of our way to put them back in the air should they suffer from

any medical condition. Attending the Top Knife II course is one of many steps toward fostering this trust. By experiencing exactly what the pilots go through in the air and learning to understand some of their lingo during the two weeks, the course enhances their confidence in us — that we can make better decisions when it comes to treating their ailments and deciding on their flying disposition. The analogy in the medical aspect would be to reverse the doctor-patient roles with our patients for two weeks, to experience their daily grind amid their struggle with medical disease, just so that we can gain their trust. Surely, that is an interesting proposition and it might just change current mindsets about finishing a busy clinic on time regardless of the patient's consultation experience or to arrange follow-up appointments with no consideration of the patient's family background and social support systems.

### BACK IN THE CLINIC

Back in a busy clinic in the hospital, I had strangely encountered, for the third time in a day, a patient thanking me for being a "different doctor" — presumably in a positive way and something which eluded me the last 13 years of my medical practice.

Maybe it was pure luck or that I was still feeling high from all that flying, but somehow I remember spending more time asking my patients the simple questions that mattered to them, such as, "How long was your waiting time?", "Who looks after you at home?" and "How did you get to the hospital — by train, bus or taxi?". It dawned on me that maybe I have started learning to be a more patient and caring doctor — one who now makes an effort to strengthen communication, understands their needs and builds the ever-important trust with my patients. The roar of jet engines and glamour of flying F-16s aside, I suddenly realise that the most important lesson imparted to me through the Top Knife II course was simply how to be a better doctor. ◆



PROFILE

TEXT BY

## LTC (DR) BENJAMIN TAN

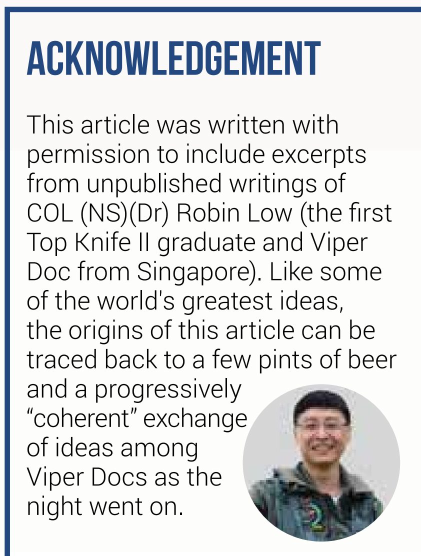
LTC (Dr) Benjamin Tan is a consultant in aviation medicine with the Republic of Singapore Air Force and is currently pursuing his second clinical specialty in ophthalmology.

*Legend*

**3.** Top Knife Alumni, L to R: LTC (Dr) Wilfred Lim, SLTC (Dr) Dale Lim, COL (NS)(Dr) Chong Chun Hon, COL (NS) (Dr) Robin Low, SLTC (Dr) Wong Sheau Hwa, LTC (Dr) Benjamin Tan and MAJ (Dr) Hong DeHan.

**4.** Viper Doc in the backseat of a F-16 aircraft.

**5.** The RSAF detachment, Peace Carvin II flies with the "Black Widows" — RSAF's F-16s from the 425th Fighter Squadron over the Arizona Desert.



## ACKNOWLEDGEMENT

This article was written with permission to include excerpts from unpublished writings of COL (NS)(Dr) Robin Low (the first Top Knife II graduate and Viper Doc from Singapore). Like some of the world's greatest ideas, the origins of this article can be traced back to a few pints of beer and a progressively "coherent" exchange of ideas among Viper Docs as the night went on.

# CELEBRATING 80 BATCHES OF MO CADETS IN SG50

Photo: Dr Ou Yang Youheng

PROFILE

TEXT BY

**MAJ (DR) JOACHIM YAU**

MAJ (Dr) Joachim Yau is currently the Course Commander of the 80th Medical Officers' Cadet Course and the Armour Formation Medical Officer. He is also a senior resident at Tan Tock Seng Hospital.

*Legend*

1. The 72nd MOCC Vanguards.
2. Recently commissioned medical officers – The 80th MOCC Bravehearts.

The Medical Officer Cadet Course (MOCC) is a pretty "*xiong*" (Singlish for difficult) three-month course that all Singaporean doctors will have to embark on when they return to serve their full-time National Service after attaining their medical degrees. The aim is to equip our medical officers with life-saving skills and instill in them the necessary qualities needed to treat our fallen soldiers and to become future leaders of the SAF.

Having gone through MOCC several years ago and as a Course Commander now, I can sincerely say that MOCC is indeed a very meaningful journey.

Through the three months, I have seen young men push themselves to breaking point and pulling through. Quiet gentlemen stepping up to embrace the torch of leadership, commanding respect from their peers. The miraculous physical transformations of pale and pudgy doctors into lean, tan and muscular soldiers.

I have witnessed the mettle and resilience of young men who refused to stay down after each fall. As dramatic as it may sound, I will never forget standing at the bedside of a cadet in the hospital's emergency department and asking him if there was anything I could do for him. His only request was to re-join the course as soon as possible.

Moments like these make me realise that MOCC is essentially a course of *self-discovery* where young men discover their limits, understand their strengths and weaknesses, uncover their potential, push their boundaries and develop their leadership skills. MOCC is also one of those rare times where the batch learns about one another – the good, bad and ugly.

I started the course paying more attention to the weaker, slower and quieter ones. However, I was surprised. The slowest runner at the beginning of the course eventually got Gold for his Individual Physical Proficiency Test, so I have come to accept that initial impressions can be deceiving. There is so much an individual can achieve as long as he sets his mind to it, which leads me to my other key observation – motivation being an infectious multiplier. Motivation has a way of infecting everyone with a "can do" spirit that pushes each individual towards personal excellence.

As a course commander, I have learnt about humility, the importance of teamwork, regional and international issues, and how to nurture the next generation of leaders. Most importantly, I have learnt much more about myself – as a doctor, medical officer, senior, junior and as a human being. ◆

Photo: Dr Joachim Yau

# REMINISCING ON NATIONAL SERVICE

After our commissioning, we each went our separate ways, having been posted to different units for the remainder of our National Service (NS). In my case, it was for one year and five months, almost the equivalent of three postings of the medical officers (MOs) posting exercise! I was put in charge of a military medical centre, which meant that I ran an entire medical centre with the assistance of medics and support staff.

As the MO-in-charge, I had to run clinics every day, and manage and train full-time National Servicemen (NSF) medics to ensure the smooth running of the medical centre. I also picked up useful administrative skills such as inventory management, event organisation and investigation report writing. I realised that the practice of effective medicine is not just purely clinical but also requires solid administration, infrastructure and standard operating procedures to ensure that all objectives are met in a holistic fashion.

However, the military MO's practice is sometimes a thankless task. Servicemen may present with an astonishing myriad of problems, and it can be challenging to manage these issues all at once. Servicemen and their parents are also increasingly demanding on medical management, which adds a tremendous amount of stress on MOs. We also have to assess the servicemen to determine their physical employment status and suitability for training activities. Occasionally, servicemen's expectations can be far removed from reality and NS requirements. Nevertheless, we try our best to moderate expectations and find an acceptable solution for all parties involved.

One memorable NS experience was in dealing with a serviceman afflicted with hidradenitis suppurativa (HS). He was having a particularly bad flare, which impaired his ability to perform simple tasks. He was thus viewed negatively and subjected to workplace bullying. Psychologically, it affected him significantly and resulted in poor performance and commitment to NS. When I first saw him, I felt that he needed help to break out of this vicious cycle. I treated him with appropriate courses of antibiotics and referred him to the National Skin Centre for follow-up. I also sought to change his vocation and workplace such that he was allowed minor but helpful concessions for his medical condition. His HS flares were reduced significantly and he was able to continue serving NS in a meaningful fashion.

Having returned to civilian practice, I recognise that the public's perception of NSF MOs is sometimes a little skewed due to what they read on social media. But these MOs and residents have deferred their hospital training and practices to fulfil their duty to the country and to care for their fellow countrymen. I wish to encourage my NSF colleagues to never lose heart and to strive towards even higher standards of medical practice to uphold the institution of NS. ◆


PROFILE

TEXT BY

**DR JIPSON QUAH**

Dr Jipson Quah is a medical officer who has recently completed his National Service and is currently attached to the Department of Pathology at Singapore General Hospital. He enjoys music-making, fitness-related activities and editorial work in his free time.


*Legend*

**1.** My very own batch, the 77th Medical Officer Cadet Course Centurions!

1

*Photo: Dr Jonathan Gan*

PROFILE

TEXT BY

LTC (DR) ADRIAN TAN

LTC (Dr) Adrian Tan holds the appointment of Head of Army Developmental Force Medical Group. An orthopaedic surgeon by training, he has a keen interest in medical humanitarian missions, having being trained by the United Nations in disaster assessment and coordination.

Singapore celebrates her 50th birthday this year. We owe much of our success to our political and economic stability. Yet, Singaporeans often forget how fortunate we are to be sheltered from the natural disasters that befall our neighbours. It is, therefore, important that Singapore extends her hand in friendship and assistance in their time of need.

While the purpose of the military forces is to avert violence and destruction, the SAF Medical Corps serves to alleviate and mitigate the suffering of mankind, whether in war or in peace.

I have had the privilege to serve on five medical missions with the SAF. Most recently, I was the Medical Team Commander of the SAF medical mission to Nepal. When we first set eyes on the devastation caused by the quake, our hearts sank; everywhere, we saw displaced people who had to camp out in open spaces to avoid collapsed buildings. We served the injured at our medical post in Gorkana and sent out mobile medical teams to remote villages to reach those who were unable to get help due to the inaccessibility of their villages.

The patients recounted stories of falling debris and caving roofs. Some had fractures and infected wounds. Others suffered from poor sanitation or exposure to the cold. However, the most poignant stories were those about the loss of friends and relatives. Though they said little, we could see the emotions in their eyes, and there was little else we could do except to hold their hands and give them the best medical attention we could.

A medical mission of this scale involves a rigorous timetable. But I had to find time to sit down and reflect on the day in order to find the focus to carry out the mission. This was different from being a clinician in a hospital. On a mission, I had to think and make the right decisions; decisions that could affect the medical operations, our medical supply, and the safety and welfare of the medical team.

Despite the suffering I have witnessed in such medical missions, there is one common thread that runs through — we saw goodness in the people who laboured day and night, at the risk of their own health and safety, for those in need. After the Nepal quake, the locals showed great courage and resilience, rallying together to assist their fellow men.

I recall an elderly lady who had been treated by our team. A few days after her treatment, she returned with bags of food, prepared for us in gratitude. Despite her poverty, she gave all that she could, and it humbled us to accept her gift. While we go on a mission to render assistance, often, the mission leaves us richer from the experience. The very people we helped also taught us lessons in resilience, courage and generosity.

Therefore, we should always be proud and appreciative of our vocation as medical men and women. We should also consider ourselves fortunate to have had the opportunity to undergo medical training as well as to put our training and skills to use in the assistance of others.

We do not seek any other purpose; not for fame nor for glory. ◆

*Legend*

**1.** One of the Humanitarian Assistance and Disaster Relief efforts by the SAF Medical Team in the 1990s.
**2.** Evacuation during the mishap of Hotel New World.
**3.** LTC (Dr) Adrian Tan providing medical treatment to a local during Operation Swift Lion (OSL) in Nepal.
**4.** MAJ (Dr) Jonah Kua treating an Afghan patient with a crush injury to his hand.

*Legend*

**5.** The SAF and Ministry of Health Teams were received at the reception ceremony after the OSL (Nepal) in 2015.

**6.** LTC (Dr) Adrian Tan, second from left, leading the resuscitation of an Afghan boy, a victim of a bomb blast.

**7.** BG (then COL) Tan Chuan-Jin led the Humanitarian Assistance Support Group to provide emergency relief to Meulaboh, Aceh in 2004.

**8.** LTC (Dr) Adrian Tan (right) presenting the symbol of the Singapore team presence to Dutch colleagues in Uruzgan, Afghanistan.

# DEPUTY APPLICATIONS UNDER THE MENTAL CAPACITY ACT — WRITING THE MEDICAL REPORT

## LOSING MENTAL CAPACITY

A person can lose mental capacity for various reasons, such as a stroke, head injury or dementia. The person could have been the sole breadwinner and primary decision-maker of the household. But now, he is the one that needs to be taken care of.

In particular, someone needs to be appointed as his official representative, to make decisions on his behalf, in his personal welfare, and property and affairs — as his bills still need to be paid, his family provided for, and there may be insurance monies to be claimed, properties to be maintained, etc. If the person ("P") had made a Lasting Power of Attorney (LPA), then he would have nominated one or more "donees" to do this. However, if he had not made an LPA, then someone who is interested to handle P's affairs may apply to court under the Mental Capacity Act (MCA), to be appointed as P's "deputy".

## DEPUTY APPLICATION — MEDICAL REPORT REQUIRED

The application to appoint a deputy ("deputy application") will ask the court to: (a) make a declaration that P lacks the mental capacity to make decisions in matters relating to his personal welfare and/or property and affairs; (b) make an order for the applicant to be appointed as P's deputy for his personal welfare and/or property and affairs; and (c) make orders regarding the scope of the deputy's powers. A medical report is needed to assist the court in making the decision on P's mental capacity. It is a legal requirement for the report to be exhibited in a doctor's affidavit accompanying the deputy application.

## CONSEQUENCES OF REJECTION OF MEDICAL REPORT

If the medical report is not adequate, the court will reject the deputy application and ask the deputy to get a further and better medical report which fulfils the relevant requirements. This means that the appointment of the deputy will be delayed, which can lead to serious consequences for P and his family, as all his assets are frozen and major decisions cannot be made for him until the deputy is appointed.

## TIPS AND POINTERS FOR WRITING MEDICAL REPORT

***1. Use the template provided and fill it up completely***

There is a court-designed template to capture the various legal requirements for the medical report. Do not use your own template nor annex your report written in your own format to the template. Fill in every box in the template and do not leave any blank. The template is available at https://www.mlaw.gov.sg/content/lab/en.html. You can

PROFILE

TEXT BY

**LIM HUI MIN**

Lim Hui Min is presently the Director of the Legal Aid Bureau. Any errors and any views expressed are entirely the author's own. In particular, they do not represent the views of the Bureau or the Ministry of Law.

also ask the lawyer acting for the applicant to send you the Word document.

### *2. Type, NOT hand-write, into the template*

Doctors' handwriting can sometimes be illegible! In one case where the doctor handwrote his report, the word "*impairment*" looked like "*improvement*", which ended up causing confusion for both the lawyer and the court.

### *3. Key points*

#### 3.1 How recent should the last examination of P be, counting from the date of the report?

This depends on:

*(a) The length and frequency of the doctor-patient relationship*
As a rule of thumb, and subject to P's condition, for cases where the doctor has only seen P once or twice, there should be a lapse of no more than two to three months from the date of the last examination of P to the date of the report ("the lapse"). However, if the doctor has been seeing P regularly over a few years, then a lapse of five to seven months may be acceptable.

*(b) Whether P's condition is temporary or permanent*
If P's condition is permanent (eg, dementia), then seven to eight months, or a year's lapse may be acceptable. If P's condition is not permanent (eg, he is recovering from a head injury) then a lapse of no more than three to six months, or even less, would be acceptable, depending on when P's next review is.

Therefore, it is important to state:

*i. Whether P's condition is a permanent or temporary one and the basis for that opinion.*
Eg, if P is in a "vegetative state", you should state whether this is a permanent condition, ie, a "*persistent* vegetative state".

*ii. Details of the doctor-patient relationship.*
Ie, (a) how long the doctor has known P (eg, "*The patient first came to see me in 2010…*"); (b) how regularly P has been seeing the doctor (eg, "*The patient has come to me for regular follow-ups, two to three times a year, in the past five years…*"); and (c) the date of the doctor's last examination of P.

#### 3.2 Ask questions to establish P's mental capacity

There are different tests of mental capacity that you can apply. It is up to you to choose which you think is the most appropriate. An example of a common test is the Abbreviated Mental Test (AMT).[1]

In addition, you may also ask questions related to P's personal welfare and/or property and affairs (eg, If P has a flat, what he would like to do with it; whether P knows what medical conditions he has and how he would like to be treated).

#### 3.3 Give evidence to support your conclusions

If you have a conclusion, (eg, "*P could not understand simple questions.*"; "*P made mistakes in simple maths.*"; "*P does not demonstrate understanding of information relating to more complex decisions such as those requiring a large sum of money.*"), you need to put down the supporting evidence (eg, "*P answered 'I don't know.' when asked 'What is your name?'*"; "*P could not subtract seven from ten.*"; "*P said $10, when asked how much his flat was worth.*"). You should write down the exact questions you asked P and what he said that made you reach your conclusion on P's mental state. If you administered a test, do not just give the test score, but explain what was asked and what the answers were.

#### 3.4 Avoid unexplained medical jargon

Your report is going to be read by laypersons (lawyers and judges) and not just medical professionals. So you should explain the technical medical terms in the report (eg, "*perseveration*", "*AMT score of 1/10*", "*dysphasic*") in simple English, as if you were explaining things to the reasonably educated, but non-medical, caregiver of a patient you are treating.

## FURTHER READING

I hope the tips and pointers above will help you in writing a medical report that the court finds sufficiently detailed and useful in making a decision on P's mental capacity. This article is not intended to give, or be a substitute for, any legal advice. You should seek the help of a lawyer if you have a specific legal issue on any MCA matter.

It is beyond the scope of this article to deal with the principles and procedures of the MCA, but you can refer to the following links (https://www.familyjusticecourts.gov.sg and https://www.publicguardian.gov.sg) for further information and reading materials on these matters.

Finally, if you would like to see an example of a filled-in template, you can refer to the Legal Aid Bureau's website (https://www.mlaw.gov.sg/ content/lab/en.html). ◆

## ACKNOWLEDGEMENT

The author is grateful to District Judge Colin Tan for his comments on the draft of this article, and to Ms Tan Rou'en, Assistant Director of the Legal Aid Bureau, for her help with the article.

*References*

1. Ministry of Health. MOH Clinical Practice Guidelines 3/2007. Page 22. Available at: https://www.moh.gov.sg/content/dam/moh_web/HPP/Doctors/cpg_medical/current/2007/CPG_Dementia_Booklet.pdf.

# LIFE IN PIXELS

SMA NEWS PHOTO COMPETITION

## WINNING PHOTO

JULY THEME:
"SINGAPORE BY NIGHT"

**GARDEN CITY AT NIGHT**
Dr Lau Teh Yee

**Camera:** Fuji X100

**Lens:** F2.0

**Shutter speed:** 1/30 s

**Aperture:** f/2.8

**ISO:** 2500

## JUDGES' COMMENTS

*"I like the juxtaposition of flowers and rolling meadows in the hub of a bustling city – Our Garden City."*

*"Nice composition with the 'flower' of the Art and Science Museum in the upper left rule of thirds. The setting sun with the evening lights lit up is a nice backdrop."*

*"Nice shot of a fairly new local icon – the 'lotus leaf' museum, with projection of a free field and flowers. Juxtaposition of nature in a city describes our city very well."*

## HONOURABLE MENTION

**SG 50. THE JUBILEE**
Dr Deshawn Tan

## NATION BUILDING

The September theme for the Life in Pixels SMA News Photo Competition is **Nation Building**. Send your best photographs along with your name and MCR or matriculation number to **lifeinpixels@sma.org.sg**, with the email subject "NATION BUILDING" by **15 November 2015**. All photographs submitted must be in JPEG format and sized to at least 2,480 x 3,508 pixels. The winning entry will be featured in *SMA News*, and the winner will receive $50 in CapitaVouchers, a Crumpler camera bag and a Canon Digital Ixus lanyard with 16GB thumbdrive.

This photo competition is open to SMA members in good standing only. Visit **https://www.sma.org.sg/lifeinpixels** to check out the rules prior to submission.

# SMA EVENTS NOV – DEC 2015

| DATE | EVENT | VENUE | CME POINTS | WHO SHOULD ATTEND? | CONTACT |
|---|---|---|---|---|---|
| *CME Activities* | | | | | |
| 2 November Monday | Mastering Your Risk | Sheraton Towers Singapore | 2 | Family Medicine and All Specialties | Margaret Chan 6223 1264 margaret@sma.org.sg |
| 7 November Saturday | SMA Lecture 2015: Medicine & Diplomacy | One Farrer Hotel & Spa | 2 | Doctors and Healthcare Professionals | Carina Lee 6223 1264 carinalee@sma.org.sg |
| 11 November Wednesday | Mastering Your Risk | Sheraton Towers Singapore | 2 | Family Medicine and All Specialties | Margaret Chan 6223 1264 margaret@sma.org.sg |
| 15 November Sunday | BCLS Course | Alumni Medical Centre | TBC | Family Medicine and All Specialties | Lin Shirong 6223 1264 shirong@sma.org.sg |
| 17 November Wednesday | Mastering Shared Decision Making | Holiday Inn Atrium | 2 | Family Medicine and All Specialties | Margaret Chan 6223 1264 margaret@sma.org.sg |
| 18 November Wednesday | Mastering Your Risk | Sheraton Towers Singapore | 2 | Family Medicine and All Specialties | Margaret Chan 6223 1264 margaret@sma.org.sg |
| 24 November Tuesday | Mastering Professional Interactions | Sheraton Towers Singapore | 2 | Family Medicine and All Specialties | Margaret Chan 6223 1264 margaret@sma.org.sg |
| 20 December Sunday | BCLS Course | Alumni Medical Centre | TBC | Family Medicine and All Specialties | Lin Shirong 6223 1264 shirong@sma.org.sg |
| *Non-CME Activities* | | | | | |
| 5 December Saturday | SMA Intermediate Food Photography Course | HY California (Marina Bay Sands) | NA | SMA Members and Guests | Mellissa Ang 6223 1264 mellissa@sma.org.sg |
| 17 December Thursday | SMA Members' Appreciation Nite (Star Wars: Episode VII — The Force Awakens) | Shaw Theatres Balestier | NA | SMA Members and Guests | Rita 6223 1264 rita@sma.org.sg |

*Photo: Nugene Chiang, Canon Imaging Academy*

## SMA INTERMEDIATE FOOD PHOTOGRAPHY COURSE

*Inclusive of a 6-course meal!*

**Date & Time** 5 December 2015 (Sat), 1.30 pm to 5 pm

**Venue** HY California (Marina Bay Sands)

**Price** SMA Member: $110, SMA Member + 1 Guest: $200, Non SMA Member: $350

Visit https://goo.gl/huAyZ9 for more information and to register online!

In partnership with Canon Imaging ACADEMY

# SMA MEMBERS' APPRECIATION NITE 2015

## STAR WARS EPISODE VII

### THE FORCE AWAKENS

## 17 DECEMBER 2015

### SHAW THEATRES BALESTIER

**APPROXIMATELY 6:30PM (SUBJECT TO CONFIRMATION BY SHAW THEATRES IN DECEMBER)**

S$10 NETT FOR A PAIR OF TICKETS*
(INCLUSIVE OF 1 POPCORN AND DRINK COMBO SET)

IN APPRECIATION OF YOUR CONTINUOUS SUPPORT AS AN SMA MEMBER, WE ARE ORGANISING AN EXCLUSIVE MOVIE PREMIERE OF THE LATEST STAR WARS MOVIE JUST FOR YOU!

To register for the movie event, please visit https://goo.gl/3jv70h
If you have any queries about this event,
please feel free to email rita@sma.org.sg
May the Force be with you!

** Terms and Conditions Apply*

# EDUCATION FOR BETTER ELDERCARE

## BY AGENCY FOR INTEGRATED CARE

To meet the needs of Singapore's ageing population, a substantial increase in capacity is being planned and implemented for the Community Care sector, especially since there is an increasing number of patients being discharged from public hospitals to nursing homes who have higher levels of medical and nursing needs. Managing these patients requires a greater level of care from doctors, and the Graduate Diploma in Palliative Medicine (GDPM), Graduate Diploma in Geriatric Medicine (GDGM) and Graduate Diploma in Family Medicine (GDFM) can equip doctors with the necessary skills and knowledge to care for such elderly patients.

The Agency for Integrated Care (AIC) and Ministry of Health (MOH) are pleased to announce that the Community Care–GP Partnership Training Award is now open for application. This award will fund the course fees for general practitioners (GPs) taking the GDPM, GDGM and GDFM — programmes that are relevant to the needs of the Community Care sector. MOH will co-fund 70% of the course fees under this award, while Community Care institutions that qualify for the Community Silver Trust may tap on this grant to sponsor the remaining 30%.

The Community Care–GP Partnership Training Award is designed to support GPs who would like to step forward to serve the Community Care sector. Armed with new knowledge and skills, GPs will be in a better position to manage complex cases and practise at a higher level of medicine, thus complementing hospital medicine, and benefiting more patients.

As part of the award, GPs get to collaborate with and support their sponsoring Community Care institutions, using what they have learnt. GPs and Community Care institutions are then able to forge closer links, thus seeding and strengthening a longer-term relationship. GPs can also apply their newfound knowledge and skills to meaningful causes outside their practice and connect with other groups of patients who need help.

The Community Care–GP Partnership Training Award is administered by AIC, who is working with the sector and linking up interested GPs and Community Care institutions. If you are interested to find out more, email us today at **GP@aic.sg**.

### THE COMMUNITY CARE–GP PARTNERSHIP TRAINING AWARD AT A GLANCE

The study award funds **70%** of course fees for GPs who are enrolled in one of these courses and are sponsored by an eligible Community Care institution:

- Graduate Diploma in Palliative Medicine (GDPM)
- Graduate Diploma in Geriatric Medicine (GDGM)
- Graduate Diploma in Family Medicine (GDFM)

GPs who have gained admission or are currently enrolled in the above programmes are still eligible to apply for the training award through their sponsoring Community Care institution before **31 December 2015**.

**Community Care GP-Partnership Training Award is now open for application. Register now!**

Email AIC at **GP@aic.sg** for more details and assistance to enrol in the scheme.

This article was first published in The College Mirror (September 2015)