Tan Tock Seng HOSPITAL
National Healthcare Group

A PUBLICATION FOR PRIMARY CARE PHYSICIANS

GP NEXT

MCI (P) 077/05/2018
OCTOBER-DECEMBER 2018

A special edition featuring TTSH's Emergency Department initiatives

ANCHORING CARE IN THE COMMUNITY

- POST EMERGENCY CARE WITH PRIMARY CARE AND TTSH

ENJOY YOUR VACATION WITH THE RIGHT PROTECTION

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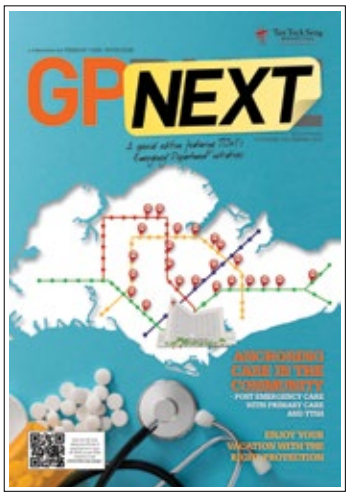
We value your feedback on how we can enhance the content on GP BUZZ. Please send in your comments and queries to **gp@ttsh.com.sg**.



OCTOBER - DECEMBER 2018

About the Cover Page:
AFTER EMERGENCY, WHAT'S NEXT?

Tan Tock Seng Hospital's (TTSH) Emergency Department (ED) is a bustling place. Hurried footsteps, firm voices, snap decisions and the rhythmic beeping of machines are common imagery/representation of ED's atmosphere. Much like a hypothetical 'door' wedged between the population and the tertiary care landscape, ED receives a myriad of patients seeking care for all sorts of ailments. While ED is intended to treat medical urgencies that may later require specialist intervention, it is evident that perceptions encapsulating a medical urgency have blurred over time. The ED today is increasingly flooded with people seeking treatment for minor ailments that could be well managed at the primary care setting by General Practitioners (GPs). Provision of appropriate healthcare services sees this group of patients being right-sited at primary care while more complex patients can be treated at the hospital.

TTSH looks towards emergency care beyond our walls with the community, and the pivotal role in which the hospital's partners can play in ensuring the continuum of care for patient's post emergency. This special issue of GP Buzz features GPNext (Page 2); a new GP partnership initiative that strengthens ties between emergency and primary care. Read about the primary care recommendations for some GPNext conditions (Page 6 - 8) and other collaborations with the departments of General Medicine, Operating Theatre Services and Geriatric Medicine (Page 5), as we strive towards delivering the right care at the right time and place for the population we serve. GPBUZZ

NEW ADDITIONS TO CHRONIC DISEASE MANAGEMENT PROGRAMME (CDMP):

PRE-DIABETES & ISCHAEMIC HEART DISEASE

At the forefront of care in the community, General Practitioners (GPs) play a crucial role in caring for the needs of the population, and building longstanding relationships with patients and their families to support the Ministry of Health's (MOH) vision of 'One Singaporean, One Family Doctor'.

From 1 June 2018, MOH has expanded the Chronic Disease Management Programme (CDMP) to include Ischaemic Heart Disease (IHD) as a new condition and extended the scope of diabetes coverage to include pre-diabetes. Under the Community Health Assistance Scheme (CHAS), GPs will be able to tap on the MediSave500 scheme and CHAS Chronic subsidies for patients with IHD and pre-diabetes.

CDMP was introduced in 2006 to enable greater affordability for patients to manage their chronic diseases by reducing out-of-pocket payments. Over the years, more chronic conditions have been added to the CDMP which has grown to cover a total of 20 chronic conditions today. GPBUZZ

Updated list of 20 CDMP conditions:

1) Diabetes Mellitus (including pre-diabetes*)	11) Osteoarthritis
2) Hypertension	12) Benign Prostatic Hyperplasia
3) Lipid Disorders	13) Anxiety
4) Stroke	14) Parkinson's Disease
5) Asthma	15) Nephritis/Nephrosis
6) Chronic Obstructive Pulmonary Disease	16) Epilepsy
7) Schizophrenia	17) Osteoporosis
8) Major Depression	18) Psoriasis
9) Dementia	19) Rheumatoid Arthritis
10) Bipolar Disorder	20) Ischaemic Heart Disease*

**New additions from 1 June 2018*

TAN TOCK SENG HOSPITAL COMMUNITY RIGHT SITING PROGRAMME

NEW DISCHARGE CAREPATH: STABLE STROKE

Adjunct Associate Prof David Foo
Clinical Programme Director - CRiSP
Head and Senior Consultant
Department of Cardiology
Tan Tock Seng Hospital

Dear Partners and Friends,

The TTSH Community Right-Siting Programme (CRiSP) has recently expanded to include Stable Stroke as one of the 20 Chronic Disease Management Programme (CDMP) conditions.

Since July 2018, we have commenced the right-siting of Stable Stroke patients to our GP partners. To support our GP partners in the care management of this group of patients, NHG Diagnostics and TTSH Pharmacy will continue to provide the required diagnostic tests and dispense drugs upon doctor's prescription respectively.

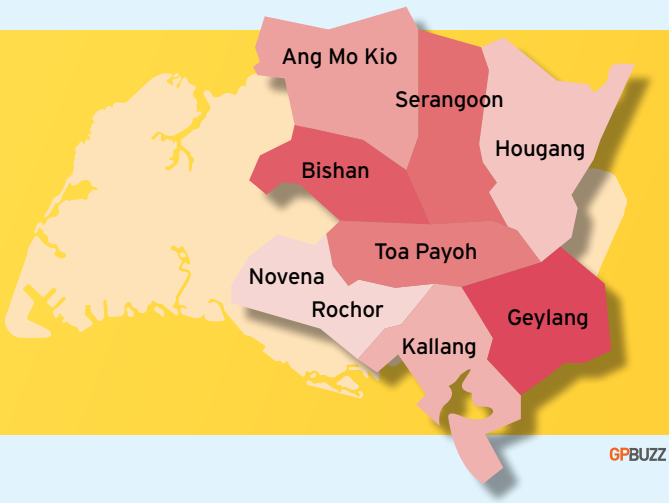
We are pleased to have TTSH Department of Rehabilitation Medicine conduct a Continuing Medical Education (CME) event on the care management of Stroke patients for our GP partners on **12 Jan 2019, Saturday**. Keep a lookout for more information on the CME session in our next issue of GP Buzz or subscribe to our mailing list, **gp@ttsh.com.sg**, to receive invites.

We thank you for your continual support and look forward to building closer partnerships with you. GPBUZZ

Be part of the Community Right-Siting Programme (CRiSP)!

CRiSP is a partnership between GPs and TTSH, where stable patients at Specialist Outpatient Clinics with selected chronic conditions are appropriately reviewed and co-managed with GP partners.

If you are a GP practising in the central region of Singapore and are keen to find out more about CRiSP, email us at **gp@ttsh.com.sg**.



WHAT'S NEXT POST EMERGENCY DEPARTMENT? GP*NEXT*.

By **Dr Ang Hou**,
Senior Consultant and Head,
Emergency Department
Tan Tock Seng Hospital

By **Adjunct Associate Prof David Foo**,
Clinical Programme Director, CRiSP
Senior Consultant and Head, Department of Cardiology,
Tan Tock Seng Hospital

The hospital's Specialist Outpatient Clinics (SOCs) are intended for the treatment of medical urgencies and complexities, yet we still find large proportions of our patient visits are due to issues that could be managed in the primary care setting. At the same time, we hear from patients that "the wait time is too long!"

To cut down on patient's waiting time for SOC visits, TTSH introduced the transition of suitable patients from SOCs directly to General Practitioners (GPs) with the hospital's Community Right Siting Programme (CRiSP). Beyond CRiSP, we are very happy to share that TTSH is innovating with GP*Next* — a partnership with our GP partners who will also see suitable Emergency Department (ED) patients discharged to GPs. GP*Next* will commence from 15 October 2018, with an initial focus on 13 conditions. Refer to Page 4 onwards to read more on the care management of GP*Next* conditions: urinary tract infection, low back pain and four General Medicine conditions.

Suitable ED patients will be provided with a discharge advisory and information of the patient's discharge should be effectively delivered from the patients to GPs. Within three months from their ED discharge, GP*Next* patients can request to be fast-tracked to the hospital's SOC, if necessary.

We look forward to embarking on this exciting journey with you in *adding years of healthy life*! GPBUZZ

Emergency Department

13 conditions in GP*Next*:

1) Asthma
2) Bronchitis
3) Chronic obstructive pulmonary disease
4) Contusion
5) Dizziness
6) Hypertension
7) Iron deficiency anaemia
8) Low back pain
9) Lower leg swelling
10) Mid chest infection
11) Non-specific abdominal pain
12) Upper respiratory tract infection
13) Urinary tract infection

General Practitioner

Within three months from ED discharge, GP may request for fast-tracked SOC appointment should patient's condition escalates.

Specialist Outpatient Clinic

If you are a GP practicing within the central region of Singapore, and would like to find out more about GP*Next*, please email **GP@ttsh.com.sg** and we will get in touch with you shortly.

CME (OCTOBER – DECEMBER 2018)

TITLE	CME POINTS	DATE	TIME	VENUE	REGISTRATION DETAILS
Updates on Gastrointestinal Diseases	2 CME Points	13 October 2018	1.00pm to 4.30pm	Tan Tock Seng Hospital, Theatrette, Level 1	**Ms Chiang Han Fong** **6357 7897** **han_fong_chiang@ttsh.com.sg**
GP Symposium: Hepato-biliary and Pancreatic Disorders-Primary Care and Specialist Collaborative	2 CME points*	10 November 2018	1.00pm to 4.00pm	Tan Tock Seng Hospital, Theatrette, Level 1	**Ms Daphne Loh** **6357 7782** **daphne_ly_loh@ttsh.com.sg**
Masterclass on Medicine in the Older Adults	4 CME Points	10 November 2018	12.30pm to 5.30pm	Holiday Inn Orchard, Maharajah Suite	**Registration Fee: $150/pax** **Ms Leong Siyun** **6359 6331** **iga@ttsh.com.sg**

***Pending SMC approval**
A confirmation email will be sent after your registration. Kindly email the contact person if you do not receive any confirmation after your registration. Thank you.

TTSH ANNUAL COMMUNITY RIGHT-SITING PROGRAMME (CRISP) CME:

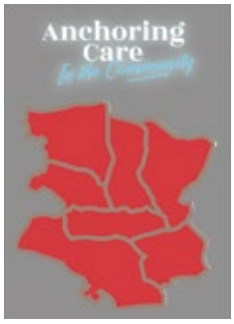
PARTNERING GPS IN ANCHORING CARE IN THE COMMUNITY

On 22 September 2018, the Theatrette of Tan Tock Seng Hospital (TTSH) was abuzz with excitement as 108 General Practitioners (GPs) and TTSH clinicians gathered for the Annual TTSH CRiSP CME. The theme for this year's event was ***Anchoring Care in the Community — Supporting the Nation's Vision of "One Singaporean, One Family Doctor"***.

Guests were warmly welcomed by Associate Professor Thomas Lew, Chairman, Medical Board as he shared details of TTSH's expanded function as an Integrated Care Organisation and the concept of 'Central Health'. His address highlighted the pivotal role in which TTSH's alliance of community partners, including GPs, play in keeping the population well.

Following that, Adjunct Associate Professor David Foo, Clinical Lead for Primary Care in Central Health, also took the guests through an engaging and entertaining session to introduce the various collaborations between TTSH and our primary care partners. He spoke of the relevant support network that has been established for our partners as a means of empowering the community, in line with the vision of anchoring care in the community.

The main highlight of the event was the official launch of TTSH's Primary Care Partnership, which saw TTSH and GP representatives coming together to piece a jigsaw puzzle shaped like Singapore's Central Region. The puzzle and activity signify the combined efforts between TTSH and the primary care community to deliver holistic and quality care to our patients. The launch marked the beginning of an exciting journey ahead as we continue to build and strengthen collaborative efforts with our GP partners to provide integrated care for our patients.



The completed jigsaw puzzle shaped like Singapore's Central Region.

TTSH clinicians also delivered a suite of Continuing Medical Education (CME) sessions to GPs during the second half of the event, to share updates and insights on a spectrum of topics. Among these discussions were issues such as Asthma, Stroke, Psoriatic Arthritis, Emergency Care for Elderly in the community, and how GPs can play a role in managing these specialised conditions in the community.

The afternoon's official launch and CME talks served to establish meaningful relationships with our GP partners as we work collaboratively towards the Nation's Vision of ***"One Singaporean, One Family Doctor"***. GPBUZZ

Dr Tan Ping Ping, Consultant, Department of Rehabilitation Medicine, sharing on post-stroke care with our GPs.

A lovely and cosy afternoon spent with our supportive GPs and Adj A/Prof David Foo (far right), Clinical Lead for Primary Care in Central Health.

TTSH Representatives and our GP Representative Dr Lee Yik Voon (far right) launching the hospital's partnership with our GPs.

ANCHORING CARE IN THE COMMUNITY

– POST EMERGENCY CARE WITH PRIMARY CARE AND TTSH

By **Dr Audrey Tham**, Associate Consultant, Emergency Department, Tan Tock Seng Hospital

Tan Tock Seng Hospital's Emergency Department collaborates with various departments within the hospital, such as Internal Medicine, Geriatric Medicine and Operating Theatre Services. Together, they work seamlessly to reduce the potential hospital length of stay for patients. These initiatives include Acute Internal Medicine Services (AIMS), Emergency Direct Access Surgery (EDAS) and Emergency Department Interventions for Frailty (EDIFY).

Upon discharge from the Emergency Department, General Practitioners (GPs) are immensely crucial in providing follow-up and continuity of care to our patients. Come be part of GP*Next* as we share more about the conditions in Urology, Orthopaedics and General Medicine specialities in the next few Feature articles for GPs to follow up from post-emergency care. GPBUZZ

ACUTE INTERNAL MEDICINE SERVICE (AIMS): A HEALTHCARE SOLUTION FOR THE 21ST CENTURY

By **Adj Asst Prof Endean Tan Zie Hean**,
Consultant, Department of General Medicine,
Head of the Acute Internal Medicine Service (AIMS),
Tan Tock Seng Hospital

Given the increasing age, complexity and number of patients who pass through clinics and hospitals each day, it is not surprising that basic definitions, processes and even the fundamental understanding of care have drastically evolved.

Traditional methods of evaluating and managing patients must be further scrutinised to deliver better care expeditiously and properly – hence the birth of AIMS in Tan Tock Seng Hospital.

AIMS redesigns how we care for our patients by focusing on acute medical issues with a dedicated core team of nurses and doctors. The team frontloads specialist investigative and management plans with almost no lull between the Emergency Department (ED) and the general ward. And where possible, we discharge our patients rapidly — without compromising their safety in the least.

AIMS is mindful that follow-up care in the outpatient and community settings will drive its success, and achieve the continuum of integrated care that is truly the ultimate expression of this 21st century healthcare solution. GPBUZZ

EMERGENCY DIRECT ACCESS SURGERY (EDAS)

By **Dr Mandy Lim**,
Senior Consultant and Deputy Executive Director,
Operating Theatre Services,
Anaesthesiology, Intensive Care and Pain Medicine,
Tan Tock Seng Hospital

Emergency Direct Access Surgery (EDAS) allows the fast track of emergency cases requiring simple surgical procedures under local or general anaesthesia, to the operating theatre. Post-operatively, these patients will rest in the Day Surgery Centre (DSC), from which they will be discharged home upon satisfactory recovery.

EDAS caters mainly to Orthopaedic, Hand or General Surgery cases, fitting the criteria to be done as a day procedure on a semi-urgent basis. Examples of EDAS cases include finger(s)/fingertip injuries, lacerations below the elbow, closed radial/ulna shaft fractures, toe injuries and superficial abscesses (in peripheral and trunk areas). Patients selected for EDAS should be fairly healthy, with no expected major surgical or anaesthetic problems in the peri-operative period. Pre-anaesthesia work-up (basic bloods and ECG) is done in ED for patients more than 50 years of age.

The EDAS collaboration has allowed selected patients to receive their surgical treatment in a shorter period of time and has also led to fewer inpatient admissions. GPBUZZ

EMERGENCY DEPARTMENT INTERVENTIONS FOR FRAILTY (EDIFY)

By **Dr Edward Chong**,
Consultant, Department of Geriatric Medicine,
EDIFY Programme Director,
Tan Tock Seng Hospital

Hazards of hospitalisation among older persons are real. Can we reduce instances of potentially avoidable admissions?

Singapore is aging at a rapid rate. This results in a larger proportion of older persons presenting to the ED, among which more than 50% are eventually hospitalised. Hazards of hospitalisation among older adults, including mental and physical deterioration, are real. It is therefore imperative that we make every effort to safely prevent unnecessary instances of older persons being admitted.

The EDIFY programme was introduced in October 2017 by the Department of Geriatric Medicine at Tan Tock Seng Hospital (TTSH), with close collaborations with the ED,

« EDIFY Team

Acute Internal Medicine Service (AIMS), and our community partners.

The programme is dedicated to helping older persons with the potential to be nursed back to full health in the community, hence avoiding the need for hospitalisation. This is only achievable through the close support rendered by polyclinics, General Practitioners (GPs), or other community partners. A short-stay observation unit dedicated to the care of older persons is currently in development. GPBUZZ

Scan this QR code to read the article online.

UTI IN GENERAL PRACTICE

– SAFE TO MANAGE IN A PRIMARY CARE SETTING?

By **Dr Thiruchelvam Jegathesan**,
Associate Consultant, Department of Urology,
Tan Tock Seng Hospital

Urinary Tract Infections (UTI) are commonly seen cases in the Emergency Department (ED) and is a suitable inclusion in GP*Next*. The following feature shares how UTI can be managed at primary care.

UTI occurs as either upper tract (kidneys and ureter) or lower tract (bladder, urethra and prostate) infections.

Upper tract infections should be suspected with cases that present with symptoms of flank pain with high fever, or if the patient is generally unwell. Such cases should ideally be referred to the ED for further assessment.

Lower tract UTIs can be simple or complicated. Simple UTIs refer to infection in a healthy patient with an anatomically and functionally normal urinary tract. This is commonly seen in fit and young female patients of childbearing age.

Aids to diagnose instances of lower tract UTIs

Symptoms / Investigations	
Symptoms of acute onset	► Dysuria, frequency or urgency
Urine dipstick	► Positive for nitrites or leucocytes
Urine cultures (Not compulsory for initial presentation)	► - If symptoms persist despite initial empirical treatment - Recurrent UTI

Treatment of simple UTIs in general practice

First line antibiotic treatment includes a short course of up to a week of **Co-trimoxazole** if there are no contraindications. **Amoxycillin/Clavulanate** and **Ciprofloxacin** should be avoided as a first line of treatment due to the side effect profile.

Recurrent UTI is defined as 2 or more UTI episodes in 6 months or 3 or more UTI episodes in 12 months.

Follow up of simple UTIs in general practice

Observations	Follow up treatment
Symptoms resolved	No further investigations
Recurrent UTI in postmenopausal women	Trial of vaginal estrogen cream or pessaries (oral estrogens should not be used)
Recurrent UTI in sexually active women	Postcoital short course antibiotic prophylaxis

Complicated UTIs

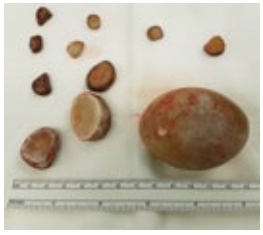
Patients suspected to have a complicated UTI may need an emergency or specialist referral as deemed appropriate. Such patients may present with recurrent UTI or chronic symptoms.

The following groups of patients fall under the complicated category and may warrant further investigations and specialist referral:

- **Men:** may be associated with Benign Prostatic Hyperplasia
- **Pregnant women:** higher risk of pregnancy-related complications
- **Children:** higher risk of having an underlying anatomical or functional abnormality

Complicated UTIs can be due to the following but are not exhaustive:

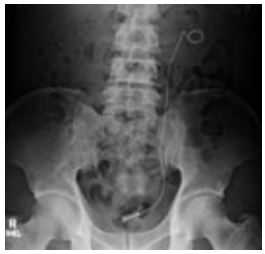
1) Anatomic or functional abnormality of the urinary tract
   a) Benign Prostatic Hyperplasia
   b) Neurogenic bladder
   c) Urinary stones
2) Immunocompromised states
3) Multidrug-resistant bacteria



» Bladder stones

Other conditions mimicking UTIs should be excluded:

a) **Gross haematuria**- malignancies need to be excluded
b) **Nodular prostate** on digital rectal examination may be suggestive of a prostate malignancy
c) **Enlarged prostate** may imply BPH
d) Recent pelvic or urological procedures or **foreign bodies** such as ureteric stents GPBUZZ



» Left ureteric stent on plain abdominal X-ray

Reference:
1. EAU Guidelines. Edn. Presented at the EAU Annual Congress Copenhagen 2018 ISBN 978-94-92671-01-1
2. Wieder JA: Pocket Guide to Urology. Fifth Edition. J.Wieder Medical: Oakland, CA, 2014

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WE'VE GOT YOUR BACK!

Many cases of back pain seen in the Emergency Department (ED) have varying diagnosis yet many require prompt symptom management rather than an appointment with a specialist. Therefore, back pain is introduced as a condition in GP*Next* for primary care to manage, relieve and monitor symptoms.

By **Adj Asst Prof Jacob Oh**,
Head of Spine Service, Consultant & Deputy Head,
Department of Orthopaedic Surgery, , Tan Tock Seng Hospital

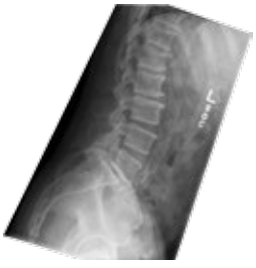
How common are lower back pains?

Back pains are a common health problem in our community and a leading cause of disability affecting people of all ages. The 2010 global burden of disease study estimates that lower back pain is among the top 10 diseases and injuries accounting for the highest number of diseases-adjusted-life-years (DALYs) worldwide. 80% of individuals will experience low back pain at least once in their lifetime!

The types of back pain we see in the hospital environment vary widely. Depending on age group, younger sufferers of back pain tend to present with more acute symptoms with preceding trauma, while for elderly patients it is a more chronic indolent process.

What can we do for back pain within our community?

A simple x-ray can be very valuable in your diagnosis. Degenerative changes such as lumbar spondylosis, spondylolisthesis or degenerative scoliosis are very common and may be managed in the community.



X-Ray showing lumbar spondylosis

Examples of such strategies include:

1. Analgesia – Typical analgesia includes the use of paracetamol, nonsteroidal anti-inflammatory drugs (NSAID) or opioids such as tramadol. Consider starting Gabapentin or Lyrica if the patient complains of persistent radicular pain or neurogenic claudication.
2. Physiotherapy – Start off with simple stretching exercises (hamstrings, piriformis, psoas stretches) and gradually progress to core and hip abductor strengthening exercises. Swimming, walking and cycling are generally safe and do not cause too much impact on the spine.

When to refer to a specialist?

A patient with persistent lower back pain should be screened for red flags (weight loss/loss of appetite/ severe night pain/bladder or bowel incontinence). Also, patients with disabling pain or neurological deficits should be referred for further assessment.

What can we offer?

At TTSH, the majority of back-pain related cases are managed conservatively and the treatment is no different from that in the community. For more complex cases, we work closely with our physiotherapists, pain specialists, radiologists and spine specialists to help patients refractory to first line treatment get better.

Spine surgery performed at TTSH

While there is a lot of stigma in the community regarding spine surgery, latest advances in spine surgery have significantly reduced patient morbidity and hastened recovery time. Such advances include intraoperative computed tomography (CT) 3D navigated imaging of the spine, nerve root neuro-monitoring and minimally invasive approaches.

With a strong primary care team and a tertiary multidisciplinary team standing back to back, we hope to deliver comprehensive patient support for back pain, and improve the overall spine health within our community!

GPBUZZ

NO NEED FOR GENERAL MEDICINE SPECIALIST YET – JUST GP*NEXT* !

Scan this QR code to read the article online.

By **Dr Adeline Chin Mei Lin**,
Principal Resident Physician, Department of General Medicine,
Tan Tock Seng Hospital

By **Dr Teong Hui Hwang**,
Senior Consultant, Department of General Medicine,
Tan Tock Seng Hospital

The following conditions are frequently referred to the General Medicine (GM) clinic from the Emergency Department (ED). These have been included in GPNext as they can be comfortably managed at the primary care level for follow up.

Hypertension

Patients with severe hypertension are not uncommonly referred to the ED by their GP. After evaluation and medication adjustment, if there is no evidence of progressive or new end organ damage, and blood pressure upon discharge from ED is not severe (less than 180/110mmHg), patients can be referred back to their GP for further management. With the use of home blood pressure monitoring devices, patients can be educated about the white coat phenomenon without the need for referral to a specialist. However, patients with resistant hypertension or onset at age less than 40 years old will still be evaluated at the GM clinic.

Lower Limb Swelling

Lower limb swelling is a common presenting symptom to the ED as patients are rather alarmed when it occurs. A common cause is venous insufficiency or stasis, which is suggestive if it resolves with recumbency or in the presence of varicose or prominent veins. Management is mainly non-pharmacological through weight reduction and compression stockings. Another common cause of lower limb swelling is the increased capillary permeability caused by the use of calcium channel blockers which will resolve upon withdrawal or dose reduction. Patients with these benign causes can be reviewed by their family doctors. However, if there is unilateral limb swelling, features of weight loss, limb pain or abnormal investigation results, such patients will not be directed to GP*Next* but should instead be followed-up at the GM clinic.

Iron Deficiency Anaemia

Young women aged 25 and below with suspected iron deficiency anaemia (haemoglobin not less than 8g/dl) can follow up with their GP for therapy with oral iron. If iron replacement produces minimal response and there are no signs and symptoms that would warrant a direct referral to the gastroenterologist or gynaecologist, the patient can be referred back to the GM clinic for review.

Non-specific Dizziness

Patients without cerebrovascular or cardiovascular risk factors or disorders who present to ED with non specific dizziness related to stress or poor rest may also be monitored at primary care. If these symptoms are persistent despite modification of stressors, the patient may then be referred back to a specialist for further evaluation. GPBUZZ

ENJOY YOUR VACATION WITH THE RIGHT PROTECTION

By **Dr Frederico Capulong Dimatatac**,
Principal Resident Physician,
Department of Infectious Diseases,
Institute of Infectious Diseases and Epidemiology (IIDE),
Tan Tock Seng Hospital

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The number of people crossing international borders has continued to increase substantially. In 2015, there were 1.2 billion travelers worldwide. This figure is projected to increase to around 2 billion by 2030. Whether the purpose of travel is for tourism, business, research, studies, mission work, medical tourism or visiting friends and relatives, protecting the health of travelers and preventing the importation of infectious diseases is of utmost importance.

Various factors contribute to the risk of travel-related diseases, such as traveller's age and health, destination, length of trip, itineraries, purpose of travel, and use of preventive measures. Travelers should visit the doctor one month before the trip, as some vaccines require a few weeks to be completed or become effective.

The common vaccines prescribed are as follows:

Hepatitis A is transmitted from person to person through a fecal-oral route and consumption of contaminated food and water. Hepatitis A vaccine is given in 2 doses at least 6 months apart for long lasting protection.

Diphtheria, Tetanus, and Pertussis (DTP). In Singapore, one dose of DTP is given at age 11. Booster doses should be given every 10 years, even for adults.

Typhoid is transmitted from the consumption of contaminated food and water. Two vaccines are available. Inactivated vaccines are given as an injection while the live typhoid vaccine is taken orally every other day for a week. Booster doses are given every 2 and 5 years respectively, for people who remain at risk.

Yellow Fever (YF) is an acute viral hemorrhagic fever transmitted by the bite of an infected Aedes Aegypti mosquito. Vaccination is recommended for people aged 9 months and older travelling to areas at risk of yellow fever in Africa and South America. The vaccine confers lifelong immunity.

Rabies is transmitted from the bites or scratches of infected animals – mainly, from dogs. Cats, monkeys, bats, and other mammals can also transmit the infection. Three doses of pre-exposure prophylaxis are given at Days 0, 7, 21 or 28. For post-exposure prophylaxis, a person who has never been vaccinated should receive 5 doses of rabies vaccine given at Days 0, 3, 7, 14, 28. WHO category 3 exposure should require Rabies Immunoglobulin. People previously vaccinated should receive 2 doses of the rabies vaccine (Days 0, 3).

Japanese Encephalitis (JE) vaccine is recommended for travellers spending at least 1 month in endemic areas of Asia and parts of the Western Pacific. Travellers visiting endemic areas with ongoing outbreaks or rural areas for less than a month should be vaccinated. Two vaccines are currently available. Imojev is a single dose vaccine while Ixiaro is given in 2 doses, 4 weeks apart.

Other vaccines including meningococcal, polio, influenza, malaria prophylaxis and prevention of traveller's diarrhoea and altitude illness should be discussed thoroughly. Travellers with special needs, infants and children, pregnant, and the immunocompromised, can be referred to Travellers Health and Vaccination Clinic (THVC) in Tan Tock Seng Hospital. GPBUZZ

For more information or appointments, please call THVC at 6357 2222 or email to THVC@ttsh.com.sg.

3 Steps for referring patients to TTSH.

Here's a comprehensive chart listing the steps to refer **non-subsidised patients** and **patients under the Community Health Assist Scheme (CHAS)** to Tan Tock Seng Hospital (TTSH).

To ensure your patients are seen promptly at TTSH, triaging may be conducted by our staff. You may be required to fax referral letter and CHAS cover note to TTSH GP Appointment Hotline or Specialist Outpatient Clinic.

Please retain a copy of the documents for reference purpose.