

A PUBLICATION FOR PRIMARY CARE PHYSICIANS

# GPBUZZ

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## ALPPS THE NEW FRONTIER IN LIVER SURGERY

DANCE SCREENING AND DANCE INJURIES



Scan the OR code using your iPhone or smart phone to view GP BUZZ on the TTSH website or visit www.ttsh.com.sg/gp/ THE ROLE OF OPTOMETRY IN SINGAPORE

HEALTHY RECIPE

Auspicious Longevity Noodles



INAUGURAL SINGAPORE PATIENT ACTION AWARDS

SINGAPORE PATIENT CONFERENCE 2015 AND

This year, our unsung heroes - caregivers - took centre stage with the conference theme "Caring for Caregivers". The Singapore Patient Conference (SPC) held on 30 October 2015 saw a line-up of esteemed speakers and booth partners who shared valuable information and knowledge on caregiving resources, training and respite care.

The third instalment of the conference also recognised those who have made a difference to healthcare through volunteerism and advocacy. Notably, nine individuals and groups from over 60 nominations nationwide were honoured at the inaugural Singapore Patient Action Awards.

SPC 2015 also included the official launch of AlCare Link @ Tan Tock Seng Hospital (TTSH) - a joint initiative by TTSH and Agency for Integrated Care (AIC) sited at the hospital's patient experience centre, CareConnect. AlCare Link serves as a one-stop resource and referral service node for patients, caregivers and the general public.

#### **MEMORANDUM OF UNDERSTANDING WITH FACULTY OF MEDICINE** SIRIRAJ HOSPITAL, MAHIDOL UNIVERSITY



delegation from the Faculty of Medicine Siriraj Hospital, Mahidol University, Thailand, led by its Dean, Professor Prasit Watanapa recently visited Tan Tock Seng Hospital (TTSH) from 12-13 November. Professor Watanapa was in Singapore to sign a Memorandum of Understanding (MOU) with TTSH on hospital innovation initiatives, clinical education, leadership development and benchmarking. The visit also took the delegates through an introduction and overview of TTSH and the hospital's clinical priorities.

In addition, a co-learning and sharing session regarding the various aspects of research, education and training took place at TTSH and Lee Kong Chian School of Medicine before the MOU signing. Siriraj Hospital and TTSH were founded in 19th century to serve the poor and the community. Today, both have grown to become anchoring institutions for public healthcare, and recognised centres of excellence.

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JANUARY - MARCH 2016



#### COMMUNITY RIGHT SITING PROGRAMME (CRISP)

Dear Partners and Friends,

A very Happy New Year to everyone!

General Practitioners (GPs) provide medical care coverage to more than 80% of our primary healthcare services, and as such, they play a key role in keeping our community healthy. At Tan Tock Seng Hospital (TTSH), we hope to continue working closely as your partner, while you provide seamless and integrated patient-centric care. As part of a broader initiative to provide continued care for patients in the community, TTSH officially launched Community Right Siting Programme (CRiSP) in April 2014.

Since our official launch, 50 GPs have enrolled in our programme, and together, we have successfully right-sited over 650 patients to our GP partners for long-term care. Of these, approximately 70% of our right-sited patients are utilising their Pioneer Generation or Community Health Assist Scheme (CHAS) subsidy at GP clinics. Our programme has been well-received by patients and GP partners.

This year, we aim to further extend our CRiSP-GP partnership island-wide, especially in the northeast zone of Singapore. I would like to take this opportunity to thank our GP partners and we hope to count on you for your continued support. With that, I wish you good health and a prosperous year ahead! GPBUZZ

#### Associate Professor John Abisheganaden

Clinical Programme Director - CRiSP Head and Senior Consultant Department of Respiratory and Critical Care Medicine Tan Tock Seng Hospital

CRISP is a partnership between TTSH and our CHASaccredited GP partners, through which stable patients at Specialist Outpatient Clinics with selected chronic conditions are appropriately reviewed and managed at the GP setting.

If you would like to find out more about TTSH's Community Right Siting Programme (CRiSP), please contact:

#### Evelyn Tan (Ms)

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 ${\it Email: Jayne\_LM\_Tong@ttsh.com.sg}$ 





☆ Caregiver training at home

#### THERE IS NO PLACE LIKE HOME

TAN TOCK SENG HOSPITAL'S HOME CARE PROGRAMMES HELP PATIENTS TO STAY IN THE COMMUNITY.

Singapore's population is ageing rapidly. To meet the healthcare challenges of an ageing population, community and home care services are important to help our seniors age in place, and in the comfort of their own homes.

Tan Tock Seng Hospital (TTSH) has introduced various home care initiatives providing holistic care (through home visits and telephone reviews) by multidisciplinary care teams to help patients transit seamlessly from the hospital back to the community, and thereafter, to stay well in the community.

Some of our programmes are:

#### • POST ACUTE CARE AT HOME PROGRAMME (PACH)

A transitional care programme that takes care of discharged patients who are homebound - usually the frail and elderly with complex medical conditions and complex medications. The duration of the service, which is usually about 3 months, will depend on each patient's condition.

#### • HOME VENTILATION AND RESPIRATORY SUPPORT SERVICE

A niche programme catering to patients who require mechanical ventilation support. TTSH is the only hospital that runs such a programme for adults. The team comprises trained doctors, nurses and respiratory therapists who take care of patients in intensive care units, specialist outpatient clinics, and at home.

#### • VIRTUAL HOSPITAL PROGRAMME

The team manages patients who are frequently admitted into the hospital. Most patients are suffering from multiple chronic conditions, with limited social support and have difficulty in coping with their conditions.

Caring for a loved one can be emotionally and physically demanding. TTSH also focuses on caregiver training to help caregivers gain knowledge and skills to take care of their family members at home.

The teams of TTSH home care services work closely with our primary care and community partners to integrate medical and social care and support to:

- > improve the quality of life of patients,
- > reduce the risk of re-admissions to the hospital, and
- > empower patients to take charge of their health at home and remain happy and healthy within the community. GPBUZZ

To find out more about TTSH home care services, please contact the general hotline at 6256 6011.



## ALPPS – THE NEW FRONTIER IN LIVER SURGERY

By Dr Low Jee Keem, Consultant, Hepato-Pancreato-Biliary Surgery Service, Tan Tock Seng Hospital
Dr Tay Guan Sze, Head and Senior Consultant of the Colorectal Surgery Service, Tan Tock Seng Hospital



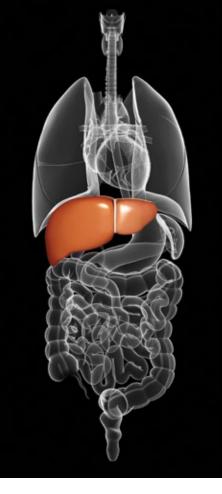
#### **Case Scenario 1**

Mr W, a 59-year-old gentleman presented with rectal bleeding and weight loss. CT scan results showed concentric mural thickening of the rectosigmoid colon and bilobar liver metastases. Colonoscopy findings showed a stenotic tumour at 20cm and was unable to negotiate through. He had insufficient remnant liver volume to survive a one-stage operation to remove all his liver metastases. Various treatment options were discussed with the patient including: downstaging chemotherapy, colonic resection followed by Portal Vein Embolisation (PVE) and liver resection, and Associating Liver Partition and Portal Vein Ligation for Staged Hepatectomy (ALPPS) procedure with extended right hepatectomy and synchronous resection of the rectosigmoid tumour.

He opted for the ALPPS procedure with extended right hepatectomy and synchronous resection of the rectosigmoid tumour, which was performed successfully. He made good recovery with no complications, and was discharged 19 days following his two-stage operation with curative intent. He is now receiving his adjuvant chemotherapy and has no recurrance on his recent CT scan 6 months from his operation.

#### **Case Scenario 2**

Mr K, a 47-year-old gentleman presented with rectal bleeding and altered bowel habit. Colonoscopy findings showed a tight stenotic circumferential rectal tumour. CT scan results showed a locally advanced rectal cancer with extensive bilobar liver metastases involving every segment of his liver. After a defunctioning ileostomy, he underwent six cycles of neoadjuvant chemotherapy and targeted therapy to downstage his disease. Both the rectal tumour and his liver metastases reduced considerably in size after neoadjuvant therapy. An ALPPS procedure



was performed with multiple wedge resections of the left lobe liver and synchronous low anterior resection in the first stage, followed by extended right hepatectomy in the second stage. Apart from a right pleural effusion, wound infection and urinary retention, he made a good recovery, and was discharged 16 days following his two-stage operation. He is currently receiving his adjuvant chemotherapy.

#### Associating Liver Partition and Portal Vein Ligation for Staged Hepatectomy (ALPPS)

Since June 2015, Dr Low Jee Keem, Consultant of the Hepato-PancreatoBiliary Surgery Service in Tan Tock Seng Hospital (TTSH), and Dr Tay Guan Sze, Head and Senior Consultant of the Colorectal Surgery Service of TTSH, have been performing the ALPPS procedure and synchronous colorectal surgery. The two scenarios mentioned illustrate how ALPPS helps with the treatment of patients with colorectal liver metastases. ALPPS can also be performed for other primary liver tumours such as hepatocellular carcinoma and neuroendocrine tumours.

Professor Schlitt first performed ALPPS in 2007 at Ragensburg, Germany and the technique was first presented to a German congress in 2010.¹ It is a modification of two-stage hepatectomy that enables liver surgeons to resect advanced liver tumours in a short time interval. In the history of liver surgery, this represents a real breakthrough in the approach to treat advanced liver tumours.

ALPPS permits surgeons to remove a large part of the liver in two steps. In the first stage of the operation, the liver parenchyma is transected along the intended line of resection and the future liver remnant is cleaned of any tumour, as in the case of bilobar tumours. The portal vein of the liver lobe that will be removed is ligated. The patient is then allowed to recover for one to two weeks.

During this time, there will be rapid growth of the future liver remnant. After one to two weeks, the second stage of the operation is performed where the portal vein ligated lobe is removed and the patient is rendered tumour free.

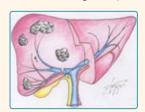
This surgical strategy has several advantages:

 It induces rapid growth or liver hypertrophy that is unparalleled by other methods such as the traditional portal vein embolisation. It has been shown consistently that the future liver remnant volume will hypertrophy by 61-93% over a median of 9-14 days.<sup>2</sup>

- 2) It helps to prevent post operative liver failure; the diseased lobe of the liver acts as an auxiliary liver whilst waiting for the future liver remnant to grow during the first and second week.
- 3) In cases of metastatic disease, for which combined surgical procedure may require a greater functional liver reserve, this new strategy enables the synchronous resection of the primary tumour and aggressive removal tumour in the future liver remnant.
- 4) It significantly reduces the time from surgery to chemotherapy as compared to the traditional treatment: meaning early definitive liver resection, unlikely tumour progression and faster recovery for the patient with early restart of chemotherapy. For traditional colorectal surgery, chemotherapy, sequential PVE and liver resection usually followed. There is a failure rate of 20-40% in PVE where tumours may progress during the period of post PVE, whilst waiting for the liver to hypertrophy and liver surgery to be performed.



The intended line of liver transection in the first ALPPS patient, Mr W.



During the ALPPS procedure, the liver was split and the right portal vein was ligated.



In the second stage of the operation, the remnant left lobe liver had clearly hypertrophied. The diseased right lobe and part of the left lobe liver were removed after the right portal vein, right hepatic artery and right bile duct were ligated and divided.

Special thanks to Dr Huang Yuying for drawing the pictures illustrating the steps of the ALPPS procedure.

The main controversial issue is that this new surgery comes with a price. There is still a high morbidity and mortality associated with this procedure; 6-12% mortality and 53-68% morbidity.<sup>3</sup> However, it varies from centre to centre and is only performed at certain hospitals in the world.

It would certainly benefit some patients, especially the young/middle-aged patients who have extensive (bilobar) liver tumours or have insufficient liver remnants if their advanced/extensive liver tumours were to be removed. ALPPS offers a chance of cure to these patients that other modalities of treatment cannot.

#### References

- Schnitzbauer A, Lang S A, Fichtner-Feigl S, Loss M, Kroemer A, Goessmann H, Farkas SA, Kirchner G, Jung EM, Scherer MN, et al. In situ split with portal vein ligation induces rapid left lateral lobe hypertrophy enabling two-staged extended right hepatic resection. Berlin: Oral Presentation; 2010. p. 35.
- Bertens KA, Hawel J, Lung K, Buac S, Pineda-Solis K, Hernandez-Alejandro R. ALPPS: challenging the concept of unresectability - a systematic review. Int J Surg. 2015 Jan:13:280-7
- Alvarez FA, Ardiles V, de Santibañes M, Pekolj J, de Santibañes E. Associating liver partition and portal vein ligation for staged hepatectomy offers high oncological feasibility with adequate patient safety: a prospective study at a single center. Ann Surg. 2015 Apr;261(4):723-32

#### **CME** (JANUARY – MARCH 2016)

TITLE	CME POINTS	DATE / TIME	VENUE	REGISTRATION DETAILS
5 <sup>th</sup> GP Aesthetic Workshop	To be advised	16 January 2016, Saturday 2.00pm to 5.00pm	TTSH Theatrette Level 1	Name: Mr Leslie Lai/Ruhaizah Aman Tel No: 6357 7746 Fax No: 6357 7749 Email: Leslie_HJ_LAI@ttsh.com.sg or ruhaizah_aman@ttsh.com.sg Website: https://www.ttsh.com.sg/ facialplasticsurgery/
GP Seminar – General Neurology	To be advised	27 February 2016, Saturday 1.00pm to 3.45pm	National Neuroscience Institute, Exhibition Hall, Level B1	NNI Secretariat Tel No: 6357 7163 Email: nni_secretariat@nni.com.sg

#### THE ROLE OF OPTOMETRY **IN SINGAPORE**

By Ms Olivia Chng, Principal Optometrist National Healthcare Group Eye Institute @ Tan Tock Seng Hospital







#### WHO ARE OUR PRIMARY EYE CARE PROVIDERS IN SINGAPORE?

Optometrists and Opticians are the primary eye care providers in Singapore. Optometrists are eye care professionals who conduct various eye examinations, prescribe appropriate glasses or contact lenses and also advise patients on visual problems. Optometrists are trained to detect common eye conditions such as cataracts, dry eyes, squints in children and more sight-threatening eye diseases such as glaucoma, diabetic retinopathy, and age-related macular degeneration for early intervention.

Optometrists in the NHG Eye Institute (NHGEI) @ Tan Tock Seng Hospital (TTSH), conduct various eye examinations and work closely with doctors in co-managing various eye diseases at our Stable Eye Condition Clinic (SECC).

We also sub-specialise in a wide range of services such as Low Vision, Therapeutic Contact Lens Clinic, Ultrasonography, Paediatric and Fundus Image Reading services.

#### WHY IS THERE A NEED FOR PRIMARY EYE CARE PROVIDERS?

With the high proportion of myopia in the Singapore population, there has always been a high demand for both Optometrists and Opticians. Many people

require prescriptions for glasses and contact lenses.

The increasing ageing population in Singapore requires Optometrists to step up and take on roles as primary eye care providers even more crucially now than ever before. As the population ages, agerelated eye disease prevalence increases proportionately, with more patients presenting conditions such as cataract, age-related macular degeneration, diabetic retinopathy, and glaucoma, among many other examples.

With Optometrists as the first line of response where eye care is needed, we are able to provide primary eve care services that are more accessible to the population, by providing assistance such as tele-ophthalmology services at the

Polyclinics. This in turn allows the eye doctors to concentrate on managing more urgent and complex eye diseases.

#### WHAT IS THE **GREATEST MISCONCEPTION** SURROUNDING THE **PRIMARY EYE CARE** ROLE?

The greatest misconception of our profession is that the Optometrist's role is solely in the prescription of glasses and contact lenses for patients. In reality, Optometrists are very well versed in operating various ophthalmic instruments and in diagnosing many eye conditions. The job scope has expanded tremendously in these past few years, to meet the changing needs of the population. Take for example, our role in supporting the tele-ophthalmology services in the polyclinic setting. Polyclinic doctors refer patients to Optometrists at the polyclinic, and during the teleophthalmology session, they also perform various eye investigations and consultation for patients.

Within TTSH, Optometrists also work alongside our eye doctors to see patients in our Stable Eye Condition Clinic (SECC). Patients with stable eye conditions are referred by eye doctors to be seen by the Optometrists in the SECC for their annual review. Patients with various conditions such as early cataracts, early diabetic retinopathy and early age related macular degenerations are managed by the Optometrist during SECC sessions. In addition, Optometrists also provides Fundus Image Reading services in the polyclinics for patients being followed up at the polyclinic for diabetes.

In summary, the role of Optometrists and Opticians as primary eye care providers in Singapore is increasingly important. With greater confidence in their knowledge and skills, they will be able to contribute more to society. Together, Optometrists can work hand-in-hand with our fellow Ophthalmologists in providing better quality and more accessible eye care for the population. GPBUZZ



## DANCE SCREENING AND DANCE INJURIES

By Dr Chia Kok Kiong, Jason, Head and Senior Consultant of Sports Medicine & Surgery Clinic, Tan Tock Seng Hospital



#### **DANCE INJURIES**

While dance is an artistic discipline, its physical demands should never be overlooked. Dancers are subject to daily physical training loads like any other athlete. In terms of physical demands, it is similar to sports with artistic components, such as rhythmic gymnastics. Physiological studies on contemporary dance show that the energy requirements in genres such as contemporary dance and ballet are akin to that of intermittent team sports. Astonishingly, dancers can perform between 100 to 200 jumps in the course of just a single day's training.

Consequentially, dancers can develop injuries just like an athlete, with fatigue as a common risk factor. However, dance also differs from sports in a few ways.

In particular, the aesthetic requirements tend to select for certain physical characteristics e.g. good turnout is de rigueur and in ballet, dancers tend to be more flexbile. These aesthetic requirements also change the fundamental movement patterns, which are ingrained through repetition in technique classes. Another difference in performing dancers is that of choreographic requirements, which can vary a lot between different dance genres. Rehearsals could also place added strain on the dancer's body.



Despite the varied choreographic and genre requirements, there are discernible patterns of injuries in dance with the most injuries occurring in the foot and ankle, followed by the knee and back. Aesthetic and choreographic requirements changes the movement patterns and biomechanics in dance. Hence, while some of the injuries are similar between dancers and athletes, the contributing factors differ. For example, anterior knee pain is often linked to tightness of muscles in athletes. With dancers, anterior knee pain is often linked to excessive flexibility of adjacent joints. The requirements of dance can produce injuries which are seldom seen in sports. For instance, excessive dance training can result in triggering of the big toe as flexor hallucis longus tendon gets trapped in the tendon sheath. Improved movement efficiency through dance training can also alter injury patterns. For instance, the predominance of females in non-contact anterior cruciate ligament sprains seen in sports is not seen in dance.

Hence, dance injuries can occur through a combination of factors i.e. fatigue, physical characteristics (body structure and alignment), training load, inefficient movement patterns. In some instances, incomplete recovery from previous injuries can induce compensatory movement patterns that can predispose a dancer to recurring injuries. GPBUZZ



#### **PREVENTING DANCE INJURIES**

In the interest of preventing injuries and reducing downtime from training, screening can be done to look for risk factors intrinsic to the dance, which might be amenable to changes. Dance-specific screening consists of:

- 1) Anthropometry Measurements
  This focuses on the dancer's posture, symmetry, scoliosis and range of movement of the joints as
  - well as limits of flexibility as permitted by muscle strength.
- 2) Dance-Specific Competencies

Basic or foundation movement pattern to assess strength and balance as well as strength relevant to dance e.g. core stability as well as strength in the foot and ankle.

- 3) Quality of Basic Movements
- The fundamental movement screen consisting of seven basic movements such as squatting, stepping over, push up. While the individual physical tasks are seemingly simple and commonplace, it is usual to have fit and high-performing athletes struggle to perform one or more tasks efficiently. Subjects are assessed on the quality of the movement, asymmetry and compensatory patterns of movement. Conversely, limitations due to pain are flagged out as potential injuries for further evaluation. Composite scores have shown to be predictive of increased risk of musculoskeletal injuries in athletic as well as military populations.
- 4) A final component consists of an indirect test of aerobic fitness. Fatigue is one of the factors for injury with an increased risk during periods of increased training load.





### **CREATE YOUR**

ong Xi Fa Cai! We've once again arrived at that time of year that sees delectable traditional Chinese dishes fill family tables from edge-to-edge. Fret not, as healthy eating tips can still be applied to avoid unwanted weight gain over the Chinese New Year period!

#### 1. USE SMALLER UTENSILS AND AVOID GOING FOR SECOND SERVINGS.

Based on My Healthy Plate by the Health Promotion Board, opt to eat with an average dinner plate (-9 inches), with half the plate filled with fruit and vegetables, a quarter with whole grains and the remaining quarter with lean meat, poultry or fish.

#### 2. CHOOSE DISHES THAT ARE PREPARED USING LOWER FAT COOKING METHODS

Lower fat cooking methods include steaming, braising, stewing, and pan-frying. For the more hands-on cook, you do not have to rely on high-fat meat cuts for richer flavor. Leaner cuts of meat like chops and loins are perfect for stewing and braising too!

#### 3. LIMIT YOUR INTAKE OF SWEETENED BEVERAGES

You may easily consume up to 150 calories from a single can of soft drink. Do substitute these drinks with sugar-free ones, or go back to basics with water. Regarding alcohol, it is recommended not to consume more than two standard drinks per occasion. You can visit Health Promotion Board's website for more information on alcohol servings.

#### 4. EAT TWO SERVINGS OF FRUITS AND TWO SERVINGS OF VEGETABLES PER DAY

This is to ensure that you obtain adequate dietary fibre to keep you sated after a meal. Dishes like Yusheng can be made with a higher fibre content, and with lower calories by adding approximately one cup of fresh vegetables per serving. You could also try reducing condiments like plum sauce and oil, and substituting crackers with raw nuts such as almonds and peanuts.

#### 5. SNACK IN MODERATION

The symbolic Chinese New Year snacks of Singapore have calories ranging between 380 to 500 kcal per 100g. So don't forget that there are no exceptions to the saying 'you are what you eat'!

For example: BBQ pork slices (*Bak Kwa* - roughly 3 slices), peanut cookies, and glutinous rice cakes (*Nian Gao* - roughly 5 slices) amounts to 398kcal, 511kcal, and 562kcal per 100g respectively.

By **Edna Loh**, Dietitian Nutrition & Dietetics Department, Tan Tock Seng Hospital

#### **AUSPICIOUS LONGEVITY NOODLES**

(Serves 6)

#### **INGREDIENTS:**

- 350g Chinese wheat or egg noodles (Select brown rice vermicelli for a higher fibre content)
- 6 medium dried Shiitake mushrooms
- 200g lean pork (chops/loins), shredded
- 3 tablespoons canola oil
- 3 slices unpeeled fresh ginger
- 2 teaspoons minced garlic
- 1 medium red capsicum/bell pepper, cored and shredded
- 2 cups bean sprouts
- 100g snow peas, ends snapped off, strings removed and shredded diagonally
- 5 spring onions, cut into 1-inch lengths
- 2 teaspoons sesame oil

#### **MARINADE:**

- 2 teaspoons cornstarch
- 2 teaspoons Chinese rice wine

#### **SAUCES:**

- 2 tablespoons oyster sauce
- 1 tablespoon low sodium light soy sauce
- 2 teaspoons sugar

#### **NUTRITION INFORMATION**

	Per serving (194g)	Per 100g
Energy (Calories)	386	200
Protein (g)	17	9
Fat (g)	11.8	6
• Saturated fat (g)	1.8	1
• Monounsaturated fat (g)	6	3
• Polyunsaturated fat (g)	4	2
Carbohydrates (g)	53	25
• Sugar (g)	5	
Dietary Fibre (g)	4	2
Sodium (mg)	349	180

#### **DIRECTIONS**

- In a large pot of boiling water, cook the noodles until it softens for about 3 minutes. This should take no more than 2 minutes if you bought pre-cooked noodles. Drain and rinse in cold water. Drain for a 2<sup>nd</sup> time, and set aside.
- 2. Soak the mushrooms in hot water for 15 minutes to soften them. Drain and squeeze dry, reserving ½ cup of the soaking liquid. With scissors, trim off and discard the stems and shred the caps.
- 3. In a small bowl, whisk together marinade and add the pork. In another bowl, combine sauces and the mushroom soaking liquid together. Stir until the sugar is dissolved.
- 4. In a wok, heat 3 tablespoons of the canola oil over high heat. Toss in the ginger and garlic, and stir them around the pan for a few seconds until they are fragrant. Stir the uncooked pork to make sure that it is well-mixed before adding it into the wok. Cook for about 1 minute and stir constantly until the meat separates and is partially cooked. Add the mushrooms and capsicum and cook, stirring for about 30 seconds. Add the bean sprouts and snow peas, stirring constantly, until the snow peas turn a darker green, for about another minute. Remove and discard the ginger, if desired. Transfer to a flat platter.
- 5. In the same wok, heat the remaining 2 tablespoons of canola oil. Add the noodles and toss for about 1 minute, or until it is heated throughout. Pour the oyster sauce mixture over the noodles. Pour in the vegetables and meat mixture to the wok, stir until the sauce is evenly absorbed into the noodles. Sprinkle with spring onions and sesame oil, and toss well. Transfer to a serving plate and serve immediately.





#### MULTI-DISCIPLINARY SPECIALIST CARE

TTSH PEARL's suite of clinics and services is guided by the four pillars of care through Evidence Care, Destination Care, Team Care and Personalised Care. We remain committed to delivering a higher level of patient care as We Value Our Patients Most.

For the full range of services in Tan Tock Seng Hospital, please visit our website at www.ttsh.com.sg.

#### <u>PEARL CLINICS AND SERVICES</u> (NON-SUBSIDISED)

GP Appointment Hotline: (65) 6359 6500

#### **CLINIC B1B**

Orthopaedic Surgery
 Tel: (65) 1800-73275-00
 Email: ClinicB1B@ttsh.com.sg

Rheumatology, Allergy and Immunology
 Tel: (65) 6889 4027
 Email: Contact@ttsh.com.sg

#### CLINIC 2B

- Gastroenterology and Hepatology
- General Surgery
- Urology

Tel: (65) 1800-73275-00 Email: Clinic2B@ttsh.com.sg

#### **CLINIC 4B**

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- General Medicine
- Haematology
- Medical Oncology
- Psychological Medicine
- Psychological Services
- Renal Medicine
- Respiratory and Critical Care Medicine
   Tel: (65) 1800-73275-00

   Email: Clinic4B@ttsh.com.sg

#### **CLINIC 6B**

Complementary Integrative Medicine
 Tel: (65) 6889 4628
 Email: Clinic6B@ttsh.com.sg

Dental

Tel: (65) 6889 4627 Email: Clinic6B@ttsh.com.sg

#### **WELLNESS SERVICES**

Health Enrichment Centre
Tel: (65) 1800-73275-00
Email: HEC@ttsh.com.sg

Travellers' Health and Vaccination Clinic
 Tel: (65) 6357 2222
 Email: THVC@ttsh.com.sg

#### PEARL LIAISON CENTRE (PLC)

Tel: **(65) 6357 1590** Email: **PLC@ttsh.com.sg** 



