

GP BUZZ

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JULY-SEPTEMBER 2017

**HEALTHY
HEARTS**

**EXERCISE
TO EMPOWER
OLDER PERSONS**

**HEART DISEASE
IN WOMEN**



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JULY - SEPTEMBER 2017

About the Cover Page: **Of Lowlanders, Highlanders and Healthy Hearts**

The dramatic cover photo features Dr Kumaran Rasappan's successful ascent of Mt Everest (8848m) in 2012. Now a Senior Resident in Tan Tock Seng Hospital's (TTSH) Orthopaedic Surgery, he joined a select group of Singaporeans who have made it to the top of Everest since 1998. You can read an account of his story by ST journalist Rohit Brijnath on our website⁽¹⁾.

Indeed, 'Lowlander' Kumaran's feat was outstanding because genetically, he could not match the 'Highlander' Himalayan Sherpas' adaptation in high altitude under hypobaric hypoxic conditions. Sherpas moved to Nepal about 500 years ago from the Tibetan Plateau, where humans had settled permanently at 4500m for the last 9000 years.

Reporting in the Proceedings of National Academy of Sciences⁽²⁾, Andrew Murray and colleagues studied 'Lowlanders' and 'Highlanders' at Everest Base Camp (5300m), and performed blood tests and muscle biopsies to show how Sherpas demonstrated a lower capacity for fat metabolism, relying more on glucose as fuel, which is more efficient for oxygen utilisation. They have better muscle energy mechanics, use more lactate as fuel during anaerobic exertion, exhibiting lower muscle fatigue and oxidative stress responses. The insights from these experiments may one day help us better treat hypoxia in our intensive care unit patients.

Genes, discipline and science work hand in glove to keep our body healthy for the Everests in our personal lives. This issue of GP Buzz on the Healthy Heart tells us how. **GPBUZZ**

References

- [1. https://www.ttsh.com.sg/about-us/newsroom/news/article.aspx?id=3628.](https://www.ttsh.com.sg/about-us/newsroom/news/article.aspx?id=3628)
- [2. http://www.pnas.org/content/early/2017/05/16/1700527114](http://www.pnas.org/content/early/2017/05/16/1700527114)

Photo courtesy of Dr Kumaran Rasappan ©



World Alzheimer's Day 2017: Remember Me

SAVE THE DATE!

22 September 2017 • 10am to 3pm • TTSH Theatre



👉 Elders and persons with dementia performing at "Remember Me" carnival held in commemoration of World Alzheimer's Month 2016, to promote healthy ageing and engagement of persons with dementia via meaningful social activities.



Together with Alzheimer's organisations around the world, Tan Tock Seng Hospital's Department of Geriatric Medicine, Cognition and Memory Disorders Service will be celebrating International World Alzheimer's Day to raise awareness about Alzheimer's disease and dementia.

This year's theme is 'Remember Me'. Join us for educational talks, exciting games and activities to find out more about the diagnosis and stages of dementia; how to care for Persons with Dementia and their caregivers. **GPBUZZ**



Scan this QR code to get updates and registration details.

Better Dementia Care for the Community

The Geriatric Integrated Network for Dementia (GerIND) aims to increase the overall capacity of the healthcare system in the Central Region of Singapore, to manage dementia patients through right-siting and community integration.

Developed and supported by TTSH Department of Geriatric Medicine, Cognition and Memory Disorders Service, GerIND collaborates with Ang Mo Kio Polyclinic, Care for the Elderly Foundation's (CEF) CODE 4 Home Care Programme, Programme Dignity (by Palliative Medicine Department in collaboration with Dover Park Hospice and Temasek Cares), and a network of General Practitioners (GPs), to provide holistic dementia care across the cognition spectrum.

To ensure seamless integration between social and medical care, the network also partners AIC Community Intervention Teams (COMIT) to provide training and capability building for GPs, in co-managing dementia patients in their communities. **GPBUZZ**



Training of community-based healthcare professionals to enable better care for patients with dementia in the community. >>

Falls Awareness Day 2017: Be Healthy and Stand Steady

Tan Tock Seng Hospital's (TTSH) annual Falls Awareness Day is a public event that raises awareness about falls, and how to prevent them. This year's theme, 'Be Healthy and Stand Steady' aims to inform seniors and their loved ones on the relation between chronic diseases and falls, and how taking charge of chronic diseases can help prevent falls. TTSH's multi-disciplinary team of healthcare professionals will share self-management tips, empowering participants to better manage their health and stay safe around the home!

Falls Awareness Day
预防跌倒意识日 2017
Be Healthy and Stand Steady 保持健康, 预防跌倒

8 July 2017 (Saturday) | 9.00am - 3.00pm
Kolam Ayer Community Club
3188 Geylang Bahru, Singapore 339717

Guest-of-Honour:
Dr Yaacob Ibrahim
Minister for Communications and Information, Minister-in-charge of Muslim Affairs,
Minister-in-charge of Cyber Security and MP for Jalan Besar GRC

Event Highlights

- Learn How You Can Prevent Falls
- Game and Activities on Self-Management Tips
- Q&A About Falls Prevention
- Stage Performances

节目亮点

- 学习如何预防跌倒
- 健康自我管理游戏与活动
- 预防跌倒问答
- 舞台表演

Date: 8 July 2017
Time: 9.00am - 3.00pm
Venue: Kolam Ayer Community Club,
3188 Geylang Bahru, Singapore 339717

Event highlights: Interactive education booths by TTSH healthcare professionals and exciting mass activities. [GPBUZZ](#)



✦ The Optometrist performing Low Vision Assessment so as to identify magnifiers/devices which could help patients to use their remaining functional vision more effectively.

Since its inception in 2001, the National Healthcare Group (NHG) Eye Institute has continued to address the increasing demand for eye care services, and areas of its research and training. It incorporates Tan Tock Seng Hospital's (TTSH) Department of Ophthalmology as its flagship clinical unit, and delivers quality tertiary and primary eye care to patients in Singapore and the region. With more than 28 fellowship-trained consultants on-board, the Institute covers the entire spectrum of ophthalmic subspecialties, providing comprehensive diagnosis and advanced treatment for both common and complex eye diseases.

The spectrum of diseases in neuro-ophthalmology is such that many conditions cause irreversible visual loss. These include optic neuropathies and strokes leading to homonymous hemianopias.



Scan this QR code to read the article online.

EYE DISCOVERIES: NEURO-OPHTHALMOLOGY AND VISUAL REHABILITATION

By **Dr Chin Chee Fang**, Head of Neuro-Ophthalmology Service & Consultant, National Healthcare Group Eye Institute, Tan Tock Seng Hospital



In the past, ophthalmologists focused very much on the disease – particularly, to its diagnosis, treatment and risk reduction. Insufficient emphasis was given to the patient’s quality of life, and how they would continue to function in society after visual loss had occurred. To many patients, loss of sight may seem like the end of the road. Many descend into frustration and depression.

In recent years, greater understanding of the psychosocial impact of visual loss has led to greater efforts in visual rehabilitation. Studies have shown that early institution of rehabilitation is helpful in getting patients back on their feet. In stroke patients presenting with hemiparesis along with hemianopias, this is even more crucial

as early visual rehabilitation also aids in expediting physical neuro-rehabilitation.

Visual rehabilitation or low vision rehabilitation aims to help patients develop compensatory strategies to fully utilise their existing vision or visual field. Compensatory strategies can include saccadic training, visual aid prescription and training, orientation and mobility, home occupational therapy visits and in select cases, prisms for hemianopia field expansion. The aim is not to reverse the underlying organic disease, but to help patients use their residual visual capacity more effectively. Visual rehabilitation is useful for conditions beyond neuro-ophthalmology, as patients with other causes of visual loss such as age-related macular degeneration and glaucoma also benefit from visual rehabilitation.

It has been a model in various countries, and in NHG Eye Institute,



✧ Traditional and Electronic magnifiers.

to adopt an integrated low vision rehabilitation programme, with clinicians (ophthalmologist), low vision optometrists and low vision occupational therapists each playing integral roles. At the NHG Eye Institute at TTSH, we have a twice-weekly combined clinic where patients first visit the low vision optometrist for refraction and visual aid prescription (if necessary), and subsequently the low vision occupational therapist.

Despite the bad news frequently delivered in my clinic, we are now able to offer our patients some hope and motivation. It is extremely heartening to see patients return for their review after undergoing visual rehabilitation – happy, independent, and announcing their return to work, and their lives. **GPBUZZ**



NHG Eye Institute Direct Access Hotline:

NHG Eye Institute is able to accommodate same-day/next day appointments. Depending on the level of care needed and the requested timing, most patients can be seen by an Eye specialist on the same day especially for requests received in the morning. For appointments, GPs should call 6359 6500.



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HEART DISEASE IN WOMEN

By **Dr Deanna Khoo**, Consultant, Department of Cardiology, Tan Tock Seng Hospital



Cardiovascular disease is the leading cause of death among women in Singapore. In particular, Ischaemic heart disease (IHD) is a form of cardiovascular ailment that develops 10 years later in female patients – a process that is not avoided, but merely delayed.

SYMPTOMS AMONG WOMEN

Female patients more often report atypical symptoms such as epigastric discomfort, nausea, dyspnoea and fatigue. This non-specific clinical presentation renders evaluation of symptoms and the precision of ascertaining the likelihood of obstructive Coronary Artery Disease (CAD) difficult.

INVESTIGATION OF CARDIAC DISEASE IN WOMEN

Women at low risk of IHD generally do not require further diagnostic testing. Female patients at intermediate-risk levels should undergo an exercise electrocardiogram. Women at intermediate – high risk levels, however, should undergo stress



imaging or cardiac computerised tomography. Coronary computed tomography angiography can identify women with non-obstructive CAD at increased risk of events, who benefit from risk factor modification and medical therapy. Among women, the

DID YOU KNOW?

WORLD HEART DAY FALLS ON 29 SEPTEMBER!



spectrum of CAD includes coronary microvasculature and endothelial dysfunction, vasospasm and dissection. These should be considered when investigating chest pains.

MANAGEMENT OF CAD IN WOMEN

Women have worse outcomes with higher in-hospital mortality in acute coronary syndrome. This is attributed to longer patient delay before presentation, older age, less aggressive treatment, and higher bleeding complications. Trans-radial access for coronary interventions reduces incidence of bleeding complications, and improves clinical outcomes. Recent trials examining drug-eluting stent placement in men and women have found similar outcomes. However, the female sex presents a risk factor for morbidity and mortality among patients undergoing coronary artery bypass grafting.

The prognosis of symptomatic women who have non-obstructive CAD was initially thought to be benign. The risk of cardiovascular events is higher than asymptomatic women. Statins and angiotensin-converting enzyme inhibitors have shown improvement in endothelial function and symptoms. Chest pain is treated effectively with beta-blockers, and ranolazine shows promise.

CONCLUSION

CAD is the leading cause of mortality in women. Atypical presentation patterns should not detract the physician from managing risk factors appropriately and arranging further investigation. Women with ACS benefit as much from coronary intervention and drug-eluting stents, and should be treated as intensively as men. More research into gender-specific treatment will help guide future management. **GPBUZZ**

Cardiology services are available at Tan Tock Seng Hospital. For appointments, GPs should call 6359 6500.



HOW AIR POLLUTION IMPACTS CARDIAC DISEASE AND HEART ATTACKS

By **Dr Yong Quek Wei**, Senior Consultant, Department of Cardiology, Tan Tock Seng Hospital



A recent surge of evidence links micro particulate air pollution with an increased risk for cardiovascular events. This is alarming as both short- and long-term exposure is associated with an abnormally high incidence of heart attacks, strokes, cancers, respiratory diseases, auto immune diseases and dementia. Of interest is the pathogenicity of micro particulate matter. These microscopic pollutants, also known as ‘fine soot’ are formed as a result of incomplete combustion of fossilised fuels – diesel, in particular. They are categorised according to diameter, with fine particles fixed at 2.5 μm (PM2.5). Their deadly effects depend on particulate size, with most PM10 particles seen to deposit in the upper airways. PM2.5 and PM0.1 particles can penetrate the lung alveoli into the systemic circulation. Smaller fine and ultrafine (<100 nm) PM, are associated with more serious adverse effects.

The World Health Organisation reported that air pollution was directly responsible for 3.7 million deaths. The data comes from western metropolitan areas with strict anti-pollution measures, e.g. Euro 6 emissions standards. Most Asian cities, which lag far behind Western standards of pollution control, see a much higher estimate of mortality figures.

Interestingly, acute exposure to PM2.5 results in a higher rate of death due to cardiovascular, than respiratory disease. The risk increases with every 10 $\mu\text{g}/\text{m}^3$ increase of PM2.5, with no lower limit to its safety level. Acute exposure can push up the risk of heart

attacks by five per cent within a day, with an alarming 69% increase in cardiovascular deaths after acute exposure in the short term. Worldwide, health organisations have recognised the association between PM2.5 and cardiovascular disease. Of note, developing nations have PM2.5 levels that are at least 10 times higher than seen in cities within the United States.

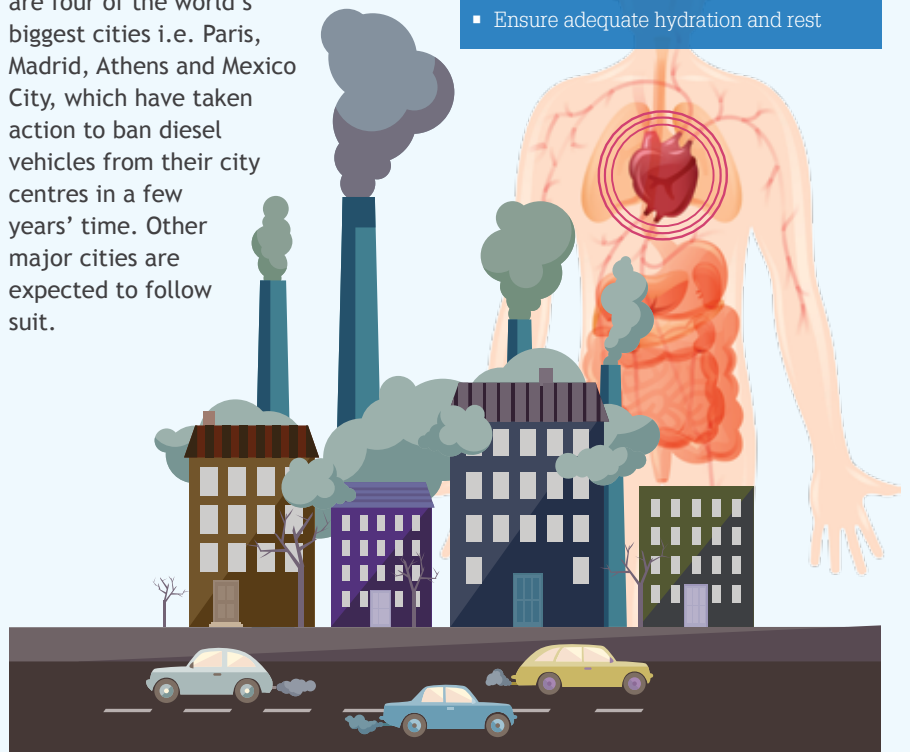
Singapore is no exception, with one of the highest automobile densities in the world, registering approximately 1 million passenger vehicles, and an estimated 200,000 goods & commercial vehicles (which use diesel engines of outdated Euro 4 and below standards) in a compact land area of approximately 600 square kilometres. Of interest to the topic, are four of the world’s biggest cities i.e. Paris, Madrid, Athens and Mexico City, which have taken action to ban diesel vehicles from their city centres in a few years’ time. Other major cities are expected to follow suit.

These actions reinforce the impact of PM2.5 pollution on public health, and is one of the most urgent health problems that need to be addressed worldwide. **GPBUZZ**

7 TIPS TO HELP PATIENTS REDUCE HEALTH RISKS

DURING HAZE OR BAD POLLUTION:

- Stay indoors when the PSI is >300
- Avoid strenuous activities or outdoor physical exertion
- Wear a mask (preferably the N95 mask)
- Avoid smoking areas, car parks or areas with high vehicular traffic
- Use portable/central air cleaning systems to reduce concentrations of indoor air pollutants
- Consult a GP immediately if breathlessness, chest pains or fever develops
- Ensure adequate hydration and rest

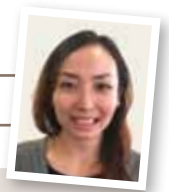




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EXERCISE TO EMPOWER OLDER PERSONS

By Dr Caroline, Senior Resident, Department of Geriatric Medicine, Tan Tock Seng Hospital



The last decade has seen a growing emphasis on the benefits of exercise for the elderly. Though exercise is commonly associated with cardiovascular health, research has shown that exercise can benefit the elderly more profoundly than previously thought.

Aerobics, resistance, and balance exercises are among the most commonly researched types.



The volume of the hippocampus, which is important in memory function, is greater in older people who perform **aerobic exercises**, compared to the ones who are sedentary. This leads to improvement in cognitive performance. Aerobic exercise also increases skeletal muscle insulin sensitivity, and mitochondrial biogenesis, which halts the process of muscular atrophy.

Resistance exercise increases muscle protein synthesis by increasing anabolic hormone production, and decreasing catabolic cytokine activity. This plays an important role in developing protection against sarcopenia, which presents a decrease in muscle mass and strength.



Balance exercises such as Tai Chi, when combined with resistance exercise, has shown reduction of falls in some older people who have been studied. This is because the common risk factors for falls in older people are muscle weakness, and problems with balance.



A combination of aerobic, resistance and balance exercises is ideally recommended to elderly patients for the maintenance of cognitive health, reduction of muscle atrophy in sarcopenia, and fall prevention. **GPBUZZ**

CME (JULY – SEPTEMBER 2017)

TITLE	CME POINTS	DATE	TIME	VENUE	REGISTRATION DETAILS
General Medicine GP Symposium 1. Approach to Myalgia 2. Acute Medical Emergencies in the GP Clinic 3. Soft Tissue Infections and Diabetic Foot Wound Management	2 CME points*	12 August 2017	1.00pm to 4.00pm	Theatrette, Level 1, Tan Tock Seng Hospital	Ms Debra Lee / Ms Ngui Sieh Fah Tel: 6357 7893 / 6357 7881 Debra_Lee@ttsh.com.sg / Sieh_Fah_Ngui@ttsh.com.sg
GP Seminar - Neuromuscular Disorders and Neuropathic Pain	2 CME points*	19 August 2017	1.00pm to 4.00pm	National Neuroscience Institute Exhibition Hall, Basement 1	Low Wei Ling Tel: 6357 7152 nni_secretariat@nni.com.sg
Haematology GP Symposium	2 CME points	26 August 2017	1.00pm to 4.30pm	Theatrette, Level 1, Tan Tock Seng Hospital	E-Registration: https://goo.gl/forms/vjGxBYe25tmMCWon1 E-mail Registration: Ms Elsie Lee elsie_tf_lee@ttsh.com.sg
GP Workshop: Eye Examination in Family Practice	2 CME points	18 November 2017	2.00pm to 4.00pm	Conference Room TTSH Eye Centre (opp kopitiam) Main Building, Level 1	E-mail Registration: eye@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.



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BEANS FOR A HEALTHIER PULSE

By **Quek Wei Lin**, Dietitian, Department of Nutrition & Dietetics, Tan Tock Seng Hospital



In conjunction with World Heart Day, let's take a look at beans – a food with many hidden health benefits. Containing a unique nutrient profile that provides a good source of soluble fibre, iron and protein, beans do not have cholesterol and are low in saturated fats. In savoury recipes, beans are usually well matched with tomatoes – a good source of potassium. If it is difficult to obtain raw beans, remember to drain and rinse

canned beans well so as to reduce their salt content.

The following recipe is aligned with the Dietary Approaches to Stop Hypertension (DASH) diet principles, as it contains a good amount of calcium, potassium and magnesium, which are micronutrients that help to reduce blood pressure, prevent heart disease, stroke and diabetes. If you are preparing this for the elderly, allow the beans to cook longer for a softer texture. **GPBUZZ**

Nutrition information	Per 100g	Per serve (380g)
Energy (Kcal)	70	260
Protein (g)	5	14
Carbohydrate (g)	10	36
- Of which sugars (g)	2	6
Fat (g)	2	6
- Of which saturated (g)	0	1
- Of which trans (g)	0	0
- Of which cholesterol (mg)	0	0
Dietary fibre (g)	3	11
Sodium (mg)	63	240

Spicy Kidney Bean Stew serves 4

INGREDIENTS

- 1 large onion (150g), chopped
- 2 cloves garlic (20g), crushed
- 1 red chilli (5g), deseeded and finely diced
- 1 teaspoon (5g) cumin powder
- 2 teaspoon (10g) paprika
- 2 teaspoon (5g) oregano
- 1 tablespoon olive oil
- 400g tomatoes, chopped
- ½ medium (100g) carrots, diced
- 100g celery, chopped
- 1 medium (140g) yellow capsicum, diced
- 1 can red kidney beans (220g after draining)
- 1 can cannellini beans (220g after draining)
- 120g chick peas

DIRECTIONS

1. Heat the olive oil in a pot and add onions, garlic to cook until they are soft. Add the cumin, chili, and paprika, and then cook for a further minute or two to release the aroma.
2. Add tomatoes, carrot, celery, capsicum and oregano into the pot. Rinse the beans well and drain off any liquid. Add chickpeas and both kidney and cannellini beans into the pot with 200ml water, and cook gently for 40 minutes while partially covered.
3. Add a pinch of corn flour to thicken the stew if it is too watery.
4. To complete the meal, serve with a slice of wholegrain toast and salad.





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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.

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