

# SINGAPORE Health

THE FLAGSHIP PUBLICATION OF THE SINGHEALTH DUKE-NUS ACADEMIC MEDICAL CENTRE

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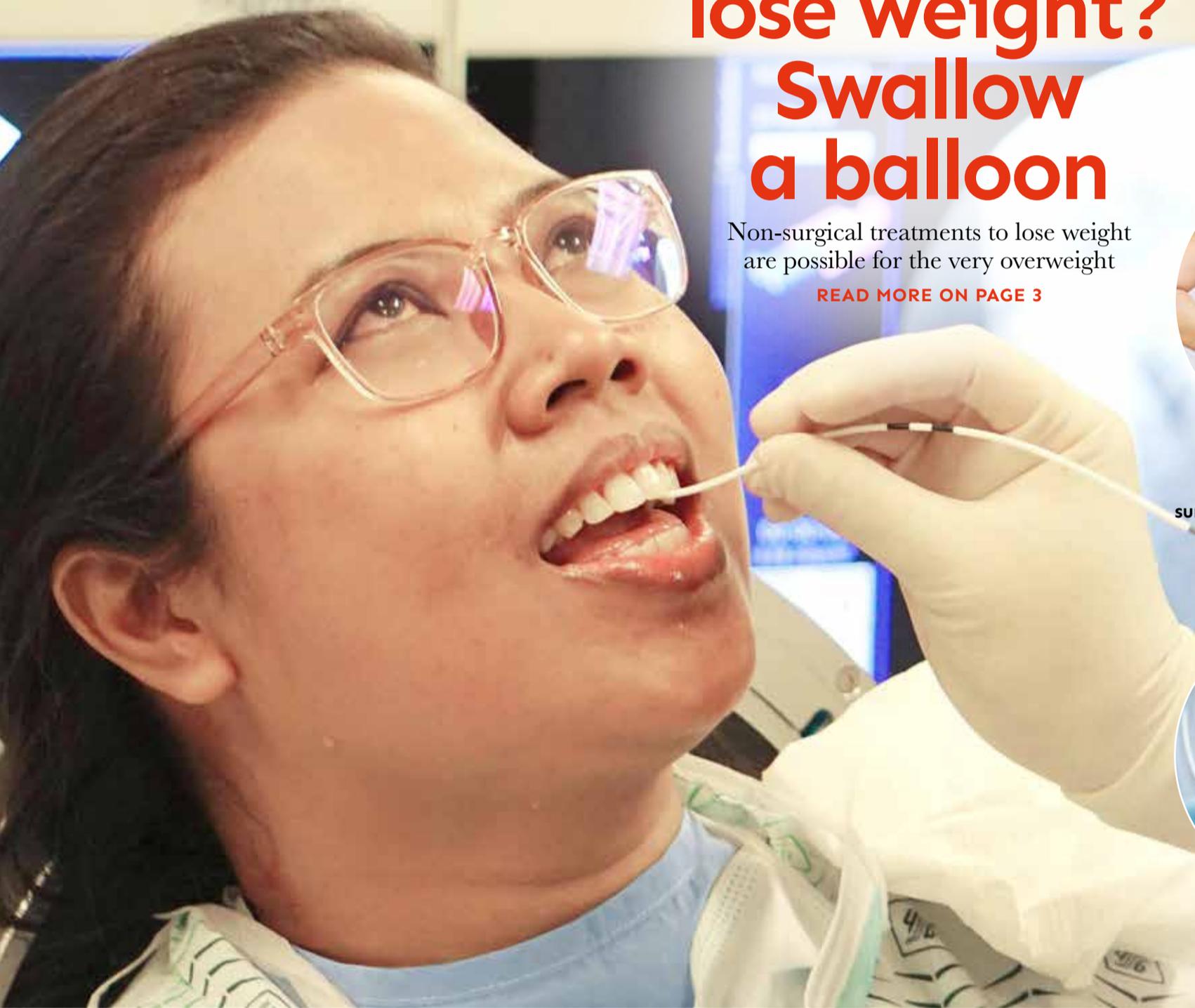


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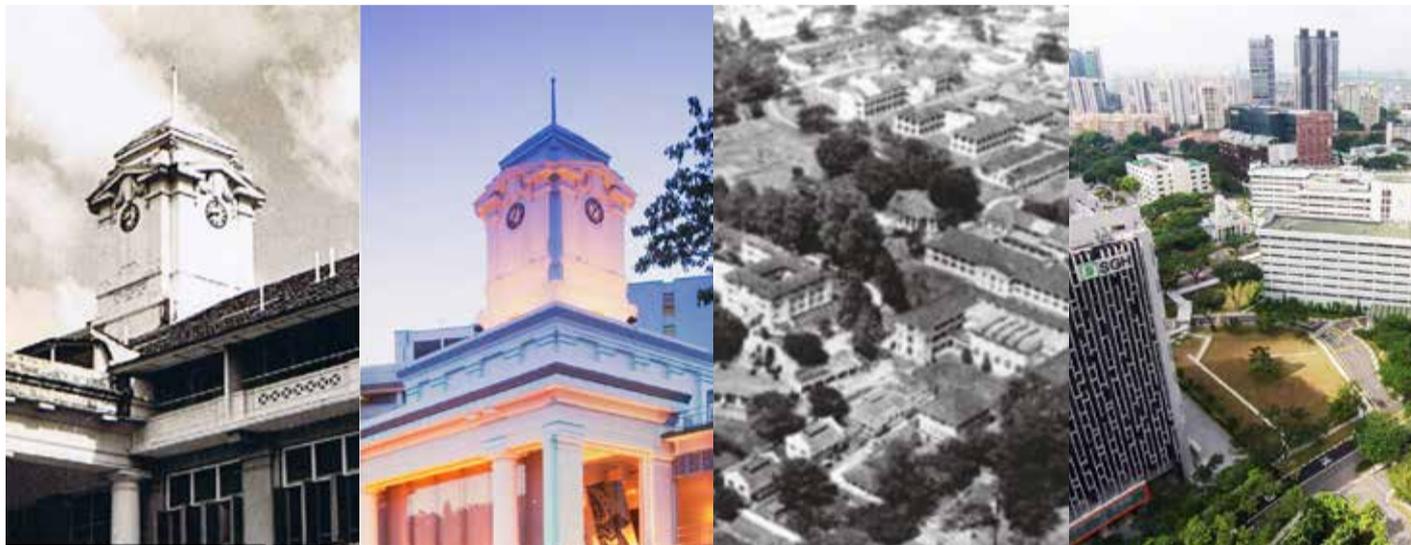


The history of Singapore General Hospital (SGH) is the history of medicine in Singapore. The first general hospital for British troops was established in Singapore in 1819, but it was only in 1821 that it began serving the general populace — marking the true beginnings of SGH. In celebration of SGH's bicentennial, *Singapore Health* presents snapshots of the changes in medicine and its various disciplines in the past 200 years.

# 200 glorious years!

Singapore's flagship hospital celebrates her 200th birthday amidst further regeneration and renewal of SGH Campus.

by Ms Angela Ng, Director, Communications Department, Singapore General Hospital



Photos: SGH

»»» (from left) Bowyer Block in the 1960s and today; SGH Campus in 1940s and today.

The Singapore General Hospital (SGH) that is known today is a far cry from its beginnings in 1821. Formed shortly after Sir Stamford Raffles landed on Singapore soil, that first hospital was largely for the military, with sections for European soldiers, sepoys (Indian soldiers serving under the Europeans) and poor locals.

Sited around the Bras Basah and Stamford Road areas, the hospital was rebuilt and moved several times before eventually settling down in the Outram area. The SGH that started to bear some resemblance to the present complex can be traced to 1926, when three large building blocks were erected.

When the hospital, including its Upper, Middle and Lower Blocks, opened, 500 of the 800 beds were already occupied. It took in trainee doctors, the first batch of whom included Dr Benjamin Henry Sheares and Professor Edward S Monteiro. Dr Sheares, who was to become Singapore's second President, joined the government service after his final examinations in 1929. In pre-independent Singapore, non-British doctors were appointed as Assistant Medical Officers at a starting salary of \$250 per month, versus double that for their British counterparts.

The three buildings were later renamed Bowyer, Stanley and Norris, after Dr John Herbert Bowyer, Dr Cuthbert Stanley and Dr Victor

Norris — doctors who perished during World War II. Norris and Stanley Blocks were demolished in the 1970s and only part of Bowyer Block remains. The two-storey block, built in the neoclassical style, features a distinctive clock tower and was gazetted as a national monument on 11 November 2009.

On 31 March 2000, following a major reorganisation of the public sector healthcare services, SGH came under the management of Singapore Health Services. SingHealth now includes four hospitals, five national specialty centres and eight polyclinics.

Today, new and larger buildings on SGH Campus are being built to accommodate a growing population that includes a rapidly ageing segment. On 5 February 2016, Prime Minister Lee Hsien Loong unveiled the SGH Campus Master Plan to redevelop the 43-hectare campus into three interconnected zones for patient care, research and education.

The Master Plan will be implemented in two key phases over the next two decades, including relocating SGH closer to MRT stations. By 2026, the Campus will house a new Elective Care Centre and National Dental Centre Singapore; National Cancer Centre Singapore, and a new Emergency Medicine Building. Other institutions on SGH Campus, including Outram Community Hospital, Duke-NUS Medical School, Academia, and National Heart Centre Singapore, were completed in the past decade.

SGH's history over the years has been closely entwined with historical events in Singapore. Addressing public healthcare has always been its core function. It has responded to other needs, such as caring for soldiers during World War II, attending to victims of riots and other disasters, as well as training the next generations of healthcare experts.

The hospital remains a leading teaching hospital for both undergraduate and postgraduate medical training, and for advanced training for specialist doctors, nurses and allied health professionals locally and from the region. Students from institutes of higher learning spend a substantial part of their curriculum in SGH. The hospital's medical staff in turn hold teaching positions at the schools.

SGH staff publish copious amounts of research in peer-reviewed international publications as clinical research takes root as part of the hospital's institutional practice. The hospital leverages its multidisciplinary capabilities, depth of specialisation, a large patient base and its research affiliations with renowned centres in Singapore and globally.

Follow the celebrations at [www.sgh.com.sg/sgh200](http://www.sgh.com.sg/sgh200) and on our social media platforms (Facebook (@SingaporeGeneralHospital), Instagram (@sghseen) and TikTok (@sghseen).



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# Downsizing your stomach, upsizing your life

New treatment options spare people who need to lose weight the knife.

by Sol E Solomon

**M**s Nur Shahida Suhaimi needs to lose weight to help her conceive. When her diet and exercise plan proved unsuccessful, she was offered bariatric surgery. But after two deliveries by Caesarean section, she was not keen to undergo another invasive procedure. Meanwhile, Mr Desmond, another overweight patient, did not qualify for surgery.

The two are not unique. About half of patients seen at Singapore General Hospital's (SGH) Obesity Centre (formerly known as the Obesity and Metabolic Unit) meet the criteria of having a body mass index (BMI) of at least 32.5, but cannot or will not sign on for bariatric surgery — which involves making changes to the digestive

system to lose weight, and is offered when medication, diet and exercise have not worked, or when the person has serious health issues because of his weight.

There are those who, like Ms Shahida, have exhausted non-surgical options. Some are not eligible because of surgical risks, or do not qualify for bariatric surgery. For these patients, the Obesity Centre offers two non-surgical weight loss options to help them — ingestible gastric balloon and endoscopic sleeve gastropasty (ESG).

"However, the ingestible gastric balloon and ESG are not quick-fix solutions," said Dr Lim Chin Hong, Consultant, Department of Upper Gastrointestinal and Bariatric Surgery, SGH.

“ However, the ingestible gastric balloon and ESG are not quick-fix solutions. Like other weight-loss procedures, patients need to be committed to a healthier lifestyle, and be supported by a team of experts, including dietitians, psychologists and physiotherapists, to keep the weight off.

**Dr Lim Chin Hong**  
Consultant, Department of Upper Gastrointestinal & Bariatric Surgery, Singapore General Hospital





»»» The patient swallows the gastric balloon in a capsule attached to a thin catheter with a glass of water.



»»» Once an x-ray confirms that the capsule is in the stomach, the balloon is filled with 550ml of purified water via the catheter, which is later removed. The grapefruit-sized balloon will empty the water via a time-activated release valve and is passed out naturally after 16 weeks.

"Like other weight-loss procedures, patients need to be committed to a healthier lifestyle, and be supported by a team of experts, including dietitians, psychologists and physiotherapists, to keep the weight off."

### New gastric balloon

Conventional gastric balloons require patients to be sedated so that an inflatable balloon can be placed inside the stomach via endoscopy, where a flexible tube with a video camera is passed down the throat.

In June 2020, Ms Shahida became the first patient in SGH to undergo the ingestible gastric balloon procedure. This involves the patient swallowing a gastric balloon with just a glass of water. The balloon is in a capsule attached to a thin catheter. Once an x-ray confirms that the capsule is in the stomach, the balloon is filled with 550ml of purified water via the catheter (to feel full), and is later removed. After 16 weeks, the grapefruit-sized balloon will empty the water via a time-activated release valve, and is passed out naturally.

No surgery, endoscopy or anaesthesia is required. Ms Shahida was fully awake throughout the procedure, which took about 20 minutes at SGH's Ambulatory Endoscopy Centre.

"For two to three days, I could only drink water (instead of a liquid diet)," said Ms Shahida, adding that she recovered after a week. She now eats small portions of food, more slowly than before, and exercises at least 10 minutes every day. She has cut out carbohydrates, eating mostly protein.

"It is really about transforming your life. We will try for another child. Weight is not a factor against me, and I am all ready to go through the in vitro fertilisation (IVF) process to be pregnant again," said Ms Shahida.

### Stitching the stomach

ESG is performed using an endoscope fitted with a suturing or stitching device at the tip. The surgeon inserts the device down the patient's throat and into the stomach, where he makes six to 12 stitches to the stomach to reduce its size by about 70 per cent. This restricts the amount of food the patient can eat. If the patient

chooses to reverse the procedure afterwards, the stitches can be cut and the stomach will return to its original size.

Since undergoing ESG in 2019 at SGH under a pilot programme, Mr Desmond has shed 20kg. He has struggled with weight issues since he was young, and weighed 108kg at his heaviest. Like Ms Shahida, the diet and exercise plan he was prescribed did not help. Furthermore, he did not qualify for bariatric surgery.

SGH performed its first ESG procedure in August 2019. The one-hour procedure is performed under general anaesthesia. It carries a lower risk of complications compared to other stomach-shrinking procedures, such as vertical sleeve gastrectomy done laparoscopically (keyhole), and allows patients to return to daily activities sooner.

Mr Desmond stayed in hospital for three days. He then rested at home for one day and went back to work the day after. He resumed gym activities the following weekend.

ESG usually results in weight loss of 15 to 18 per cent in one year, according to overseas studies.

"Before that, my weight was 107kg. Now I am at 87kg. During my first consultation with Dr Lim, my blood pressure was on the high side. It has also gone down," said Mr Desmond.



»»» Although diet and exercise failed to help Mr Desmond, he managed to lose 20kg after undergoing endoscopic sleeve gastroplasty.

# Support for teens with diabetes

A support group for teenagers with diabetes allows patients to share experiences and spur each other on to continue living life to the fullest.

by Suki Lor

**B**eing diagnosed with diabetes can be a hard pill to swallow, especially for children who face the long-term prospect of insulin injections. At KK Women's and Children's Hospital (KKH), teenagers with diabetes can turn to "Sugar Rush", a patient support group, for peer support.

"We wanted a fun name for the group and sugar is a big part of our life," said Mr Rajwinder Singh, who was diagnosed with type 1 diabetes when he was five.

Sugar Rush was set up in 2011 by Mr Singh with friends he made at KKH. The group found encouragement and support in KKH Nurse Clinician Lim Pei Kwee. Ms Lim, who is a Diabetes Nurse Educator, felt that although KKH has a diabetes support group for young patients and their families, it would be beneficial to have one dedicated for teens.

"Many of these teenagers do not have any friends with diabetes, so they feel alone, especially when they are first diagnosed. It is important to engage this group and motivate them to better manage their condition. It was therefore very timely when Rajwinder approached me with the idea of setting up Sugar Rush to help teenagers live better with diabetes. It is also a platform where our healthcare team and

patients with similar conditions can connect," Ms Lim said.

Last year, Sugar Rush was recognised by the Singapore Health Inspirational Patient & Caregiver Awards 2020.

## Ray of hope

Type 1 diabetes is an autoimmune disease with no known cause. In this condition, the pancreas produces little or no insulin, so patients have to be administered with insulin injections for the rest of their lives.

For young patients and their parents, the diagnosis can be distressing and concerns about the patient's quality of life are common. However, they take heart when they meet Sugar Rush members, such as Mr Singh and current chairperson, Ms Samantha Seet. They feel encouraged when they see the members coping well, and pursuing their dreams and careers despite having diabetes.

## No limitations to life

Indeed, Sugar Rush's goal is to exemplify through their members that living with diabetes does not mean living a less fulfilling life.

"Joining Sugar Rush is life-changing for me as I got to befriend other people living with type 1 diabetes. Prior to this, I have never met anyone who lives with any form of diabetes. I learnt that diabetic patients can do the same exercises, eat the same food, and have the same accomplishments in life just like any other person who is not suffering from diabetes," said Ms Seet, who recently graduated from university.

Diabetes, too, has not held Mr Singh back. He works as a business development manager, and continues to inspire new members as they learn to manage their illness.

## Who can join?

Sugar Rush is open to diabetes patients at KKH aged 12 to 16. More than 100 teens have joined



»» Sugar Rush is a patient support group dedicated to helping teenagers with diabetes cope with their condition and continue leading meaningful lives.

Sugar Rush, with some members staying on even in their 20s, a testament to the long-lasting bonds that have formed.

It runs about two events a year — ranging from those involving physical activity and educational support for diabetes, to food-related ones such as sushi- and ice cream-making. Such activities are not only fun, but also educational.

The support group is also a platform to nurture leadership skills in teens with diabetes. Six of the core team members attended the Young Leaders in Diabetes training programme organised

## Health Peers

Throughout SingHealth, there are many programmes that support diabetes patients of all age groups. One such initiative is the Health Peers programme set up by Changi General Hospital (CGH), in collaboration with South East Community Development Council. It aims to increase awareness about diabetes while encouraging residents to lead a healthy lifestyle.

"This programme extends care for patients beyond the hospitals by harnessing the power of the community. It empowers individuals who have or are at risk of diabetes, as well as their caregivers, families and friends, to manage and prevent diabetes together through lifestyle changes," said Dr Fadzil Hamzah, Senior Staff Registrar, Sports and Exercise Department, CGH.

by the International Diabetes Federation, where they picked up essential knowledge and later launched the Singapore Diabetes Online Community (SGDoc) — a private Facebook group that is open to anyone suffering from diabetes. Membership in SGDoc has grown to more than 250 since its establishment in September 2014.

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## What parents should look out for

Symptoms may include urinating more than usual, increased thirst, and sudden weight loss. The child may become very lethargic, and experience a loss of appetite, nausea and vomiting.

Consult a doctor should your child have these symptoms. General Practitioners can do a blood sugar test to check for diabetes, and refer your child to KKH if necessary.

# Fit, seal, isolate to confine virus

A newly developed portable system is able to quickly convert wards and ICUs into negative-pressure isolation rooms to meet real-time crunch during an infectious disease outbreak.

by Eveline Gan

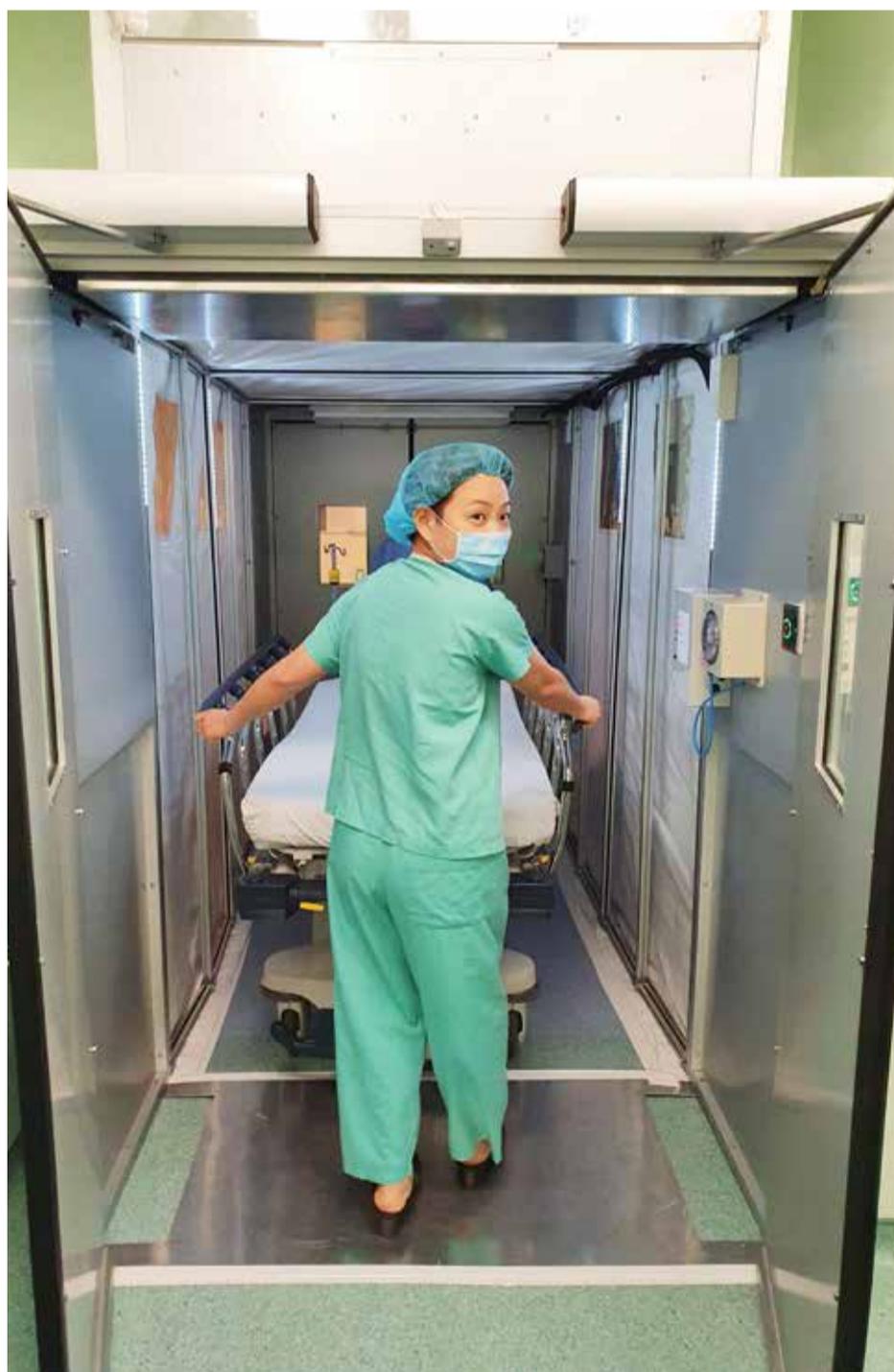
**W**hen a pandemic strikes, special isolation rooms known as negative-pressure isolation rooms play an essential role in protecting hospital staff and patients.

A common infection control feature in hospitals, they work by creating a one-way flow of air so that airborne pathogens do not flow out of the room and into the ward corridors to infect others nearby.

But when there is rapid rise in the number of infectious patients admitted to hospital, increasing temporary isolation facilities or single rooms may be needed to care for them. However, converting or building facilities



▶▶▶ Dr Tan Zihui, Associate Consultant, Department of Anaesthesiology, SGH, enters an ICU fitted with the SG-SPARC system through no-touch motion sensor doors. These doors are a unique feature of the SG-SPARC.



▶▶▶ Converting a room involves a simple process of fitting the rectangular transparent box-like structure at the entrance or a doorway by sealing any gaps in between. The operating room version takes two hours to install, and is large enough to fit healthcare workers, a standard ICU bed and various medical equipment, such as an ICU ventilator.

takes time and can be costly.

To cope with a sudden surge during a pandemic, a team of anaesthesiologists from Singapore General Hospital (SGH) worked with local biomedical incubator, The Biofactory, to come up with a portable and collapsible negative-pressure anteroom system that can be set up in less than an hour.

Named the System of Portable AnteRoom for Containment (SG-SPARC), the project was funded by SingHealth Duke-NUS' Urgent COVID-19 Research Fund, with in-kind contribution from The Biofactory.

Hospital staff can quickly convert existing patient rooms into negative-pressure anterooms using a single power point, without major renovation.

"Seeing how hospitals overseas struggled when they ran out of negative-pressure rooms got us thinking if there is a way for us to swiftly and temporarily convert existing patient rooms, especially intensive care unit (ICU) rooms, to care for infectious patients when the need arises," said Dr Mavis Teo, Consultant, Department of Anaesthesiology, SGH, who is the project's co-investigator.

"With SG-SPARC, we not only save costs from avoiding the need to build any permanent structure, but also protect our healthcare workers from possible infection risk as the ward corridor is kept clean."

SGH has 35 single isolation and 16 shared isolation rooms in

Ward 68, and 50 negative-pressure isolation units at Ward@Bowyer.

With the SG-SPARC system in place, Dr Teo said it is possible to transform whole wards into isolation rooms within an hour. "As long as there is a pre-existing door, we will be able to fit SG-SPARC onto it and convert the ward immediately," she added.

Weighing 70kg, each SG-SPARC unit measures 1.2m in length, 1.55m in width, and 2.4m in height. The team has also developed a larger model for operating theatres (OT), which have wider doors — each of this weighs 150kg, and measures 3.78m in length, 1.6m in width, and 2m in height.

This will allow surgeries that involve aerosol-generating procedures to be performed on patients with suspected or confirmed infectious diseases in the OT, while protecting healthcare workers outside the room, Dr Teo said.

SG-SPARC marks The Biofactory's third collaboration with SGH. The other two projects were SG SAFE, a foldable swab screen system; and SG SAFE.R, an isolation X-ray booth, which are currently in use at SGH.

According to Mr Gabriel Tan, Programme Director, The Biofactory, some local and overseas buyers have indicated an interest in SG-SPARC, and there are plans to commercialise the technology to meet global demand.

# Sticking to the plan

Simple strategies help elderly patients with medication compliance.

by Annie Tan

**F**or elderly patients with chronic diseases, taking the right doses of medication at the correct timing is necessary to keep their health in check. However, with multiple pills to take at different times of the day, many may struggle to get it right.

Reasons differ on a case-to-case basis. According to Ms Joey Tan, Manager, Pharmacy Services, Sengkang Community Hospital (SKCH) under SingHealth Community Hospitals, this may be due to forgetfulness, fear of side effects, or actual side effects that patients may not share with healthcare professionals. Some patients may simply be not used to taking so many pills, or they may fear developing a dependence on medication.

Health literacy also plays a big part in patient compliance. Some seniors may be confused by the instructions or may not understand the purpose of the medication.

"Some conditions like high blood pressure have few or no symptoms. Patients may think that although they take the medication every day, they have not noticed any difference and

so the medication does not really matter; or they may think that they are fine and therefore do not require medication. However, if they do not take it on a regular basis and their blood pressure gets too high, it may lead to other problems, such as heart disease," said Ms Tan.

It is important for elderly patients to take medication as prescribed, at the right time, and at the right dose. If patients overdose, they may suffer from side effects; and if they underdose, the disease condition may not be treated as intended.

"For example, certain diabetes medication must be taken with food to avoid low blood sugar levels and its accompanying symptoms, such as perspiring, dizziness, trembling or cold clammy skin. If the patient skips taking medication, the diabetes may not be well controlled and may progress to cause heart-, eye-, nerve- and kidney-related problems," she explained.

Even as health literacy among elderly patients has improved over the years, seniors, especially those with poor memory or who are living alone without a



»» A lack of health literacy is a reason why some elderly patients are non-compliant with medications, said Ms Joey Tan, Manager, Pharmacy Services, SKCH.

caregiver, can still benefit from closer attention.

"It is important to check in on seniors periodically, especially if they are staying alone. Observe if they are going for appointments, and whether they are replenishing their medication and taking them on time. If they have problems taking their medication, find out if they are intentionally or unintentionally omitting the medication and why," said Ms Tan.

With patience, caregivers and loved ones can better understand the difficulties elderly patients face, and help them manage their medication with simple steps that suit their lifestyles, and address their needs and concerns.



## Tips to help elderly patients take medication correctly and safely

### Overcoming forgetfulness

- Prepare a pillbox with the right medication in advance, and leave it in places that the patient usually goes to at particular times, such as at the breakfast table in the morning, at the kitchen top in the afternoon, and at the bedside at night.
- Set regular alarm reminders or install a medication reminder app on the patient's mobile phone.

### Understanding instructions

- Accompany the patient for medical appointments to understand his or her medication needs, and explain instructions patiently.
- Create a medication list with photos of the pills or icons to signify the condition that the medication can treat, instead of complex medicine names. Use pictorial representations, such as the sun to depict morning consumption, and the moon to represent night consumption.

### Making it easier to swallow

- Check with the doctor or pharmacist if the medication can be cut or crushed into smaller pieces or dissolved in water, and if the medication comes in syrup or mixture formulation.

### Addressing concerns

- Talk to the patient to find out what side effects he or she is experiencing, and discuss these with the doctor or pharmacist.

### Duplicated or expired medication

- Help the patient remove discontinued, expired or duplicated medication. If unsure, bring the medications to healthcare professionals for help in sorting them out.





»»» Young patients with severe scoliosis can benefit greatly from an improved quality of life after surgery, said Clinical Associate Professor Kevin Lim.

# Safer, faster surgery for a curved spine

A new radiation-free system ensures more effective treatment for severe scoliosis.

by Suki Lor



## What is scoliosis?

Scoliosis is a sideways curvature of the spine. Often characterised by an 'S' or 'C' shape, the condition may present with uneven shoulders, asymmetry of the shoulder blades and waist, and an apparent leg length discrepancy. While there is no known way to prevent scoliosis, early detection can arrest its progression. Managing a child or teenager with scoliosis depends on several factors, such as age, skeletal maturity, and severity of the condition. Visit a doctor if you notice signs of scoliosis.

**T**wo to four out of 100 people are affected by scoliosis, a sideways curvature of the spine.

It occurs most often among adolescents aged 10 to 16. At KK Women's and Children's Hospital (KKH), nearly eight out of 10 newly diagnosed cases belong to this group. With increased health literacy, more cases are also showing up with early onset of scoliosis, including those under three years old.

## Managing scoliosis

Having scoliosis can undermine one's quality of life as it can cause chronic back pain, particularly in more severe cases. It can also cause noticeable differences in one's physical appearance, such as uneven hips and shoulders or prominent ribs. This can result in some children becoming self-conscious about their appearance and affect their emotional development, and more so as they move toward their teenage years.

Milder scoliosis may be controlled with less invasive or non-surgical methods, including orthoses such as a spinal brace.

In severe or late scoliosis where the spinal curve is more than 45 degrees, surgery is recommended to correct the condition and prevent it from worsening.

"When early detection or other means to correct the

condition is not possible, surgery is encouraged as early as possible. After surgery, young patients can look forward to many years of developmental growth and greatly benefit from an improved quality of life," said Clinical Associate Professor Kevin Lim, Chairman, Division of Surgery and Senior Consultant, Department of Orthopaedic Surgery, KKH.

## No radiation exposure

After acquiring new technology in July 2020, KKH doctors have been able to conduct spinal fusion surgeries for scoliosis in a safer and more efficient way without the use of radiation.

In spinal fusion surgery, rods and screws are implanted in the spine to realign and fuse together the vertebrae so that they heal into one solid bone mass.

Previously, x-rays had to be taken during the surgery to guide surgeons in placing the screws and implants accurately. This exposes the patient and healthcare team in the operating theatre (OT) to radiation.

The new technology — the 7D Machine-vision Image Guided Surgery (MvIGS) system — uses visible light in place of radiation. With the system's patented surgical light placed above the patient, built-in camera technology and light sensors are linked to computing resources in the OT to provide

real-time 3D images. The system is based on technology similar to that used in self-driving cars.

KKH is the first hospital in Asia to install the MvIGS system developed by Toronto-based 7D Surgical. Within six months of using the system, 30 patients have been successfully treated.

"Like a Global Positioning System (GPS) for surgery, the MvIGS system, aided by machine vision technology with real-time positioning and guidance, helps paediatric spinal surgeons perform intricate procedures with greater accuracy and certainty," said Prof Lim.

The technology is advantageous for spinal deformity surgery as it has the ability to quickly and accurately navigate very small, deformed, or even absent anatomy. Doing away with x-rays also elevates the safety of those involved, and eliminates the need for costly lead insulation in the OT.

## Efficient surgeries

Surgery now takes a shorter time, with reduced blood loss and improved workflow productivity in the OT. Patient spinal identifier registration is a process where a patient's scan images, taken before the operation, are matched with his or her anatomy in the OT. This takes mere seconds, unlike previously where manual imaging had to be done and can take up to 30 minutes.

Shorter surgeries translate to lower complication rates and faster postoperative recovery.

"As the placement of screws is more accurate with the new technique, it further reduces the already very low incidence of nerve and spinal cord injuries. Many patients and caregivers have also shared positive experiences from pre-surgery to recovery," said Prof Lim.

# Keeping diabetes in check

Diabetes patients can take charge of their own health with the help of a mobile app.

by Thava Rani



»»» Dr Amanda Lam belongs to the MyVisit app team. The app gives diabetes patients greater access to their care information and allows them to better manage their condition.



Diabetes patients will no longer have to worry about remembering what to do before their appointment. Neither will they have to be pressured over trying to recall all the advice and instructions given by the doctor during a consultation.

The MyVisit app, launched by Singapore General Hospital's (SGH) Endocrinology Department, keeps track of all these and more, making the outpatient journey a less stressful experience. It helps the patients to not only plan their visit, but also allows them to take charge of their own health.

"Our goal is to empower patients, and give them greater knowledge and confidence in managing their own health," said Dr Amanda Lam, Consultant, Department of Endocrinology, SGH.

## A one-stop app

Piloted in July 2019, the MyVisit app is embedded within SingHealth's HealthBuddy app. Designed specifically with diabetes patients' needs in mind, it includes features such as a pre-appointment questionnaire, a consultation summary, and test results history.

"Giving patients easy access to this information allows them to monitor their condition better.

Previously we explain what the test results and trends mean, but now patients can view them on their personal devices at their own time," said Dr Lam.

The app has more than 3,000 active users, and the department is hoping to get more patients on board.

Diabetes is a chronic illness that has a significant degree of complexity and requires a good deal of patient involvement, said Dr Lam.

"It affects nearly every aspect of a patient's life — the activities you do, what you eat, and what time you eat. A lot of self-management is involved, so we felt that this is the group that would benefit most in terms of being empowered," she added.

With all the information about their care at their fingertips, patients will become more conscious of their health management.

"Even the simple act of answering the questionnaire makes them realise what aspects of care they should pay attention to, and they look out for those things as they go about their daily lives," said Dr Lam.

Doctors also find the questionnaire handy. A quick look at the responses before the patient visits the clinic helps them zero in

on issues of concern, maximising face-to-face interaction time, and making the consultation more meaningful and efficient.

## The digital way

The team anticipated that not all patients would experiment with an unfamiliar app on their own. So staff known as digital ambassadors were stationed at the clinics to assist patients who were open to trying it.

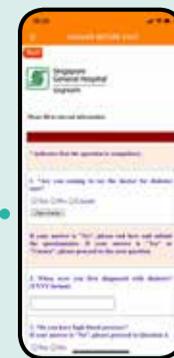
"The ambassadors download the app in front of the patients and give them a visual walk-through. When patients realise they can get more out of their consultation through the app, it becomes a bit easier to convince them," said Dr Lam.

As the app requires patients to log in via the SingPass portal, the team even set up password reset stations on-site for patients who have forgotten their login details.

Dr Lam foresees the app can eventually be custom-built for conditions other than diabetes. But for now, the team is working on improving the app for diabetes patients.

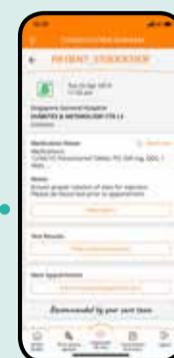
"We are doing patient surveys to better understand the remaining unmet needs so that we can tailor add-ons in future iterations of this app," she said.

## Top features on MyVisit app



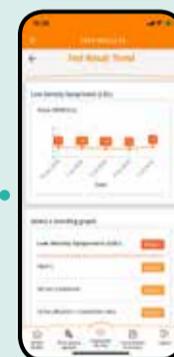
### Pre-consult questionnaire

SMS reminders prompt patients to complete the questionnaire before their appointment.



### Consultation summary

This includes a note on the medications that were changed, things to look out for before the next appointment, and how often patients should monitor their blood sugar levels. Doctors can also upload educational videos that address frequently asked questions.



### Test results

Patients can view and track their results, including glucose and cholesterol control, as well as kidney function.



### Health library

This feature contains bite-sized information relevant to the patients' condition.



»»» As a Senior Phlebotomist, Mr Alfonso Fano's main task is to make the experience of drawing blood as painless as possible for patients.



# Looking for a good vein

Phlebotomist Mr Alfonso Fano takes pride in ensuring patients have a positive experience when he extracts blood for medical tests.

by Suki Lor

“Many patients have jokingly called us (phlebotomists)

‘Dracula’ or vampire because we draw blood,” said Mr Alfonso Fano. As a Senior Phlebotomist in Changi General Hospital (CGH), needles and test tubes are the tools of his trade to draw and store blood from patients to diagnose medical conditions.

When he joined CGH in 2013, Mr Fano was part of a team of just five phlebotomists. Today, the team has expanded to 18. He trained as a medical technologist in his hometown in the Philippines for five years, where phlebotomy was part of the curriculum. In Singapore, he further underwent a phlebotomy course for several months.

“Phlebotomy is not a term that many people are familiar with. Many elderly patients, in particular, have never heard of such a job,” he said.

While nurses can also draw blood from patients, they have to take on other tasks such as attending to patients in the wards,

“When you have a sense of humour, patients are more at ease during the blood-drawing process. No one likes being pricked with a needle, but we aim to ensure that patients experience as little discomfort as possible, especially for those who have a fear of needles.”

Mr Alfonso Fano  
Senior Phlebotomist, Changi General Hospital

whereas phlebotomists are Allied Health Professionals who focus on the drawing of blood alone.

Apart from technical knowledge on the structure of blood veins, Mr Fano feels that there is an art to blood extraction. Passion, good communication skills, and a sense of humour are attributes that make one a good phlebotomist.

“When you do your work with passion, many challenges can be overcome,” he said, adding that he would always greet and attend

to his patients with a smile.

“When you have a sense of humour, patients are more at ease during the blood-drawing process. No one likes being pricked with a needle, but we aim to ensure that patients experience as little discomfort as possible, especially for those who have a fear of needles,” said Mr Fano.

He finds it most gratifying whenever his patients give feedback that the process was almost painless, knowing he has done a good job.

He sees between 40 to 60 patients a day, and has attended to those as young as a newborn to a 98-year-old woman. For each patient, he searches for “a good vein”, ideally in the middle of the arm, to help ensure success in extracting the blood. This is achieved more effectively through feeling for the vein, rather than by sight.

Protocols including hand hygiene and asking a patient for two identifiers (such as their name and identity card number) are strictly adhered to.

## Stepping up in crisis

During the COVID-19 pandemic, Mr Fano's training and experience as a medical technologist came in handy when he volunteered to handle the delicate task of processing samples for polymerase chain reaction (PCR) testing. His laboratory stint lasted four months before he resumed his role as a phlebotomist.

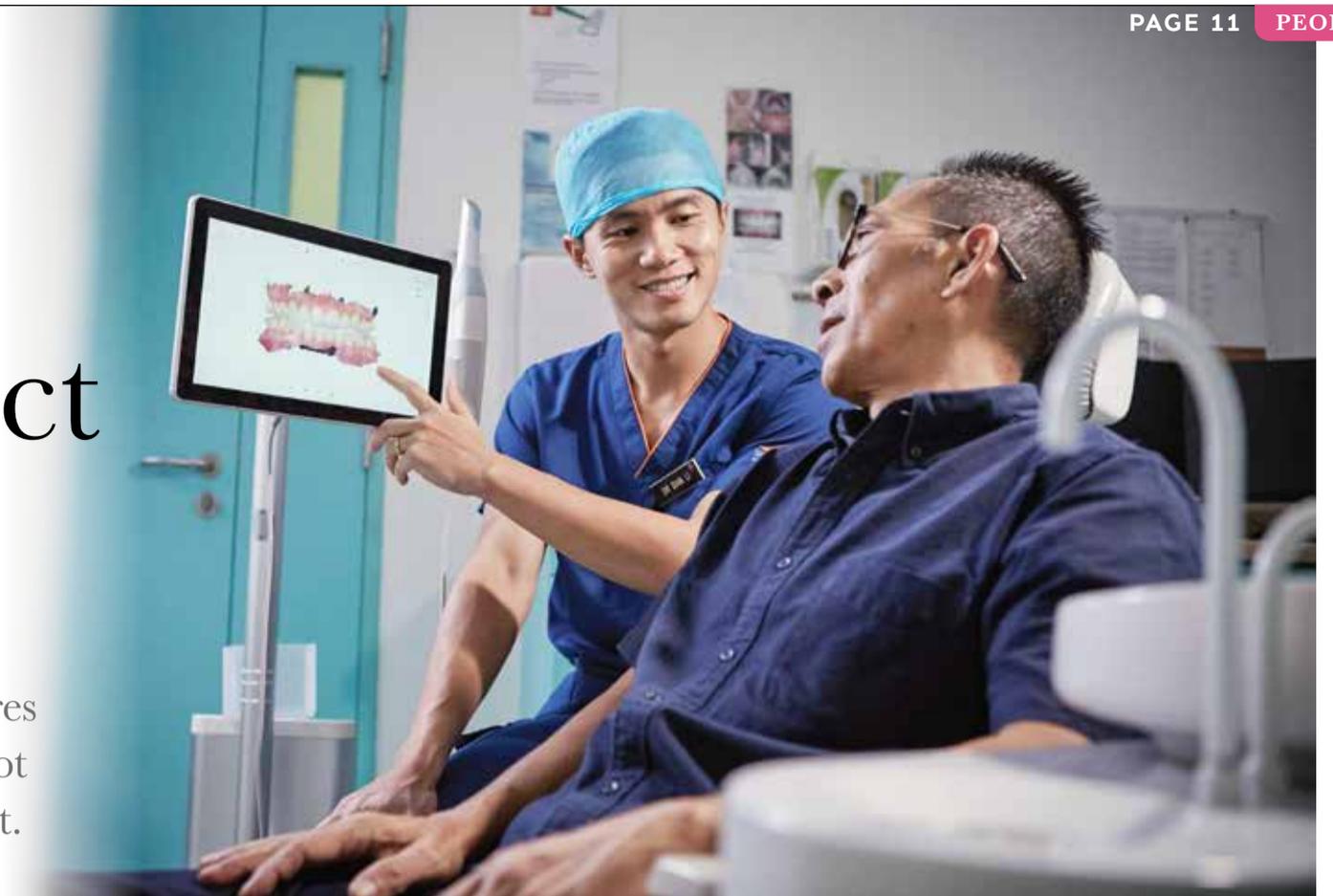
Due to the travel restrictions, Mr Fano has been unable to return to the Philippines to visit his wife and young daughter. Nonetheless, he is thankful that modern technology has allowed him to stay in touch with them daily through voice and video calls.

To maintain a healthy lifestyle, he takes part in physical activities, such as running, badminton and table tennis. During the “circuit breaker” period, he also spent time honing his culinary skills, and particularly enjoys whipping up pasta and rice dishes.

# Creating the perfect smile

A National Dental Centre Singapore orthodontist shares why straightening teeth is not just a science, but also an art.

by Eveline Gan



In his youth, Dr Qian Li, Associate Consultant, Department of Orthodontics, National Dental Centre Singapore (NDCS), wore metal braces to correct overcrowded teeth and an asymmetrical smile.

Today, he helps other patients with similar and other complex orthodontic issues.

As an orthodontist, Dr Qian has gone through specialised training in the field of dentistry to treat complex cases of crooked teeth.

His personal experience of receiving orthodontic treatment in secondary school sparked his interest in the field of dentistry.

"My case was not so severe. Although I did not need surgery, I required braces treatment with some extractions to provide adequate space to correct crowding, bite issues, and midline deviation," he said.

"I could smile with confidence again, thanks to my orthodontist,

who turned out to be my instructor during my orthodontics specialisation course many years later."

Despite discovering other fields of dental specialisations as an undergraduate dentistry student, Dr Qian said that his interest in the art of straightening teeth led him to do a three-year Masters in Orthodontics programme in the National University of Singapore, followed by a three-year post-Masters specialist accreditation.

"The most challenging part of this journey to become an orthodontist was not the long years of training, but the early undergraduate years in dentistry. It requires you to not only master the knowledge and skills, but also to manage patient with compassion, and understand their needs and priorities in life. There is no one-size-fits-all treatment. Some patients may prioritise aesthetics, while others require

treatment to correct their bite issues and improve their ability to eat," he said.

Currently, most of Dr Qian's patients are aged between 12 and 18, although he has also seen patients as young as seven years old. Common problems among this group are teeth eruption and bite issues, which can deteriorate without early intervention.

Older patients over the age of 60 usually wish to straighten their teeth for a more aesthetically pleasing smile or require teeth movement before they can have their dentures done.

At NDCS, orthodontists also see patients with severe asymmetry or discrepancies in their jaws, which can result in significant facial deformity and functional problems. Other cases include patients whose multiple adult teeth have failed to erupt.

For more complex cases, Dr Qian works with other dental specialists, such as prosthodontists and oral maxillofacial surgeons, to plan for jaw surgeries and to achieve the best outcome for patients.

## Perfecting his art

Many people have the misconception that braces is only about straightening crooked teeth and purely for cosmetic purposes.

"There are many reasons to move teeth to a more optimal position for long-term function and maintenance, even if such movements may not be easily visible when the patient smiles. It takes years to master skills in diagnosing, planning and delivering orthodontic care with minimal risks, and possibly a lifetime to perfect that art," he said.

Explaining why he regards orthodontics as an art, Dr Qian said,

"Two orthodontists may achieve a different bite or smile for the patient, as they may have varying perceptions of what is considered a more aesthetic outcome."

Witnessing the transformation in patients who have completed their treatment gives him tremendous satisfaction.

"Every patient case is a unique one- to two-year relationship, which plays a part in his or her growing years. It is heartwarming when patients say that they are inspired by me to pursue a career in dentistry," Dr Qian added.

## Evolving with the times

As Head of Dental Officers Advanced Practice Programme at NDCS, Dr Qian manages up to 40 junior dental officers. He stresses the need to continuously learn and adapt to the changing times to stay relevant — for instance, the rapid development of clear aligner technology, which uses three-dimensional (3D) computer-aided design and 3D printing technology that can now aid clinicians in diagnosing and planning the patient care journey.

## Personal interests

Outside of work, his interest in technology is evident through his hobbies. He was part of the Youth Flying Club during his junior college days, and now he spends his free time learning to fly planes in flight simulators and familiarising himself with developments in virtual reality (VR).

"VR can be a useful tool in the future when conducting training for dentistry or surgeries, but it is unlikely to replace real-life practice as tactility is still key in the field of orthodontic treatment," he said.

Every patient case is a unique one- to two-year relationship, which plays a part in his or her growing years. It is heartwarming when patients say that they are inspired by me to pursue a career in dentistry.

Dr Qian Li

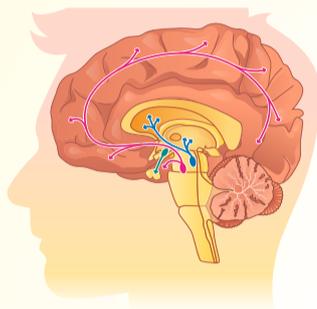
Associate Consultant, Department of Orthodontics,  
National Dental Centre Singapore



# Parkinson's disease

With World Parkinson's Day happening on 11 April every year, the medical community aims to raise awareness of this condition.

Information provided by **Dr Shermyn Neo**  
Consultant, Neurology, National Neuroscience Institute



**DOPAMINE**

## What is Parkinson's disease?

Parkinson's disease (PD) is a neurodegenerative disorder. PD happens when the brain does not produce enough dopamine, which is a chemical that controls movement.

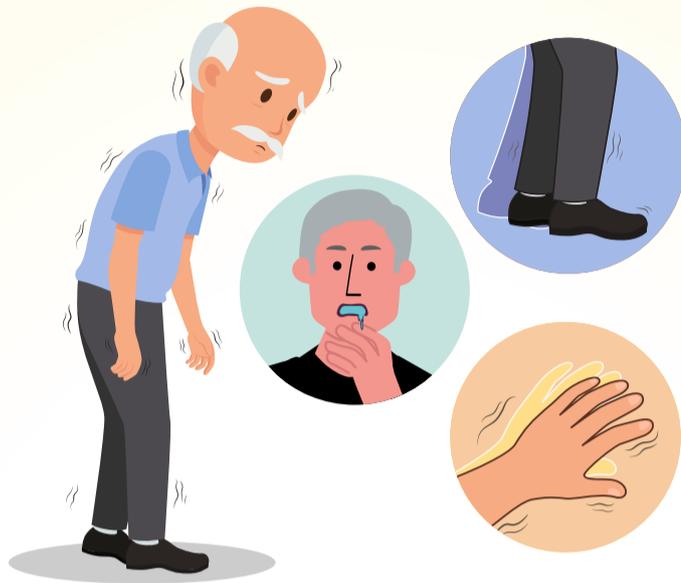
## Who will get it?

- The older a person, the higher their chance of getting PD.
- Three out of 1,000 people aged 50 years and above suffer from the condition.
- 10 per cent of PD cases occur in people aged below 40 years old.



## Is it hereditary?

PD is not usually hereditary but the risk is higher for someone with a close relative who developed PD before the age of 50 years or if there is a strong family history of the condition.



## What are the symptoms?

PD symptoms can be divided into two main categories:

### Motor (movement) symptoms:

- Uncontrolled shaking of the arms or legs
- Slowing of movements
- Stiffness in the arms, legs or neck
- Unsteadiness when walking

### Non-motor symptoms:

- Poor sense of smell
- Constipation
- Anxiety and low mood
- Drooling
- Aches and cramps
- Light-headedness
- Sleep problems, including dream enactment



## How to prevent PD?

There is currently no known way to prevent PD. Caffeine may help but it is still unclear how much needs to be consumed to reduce the risk of PD. People who exercise regularly are also less likely to develop PD.

## What are the treatments?

There is currently no cure for PD, but treatment can help persons living with it control and manage their symptoms.

### Medication

- Dopamine replacement helps with tremor, stiffness, and slow movements.
- Medications that help with non-motor symptoms, such as low mood, memory loss, constipation, urinary issues, and low blood pressure.



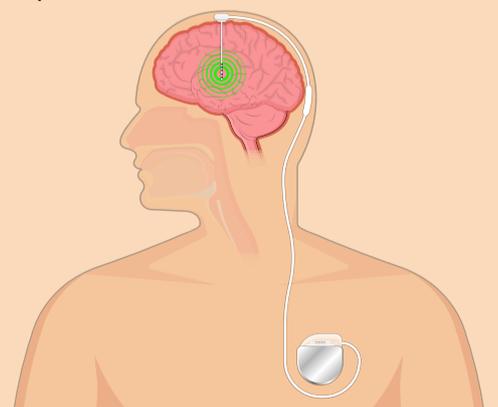
### Therapy

PD affects daily activities as the condition progresses — from walking and talking, to eating and getting dressed. A multidisciplinary team can provide advice on strategies and exercises to help patients cope. The team includes a neurologist, PD specialist nurse, physiotherapist, occupational therapist, speech therapist, dietitian, and medical social worker.



### Surgery

When medications are no longer able to control symptoms well, Deep Brain Stimulation may be considered for some patients. This involves placing of electrodes deep inside the brain to stimulate the organ and improve movement.



# Protecting yourself and others

Vaccines can prevent common and life-threatening illnesses, and community spread of diseases.

by Annie Tan

**V**accinations are important for public health. They prevent the spread of contagious diseases, and in many cases, can be life-saving.

Today, thanks to advances in medical science, vaccinations provide protection against more diseases than before. In addition to the more commonly known vaccines such as those for influenza, hepatitis B and chickenpox, vaccines for other conditions like shingles (zoster), dengue, and the human papilloma virus (HPV) have been introduced over the years. The HPV vaccine, for instance, reduces the risk of cervical cancer.

## Debunking myths

However, a percentage of the population may not be getting adequate vaccination protection due to poorer health literacy and misconceptions.

"Some misconceptions include the belief that vaccines have long-term serious side effects, which will weaken the immune system. Many tend to believe that natural immunity gained from an actual infection is better, but this is not true," said Dr Ng Chung Wai Mark, Clinical Lead for Infection Prevention and Infectious Disease Workgroup, SingHealth Polyclinics, and Senior Consultant, Outram Polyclinic.

Vaccines are generally safe and well tolerated. They do not weaken the immune system, but instead prepare it to fight against infections. They provide one's body with immunity —



»» Vaccines do not weaken the immune system, but instead prepare it to fight against infections, said Dr Ng Chung Wai Mark.

similar to natural immunity that one gets from an actual infection — without the person having to risk complications related to natural infections.

In most cases, vaccination involves an injection, which triggers the immune system to produce antibodies that fight against a particular infection, thereby providing immunity against it. For example, the vaccine injection may contain proteins from the surface of germs, or even dead or weakened germs that are incapable of causing illness in healthy persons. Some vaccines, such as messenger RNA (mRNA) vaccines, may not contain any part of the germ, but molecules that make up a set of instructions to instruct cells in the body to make harmless proteins to trigger an immune response.

Vaccines for hepatitis B, measles, mumps and rubella (MMR), and chickenpox provide long-term immunity, while others, such as the diphtheria and pertussis vaccines, require boosters every 10 years.

## Vaccines to get

There are currently two vaccinations made mandatory by Singapore law. These are for measles and diphtheria, usually

completed when the toddler is around 18 months old during the National Childhood Immunisation Schedule (NCIS) exercise.

Other vaccines that are routinely given as part of NCIS include those that fight hepatitis B, chickenpox, pneumococcal, influenza, and human papillomavirus.

"Singapore's vaccination programme has improved over the years. The NAIS (National Adult Immunisation Schedule) was established in November 2017 to provide guidance on vaccinations for individuals aged 18 years or older as a means to avert vaccine-preventable diseases," said Dr Ng.

For example, influenza and Tdap vaccines (a combined vaccine against tetanus, diphtheria and pertussis) are recommended for pregnant women, while influenza and pneumococcal vaccines are recommended for the elderly.

"Increasing the uptake of vaccines will not only protect our community, but also build up herd immunity," said Dr Ng. "When a large percentage of the population is vaccinated against a particular disease, the likelihood of a disease spreading from one person to another is lowered. This will prevent the possibility of an outbreak, and protect individuals who are not able to receive the vaccine for various reasons, such as medical conditions or allergies."

Many vaccines are subsidised in Singapore. From 1 November 2020, vaccines such as chickenpox and the 6-in-1 (combined diphtheria, acellular pertussis,

tetanus, Haemophilus influenza type B and hepatitis B) have been added to the list of subsidised vaccinations for Singaporeans.

"With the help of vaccination subsidies from the government, there has been an increased uptake of recommended vaccines," said Dr Ng.

## Before travelling

For travellers, the recommended vaccines depend on the destination.

If there is risk of food and waterborne infections, especially for travellers who intend to consume food from street vendors and visit areas where food and water hygiene may be of concern, doctors may recommend vaccinations against infections such as cholera, typhoid and hepatitis A. If travellers plan to stay in areas near large bodies of water for prolonged periods of more than a month, and where mosquito breeding may occur, such as paddy fields, the Japanese Encephalitis (JE) vaccine, which protects against JE (a viral brain infection spread by mosquitoes) is recommended, said Dr Ng.

Dr Limin Wijaya, Senior Consultant, Department of Infectious Diseases, Singapore General Hospital, advises travellers to get a proper medical consultation to find out the type of vaccinations needed — based on their health conditions, past vaccinations, and holiday destination.

It is also important to plan and get vaccinated early as certain doses require a few weeks to become effective.





# Stroke and communication impairment

Understanding aphasia may help patients and caregivers overcome communication barriers.

by Annie Tan

**S**troke can cause some degree of physical disability, such as paralysis and weakness on one side of the body. However, the impact of stroke can go beyond physical disabilities. If the stroke has affected the language areas of the brain, the patient may also end up with aphasia — an acquired communication disorder.

## Communication tips

Aphasia may affect a patient's social and emotional well-being. Here are some tips from Ms Yin on how to ease communication challenges and better support a family member, friend or colleague with the condition:

- Talk to them in short and clear sentences.
- Give them time to respond and do not rush them.
- If they did not understand you, repeat yourself slowly and clearly.
- Supplement the conversation with hand gestures, writing or drawing.
- Be patient and encouraging, and communicate respectfully.
- If either party faces frustration due to a communication breakdown, consider taking a break from the conversation and try again later.

Patients with aphasia may have difficulties with communication, and this may affect their relationships, quality of life, and socio-emotional well-being.

Globally, it is estimated that one-third of stroke survivors experience aphasia. At Outram Community Hospital (OCH), under SingHealth Community Hospitals, about 30 per cent of stroke patients suffer from this condition, said Ms Jamie Yin, Senior Speech Therapist, OCH.

## Understanding aphasia

When a patient has a stroke, the blockage or rupture of blood vessels in the brain may sometimes result in brain cell death or damage in areas that control language — typically the left side of the brain.

Aphasia may also be caused by head injury and trauma, and brain tumours.

There are two main types of aphasia. People with receptive aphasia have problems understanding what others say, while those with expressive aphasia have difficulty expressing their needs and thoughts. Aphasia can also cause difficulties in reading, writing, and comprehending numbers.

A common misconception is that patients with aphasia have lower intelligence quotient (IQ), but that is far from the

truth. "Aphasia affects a person's communication abilities but not their intelligence per se," Ms Yin said.

## Road to recovery

Aphasia can differ in severity, depending on the extent and area of damage to the language areas of the brain. In some cases, patients with mild aphasia may be able to recover spontaneously. However, it is recommended that patients be assessed by a Speech Therapist so that the aphasia, even in its mildest forms, can be monitored and treated, if required.

Speech therapy is the recommended treatment for patients with aphasia to relearn language and communication skills, since both surgery and medication do not alleviate this condition. Speech Therapists typically evaluate the type and severity of the aphasia, before setting therapy goals with the patients and their family.

"Recovery depends on factors such as age, extent of the stroke, other medical conditions, how early speech therapy was introduced, as well as the intensity of the therapy. People with aphasia may experience greater recovery if therapy is started early and provided more intensively at the start of treatment," said Ms Yin.

# Fasting safely with diabetes



Though uncommon, diabetic ketoacidosis can occur if the fine balance between insulin therapy and blood sugar levels is out of whack.

by Thava Rani

**F**asting can bring on high blood sugar levels in people living with diabetes.

This may sound contradictory or illogical as not eating and consuming carbohydrates during a fast should rightly bring down instead of raising blood sugar levels — but it is possible. Known as diabetic ketoacidosis, it occurs because of insufficient insulin to convert the high blood sugar levels.

“Fasting can be challenging for people with diabetes, but it can be done safely with appropriate precautions,” said Dr Teh Ming Ming, Senior Consultant, Department of Endocrinology, Singapore General Hospital (SGH).

This means being wary of the telltale signs of the condition — having high blood sugar levels, feeling frequently thirsty and drinking more water than usual (about five to six litres a day), urinating often, feeling increasingly unwell, and vomiting.

Patients who experience these symptoms should consult a doctor immediately. “It is actually a medical emergency. If patients do not get immediate treatment, they will become progressively more dehydrated with frequent urination and vomiting,” said Dr Teh.

To treat diabetic ketoacidosis, insulin is injected into the veins to bring blood sugar levels down quickly. They are also given intravenous fluids to replenish

the amount lost. If the condition is not treated quickly, diabetic ketoacidosis can lead to coma and even death.

“With the right treatments, patients generally improve within 24 hours. But it also depends on the severity of the condition and how early the patient catches the symptoms,” he said.

Type 1 diabetes patients are more prone to developing diabetic ketoacidosis, although type 2 patients — usually those whose disease has advanced, whose blood sugar levels are less well-controlled, and who are on insulin therapy — can also get the condition.

This is because of the crucial role that insulin plays in the body. The hormone is naturally produced by the pancreas to help convert sugar in the body into energy. For people who cannot produce insulin (as in type 1 diabetics), or do not produce enough or when their bodies become immune to the insulin (as in type 2 diabetics), medication is needed to ensure the correct amount of the hormone is available. Otherwise, said Dr Teh, “the body has lots of sugar floating around. But without insulin, the sugar cannot be utilised as fuel. The body needs sugar all the time”.

Insulin injections or oral medications help achieve the desired balance between the insulin needed and the body’s blood sugar levels. Type 1



»»» Diabetes patients need to be extra vigilant in adjusting insulin intake and monitoring their blood sugar levels during fasting, said Dr Teh Ming Ming.

diabetes patients rely on insulin injections, as do type 2 patients whose disease has advanced and is harder to control.

When fasting during the Islamic Ramadan month, for instance, adjusting the needed insulin dose gets trickier. Muslims eat big meals before the sun rises to sustain themselves through the day when they do not eat or drink anything. If excessive insulin is taken, they risk getting hypoglycaemia. But if they over-compensate and the insulin is cut back too much, they can develop hyperglycaemia, putting them at risk of diabetic ketoacidosis.

Dr Teh stresses that diabetic ketoacidosis is relatively uncommon, in part because of the far fewer type 1 diabetes cases in Singapore. At the same time, symptoms do not occur suddenly, which means alarm bells should go off if patients find their blood sugar levels difficult to control. “Diabetic ketoacidosis is preventable. Diabetes patients need to remain vigilant to prevent its onset, more so if they are fasting,” said Dr Teh.

## Tips for safe fasting during Ramadan

Diabetes patients should discuss with their physician before fasting so that treatment can be tailored to suit their needs.

- Choose foods with low glycaemic index (GI) to prevent your blood sugar from fluctuating too much. For example, basmati rice has lower GI than regular white rice.
- Have a well-balanced meal in the morning and take an appropriate amount of insulin for that, taking into consideration that you will not be eating through the day until sunset.
- Look out for symptoms of low or high blood sugar levels throughout the day.
- When breaking fast in the evening, drink plenty of fluids and have a healthy meal.
- Have a trial run before the fasting month to find out how your blood sugar fluctuates and how to adjust the insulin dose accordingly.





# Baked vegetable cutlets

(4 servings)

## Ingredients

- 80g mixed vegetables
- 1 dried Chinese mushroom, soaked to soften and chopped
- pinch of coriander leaves
- 200g potatoes, cooked and mashed
- $\frac{1}{2}$  tsp oil
- 1 tsp sesame oil
- 1 slice ginger
- pinch of pepper
- $\frac{1}{4}$  tsp salt
- 1 tsp cornflour

## Estimated nutrient content (per serving)

- Energy 76kcal
- Carbohydrate 14g
- Protein 2g
- Fat 2g
- Sodium 157mg
- Cholesterol 0mg

## Method

1. Heat oil in a pan. Add sesame oil and ginger, and fry until fragrant. Discard the ginger.
2. Add mixed vegetables, mushroom and coriander leaves, and fry well.
3. Add this mixture to mashed potato.
4. Season with pepper and salt.
5. Cool to room temperature.
6. Divide potato mixture into 8 portions.
7. Shape each portion into a cutlet.
8. Sprinkle cornflour on the surface of the cutlet.
9. Grill in the oven until golden.
10. Remove from the oven and serve.



## CHEF'S TIP

Keep sesame oil bottles in a cool, dark place to prevent loss of flavour and aroma.

## DID YOU KNOW?

Besides the four basic tastes (sweet, sour, salty and bitter), there is a fifth basic taste. The sensation "umami", which literally means "delicious flavour" in Japanese, was first discovered in 1907 by Kikunae Ikeda. He successfully extracted the crystals of glutamic acid, or glutamate, from broth made with the Japanese seaweed kombu. Glutamate is an amino acid and a building block of protein — 100g of kombu contains about 1g of glutamate. Glutamate was later marketed in the form of monosodium glutamate (MSG) as a flavouring agent.

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#### Why is it important to use alcohol-based hand rub to prevent infections?

Alcohol in the hand rub remains the main active ingredient to eliminate the microorganisms. Besides its rapid killing action, the fast-drying time is also a main plus when it comes to hand sanitizing. Many non-alcohol hand rubs contain water, they dry more slowly on the hands. Without alcohol as the main antimicrobial agent, alcohol-free hand rub will need other active(s) as a substitute. Most substitutes (e.g., chlorhexidine, benzalkonium chloride etc.) are antimicrobial but with a much slower efficacy compared to alcohol. Alcohol-based hand rubs remain the much-preferred option for the majority in COVID-19 unless the user is allergic to alcohol, which is very rare. For this cohort maybe the best option is to wash their hands with a gentle soap to maintain hand hygiene.

#### What should I look for when buying alcohol-based hand rub (ABHR)?

The formulation of ABHR is considered critical as both antimicrobial agents and other critical components (e.g., moisturiser) must work in tandem without compromising the chemistry within. ABHR from schülke have undergone a series of stringent tests to make sure the final product is performing as what it should be doing - to eliminate microbes on the hands. An important advantage is that they are formulated with skin caring ingredients (and dermatologically tested) to protect and care for the hands when used at high frequency, especially in this pandemic period.

MICROSHIELD® ANGEL BLUE, a hospital-grade alcohol-based handrub that contains 70% v/v absolute ethanol and undergo antimicrobial tests governed by the European Norm (EN): EN1500. It has proven efficacy against virucidal activity and at the same time, keeps your hands feeling soft, smooth and hydrated without leaving a sticky residual.

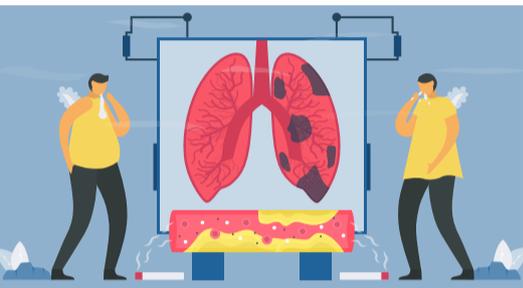
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This product is available at Singhealth Pharmcare and selected polyclinics at: Bukit Merah, Tampines, Pasir Ris and Punggol.  
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## Is sharp chest pain a sign of chronic obstructive pulmonary disease?



I am a 37-year-old male and have been smoking for the past 13 years. For the last five years, I have been experiencing soreness and sharp pains in my chest, mainly over the lung area. Recently, despite having significantly reduced the number of cigarettes I smoke, the pain has continued to worsen. My acid reflux condition has worsened, too. A few months ago, I did a lung scan and electrocardiogram (ECG), and results were normal. Are these symptoms related to chronic obstructive pulmonary disease (COPD)?



Firstly, it is heartening to hear that you have taken the first and most important yet challenging step towards better lung health by cutting down on cigarette smoking. Common symptoms of COPD include prolonged cough, phlegm production,

wheezing, chest tightness, and shortness of breath that worsens with physical activity. However, sharp chest pain is unusual of COPD. If the sharp chest pain persists, you should seek medical attention for further evaluation. Acid reflux can cause chest discomfort but sharp pain is again atypical.

**DR JESSICA TAN**

Consultant, Department of Respiratory Medicine, Sengkang General Hospital

## Painful periods



I have been having painful periods for the past few months. I underwent an ultrasound and was told that I have a physiological right ovarian cyst measuring 1.8cm by 1.5cm by 0.9cm. Will my painful periods or right ovarian cyst affect my chances of conceiving in the future?



The ultrasound findings you have described are considered normal findings. Physiological cysts are small fluid collections that develop in the ovary during the process of ovulation (the production and release of egg cells). These cysts are temporary and would usually have resolved by the time a repeat ultrasound scan was done shortly after. Physiological cysts do not typically cause painful periods and do not affect your ability to conceive. Painful periods are common in many women, and a definite cause may not be found.

Some women with painful periods may have a condition known as endometriosis. This occurs when womb-lining tissue is found in abnormal locations, commonly surrounding the ovary. In other cases, the womb-lining tissue may be affecting the back of the womb, the large intestines and rectum, or occasionally surrounding the bladder. These tissues bleed during the menstrual period, causing irritation and pain. They can also leave behind collections of stale blood, leading to "blood cysts" or "chocolate cysts". It is believed that the scarring of the surrounding tissues and the fallopian tubes can lead to infertility.

However, not all women with endometriosis will have difficulty conceiving. The ultrasound findings you have described do not suggest endometriosis, even though not all cases of endometriosis are picked up via ultrasound. If you are worried, you should speak with your doctor, who can take a detailed history about your painful periods, perform a physical examination, and investigate further.

**DR TAN ENG LOY**

Senior Consultant, Department of Obstetrics and Gynaecology, Singapore General Hospital



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... that since 8 January 2021, patients of Singapore General Hospital's (SGH) outpatient clinics and specialist centres (except for the Centre for Assisted Reproduction and the Pre-Admission Centre) are no longer issued with a prescription?

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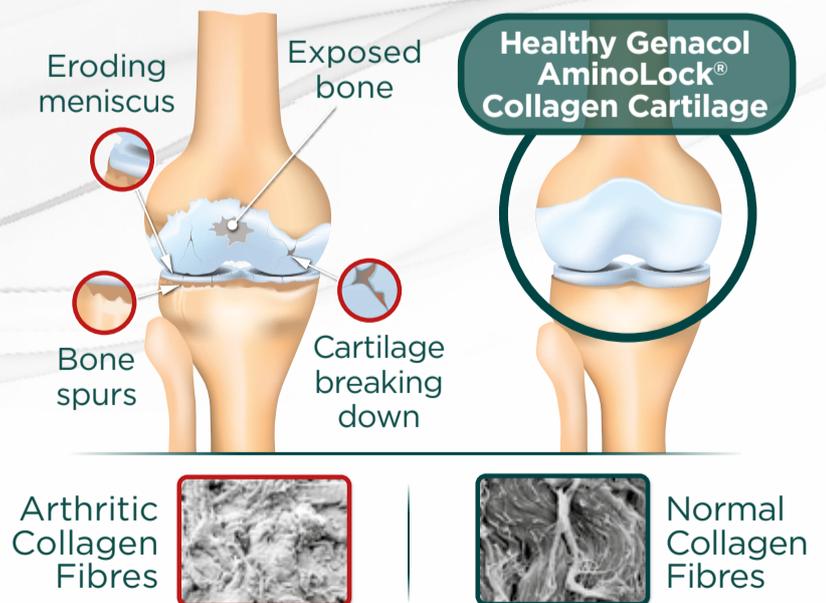


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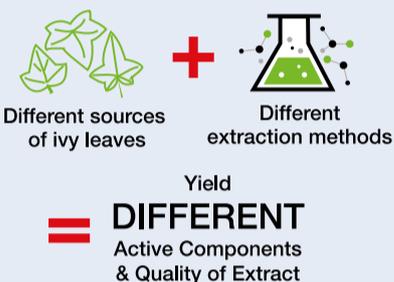
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What about the glucosamine brand that you are taking?

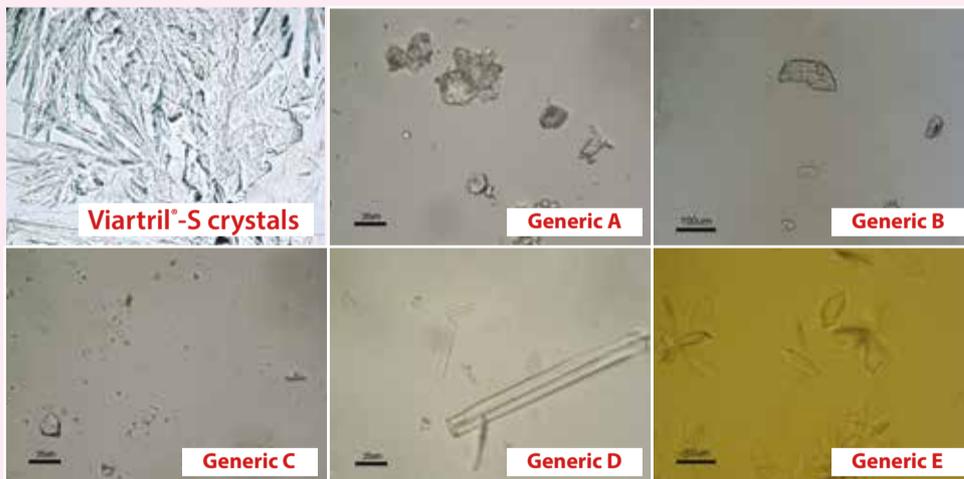
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In Singapore, glucosamine products are sold to public without the need for registration & approval by HSA. This means that even simple checks on purity are not required. So, the safety and efficacy of a brand can only be confirmed by lab & clinical studies.



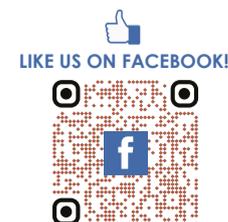
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1. Dario Gregori et al. JAMA. 2018;320(24):2564-2579 2. Olivier Bruyère et al. Seminars in Arthritis and Rheumatism 44(2014) 253-263 3. Bruyère O, Allman RD, Reginster JY. Semin Arthritis Rheum. 2016 Feb;45(4 Suppl):S12-7.



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