

Caring

Putting Patients First



Changi
General Hospital
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DECODING DEMENTIA

CGH delivers person-centred
care at its dementia ward

BEYOND MEDICATION

The diverse
roles of CGH's
pharmacists

A LISTENING EAR

Award-winning telecare
support for seniors

ISSUE 5 2022



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Changi General Hospital

SingHealth **DukeNUS**
ACADEMIC MEDICAL CENTRE

PATIENTS. AT THE HEART OF ALL WE DO.®



IN-DEPTH

- 1 **Dealing with dementia**
A caregiver's journey
- 2 **Understanding dementia**
CGH's person-centred care for patients in the dementia ward
- 4 **Rehabilitative care for people living with dementia**
Managing their condition through therapies
- 5 **Food for thought**
A healthy recipe catering to PWDs
- 6 **Is it normal ageing or dementia?**
Differentiate dementia from normal ageing, lower the risk of getting the condition, and understand its legal aspects
- 8 **Smart solutions for living well**
Healthcare innovations for PWDs

INSPIRED

- 10 **CareLine for seniors in the community**
The CGH CareLine team wins the National Clinical Excellence Team Award 2022

IN THE COMMUNITY

- 12 **Empowering a healthier you through medication**
The diverse roles of CGH's pharmacists



2

IN THE MIND

- 16 **Watching out for signs of suicide**
Helping someone who is contemplating suicide

IN PERSON

- 18 **Taking down, fixing up and paying it forward**
Juggling physiotherapy and life as a national athlete



Photo: Andy Chua

IN ADDITION

- 20 **When the doctor calls for a biopsy**
Tools for cancer diagnosis

COMPLIMENTS

- 21 **Bringing the mission to life**
Kind words from a patient

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MCI (P) 106/12/2021.
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DEALING WITH DEMENTIA

A caregiver shares her journey of caring for her mother, and how Changi General Hospital's (CGH) person-centred care has helped her from hospital to home.

It was in late 2019 when Ms Rebecca Chang was told that her mother was diagnosed with dementia. "I was really taken aback, and felt completely lost," she recalls. "I did not know what to expect and how to cope with her illness."

Her mother was constantly in delirium and displayed behavioural symptoms during her stay at the CGH dementia ward. Hospitalised at the height of the COVID-19 pandemic, she was unable to see her family members and felt distressed and moody.

To help her feel more at ease, the nurses set up video calls for Ms Chang and her mother, which helped reduce the latter's stress levels. The care team also called Ms Chang regularly to provide updates. "I'm truly grateful for the efforts and care that the team at CGH provided," Ms Chang shares.

Person-centred care

"I appreciated how CGH's dementia ward provided a customised care programme for my mum and my family," says Ms Chang. "The ward environment was very calming and relaxing, with a Reminiscence Corner where a variety of activities were organised to help keep her socially active with other patients."

The care team ensured that Ms Chang's mother had regular exercise through physiotherapy as well as sensory tree and music therapies, which her mother really enjoyed. CGH physiotherapists also provided detailed caregiver training for the family's domestic helper to ensure that Ms Chang's mother could continue to receive adequate care at home. "The care team has been patient, respectful, highly knowledgeable and extremely well-trained," Ms Chang recounts.

Knowing that her mother's condition would deteriorate over time, Ms Chang and

CGH adopts a **person-centred care (PCC)** model in its dementia ward, providing individualised care plans that place an emphasis on a patient's dignity and quality of life by considering his/her uniqueness, background, likes and dislikes, and needs.

The individual patient is supported, enabled and facilitated in his/her care through shared decision-making, mutual respect and communication.

CGH's PCC won the Dare to Do Award at the Public Sector Transformation Awards 2020.

her family made modifications at home to ensure her safety, including installing handrails, non-slip mats in toilets, and engaging an additional helper specially to take care of the older lady. They also bought walking aids and exercise equipment to help her mother strengthen her muscles.

Continuum of care

Upon discharge, Ms Chang's family was referred to the CGH Hospital-to-Home programme, where nurses visited them to follow up on care for Ms Chang's mother at home. "The care team even provided our helper with additional care training," says Ms Chang. "The CGH Hospital-to-Home care team truly cares for patients. This matters so much when it comes to providing the most personalised care for patients with dementia like my mum."

Persons with dementia in CGH's wards engaging in mentally-stimulating activities.



Understanding DEMENTIA

Decoding Changi General Hospital's (CGH) person-centred care for persons with dementia (PWDs).

Caring for both caregivers and PWDs

The experience of Ms Rebecca Chang and her mother (*story on page 1*) is one of over 3,600 patient experiences at CGH. Caring for PWDs can be a long, stressful and emotional journey. To optimise health outcomes, CGH's geriatric care team recognises the importance of safeguarding the well-being of caregivers as well.

In March 2021, the Geriatric Day Hospital (GDH) Engage programme was launched, catering to PWDs and their caregivers and families. Led by a multi-disciplinary CGH team of doctors, nurses, psychologists, allied health professionals and medical social workers experienced in dementia care, the programme offers weekly cognitive stimulation therapy (CST). This is a psychological intervention that helps improve the patients' cognition and well-being through structured physical and cognitive group activities. Caregivers and families of CGH PWDs also receive weekly educational sessions on managing various aspects of dementia care.

"This holistic programme imparts comprehensive knowledge for caregivers to discover the strategies of managing behavioural symptoms of dementia and understand the reasons for these changes, as well as what can be done about it," shares CGH Senior Nurse Manager Chitra Pandiaya, one of the leads of the Engage programme. "The programme also provides caregivers with the know-how to empower a loved one with dementia to engage in activities that he/she values, and optimise nutrition to reduce the risk of cognitive decline, among other tips."



One in 10 people in Singapore aged 60 years and above has dementia. Characterised by a progressive worsening of memory and intellect (cognitive abilities), orientation, or personality that is caused by diseases that affect the brain, this results in impaired daily functioning in PWDs.

While everyone experiences slight changes in cognitive abilities with age, dementia occurs when these changes become severe enough to interfere with day-to-day functioning. Several factors increase the risk of dementia (*read more on page 7*).

Diagnosing and managing dementia

At CGH, the diagnosis of dementia is made through a battery of assessments. These include obtaining an understanding of the patients' family history; assessing the loss of memory and cognitive function; and tests on cognition, mood, behavioural and psychological symptoms. "Physical examinations identify features of neurological issues which may indicate the cause of dementia. Blood tests and brain scans of the size of the hippocampus — the part of the brain responsible for memory storage — also play a part in diagnosing dementia," says Dr Peter Chow, Consultant, Department of Geriatric Medicine, CGH.

While there is presently no cure for dementia, its behavioural symptoms can be alleviated and progression can be slowed through treatment options. There are medications that help regulate chemical activity in brain function — this may delay the cognitive decline in certain types of dementia. Other medications may also help to manage a person's behavioural symptoms.



Interested in joining this peer support group for caregivers?

Scan the QR code to find out more and register.



Caregivers at CGH's monthly support group build mutual support and share experiences with one another.



Scan the QR code to make a difference in the lives of persons with dementia with a gift.

Building mutual support

At some point of their caregiving journey, loved ones and family members may experience sadness, anxiety, loneliness and exhaustion. Being able to seek help and support along the way is crucial. The CGH care team runs a monthly support group at CGH's Memory Café, where caregivers of PWDs get to know one another and build mutual support, exchange tips on managing day-to-day concerns arising at home, and share valuable experiences on their journey with dementia.

Caring for patients in the hospital

PWDs in CGH's dementia ward receive specially-curated person-centred care that focuses on their well-being. The care team creates a positive social and safe home-like environment for patients to move around in.

The environment is designed to be comfortable and familiar, with interior elements such as photographs of fruits and landscapes, pleasant colour schemes, safe corridors and communal dining spaces. Together with the patients' involvement in meaningful activities, these reduce the risk of confusion. The care plan for each patient is tailored based on the individual's preferences, interests and needs so as to better manage them physically, emotionally and socially.

To help patients experiencing confusion and reduce their discomfort, CGH has a comprehensive purple tag care bundle that ensures patients have good quality sleep, their pain is optimally managed, their bowels and bladder are emptied regularly, and their nutrition and hydration needs are met.

CGH's care team engages PWDs in activities that help to reduce cognitive decline.



Rehabilitative care for people living with dementia

Below: A CGH occupational therapist assists a patient with making a cup of coffee.

Their condition can be better managed through various therapies.

Below: A CGH physiotherapist works with a patient on rehabilitation exercises.

Physiotherapy

Dementia can cause a decline in physical and cognitive functions. Combined with lower activity levels and ageing, this decline raises the risk of falls, and may cause a loss of independence for PWDs.

Physiotherapists contribute to the holistic management of dementia care by optimising how each person can engage in fun, meaningful exercises to stay active, safe and healthy. This is done through specifically-targeted strength, flexibility and balance exercises. "These include exercises to ensure that the PWDs can get out of bed, or are able to walk about outside safely," says CGH Physiotherapist Dermot Brady.

Keeping active also helps PWDs with their sleep quality and quality of life. In addition, physiotherapists empower caregivers with skills and techniques to assist the PWDs at home.

Speech therapy

PWDs often experience progressive communication and swallowing difficulties. "Communication difficulties may include reduced memory and attention, difficulty with understanding, and communicating with others. Swallowing difficulties may include coughing or choking, needing assistance and prompting with feeding, food refusal, or displaying behavioural symptoms during feeding," says CGH Principal Speech Therapist Lee Yan Qing.

In the early stages of dementia, language therapy may be prescribed if appropriate. In later stages, speech therapists may suggest strategies such as speaking slowly and clearly by using simple sentences, and allowing enough time for PWDs to respond. For PWDs with swallowing difficulties, safe feeding strategies include modified diets and fluid consistencies for adequate nutrition.

Left: A CGH speech therapist monitors a patient's swallowing abilities as he drinks from the dysphagia cup.



Occupational therapy

Dementia may affect a person with dementia's (PWD) ability to do basic things, such as feeding and grooming themselves, and activities that they used to enjoy. Changi General Hospital (CGH) Senior Occupational Therapist Chew Xiaojia says, "PWDs may have certain behaviours that their family may have difficulty managing. However, these 'behaviours' are usually the unmet needs of the PWDs." These patients are referred for the rehabilitation and management of their moods and behaviours.

At CGH, occupational therapists provide rehabilitation for PWDs through enjoyable and familiar activities. For PWDs with behavioural symptoms, the occupational therapists identify modifiable triggers and develop strategies to manage them better.

Occupational therapists also advise caregivers on how to plan and facilitate activities that PWDs enjoy, how to effectively assist PWDs in their activities of daily living, and recommendations on home modification and assistive equipment.



FOOD for thought

A healthy recipe for persons with dementia (PWD).

A PWD may develop changes in eating behaviour, which can affect nutritional intake. For example, he/she may struggle to use cutlery, wander about while eating, or prefer snacking to having a main dish at mealtimes. One way to ensure adequate nutrition is by preparing healthy snacks or finger foods.

This recipe is nutritionally balanced and includes ingredients from all the major food groups — carbohydrates, protein, vegetables and fruits. In addition, it is visually appealing and will give one's appetite a boost!

Recipe by CGH Department of Dietetics and Department of Food Services



SWEET POTATO BITES

Serves 4

Nutritional analysis

PER SERVING

Calories: 250kcal
Protein: 20g
Carbohydrates: 26.2g
Fat: 7.3g
Sodium: 199mg
Dietary fibre: 6.4g

INGREDIENTS

MARINATE:

- 350g chicken breast
- 2 small sweet potatoes, thickly sliced
- 1 teaspoon of curry powder
- ¼ teaspoon of paprika (2 portions)
- 50ml low-fat milk (2 portions)
- ½ teaspoon of mixed herbs (2 portions)
- A pinch of salt
- A pinch of pepper

TOPPING:

- 100g red onion
- 50g green apple
- 50g celery
- 30g tomato
- 1 tablespoon of olive oil
- 100ml tomato coulis
- 50g corn kernel
- 50g kidney beans
- 10g black olive
- A pinch of salt to taste
- A pinch of pepper to taste

GARNISH (OPTIONAL):

- Alfalfa
- Spring onion
- Parmesan cheese (for added protein intake boost)
- Drizzle of olive oil (for added protein intake boost)

METHOD

- In a mixing bowl, marinate chicken breast with a portion of mixed herbs, a portion of paprika, a portion of low-fat milk, salt and pepper. Keep in the fridge for 30 minutes.
- In another mixing bowl, marinate sweet potatoes with curry powder, a portion of paprika, a portion of low-fat milk, a portion of mixed herbs, salt and pepper.
- Bake sweet potatoes on parchment paper/baking paper at 200°C for 25 minutes.
- Bake chicken breast on parchment paper/baking paper at 180°C for 20 minutes. Set aside for 10 minutes and thickly slice it.
- Dice red onion, green apple, celery and tomato.
- In a saucepan, heat up olive oil and add in all the topping ingredients. Stir well for 3 minutes. Add salt and pepper to taste and set aside.
- Arrange sliced chicken breast and toppings on sliced sweet potato.
- Serve and enjoy!

Is it normal ageing or dementia?

Changi General Hospital (CGH) Clinical Psychologist Seow Pei Shing shares that the differences between normal ageing, Mild Cognitive Impairment (MCI) and dementia lie in the extent of impairments in cognitive abilities and functioning.

LEARNING AND MEMORY	ATTENTION	EXECUTIVE FUNCTIONING	LANGUAGE	PERCEPTUAL MOTOR ABILITIES
NORMAL AGEING				
Occasional forgetfulness	Harder to multi-task but able to focus on a single task without many errors	Able to complete complex tasks when given more time	Occasionally struggles to find the right word but will remember eventually	Getting lost in places that one is less familiar with
MILD COGNITIVE IMPAIRMENT				
Difficulties in recalling recent events but able to cope by relying increasingly on lists or calendars	Begins to find more errors in routine tasks, but able to cope by double-checking work more frequently	Increased effort needed to complete complex tasks	Noticeable word-finding difficulties	Relies more on maps or others for directions
DEMENTIA				
Repeats oneself frequently, often within the same conversation	Difficulties holding information in mind	Abandons complex tasks and demonstrates poor judgement frequently	Significant difficulties in expressing oneself and understanding others	Getting lost in familiar places

While there is no known method to prevent dementia, it is possible to lower the risk of developing it. CGH Senior Staff Nurse Cheng Jing shares some tips on modifiable steps we can adopt.

REDUCING THE RISK OF DEMENTIA



Eat healthily

A healthy and balanced diet and sufficient fluids are important for overall health. A diet that is low in saturated fat, salt and sugar, and high in fibre can prevent conditions such as diabetes and cardiovascular diseases, which increase the risk of dementia. A balanced diet also helps provide the nutrients needed for a healthy brain.



Keep physically active

Physical activity helps to improve muscle strength, balance and bone health. It is also good for the heart, blood circulation, weight management and mental well-being, and is helpful in lowering the risk of cognitive decline.

Stay mentally active

Mental activities engage your mind, causing it to process information and develop thinking skills; this in turn builds up the brain's abilities and reduces the risk of dementia.

Stay mentally alert by:

- Taking up a new hobby
- Engaging in mentally-stimulating activities
- Learning a new skill



Be socially engaged

Social interactions and activities can exercise a wide range of mental skills, which reduce the risk of depression, stress and dementia.

- Participate in social activities
- Go to a park, museum or theatre
- Have regular and enjoyable interactions with your loved ones
- Volunteer



Take control of your health

Choosing healthy lifestyle options can help reduce the risk of developing health conditions, such as high blood pressure or diabetes, which can also increase the risk of getting dementia.

- Take care of your mental and physical health
- Limit your alcohol intake and quit smoking
- Take actions to minimise stress
- Get sufficient sleep



Addressing ethical and legal aspects after diagnosis

The nature of dementia inevitably brings about concerns that may affect patients and their families. A dementia diagnosis does not automatically mean that a person has lost all decision-making capacity, but as the disease progresses, one becomes less able to make more complex decisions.

Advance Care Planning

Advance Care Planning is a discussion to inform your loved ones and healthcare providers about your future care preferences. It promotes open conversations about your values and beliefs, past experiences with healthcare, and your preferences and goals of care. It also involves nominating a spokesperson to communicate your wishes and values to the healthcare team if you can no longer do so in the future.



Lasting Power of Attorney

While one still has the mental capacity to do so, it is prudent to appoint a proxy decision-maker who can take over in the event of eventual incompetence. This can be done via a Lasting Power of Attorney (LPA), a legal document which allows a person of at least 21 years of age to appoint one or more persons to make decisions and act on his/her behalf if he/she loses mental capacity one day. One can appoint the proxy decision-maker(s) to manage either or both of these areas: personal welfare (such as living arrangements, healthcare and medical treatments), as well as property and affairs (such as property matters and the handling of bank accounts and Central Provident Fund (CPF) monies).

By Dr Zenn Chua, Associate Consultant, Department of Psychological Medicine, CGH

SMART SOLUTIONS FOR LIVING WELL

In innovating healthcare for tomorrow, Changi General Hospital (CGH) taps on technology to provide the best care and treatment for persons with dementia (PWD).

Dysphagia cup

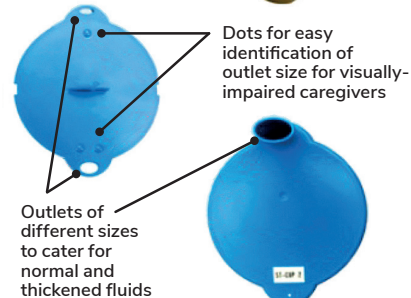
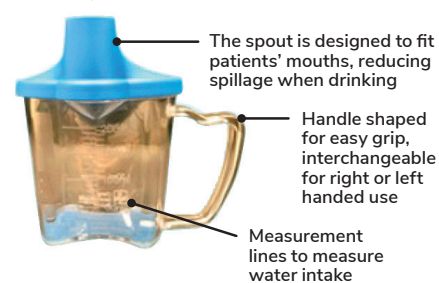
Some 90% of CGH's senior inpatients were found not to have consumed enough water and were at risk of dehydration, which might lead to complications such as delirium, falls, urinary tract infections and constipation. Assisting these seniors to drink requires time and increases the caregiving burden.

To address this, a multi-disciplinary CGH team consisting of a geriatrician, speech therapists, nursing staff and occupational therapists developed the dysphagia cup, Drink Ezy, to help improve fluid consumption among seniors in the geriatric wards, including the dementia ward.

With the facilitation of independent drinking, 75% of senior patients have had an improvement in fluid consumption since its implementation in 2020.

FEATURES AND BENEFITS OF THE DYSPHAGIA CUP

Sloped walls to reduce head tilting when drinking, while slight tilting of the cup increases water flow



"With currently no cure for this progressively-disabling disease, it is a strain on the persons living with dementia, their families, and the healthcare system. Hence, it is important to educate and find new innovative ways to improve the quality of lives for our patients, their families and caregivers."

Adjunct Associate Professor Lim Si Ching
Senior Consultant, Department of Geriatric Medicine, CGH



Sensory gardens

Regardless of the stage of dementia, the five senses of PWDs remain intact despite their impaired memory and decline in mental abilities. With the two sensory gardens in CGH, patients have direct access to sunshine and greenery. The gardens have been incorporated into CGH's building and landscape to provide a dementia-friendly environment, offering a more conducive "home away from home" for patients to ease in while they receive treatment in an unfamiliar and potentially stressful hospital environment.

PWDs have displayed less behavioural symptoms like agitation when they are regularly engaged in therapeutic garden activities. Going for short walks in the gardens encourages physical exercise to improve mobility and independence.

STIMULATING THE SENSES

The sensory gardens stimulate the senses, and facilitate social interactions, as well as provide light therapy through sunshine exposure (which produces vitamin D) and cognitive stimulation.

- **SIGHT:** Colours of the different plants.
- **SMELL:** Scents from herbs like rosemary, curry leaves, lime, pandan, oregano and flowers like jasmine.
- **TOUCH:** Different textures and shapes of the plants.
- **TASTE:** Flavours of the different herbs.
- **HEARING:** The sound of windchimes and rustling leaves in the gardens.

Utilising innovation and technology to manage dementia

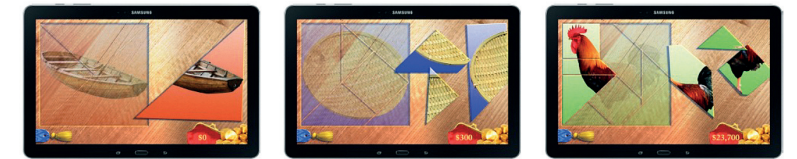
Social robot Pepper takes on a major role in conducting interactive group activities for senior patients at CGH, including those with dementia or delirium, enabling cognitive stimulation and reducing functional decline. Since its implementation in 2021, over 200 patients in CGH have benefitted from engagements with the social robot. At CGH's geriatric wards, robotic pets also serve to stimulate the minds of senior patients, and help decrease their stress and anxiety.



"Geriatric nurses play a key role in actively seeking and developing new methods, technologies and tools to improve the quality of care of older patients, and apply innovations in clinical practice through collaborations."

Dr Li Fuyin, Senior Nurse Clinician (Advanced Practice Nurse), CGH

Below: The *Piece by Piece* mobile game application.



CGH and the Singapore University of Technology & Design (SUTD) co-created **Piece by Piece**, a mobile game application to stimulate and engage seniors with dementia through reminiscence therapy and technology. The app has dementia-friendly features such as adequate visual and auditory-based cues, and tangrams that were designed based on the themes of Singapore's culture and themes familiar to the seniors.

A multi-disciplinary team in CGH is studying the application of **Virtual Reality (VR)** technology in preventing the worsening of cognition among older adults with Mild Cognitive Impairment. Using specialised devices such as head-mounted displays and hand-held controllers, users can navigate three-dimensional computer-generated worlds in VR, experiencing an interactive and immersive environment, and enabling patients to improve cognition via the strengthening of neural pathways.

"Innovative technologies enable CGH psychologists to maximise the accessibility and delivery of evidence-based interventions to treat and manage psychiatric and neuro-cognitive disorders, bringing about meaningful changes for the clinical care of our patients."

Ms Zaylea Kua
CGH Clinical Psychologist



Above: Robotic pets in action.

Left: PWDs joining in activities with the social robot and a nurse from CGH's care team.



Preliminary findings of patients using the VR technology have shown promising results in the cognitive domains and daily memory functioning and mood.

CareLine for seniors in the community

The number of seniors in Singapore aged 65 years and above grew from 338,000 in 2010 to 614,000 in 2020. By 2030, this number will spike to over 900,000. This will result in a larger number of seniors living alone or who are frail, with increased health and social needs.

To help address this growing issue, Changi General Hospital (CGH) pioneered CareLine in 2016. A personal care telephone service, it provides 24/7 health and social support to vulnerable seniors in need of urgent assistance — especially those who are isolated or in poor health — while keeping them safe and healthy at home, and within the community. To date, almost 19,000 seniors have benefitted from CareLine.

The CareLine team clinched the National Clinical Excellence

The CareLine team wins a national award for establishing an innovative telecare system.

Team Award at the prestigious National Medical Excellence Awards (NMEA) 2022 for its outstanding contributions and achievements in establishing an innovative telecare ecosystem to journey with, care for and empower vulnerable seniors to live and age well in the community.

The power of relationships

The strength of CareLine lies in its care relationship model. When seniors are enrolled, they undergo an assessment which enables staff to understand their needs and preferences. The CareLine team then continually engages these seniors to further gain an in-depth understanding of their psychosocial needs. These insights — complemented by the comprehensive network of health and social care resources — allow CareLine to provide

timely support to the seniors. Over the years, the CareLine team has responded to over 1,000 calls for urgent assistance and services.

CareLine facilitates seamless communication at all times with seniors who call in, enabling quicker understanding of their needs so that assistance can be rendered promptly. CareLine offers multiple language support options in English, Mandarin and Malay, as well as dialects including Hokkien, Teochew and Cantonese.

With the ability to effectively communicate with seniors, the CareLine team makes regular calls to seniors to check in on their well-being, especially during festive seasons or special occasions like birthdays. These are the periods when some of the seniors living alone may feel lonelier.

Recalling a close relationship that CareLine has built, Ms Pearline Lee, Deputy Director, CGH Home Care & Safety, shares, “Our seniors tend to share with us their day-to-day life and emotions. There was a senior who called to inform us of her new job as an office janitor. Knowing

Left to right: The CareLine team, consisting of Ms Claudia Ma, Senior Executive, Home Care & Safety, CGH; Mr Eric Chen, Director (Operations), Silver Generation Office, Agency for Integrated Care; Adjunct Associate Professor Eugene Shum, Chief Community Development Officer, CGH, and Director, Community Partnership, SingHealth Office of Regional Health; and Ms Pearline Lee, Deputy Director, Home Care & Safety, CGH.

NATIONAL CLINICAL EXCELLENCE TEAM AWARD 2022

The CareLine team, with Minister for Health Mr Ong Ye Kung, at the National Medical Excellence Awards ceremony.

CARELINE

ADJUNCT ASSOCIATE PROFESSOR
EUGENE SHUM JIN-WEN

MS PEARLINE LEE

MS CLAUDIA MA

MR ERIC CHEN



“The seniors appreciate that CareLine has journeyed with them during good and bad times, and this has allowed CareLine to build rapport and familiarity with them. They trust us to share deeper issues concerning themselves, and we can be there to provide solutions or interventions before it becomes serious.”

Adjunct Associate Professor Eugene Shum

Chief Community Development Officer, CGH, and Director, Community Partnership, SingHealth Office of Regional Health

that we call her regularly, she updated us on her working hours and shared that she would call us to let us know that she is safe as and when she is available.”

Tapping on strong community support

CareLine also provides an integrated health and social support ecosystem for seniors through strong community partnerships. Under the close partnership that CareLine has with the Silver Generation Office (SGO), the outreach arm of the Agency for Integrated Care (AIC), those seniors identified as vulnerable or staying alone by SGO are referred to the telecare service. With this inter-

dependant relationship, the Silver Generation Ambassadors who are the ‘eyes and ears’ on the ground, will — when prompted by CareLine — check on the seniors for any situation that is pressing and requires attention. Ms Claudia Ma, Senior Executive, CGH Home Care & Safety, remembers a senior who had to be warded for treatment. “She was worried that her daughter with special needs was unable to buy food on her own,” she shares. “The CareLine staff sought support from AIC SGO for a volunteer to deliver food to her daughter. The senior could then fully focus on her recuperation.”

“A key factor in CareLine’s success lies in the strong

network and collaborations with community partners across Singapore, including grassroots organisations, government agencies, senior activity centres and voluntary welfare organisations,” says Adj Assoc Prof Eugene Shum. “CareLine coordinates with relevant agencies to better support seniors and empower them to live well and confidently in the community. It has also transformed health and social care delivery for seniors in a scalable and effective way.” Since 2019, CareLine has scaled nationwide beyond the eastern region of Singapore.

As the needs of seniors continually evolve, CareLine will continue to support them and expand the network of partners so that these seniors can continue to live and age well in the community.



Scan the QR code to find out more about CareLine.



To become a member of CareLine, call us at 6340 7054



Empowering a healthier you through medication

Changi General Hospital's (CGH) pharmacists provide insights into the important roles that they play in patients' recovery journeys.

Most people would be familiar with the primary role of pharmacists in preparing and dispensing medications to patients. Over the years, the role and functions of pharmacists have evolved in the diverse areas of patient care. CGH's 280 pharmacy staff — from pharmacists, pharmacy technicians, pharmacy assistants, inpatient ward pharmacists, emergency department pharmacists, and specialist outpatient clinic pharmacists, to the pharmacists in the pharmacy laboratory and discharge pharmacy — play different but essential and complementary roles in caring for our patients.



Optimising the use of medications

Leading the **ambulatory care pharmacist** service, **Senior Principal Clinical Pharmacist Elena Lee** sees patients regularly in between their doctor visits to monitor their treatment progress and adjust their medication regimen. "I perform physical examinations, review patient histories, discuss treatment plans and prescribe medications to patients in the clinic, in addition to medication counselling," she explains. In a clinic setting, there are numerous opportunities to connect with her patients and empower them with medication knowledge, which in turn help improve their adherence to treatments.

Ms Lee builds relationships with her patients so that she can better convey — even through telehealth and digital technologies — information that enables better empowerment of their health. "Working at the front line and being connected to patients is rewarding, especially when we see them improving in their knowledge and ability to take charge of their medications and their health," she says.

Making special preparations

Principal Clinical Pharmacist Gooi Siao Ching manages the **CGH Pharmacy Laboratory**, which was set up to prepare sterile injection syringes, infusion bags and eye drops, which are not commercially available and must be specially prepared for individual patients. Injected products or eye preparations are compounded in a "cleanroom", which has special air handling, and are prepared with techniques that ensure that they are free from bacterial contamination.

Ms Gooi also cares for patients who require nutrition given through infusion into the vein, for those who are unable to obtain sufficient nutrition from eating, drinking or tube feeding. After reviewing the patient, she decides on the various types and quantities of nutrients that the patient



"Pharmacists help our patients understand the use of medications in their treatment and optimise their medications for the best outcomes to keep them healthy. To do so, our pharmacists equip themselves with the latest knowledge and keep abreast of medical advances."

Dr Jonathan Seah, Head, Pharmacy, CGH

should have, and arranges for the nutrients to be compounded into an infusion bag. "Making a parenteral nutrition bag constitutes one of the most complicated processes in the Pharmacy Laboratory as it requires the addition and mixing of more than 10 ingredients," she shares.

Through Ms Gooi's designing of products which are easy to self-administer, patients are empowered and gain confidence in learning the techniques of administering injectable medication at home, reducing the need for them to be admitted to the hospital to receive the medication from the care team.



Meeting medication needs round the clock

Senior Clinical Pharmacist Karmen Quek's work as an **inpatient ward pharmacist** includes medication reconciliation, which involves comparing patients' hospital medication orders with the medications that they were taking prior to admission. "This helps to prevent the omission of important medications that are not captured in our system, such as those from some General Practitioner clinics or dialysis centres." It also helps the pharmacists detect and prevent the use of incompatible medications that could result in potential harm to patients.

When doctors prescribe medications, Ms Quek reviews the orders to check that these are appropriate, effective and safe. She also ensures that they are of the right dosage, frequency and method of administration. Once an order is confirmed, the Inpatient Pharmacy

Automation System and pharmacy technicians pack the medications into individual sachets tagged to the respective patients. These sachets are then sent to the wards through a pneumatic tube system and by pharmacy technicians. As an inpatient pharmacist, Ms Quek also works night shifts, answering medication enquiries from doctors and nurses 24/7 while ensuring that medications are supplied in a timely manner to patients.

Combating antimicrobial resistance

As a pharmacist in the Antimicrobial Stewardship Programme (ASP), **Senior Clinical Pharmacist Ow Yong Pu En's** role is to combat antimicrobial resistance within the hospital by ensuring the appropriate use of antimicrobials (medications that treat bacterial, fungal, viral or parasitic infections). Resistance to these medications may result if used indiscriminately over time, resulting in infections that are increasingly complex and difficult to treat. "We review the use of antimicrobials in the wards daily and identify cases where the use of antimicrobials can be improved," she explains. Ms Ow Yong and her team also educate healthcare professionals and develop guidelines to improve the understanding of antimicrobial use.

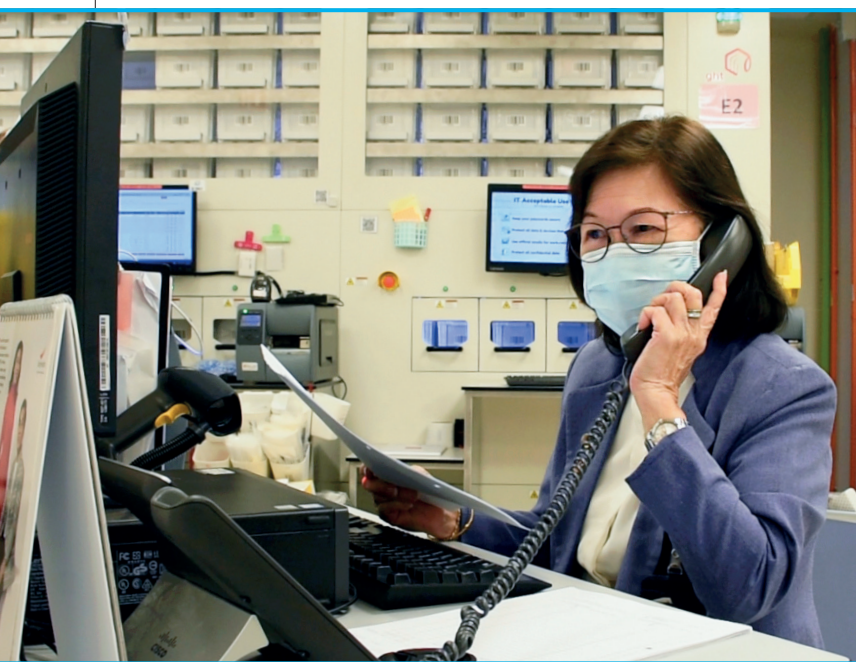
While the work done by Ms Ow Yong and her team in the **inpatient wards** is largely behind the scenes — whether it is to recommend a shorter duration of antimicrobials to facilitate earlier discharge or to select a suitable antimicrobial medication that requires fewer tablets a day to make it more convenient for the patient — it has a strong impact on patients' care experiences.



Providing excellent patient care

Pharmacy Tech Executive Lily Ng works in an outpatient setting, serving, counselling and dispensing medications for patients at the CGH specialist outpatient clinics. “In my role at the **CGH Medical Centre Pharmacy**, I assist and handle patients’ queries and feedback, such as those regarding medication supply,” she explains. Ms Ng has to stay updated on the latest pharmacy knowledge, as she answers patients’ medication queries, while ensuring that they know how to use their medications appropriately to bring out the best outcomes from the medications. “We always try to leave a positive impact on the patients we meet every single day,” she says.

In the outpatient pharmacy, Ms Ng empowers her patients every day by counselling them on how to use or take their medications and pharmaceutical products. “Through the years, we have innovated in the way we do our work — in packing, labelling, manufacturing and utilising patient information systems in our work, and learning from our patients,” she notes. These serve to deliver better health ownership among patients, develop patient safety, and ensure efficient medication refills.



Scan the QR code to check out videos produced by the CGH Pharmacy Week team, and learn more about the diverse work done by CGH’s pharmacists.

Keeping abreast of medical advances

To improve efficiency and improve care for our patients, CGH’s Pharmacy team harnesses the use of innovation, digitisation and technology — tapping on existing and new automated means of delivering medications to patients and customising them to the needs of the Caring General Hospital.

OUTPATIENT PHARMACY AUTOMATION SYSTEM (OPAS)

In recognition of healthcare demands of the present and future, and to improve the CGH patient experience, CGH Pharmacy enhanced its abilities in automation based on the hospital’s unique needs. Developed by the Integrated Health Information Systems (IHIS), OPAS reads the

doctors’ e-prescriptions, and picks and packs the instructed medications. The pharmacy staff then dispenses the medications to the patients.

With the successful integration of the OPAS at the pharmacy at the CGH Medical Centre, CGH Pharmacy is able to improve the efficiency of the process of medication preparation. Prescriptions are now processed right after a patient has completed their clinic consultation. As such, patients’ medications are ready prior to their arrival at the pharmacy, enhancing their overall experience with a shorter wait time.

OPAS benefits pharmacists and patients through:

- Improved medication safety with significant reductions in picking and packing errors.
- Improved operational efficiency through the redeployment of staff from picking and packing roles to clinical or counselling roles.
- Improved patient experience with reduced patient waiting times at the outpatient pharmacy.

At the CGH Pharmacy, OPAS has achieved 100% picking accuracy, shortened the mean packing fulfilment time per prescription by 61%, and reduced the mean number of manpower hours per day for medication re-stocking by 62%.

MEDICATION DELIVERY SERVICE (MDS)

With CGH’s MDS, medications are delivered to patients’ doorsteps, free of charge. Patients also have the option of self-collection from designated lockers around Singapore. Patients are able to place their medication order using the SingHealth Health Buddy app. This reduces the need for them to physically obtain their medications from the hospital, making it more convenient.

Patients can also arrange for medication delivery in the Specialist Outpatient Clinics

Below: CGH pharmacists pack the medication orders for delivery to patients’ homes.



(SOCs) through CGH’s Patient Service Associates (PSAs) after their consultations.

While this service had begun pre-COVID-19, during the pandemic — to cater to patients who were unable to visit the hospital to pick up their medications due to infection control measures — CGH’s MDS was ramped up to be able to facilitate larger volumes of orders. This resulted in the MDS being able to process 500 deliveries a day, a significant increase from when it was first implemented and able to cater to 50 patients a day.

Beyond medication delivery, MDS now also provides value-added counselling through its tele-counselling services.



Scan the QR code to find out more about CGH’s MDS and place your medication orders.



Left: The medication preparation process at CGH’s Pharmacy is more efficient with the OPAS.

WATCHING OUT FOR SIGNS OF SUICIDE

A closer look at the indications that someone is contemplating taking their own life, and what we can do to help them.



At some point in their lives, 1 in 13 adults has thought about suicide. At Changi General Hospital (CGH), the Department of Clinical Psychology sees patients facing mental health challenges in association with suicide and helps them through careful treatment and care.

"Preventing suicides requires the support of patients' family and peers," says Ms Michelle Tan, Senior Clinical Psychologist at CGH. "We all have a part to play in looking out for one another. I also encourage individuals

who are struggling with suicidal thoughts to seek out professional help and accept any help offered from friends and family members who are safe. Remember, you don't have to go through this alone."

Signs of suicide in at-risk individuals

Some might pass it off as a trivial remark, but when we see someone posting on social media about topics involving suicide methods, writing a suicide note or will, or collecting materials that could be used to kill himself/

herself, it could be a sign of an individual at risk of committing suicide.

The individual might also be sharing about unbearable physical or emotional pain, lamenting on a lack of purpose or meaning in life or reflecting on a feeling of hopelessness or being stuck in a rut.

Others, particularly seniors, may see themselves as a burden to others, and express thoughts of not wanting to exist, for example, "I wish I need not wake up from my sleep" or "I wouldn't mind if I got hit by a bus", or even speak of taking their own lives.

What you can do if you suspect or know that someone around you has thoughts of suicide

Listen attentively, instead of jumping in with advice. People thinking about suicide are often in great distress, and need an empathetic listening ear. It can be difficult to keep your own anxiety in check while you are listening — after all, your loved ones are thinking of killing themselves. Try to make space for their emotions rather than overwhelm them with yours.

While you are listening, ask if they intend to act on their suicidal thoughts. It is not uncommon to have suicidal thoughts with no intention to follow through on them. If they do intend to act on their thoughts, ask

Debunking common myths surrounding suicide



Asking someone if they are thinking about suicide encourages suicidal behaviour

There is no evidence to support this commonly-held belief. On the contrary, the best way to prevent suicide is to clarify if someone is suicidal, and to get them appropriate help if they are. For those thinking about suicide, it may be a relief that someone cares enough to ask.

Only those who look very sad and morose are suicidal

Pain can be hidden behind a cheerful façade. If you notice anything even slightly amiss, do not dismiss your doubts. It never hurts to ask.

if they have a plan. Find out if they know how, when and where they are going to kill themselves. If they have a clear intent and plan for committing suicide, the risk may be high. Bring them to the nearest Emergency department for a medical assessment and keep them safe.

If the risk is less urgent, ask if they have reasons for living. The keyword is "ask", rather than tell. Ask questions such as "Do you have any reasons you might want to stay alive?" rather than "But you have children/grandchildren right?" Ask if they have anyone they can talk to when feeling hopeless. Most importantly, encourage

them to seek professional help. If they are open to the idea, you can offer to assist them in contacting a mental health professional. In the meantime, provide them with some helplines they can call.

If you have suicidal thoughts, what can you do?

Please seek professional help. You may approach the nearest Polyclinic or General Practitioner (GP) for a referral to mental health services at a hospital. There are also many mental health service providers, such as psychiatrists, psychologists and counsellors in the private practice space. Asking friends and family for recommendations that they have had personal experience with is a good way to navigate the options available. If you fear that you may act on a suicidal urge soon, please do not hesitate — go to the nearest Emergency department for help.



SCAN THE QR CODE TO FIND ONLINE SUPPORT AND RESOURCES

The Samaritans of Singapore
runs a 24-hour hotline at 1800 221 4444 for those contemplating suicide.

The Institute of Mental Health
also has a 24-hour mental health helpline at 6389 2222.



Decked in his Changi General Hospital (CGH) scrubs and providing rehabilitative care to patients, one might not be able to tell that Physiotherapist Lou Hong Yeow is a 2019 Southeast Asian (SEA) Games bronze medalist in freestyle wrestling. And toggling between the two very different roles is a daily affair for him. On a typical training day, before his work at CGH starts, Mr Lou trains for 1.5 hours at Bedok Sports Hall, before heading to the hospital. Training continues after work for another two hours from 7pm to 9pm before he heads home. There is respite during the weekends when Mr Lou gets some time to rest and catch up with his loved ones.

It is this dedication to his craft that has propelled Mr Lou in his dual pursuits. He started out in *wushu* and Chinese martial arts in secondary school and subsequently explored other combat sports such as Brazilian *jiu-jitsu*, mixed-martial arts and *muay thai*. He was later introduced to wrestling by a friend. "My earlier successes in the local wrestling scene spurred me to develop further in this sport. It has always been my dream to



Photo: Andy Chua

TAKING DOWN, FIXING UP AND PAYING IT FORWARD

Physiotherapist by day and national freestyle wrestler by night (and early morning), Lou Hong Yeow shares how he juggles these two fields and the ways in which they complement each other.

represent Singapore in the major international competitions such as the Olympics," says Mr Lou, who has been representing Singapore in the sport since 2013. "The motivation to represent our country and doing what I love keeps me going."

Wrestling on the international stage

Mr Lou has participated in numerous championships, including the Southeast Asian Championships in 2014, 2018 and 2019; 2013 Commonwealth Championships;

Asian Championships in 2019, 2021 and 2022; 2019 World Championships; and SEA Games in 2019 and 2022. In addition to his 2019 SEA Games bronze medal, Mr Lou's best accomplishments include placing fourth in the SEA Games 2022 and seventh in the Asian Championships 2019. "One of my goals is to be the best in Southeast Asia before I retire," he reveals. Mr Lou enjoys the grit and hustle of being an athlete. "My competitive streak constantly pushes me out

of my comfort zone, and has shaped me to be able to perform better under pressure."

Road to therapy

From 2015 to 2017, Mr Lou suffered knee injuries from wrestling and had to undergo several surgeries. Due to the extent of his injuries, he was sceptical about being able to return to high-performance sports. Post-surgery, Mr Lou focused on intensive rehabilitation. He worked closely with physiotherapists and stayed committed to his recovery even as he experienced doubts. Eventually, he managed to recover and returned to competing in 2018,

and won the SEA Games bronze medal in 2019.

Mr Lou graduated with a business diploma from Ngee Ann Polytechnic, and had initially wanted to pursue a degree in accountancy or business. "However, the experience I had with the physiotherapists left me deeply inspired and grateful," he shares. "To pay it forward, I felt that being a physiotherapist would allow me to help my fellow athletes." He decided to pursue physiotherapy, and was offered a healthcare scholarship. Mr Lou adds that he then chose to join CGH because of its strengths in sports medicine and rehabilitation.

Since beginning his career at CGH, Mr Lou has had the opportunity to care for patients requiring physiotherapy for various medical conditions. "My skills as a physiotherapist can be used to benefit more than just athletes," he explains. "I find satisfaction in helping patients regain their function and quality of life."



Photo: Sport Singapore/Stanley Cheah

Complementary passions

Mr Lou finds that his work as a physiotherapist at CGH has equipped him with the knowledge and skillsets to not only provide his wrestling teammates with advice or solutions for injuries, but also allow him to better manage his own injuries. He is able to better understand the wrestling sport in terms of biomechanics, sports performance and injury prevention.

He is full of praise for the positive work environment at CGH, which has enabled him to pursue his passion. "My colleagues have been supportive in my sports endeavours by allowing me the time and space to train and compete in the lead-up to competitions when training can be intensive," he shares.

"With the strong support from CGH, I am glad that I can continue to compete as an athlete for Singapore."



Photo: Sport Singapore/Stanley Cheah

When the doctor calls for a **biopsy**

A biopsy can help determine if one has cancer or another disease. Learn about the different types of biopsies and other tools in cancer diagnosis.

In most settings, a cancer diagnosis is made based on clinical, radiological and histopathological findings. For many cancers, the only way to make or confirm a diagnosis is to perform a tissue biopsy, which is an invasive procedure. A piece of tissue or a sample of cells extracted from a specific organ provides representative tissue of the actual tumour that can be assessed in a highly accurate manner, by identifying the cell types and providing predictive biomarkers of response to targeted treatments.

“Changi General Hospital’s (CGH) pathologists are crucial members of a patient’s diagnostic team and play a vital role in diagnosing and staging cancer,” says Dr Michael Tan, Senior Consultant, Department of Laboratory Medicine, CGH. “They provide diagnostic information to

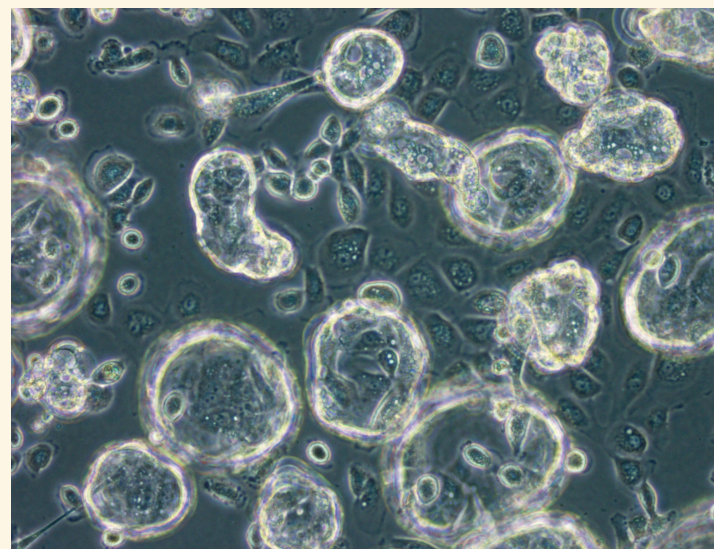
patients based on tissue sampled from biopsies. Pathologists, who are doctors with specialised laboratory skills, may also guide the course of treatment and make recommendations on the management of the disease, which may include additional biopsies or other relevant tests to confirm or exclude a disease.”

Research on liquid biopsies as a complementary diagnostic option

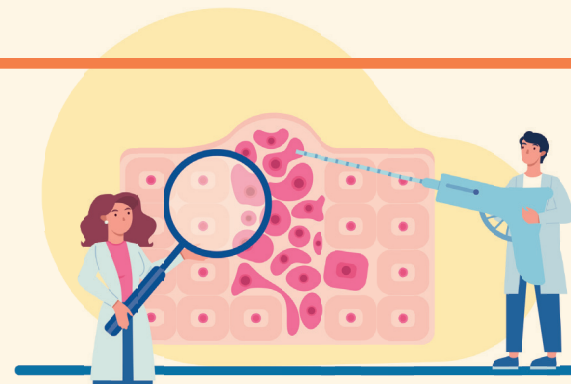
A recent study by CGH, the Agency for Science, Technology and Research’s (A*STAR) Institute of Bioengineering & Bioimaging, and Lucence showed that liquid biopsies can complement conventional tissue biopsies used for lung cancer diagnosis, and provide early detection of cancer recurrence.

“In innovating healthcare for tomorrow, CGH collaborates with research partners to create new value and enhance care for patients. The research study showed the feasibility of liquid biopsy as an additional diagnostic option for non-small cell lung cancer when tissue biopsy for lung cancer mutation testing is not viable, particularly for medically unfit patients with progression of the cancer disease.”

Adjunct Associate Professor Augustine Tee
Deputy Chairman, Medical Board (Medical Disciplines) and
Senior Consultant, Respiratory and Critical Care Medicine, CGH



Lung cancer cells from liquid biopsy under a microscope. Photo: A*STAR’s IBB



COMMON TYPES OF BIOPSIES

Core Biopsy

Tissue samples are extracted using a larger needle and examined. This is often guided by an imaging technique, such as a Computed Tomography (CT) scan or ultrasound scan.

Fine Needle Aspiration Cytology

Cells are collected using a narrow needle, guided by ultrasound scans for target sampling of a lesion. While the narrower needle entails a reduced quantity of tumour cells sampled, it is a highly-effective tool for diagnosing and determining the stage of the cancer.

Incisional Biopsy

A part of the tumour or organ is surgically removed for examination in this procedure. This method of sampling tissue could potentially offer a greater amount of tissue for diagnosis than a core biopsy.

Excisional Biopsy

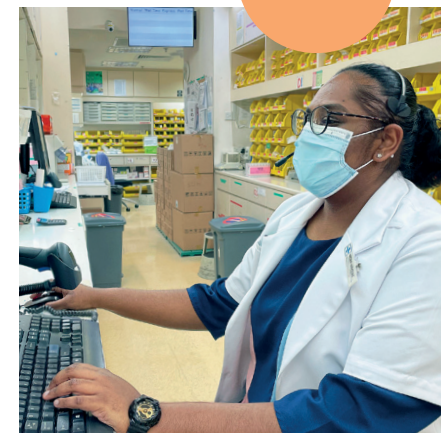
This surgical procedure is a wide incisional biopsy that removes the entire lesion or tumour for diagnostic purposes. Excisional biopsy is potentially a curative procedure if the entire lesion is removed.

Punch Biopsy

In this minimally-invasive procedure, a round piece of tissue is removed using a sharp and circular instrument for diagnostics. This is most frequently used for skin biopsies due to its effectiveness and safety in removing small lesions.



To learn more about the study, scan this QR code.



BRINGING THE MISSION TO LIFE

A patient shares some kind words for the care team that made a positive impact during a visit to CGH.

“I would like to deliver my sincere thanks to your Senior Pharmacist Ms Jasmine Tang (above, left) at Pharmacy B, where she served me on 24 January 2022. During my discharge from the ward that day, I informed the pharmacy registration staff and requested to be served quickly as I was tired and unwell. I was indeed served promptly but forgot to ask for her name (identified as Pharmacy Technician Nisha Julianna Vincent, above, right). She was very helpful and kind to me. Please send my thanks and appreciation to her too.

At the same time, at the dispensing counter, Ms Tang was very professional and showed concern towards me. She explained every single medication in detail and printed copies of the medication with pictures and details on them. Her humble behaviour and kindness really amazed me. I was deeply appreciative and felt ‘50% cured’ immediately.

I can see your healthcare heroes working harder than ever to bring their mission to life 24/7 for patients who are counting on them. The sacrifice they put into their tasks is really beyond words. Please send my well-wishes and appreciation to both staff. They are one of the backbones of your hospital’s greatest image. They definitely need recognition.

Thank you. ”

R.K.S



Your Allies in Better Health

Our allied health professionals take on diverse roles to care for patients from hospital to home and community. From the diagnosis, assessment, and treatment of conditions, to the rehabilitation and prevention of diseases or illnesses, they restore, maintain or enhance physical, sensory, psychological, cognitive and social functions for our patients' overall health and well-being.

Our allied health professionals are protectors, confidantes, supporters, enablers, innovators, educators, investigators, technologists, nutrition gurus, and much more. They are your allies in better health.



Changi
General Hospital
SingHealth

