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## CGH CELEBRATES 88 YEARS OF TRUSTED CARE



ISSUE 1 2023

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SUBSCRIBE TO CARING

# Changi General Hospital 88<sup>th</sup> Anniversary —

Celebrating a Legacy of Trusted Care, Innovating Healthcare for Tomorrow

Changi General Hospital's (CGH) legacy of care dates from 1935, when the old British Royal Air Force Hospital was built at Changi. Even back then, Changi was an area recognised as well-suited for relaxation and recreation — a place conducive for the healing of both body and mind. CGH is also significant in Singapore's history; in 1997, Changi Hospital merged with Toa Payoh Hospital — which was renowned as an innovative general hospital with a strong tradition in clinical excellence — to become Changi General Hospital.

The CGH care team builds on this longstanding heritage of care and healing as an academic healthcare system, focused on medical and health research, clinical education and healthcare innovation, with a unique entrepreneurial spirit of enterprise. Big on translational research, robotics and education, CGH continually seeks new solutions to revolutionise and streamline care for patients and make work for staff easier. Personalised care initiatives driven by the hospital, such as the cancer prehabilitation programme, our one-stop wound healing centre and smart vital signs monitoring, have been rolled out in recent years. In humanising healthcare, robots have become our helping hands in relieving manual or repetitive tasks. We are pushing the frontier in artificial intelligence to transform models of care.

Our care transcends hospital walls. The Caring General Hospital collaborates widely, both within and outside of healthcare to better health, and better healthcare in Singapore and globally. Putting patients first, CGH doctors, nurses, allied health professionals, and operations and administrative staff have persevered together. And as a team, they have overcome very challenging circumstances time and again during the throes of the COVID-19 pandemic. Harnessing technological solutions such as telehealth allowed us to care for the community to keep them well at home. Then British Prime Minister Winston Churchill's tribute to the Royal Air Force for defending the British Isles during the Second World War, rings particularly true for our healthcare colleagues in this pandemic: "Never was so much owed by so many to so few."

Getting to where we are today was certainly not achieved by accident, but the outcome of the work of each and every healthcare professional and planner, past and present, at CGH and Singapore. The hospital has been consistently recognised internationally by Newsweek as a World's Best Smart Hospital, World's Best Specialized Hospital and World's Best Hospital (Singapore).

As CGH commemorates 88 years of heritage, we also celebrate our life, community and achievements as the Caring General Hospital, and the dynamic care transformation that the hospital has championed and continues to drive today, as your trusted care partner, innovating healthcare for tomorrow.

By Professor Ng Wai Hoe, Chief Executive Officer, Changi General Hospital



# Trusted Care since 1935

We look back at the heritage of Changi General Hospital and share how the old Changi Hospital and Toa Payoh Hospital played pivotal roles in the heart of the Caring General Hospital of today.

## OLD CHANGI HOSPITAL



The old Changi Hospital building.

**1935**

The British Royal Air Force (RAF) Hospital was built within the naval base at Changi as part of the development of the base's welfare facilities.

**1942-1947**

During the war, Changi Naval Base became a Prisoner of War camp. After the end of the Japanese Occupation, the RAF Hospital began functioning again.

Two blocks were used for the hospital, which had a casualty entrance, two operating theatres, an X-ray room, dental clinics, wards, as well as a maternity wing, pharmacy and more.

**1971**

With the gradual withdrawal of the British troops after Singapore's independence in 1965, the RAF Hospital was handed over to the newly-formed Commonwealth forces of Australia, New Zealand and United Kingdom, and became known as the ANZUK Hospital. It was subsequently renamed as the UK Military Hospital.

**1974**

A former British officers' club nearby was converted to the Changi Chalet Hospital. The hospital served patients from the nearby Changi Prison Hospital and polyclinics on Pulau Tekong and Pulau Ubin, Singapore Armed Forces (SAF) personnel and recovering patients from other government hospitals.

**Late 1975**

The UK Military Hospital was handed over to the Singapore government and renamed the SAF Hospital, providing free medical care for SAF personnel and their immediate family members. Its services were gradually extended to members of the public.



The old hospital buildings in the present day.

**1997**

Changi Hospital ceased operations.

**1976**

The SAF Hospital was officially taken over by the Ministry of Health (MOH). Combining with the nearby 36-bed Changi Chalet Hospital, Changi Hospital was formed on 1 July 1976.



Below: Nurses at the main entrance of the old Changi Hospital.

## FROM THOMSON ROAD HOSPITAL TO TOA PAYOH HOSPITAL

**1959**

Thomson Road Hospital was opened to meet the growing demand for medical services in Singapore. It would be the first district hospital with its own surgical unit.



One of the buildings of Thomson Road Hospital.

**1965**

The hospital built up a reputation for postgraduate clinical training and clinical research. Nursing training was also formalised when the School of Nursing for Pupil Assistant Nurses officially opened.



Above: Thomson Road Hospital under construction.

**1968**

Recognised as an acute hospital offering a wide range of services including surgery, neurosurgery, X-ray, obstetrics and gynaecology, the hospital was renamed the Thomson Road General Hospital.

**1970s**

The hospital introduced new clinical specialties such as neonatology and orthopaedic surgery, and the Department of Anaesthesia. More doctors joined the hospital, and were involved in research in the areas of lactose intolerance, gastrointestinal bleeding and peptic ulcers. The X-ray and Accident & Emergency (A&E) departments implemented 24-hour operations. The hospital also improved its bed arrangements, providing for greater privacy and comfort. It was the first hospital to introduce B2 class wards, a pilot project of the government medical service.

**1990s**



TPH was restructured on 1 April 1990. The 1990s was a significant era for the hospital, which became one of the busiest hospitals in Singapore. More medical services, including ear, nose and throat (ENT) and eye departments, and new programmes were introduced to improve service and care. Nurses started "patient-centred nursing", focusing on caring for patients and understanding their medical and emotional needs, instead of the tasks to be performed. Patient load increased to maximum capacity.

**1980s**

The 1980s were characterised by rapid growth and expansion. The A&E Department underwent a face-lift — computerisation was introduced to facilitate registration and the retrieval of information. In 1985, the hospital began concentrating on two key specialisations — urology and gastroenterology.

**1975**

The hospital was renamed Toa Payoh Hospital (TPH) after the newly-built satellite town that it served.

Below: Entrance to the TPH A&E.



1997



Toa Payoh Hospital and Changi Hospital merged to become the New Chang Hospital, and was later renamed Changi General Hospital (CGH). It operated a custom-built general hospital facility in the heart of eastern Singapore at Simei, with a then-capacity of 801 beds.



1998

CGH was officially opened on 28 March 1998 by then Deputy Prime Minister Lee Hsien Loong. At its opening, it had a wide range of specialties including general medicine, general surgery, orthopaedic surgery, geriatric medicine, rehabilitation medicine, psychiatry, ENT and eye, and sub-specialties in gastroenterology, cardiology and urology.



Left: The Shimadzu-CGH Clinomics Centre conducts research to better clinical care for patients with hypertension and other chronic diseases.

CGH developed partnerships with academic and industry partners such as Changi Airport Group and CapitaLand, to advance health, wellness and innovation beyond the hospital for various communities.

2022

The Shimadzu-CGH Clinomics Centre, opened by Deputy Prime Minister and Coordinating Minister for Economics Policies Mr Heng Swee Keat, conducts mass spectrometry-based clinical testing and research supporting personalised treatment, for better clinical care for patients with hypertension and other chronic diseases.

2021

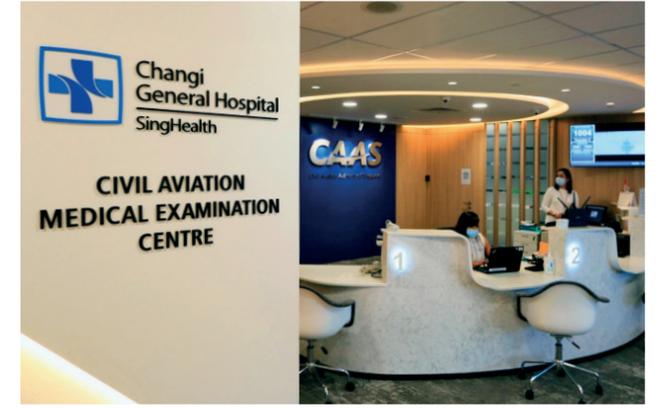
The CGH Wound Healing Centre, a one-stop multi-disciplinary centre to provide early interventions and outpatient treatment of chronic wounds, was opened by then Senior Minister of State for Health and Manpower Dr Koh Poh Koon.



The CGH Wound Healing Centre provides easy, fast-tracked access and convenience for patients with non-healing wounds.

2019

CGH set up the Changi Aviation Medicine Centre, Singapore's first aviation medicine centre within a government restructured hospital, offering customised care for pilots, cabin crew and air traffic control staff.



2000s TO TODAY

2000s

CGH launched new clinical services in sports medicine, dermatology, psychological medicine, rheumatology and neurosurgery. It opened a one-stop Diabetes Centre and established the largest multi-disciplinary sports centre in Singapore, the Singapore Sport & Exercise Medicine Centre @ CGH, catering to both recreational and competitive athletes. In 2004, CGH opened a new Geriatric Centre that houses both the Specialist Clinics and the Geriatric Day Hospital, offering the convenience of a one-stop service for elderly patients.



The CGH Geriatric Centre offers one-stop services for elderly patients.

2011 CGH became a founding member of the Eastern Health Alliance, a regional health system to provide seamless, quality care for eastern Singapore.

2012

CGH opened the Centre for Innovation, a platform for healthcare technology translation; and the Changi Simulation Institute, an integrated simulation training centre for healthcare professionals.



The Changi Simulation Institute.

2014-2017

CGH launched a series of programmes to right-site and ensure continuity of care. CGH's GPFIRST programme encourages residents in the east to visit their General Practitioners first for mild to moderate conditions. CareLine, a personal care telephone service, provides 24/7 health and social support to vulnerable seniors in need of urgent assistance while keeping them safe and healthy at home. The Health Peers Programme is a partnership with community stakeholders and government agencies to encourage residents to lead healthier lives.

2015

The Integrated Building (IB), jointly run by CGH and St Andrew's Community Hospital (SACH), was opened, providing a new model of care to optimise rehabilitation for patients.



Above: The CGH dementia ward is one of the unique care facilities at the Integrated Building.

2018

CGH joined the SingHealth Duke-NUS Academic Medical Centre (AMC) family as part of the nation's reorganisation of the public healthcare system into three integrated clusters, to better meet Singaporeans' future healthcare needs. CGH's new Medical Centre is opened, enhancing specialist care by providing care to patients with complex medical conditions in a more integrated way.



Above: The CGH Medical Centre provides enhanced specialist care for patients.

# CHANGI GENERAL HOSPITAL

2023 ● CGH celebrates 88 years of trusted care.



Check out past clippings on CGH here.

Right: CGH continues its culture of care for patients over the years.



Photos: CGH archives

## From past to present – the hospital that cares

Changi General Hospital (CGH) celebrates a legacy of clinical excellence and trusted care since 1935.

In 2023, CGH commemorates its legacy of care with the unveiling of its 88th anniversary logo. The remarkable and progressive evolution of the hospital over the years is built on a strong foundation laid by former healthcare leaders, staff and patients, and further strengthened by the current CGH care team. The hospital is now

ranked among the World's Best Smart Hospitals 2023, World's Best Specialized Hospitals 2023 and World's Best Hospitals 2022 (Singapore) by Newsweek and data firm Statista. It is thus apt to encapsulate the continual commitment, dedication and passion of the

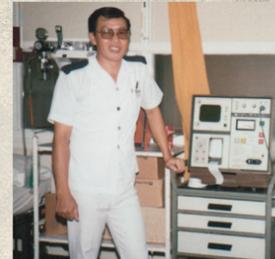


hospital care team in providing care at every touchpoint, from the moment patients enter the hospital, to their recovery and return home to their families, through the hand and heart icons in CGH's 88th anniversary logo. The skyline of the hospital within the logo also depicts CGH's transformational work since 1935 as the Trusted Care Partner, Innovating Healthcare for Tomorrow.

To honour the enduring contributions and experiences of former and present staff, donors, patients and the community, CGH also launched the **Memories of CGH – Legacy of Care** initiative, calling upon the community to share their treasured memories and memorabilia of CGH, the former Toa Payoh Hospital and former Changi Hospital.



Left: CGH's 88th anniversary logo.



## MEMORIES of CGH – Legacy of Care

Share your memories and care experience at the former Changi Hospital, former Toa Payoh Hospital or Changi General Hospital! What makes the hospital unique? How did the healthcare services at these hospitals compare to the care of today?



SCAN THIS QR CODE TO SUBMIT YOUR PHOTO(S) OR VIDEO(S) OF THE HOSPITAL ALONG WITH A DESCRIPTION OF YOUR MEMORY.

# DELIVERING CARE

## from Toa Payoh Hospital to Changi General Hospital

Changi General Hospital (CGH) Emeritus Professor Fock Kwong Ming shares first-hand insights on his 55-year journey in healthcare.



Prof Fock with framed photographs of classes he taught back at Toa Payoh Hospital.

With the restructuring of Toa Payoh Hospital (TPH) on 1 April 1990, the hospital embarked on new programmes to improve service and care. “We had a strategic planning exercise then where we came up with a statement to encourage staff to achieve a high standard of quality care, which was to provide a level of patient care and services good enough for our own mothers without the need for special arrangements,” says Prof Fock Kwong Ming, who was then Senior Consultant, Department of Medicine of TPH, which closed on 15 February 1997 and moved its staff and patients to New Changi Hospital.

### Stepping into healthcare

With a diverse and enriching career in healthcare over the past 55 years, Prof Fock is currently Emeritus Consultant, Department of Gastroenterology and Hepatology at CGH. He was formerly the Chairman, Medical Board (CMB), CGH, from 1999 to

2007 and helmed the Department of Medicine and Division of Gastroenterology at both TPH and CGH. In addition, he held several key positions in healthcare, as well as several chairing and advisory roles in various committees.

Prof Fock had decided to choose the medical vocation over another as he could do more helping people as a doctor. He was about seven years old when his 55-year-old grandfather suddenly developed diabetes, was diagnosed with liver cirrhosis and subsequently passed away from cancer of the liver. His uncle had asked Prof Fock to join him in finding a cure for horrible diseases. “Even if I can’t cure them, at least I can try to relieve their pain and suffering,” recalls Prof Fock of the motivations that shaped his thinking at the time.

As a medical student, he was always in a rush, but enjoyed meeting his fellow students by the palm trees of TPH in his final year.

“Something unique then was that we had tutorials on head injuries by neurosurgeons outdoors under the palm trees. It was hot but we learnt a lot.”

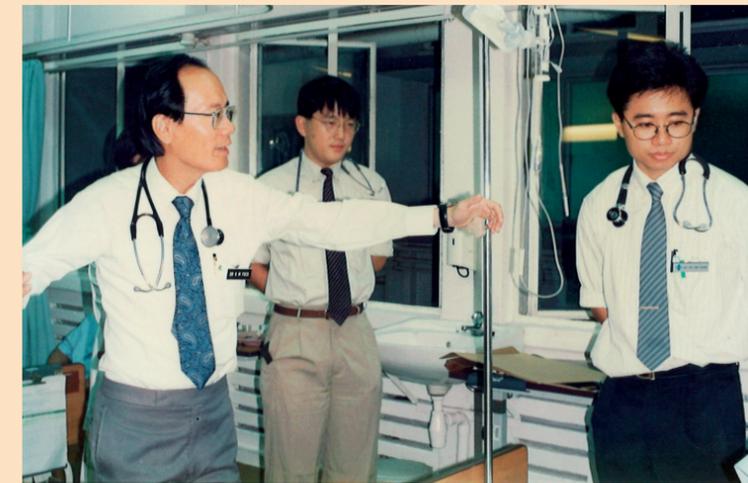
After graduating, Prof Fock was posted to TPH. A small hospital building that also contained living quarters for staff, the various care team members knew each other well, giving the hospital a very homely feel. “Many of our patients and staff followed us from TPH to the New Changi Hospital despite the distance; they shared that they liked the culture.”

### Challenges of the time

There were several challenges in healthcare in the early days, recounts Prof Fock. Firstly, infrastructure requirements were growing rapidly. With the Toa Payoh and Ang Mo Kio towns being developed around TPH and more residents moving in, there was a need for a bigger hospital to house the rising number of new patients.

The need for more healthcare manpower was another challenge, with a growing demand for more doctors, nurses and allied health professionals. TPH was contributing to the supply of nurses in Singapore with the opening of the School of Nursing for Pupil Assistant Nurses in 1965, where Prof Fock was invited by the nurses to give lectures at. He also taught medical students, a number of whom have gone on to become heads of medical departments around Singapore.

The 1980s were characterised by rapid growth and expansion. With the 400-bed TPH running at full capacity in the mid-1990s, patients had to be transferred to other hospitals, necessitating the move to a bigger hospital. In 1989, there was news that TPH would be moving to a new site. Prof Fock was nominated to serve on the Hospital Planning Committee, planning for a shift to a larger site at Toa Payoh Rise and subsequently Bedok Reservoir. As the area around Bedok Reservoir was not developed at that time and infrastructure was lacking, Prof Fock suggested a location nearer to an MRT station instead. This would ultimately end up as CGH’s present location.



Prof Fock training medical students on his ward rounds at TPH.

In the 1990s, there was a change of hospital administration — from a model left behind by the British colonial authorities, to an American model. TPH was the second public hospital in Singapore then to undergo the restructuring.

### Transitioning to Changi

Several months after the soft opening of the New Changi Hospital in 1997, staff and patients from the old Changi Hospital moved over to the new building. Most of the patients from the old Changi Hospital were chronic patients,



Prof Fock reminisces on his healthcare journey at Toa Payoh Hospital.



Prof Fock having joy at work with a karaoke session with colleagues.

a contrast to the acute patients at TPH. The care teams worked very closely together to align their routines and practices, and ensure smooth operations. “It is not about the building, but the people. There is a strong family spirit and bonding among the CGH staff and even patients, which continues till today. This is something intangible and valuable,” says Prof Fock.

The medical services and specialty centres at the New Changi Hospital also had to be scaled up to keep in pace with the constantly growing demand. Prof Fock also focused on introducing outpatient specialist clinics for continuity of care and scheduling of elective procedures to improve patient outcomes.

“We made promises to our patients, namely to provide the population in the east with 90% of their medical needs,” says Prof Fock, in his role as the CMB of CGH at that time. “For that to happen, we had to ensure that we had the various medical disciplines that we did not have in TPH, such as dermatology, rheumatology, oncology, otolaryngology (ear, nose and throat), ophthalmology (eye) and psychiatry.”

In addition, CGH introduced surgery services such as in-house neurosurgery, vascular and plastic surgery. “The critical issue was balancing the population health needs with the infrastructure and manpower available,” he highlights.

With healthcare constantly evolving, Prof Fock and his team recognised the importance of innovation, publication and teaching. \$1 million was put into clinical research at CGH at that time, enabling researchers to compete at the national level for funding for further research. Besides healthcare development, Prof Fock



Left: Ms Kaneswary continues to care for her patients over almost four decades as a nurse.

**Having looked after patients — from TPH to CGH — over a span of 38 years, Nursing Assistant Director Kaneswary tells us about her nursing journey.**

## A COMMITMENT to care throughout the years

Below: Toa Payoh Hospital and the old Changi Hospital moved to the Simei site where Changi General Hospital now stands.



Photos by Prof Fock and Ms Kaneswary

also encouraged the staff to sharpen their administrative skills to equip themselves with the tools to lead teams better.

Reflecting on how healthcare has changed over the decades, Prof Fock recognises that patient care has also evolved. “Previously, it was us looking after your needs. Now, it is about gaining your trust that we are able to look after your needs.” CGH’s vision today encapsulates it all — Your Trusted Care Partner, Innovating Healthcare for Tomorrow.

“It was a new environment for us. There was the fear of the unknown, and we were not sure how we would manage.” These were Nursing Assistant Director Kaneswary d/o Kandasamy’s first thoughts when she and her team learnt that they would be moving from the former Toa Payoh Hospital (TPH) to a new custom-built general hospital facility in the heart of eastern Singapore at Simei.

But they quickly overcame their apprehensions and got down to work. “Thankfully, with the strong support of the team, we managed to share and exchange our ideas, and build a caring culture that resonates with the new hospital,” she recalls. The move was a good fit for Ms Kaneswary, as the new hospital’s caring culture nicely aligned with her own nurturing instincts.

What first sparked Ms Kaneswary’s interest in nursing was a chance encounter when she was a teenager. She was walking about in a mall when a frail elderly lady suddenly stumbled and fell in front of her. Without a second thought, she went forward to help, and the lady’s gratitude touched her, stirring up an innate desire to do something different and rewarding to help people. “That was the first time I felt the calling to be a nurse and care for the people around me,” she recalls.

Initially, Ms Kaneswary faced resistance and concerns from her family members about her decision, but she steadfastly stood by her choice. She started off as a Pupil Assistant Nurse (the equivalent of the current ITE nursing student training) and became an Enrolled Nurse upon the completion of her training. In 1985, she joined TPH and cared for patients undergoing surgery as well as those with orthopaedic conditions. “It has been a fruitful 38 years for me as a nurse, and never did I once regret my decision to embark on nursing as my lifelong career,” she says with a smile.

### Keeping up with evolving healthcare needs

The wards have undergone transformations over the years. In the past, an open-ward concept enabled nurses to see all the patients on one floor at a glance. Today, wards are built to meet the various needs of patients, with increased privacy and attached toilets. Recording of patient information has also evolved, going paperless and digital, resulting in improved data security and easier access.

Nevertheless, the smaller TPH brings back fond memories for Ms Kaneswary, who remembers the nice and cosy working environment where she could meet colleagues along ward corridors every day, and catch up over friendly chats at the hospital cafeteria.

She also observed the shift in emphasis on the continuity of care after patients’ hospital stays in the last decade, as the patient profile has become more senior, with multiple diseases or chronic conditions. “The amount of engagement with community partners has increased tremendously at CGH,” she reveals. “We believe in caring for patients in their journey from the hospital to the community so that they stay healthy — and now this has become key to adopting a preventive healthcare approach.”

Below: The award-winning innovative pillow was featured in *Lianhe Zaobao* in 2001.



### Innovating healthcare

Innovation was already a buzzword at TPH. Besides providing nursing care, Ms Kaneswary was involved in multiple projects as part of the Quality Circle since 1994 — the equivalent of the modern-day Quality Initiatives programme, which involves the development of projects to improve patient care, safety and staff satisfaction.

A memorable initiative at CGH was conceived from the feedback of patients, who shared that they were experiencing abdominal pains after surgery despite taking painkillers. Working at the post-surgical ward at that time, Ms Kaneswary's team came up with a prototype of a pillow that was waterproof, absorbent and comfortable. The pillow prevented the abdominal muscles from excessive movement arising from coughs and sneezing.

Upon trialling the product with patients with favourable results, the team worked with a partner to make more of the pillows for wards. These helped relieve patients' pain, enabling them to consume fewer painkillers, and gave them a better sense of security knowing that their surgical wounds were protected. Some of the patients were keen on bringing the pillow home, and some patients' children even asked for it. The innovation won the Three-Star Award at the National Quality Circle Convention in 2001. "This successful and positive intervention motivated me to work on more projects to help our patients," she adds.

### Advancing as a nursing leader

An avid learner, Ms Kaneswary underwent training to be a Registered Nurse, and later took an Advanced Diploma in Midwifery, a part-time degree course in Nursing, a Master's in Health Science Management and a Graduate Diploma in Health Care Leadership Management, progressively climbing the nursing ranks.

As Assistant Director of Nursing at CGH, Ms Kaneswary currently works with a multi-disciplinary care team to oversee patient care in the surgical-orthopaedic wards from hospital to home. She is still actively involved in improvement projects that enhance the quality, productivity and safety of patient care, staff and the hospital.

Medicine and care delivery are evidence-based today as patients are more educated. "As the trusted care partner, CGH continually deepens our clinical expertise through research, innovation and education, so that we can provide the best care for our patients," Ms Kaneswary explains.

### Going the extra mile for patients

Providing exemplary care for patients is not foreign to Ms Kaneswary, who attained her very first nursing accolade in 1992 as TPH's "Most Courteous Staff". She has since bagged 18 more awards, including the National Day Award Commendation Medal in 2022. "The awards inspire me in my work and give me contentment, but ultimately, it is most fulfilling when my patients receive the help they need," she says.

On what makes CGH special in the hearts of patients and staff, Ms Kaneswary shares, "At CGH, our care team members go the extra mile and do our best for our patients and colleagues." And to her peers and the next generation of nurses, she affirms, "Nursing is an excellent job! Continue to put in the hard work and you can succeed."

#### COURTESY IS SHOWING CONCERN



*"Firstly, service with a smile. Secondly, remembering those little things that we tend to neglect when in haste — such as greetings, making time to stop for a few moments to say a kind word, to console, or to cheer up a patient."*  
— A N Kaneswary d/o Kandasamy, Ward 4, Most Courteous Staff Award Winner

Left: Ms Kaneswary was featured in *Caring* in 1992 for receiving the Most Courteous Staff Award in TPH.



Scan the QR code to hear from our care team members as they share their memories of our heritage.

# Advancing Correctional Medicine in Singapore

Changi General Hospital (CGH) receives a boost in its research and education efforts to professionalise Correctional Medicine.

Driving research, innovation and education, CGH has forayed into non-traditional research areas, one of which is Correctional Medicine, that will help extend its reach in, and care for the community.

A developing medical discipline around the world, Correctional Medicine encompasses the holistic delivery of healthcare to the inmate community and plays a key role in social rehabilitation. Inmates are now cared for by a multi-disciplinary care team comprising primary care doctors, specialists, correctional health nurses and allied health professionals who look after their physical and mental health needs.

The Correctional Medicine programme led by CGH aims to

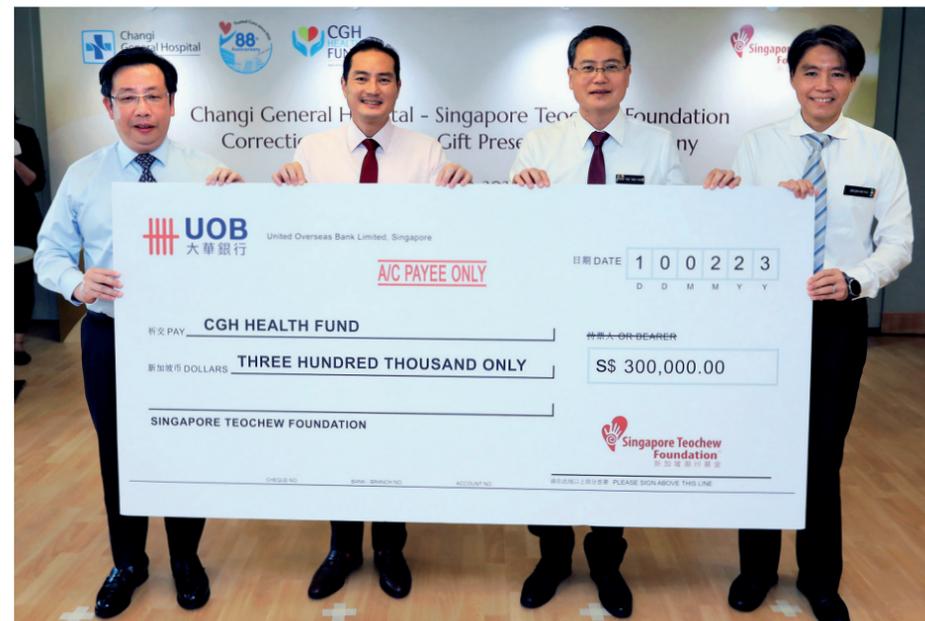
professionalise the practice, achieve evidence-based and quality care in an efficient and effective manner, and help ensure the continuity of care post-release.

With the Healthier SG strategy, continued and preventive care has become more crucial than ever to maintain the health and well-being of the inmate community, which also helps to minimise the risk of readmission. Help and resources are available for inmates after their release. Inmates who continue to need medical care after their release are referred to CGH's outpatient specialist clinics, or another public healthcare institution for follow-up treatment.

### A gift of support from the community for the community

In caring for the community, the Caring General Hospital also received a gift of support from the community. The Singapore Teochew Foundation presented a gift of S\$300,000 to the CGH Health Fund, in support of the research and education efforts towards Correctional Medicine in Singapore.

Professor Ng Wai Hoe, Chief Executive Officer (CEO), CGH, says, "We are heartened by the strong support of the community, and generous gift from the Singapore Teochew Foundation, augmenting CGH's stalwart efforts in caring for its communities. Our conviction is that effective reintegration into society requires good health. The science of Correctional Medicine is complex as it involves a myriad of considerations, including socio-economic factors. We will continue to collaborate with partners to provide not just integrated medical care and clinical governance, but also systematically develop and advance Correctional Medicine in Singapore and the world."



Mr Tan Kiat How, Senior Minister of State, Ministry of Communications and Information & Ministry of National Development, and Advisor to East Coast GRC GROs (second from left) witnessed the gift presentation by Mr James Teo, Chairman, Singapore Teochew Foundation (far left) to Professor Ng Wai Hoe, CEO, CGH (second from right), on 10 February 2023. With them is Dr David Ng, CEO, SingHealth Polyclinics (far right).



Scan the QR code to read more.



By Clinical Assistant Professor Eugene Wong, Consultant, Department of Gastroenterology and Hepatology, CGH

**The liver is an important organ that:**

- Processes and stores the nutrients we consume;
- Manufactures important physiological products such as cholesterol, bile or clotting factors;
- Breaks down toxins in the blood and excretes or transports them back into the blood as bile.

When the liver is damaged or inflamed, these functions can be affected.

**LIVER CIRRHOSIS**

Liver cirrhosis is a condition where the liver becomes scarred and is unable to function normally. This can be caused by a variety of factors, including viral hepatitis, non-alcoholic fatty liver disease and long-term alcohol use.

Symptoms of cirrhosis include fatigue, weakness, loss of appetite, weight loss, nausea, yellowish discolouration of the skin and eyes (jaundice), bruising or bleeding easily, confusion, drowsiness, slurred speech, and swelling in the legs and abdomen. Liver cirrhosis can be detected through radiography imaging methods

such as ultrasounds, magnetic resonance imaging (MRI) or computerised tomography (CT) scans, as well as through biopsies — the removal of a small sample of liver tissue for analysis.

If not managed or treated, cirrhosis can result in complications such as liver cancer, gastrointestinal bleeding, kidney failure, infections, increased risk of blood clots and liver failure, all of which can be life-threatening.

Patients with liver cirrhosis may also develop ascites (fluid accumulation in the belly). Ascites can be treated

**SYMPTOMS OF LIVER CIRRHOSIS**

 Fatigue, weakness	 Loss of appetite	 Weight loss	 Nausea, vomiting	 Dark urine
 Yellowing of the skin and eyes (jaundice)	 Nasal bleeding, gums bleeding	 Bruising and swelling	 Slurred speech	 Constipation, diarrhoea

procedures that treat disorders of the liver, pancreas, gallbladder and bile duct, and interventional radiologists are conducted to help reduce the number of hospital visits and decrease waiting times for patients.

Other disciplines such as urology also help to provide holistic specialised services to patients. For example, in patients with chronic pancreatitis, stones in the pancreatic duct will undergo extracorporeal shockwave lithotripsy (fragmentation of the stone by ultrasound technique) by urology specialists who have the expertise and experience in this technology. Subsequently, advanced endoscopists will perform therapeutic endoscopy to clear the stone fragments from the pancreatic duct.

**Advancing clinical research**

To advance medical care for patients, the CGH care team regularly contributes to the scientific community through research collaborations and publications in numerous high-impact medical journals. “CGH doctors have also been invited to teach and share their clinical knowledge at local and international medical conferences,” says Clin Assoc Prof Kwek.

One recent collaboration was with researchers from Hong Kong and Thailand on a randomised controlled study comparing the effectiveness of hemostatic powder and standard treatment in the control of acute upper gastrointestinal bleeding. The study was published in the *Annals of Internal Medicine*, a high-impact factor medical journal, in 2022.

**Multi-disciplinary care**

At CGH, complex conditions are discussed at multi-disciplinary meetings to facilitate the best care approach for patients with them. In addition, joint or sequential clinic consultations between the gastroenterologists, hepatopancreaticobiliary (HPB) surgeons — who perform

acute and chronic liver disease, as well as liver cirrhosis, among many others.

“Our services are led by established specialists with expertise and training in their fields, and supported by modern equipment and facilities,” says Clinical Associate Professor Andrew Kwek, Head and Senior Consultant, Department of Gastroenterology and Hepatology, CGH. “Patients can look forward to a comprehensive assessment and patient-centred management, based on their clinical condition and needs.”



Clinical Associate Professor Andrew Kwek.

# LIVING BETTER WITH A HEALTHY LIVER

**Gain a deeper understanding of liver and digestive health and disorders.**

While liver disorders such as fatty liver, hepatitis, and procedures related to the digestive system such as endoscopies are more commonly known, the terms ‘gastroenterology’ and ‘hepatology’ might not be as widely recognised.

Changi General Hospital’s (CGH) Department of Gastroenterology and Hepatology provides care for patients with gastrointestinal and liver disorders, including gastrointestinal bleeding, inflammatory bowel disease,

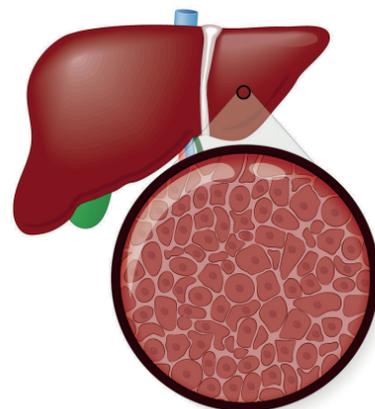
**GASTROENTEROLOGY**

The field of medicine focused on the digestive system and its disorders.

**HEPATOLOGY**

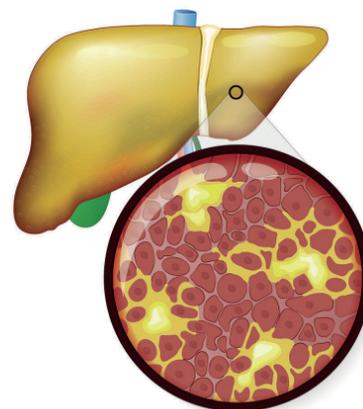
The field of medicine concerned with the structure, functions, diseases and abnormalities of the liver.

### Healthy Liver



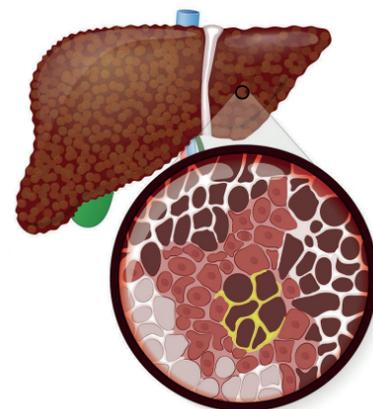
Healthy liver cells

### Fatty Liver



Excess fat builds up in the liver

### Cirrhosis



Cell death and inflammation



Read more about NAFLD here.



Find out more about liver cirrhosis here.

in various ways, such as medication, drainage of the ascitic fluid, insertion of artificial shunts that bypass the diseased liver (TIPSS) which relieves fluid build-up, and liver transplantation.

A study conducted by CGH showed that the rapid removal of ascitic fluids using a drainage catheter (within 24 hours) was associated with a lower risk of bacterial infection and kidney injury. At CGH, patients with ascites have the option to undergo the drainage of ascitic fluids and be discharged within the same day.

To prevent liver cirrhosis, avoid consuming excessive alcohol, get vaccinations against hepatitis A and B, practise safe sex to prevent hepatitis B and hepatitis C, maintain a healthy diet and exercise regularly. For patients with cirrhosis, it is important to see a doctor regularly and follow their treatment plan. Treatments may include medications, lifestyle changes, and in some cases, a liver transplant.

### NON-ALCOHOLIC FATTY LIVER DISEASE

Non-alcoholic fatty liver disease (NAFLD) is a condition where excess fat accumulates in the liver of people who consume little or no alcohol, causing it to enlarge and function abnormally. This is one of the two main forms of fatty liver diseases, the other being alcohol-induced fatty liver disease, which is caused by heavy drinking.

Obesity, high blood sugar levels, hypertension, high cholesterol and diabetes are some of the common causes of NAFLD. Symptoms of fatty liver can be subtle and may include fatigue and abdominal discomfort. Some individuals with NAFLD can develop non-alcoholic steatohepatitis (NASH), an aggressive form of fatty liver disease. Patients with NAFLD may develop progressive liver disease leading to advanced scarring (liver cirrhosis) and liver failure. Furthermore, NAFLD patients also have a higher risk of developing cardiovascular-related complications such

as heart attack or stroke, and cancers.

Similar to liver cirrhosis, NAFLD can be diagnosed through a range of methods such as imaging studies, blood tests and biopsies.

If not managed, NAFLD can lead to more serious problems if it progresses into liver cirrhosis. However, if properly treated and if the condition has not worsened to an irreversible stage, the liver has the ability to repair itself.

Treatments for fatty liver typically focus on addressing the underlying cause, and include weight loss and lifestyle changes to improve diet and exercise. To maintain a healthy liver and avoid fatty liver disease, it is important to maintain a healthy lifestyle, such as a balanced diet low in carbohydrate and high in fibre, regular physical activity, and limiting alcohol consumption. Avoiding exposure to toxins and undergoing regular liver function tests to monitor liver health also help prevent fatty liver disease.



When paracetamol causes more pain than relief

When people have a headache or fever, a common medicine to take is painkillers. Many of these medicines are easy to obtain and often contain paracetamol. While it might be tempting to take more of these medicines to help with the aches, an overdose of paracetamol can cause liver injury, which is a potentially serious condition.

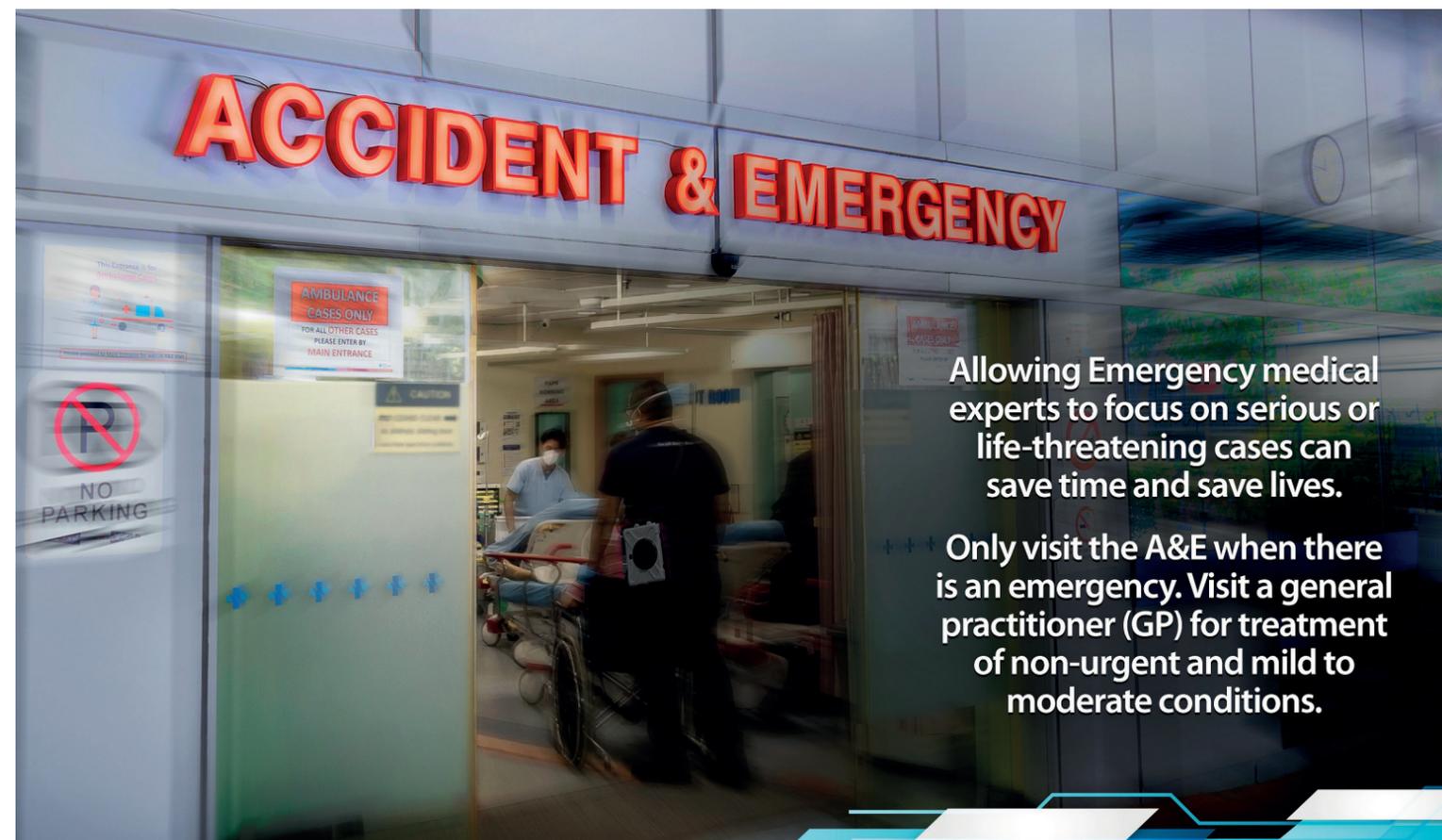
The recommended dosage is up to four grams, or eight tablets, of paracetamol daily. Outward symptoms of overdosing on paracetamol include nausea, vomiting,

abdominal pain and dizziness. The diagnosis of paracetamol overdose-related liver injury is typically based on a combination of symptoms, medical history and blood tests to measure liver function and paracetamol levels.

Treatment for paracetamol overdose-related liver injury may include:

- **Antidote therapy:** N-acetylcysteine (NAC) may be administered to help prevent liver damage by neutralising the toxic effects of paracetamol.
- **Intensive care:** Patients with severe liver injury may require intensive care and close monitoring, as well as frequent blood tests to assess liver function.
- **Liver transplant:** In some severe cases of liver injury, a liver transplant may be necessary.

It is important to seek immediate medical attention if you suspect you have taken an overdose of paracetamol. Early treatment can be critical in preventing serious liver injury and improving outcomes.



Allowing Emergency medical experts to focus on serious or life-threatening cases can save time and save lives.

Only visit the A&E when there is an emergency. Visit a general practitioner (GP) for treatment of non-urgent and mild to moderate conditions.

# A JOURNEY OF UPS AND DOWNS

Gain a better understanding of bipolar disorder — a mental health condition.

**25**-year-old Dennis\* had just completed his undergraduate degree and started a new job at a large firm. His family noticed that he was slightly more irritable than usual, but put it down to the stress of a new job and did not think much of it.

In fact, Dennis had been catching only about an hour of sleep — if any at all — and was skipping most of his meals, which resulted in him losing a significant amount of weight. Initially, Dennis' employers had praised his productivity, but they soon grew frustrated with his lack of focus on projects assigned to him. Things came to a head when Dennis was arrested for attempting to steal jewellery; he was found to be in an extremely elated state, proclaiming that these items were his "birthright".

Dennis was brought to an emergency department for assessment by a doctor. The doctor found him to be highly energetic, irritable, impulsive, overly familiar and speaking very fast. After conferring with his family, the doctor also ascertained that a few years previously, Dennis had an episode of severe low mood that lasted for weeks. He was tired and lethargic all the time, could not get out of bed, barely ate or slept, found no enjoyment in his usual hobbies, and frequently talked about wanting to end his life. That was attributed to relationship problems at that time, and Dennis eventually recovered slowly over a few months. With evidence pointing to a relapse after the recovery, Dennis was diagnosed with bipolar disorder.

**DID YOU KNOW**

Some 40 million people globally, and 1 to 2 out of every 100 Singaporeans, suffer from bipolar disorder, with a higher prevalence in younger age groups.



**Experiencing highs and lows**

Dennis is an illustration of an archetypal bipolar disorder patient, who experiences distinct episodes of extreme high moods, known as manic episodes, and extreme low moods, known as depressive episodes, each lasting days to weeks.

There is presently no clear cause of bipolar disorder, but a family history of bipolar disorder increases an individual's risk of developing the illness. Social factors such as marital discord and unemployment could also be both contributory factors and outcomes of such mood problems.

**Identifying and managing the issue**

At Changi General Hospital (CGH), the Department of Psychological Medicine diagnoses patients through clinical interviews, with thorough histories obtained from both patients and their caregivers, to identify the

\*Based on a generalisation of a patient's account.

By Dr Arvind Rajagopalan, Resident, Department of Psychological Medicine, Changi General Hospital



clinical features of the illness. Psychiatrists might also use objective rating scales such as the Bipolar Depression Rating Scale (for symptoms of low mood) or the Young Mania Rating Scale (for symptoms of high mood) to identify symptoms and assess their severity. It is advisable for those with symptoms to seek medical attention promptly, as early identification and treatment of the condition greatly improves treatment outcomes.

Medications for treatment include mood stabilisers which target both extreme elated and depressed moods. Some also benefit from concurrent anti-depressants or sedatives. Patients may benefit from interpersonal and social rhythm therapy, where a therapist works with the patient in identifying disruptions in rhythm — such as changes in sleep patterns that can provoke relapses in bipolar disorder — and teaches them how to maintain routines to minimise these kinds of disruptions. Medical social workers may also be involved in the care of patients to manage contributing social factors, such as familial or marital discord, and difficulties in maintaining schooling or employment.

**Caring for persons with bipolar disorder**

Caring for a loved one with bipolar disorder can be a challenge, as their moods are unpredictable and cause stress and anxiety at home. There are some basic things caregivers can do to not only help your loved ones, but yourselves as well.

- Encourage your loved ones to follow their medication prescriptions and attend clinic appointments regularly. Good treatment adherence can enable patients to lead fulfilling lives. Be aware of early signs of relapse, such as reduced sleep, unexplained fluctuations in mood, persistent irritability and impulsivity.
- Know how and where to seek help for your loved ones. The Samaritans of Singapore (SOS) has a 24-hour mental health hotline (1-767), while the Institute of Mental Health (IMH) has a 24-hour Mobile Crisis Team (6389 2222). Patients can also be brought to any hospital's emergency department for assessment by a doctor.



Feeling overly happy for long periods of time | Speaking very quickly with racing thoughts

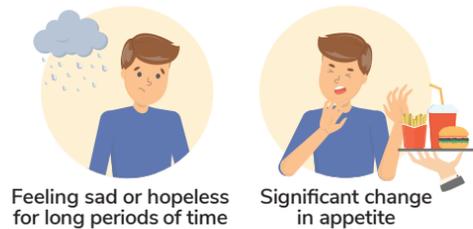


Becoming easily distracted | Engaging in risky behaviour (e.g. gambling) | Overconfidence in abilities

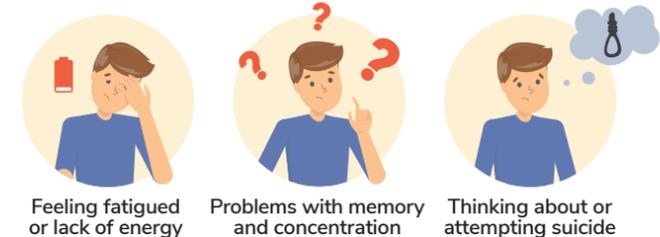
**MANIC EPISODES (extreme high moods)**

**BIPOLAR DISORDER SYMPTOMS**

**DEPRESSIVE EPISODES (extreme low moods)**



Feeling sad or hopeless for long periods of time | Significant change in appetite



Feeling fatigued or lack of energy | Problems with memory and concentration | Thinking about or attempting suicide

- Be mindful of your own mental health and seek help if necessary. Caregivers are the most important members of patients' support networks. Organisations such as the Caregivers' Alliance (CAL) routinely organise counselling sessions and support groups for caregivers of patients with mental health conditions.

With good adherence to treatment and strong caregiver support, it is possible for patients to achieve full remission, with recent studies suggesting that one-third of patients can achieve remission within two years.

# Optimising outcomes for hip fracture patients

**Changi General Hospital (CGH) has initiated a new anaesthesia outreach service to improve pre-operative care and shorten waiting time for surgery.**

For many seniors, experiencing a fall could result in a hip fracture — a potentially life-changing condition that can severely affect one’s ability to carry out regular activities. Treatment options are either surgery or conservative management, which entails recovery in bed for an extended time. Delaying surgery puts hip fracture patients at a higher risk of developing serious medical issues.

Anaesthesia plays an important role in enabling hip fracture surgery to be performed safely and comfortably for patients. Conventionally, the anaesthesiologist assesses a patient’s fitness to proceed



**CGH ADMITS ABOUT 500 PATIENTS WITH HIP FRACTURES EACH YEAR.**

**MORE THAN 90% OF THESE PATIENTS UNDERWENT OPERATIVE TREATMENT IN THE LAST THREE YEARS.**



Anaesthesiologists play an important role in ensuring that hip fracture surgery is performed safely and comfortably for patients.



“By thinking out of the box, redesigning processes, and strengthening multi-disciplinary collaborations, the perioperative anaesthesia outreach service set up by Changi General Hospital drives big changes in perioperative outcomes so that our patients can undergo surgery sooner, regain comfort and return home faster.”

**Adjunct Assistant Professor Mah Chou Liang**, Chief and Senior Consultant, Departments of Anaesthesia & Surgical Intensive Care, and Project Leader, CGH

only after surgery has been decided on. At this stage, it may be too late to optimise the conditions for surgery for patients with multiple and complex health issues. Challenges in optimisation are often balanced against the need to expedite surgery, and extra time may be required for investigations or to engage patients further on decisions based on the benefits and risks of anaesthesia, resulting in a later surgery.

### Anaesthesiologists’ role in streamlining patient care

With an ageing population, the likelihood of hip fractures occurring will continue to rise. A team of CGH anaesthesiologists has spearheaded a new initiative in implementing anaesthesia care by a senior doctor early in a patient’s journey with the hospital.

Under the hospital-wide initiative, the team developed an anaesthesia perioperative outreach service focused on providing proactive anaesthesia consultations within the first 24 hours of a patient arriving at CGH. Sometimes, this is

carried out even before the patient is admitted to an inpatient ward or before it is determined that the patient would require surgery. This enables patients to safely undergo their emergency surgery earlier, which in turn aids their recovery of mobility and quality of life.

By breaking the convention of staying within the realm of the operating theatre, CGH’s anaesthesiologists now play a larger role alongside other disciplines in frontline emergency care, with enhanced communication and collaboration for more streamlined patient care.

**Over 1,000 patients have benefitted from the service since it started in 2020.** Besides undergoing surgery earlier, they generally had a shorter hospital stay and the number of mortalities and critical care admissions was reduced. Patients also benefitted from earlier interventions for pain relief.

### AWARD-WINNING MULTI-DISCIPLINARY CARE

The CGH Perioperative Anaesthesia Team won the Best Team Award at the Singapore Health Quality Service Awards 2023 for their innovative initiative with impactful results. Consisting of members from medical, nursing and administrative roles, the multi-disciplinary makeup of the value-driven care team of the hip fracture pathway reflects the importance of collaboration across the different health disciplines involved in a patient’s care journey.

The award-winning team members hail from multiple subspecialty groups within CGH’s Department of Anaesthesia & Surgical Intensive Care, the Department of Orthopaedic Surgery, Department of Geriatric Medicine, and the Office of Improvement Science, Centre of Performance Excellence.





# Caring For You to Better Health

Our clinical specialists play a vital role in diagnosing illnesses, medical conditions or injuries, creating personalised care plans and administering treatment to maintain or restore health and well-being of our patients.

Our doctors are researchers, innovators, scientists, and educators, trained in a comprehensive range of medical specialties and services to care for you to better health. They drive new discoveries, improve outcomes, and uncover new knowledge to transform healthcare for the better health of our community, now and for tomorrow.



Changi  
General Hospital  
SingHealth