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IN-DEPTH

1 Stepping up care for seniors

Learn about CGH's latest advances in geriatric medicine and care to enhance the health and well-being of seniors

INSPIRED

7 Transforming lives through research and innovation

Discover the significance of CGH's frailty research and the impact of robotic innovations on older adults

IN THE COMMUNITY

8 Translating medical experiences into art

The CGH care team offers a contemporary diagnosis of renowned artist Frida Kahlo's health conditions

IN THE SPOTLIGHT

10 A lifelong pursuit of excellence

An exemplary clinician, a zealous educator and an advocate for patient safety — CGH Clin Assoc Prof Peter Lu sheds light on his illustrious healthcare journey



10



1

IN THE MIND

14 Focusing on ADHD

Debunking myths on Attention Deficit Hyperactivity Disorder



16

IN PERSON

16 Hidden heroes

Gain insights into how CGH care team members secure your health and engineer excellence at work

IN ADDITION

20 Piling on the pressure

Don't let piles be a pain in the rear — get to know this condition inside out

ISSUE 2 2024

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STEPPING UP CARE FOR OUR AGEING POPULATION

Delve into Changi General Hospital (CGH)'s latest advances in geriatric medicine and care, with strategies and solutions designed to enhance the health and well-being of seniors.



A multi-disciplinary team assessing a senior at the Geriatric Day Hospital.

With a rapidly ageing population, Singapore is faced with an increase in the unique healthcare needs of older adults. Geriatric medicine focuses on the healthcare needs of the seniors, who often are frail and tend to have multiple medical issues, and face physical, functional and social challenges. Addressing these challenges requires a multidimensional approach and multiple interventions to achieve good clinical outcomes.

Geriatric medicine at CGH began in 1998. It expanded to over 190 beds across five acute geriatric wards and a stroke rehabilitation ward, as well as a subacute ward when the Integrated Building opened in 2015. The Integrated Building provides a seamless healing environment for patients across hospital and rehabilitation settings, including the eventual

transition of patients back to their homes. The CGH Department of Geriatric Medicine collaborates with various specialties such as orthopaedics (orthogeriatric service), general surgery (geriatric surgical service), the Emergency Department, the Dementia and Delirium Outreach Team and the acute medical unit to deliver care to seniors.

In 2005, CGH set up the Community Geriatrics Service with a focus on establishing systems of

comprehensive care for older adults beyond the hospital setting.

"CGH's comprehensive range of integrated geriatric services will continue to grow and innovate to meet the evolving needs of seniors, and their family members or caregivers. We are focused on delivering holistic person-centred geriatric care across the healthcare spectrum, from the emergency department and acute inpatient wards across all disciplines, to intermediate and long-term care institutions as well as the wider community," says Dr Goh Kiat Sern, Head, Department of Geriatric Medicine, CGH.

"CGH's comprehensive range of integrated geriatric services will continue to grow and innovate to meet the evolving needs of seniors, and their family members or caregivers."

Dr Goh Kiat Sern, Head, Department of Geriatric Medicine, CGH



A physiotherapist conducting a session at the Geriatric Day Hospital.

Geriatric Day Hospital

Singapore's only Geriatric Day Hospital (GDH) at CGH is helmed by an experienced team comprising geriatric-trained doctors, nurses, physiotherapists, occupational therapists and a medical social worker. The GDH allows for easy and quick access to assessments, investigations, medical treatments and rehabilitation for frail patients with a wide range of medical conditions. It offers a short-term programme that targets medical stabilisation and functional improvement for outpatient patients with complex medical needs — such as Parkinson's disease, frequent falls and strokes — to promote independence at home and reduce caregiver burden.

Before enrolment, a geriatrician assesses each patient for suitability. Once enrolled, patients undergo weekly half-day sessions that include physiotherapy and occupational therapy.



A CGH doctor having consultation with a senior at the Geriatric Day Hospital.

After a maximum of 12 sessions, patients make the transition to appropriate community-based services.

Caregivers play an integral part in the lives of older adults by providing care and assistance. Caring for patients with dementia can be stressful. To support patients with dementia and their caregivers, CGH launched the **GDH Engage Programme** in March 2021. This six-week programme combines cognitive stimulation therapy for patients and educational sessions on dementia progression, behaviour management strategies and caregiving resources, delivered by a multi-disciplinary team.

Community Geriatrics

The **CGH Community Geriatrics Service** aims to address the unique healthcare needs of older adults living in the community. This includes identifying and managing common geriatric conditions, reviewing chronic conditions, preventing disability, improving quality of life and promoting healthy ageing.



A patient learning to use exercise equipment under the guidance of the physiotherapist and doctor at the Geriatric Day Hospital.

"Through various meaningful programmes, our community geriatrics team supports older adults in the community, empowering them to live well, identify age-related health issues promptly, prevent or minimise disability, and maintain dignity as they age," says **Dr Samuel Ee, Associate Consultant, Department of Geriatric Medicine, CGH.**

"The multi-disciplinary team collaborates with community partners for sustainable and holistic care to meet their clinical, physical, mental, emotional and social needs." A comprehensive geriatric assessment is usually the first step to help identify the relevant needs of an older adult. Subsequently, individuals may benefit from interventions such as medication management, falls assessment and prevention programmes, advance care planning and — where appropriate — palliative care.

In addition, caregiver education, support and the coordination of care with other healthcare providers may be necessary as well to help them minimise and cope with burnout. These services aim to help older adults maintain independence, improve well-being, and enhance quality of life as they age in their own homes or community settings.

In caring for the community, CGH community geriatricians work in various settings including nursing homes and community hospitals, and also support community-based multi-disciplinary teams (such as community nurses and care coordinators). More complex patients require greater interdisciplinary collaborations with physiotherapists,

occupational therapists, care managers and social workers from various social agencies, as needed.

Community geriatricians also support the transitional care service in CGH known as **Hospital to Home**, whereby older adults with complex care needs are managed together with community nurses and allied health professionals in the home setting.

Community partners also include primary care physicians as part of the Geriatric Service Hub (GSH) model, where seniors are actively screened for age-related health issues, some of which require multi-disciplinary care. This is in turn supported by CGH community geriatricians, CGH community nurses and well-being coordinators.

CGH also works with nursing homes in Eastern Singapore as part of the **Enhancing Advance Care Planning, Geriatric Care and End-of-Life Care in the Eastern Region (EAGLEcare) programme**. **"EAGLEcare improves the delivery of geriatric and end-of-life care to nursing home residents, and empowers nursing homes to attend to residents who may be heading towards their last year of life so that concerns and options of care can be pro-actively discussed with family members,"** says **Dr Christopher Lien, Senior Consultant, Department of Geriatric Medicine, CGH.** "Towards the terminal stages of life, the team supports the care in nursing homes, helping residents to remain comfortable, meet their care preferences, and minimise avoidable hospital admissions."

The Geriatric Medicine Centre

The **CGH Geriatric Medicine Centre (GMC)** serves as a one-stop facility tailored to seniors experiencing complex medical conditions. Located on level 2 of the Integrated Building, the GMC comprises various specialty clinics for outpatient appointments and houses the Geriatric Day Hospital. The GMC manages approximately 23,000 visits a year.

These clinics are designed specifically to manage senior patients with multiple medical and geriatric conditions. Every new patient referred receives a comprehensive assessment to determine their care needs. These needs are then integrated into a personalised care plan. When necessary, patients may also be referred to other medical disciplines, dietetic and rehabilitative services, or even

external agencies, to assist in the management of care.

"Besides geriatric care, specialty clinics at GMC are run by psychogeriatricians, who are psychiatrists who tend to senior patients to address their psychiatric and behavioural issues," says **Dr Low Shou Lin, Senior Consultant, Department of Geriatric Medicine, CGH.** "This is complemented by psychotherapy conducted by psychologists and supported by occupational therapists. Dietetic clinics provide dietary and nutritional guidance for senior patients with poor oral intake and weight loss."

Additionally, trained nurses offer patient education on managing conditions like dementia and falls — which enhances patient and caregiver confidence — and following treatment plans.

CGH RUNS THE FOLLOWING CLINICS WITHIN THE GERIATRIC MEDICINE CENTRE:

- 1 Falls Clinics** assess and manage patients with falls.
- 2 Memory Clinics** are jointly run by geriatricians and psychogeriatricians. They provide specialised care for individuals experiencing memory impairments.
- 3 The Continence Clinic** assesses and treats senior patients with urinary incontinence, and provides education on bladder retraining and the use of continence aids.
- 4 The Frail To Fit Clinic** is specifically targeted at assessing and managing vulnerable frail seniors in a holistic manner.
- 5 The Stroke Clinic** provides post-stroke care to older patients. It addresses and optimises vascular risk factors, which include improving blood pressure, getting lipids to target levels, controlling diabetes, and ensuring that the patients are on a healthy diet that is modified to their needs.

- 6 The Parkinson's Disease Clinic** delivers proactive multidisciplinary care to seniors with Parkinson's disease, in partnership with neurologists from the National Neuroscience Institute and various allied health practitioners.
- 7 The Wound Clinic** is a clinic led by Advanced Practice Nurses and supported by geriatricians to manage senior patients with complex wounds.



Scan the QR code to find out more about the clinical services provided at the Geriatric Medicine Centre.

THE MULTI-FACETED ROLE OF NURSES IN GERIATRIC CARE AT CGH



Nurses encourage patients to sit out of bed and engage with social robots for physical activities during their hospital stay.

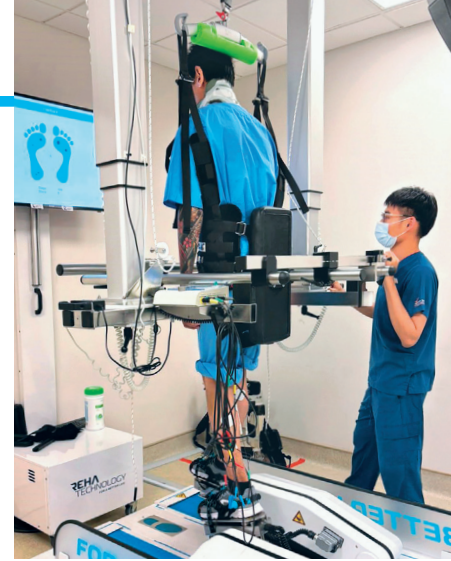
Nurses at CGH play a crucial and multi-faceted role in the care of senior patients, providing comprehensive services that meet the unique physical, emotional and social needs of this population. They assess and manage chronic conditions such as diabetes and dementia, and develop individualised care plans to enhance functional independence, mobility and overall quality of life.

“As a Nurses Improving Care for Healthsystem Elders (NICHE) member hospital, we are dedicated to driving geriatric nursing care to its apex, delivering compassionate, person-centered care that empowers seniors to thrive,” says Adjunct Associate Professor Png Gek Kheng, Chief Nurse, CGH.

One practical aspect of care involves promoting mobility among senior patients, which is crucial for maintaining physical health and independence during hospitalisation. A nurse-driven mobility protocol was put in place to promote mobility of the senior patients and to prevent functional decline. Activities such as assisting patients to sit out for meals and facilitating walking around the ward significantly enhances mobility and fosters social interactions, contributing to a robust community atmosphere and overall well-being.

Moreover, CGH nurses provide essential emotional support and counselling to both patients and their families, aiding them in navigating the challenges associated with ageing and chronic illnesses. This support is particularly vital for families of patients progressing through stages of dementia, offering guidance through the difficulties they face.

“Besides providing holistic and person-centred care, our nurses advocate for the rights and dignity of patients,” adds Dr Li Fuyin, Senior Nurse Clinician (Advanced Practice Nurse), CGH.



Advanced rehabilitation equipment aid senior patients in regaining independent functionalities.

Restoring strength, balance and mobility

CGH physiotherapists focus on helping senior patients regain strength, balance and mobility to maintain their function as long as possible.

“We emphasise on the importance of falls prevention and promote active lifestyles. Common issues faced by seniors include balance, which leads to falls and injuries, often necessitating surgery or immobilisation.

We harness advanced rehabilitation equipment and assistive robotic devices to facilitate movement rehabilitation. Our comprehensive evaluations of patients consider not just physical but also psychosocial factors, ensuring personalised care plans that are developed by the CGH multi-disciplinary care team. These plans may include exercise prescriptions and caregiver training to support patient needs in a comprehensive manner.

As part of preventive care under Healthier SG, our therapists work on optimising seniors’ functional independence, and equipping them with knowledge to maintain fitness and well-being when they are back at home and in the community.” **Lai Ka Ying, Principal Physiotherapist, CGH**

ALLIES IN RESTORING HEALTH AND WELL-BEING

Changi General Hospital (CGH) allied health professionals restore, maintain and enhance the physical, cognitive and social functions for patients’ overall health and well-being from hospital to home.



Speech therapists help patients understand and interact with their loved ones.

Empowering communication and swallowing

Speech therapists assist senior patients affected by conditions like dementia, stroke, and Parkinson’s disease, which can impair communication and swallowing.

“Our goal is to help these patients interact meaningfully with loved ones and ensure they can safely enjoy their meals. We manage patients across settings, from inpatient wards to outpatient clinics, and in the community, such as at their homes or nursing homes.

Many senior patients face difficulties due to weak hands or swallowing disorders, necessitating innovative devices like the CGH Drink-Ezy cup, which allows more independent drinking. We also use iPad applications to support communication therapy, helping stroke patients with word-finding difficulties and enhancing speech clarity and loudness.

Our approach is tailored, as we recognise the varied therapy needs of senior patients in light of the increasing challenges faced by those with Parkinson’s disease or dementia. By closely working with patients and their caregivers, we design specific interventions that address their unique situations.”

Lee Yan Qing, Principal Speech Therapist, CGH

Supporting daily activities through person-centred care

Occupational therapists at CGH assess and assist senior patients with cognitive impairments and daily activities, providing person-centred care.

“We view each patient as a unique individual, and consider their life experiences and personal values in our support strategies.

Patients with dementia often exhibit challenging behaviours, which we interpret as expressions of unmet needs. Our care includes educating families to understand and manage these behaviours effectively, enhancing the well-being of patients and easing caregiver burden.

Our goals are set collaboratively with patients and caregivers, and we aim to enable patients to live meaningfully in the community despite the challenges they may face. With Singapore’s ageing population, our role is crucial in helping seniors maintain dignity and in reducing the caregiving load on families.” **Lydia Thio, Occupational Therapist, CGH**



Occupational therapists help patients improve their daily function during their hospital stay.



A CGH nurse shares resources with a patient through a tablet.

Transforming Geriatric Nursing Care

CGH has adopted the **Fulmer SPICES**¹ model, which provides a comprehensive framework for geriatric nursing care that caters to the assessment of unique needs of senior patients who are hospitalised.

Fulmer SPICES stands for six key areas:

- Sleep disorders
- Problems with eating or feeding
- Incontinence
- Confusion
- Evidence of falls
- Skin issues

A series of evidence-based nursing protocols were implemented by CGH nurses for holistic and effective management of senior patients:

- Postural hypotension protocol to manage the condition and fall risks

- Mobility protocol
- Delirium care bundle to promote cognitive health in senior patients with dementia or delirium
- Pressure injury care bundle to promote skin health
- Sleep hygiene protocols for non-pharmacological management of sleep disturbance

Additionally, the Nurse-led Integrated Care for Elders (NICE) training programme has been implemented to equip non-geriatric ward nurses with the knowledge necessary to champion and manage geriatric care effectively, thus promoting best practices in clinical settings to deliver care that matters.

OPTIMISING SENIORS' HEALTH THROUGH NUTRITION

By Ms Chong Hui Hsien, Principal Dietitian, Department of Dietetics, CGH

As individuals age, their nutritional needs change, making optimal health maintenance increasingly important.

Factors like less-active lifestyles, poor digestion, reduced sensory perception, dental issues and swallowing difficulties can impact the ability of seniors to meet their requirements of calories, protein, fibre, vitamins and minerals. Changi General Hospital (CGH) dietitians specialising in geriatric nutrition play an important role in supporting seniors in achieving balanced nutrition and overall well-being.

Key nutritional challenges managed by CGH dietitians include:

- ▶ **Malnutrition:** It is common for seniors to lose weight and appetite as they age, which is not ideal. Carrying a little extra weight can be beneficial during illnesses or when appetite is poor. Dietitians work to prevent malnutrition through a personalised “food first approach” to nutrition and hydration, recommending food fortification and supplements as needed to enhance nutrient intake and prevent frailty.
- ▶ **Chronic Diseases:** Dietitians provide advice to manage diseases like diabetes, hypertension and heart disease, helping stabilise these conditions and prevent complications.
- ▶ **Swallowing and Dental Issues:** Collaborating with speech therapists, dietitians help manage suitable diets for those with swallowing difficulties, ensuring safety and minimising choking risks.
- ▶ **Dehydration and Constipation:** Advice on a fibre-rich diet and adequate fluid intake is given to prevent constipation and promote regular bowel movements. Staying hydrated is emphasised as seniors are prone to dehydration due to thirst perception.



- ▶ **Protein Intake:** Adequate protein is essential for maintaining strength and independence. Dietitians advise on incorporating suitable protein into diets — especially for those with poor dentition or swallowing difficulties — and may recommend oral nutritional supplements.
- ▶ **Osteoporosis and Fractures:** Dietitians provide guidance on adequate calcium and vitamin D intake to prevent osteoporosis and fractures.

CGH dietitians are essential partners in the multi-disciplinary care team, ensuring that seniors receive a nutrient-dense diet to maintain physical health, mental alertness and a fulfilling life. They effectively communicate nutrition concerns and integrate dietary plans with overall care strategies in collaboration with other health professionals.

A HEALTHY SNACK RECIPE FOR SENIORS

SOYMILK CUSTARD

INGREDIENTS (Serves 2)

- Egg whites 100ml
- Soymilk 200ml

TOPPINGS

- Peach slices 2-3 slices, finely diced
- Cherry 2, finely diced
- White dragon fruit ¼, peeled and finely diced
- Almond flakes a handful, roasted

Practically effortless to make, this delicious, lactose-free custard can be prepared under 30 minutes. Substitute the fruit toppings with other fruits as desired.

METHOD

1. In a mixing bowl, combine egg whites and soymilk. Mix well and strain through a fine wire sieve.
2. Pour mixture into prepared heat-proof serving glasses and steam over high heat for 8 minutes, or until custard is set.
3. Garnish with toppings and serve hot.

* Recipe adapted from a CGH cookbook for diabetics.

BENEFITTING OLDER ADULTS THROUGH RESEARCH AND INNOVATION

As we grow older, our immune systems may not work as well and there is an increased prevalence of chronic diseases.

Reversing frailty through frailty research

One of the key health concerns for older adults is frailty, which involves a gradual decline in multiple organ systems, leading to increased risks of falls, delirium, disability, hospitalisation and mortality. Recognising the importance of assessing frailty and introducing frailty interventions, Changi General Hospital (CGH) conducted research on the assessment of the frailty status of older adults, who were hospitalised for a heart attack, through a comprehensive risk score.

CGH's study revealed that patients at high risk of frailty — as identified by the Hospital Frailty Risk Score (HFRS) — had significantly longer hospital stays, and higher mortality rates compared to those at low risk of frailty. These findings highlight the efficacy of the HFRS in stratifying patients and guiding clinical decision-making to improve outcomes.

“Frailty is prevalent among older adults and is associated with higher healthcare utilisation, including emergency admissions and extended hospital stays. More importantly, frailty can be slowed or even reversed through timely interventions that optimise



A CGH nurse conducts group therapy at the Geriatric Day Hospital with its good helper — a social robot.

functional ability, promote activity participation and enhance the quality of life,” says Dr Barbara Helen Rosario, Senior Consultant, Department of Geriatric Medicine, CGH. “Through the use of the HFRS and comprehensive frailty management programmes at CGH, we strive to enhance the health and well-being of older adults in the hospital and in the community.”

Transforming geriatric nursing through innovative technologies

The introduction of innovative technologies has revolutionised nursing care for older adults at CGH. A collaboration by the multi-disciplinary care team with the Centre for Healthcare Assistive and Robotics Technology (CHART) at CGH, social robots were designed and programmed with clinical inputs from nurses, physiotherapists and occupational therapists, and piloted at the Geriatric Day Hospital and at some of the wards. They have

since been integrated into everyday care within inpatient and outpatient settings at CGH, thereby enhancing nursing care practice.

Through programmed activities and conversations in four different languages, social robots stimulate cognitive functions such as memory and problem-solving, while encouraging physical movement through guided exercises. These robots not only supplement traditional care but also provide companionship and engagement, thereby enriching the hospital experience for senior patients.

Robotic pet therapy and simulated presence therapy are other innovative approaches enhancing senior care at CGH. These technologies provide emotional support and companionship, alleviate stress and promote relaxation, especially benefiting patients with cognitive impairment.

TRANSLATING MEDICAL EXPERIENCES INTO ART

Frida Kahlo is celebrated not only for her vivid and emotive paintings, but also for her resilience in the face of physical and emotional challenges. Born in Mexico City, Frida contracted polio at the age of six, leaving her with a limp. A subsequent streetcar accident when she was 18 caused multiple fractures, leading to a lifetime of chronic pain and medical complications that profoundly impacted her work and legacy.

The Changi General Hospital (CGH) care team offers a contemporary diagnosis of Frida's health conditions in *Laid Bare: Frida's Inner World*, an ArtScience Museum exhibition that features her medical documents, photographs and contemporary artwork.



Dr Terry Teo

Consultant, Department of Orthopaedic Surgery

Spinal fusion is a process where the spine bones are joined together into one bone with metal plates and screws. It is done when the spine is unstable, due to either fractures or degenerative causes, and may not be able to support the body or protect the nerves. From the radiograph image of what appears to be Frida's lumbar spine, there was fusion of the spine with a plate and screws, possibly due to the spinal fractures incurred as a result of the accident.

In addition, to help in Frida's spinal fusion process at that time, a bone graft from the pelvic bone was also likely required — this can be seen in the two incisions in Frida's back in her famous painting, *Tree of Hope* (1946).

Dr Kinjal Mehta

Senior Consultant, Department of Orthopaedic Surgery

As a result of childhood polio, Frida's right foot was shorter than her left one, and she would likely have tiptoed on the shorter leg, resulting in what is known as an equinus deformity, which

is the tightening of the Achilles tendon or calf muscles due to limited toes-to-shin movement.

Based on records of the accident, Frida probably had a crush injury that damaged the nerves and blood vessels in her feet. This resulted in vascular insufficiency or inadequate blood flow to the leg, and combined with nerve injuries, would have caused her to lose sensation in the foot. This also led to the development of trophic ulcers over time, that became infected and required subsequent amputations to prevent spreading to other parts of the body.

Frida likely had difficulty walking after her accident. Due to her shortened leg, subsequent amputations, and chronic pain, mobility would be difficult. Frida likely spent a lot of time in her room and bed, which was reflected in her paintings.



Scan to learn more about the orthopaedic and musculoskeletal conditions treated at the CGH Orthopaedic Surgery Clinic.



Dr Zheng Zhongxi

Consultant, Department of Anaesthesia and Surgical Intensive Care

The modern definition of pain acknowledges an unpleasant sensory and emotional aspect to pain, and that pain can occur even after apparent injuries have healed.

Frida's battles with chronic pain are well-documented: from musculoskeletal pain stemming from polio; to abdominal and back pain as a consequence of the accident; right up towards her end of life following multiple surgeries to her spine, right limb infection and even possibly phantom limb pain with the subsequent amputation of her infected leg.

The available treatment modalities then were largely limited to a single-treatment

therapy with the use of strong analgesia, particularly the use of opioids such as morphine, heroin and pethidine. It is widely reported these were eventually of limited benefit to her, and also fuelled her subsequent addiction to them.

Ms Constance Png

Senior Principal Clinical Psychologist, Department of Clinical Psychology



A patient with chronic pain differs from one who suffers from acute pain. Chronic pain typically lasts beyond the healing phase of an injury that is three months or more. The duration changes the person's responses — they may feel frustrated, helpless and even hopeless or worried if the condition is going to improve, and this may change their way of living their life, and the emotional responses the person would experience.

It is notable that Frida had expressed her pain experiences throughout her life through her journal entries, as well as in her

TREATING MAJOR TRAUMA FROM AN ACCIDENT TODAY

Today, a person with major trauma from an accident is treated by a specialised multi-disciplinary group of physicians, nurses and allied health professionals.

From medical care administered on scene by paramedics, to a trauma team of nurses and specialists activated on standby upon arrival at the Emergency Department, treatment is carried out early to stabilise the patient's condition and prevent complications.

The patient would be brought into surgery to prevent the injuries from worsening, where improvements in surgical techniques and modern anaesthesia play a significant role in improving outcomes. The use of a combination of different types of painkillers, coupled with regional anaesthesia techniques such as nerves blocks and infusions, helps to reduce acute pain and the subsequent risk of chronic pain post-trauma.

There is also a greater importance placed on recovery, with multi-disciplinary teams comprising rehabilitation physicians, physical and occupational therapists, and even psychologists helping to improve the chances of survival and reduce risk of complications while managing pain and enhancing functional recovery.

paintings, which is akin to one of the goals of art therapy for chronic pain patients today. Painting as an art form is a good way for a person to express their inner experience on paper, giving them the opportunity to explore and make sense of the world for them in a very directed way. This allows them to feel less encumbered with the sense of pain and isolation that Frida may have experienced.



Scan to learn more about CGH's holistic management of chronic pain

Image courtesy of ArtScience Museum, Singapore

A LIFELONG PURSUIT OF EXCELLENCE

An exemplary clinician, a zealous educator and an advocate for patient safety — that is what comes to mind when you meet Clinical Associate Professor Peter Lu. Here are some highlights from his illustrious healthcare journey.

For his contributions to the medical specialisation field of Ear, Nose and Throat (ENT), and his deep passion for education, Clin Assoc Prof Peter Lu, Chief Risk Officer and Senior Consultant, Department of Otorhinolaryngology – Head & Neck Surgery, Changi General Hospital (CGH), was recognised as a Master Academic Clinician, and inducted into the prestigious Duke-NUS Hall of Master Academic Clinicians in 2024.

ENTering healthcare

As a child, Clin Assoc Prof Peter Lu was inspired by his father, a general surgeon, and this sparked his own aspiration to pursue a medical career. Despite an initial intent to follow his father's footsteps in general surgery, he was posted to an ENT role during National Service, and found it highly interesting — and the rest, as they say, is history.

Developing a dynamic ENT Department

In 1995, Clin Assoc Prof Lu joined the new ENT service at the then-Toa Payoh Hospital (TPH). The move from TPH to CGH marked a significant evolution for the ENT service as it developed into a full-fledged ENT department with comprehensive patient care services. "When we moved from Toa Payoh to a brand new and modern hospital in Simei in 1997, it was an eye-opener," says Clin Assoc Prof Lu, who played a pivotal role alongside his team in pushing for the formation of a new ENT department in 2002. "Many patients followed the care team from TPH to CGH and we saw the potential to develop the hospital's services further. It was a



very exciting time."

The ENT service at CGH started as a 'division' under the Department of General Surgery, with just three or four ENT specialists and two medical officers. "Although there were fewer patients and staff, the senior doctors still had to do step-down calls — also known as night calls — frequently," he recalls. "We continued with night shifts after a full day of work, which was quite demanding, but necessary to drive the development of the service into a full department."

One of the challenges then was recruiting young specialists to join the team, and convincing them that they would have the opportunities to learn and gain the exposure

needed to develop their skills. "I count it as one of my proudest achievements to have been able to recruit many talented specialists for the department," Clin Assoc Prof Lu shares. "Many of them are not just outstanding clinicians, but also possess a deep sense of integrity and professionalism."

With the hospital serving as a training site for residents, the ENT team developed its capabilities and services further. Under Clin Assoc Prof Lu's leadership as the Chief of the Department of ENT, ENT specialists were sent to a range of diverse programmes in Singapore and globally to train in various subspecialties, enabling the team to provide a full range of services to patients as a one-stop centre. Over time, the ENT team excelled in fields such as sleep apnoea, laryngology, facial plastics, and reconstructive surgery and surgery of the inner ear, providing patients with the

option to receive quality care for these conditions at CGH.

To ensure a holistic approach to healthcare, the ENT team also fostered partnerships with primary care providers and focused on enhancing patient communication. "In caring for our patients, we help them to understand their treatment and recovery journey with the care team, empowering them to care for their own health," adds Clin Assoc Prof Lu.

Finding your voice

While Clin Assoc Prof Lu specialised in head and neck cancers, he also branched out in the subspecialty of laryngology. He became the Voice Lead of the Performing Arts Medicine initiative launched by CGH in 2021.

Vocal cord nodules and trauma to the vocal cord are some of the common conditions affecting vocalists. Most professional voice users — which include singers, actors, presenters and media personalities — subject their vocal cords to prolonged duration of use, and may perform at high volume, and are thus susceptible to developing voice conditions. "I liken professional voice users to professional athletes," shares Clin Assoc Prof Lu. "While athletes are prone to muscle and joint injuries, performance artists are the 'athletes' of the arts world. When they overuse their voice, their voice box or larynx also become prone to trauma, which can affect the quality of their performances, and thus impact their livelihoods."

Clin Assoc Prof Lu works closely with CGH's speech therapists to evaluate, diagnose and treat these patients. Some of these methods include video-endoscopy, video stroboscopic examinations of the larynx, acoustic analysis of the voice signal, and the appropriate medical treatment, speech therapy or surgery as required. "When we are able to treat these patients successfully, they show their gratitude, and it brings us a sense of satisfaction that we can help them regain the quality of voice they had before, and regain their livelihood and quality of life," he says.



Clin Assoc Prof Lu (fifth from left) with his team at CGH in 1999.

"In caring for our patients, we help them to understand their treatment and recovery journey with the care team, empowering them to care for their own health."

Clin Assoc Prof Peter Lu, Chief Risk Officer and Senior Consultant, Department of Otorhinolaryngology – Head & Neck Surgery, CGH

Clin Assoc Prof Lu performs a video stroboscopy at the CGH Voice Clinic.



Happy as a lark

75-year-old veteran chef and restaurateur Violet Oon is recognised widely for her culinary mastery in Peranakan cuisine. Lesser known are her accomplishments as a lyric soprano opera singer who had participated in international competitions in her youth, and had subsequently switched to jazz and evergreens.

After suffering from a stroke 10 years ago, she felt that she had lost her ability to sing very high notes, and her voice cracked when she reached a certain note, around



Violet Oon was able to perform for her family and friends at a Christmas party once again following her voice consultation and training lessons.

The examination showed a small gap between the vocal cords during voice production, and this resulted in the inability to smoothly transition from a high pitch to low pitch, and transition from head to chest voice.

The CGH care team reduced her vocal cord gap to improve the quality of her voice, and recommended lifestyle modifications to control her laryngopharyngeal reflux, a fairly common issue in professional voice users. Ms Oon restarted her singing lessons that year and by Christmas, she was able to serenade her guests at a home party — a joyful and momentous moment for her.

“I am truly appreciative that there is practical medical assistance available in Singapore for the serious performing artists who are making a career out of the arts, when an injury happens,” says Ms Oon.

A above middle C, although her speaking voice was unaffected.

Her hope of singing reignited only when she learnt about the Performing Arts Medicine initiative introduced by CGH. In early 2022, she went for a voice consultation at the CGH Voice Clinic and was assessed jointly by the care team, including Clin Assoc Prof Lu and CGH speech therapists, on her voice needs and any risk factors. She also had her vocal cords examined through a videostroboscopy.

Violet Oon played the role of Princess Tup Tim in *The King and I* at the Victoria Theatre in 1973.



Photos: Violet Oon

Sowing the seeds of care

Teaching and mentoring the younger generation has always been an integral part of Clin Assoc Prof Lu’s work. Actively involved in undergraduate and postgraduate education, he has helped shape the careers of many young medical professionals, and continues to inspire a future generation of doctors through his dedication to sharing knowledge and fostering professional growth.

He has been chairman of the Residency Advisory Committee for Otolaryngology in Singapore since 2013 and has been highly involved in developing examinations for many years. He strongly believes that it is important for junior doctors to learn valuable lessons not just in the fields their specialties, but also in upholding professionalism and putting patients’ interests first. A champion of patient safety, he has been the chairman of the hospital’s Medical Audit Committee since 2007. He became CGH’s Chief Risk Officer in 2020 after serving as Deputy Chairman for Surgical Disciplines from 2007 to 2019.

“I had good mentors when I was a junior doctor. Their commitment to imparting their

knowledge and experience to the newer doctors struck a chord with me, and this is something I want to pass on to the next generation of doctors,” says Clin Assoc Prof Lu. It has been vital to him to be able to guide juniors and colleagues, and impart lessons and experiences he himself has gained over the years. “I always tell my mentees not to be discouraged when faced with obstacles, and to take them as opportunities to learn and develop themselves,” he adds. “Keep yourself focused and more often than not, you will find that you are able to achieve what you set out to do.”

Cultivating a caring and collaborative culture

Throughout his tenure at CGH, Prof Lu has been a strong advocate of inculcating a caring and inclusive culture, reminiscent of the close-knit community at TPH. “We are blessed to have this culture where the care team enjoys great camaraderie and all of us are willing to come together to do good for our patients,” says Prof Lu, reflecting on his time at CGH “This is something we must preserve even as we continue to care for more patients in the years to come.”

THOUGHTS FROM MENTEES

“Clin Assoc Prof Lu has been my senior for more than 20 years, and has strongly influenced my own character development. While he has been instrumental in teaching me surgical skills and developing my clinical judgement, his biggest influence has been teaching me how people should be treated and how people matter — especially when you are in a position of leadership — as well as leading by example.

He has taught me the importance of openness, receptiveness and patience when dealing with people under our care, regardless of their position or station in life; and was instrumental in helping me develop the right mindset for working in the public healthcare sector. It is vital to find an appropriate mentor to help mature and shape our perspective during our public healthcare career journey. My mentor helped me to see the bigger picture, and gave me the conviction that we are all working together for the greater good.”

Dr Ian Loh, Head and Senior Consultant, Department of Otorhinolaryngology – Head & Neck Surgery, CGH



“I am incredibly fortunate to have had Clin Assoc Prof Lu as my mentor since 2021. He has consistently reinforced ethical practices, strong leadership skills and unwavering motivation in me.

Despite his busy schedule, he makes time for me whenever I need his advice. When it comes to my thoughts and choices relating to my medical career, he would patiently guide and facilitate my thoughts and ideas — to not give me an answer, but to help me come to a decision on my own. He is a person who reflects on situations deeply and has a lot of life experiences to share. I truly appreciate that he is willing to share not only his successes, but also his vulnerabilities, which gives me a balanced approach to expectations as a doctor and as a person.

As a mentee, I strive to demonstrate my eagerness to learn, my openness to feedback, and my determination to apply the lessons imparted

by my mentor. This reciprocal relationship has been instrumental in my personal and professional growth. I am inspired by Prof Lu’s guidance, and hope to pay it forward by becoming a mentor to others one day.”

Clin Asst Prof Mandy Zhang, Consultant, Department of Sport and Exercise Medicine, CGH



FOCUSING ON ADHD

We shine a spotlight on Attention Deficit Hyperactivity Disorder (ADHD), and debunk myths associated with this condition.

‘Attention Deficit Hyperactivity Disorder’ (ADHD) is a topic that has attracted public attention of late. While raising awareness of the condition is beneficial to the community, it is crucial to note that not every wandering mind or restless body is necessarily a case of ADHD. Dr Sanjiv Nair, Associate Consultant, Department of Psychological Medicine, Changi General Hospital (CGH), sets the record straight.

MYTH 1

“I cannot concentrate on my work, this means I have ADHD.”

FACT: ADHD is more than focusing on work. It starts from childhood and affects all aspects of a person’s life, including play and social interactions.

Everyone’s level of focus is different, and being easily distracted does not always point to ADHD. Multiple factors affect one’s ability to concentrate on work, including their working environment, interest level, intellectual ability and mood. It would be important to identify and address all the factors affecting performance to effectively address concentration problems.



MYTH 2

“There is nothing I can do, I just have to take medication.”

FACT: One might not be able to cure ADHD with lifestyle changes, but making changes to how you live day to day is key to managing ADHD.

Establishing routines, eating healthy and staying physically active are great first steps. Using different ways to stay organised can make a big difference to effectively completing tasks, remembering lists of things and reducing accidents, which are common challenges that people with ADHD have to contend with.

Medications can be effective in treating ADHD, but the decision to prescribe medication for ADHD needs to take into consideration the risk of side effects and adverse events, individual lifestyle modifications, and usage patterns, so that medication is appropriately and safely given.

Only taking ADHD medication without addressing other factors contributing to poor concentration and organisation can lead to an unhealthy pattern of relying on more medication to improve one’s performance.

What is ADHD?

ADHD is a condition that makes it hard for people to stay focused on a task, keep physically still, or think before they act. It is a developmental condition — people are born with this condition — showing in symptoms before the age of seven, and continuing to affect a person throughout their lifespan. ADHD affects all aspects of everyday life, including education, work and relationships.



MYTH 3

“I have ADHD because many self-screening tools have told me so.”

FACT: Online quizzes can be helpful to start assessing if you have ADHD, but they do not give you the whole picture. Neither is there one specialised test to diagnose ADHD.

ADHD is best diagnosed with a combination of patient interviews, parent interviews about the individual’s childhood symptoms, their teacher’s feedback on their classroom behaviour and learning patterns, as well as subjective and objective tests of learning, memory and attention.

There are many overlaps in symptoms between ADHD and other mental health problems, as well as other causes of inattention. Self-screening tools are generally not able to consider alternative diagnosis. For example, a self-screening tool cannot tell if your inattention is due to lack of interest, a distracting environment or ADHD.

By Dr Sanjiv Nair, Associate Consultant, Department of Psychological Medicine, Changi General Hospital



Tips on how to navigate life with ADHD

- ✓ 1. **Keep lists**
Use applications or pen and paper to help you remember what you need to do.
- ✓ 2. **Plan**
Have your schedule on your phone or a planner to avoid last-minute decision-making.
- ✓ 3. **Break it down**
Cut big jobs into smaller pieces with deadlines you can hit.
- ✓ 4. **Stick to a routine**
It helps to do things in a regular order.
- ✓ 5. **Cut out distractions**
Find what pulls your focus away and try to reduce it. Watch how much screen time you have.
- ✓ 6. **Write it out**
Jot down what is bugging you to clear your head.
- ✓ 7. **Tidy up**
A clean workspace helps you to think straight.
- ✓ 8. **Find your quiet**
Too much noise can be a distraction.
- ✓ 9. **Banish distractions**
At work, try to put away things that side-track you, like your phone or games.
- ✓ 10. **Celebrate the small stuff**
Pat yourself on the back for the little wins.
- 11. **Be clear on goals**
Knowing what you are working toward keeps you focused.
- 12. **Get a buddy**
Having someone to remind you about meetings or to join you in a task can help you stay on track.

HIDDEN HEROES



In this new series, we shed light on the dedicated care team members working tirelessly behind the scenes at Changi General Hospital (CGH) to ensure the smooth functioning of daily operations. They share insights on their work and play at the Caring General Hospital.

Securing your health

There was once when Mr Joseph Lim, a Patient Relations Officer (PRO) under the General Services team in CGH, encountered an aggressive patient in a situation that was at risk of blowing up. But by showing empathy and through attentive listening, Mr Lim managed to calm the patient and bring the situation under control with a positive outcome.

When Mr Lim joined CGH as a PRO in 2022, the job turned out to be more interesting than he had expected. Besides patrolling and conducting security checks across the CGH campus, managing access control, monitoring surveillance systems and carrying out traffic management, he also performs a number of additional roles. These include assisting in ambulance transportation bookings, handling mortuary duties and attending to incidents or emergencies.

There are also times when the care team enlists his assistance in managing uncooperative patients or next-of-kin. "Our team plays a valuable role in the de-escalation of potentially aggressive or violent situations and maintaining the peace," he explains. "This helps to ensure that our healthcare colleagues can continue to care for patients in a safe environment."

The PROs collaborate closely with the Singapore Police Force in keeping CGH's wards and clinics safe for our patients. A recent initiative



Above and right: PRO Joseph Lim carries out essential security duties.

Below: The CGH team collaborates with the Singapore Police Force to promote the advocacy of non-violence at the workplace.



Photos: Joseph



HIS JOY AT WORK

Since young, Mr Lim had a keen interest in the visual arts and photography. He pursued photography and art in school but never turned this passion into a professional career.

"In my spare time or when opportunities arise, I am happy to whip out my camera and sharpen my photography skills or dabble in art and design," he shares. "I was glad to be able to help take nice photographs for my colleagues during departmental events!"



was the launch of the 'Say No! To Work Violence' programme, where CGH nurses and PROs work together to train CGH staff on how to better manage challenging situations.

There was another occasion when Mr Lim encountered a patient and caregiver who alighted at the Medical Centre but needed to go to the Emergency Department (ED). The patient had movement difficulties and needed an oversized wheelchair. Mr Lim quickly helped to locate one and wheeled the patient into the ED. The patient and caregiver were very appreciative of his fast response and effort.

"To me, the most satisfying aspect of being a Patient Relations Officer is being able to help patients or visitors resolve their issues, no matter how big or small," adds Mr Lim.

Mr Lim was touched personally by such caring acts, many years before joining CGH. His late father had been hospitalised and the clinical team had gone the extra mile to show care for his father.

"I am very glad that I was able to join this hospital. My fellow colleagues and I work together as one team, and I am very proud to be part of this CGH family," says Mr Lim. "With training and encouragement from our supervisors, we have certainly grown in our knowledge and skills. As part of our continual enhancement of processes, the team also leverages technology to ensure that our systems are modern and up-to-date, allowing us to work more efficiently and productively."

Engineering excellence in healthcare

Before the medical equipment used to diagnose and treat patients is brought into the hospital, the CGH Department of Biomedical Engineering (BME) ensures that they are safe for use. Ms Saidah Naqiyah, a BME engineer, is one of the “gatekeepers” of new medical equipment used in CGH to ensure that operations run seamlessly.

Ms Naqiyah primarily oversees radiology equipment and projects, including the replacement of X-ray machines and renovations of the X-ray rooms. Her role involves working collectively with various departments and vendors to ensure that the equipment and facilities comply with the necessary standards for the safety of patients and radiographers.

She is part of the BME team that runs tests and diagnostics to ensure that any new equipment is technically safe for use before it is allowed to be deployed in the hospital. BME also manages the upkeep of the thousands of medical equipment all around CGH — in the inpatient wards, outpatient clinics, operating theatres and more. This includes the servicing of equipment as part of preventive maintenance, as well as any repairs required.

“While our work is often carried out behind the scenes, the team performs the essential function of ensuring access to safe and quality equipment,” says Ms Naqiyah. BME not only sources for vendors who can ably provide

maintenance services and replacement parts for equipment used in CGH, but also works to enhance governance and accountability processes. “We review our work processes to improve efficiency as well as digitalise them as much as we can for sustainability,” she adds.

In times of emergencies, BME oversees the movement of the hospital’s Emergency Planning (EP) equipment to the various critical departments. This is to ensure that CGH can still operate smoothly during such times to meet patients’ needs.

“What inspires me and keeps me interested in my work is knowing that the medical equipment we manage directly impact the well-being of our patients,” shares Ms Naqiyah. “In addition, the opportunities to work and interact with many stakeholders in and beyond the hospital, and the supportive and collaborative work culture in CGH makes work more enjoyable.”



Above: Sourcing for vendors is part of Ms Naqiyah's her role to ensure that the equipment is well-maintained.



Engineer Saidah Naqiyah checks new medical equipment by running diagnostic tests before they are deployed in the hospital.



Left: Participating in Chinese New Year decoration using recyclable materials.

Below: Service Angel Dress up competition.



HER JOY AT WORK

It is not just all work and no play at CGH. During Ms Naqiyah's two years here, the hospital has organised a variety of events, many of which her department has participated in. These included BME's fundraising efforts through hand-sculpted balloons and perfumes for the President's Challenge, “Reuse, Reduce and Recycle” initiatives where discarded boxes and materials are used to create festive decorations, and many more.

“So far, my most memorable experience was participating in the CGH 88th Anniversary Dinner and Dance as one of the performers, and even winning the CGH Got Talent competition with my fellow BME and Clinical Trials and Research Unit colleagues,” adds Ms Naqiyah.



Above: Showing off nifty moves at the CGH 88th Anniversary Dinner and Dance.

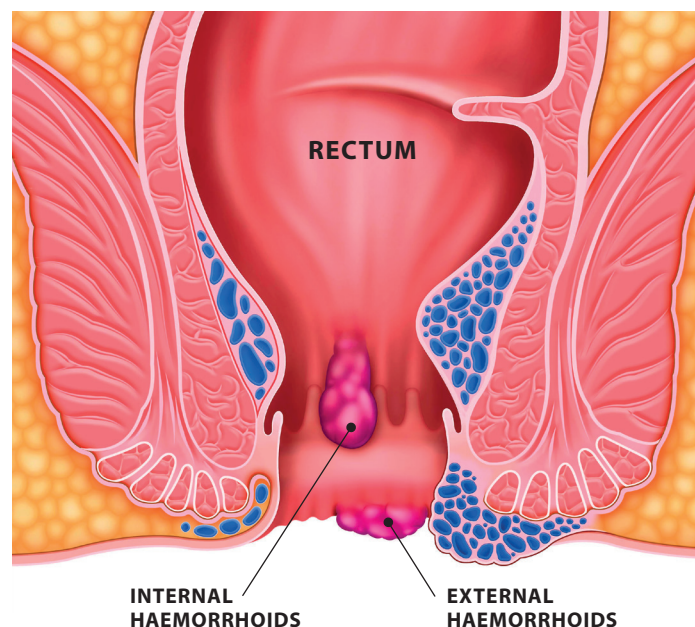
PILING

ON THE PRESSURE

Get to know more about piles, also known as haemorrhoids, which affects one in three people in Singapore.

Despite the high number of cases of haemorrhoids among our population, there are many myths surrounding the condition. Some might think that eating spicy food or sitting on a cold surface causes haemorrhoids, or that they are permanent, while others have the idea that only seniors get them. Is it true that surgery is the only way to treat piles? Changi General Hospital's (CGH) Department of Surgery addresses these myths and other aspects of the condition.

THE TWO TYPES OF HAEMORRHOIDS



What are haemorrhoids?

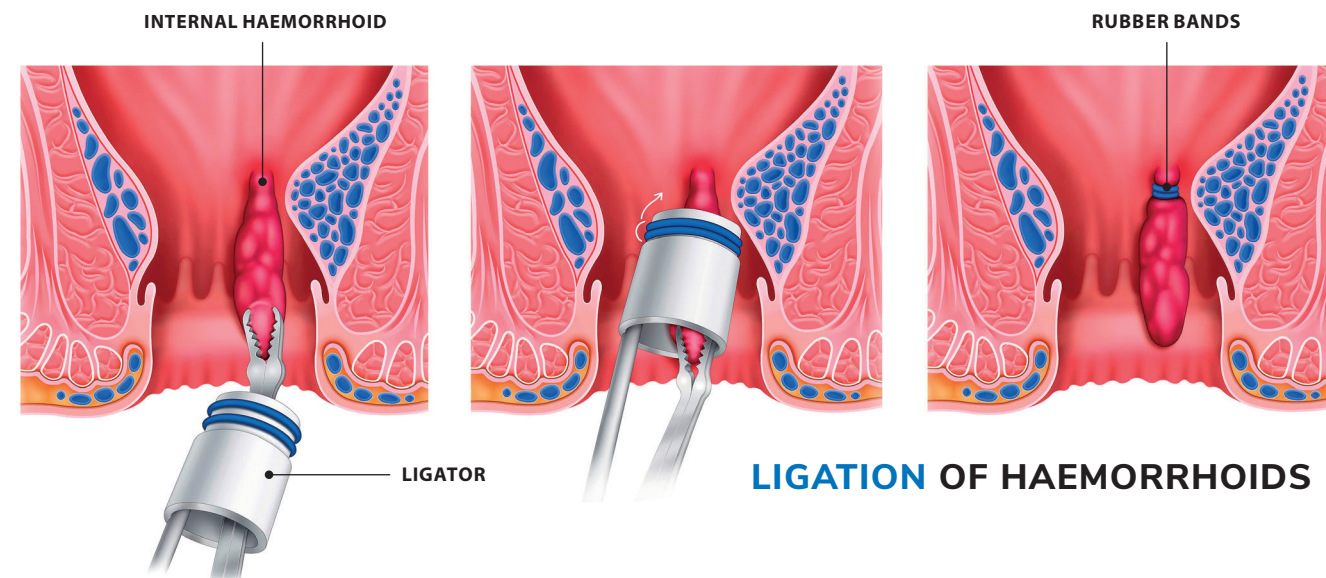
Haemorrhoids are abnormally swollen blood vessels near the anus. There are two common types of haemorrhoids — internal and external — that differ in location within the anal canal. Common symptoms of haemorrhoids include bleeding, prolapse (where the haemorrhoids slip out from the anus), pain, swelling and itchiness. Some symptoms may mimic those of colorectal cancer.

It is therefore important to consult a doctor for an examination before dismissing these as merely haemorrhoid-related.

What are the causes of haemorrhoids?

Common causes include conditions that cause a build-up of pressure within the tummy or abdomen, which may include straining during bowel movement, constipation, obesity, pregnancy and in rare instances, a growth in the pelvis or lower abdomen. Prolonged sitting on the toilet can also cause a rise in pressure of the veins near the anus, leading to haemorrhoids.

Haemorrhoids are more common in people aged 30 and above, affecting about half of seniors over 50. Pregnant women also have a higher incidence of piles because there is excessive pressure on the anal region due to increased foetal weight and the tendency to strain during bowel movement.



LIGATION OF HAEMORRHOIDS

Lifestyle can also be a contributing factor. Individuals leading a sedentary lifestyle or those with bad stool habits — such as the prolonged sitting on the toilet because of using the phone or reading the newspapers — are more prone to haemorrhoids. Anyone suffering from irregular bowel habits such as frequent constipation or diarrhoea might also be at higher risk.

How can they be detected?

Piles are detected based on a clinical examination by a doctor after a patient presents with the above symptoms. A clinical examination may entail examination of the anus with the use of a proctoscope (short rigid tube that allows visualisation of the anus and rectum).

What are some treatment options?

The CGH care team will advise patients on how to manage and treat haemorrhoids based on their individual conditions. Here are some of the common treatment options.

1 Lifestyle modifications

Patients are advised to have a high-fibre diet and adequate liquid intake, and avoid straining or prolonged sitting on the toilet. Having an active lifestyle also helps!

2 Medical treatments

Stool softeners or laxatives may be prescribed for patients with constipation or for those who strain during bowel movements. Medications can also help shrink the haemorrhoids while topical suppositories can reduce the swelling and provide pain relief.

3 Ligation

This involves the application of an elastic band over the haemorrhoid to cut off its blood supply, effectively “killing off” the haemorrhoid. There may be some mild discomfort and small amount of bleeding in the days after the procedure. Ligation can be performed as an outpatient procedure and hospitalisation is not generally required.

4 Surgery

This remains the most definitive and effective treatment for haemorrhoids where the haemorrhoid is surgically removed entirely. It is typically done under general anaesthesia but spinal anaesthesia is also an option. Depending on the severity of the haemorrhoid, a trial of the first three treatment options may be carried out before going with the option of surgery.

How can one reduce the risk of piles?

- Avoid excessive straining when passing motion
- Avoid prolonged sitting on the toilet bowl
- Increase fibre intake and liquid intake to help with smoother bowel movements
- Maintain a healthy weight, as obesity can raise intraabdominal pressure, which can cause the vessels in the anus to enlarge





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Supporting You to Better Health

Our administrative and operations teams facilitate the efficient and effective provision of healthcare services to patients from hospital to home and community. From the coordination of care in the inpatient and outpatient settings; to the planning and management of healthcare supplies, services, and systems for optimal utilisation of resources; they ensure that hospital operations run smoothly for a seamless patient care experience.

Our administrative and operations professionals are planners, investigators, technologists, innovators, analysts, chefs, suppliers, managers, facilitators, and much more. They support you to better health.

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