

# GPBUZZ

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## Healthcare beyond the Hospital



### In the Spotlight

**Fighting Hepatitis B - Know it, Manage it, Prevent it**

**Management of Gout at Primary Care**

**Rhinitis Explained**

**Lifestyle management: Dietary Advice for Gout**

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*The aim...is to create an ecosystem for individuals to be made self-aware, empowered and responsible for their overall health, which encompasses not only physical but also mental and psychosocial wellbeing.*

# Transforming the Healthcare Landscape

A radical change in the Singapore healthcare landscape is on the horizon. Earlier in the year, Healthier SG was announced and made known to both healthcare providers and members of the public alike. This strategy signals the right direction towards a sustainable healthcare model in the future.

Uncertainties and questions remain with regards to implementation, funding, and even acceptance from the residents. Still, one thing for sure is clear: we need to move away from hospital-based to community care; from illness to wellness; from treatment to prevention. The aim, beyond health dollars and cents, is to

create an ecosystem for individuals to be made self-aware, empowered and responsible for their overall health, which encompasses not only physical but also mental and psychosocial wellbeing.

The backbone of this initiative lies in the community and heartlands - in essence, all our primary care providers and community partners. As we saw from the COVID-19 pandemic, our partners and colleagues in primary care and in the community, who were the frontline of our response, are in the best possible position to create that marked influence and change in the lives and health of many.

Amplifying this shift to primary care is the inclusion of three new Chronic Disease Management Programme (CDMP) conditions, bringing the total to 23. Rhinitis, gout, and Hepatitis B are not unfamiliar conditions to our GPs, but availing CDMP subsidies to residents will better support long-term maintenance at primary care and empower GPs to care for these conditions.

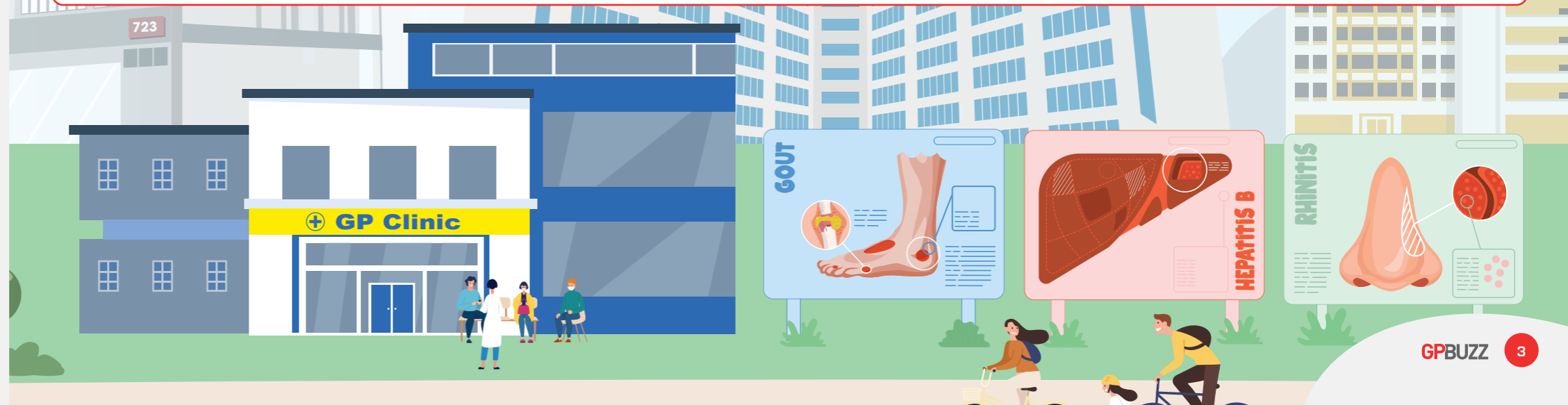
As we shift from downstream illness-driven care towards upstream preventive care, many challenges await us. We will soon be inundated with policies, digital enablers, regulations, and the list go on. For a drastic mindset and strategic change as huge as this, requires all our efforts and willingness to connect the dots in the health ecosystem. It is by no means an easy feat and no one can accomplish this alone.

Partners and colleagues, let's make this work. All hands on deck!

**“ You don't have to see the whole staircase, Just take the first step. ”**

**Martin Luther King Jr**

**Adj Assoc. Professor David Foo**  
**Clinical Programme Director –**  
**Community Right-Siting Programme (CRiSP)**



# Hear Ye! Hear Ye!

## Direct Referral for Community Audiology

In Singapore, up to 63% of our elderly population suffer from hearing loss and 17% have severe hearing loss requiring intervention, yet our local uptake of hearing aids is a measly 7% of those who require them.

Aiming to improve hearing aid use for positive intervention, the AMKSC Community Audiology programme is allowing direct referrals from GPs for a video-otoscopy, diagnostic pure tone audiogram and a report by our qualified audiologists, for a bundled price of only \$58. Patients who are assessed to be suitable for hearing aids can be scheduled for a hearing aid evaluation and/or fitting, and those who fulfil the criteria set by means testing can also tap on government subsidies such as the Senior Mobility Fund (SMF) or Assistive Technology Fund (ATF).

Through this initiative, we hope to increase the accessibility of primary care audiology to our patients. While we might not be able to reverse their hearing loss, we can definitely keep them in the hearing world!



**'Hear' You Go:**  
AMKSC Community Audiology programme accepts direct referrals from GPs for a video-otoscopy, diagnostic pure tone audiogram and a report by our qualified audiologists.

**TO BOOK AN APPOINTMENT:**  
PLEASE CALL AMKSC AT **6554 6500** OR EMAIL US AT **AMK\_SPECIALIST\_CENTRE@TTSH.COM.SG**

Scan QR code to download Referral Form:



Note: We regret to inform that we are currently unable to accept CHAS referrals for community audiology.

# Official Opening of TTSH's Clinic for Advanced Rehabilitation Therapeutics

- On 18th April 2022, Clinic for Advanced Rehabilitation Therapeutics (CART) celebrated its 10th anniversary and its expanded premises, at an opening ceremony officiated by Minister for Health, Mr Ong Ye Kung. The region's first clinic to integrate robotics and virtual reality with conventional therapies, CART has helped over 75,000 patients over the last decade.

Equipped with more state-of-the-art rehabilitative robots and a bigger gym, CART spans close to 20,000 square feet, four times bigger than the previous space. In addition to treating patients with conditions like stroke, brain and spinal cord injuries, the clinic has advanced its services to care for amputees, patients with neurodegenerative diseases and neuro-oncology conditions, and those who are ventilator-dependent.

In a decisive step to enable more patients to gain greater access to innovative technology-enabled rehabilitation, CART also inked partnerships with leading rehabilitation care partners, Fourier Intelligence (FI) and Stroke Support Station (S3). The alliances will drive new models of care to make robotic therapies more sustainable and accessible to patients in the community.



Minister Ong Ye Kung officially opening CART!

## About our partnerships with FI and S3

### Accessing Advanced Rehabilitation Care with FI

Through a three-year Master Research Collaboration Agreement with FI, CART will function as a living lab to test-bed and contextualise FI's technologies to local settings and bring them a step closer to benefitting more patients.

### Improving Patients' Access to Community Rehabilitation

Stabilised stroke patients could receive continued active rehabilitation, wellness activities and access to its peer support network at S3. CART and S3 will also explore tele-collaboration and tele-consultation services. This shared care model allows both parties to better co-manage stroke survivors and ensure continued support through their rehabilitative journey.

Over the decade, CART has collaborated with several local and international industry players and academic institutions to strengthen its research and technological capabilities. This has allowed CART to build innovative rehabilitation programmes and therapies for patients. Examples of its core clinical programmes that combine conventional methods and rehabilitation technologies include CART Re-walk/Robowalk Programme and Re-Arm Programme. CART will continue to pioneer innovations and bring technology-enabled rehabilitation even closer to our patients.



Showcasing the Mobile Robotic Balance Assistant (MRBA), a transformable robotic wheelchair which prevents falls and enables patients to safely practise walking, and participate in daily living activities in home and institutional settings.



Minister Ong trying out the H-Man device, which helps stroke patients improve their arm and hand functions.



To refer a patient to the new CART facility, GPs can email to **cart@ttsh.com.sg** with patient's documents or call **6889 4580**. Locate us at **7 Jalan Tan Tock Seng TTSH, Annex 2, Level 1, S(308440)**. Scan the QR code to find out more about CART services and facilities.

# POPConnect

## Partnering Our Stakeholders to Build Community-based Wellness

On 4 May 2022, Minister for Health, Mr Ong Ye Kung launched the Population Health Collective (POPCollect) at the inaugural annual workplan seminar, Population Health Connect (POPConnect).

Attended by more than 300 senior leaders from over 80 NHG health and social community partners, General Practitioners (GPs), agencies and NHG institutions, the hybrid event was broadcast live from the Ng Teng Fong Centre for Healthcare Innovation.

One of the highlights of POPConnect 2022 was the key dialogue with Minister Ong on “**Healthier SG – Why It Matters and What It Really Means**” with Prof Tan Chorh Chuan, Chairman of Healthier SG Implementation Office, Prof Philip Choo, GCEO, NHG, and moderated by Prof Eugene Fidelis Soh, Dy GCEO Integrated Care, NHG.

**About POPCollect**  
 Hosted by National Healthcare Group (NHG), the POPCollect movement is aimed at improving the health and well-being of the population in Central and North Singapore through building a Community of Care (CoC) in every neighbourhood.

POPConnect also showcased a selection of photos featuring our programmes and partnerships with the community and primary care partners through the NHG Community of Care model, which centred around three key elements under the Community of Care model – namely “Ageing in Place”, “Anchoring Care with Providers” and “Activating Residents”.

One of our POPConnect panellists, Dr Eng Soo Kiang, Family Physician, NTUC Health Family Medicine Clinic echoed his aspirations for Healthier SG at the event. “GPs hope that Healthier SG will eventually enable family doctors to offer team-based care with decentralisation of allied health into the community, and also help to address patients’ insecurity about the lack of access to affordable treatments when the need arises.”



### Three Key Goals for a Healthier SG

Encourage Singaporeans to enrol with a family physician of their choice to advise their long-term health plans and address risk factors which may lead to illness

Involve not just clusters and GPs, but also social service and community care organisations in spearheading social programmes targeted at residents’ needs

Realise the linking up of healthcare clusters with Primary Care Networks (PCNs) to provide more clinical and administrative support to member GPs

### Realising Care Integration



Minister explained that the imperative for Healthier SG was to meet the needs of Singapore’s ageing population, and addressing this sustainably would contribute to bettering population health. In line with this objective, the approach is for clusters like NHG to assume the roles of population and regional health managers, as well as work with GPs, agencies and community care organisations to take charge and be accountable for keeping their assigned population healthy. Specifically, GPs would need to persuade residents to focus on preventive health and embrace social prescription, and work towards navigating care and support away from hospitals and care institutions to the community. This can only be achieved through years of trusting relationships and respect between residents and their family doctors.






The seminar also featured co-learning discussions on “Building Trusted Relationships with GPs and Residents” and “Building Care Around Residents”. The overall drive towards Population Health creates a strong impetus for GPs and community care organisations to deepen their understanding of different community assets in the ecosystem to realise better care integration, and promote trans-disciplinary care for residents.

### Aspirations for a Healthier SG



Playing a pivotal role, NHG is doubling its efforts to build an open and inclusive architecture of enablers in support of Healthier SG. These includes (i) better data sharing and connectivity, (ii) integrated funding support for providers and patients, (iii) availing ancillary services such as allied health and diagnostic services in the community and (iv) acting as a dedicated coordinator/concierge for seamless care coordination.

### GME Events

Date & Time of Event	Organising Department	Name of Event	No. of CME Points Awarded	Registration Details
Saturday, 20 August 2022, 2.00pm to 4.00pm Registration and Lunch starts at 1.00pm	TTSH Dept of Renal Medicine	TTSH Renal GP Symposium	2 CME Points	 <p>Please scan QR code to register*  <a href="https://form.gov.sg/#!/627a2d945fba010011035ecd">https://form.gov.sg/#!/627a2d945fba010011035ecd</a></p> <p><small>*Note: This event is open to GPs in the Central Regions of Singapore (Ang Mo Kio, Bishan, Geylang, Hougang, Kallang, Novena, Serangoon, Toa Payoh)</small></p>
Thursday, 27 August 2022, 1.00pm to 3.00pm	NHG Eye Institute @ Tan Tock Seng Hospital	GP Engagement Session: Updates in AMD and Glaucoma	2 CME Points	 <p>Registration Link: <a href="https://bit.ly/3sXNO7r">https://bit.ly/3sXNO7r</a>                      Email: <a href="mailto:eye@ttsh.com.sg">eye@ttsh.com.sg</a></p>
Saturday, 8 October 2022, 2.00pm to 4.30pm	Department of Haematology	Approach to the Management of Patients with High White Blood Cell Counts	2 CME Points	 <p>Please scan the QR code to register for the event.                      Registration Link: <a href="https://bit.ly/3Ct2cbl">https://bit.ly/3Ct2cbl</a></p>

# Don't let your nose become a hose.

## Rhinitis explained.

Rhinitis is defined as an inflammation of the nasal mucosa, and can be broadly divided into allergic rhinitis (AR) and non-allergic rhinitis (NAR). AR occurs due to the body's sensitised response to specific allergens, while NAR has broad-ranging disease processes, including infectious, vasomotor and atrophic rhinitis.

Local population-based studies report a prevalence of 13.1% of rhinitis in Singapore<sup>1</sup>, and a prevalence of 44% in Singaporean school children<sup>2</sup>. With AR as a common chronic illness, it will be included as one of 23 chronic conditions under the Chronic Disease Management Programme (CDMP) from 1 July 2022, making treatment more affordable and accessible.

### Dr Alex Tham

Consultant, Department of Otorhinolaryngology – Head and Neck Surgery, Tan Tock Seng Hospital



### Allergic Rhinitis (AR)

Its typical history includes one or more of the following symptoms: nasal congestion, clear rhinorrhoea, nasal itch or sneezing. Typical examination findings include nasal congestion, clear rhinorrhoea, pale discolouration of the nasal mucosa (Figure 1), transverse nasal crease, red and watery eyes, and allergic shiners. For comparison, Figure 2. demonstrates a normal nasal cavity.

The four pillars of treatment include allergen avoidance, medical therapy (intranasal steroids being the most effective), surgery (as an adjunct), and immunotherapy. Specific IgE (skin or blood) allergy test is also useful if (i) the patient does not respond to empiric treatment, (ii) when the diagnosis is uncertain, or (iii) when immunotherapy is being considered.



Fig. 1. Endoscopic image demonstrating nasal congestion, clear rhinorrhoea and pale discolouration of the nasal mucosa, of the right nasal cavity.



Fig. 2. Endoscopic image showing a normal left nasal cavity.

### Non-allergic Rhinitis (NAR)

These patients usually present in adulthood. Although there is a significant overlap of symptoms between AR and NAR, nasal pruritus and associated ocular symptoms are largely absent in NAR patients. There is no pathognomic physical examination finding for NAR. However, examination findings highly suggestive of AR (eg. transverse nasal crease, allergic shiners, ocular conjunctivitis) are absent.

The treatment of NAR includes medical and surgical options. Classifying a NAR patient into one of three categories (rhinorrhoea dominant, congestion dominant, or mixed) is helpful to guiding the choice of medical therapy; to address anatomical causes of nasal obstruction, surgery will be useful. Additionally, new to our armamentarium in treating chronic rhinitis, a minimally invasive cryotherapy procedure (ClariFix) is now available.

### Diagnostic Challenges in Rhinitis

Differentiating between AR and NAR can be challenging, as there is tremendous overlap in symptoms. However, the various forms of rhinitis do differ in presentation and pathophysiology – worth noting as the correct treatment can only be administered if we have an accurate diagnosis.

### Red flag symptoms

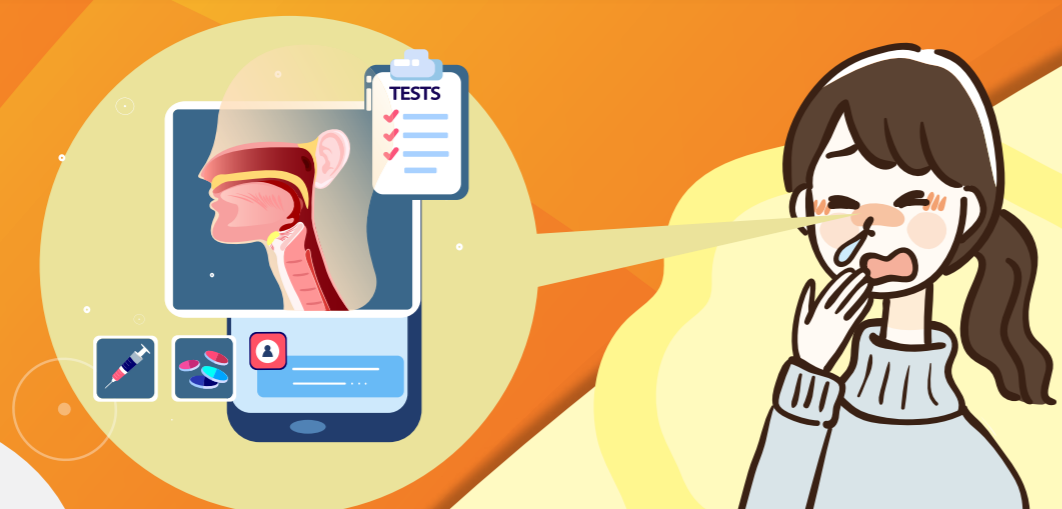
An urgent referral to the Department of Otorhinolaryngology at TTSH is recommended if there is a new onset or rapid progression of the following symptoms: (i) unilateral nasal obstruction (ii) persistent bleeding or crusting, (iii) persistent clear watery nasal discharge, or (iv) unilateral facial pain or swelling. Routine referral should be considered for patients with persistent symptoms despite optimal medical treatment.

The importance of a detailed history and physical exam cannot be overemphasised. Only with an accurate diagnosis, can we give the appropriate treatment. Cure the nose from being a hose!

For referrals of patients with severe or chronic rhinitis to the Department of Otorhinolaryngology at TTSH, please email [referrals@ttsh.com.sg](mailto:referrals@ttsh.com.sg)

#### References:

1. Wang DY, Niti M, Smith JD, Yeoh KH, Ng TP. Rhinitis: do diagnostic criteria affect the prevalence and treatment? Allergy. 2002;57(2): 150-4.
2. Goh DY, Chew FT, Quek SC, Lee BW. Prevalence and severity of asthma, rhinitis, and eczema in Singapore schoolchildren. Arch Dis Child. 1996; 74(2): 131-5.



# Fighting Hepatitis B

## - Know it, Manage it, Prevent it

One of the most common infectious diseases in the world, Hepatitis B is a viral condition that primarily affects the liver. According to the WHO Global Hepatitis Report 2017<sup>1</sup>, there were 257 million people infected with chronic Hepatitis B worldwide in 2015. While the introduction of the Hepatitis B vaccination into the national childhood immunisation programme in 1987 has greatly reduced the rates of Hepatitis B infection, studies show that in 2010, 3.6% of Singaporean adults aged 18-79 years old were found to still have Hepatitis B<sup>2</sup>.

### Dr Jacqueline Yang

Consultant, Department of Gastroenterology and Hepatology, Tan Tock Seng Hospital

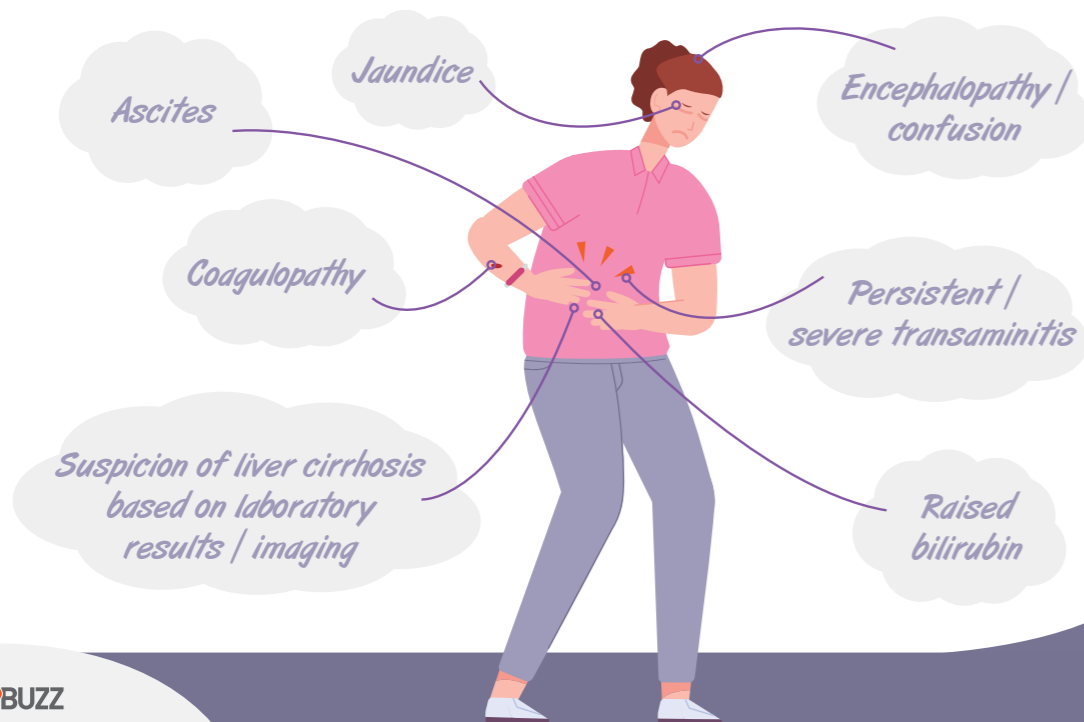


### Management of Hepatitis B at Primary Care

There are two types of Hepatitis B infection: acute infection and chronic infection (defined as HBsAg positive done 6 months apart). While some patients with acute Hepatitis B may present with symptoms such as jaundice, tea-coloured urine, pale stools, nausea/vomiting and fatigue, patients with chronic Hepatitis B may be asymptomatic unless they develop an acute flare or decompensation of underlying liver cirrhosis.

As patients with chronic Hepatitis B are at higher risk of liver cirrhosis and hepatocellular carcinoma, GPs can guide them to lower their risk of liver damage and advise patients to be on regular follow-up with ultrasound scans and blood tests. In addition, they should also be advised to avoid alcohol and traditional Chinese medicine or supplements as these may worsen liver injury.

### Symptoms for which GPs can refer patient to the Department of Gastroenterology and Hepatology at TTSH:



### Treatment of Hepatitis B

The decision whether or not to start Hepatitis B treatment depends on the outcome of the patient's liver function tests (in particular ALT), presence of fibrosis/cirrhosis (based on elastography i.e. fibroscan/ magnetic resonance elastography or liver biopsy) and the Hepatitis B viral load.

Hepatitis B antiviral medications that are available include Entecavir, Tenofovir disoproxil fumarate and Tenofovir alafenamide. Treatment with antivirals does not eliminate the risk of hepatocellular carcinoma, thus monitoring should be continued for carriers on antivirals.

### How can we reduce the transmission of Hepatitis B?

As Hepatitis B is endemic in Singapore, non-hepatitis B carriers should be encouraged to take their Hepatitis B vaccination if they have not been vaccinated before. Primary care physicians can also advise residents at risk of Hepatitis B to be screened and vaccinated if needed. GPs in the community may also counsel patients on the ways to reduce the risk of transmission, as well as provide specific advice for pregnant women.

In addition, as vaccination is not 100% preventative, advice should be given to patients on how to prevent transmission of Hepatitis B. Hepatitis B is spread through the following modes: perinatal, sexual, blood (i.e., blood transfusion) and the use of contaminated needles.

- Sexual partners of Hepatitis B carriers should be vaccinated. Barrier protection (i.e., condoms), should be used during sexual intercourse if their partner is not vaccinated or immune to Hepatitis B.
- Avoid sharing toothbrushes/razors.
- Cover open wounds.
- Hepatitis B carriers should not donate blood/sperm/organs.
- If planning to get tattoos/acupuncture/body piercings, one should source for reliable operators who perform proper sterilisation and disposal of equipment used for the procedures.
- All pregnant women should be screened for Hepatitis B in the first trimester as they may require antiviral treatment (usually in the third trimester) to reduce risk of transmission to the baby.

Hepatitis B carriers can participate in regular activities including contact sports. They can share utensils, food and kiss others. Children who are carriers should continue to participate in school activities and sports.

Hepatitis B can be managed and controlled with medications. More importantly, we can encourage patients to reduce the risk of transmission of Hepatitis B with vaccination and simple protective measures. Hepatitis B – let's manage it, let's prevent it!

For referrals of Hepatitis B patients who require specialist care to the Department of Gastroenterology and Hepatology at TTSH, please email [referrals@ttsh.com.sg](mailto:referrals@ttsh.com.sg)

#### References:

- Global Hepatitis Report, 2017, <https://www.who.int/publications/i/item/9789241565455>.
- Ang, Li Wei, et al. "Seroepidemiology of Hepatitis B Virus Infection among Adults in Singapore: A 12-Year Review." *Vaccine*, vol. 32, no. 1, 2013, pp. 103-110.
- Terrault, Norah A., et al. "Update on Prevention, Diagnosis, and Treatment of Chronic Hepatitis B: AASLD 2018 Hepatitis B Guidance." *Hepatology*, vol. 67, no. 4, 2018, pp. 1560-1599.
- Lampertico, Pietro, et al. "EASL 2017 Clinical Practice Guidelines on the Management of Hepatitis B Virus Infection." *Journal of Hepatology*, vol. 67, no. 2, 2017, pp. 370-398.
- Centers for Disease Control and Prevention, Centers for Disease Control and Prevention, <https://www.cdc.gov/hepatitis/index.htm>.

## Helping Patients Stay in Control of Their Gout: Management of Gout at Primary Care

### Dr Koh Li Wearn

Senior Consultant,  
Department of Rheumatology,  
Allergy and Immunology,  
Tan Tock Seng Hospital

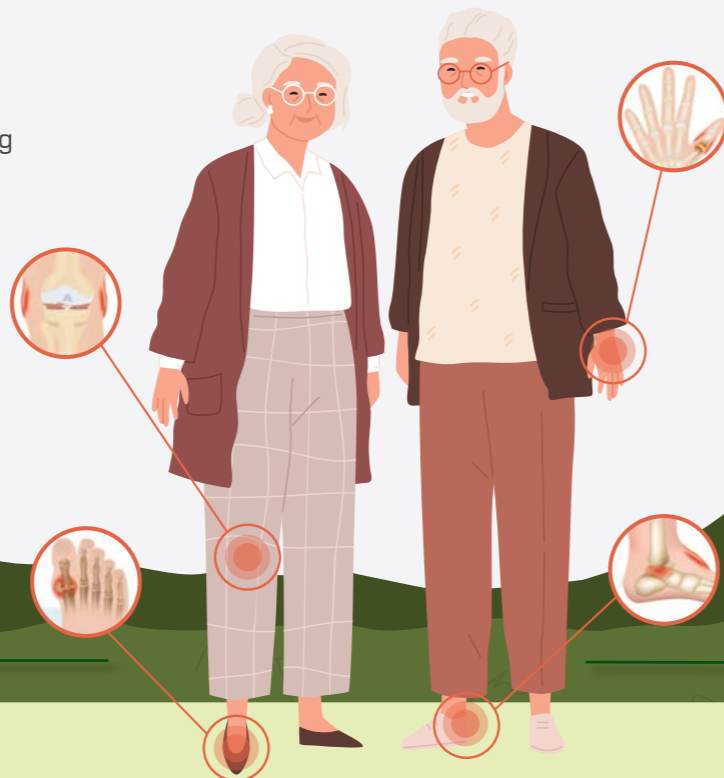


In 2004, a report showed that 4.1% of Singaporeans suffered from gout<sup>1</sup>, along with a rising trend of younger Singaporeans being affected. The alarming increase in the global prevalence of this condition, especially in more developed countries<sup>2</sup> highlights the need for primary care providers to be equipped to manage gout. Furthermore, General Practitioners (GPs) can expect to diagnose and treat more chronic gout patients soon, as it becomes a new CDMP condition starting 1 July 2022.

### Caring for Gout Patients

Gout care is a complex task which requires the appropriate use of urate-lowering therapy (ULT) and lifestyle adjustments on the patient's part. GPs are well-suited for the continued care of gout patients – as they build long-term relationships with their patients, they can better encourage patients to take ownership of their health and adhere to diet and activity modifications.

While managing gout, it is important to carefully manage patients' co-morbidities and the potential interactions between drugs taken, as gout is frequently associated with other conditions such as hypertension, type 2 diabetes mellitus and chronic kidney disease. When coupled with ULT, these conditions may result in polypharmacy which may reduce the safety and effectiveness of certain drugs, increasing the risk of patient safety complications. For example, while colchicine is often used in the early stages of ULT to prevent acute flares, patients with impaired renal function are at higher risk of colchicine poisoning.<sup>3</sup> GPs should also discuss with patients the possibility of developing severe cutaneous adverse reactions (SCAR) from ULT, such as rashes, fever, body aches, and mouth ulcers.



GPs also play a crucial role in treating gout patients by dealing with pain relief, maintaining treatment and disability prevention. In the primary care setting, they can also manage acute gout flares promptly and swiftly escalate severe cases of gout, which require more advanced care from specialists.

### When Specialist Care Is Needed

While there is no definitive cure for gout, it can be managed well in the long-term with medication and proper lifestyle interventions. Patients should learn about the condition and self-management strategies such as hydration, resting painful joints when experiencing gout flares, managing their weight, keeping fit with moderate exercise, and maintaining a healthy diet. Eating the right foods is vital to prevent the progression of gout (see pages 14-15).

While GPs are well-suited to manage less severe cases of chronic gout and occasional gout flares, specialist aid is also available to complement primary care physicians to ensure that patients receive the best and most appropriate care possible. Patients may warrant specialist intervention when they exhibit severe or refractory gout. This may mean that they do not improve with standard gout treatment, have a severe renal impairment (CKD stage 3 or worse), or experience severe SCAR effects due to certain ULT.

For referrals of patients with severe and refractory gout to the Department of Rheumatology, Allergy and Immunology (RAI) at TTSH, please email [referrals@ttsh.com.sg](mailto:referrals@ttsh.com.sg)

### References:

1. Teng, G. G. et al. (2012). Mortality due to coronary heart disease and kidney disease among middle-aged and elderly men and women with gout in the Singapore Chinese Health Study. *Ann. Rheum. Dis.* 71, 924-928.
2. Kuo, C.F., Grainge, M.J., Zhang, W., & Doherty, M. (2015) Global epidemiology of gout: prevalence, incidence and risk factors. *Nat Rev Rheumatol*, 11, 649-662. <https://doi.org/10.1038/nrrheum.2015.91>
3. Vargas-Santos, A. B., & Neogi, T. (2017). Management of gout and hyperuricemia in CKD. *American Journal of Kidney Diseases*, 70(3), 422-439.

# Dietary Advice for Gout:

## What to Eat & What to Avoid

Gout is a type of arthritis caused by excessive uric acid in blood (hyperuricemia) which can lead to the formation and accumulation of crystals in joints. This can result in swelling, inflammation and pain known as a gout attack.

Gout is linked to kidney disease, diseases of the heart and blood vessels (cardiovascular), as well as obesity-related risk factors including hypertension, diabetes, and high blood cholesterol levels. Thus, lifestyle modifications such as adhering to a healthy diet remains paramount in the prevention and management of these chronic diseases associated with gout, and help to minimise the need for medications.

**Sandy Lee**

Dietitian, Department of Nutrition & Dietetics, Tan Tock Seng Hospital



## Foods to Take Note of

### 1. Purine Foods

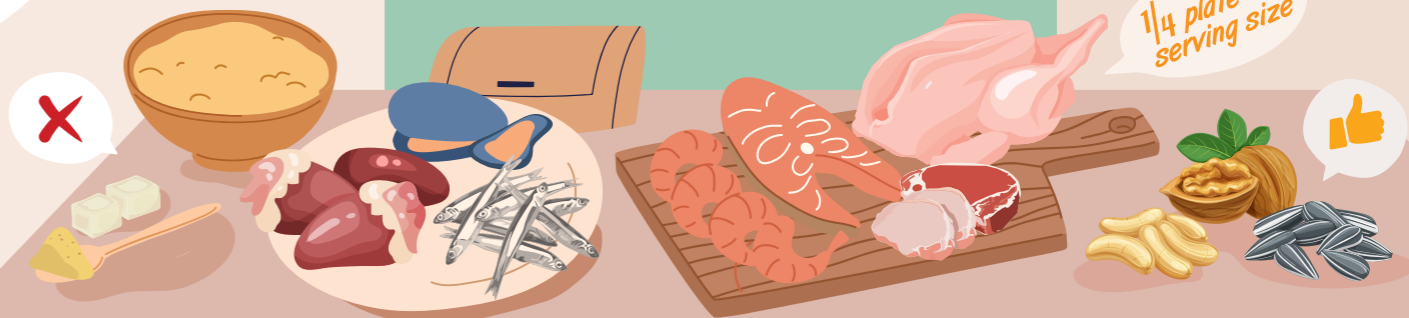
Uric acid is formed from the breakdown of purine.

Foods with high purine content such as organ meats, yeast extracts, stock cubes, broths and gravies, shellfish, poultry, fish with edible bones, can increase the risk of hyperuricemia and gout. Thus, it is recommended to avoid these foods as much as possible.

Meat, poultry and fishes do contain some purines, however they also possess other essential vitamins and minerals. Consuming lean meat, poultry and fishes in moderation (in particular, oily fishes) could have a benefit on overall cardiovascular health. Avoidance of these foods is not necessary, but they should not be consumed excessively. As part of the healthy diet guidelines, aim for 1/4 plate of lean protein in your main meals.

Certain vegetables and legumes (beans, lentils, peas) contain a moderate amount of purines, however, they have been associated with a reduced risk of gout. Some purine-containing vegetables such as cauliflower, spinach and mushrooms may actually have a protective effect on the risk of hyperuricemia. Vegetable and legume intake are encouraged as part of a healthy balanced diet, with half a plate of vegetables at each meal as the daily recommended intake.

Unsalted nuts (e.g. cashew, walnuts) and seeds are low in purine and are good sources of healthy fats and dietary fibre.



### 2. Fructose

Found in sugar-sweetened beverages and fruit juices, fructose can increase the risk of gout by increasing uric acid levels in the body and can also lead to weight gain.

Replacing these beverages with diet beverages (in moderation) and plain water is recommended.

### 3. Alcohol

Alcohol slows down the removal of uric acid from the body as it prioritises the removal of alcohol from the body, thereby increasing the risk of gout. In addition, beer contains large amounts of purine. Hence, it is best to completely avoid alcohol.



### 4. Fluids

Adequate hydration is beneficial in reducing the risk of gout as drinking plenty of fluids helps in flushing out uric acid from the body. A general aim of at least 8 cups (2 litres) of fluids a day is recommended, unless your doctor has advised you to restrict your fluid intake due to other medical conditions e.g. heart failure, kidney disease.









# 3 Steps for referring patients to TTSH

Here's a comprehensive chart listing the steps to refer **non-subsidised patients and patients under the Community Health Assist Scheme (CHAS)** to Tan Tock Seng Hospital (TTSH).

## Step 1

### PREPARE

#### Before You Contact TTSH

- 1 Get patient's full name, NRIC, date of birth and contact number. 
- 2 Check if patient has CHAS/MG/PG card. 
- 3 Prepare documents:  
**For CHAS referral:**  
(i) CHAS Cover Note and  
(ii) Referral Letter   
**For non-subsidised referral:**  
(i) Referral Letter only 

## Step 3

### INFORM

#### Inform patient after confirming appointment details\*

- 1 Inform patient of Specialist Outpatient Clinic name, date and time of appointment 
- 2 Remind patient to bring all necessary documents for their appointment 

## Step 2

### CONTACT

TTSH Appointment Hotline:  
**6357 7000**

- 1 Advise which clinic you are referring your patient to 
- 2 **For CHAS/ non-subsidised referrals**  
Email referral documents to [referrals@ttsh.com.sg](mailto:referrals@ttsh.com.sg)\*\*   


\*To ensure that your patients are seen promptly at TTSH, triaging may be conducted by our staff. Our staff will get back to you with an appointment date within 3 to 5 working days.

\*\* Please retain a copy of the documents for reference purpose. We thank you for your kind understanding.