

# SingVISION®

TOMORROW'S EYE CARE, TODAY

Issue 1 . 2022 | [www.snec.com.sg](http://www.snec.com.sg) | [www.seri.com.sg](http://www.seri.com.sg)

**SPOTLIGHT:**

VisionSave — A New Hope is in Sight

**HERE'S LOOKING AT:**

Singapore Health Inspirational Patient & Caregiver Award Winners

**ALL ABOUT EYES:**

Trans-PRK: An Innovative New Look to an Established Laser Procedure

# GLAUCOMA

*Eyes Under Pressure*

# Editor's Note

SINGVISION has taken on a refreshed design, and we hope you love this new look and feel!

In this issue, it gives us immense pride to share that SNEC and SERI remain at the forefront of cutting-edge research, with researchers ranked among the top two per cent globally (page 4). Additionally, two of our scientists have developed artificial intelligence tools to analyse kidney health and biological age using retinal scans to detect and treat kidney disease early (page 5).

It is important that we continue to search for innovative ways to treat blinding eye diseases. In our cover story, our radar is on glaucoma as we provide holistic care for our patients and empower them to improve their health outcomes for the future (page 8).

We also turn the spotlight on SNEC's participation at the Digital for Life festival, which demonstrates how we utilise digital technology to encourage the use of technology by people with visual impairment (page 18). Trans-PRK, a new alternative to LASIK, has some myths surrounding it; turn to page 24 to uncover the facts about the procedure.

For parents with little ones, check out how COVID-19 has exacerbated myopia among Singaporean children who spend insufficient time outdoors (page 6). Our beloved character Amanda the Panda continues her adventures across illustrated exhibitions at public libraries aimed at preventing myopia in children (page 19).

On page 26, Mdm Lim Yew Gek and Mr Tan Wee Liam are honoured for their exceptional strength in extraordinary circumstances as winners of the Singapore Health Inspirational Patient and Caregiver Awards 2022.

Last but not least, as Singapore moves beyond COVID-19, VisionSave, SNEC's fundraising arm, is doubling its efforts to fight blindness with its second edition of The Eye Run/Cycle 2022 (page 22). By donating or participating in the challenge, you can enable eye research and treatment to continue — every contribution helps make the path ahead clear!

Enjoy reading!

## THE EDITORIAL TEAM

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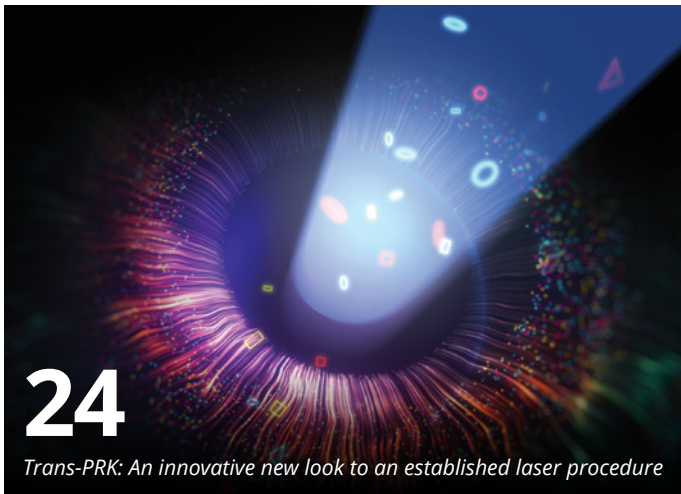
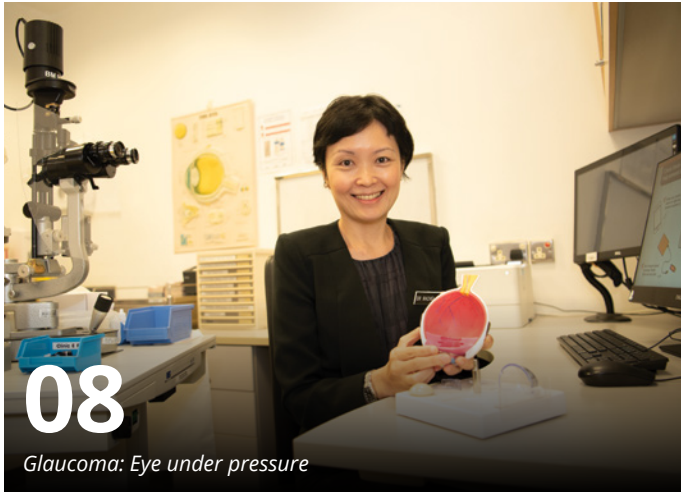
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# Contents

Issue 1 . 2022



## 04 At the Forefront

- SERI researchers ranked among the top 2% most-cited scientists in the world
- The eyes can reveal kidney health and biological age
- Lack of outdoor time may have increased myopia progression
- COVID-19 increases dry eye disease

## 08 Cover Story

Glaucoma: Eye under pressure

## 14 Spotlight

- iCare HOME tonometer for daily eye pressure self-monitoring
- Observation clinics for patients with stable eye conditions
- Medication delivery service
- Ensuring patient safety through kaizen
- Championing digital literacy for people with visual impairment
- Roving myopia exhibition
- Upskilling courses for Ophthalmic Assistants, Ophthalmic Technicians and Senior Enrolled Nurses
- A new hope is in sight

## 24 All About Eyes

Trans-PRK: An innovative new look to an established laser procedure

## 26 Here's Looking At

Inspiring resilience and strength through health challenges

## 28 Q&A

What's wrong with my eyes, doc?

## 30 Congratulations

## 35 All You Need to Know

# SERI researchers ranked among the TOP 2% most-cited scientists in the world

20 scientists from the Singapore Eye Research Institute (SERI) were lauded for research work focusing mainly on artificial intelligence (AI), myopia and glaucoma.

Published in October 2021, the Elsevier-Stanford database indexed more than 100,000 top scientists from 22 different fields. Their impact was gauged through metrics such as the number of citations received for their research papers.

20 scientists from SERI were listed in this comprehensive database as the world's top two per cent for research work focussed mainly on AI, myopia and glaucoma.

The SERI researchers featured included Prof Saw Seang Mei, Co-Head of the Myopia Research Group, who published a study on the progression of myopia in highly myopic Singaporean children. This first-of-its-kind study in Asia tracked myopia progression in almost 2,000 children starting from age seven to nine for 19 years. It has uncovered the causes of widespread and chronic myopia in children in Singapore.

Another researcher who was cited is Assoc Prof Daniel Ting, Head of SERI's Artificial Intelligence and Digital Innovations Research Group. Assoc Prof Ting's team has developed a deep-learning system — known as SELENA+ (Singapore Eye Lesion Analyzer Plus) — that is able to detect diabetic retinopathy and related eye diseases such as glaucoma and age-related macular degeneration to limit the effects of preventable blindness.

THE STRAITS TIMES  
Monday, May 02, 2022  
**Study ranks 20 S'pore Eye Research Institute scientists among top 2%**

**They were among the most highly cited researchers in their field**

**The long and short of myopia in children**

Researchers have identified risk factors behind the widespread and chronic condition. Professor Saw Seang Mei and her team from the Singapore Eye Research Institute began a study in 2003 of more than 2,000 children aged seven to nine and followed them through their youth.

**MYOPIA EYE AT REST**

**NORMAL EYE AT REST**

**TRACKING MYOPIA RATES AMONG CHILDREN**

Age 7	Age 8	Age 9
28%	34%	43%
Age 10	Age 12	Age 16
50%	62%	75%

**MYOPIA PREVENTION AND TREATMENT STRATEGIES**

- Spend more outdoor time
- Use outdoor light during school hours
- Spend less time on near work
- Take regular breaks from near work
- Spend less time on digital devices
- Use blue light filters on digital devices
- Use blue light glasses
- Use blue light filters on digital devices
- Use blue light glasses
- Use blue light filters on digital devices
- Use blue light glasses

**SERI scientists among top 2% in the world**

- Prof Aung Tin
- Prof Chee Soon Phaik
- Prof Cheng Ching-Yu
- Prof Gemmy Cheung
- Prof Jonathan Crowston
- Prof Ecosse Lamoureux
- Prof Jodhbir Mehta
- Prof Dan Milea
- Prof Saw Seang Mei
- Prof Louis Tong
- Prof Wong Tien Yin
- Clin Prof Donald Tan
- Assoc Prof Marcus Ang
- Assoc Prof Danny Cheung
- Assoc Prof Audrey Chia
- Assoc Prof Michael Girard
- Assoc Prof Charumathi Sabanayagam
- Assoc Prof Gavin Tan
- Assoc Prof Daniel Ting
- Asst Prof Tham Yih Chung

# The Eyes can reveal

## Kidney Health and Biological Age

SERI scientists develop artificial intelligence (AI) tools to alert patients about health concerns at an early stage — by scanning their eyes.

Blood vessels in the eyes mirror microvascular changes happening elsewhere in the body. Hence, while direct assessment of body parts like the kidney is difficult, indicators of microvascular disease can instead be gleaned from retinal image scans.

Two AI tools, RetiKid and RetiAge, are SERI inventions which work on retinal scans to predict patients' kidney health and biological age. Potential health issues can be detected even before symptoms emerge!

RetiKid and RetiAge will be available for patients in about two years, pending statutory approval. They are ground-breaking innovations for enabling early detection and intervention. By giving results within the hour, they are also significantly less time- and resource-intensive.



### RetiKid

*Led by: Assoc Prof  
Charumathi Sabanayagam  
Deputy Head of SERI's Ocular  
Epidemiology Research Group*

Blood tests are widely used to identify chronic kidney disease. However, even at-risk patients seldom comply with them. RetiKid complements existing screening strategies as a non-invasive, first-level case finding tool. It may spur those who test positive to undertake additional evaluation.

Furthermore, only patients with diabetes and hypertension are screened for chronic kidney disease currently. While their numbers are rising, other high-risk populations, like those with a history of stroke, also ought to be tested. Timely screening and detection of chronic kidney disease allows for early intervention to slow down the progression of the disease.



### RetiAge

*Led by: Prof Cheng Ching-Yu  
Head of SERI's Ocular Epidemiology  
Research Group and Data Science  
Research Platform*

As opposed to the chronological age of a person measured by birthdays, biological age indicates the ageing of body functions, organs and cells. It refers to one's overall health status reflected by genetic and lifestyle factors, such as exercise habits.

RetiAge uses AI analyses of retinal blood vessels to predict a person's biological age, which in turn helps to predict that person's risk of systemic diseases and lifespan. A person with "older" RetiAge could have higher risk of disease mortality compared to another person with "younger" RetiAge, even if they have the same chronological age. Those identified with "older" retinas can therefore take steps to improve their lifestyle habits and behaviour.

Lack of outdoor time  
may have increased

# myopia progression



Preliminary data from local ongoing studies show that the COVID-19 pandemic has likely deteriorated the vision of Singapore's children.

The COVID-19 pandemic restrictions caused a decrease in time spent outdoors and an increase in screen time. Worldwide studies found that these lifestyle changes led to a faster progression of myopia in children during the pandemic than before.

Prof Saw Seang Mei, co-head of the SERI Myopia Research Group, is reviewing seven such worldwide studies from countries like China, Turkey and Hong Kong. Each of these studies evaluated between 200 to 1,800 children aged between six to 17. Prof Saw's team is currently evaluating the data from Singapore and will contrast the myopia progression levels before and during the pandemic.

The study published in April 2021 on almost 500 nine-year-olds in the Growing Up in Singapore Towards Healthy Outcomes (Gusto) birth cohort study found that sunlight is crucial to trigger the production of dopamine in the retina — a chemical which helps to prevent myopia. However, due to the meagre amount of time which Singaporean children spend playing outdoors, they receive insufficient exposure to natural light. Additionally, Singapore's cloudy skies mean the island generally receives lesser sunlight than other countries.

Both the factors revealed in the study explain the early onset of myopia in children in Singapore — and Prof Saw said, "I won't be surprised if the age (of onset falls) because of the pandemic."

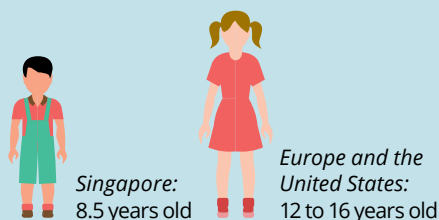
Hence, it is the need of the hour to encourage outdoor playing and learning initiatives.

## Singapore is the myopia capital of the world

10 per cent of the 3,000 children between the ages of six months to six years in a recent study were myopic.

According to a 19-year-long study on 2,000 Singaporean children which began in 1999, 28 per cent of the seven-year-olds were myopic. This percentage increased to 50 per cent when they turned 10 years old. By the time they reached age 16, this percentage further propelled to 75 per cent.

### Age of onset of myopia



### Time spent by children outdoors



**Singapore:**  
1 – 1.5 hours on weekdays  
1 – 2 hours on weekends

**Australia and Britain:**  
2 – 3 hours everyday

### Highest possible light level outdoors



**Singapore:** 30,000 lux



**Australia:** 100,000 lux

# COVID-19 increases Dry Eye Disease

SNEC and SERI trace the rise in dry eye disease to the COVID-19 pandemic triggering a lifestyle change.

The number of new referrals to the SNEC dry eye clinic rose by nearly 15 per cent during the pandemic, observed Prof Louis Tong, Senior Consultant, Corneal & External Eye Disease Department, SNEC; Principal Clinician Scientist and Head, Ocular Surface Research Group, SERI. There were 281 of these referrals in 2019; in 2020 there were 323.

Most people — 90 per cent — experience a less severe form of dry eye, known as community dry eye. The major symptoms of this include irritated, tired or watery eyes, intermittently blurred vision or discomfort around lights. But while these symptoms seem mild, they can considerably hinder everyday activities such as working and driving.



*Your body is naturally optimised to take care of your eyes, so take care of your body before it's too late.*



Dry eye stems from factors such as ageing, vitamin D deficiency and lack of exercise. However, Prof Tong also found three major reasons behind the condition's rise during the COVID-19 pandemic:

- **Increased screen-time:** Longer screen time due to work-from-home arrangements led to reduced blinking, which is crucial for lubricating the eyes.
- **Use of masks:** While wearing masks, airflow tends to travel upwards and hit the eyes, causing more drying.
- **Less sleep, more stress:** Sleeping less means longer exposure of the eyes to air, increasing their susceptibility to drying.

Dry eye can be managed and prevented by patients on their own by controlling screen time, using eye-warming masks and eye drops, sleeping well and exercising regularly. Medical attention is required if the condition persists despite these measures. "Your body is naturally optimised to take care of your eyes, so take care of your body before it's too late," said Prof Tong.



# GLAUCOMA

## Eye under Pressure

Learn how SNEC's glaucoma team enhances diagnoses, interventions, and enables patient advocacy through patient education.

**G**laucoma is an eye disease caused when high fluid pressure within the eye damages the delicate fibres of the optic nerve. It is one of the leading causes of blindness in the world. In Singapore, glaucoma affects approximately 10 per cent of the population and is undiagnosed in up to 50 per cent of cases.

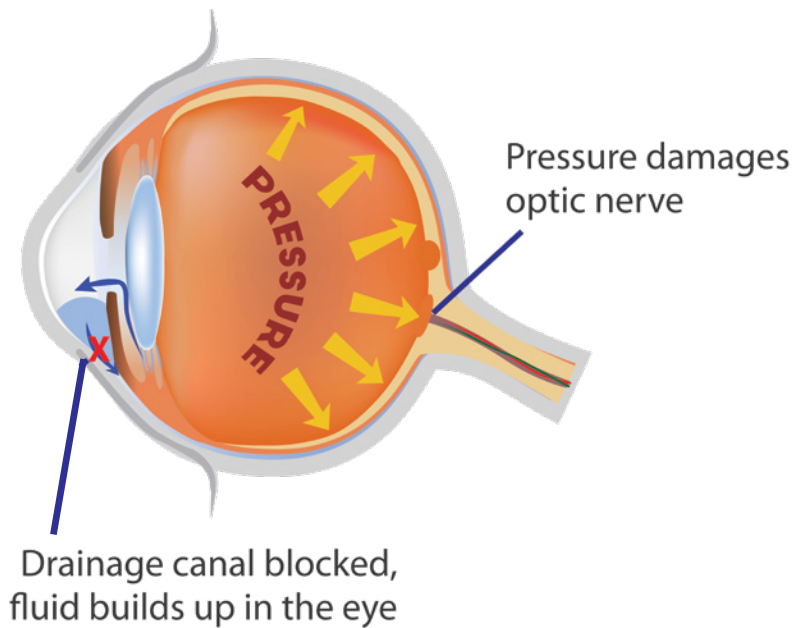
In its early stages, glaucoma can have little or no impact on vision, and sufferers may not have any symptoms. Glaucoma is often called 'The Silent Thief of Sight' since most people are unaware that they have the disease. Even when vision starts to be lost,

the progress can be very slow and gradual. By the time the patient realises that something is wrong, they may have already suffered a significant amount of permanent loss of vision.

Detecting glaucoma early and implementing the appropriate treatment and education strategies are crucial for patients to preserve their remaining vision.

SINGVISION speaks to three doctors at Glaucoma Department — Dr Rachel Chong, Dr Olivia Huang and Dr Lee Yi Fang — to learn more about the specialised services and support available.





## TREATING GLAUCOMA IN HIGH MYOPIA PATIENTS

Singaporeans with myopia, or short-sightedness, have a higher chance of getting glaucoma when they grow older and the risk increases as myopia becomes more severe, according to various studies conducted in Singapore and worldwide in recent years.

The prevalence of myopia in Singapore is among the highest in the world, with 65 per cent of our children being myopic by Primary 6, and 83 per cent of young adults being myopic. By 2050, it is projected that 80 to 90 per cent of all Singaporean adults above 18 years old will be myopic and 15 to 25 per cent of these individuals may have high myopia.

High myopia puts one at risk of many eye disorders later in life, such as glaucoma, early cataracts and macular degeneration. These complications can cause severe morbidity, even resulting in blindness.

Diagnosing glaucoma in myopic eyes is a particularly complex issue for multiple reasons. "When you have high myopia, your eyeball becomes stretched and the tissue supporting the nerve in the eye is weaker so this increases the risk of glaucoma two- to three-fold." In addition, the altered shape of the eyeball makes it challenging to interpret standard glaucoma tests originally designed for non-myopic eyes. The eye also functions differently, sometimes resembling

the effects of glaucoma, rendering it difficult to make a conclusive diagnosis," explained Dr Rachel Chong, Consultant at SNEC's Glaucoma Department.

## Myopia Glaucoma Clinic

SNEC set up a dedicated myopia glaucoma clinic with specialised eye evaluation processes within its glaucoma department in June 2020 that includes routine dilated eye examination and retinal imaging tests where needed. This subspecialty service caters specifically to patients with high myopia and glaucoma or suspected glaucoma. Since elongated eyeballs also cause retinal complications, the clinic also works closely with the retina high myopia clinic (called the myopia clinic) to provide as accurate diagnoses and treatment as possible.

## Offering hope through research

According to Dr Chong, there is limited certainty on how high myopia patients with glaucoma or suspected glaucoma can be diagnosed and treated. But having confidence in identifying their condition would be immensely valuable. The myopia glaucoma clinic also continues to conduct research to diagnose and manage glaucoma in high myopia patients more effectively.

Glaucoma can only be controlled, not cured, and vision loss happens gradually over a period of time. Hence, journeying with the patients is important. "While we actively look for solutions, we want to ensure that patients are supported at every step of the way. We want them to know that losing vision does not mean losing one's life. As their healthcare provider, we are equally invested in protecting their interests to the best of our abilities, whatever the outcome may be," Dr Chong added.



*When you have high myopia, your eyeball becomes stretched and the tissue supporting the nerve in the eye is weaker so this increases the risk of glaucoma two- to three-fold.* ●●

## LOW VISION AND GLAUCOMA

Patients with low vision and glaucoma also suffer from irreversible vision loss that cannot be fully corrected with glasses, contact lenses, surgery, or medications. They often experience glare and reduced contrast sensitivity in the early stages, progressing to constricted visual fields and reduced visual acuity in the more advanced stages of the disease. These affect their activities of daily living, mobility, occupation, social activities, and can also impact on their psychological and emotional well-being.

### Low Vision Glaucoma Nurse Counselling Service

SNEC offers specialised low vision glaucoma nurse counselling services to help patients with low vision or at risk of low vision maximise their functionality, take care of themselves, and be as independent as possible.

Introduced in September 2021 and led by Dr Olivia Huang, Consultant at Glaucoma Department, the service fills the gap for patients who could benefit from low vision services but may not yet need an assessment by a low vision optometrist or occupational therapist. Referrals to this counselling service are made by doctors. The counselling is done on the same day after the patient's doctor's consult, and there is no extra charge for it at present.

Senior Staff Nurse Ivy Png, one of the trained nurses leading the nurse counselling, shared that during the session, patients will receive information about low vision, basic coping techniques, and strategies to improve their visibility.

In cases where specialised attention is required, our doctor or nurse would refer patients to the low vision team comprising optometrists, who will assess their needs and make referrals to occupational therapists and medical social workers accordingly.

## Strategies to help patients live with low vision



Increasing contrast, using devices with large keys and leveraging tactile feedback or audio devices (e.g., bump dots and talking clocks)



Smartphone functions and phone apps which aid visibility



Reducing indoor and outdoor glare with filters



Visual aids like magnifiers, touch-screen braille tablets and artificial intelligence (AI) assistive technology, some of which can be browsed at and loaned from the STAAR (Smart Technology Active Ageing Resource) Corner at SNEC



Visual skills training such as using systematic scanning strategies to avoid obstacles



Low vision partners such as Singapore Association of the Visually Handicapped (SAVH), SPD (Society for the Physically Disabled), Guide Dogs Singapore and iC2 PrepHouse



The OptoAid dropper that helps patients with difficulties to instil their eye drops accurately and thereby promoting compliance with treatment



The STAAR Corner at SNEC provides trial and loan service of various assistive technology devices such as magnifiers, touch-screen braille tablets and more for patients with low vision.



*Losing vision affects simple activities and can trigger anxiety. But the support of our low vision glaucoma doctors, clinic and nurse counselling, coupled with resources and digital technology which have evolved manifold over the last five to ten years, can help patients cope and lead independent, fulfilling lives.* ”

### Coping with vision loss

With appropriate counselling and care, SNEC hopes to be able to raise awareness on low vision in glaucoma patients, in particular the difficulties they face, and how these can be alleviated by the use of adaptive strategies, visual aids, assistive technology, and caregiver training. This is so as to provide hope and support to patients who have already lost vision, or are at risk of losing vision.

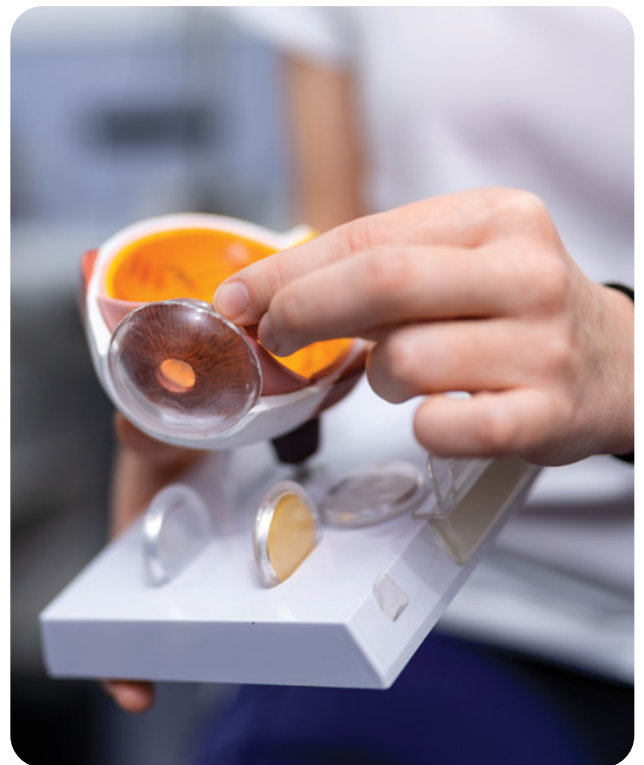
“Losing vision affects simple activities and can trigger anxiety. But the support of our low vision glaucoma doctors, clinic and nurse counselling, coupled with resources and digital technology which have evolved manifold over the last five to ten years, can help patients cope and lead independent, fulfilling lives,” said Dr Huang.

## ENABLING PATIENT ADVOCACY THROUGH EDUCATION

Having glaucoma or diagnosis for years does not mean a patient knows everything about the disease. It is thus important to equip patients with education and a psychosocial support network to enhance their health outcomes.

### Improving health outcomes through patient education

SNEC treats patients of all ages with congenital, open, closed, and secondary glaucoma of different severities, from newborns to adults over 100 years old. It is common for these patients to have a poor understanding of their conditions due to doctors' different communication styles and the variety of information available online. This in turn affects their compliance with medication, and can result in variable outcomes.





*Outcomes can be improved if patients are empowered with the right information and resources. Our aim is to provide them just that. ”*

“Patients can benefit from education in different ways, depending on the way we present information or the time when they are ready to learn something that changes their lifestyle. Outcomes can be improved if they are empowered with the right information and resources. Our aim is to provide them just that,” said Dr Lee Yi Fang, Associate Consultant, Glaucoma Department.

“We are constantly looking into comprehensive strategies to enhance our patients’ understanding of glaucoma. Pilot projects were conducted from November 2021 to February 2022 to provide accurate, up-to-date, and accessible information to patients; 73 out of the 85 patients said they had access to educational materials.”

Some initiatives piloted were:

- Screening educational and interactive videos in the waiting areas
- Displaying informational resources such as posters and QR codes on glaucoma, low vision and common eye conditions
- Deploying service ambassadors to spread awareness about eye conditions such as glaucoma. They also helped the elderly and visually impaired use the QR codes and enable accessibility functions on their smartphones.



Such information database is crucial to make counselling more effective and enable patients to make an informed choice about their treatment with a doctor. In the long run, these would become SNEC and Singapore's bank of comprehensive digital resources tailored to the wide needs of glaucoma patients.

## Transforming patient education

The impact of physical leaflets is limited by visual impairment, literacy and language barriers. Hence, building on these initiatives, Dr Lee's team is developing patient education videos and digital leaflets about glaucoma conditions and interventions like lasers and surgeries. In the near future, patients would be able to watch these audio-less videos in the clinic area with subtitles that can be translated into different languages. Alternatively, they could watch them comfortably at home via the SingHealth Health Buddy app, or read a printed transcript.

These resources will also transform the way patients are counselled. Doctors and nurses can play the videos while explaining their conditions and

necessary procedures to the patients. The benefits and risks of the suggested interventions can also be covered in detail, customised to each patient's needs. A visual aid would instil clearer expectations in the patients and overcome visual, linguistic and literacy hurdles.

## Glaucoma Patient Support Group

To provide psychosocial care to glaucoma patients and reinforce their learning, Dr Lee started a patient support group in April 2022. Her team holds once-a-month small group sessions in a hybrid format. Here, patients with different conditions, from all walks of life share common concerns with one another and their healthcare providers. They get to ask questions outside of a consultation and speak about various things — their medical conditions, treatment options, caring for their eyes and coping with day-to-day difficulties.

The feedback received was very encouraging — all the patients are keen to learn more about glaucoma. They also want to hear about how other glaucoma patients are managing their condition and its impact on their lifestyles. Participants reported feeling cared for during the support group sessions.

Dr Lee added that in the near future, this patient support group will also get incorporated into SNEC's new glaucoma patient referral protocol depending on their needs.

Scan the QR codes below for resources on:



Glaucoma



Low vision and assistive devices

# iCare HOME tonometer

## for daily eye pressure self-monitoring



Glaucoma patients can rent a home-monitoring device to measure intraocular pressure at home.

Daily intraocular pressure (IOP or eye pressure) monitoring is essential for patients with glaucoma. In many cases, elevated IOPs may not be detected during regular follow-up appointments. Understanding these pressure peaks can help control the disease and optimise the treatment regimen of the patient.

The iCare HOME tonometer enables glaucoma patients to measure their IOP at home, and the measurements are stored in a cloud database accessible to both the doctor and the patient. The device allows measurements to be taken at different times of the day for several days, thereby revealing IOP peaks that might not have been apparent at the clinic. The daily IOP information from the home measurements can help determine if a medication change or surgery is needed sooner rather than later.

The iCare HOME tonometer is light and easy to use. No anaesthesia or other preparations are needed for measuring IOP. Patients can rent the home monitoring device from SNEC, and they will be provided with instruction on how to use the device correctly.

### iCare HOME tonometer rental for glaucoma patients

Rental period	Number of IOP checks (On each day of the rental period)	Charges (inclusive of 5 days' rent, training and probes)
5 days	6 checks (7am, 8am, 10am, 2pm, 6pm, 9pm)	\$83 - \$160

# Observation Clinics

## for Patients with Stable Eye Conditions



Extending routine care to patients in the community.

Patients diagnosed with stable or at-risk glaucoma and retina conditions are referred to dedicated observation clinics for regular follow-ups by trained specialists. The specialists perform routine visual acuity tests and share the results with the eye doctors for backend review. A phone call or SMS subsequently informs the patients of the doctor's future management plans for them.

Observation clinic sessions are scheduled if the patient's eye condition requires continued monitoring. Once the patient is no longer at risk, no further actions are prescribed. Our trained specialists will counsel patients on self-monitoring their eye conditions at home by using the AlIeye app, Amsler Grid or iCare HOME monitoring device (also available on rent).

Patients with deteriorating eye conditions are referred to the doctor for further assessment. They may go to their nearest hospital's Emergency Department for an urgent eye consultation if needed.

### Glaucoma Observation Clinic

Patients receive regular monitoring of their eye condition by glaucoma specialists every year or 2-yearly. During the visit, the following tests will be conducted:

- Intraocular (eye) pressure testing
- Visual fields/optical coherence tomography (OCT) scan of the optic nerve

Doctors will assess and review the results within two months.

#### LOCATIONS

- 📍 SNEC Eye Clinic @ Bedok:  
Every Monday and Tuesday, 8.30am – 5.30pm
- 📍 SNEC Community Eye Investigation Unit @ Tiong Bahru Community Health Centre:  
Every Wednesday, 8.30am – 12pm, 1pm – 5pm
- 📍 SNEC Eye Clinic @ NHCS:  
Monday to Friday, 8am – 5pm

### Retina Observation Clinic

This new model of eye care is to ensure that patients receive regular monitoring for their stable retina eye conditions. The following tests will be performed after instilling dilating eye drops:

- Visual acuity
- Intraocular pressure testing
- Fundus imaging
- Optical coherence tomography (OCT) imaging

Doctors will assess and review the results within three to four weeks.

#### LOCATIONS

- 📍 SNEC Retina Centre  
Diabetes & Metabolism Centre (DMC), Level 2:  
Tuesday to Friday, 8.30am – 5.30pm
- 📍 SNEC Eye Clinic @ Bedok:  
Every Thursday and Friday,  
9am – 5pm, 8.30am – 5.30pm



# Medication Delivery Service

SNEC offers free medication delivery service to patients so they can continue to receive care with convenience and safety.

Patients can now skip waiting at the pharmacy and avoid the risk of virus transmission. SNEC gives patients the choice to receive both refrigerated and non-refrigerated medication from the convenience of their homes — without any delivery charges. They can opt for this service with five simple steps:

## Step 1: Check eligibility

- The delivery address is in mainland Singapore or Sentosa (excluding offshore islands and secured areas).
- The existing medication stock can last at least two weeks or until the planned delivery date.
- The original SNEC prescription is submitted to the pharmacy by the patient, doctor or nurse in electronic form.

## Step 2: Place order

Placed via HealthHub, Health Buddy or FormSG. Please call or email only if the above methods are inconvenient.

## Step 3: Receive confirmation

A confirmation email is sent. The pharmacy staff contacts the patient in case of changes to the requested delivery date or medications.

### Delivery Time Slots:

- 10am to 2pm
- 2pm to 6pm
- 6pm to 10pm

**Monday to Friday** (excluding public holidays and eves of public holidays)

## Step 4: Receive medications

Medications are delivered within five working days of order confirmation. Please ensure there is a person available to receive the delivery, otherwise re-delivery charges are applicable.

## Step 5: Pay bill

- The bill (which includes charges for medications, consultation and any tests ordered during consultation) is placed inside the parcel of medications.
- Make payment via AXS station/e-Station/m-Station, DBS iBanking, Health Buddy Mobile Pay, Mail Order, or a cheque issued to Singapore National Eye Centre. Patients aged above 60 years old are eligible to use Flexi-MediSave (S\$300 per year) to pay for their medications, subject to the CPF Board's approval.



To know more details and sign up for the service, please visit <https://www.sneec.com.sg/mds> or scan the QR code.





# Ensuring Patient Safety through Kaizen

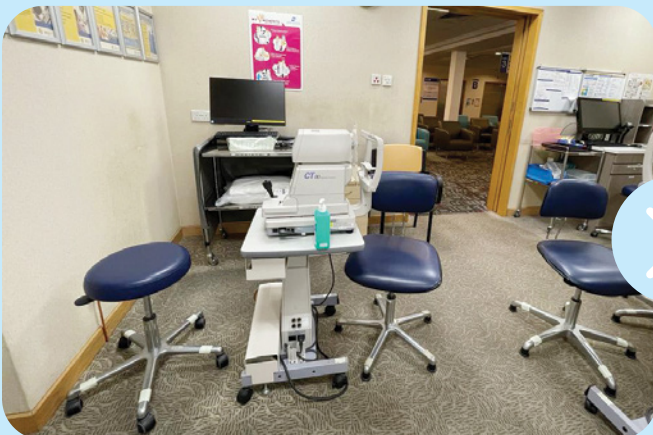
| SNEC nurses transformed — one small change at a time  
| — an evaluation room into a safer space for patients.

Kaizen is the Japanese notion of improvement. It is a method of bettering processes that can be applied to almost any industry, including healthcare, but its benefits extend far beyond business.

Workplace safety was evaluated and improved by our SNEC nurses in Clinic 3B Evaluation Room. The original room configuration led patients and staff to experience congestion and increased the risk of falls. As a result of the clutter, the workflow was inefficient, traffic piled up, and only one wheelchair patient could be seen at a time.

Using the Kaizen philosophy, the nurses worked together to resolve congestion and fall risks so that patients could receive better and safer care at SNEC. Over six months, small improvements were introduced as the nurses followed the Plan-Do-Check-Act framework and tested several drawings and footprints.

With the success of their project, the nurses have fostered better team cohesion and found greater meaning in their caregiving role. They continue to motivate other staff members enthusiastically to voice their suggestions and take initiatives to improve workplace safety for patients.



#### **Before:**

*In spite of relocating and removing the storage cabinets to free up more space, further reconfiguration was needed for wheelchair patients to manoeuvre easily. Satisfaction survey result – 30 per cent*



#### **After:**

*Manoeuvring wheelchair patients became seamless after rearranging the eye test machines to further optimise the space. Satisfaction survey results – 100 per cent*

# Championing Digital Literacy for People with Visual Impairment

| SNEC showcases its digital innovations and services at IMDA's Digital for Life Festival.

SNEC took part in the first Digital for Life (DFL) festival organised by InfoComm Media Development Authority (IMDA) on 29 May 2022. The festival was part of the DFL movement which seeks to spur Singaporeans from all ages and walks of life to embrace digital learning as a lifelong pursuit and create a digitally inclusive society.

A person with a visual disability is not disabled for life. SNEC used the festival platform to display its digital technologies which enrich and empower the lives of the visually-challenged. These included the EySEE app, the SingHealth Health Buddy app and video consultations with eye doctors.



### **SNEC Low Vision Service**

Electronic magnifiers to smartphones and tablets — participants were surprised and delighted by the various visual aids technology available for people with visual handicaps.

For more information on SNEC Low Vision Service, please email [LOW\\_VISION@sneec.com.sg](mailto:LOW_VISION@sneec.com.sg)



### **SingHealth Health Buddy App**

Visitors received guidance on using the SingHealth Health Buddy app to make appointments with just a few clicks. They also learnt to access eye and health educational information on the HealthXchange portal ([www.healthxchange.sg](http://www.healthxchange.sg)) and SNEC website.



### **SNEC Regional Eyecare System**

Participants gained confidence about eye care provided via video consultations through a simulated session.



### **SNEC's Digital Transformation Office (DTO)**

The DTO demonstrated the beta version of EySEE — its latest visual acuity self-monitoring app. It also took this opportunity to garner feedback for the app's further improvement.

# Roving Myopia Exhibition

SNEC has set up an educational and engaging exhibition to encourage children to practise good eye hygiene.



Myopia, also known as near- or short-sightedness, is an eye disorder where objects which are close appear clearly but those at a distance look blurry. The onset of this condition usually begins in childhood, and its prevalence in Singapore is among the highest in the world — eight out of 10 children are likely to wear glasses by Primary 6.

Though myopia cannot be cured, it can be prevented or controlled by practising good eye hygiene from an early age. Hence, as part of SNEC and SERI's drive to educate parents, children and the general public about myopia prevention, SNEC's Myopia Centre has created a roving exhibition.

The exhibition will be stationed at various public libraries, giving easy-to-understand information about myopia and the consequences of leaving it unchecked. Its displays are interactive and made even more engaging with illustrations inspired by the popular Amanda the Panda character all over them. Taking children on a visit to this exhibition is bound to be educational as well as entertaining!

*Visit the exhibition, spread its word and prevent myopia!*

## **CHENG SAN PUBLIC LIBRARY**

Level 3, Hougang Mall  
5 Jul to 31 Aug 2022

## **CLEMENTI PUBLIC LIBRARY**

Level 5, The Clementi Mall  
3 Sep to 31 Oct 2022

## **ANG MO KIO PUBLIC LIBRARY**

Level 1, Exhibition Space  
3 Nov to 31 Dec 2022

Check out the library opening hours at [www.nlb.gov.sg/visitus.aspx](http://www.nlb.gov.sg/visitus.aspx)

# Upskilling Courses for Ophthalmic Assistants, Ophthalmic Technicians and Senior Enrolled Nurses

I Accredited and recognised courses offer you a chance to develop your skills.

**O**phthalmic assistants, ophthalmic technicians and nurses are essential members of the healthcare community.

The Duke-NUS Basic Certificate for Ophthalmic Assistant and Ophthalmic Technician Course is offered by SNEC in joint affiliation with Duke-NUS Medical School, and is designed to integrate classroom theory, lab skills, and clinical experience to produce competent Allied Health Professionals in ophthalmology.

These Allied Health Professional training programmes were awarded the International Joint Commission on Allied Health Personnel in Ophthalmology (IJCAHPO) accreditation for excellence. They are also designed to meet the Commission on Accreditation of Ophthalmic Medical Personnel (CoA-OMP) standards and guidelines. The programme has been awarded a few awards of excellence, such as the GEM (Ground Breaking, Effective, Momentous) award from Singhealth Allied Health Innovative practice (AHIP) awards and the Golden Apple Award for programme excellence from AMEI. Currently, through a public-private partnership with Santen International, work is in progress for this programme to be offered in regional countries under the EYETRAIN project.

For senior enrolled nurses who wish to gain more knowledge and skills in advanced nursing and professional development, the Senior Enrolled Nurse Developmental Programme is intended for them.



*By taking the interdisciplinary Duke-NUS Basic Certificate for Ophthalmic Assistant and Ophthalmic Technician Course, I was not only able to gain knowledge beyond my job scope, but also acquired a deeper understanding of how different departments work together to ensure that patients are cared for properly.*

*I found the modules to be most helpful in advancing my career. In particular, the Pathophysiology and Investigations module provided me with additional insight into evaluating the condition of a patient through deciphering other tests (such as the visual field) offered outside of my department.*

*Anyone who is passionate about ophthalmology healthcare is highly recommended to enrol in this course to expand their knowledge of both theoretical and practical skills, as well as make new friends.*

**Joey Poh**

Senior Ophthalmic Investigation Technologist,  
Visual Electrodiagnostic Service, SNEC

## Duke-NUS Basic Certificate for Ophthalmic Assistant and Ophthalmic Technician Course Modules

### Module 1: Ophthalmic Anatomy, Physiology and Microbiology

- Gaining an overview of the eye's organisation
- Learning the visual pathway
- Grasping the effect of microbiological mechanisms on the eye

### Module 2: Pathophysiology, Pharmacology and Investigations

- Studying the principles of pathophysiology and pharmacology related to ophthalmology
- Understanding ophthalmic diseases, diagnostics, management and treatment
- Enhancing knowledge of drug administration, actions and reactions

### Module 3: Clinical Skills

- Mastering clinical skills and applying them in a clinical setting

### Module 4: Assisting in an Ophthalmic Environment (Ophthalmic Assistants) / Clinical Investigations (Ophthalmic Technicians)

- Developing further expertise in clinical skills which can be applied in an ophthalmic environment or for clinical investigations.



## Senior Enrolled Nurse Developmental (SEND) Programme

This programme is designed to upskill our existing senior enrolled nurses. It is a combination of Modules 1 to 4 of the above Ophthalmic Assistant and Ophthalmic Technician Courses with additional training in clinical skills such as:

- lid hygiene
- post-operation eye dressing
- lacrimal syringing
- irrigation
- Schirmer's Tear Test administration
- peripheral blood glucose monitoring
- incision and draining assistance



Scan the QR code to find out more about these courses.  
<https://www.s nec.com.sg/education-training/ophthalmic-nursing>

# A New Hope is in Sight

I Give a dollar and someone might be able to see again.

## The Eye Run/Cycle 2022

The Eye Run/Cycle 2022 is back this year, bigger and better, from 1 July to 31 August!

With its second edition, The Eye Run/Cycle 2022 is one of VisionSave's flagship fundraising events. Supporters from all over the world are invited to set their own distance to cover individually or as a team in this virtual event. All the proceeds will be used to advance innovative eye care research, treatment and education in Singapore and the region.

The first 1,000 local sign-ups will receive a \$50 Rudy Project cash voucher, while all participants will be given a Finisher T-shirt and an E-certificate of Achievement.

Special prizes await the top 10 individual longest distances achieved in each the Run and Cycle (Individual and Team). In addition, we are giving away merchandise from Rudy Project awarded to the best uploaded selfies. All prizes are generously sponsored by Mandarin Opto-Medic Co. Pte. Ltd.

Join our mission to prevent blindness and make an outright donation today. All donations are eligible for a tax deduction of 2.5 times the donation value.



Do your part today!

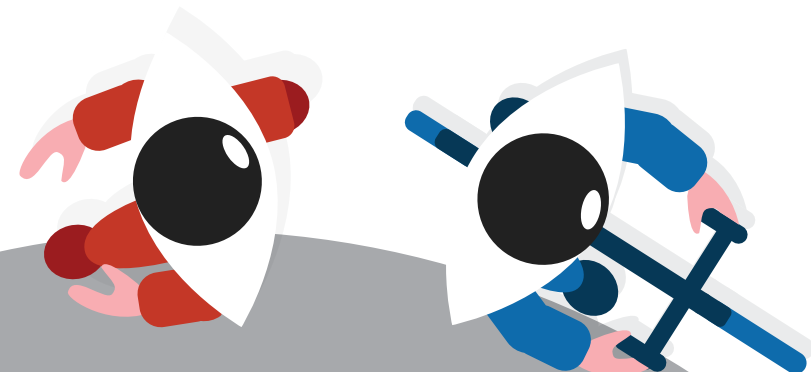


Register now!

## A \$686,000 boost to VisionSave for the Barry Cullen International Fellowship in Ophthalmology and Visual Sciences

With the generous contributions of our donors, VisionSave has successfully raised \$373,500 to establish the Barry Cullen International Fellowship in Ophthalmology and Visual Sciences\*. Our sincere gratitude goes out to all donors who have given steadfast support in establishing this fellowship! Your gift has been matched, dollar-for-dollar, by SNEC up to \$312,500 so the total amount raised for this Fellowship is now \$686,000.

The fellowship is part of VisionSave's drive to nurture future generations of eye care professionals. It aims to enhance the training of young clinicians and clinician-scientists in ophthalmology and visual sciences, particularly in the subspecialty of Neuro-ophthalmology. It will offer different fellowship options, such as one-year clinical or clinical research fellowships and six-month observerships.



### VIRTUAL RUN

#### Individual

10km | 21.1km | 42.2km: S\$25

#### Team (2 - 10 persons)

Set your team's total distance:  
S\$22 per person

### VIRTUAL CYCLE

#### Individual

40km | 90km | 181km: S\$25

#### Team (2 - 10 persons)

Set your team's total distance:  
S\$22 per person



The fellowship will be awarded to local and international fellows who intend to pursue subspecialty training at SNEC.

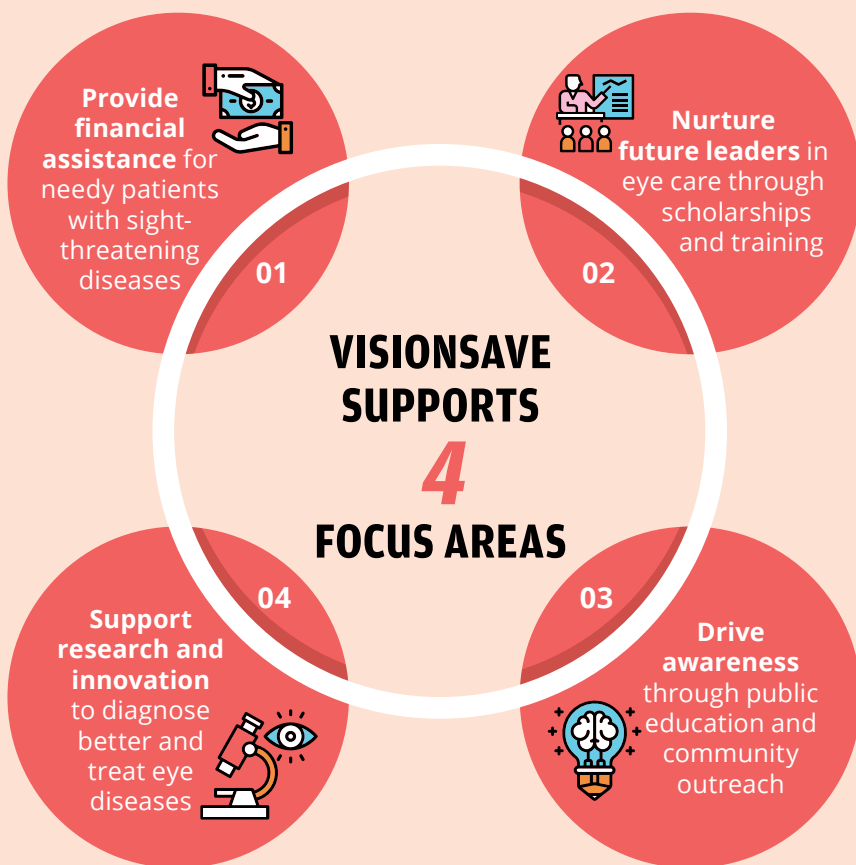
Serving as a tribute to the late Dr Barry Cullen, the fellowship honours his dedication and contributions in shaping the educational landscape of ophthalmology in Singapore and Malaysia, as well as in the advancement of Neuro-Ophthalmology worldwide.

The fellowship will lay the foundation of the awardee's subspecialty career, continuing the good work and nurturing spirit of Dr Cullen. Its other objectives include continually developing all areas of ophthalmology, and strengthening SNEC's outreach and profile globally.

*\* The naming of the fellowship is subjected to approval by SingHealth-Duke NUS*

## SAVE SIGHT, CHANGE LIVES

VisionSave is a fundraising initiative of SNEC and SERI to holistically enhance eye care delivery with the ultimate goal of saving, restoring and protecting our patients' vision. Your contribution goes a long way in improving the quality of life for needy patients and building the future of eye care.



Scan to donate

Share our vision and support us.

Learn more about VisionSave:

**Tel:** 6322 7438 / 6322 4505

**Email:** [visionsave@sneec.com.sg](mailto:visionsave@sneec.com.sg)

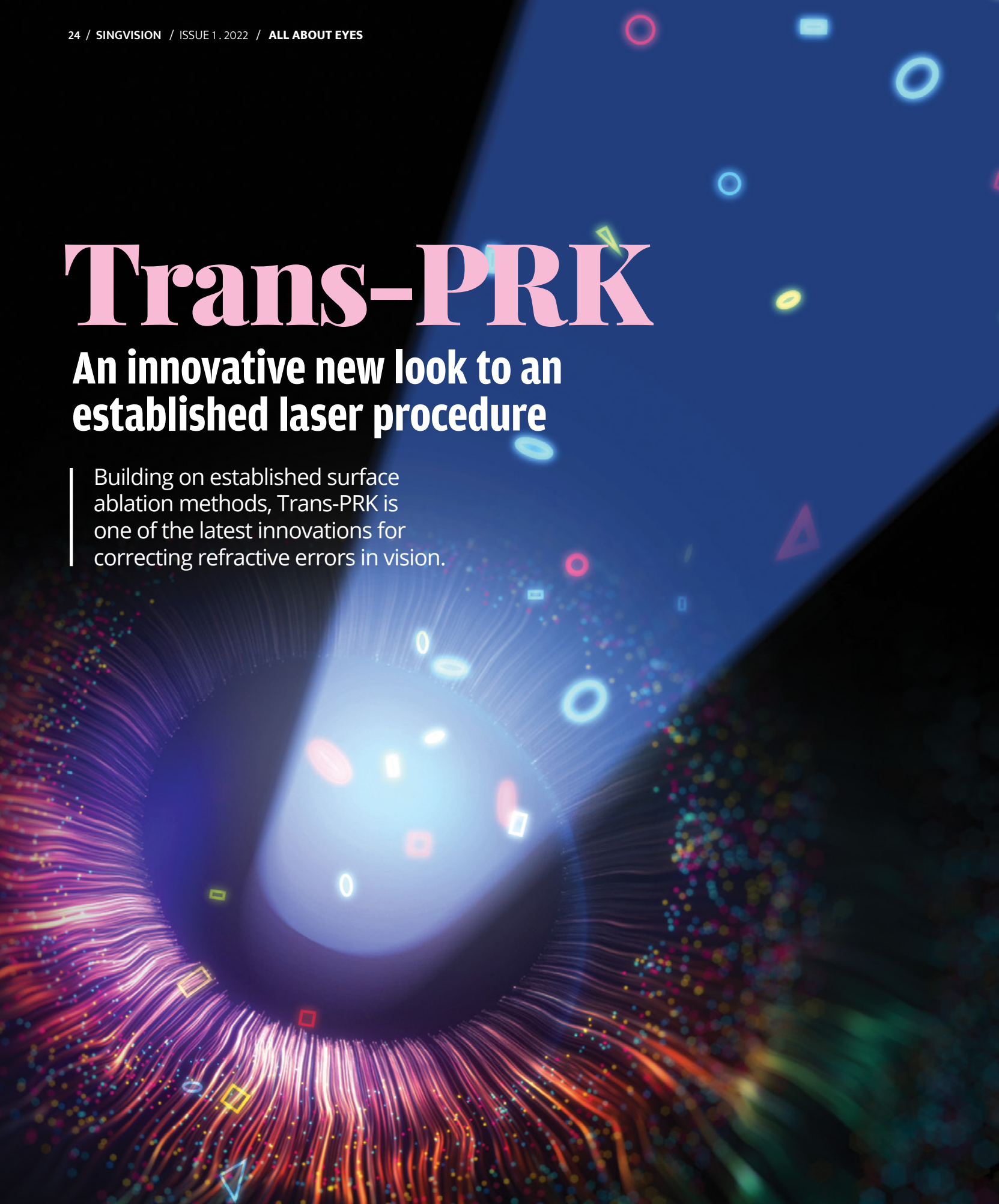
**Website:** [www.visionsave.sg/donate](http://www.visionsave.sg/donate)



# Trans-PRK

**An innovative new look to an established laser procedure**

Building on established surface ablation methods, Trans-PRK is one of the latest innovations for correcting refractive errors in vision.





**L**ASIK is the most renowned and colloquial term for eye surgeries which negate or reduce the need to wear spectacles or contact lenses. However, there are many other kinds of procedures, such as LASEK and Refractive Lenticule Extraction (such as SMILE procedure), which are performed to correct refractive errors.

Trans-epithelial Photorefractive Keratectomy (Trans-PRK) is innovated from Advanced Surface Ablation (ASA) methods that have been around for more than 30 years. It is a procedure in which the epithelium (outer layer of the cornea) is first removed with a phototherapeutic keratectomy laser (as opposed to diluted alcohol in LASEK), followed by a newer surface ablation method using a single excimer laser machine. A bandage contact lens is then applied on the eyes for up to a week, depending on the pace of healing.

## Advantages of Trans-PRK

According to Dr Tan Peng Yi, Associate Consultant, Refractive Surgery Department, this no-touch, all-laser Trans-PRK procedure can be more advantageous than conventional Advanced Surface Ablation (ASA) techniques for a variety of reasons:

- No mechanical removal of corneal tissue
- Shorter surgery time and better comfort
- Faster recovery from surgery
- No alcohol use

Also, Trans-PRK requires less corneal tissue than LASIK or Refractive Lenticule Extraction surgery. It is therefore suitable for individuals with thin corneas, dry eyes or those who play contact sports.

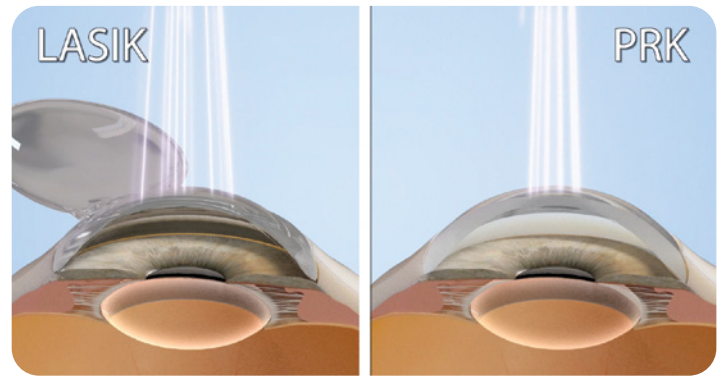
## Myths and facts of Trans-PRK

**Myth:** There is a risk of the laser zapping the wrong area if the eyeballs make involuntary movements.

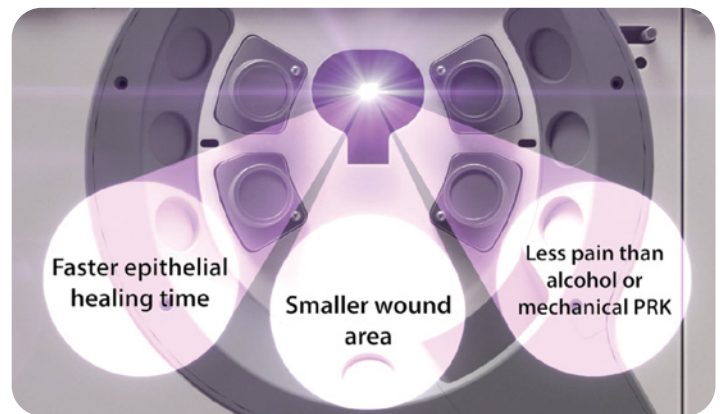
**Fact:** Most laser platforms have highly advanced eye tracking devices which compensate for any minor eye movements during the procedure. These active tracking systems follow the patient's eye position at a speed of up to 4,000 times per second and redirect the laser pulses precisely.

**Myth:** The results from Trans-PRK might not be as good as LASIK or SMILE.

**Fact:** Trans-PRK requires a longer recovery period than LASIK or SMILE. However, Trans-PRK clinical studies have shown good safety, efficacy and predictability. Its long-term outcomes are comparable to LASIK or SMILE.



(Above) Illustration comparing LASIK and PRK. Left: LASIK flap is lifted before excimer laser is applied. Right: PRK Excimer laser is applied directly onto the cornea after removing the corneal tissue. (Below) Advantages of Trans-PRK compared to conventional PRK. (Image credit: Alcon)



## Suitability for Trans-PRK

Suitable for people who:

- Wish to be spectacle and contact lens independent
- Are more than 21 years of age
- Have stable refraction, sufficient corneal thickness and a healthy cornea

Not suitable for people with:

- Eye diseases such as glaucoma, corneal scar and retinal issues
- Systemic issues such as connective tissue disorder and use of certain medications
- Pregnant women

# — Inspiring — resilience and strength through health challenges



A visually impaired couple clinches this year's Singapore Health Inspirational Patient & Caregiver Awards — we salute them!

**T**he extraordinary stories of patients and caregivers often motivate doctors, nurses and allied health professionals and other care team members to provide better healthcare services. To recognise the courage and strength of such individuals, the annual Singapore Health Inspirational Patient and Caregiver Awards (IPCA) were instituted in 2010.

Out of the 37 people felicitated in 2022, two are a married and visually impaired patient-caregiver duo. They are an exemplary model for perseverance and partnership in life.

— SINGAPORE HEALTH —  
**INSPIRATIONAL  
PATIENT &  
CAREGIVER**  
— AWARDS 2022 —

## Mdm Lim Yew Gek

### Conquering life's challenges

Mdm Lim Yew Gek realised she was losing her vision when reading the blackboards became difficult in primary school. The cause of this deterioration remained unknown and accelerated within a few months, due to which she was enrolled into the School for the Blind. Here, she completed her primary education and learnt basic life skills to lead an independent life despite a visual disability.

Yew Gek mastered getting by on her own and transitioned to a mainstream secondary school. However, a sharp pain in her right eye during this time revealed the root cause of her eye condition — glaucoma. She sat for her 'O' Level examinations in the hospital, around the time her right eyeball was replaced with a prosthetic one. Undeterred, Yew Gek began working right after her 'O' Levels.

"We should not let fear get in the way of living our lives. No matter what we can and cannot do, we should learn to put aside negative thoughts and live positively. This is how I overcome difficulties — one step at a time, one day at a time," Yew Gek said.

Over the years, Yew Gek became completely blind. However, she has continued working over the past four decades. She also leads a content married life with her husband, who is not just her caregiver but also visually impaired.

Marriage was not easy for the pair. They had to adapt to living together in a new home and had trepidations about raising a child as visually challenged parents. But their son, now 27, is healthy and compassionate. The couple continues living together with mutual love, care and a fondness for hiking.

"Yew Gek's story shows us that visual disability does not mean disability for life," said Aw Ai Tee, Deputy Director of Nursing (Clinics and Research) at SNEC. "All it takes is a positive attitude and constant striving to do our best in whatever we choose to do, that will make the greatest difference in our lives."

*Mdm Lim Yew Gek is a winner of the Singapore Health Inspirational Patient & Caregiver Awards 2022 (Patient Category)*



***We should not let fear get in the way of living our lives. No matter what we can or cannot do, we should learn to put aside negative thoughts and live positively.***



***In life, there will always be ups and downs. I prefer not to focus on the negative.***

## Mr Tan Wee Liam

### Partnering for life

Mr Tan Wee Liam was born eight weeks premature with Retinopathy of Prematurity, an eye disease caused by abnormal blood vessel growth in the retina. As a result, his right eye is blind, while the limited vision in his left eye has deteriorated further naturally with age.

Nonetheless, Wee Liam gets around familiar surroundings independently. He also transcribes and reproduces books in braille at the Singapore Association of the Visually Handicapped and teaches braille to adult visually handicapped clients.

At home, Wee Liam is the caregiver to his wife, Mdm Lim Yew Gek. But both are equal partners in their marriage. Yew Gek handles all the cooking while working as a receptionist, and Wee Liam takes care of everything else. They have also raised a good son together and make time to savour the little things in life such as music and audiobooks.

"Mr Tan is a capable caregiver," Aw Ai Tee remarked, "He helps his wife who needs a new ocular prosthesis with her medical appointments as he wants her to get the best care possible. His courage and positive attitude inspire us to do more for our patients."

Wee Liam said, "In life, there will always be ups and downs. I prefer not to focus on the negative. I know that I can turn to my friends and extended family for help and support when I need it, and am not afraid to ask for help when in public."

Wee Liam shares his experience with other visually impaired individuals, empowering them to live independently, too. And after retirement, he is looking forward to volunteer work — more time to touch lives in the community.

*Mr Tan Wee Liam is a winner of the Singapore Health Inspirational Patient & Caregiver Awards 2022 (Caregiver Category)*

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*This article is adapted from the Singapore Health Inspirational Patient & Caregiver Awards 2022 commemorative book.*

# What's wrong with my eyes, doc?

**Q** I have been wearing spectacles for myopia since my school days. However, as I near 40, reading fine print such as expiry dates causes a lot of strain, even though my spectacle power has remained constant all these years. In fact, I can see nearby objects better after I remove my spectacles. Why is this happening?

Everybody progressively loses the ability to see close objects between and around the ages of 40 to 65. This is a natural part of ageing caused by presbyopia — the loss of the eye lens' flexibility. This change prevents the eyes from altering their shapes to focus light on the retina. Nearby objects, then, appear blurry.

Presbyopia may also set in prematurely before the age of 40 due to consumption of drugs such as antidepressants or other conditions like cardiovascular disease and diabetes. The common symptoms of presbyopia include:

- Requiring more light while doing close work
- Getting eye strain, headaches or fatigue due to close work
- Having to hold reading material at a distance to see it properly

There is no way to prevent or cure presbyopia. A person's vision can only be corrected with certain measures:

## Reading glasses

If you have no other eye condition, you can purchase reading glasses without any prescription.

## Prescription glasses or contact lenses

If over-the-counter glasses do not give you enough clarity, or if you have an existing eye condition, you will need prescription glasses by a doctor. Multi-focal contact lenses may be possible in some patients.



## Surgery

Surgery may be possible for certain groups of patients who do not wish to wear spectacles or contact lenses. The various kinds of surgeries are:

- Laser-assisted in-situ keratomileusis (LASIK): Creating monovision by correcting one eye for near vision and the other for distance. This is mainly for patients with pre-existing myopia and presbyopia.
- Cataract surgery with presbyopic intraocular lens implant: for patients with cataract, removing the cataract and inserting a synthetic presbyopic intraocular lens implant is a good option.

Presbyopia is not a threat to your vision. But please consult a doctor before taking any measures to correct it.



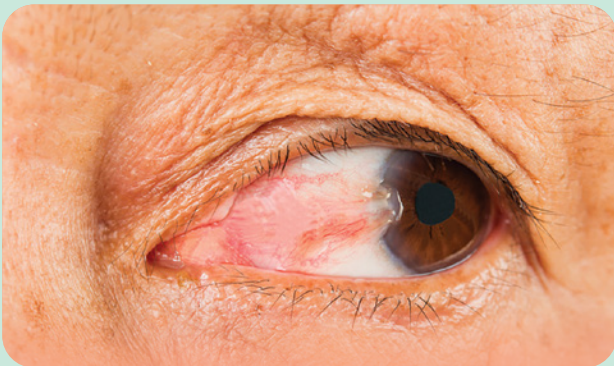
Clin Assoc Prof Mohamed Rosman, Head & Senior Consultant, Refractive Surgery Department, SNEC



Scan to find out more

## Q There is a white glob growing in my eye. It looks unpleasant and rather scary. It also feels like there is constantly something in my eye. Should I be worried? Or will this go away on its own?

You may have a pterygium. A pterygium is a fleshy and wing-shaped overgrowth of the transparent membrane over an eye's surface. It may appear white or pinkish, show fine blood vessels and grow from either or both corners of the eyes.



Though a pterygium looks alarming, and its growth cannot be stopped, it is harmless. It requires medical attention only if it causes irritation or — in rare cases — grows big enough to affect vision. Its typical effects, which range from mild to severe are:

- Red or swollen eyes
- Dry, itchy or burning eyes
- The feeling of a sand-like substance stuck in the eyes

### Treatment

Most patients do not need any treatment unless they are facing discomfort due to the pterygium. Any irritation, inflammation or swelling can be managed with ointments or steroid drops, depending on the level of severity.

While surgery is the only solution to removing a pterygium altogether, it will be suggested only if:

- The ointments or steroid drops do not provide any relief
- The growth affects or threatens to affect your vision
- It bothers the patient aesthetically

The most recommended procedure is a conjunctival autograft surgery. This involves removing the pterygium and transplanting a patch of membrane from the patient's eye over the surgical site. There are typically minimal complications, and the chances of the pterygium recurring are less than five per cent.

### Preventing pterygium, slowing its growth or deterring its return post surgery

The exact cause of pterygium is unknown. However, it is believed to result from long-term exposure to a combination of factors such as ultraviolet light from the sun and irritants like dust, wind and smoke. The condition is most prevalent among men between the ages of 20 to 40 who live in tropical climates and spend a lot of time outdoors. People can safeguard themselves from pterygium by:

- Wearing UV-protecting sunglasses and a wide-brimmed hat even on cloudy days
- Using artificial tears or eye drops if they live in a dry climate



Scan to find out more



*Prof Jodhbir Mehta, Senior Consultant, Corneal & External Eye Disease Department, SNEC*

# Applauding our doctors for their exemplary

## SNEC KEY LEADERSHIP APPOINTMENT

Deputy Chief Executive Officer (Education), SNEC;  
Academic Vice-Chair (Education), SingHealth Duke-NUS Ophthalmology & Visual Sciences Academic Clinical Programme (EYE ACP)



**Clin Assoc Prof Anshu Arundhati**

Programme Director, Fellowships, SNEC;  
Senior Consultant, Corneal & External Eye Disease Department and Refractive Surgery Department, SNEC

## NEW APPOINTMENTS

Head, SNEC Eye Clinic @ CGH



**Dr Yvonne Chung**  
Senior Consultant, Oculoplastic Department, SNEC

Head, SNEC Eye Clinic @ SKH



**Dr Alsagoff Sharifah Zainah**  
Senior Consultant, Cataract & Comprehensive Ophthalmology Department, SNEC

**SingHealth Duke-NUS Ophthalmology & Visual Sciences Academic Clinical Programme (EYE ACP)**

Clinical Director, Myopia Service



**Assoc Prof Audrey Chia**  
Co-Clinical Director, Myopia Centre;  
Academic Vice-Chair, Faculty & Professional Development;  
Head and Senior Consultant, Paediatric Ophthalmology & Adult Strabismus Department, SNEC

# efforts and contributions

**Clinical Director,**  
Complex Anterior Segment  
Service (CAS Service);  
**Programme Director,**  
SingHealth Ophthalmology  
Residency Programme



**Assoc Prof Shamira Perera**  
Senior Consultant,  
Glaucoma Department, SNEC



**Dr Shah Janika Narendra**  
Staff Registrar,  
Clinical Services Department, SNEC



**Dr Yamon Thant Syn**  
Clinical Associate,  
Clinical Services Department, SNEC

**Academic Vice-Chair,**  
Strategy, Innovation &  
Organisation Transformation



**Assoc Prof Gavin Tan**  
Head,  
Ocular Diagnostic Department, SNEC;  
Senior Consultant,  
Surgical Retina Department, SNEC

**Programme Director,**  
Undergraduate Education



**Dr Loo Jing Liang**  
Head & Senior Consultant,  
Neuro-Ophthalmology Department, SNEC

**Deputy Programme  
Director,**  
Undergraduate Education



**Dr Low Jin Rong**  
Clinical Director,  
Pharmacy Service;  
Consultant,  
Glaucoma Department, SNEC

## Applauding our doctors for their exemplary efforts and contributions

### PROMOTIONS

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**Dr Jay Siak**

Senior Consultant,  
*Ocular Inflammation & Immunology  
Department, SNEC*



**Dr Deborah Tan**

Senior Consultant,  
*Paediatric Ophthalmology & Adult  
Strabismus Department, SNEC*



**Dr Yang Xu**

Senior Resident Physician,  
*Primary Eyecare Clinic (PEC), SNEC*

### THE OPHTHALMOLOGIST POWER LIST 2022

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**Prof Wong Tien Yin**

Senior Advisor,  
*SingHealth Board of Advisors, SingHealth;*  
Senior Consultant,  
*Medical Retina Department, SNEC*



**Prof Jodhbir Mehta**

Senior Consultant,  
*Corneal & External Eye Disease  
Department, SNEC*



**Prof Gemmy Cheung**

Head & Senior Consultant,  
*Medical Retina Department, SNEC*



**Assoc Prof Daniel Ting**

Consultant,  
*Surgical Retina Department, SNEC*



# SINGHEALTH DOCTORS AND DENTISTS LONG SERVICE AWARD 2022

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## 20 Years of Service

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**Clin Assoc Prof  
Khor Wei Boon**

Senior Consultant,  
*Corneal & External Eye Disease  
Department and Refractive Surgery  
Department, SNEC*



**Dr Ranjana Mathur**

Senior Consultant,  
*Medical Retina Department, SNEC*

## 30 Years of Service

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**Dr Wee Tze Lin**

Senior Consultant,  
*Cataract & Comprehensive  
Ophthalmology Department, SNEC*



**Dr Ng Wei Yan**

Associate Consultant,  
*Cataract & Comprehensive  
Ophthalmology Department, SNEC*



**Dr Fiona Lim**

Consultant,  
*Glaucoma Department, SNEC*



**Dr Yap Zhu Li**

Consultant,  
*Glaucoma Department, SNEC*



**Assoc Prof Daniel Ting**

Consultant,  
*Surgical Retina Department, SNEC*

## *Applauding our doctors for their exemplary efforts and contributions*

### **AWARDS**

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#### **ARVO 2022**

##### **ARVO International Travel Grant**

Dr Sayantan Biswas  
Dr Rachel Chong  
Ms Isabella Loh  
Dr Muralidharan Arumugam Ramachandran  
Ms Calesta Teo  
Ms Wong Qiu Ying

##### **BrightFocus Foundation Travel Grant**

Dr Fabian Braeu

#### **Distinguished Senior Clinician Award 2021**

Clin Assoc Prof Sharon Tow

#### **National Medical Research Council (NMRC)**

##### **Clinician Scientist Award – Investigator**

Dr Liu Yu-Chi  
Assoc Prof Gavin Tan

##### **NMRC HPHSR Clinician Scientist Award**

Assoc Prof Charumathi Sabanayagam

##### **NMRC Transition Award**

Assoc Prof Marcus Ang

##### **NMRC Research Training Fellowship**

Dr Fiona Lim

#### **NMRC's Open Fund – Large Collaborative Grant (OF-LCG)**

##### **The Glaucoma Team**

Prof Aung Tin (Lead PI)  
Prof Leopold Schmetterer  
Prof Jonathan Crowston  
Prof Tina Wong  
Prof Cheng Ching-Yu  
Adj Prof Khor Chiea Chuen  
Assoc Prof Michael Girard  
Assoc Prof Shamira Perera  
Assoc Prof Victor Koh  
Dr Jayant Venkatramani Iyer

#### **SingHealth Excellence Awards 2022**

##### **Distinguished Mentor Award**

Assoc Prof Audrey Chia

##### **Distinguished Visionary Leader Award**

Prof Tina Wong

##### **GCEO Outstanding Clinician Award**

Assoc Prof Shamira Perera

#### **SingHealth Publish! 2021 Award**

Prof Dan Milea  
Dr Raymond Najjar

#### **Khoo Postdoctoral Fellowship Award 2022**

Dr Venkatesh Mayandi

# SNEC PROVIDES EYE TREATMENT FOR THE FULL SPECTRUM OF EYE CONDITIONS:

- *Cataract & Comprehensive Ophthalmology*
- *Corneal & External Eye Disease*
- *Glaucoma*
- *Medical Retina*
- *Neuro-ophthalmology*
- *Ocular Inflammation & Immunology*
- *Oculoplastic*
- *Ophthalmic Pathology*
- *Paediatric Ophthalmology & Adult Strabismus*
- *Refractive Surgery*
- *Surgical Retina*

## CONSULTATION BY APPOINTMENT:

☎ 6227 7266    ✉ [appointments@sneec.com.sg](mailto:appointments@sneec.com.sg)  
📍 [www.sneec.com.sg](http://www.sneec.com.sg)

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### WHERE WE ARE

11 Third Hospital Avenue  
Singapore 168751  
[www.sneec.com.sg](http://www.sneec.com.sg)



### OPENING HOURS

8:30am to 5:30pm  
Mondays to Fridays

*No clinic sessions on  
Saturdays, Sundays and  
Public Holidays*



### VALET SERVICE

Valet service is available for SNEC patients at \$3.00. Parking charges of \$0.036 per minute (or \$2.16 per hour) applies on top of the valet parking fee.

Operating hours:  
7:00am to 5:30pm | Mondays to Fridays

## GP Hotline: 6322 9399

A dedicated line for GPs attending to patients with eye conditions.

# SNEC BRANCHES *and* AFFILIATED CLINICS

## Central

- 1 Singapore National Eye Centre**  
11 Third Hospital Avenue  
Singapore 168751  
Tel: 6227 7266
- 2 SNEC Eye Clinic @ NHCS  
National Heart Centre Singapore**  
5 Hospital Drive, Level 4, 4C  
Singapore 169609  
Tel: 6704 8289
- 3 SNEC Retina Centre  
Diabetes & Metabolism  
Centre (DMC), Singapore  
General Hospital**  
17 Third Hospital Avenue  
#02-00 Singapore 168752  
Tel: 6421 8500
- 4 KK Eye Centre KK Women's  
and Children's Hospital**  
100 Bukit Timah Road  
Level 1, Children's Tower  
Singapore 229899  
Tel: 6394 1930 / 6394 1931
- 5 SNEC Community Eye Clinic  
@ HPB Building**  
3 Second Hospital Avenue  
#03-04, Health Promotion  
Board Building  
Singapore 168937  
Tel: 6322 4584

## North East

- 6 SNEC Eye Clinic @ SKH  
Sengkang General Hospital**  
Medical Centre, Level 8  
110 Sengkang East Way  
Singapore 544886  
Tel: 6930 2802
- 7 SNEC Community Eye Clinic  
@ Punggol Polyclinic**  
Blk 681 Punggol Drive  
Oasis Terraces, #04-12  
Singapore 820681  
Tel: 6718 2590

## East

- 8 SNEC Eye Clinic @ Bedok**  
Blk 212 Bedok North Street 1  
#03-147 Singapore 460212  
Tel: 6843 5001
- 9 Myopia Centre**  
Blk 212 Bedok North Street 1  
#03-147 Singapore 460212  
(Located at SNEC Eye Clinic  
@ Bedok)  
Tel: 6227 7255
- 10 SNEC Eye Clinic @ CGH  
Changi General Hospital**  
2 Simei Street 3,  
Medical Centre, Level 1  
Singapore 529889  
Tel: 6850 3333



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