

ISSUE **1/2021**

Singapore National Eye Centre  
SingHealth

SINGAPORE EYE RESEARCH INSTITUTE

# SING VISION®

Tomorrow's Eye Care, Today®  
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A publication of Singapore National Eye Centre & Singapore Eye Research Institute

**AT THE FOREFRONT:**  
LATEST DEVELOPMENTS  
IN CORNEAL  
PRESERVATION  
AND DONATION

**SPOTLIGHT:**  
THE PATIENT  
JOURNEY FROM  
CONSULTATION TO  
POST-SURGERY

**HERE'S LOOKING AT:**  
STORIES OF SINGAPORE  
HEALTH INSPIRATIONAL  
PATIENT & CAREGIVER  
AWARD WINNERS



## CLEARING YOUR CLOUDY VISION

EVERYTHING ABOUT CATARACTS AND CATARACT SURGERY

SingHealth **DukeNUS**  
ACADEMIC MEDICAL CENTRE

PATIENTS. AT THE HEART OF ALL WE DO.®



# Editor's Note

Most people start developing cataracts in their early 50s, but they may not be aware of its causes, symptoms and treatment method. In this issue's Cover Story (page 6), SINGVISION speaks to Dr Melissa Wong, Senior Consultant at SNEC's Cataract & Comprehensive Ophthalmology Department, to debunk common myths about the eye disease and find out why patients should not delay cataract surgery.

In April, we bade farewell to Ms Charity Wai, who has relinquished her role as SNEC's Chief Operating Officer after 31 years of sterling service and leadership. Take a look back at her illustrious career through photos on page 12.

In the Spotlight section, we cover a wide range of topics, including the services at SNEC that cater to patients with low vision and refractive errors (page 14), roving Myopia Exhibition (page 21), highlights from the inaugural SERI Research Day (page 22), and more. The patient journey guide on page 16 illustrates the process from the time of your specialist consultation to post-operative discharge. Bookmark the page for all the necessary information you need to prepare for an eye surgery at SNEC.

Edwin Tan may have suffered from poor vision since young, but that has not deterred him from living life to the fullest and giving back to society. On the other hand, taxi driver Tan Lai Hock has no qualms about going above and beyond for his aged regular passenger. Read about their heart-warming and inspiring stories on page 24.

Last but not least, we are proud to present the 94 staff and faculty who were recognised by the Singapore Health Quality Service Awards for their exceptional contributions in the nation's fight against COVID-19 (page 28). We would also like to extend our heartiest congratulations to our SNEC and SERI colleagues featured in this section for their various accomplishments and achievements.

We hope you continue to keep safe and well. Happy reading!

The Editorial Team

Follow us on:



Singapore National Eye Centre is the designated national centre within the public sector healthcare network. It spearheads and coordinates the provision of specialised ophthalmological services, with emphasis on quality education and research.



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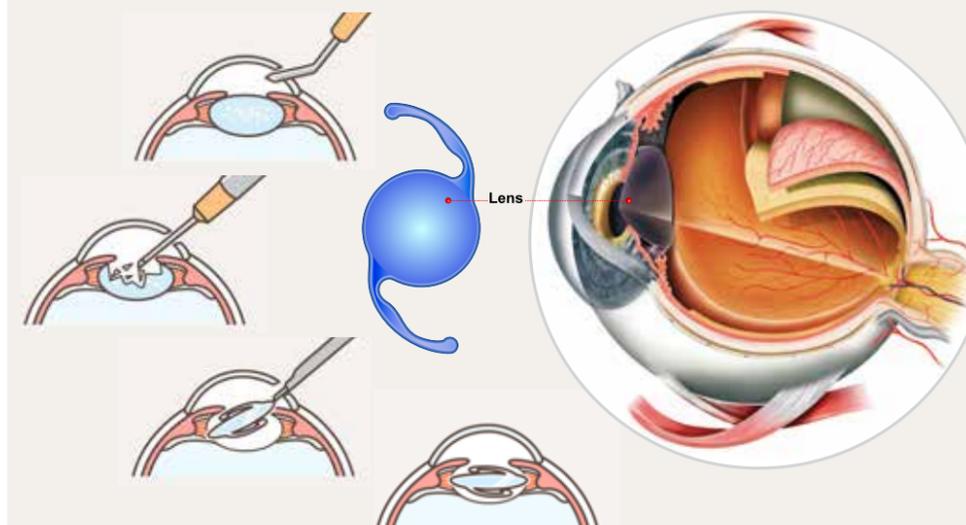
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# Eyes on the future

A look at the latest developments in corneal preservation and donation.

There are certain human tissues that can be extracted and stored for future use – for example, cord blood, eggs and sperm. With a newly introduced service, it is now possible to freeze your own corneal tissue and use it to treat presbyopia or other eye conditions that you may develop later in life.

Small incision lenticule extraction (SMILE) is a type of refractive eye surgery (similar to LASIK), which reduces patients' dependency on glasses for distance vision. During this surgery, a laser cuts a tiny disc-shaped piece of corneal

tissue called the corneal lenticule, which is then removed via a keyhole incision.

The corneal lenticule is usually thrown away after the procedure. However, the tissue has potential for other uses as it is shaped like a lens with a specific power. A lenticule with 300 degrees of myopia will be like a lens with a corrective power of 300 degrees.

Patients typically develop presbyopia (the loss of ability to focus on near objects) in their 40s, and require reading glasses or plastic implants to correct their

vision. Clin Prof Donald Tan, Visiting Senior Consultant of SNEC's Corneal & External Eye Disease Department, said that if a patient's own lenticule were to be re-implanted, it can correct this eye condition with minimal risk of inflammation, scarring or rejection.

To establish a long-term storage facility for corneal lenticules, Clin Prof Tan and Prof Jodhbir Mehta, Head and Senior Consultant at SNEC's Corneal & External Eye Disease Department, worked with local company Cordlife Group, which owns various international cord blood banks, to develop OptiQ.

The first in the world to offer such a service, OptiQ was officially licensed by the Ministry of Health in January 2021 and launched on 3 March 2021. Cordlife's facility has the capacity to store the lenticules below -150°C. Corneal lenticules may be able to treat not only presbyopia, but also other conditions such as hyperopia, aphakia, and corneal perforation. Although the use of lenticules in treatment is still being trialled, the key is in preventing wastage of tissue by storing it for potential future use.

"Almost every one of us will have presbyopia after the age of 40. We believe this advancement in ophthalmology can help a lot of people, and take healthcare in Singapore to the next level," said Prof Mehta.

## OFFER THE GIFT OF SIGHT

The cornea is the transparent, protective tissue that covers the front part of the eye, and helps the eye to focus light and see clearly. An infection, eye injury, congenital condition or age-related degenerative eye disease can result in a cloudy cornea, leading to poor vision or even blindness. But as long as the nerve and retina at the back of the eye are still healthy, patients can benefit from a corneal transplant.

A corneal transplant involves replacing the diseased cornea with a healthy cornea from a donor. The procedure has the potential to fully restore vision.

Nearly 500 corneal transplants are performed in Singapore every year. However, the number of donors has been declining in recent years,

with donations falling to a five-year low of 141 in 2019, according to Clin Assoc Prof Anshu Arundhati, Senior Consultant at SNEC's Corneal & External Eye Disease Department, and Clinical Director at Singapore Eye Bank.

Despite the support from reputable US eye banks, there is still an urgent need to strengthen the local supply of donated corneas as the overseas supply can be disrupted at any time, especially during a pandemic.

While there is no existing man-made alternative for a human cornea, SNEC and SERI are currently developing tissue-engineered constructs. If successful, a pair of donor corneas can create up to 80 constructs and potentially alleviate any shortfall in the future.



## About cornea donation

Blood type, age, eyesight and eye colour are not factors for cornea donation. However, corneas of individuals who had communicable diseases, certain cancers and neurological conditions, eye diseases, and other illnesses that may compromise the safety and quality of the tissue will not be accepted.

Cornea removal is usually performed shortly after a donor's death. The eyeball is kept intact during the process, with the body of the deceased treated with utmost respect. It will not result in any form of disfigurement, and an open-casket funeral service can proceed.

In Singapore, the Human Organ Transplant Act (HOTA) allows for the kidneys, heart, liver and corneas to be removed – for the purpose of transplantation – in the event of death from any cause. HOTA covers all Singapore Citizens and Permanent Residents aged 21 years and above who do not have mental disorders, unless they have opted out of the scheme.

Find out more about cornea donation at: [www.liveon.gov.sg/organ-supporter.html](http://www.liveon.gov.sg/organ-supporter.html)



and [www.snec.com.sg/SEB](http://www.snec.com.sg/SEB)



# All about cataracts and cataract surgery

Cataract surgery is the most common surgery performed in SNEC. This article tells you everything you need to know about cataracts and cataract surgery.

In the majority of cases, people start to develop cataracts in their early 50s but their vision does not get affected until after the age of 60. Most cataracts develop slowly and may not be noticeable in the earlier stages of the condition.

In other cases, cataracts may be related to eye trauma, long-term diabetes,

corticosteroid medications or radiation treatments.

SINGVISION speaks to Dr Melissa Wong, Senior Consultant at SNEC's Cataract & Comprehensive Ophthalmology Department, to clarify common misconceptions of cataracts and understand why patients should not delay cataract surgery amid the current pandemic.

## Cataract in a nutshell

### What is cataract?

A condition whereby the natural lens in the eye becomes progressively cloudy, preventing sufficient light from entering the eye and thus reducing vision.



Normal

Cataract

### Causes

Most common cause: Ageing



2 preventable causes of cataract formation:

- ▶ Smoking
- ▶ Ultraviolet radiation exposure (from sunlight)

Cataract can also occur at a younger age if you:

- ▶ Have poorly controlled diabetes
- ▶ Take certain types of medication, such as corticosteroids
- ▶ Are born with it (congenital)
- ▶ Have experienced previous trauma to the eye

### Symptoms

Most common ones include:

- ▶ Cloudy or blurry vision
- ▶ Poor night vision
- ▶ Colours look faded
- ▶ Glare and haloes
- ▶ Frequent prescription changes in your glasses or contact lenses

### Detection

Cataract is detected through a comprehensive eye examination by an ophthalmologist. Visit an eye doctor if you experience any of the above symptoms.





### WHEN TO GO FOR CATARACT SURGERY

Cataracts cannot be cured with medications or eye drops. Lifestyle adjustments, such as changing your spectacle lens power, using a magnifying glass to read or improving the lighting at home, can be adopted in the early stages.

When the condition starts interfering with one's daily activities, such as driving and watching television, the cataract needs to be removed. Cataract surgery is a safe and effective procedure that is performed as a day surgery.

At SNEC, ophthalmologists undergo strict and guided training to ensure the safety of patients. Our paramedical staff are also

well trained in taking accurate eye measurements, which are crucial in obtaining good surgical outcomes. In addition, we handle complex cataract surgery in children, trauma patients, as well as those with certain congenital and medical conditions.

### PREPARING FOR SURGERY

Once you have decided to do surgery, you will be advised on how to prepare for it. You will need to go for pre-operative tests within three months of your surgery date. These include the blood pressure test, urine test, electrocardiogram, blood sugar test, and eyeball length measurements.

As with any surgery, cataract surgery poses risks such as infection and bleeding. You may

be asked to temporarily stop taking medications that may increase the risk of bleeding during the procedure.

The main technique used for cataract surgery at SNEC is phacoemulsification, in which a small ultrasonic probe is inserted into the eye via a small incision. This probe breaks the cloudy lens into tiny pieces and aspirates these fragments out of the eye. An artificial lens called an intraocular lens (IOL) is then implanted where the natural lens used to be.

"Every year, surgeons around the world introduce new surgical devices to make phacoemulsification more efficient. We have refined it with smaller wound incisions, and adopted the use of femtosecond laser," said Dr Wong, who has been performing cataract surgery since 2007 and received specialist accreditation in 2013.

"Femtosecond laser aids in the creation of a more well-centred capsular opening and segmentation of the cataract into many pieces. This increases the efficiency of phacoemulsification and is especially useful in the more complicated cataracts."

Cataract surgery generally takes less than 30 minutes. An anaesthetist will be present to administer sedation. Depending on the individual, you may not be totally asleep but you will remain

comfortable. Anaesthetic eye drops and injections will be given to minimise pain. It is important to avoid talking and moving your head and body during the surgery. Most of the time, the wound does not require stitching.

### LENS IMPLANTS

IOLs have evolved over the years along with medical technology advancements. These lens implants are largely categorised as monofocal without astigmatism correction, monofocal with astigmatism correction (toric), and multifocal lens.

Monofocal lenses provide excellent distance vision correction but not near vision, so patients would still need glasses for near work, such as reading, after surgery.

Multifocal lenses are lenses of convenience that offer good distance, intermediate and near vision. However, multifocal lenses can cause glare and haloes, and compromise near vision in dim lighting. "I always tell my patients that multifocal lenses are not miracle lenses. They are simply more convenient with some trade-offs," said Dr Wong.

"Newer lenses are constantly being evaluated at SNEC. There are newer multifocal lenses that allow for better intermediate and near vision without much compromise on the quality of distance vision. Currently, the latest monofocal lenses also give patients the ability

*Newer lenses are constantly being evaluated at SNEC. There are newer multifocal lenses that allow for better immediate and near vision without much compromise on the quality of distance vision.*

to have fair intermediate vision," she added.

### POST-SURGERY CARE

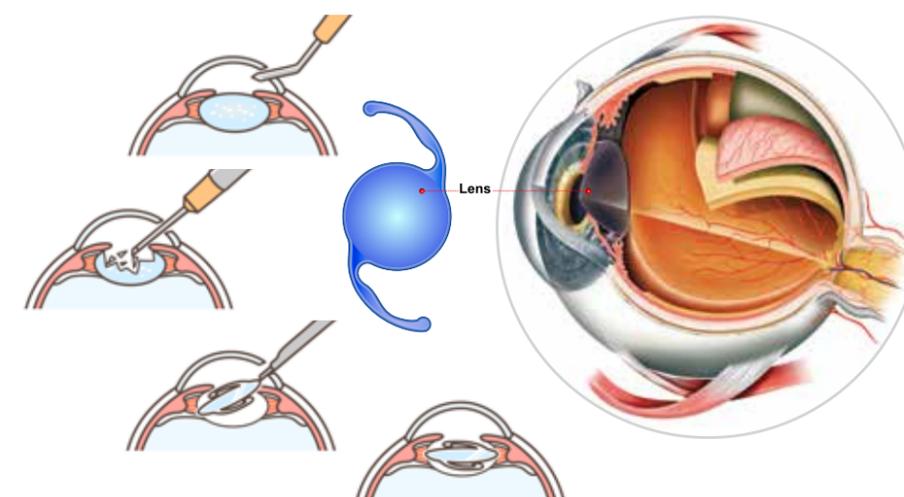
After the surgery, you must keep your eye clean, wash your hands before touching your eye, and use the prescribed medications to minimise the risk of infection. Serious infection can result in loss of vision.

Cover your eye with an eye shield on the day of surgery and every night while sleeping for one week. You should also prevent

contaminated water from entering the eye when cleaning your face.

Apply antibiotic and steroid eye drops as prescribed. You may experience an occasional itch, sandy feeling and/or tearing for a few days or weeks after surgery. Artificial tears can be used to relieve this sensation.

It typically takes two to four weeks for patients to recover. Any glasses required should be prescribed between three and six weeks after surgery.



An illustration of the cataract surgery process, including removal of the cloudy lens and implantation of an intraocular lens



## Myths debunked

Dr Wong addresses common misconceptions and frequently asked questions about cataracts and cataract surgery.

### What is the biggest misconception of cataract?

Many people think that they need to wait till their cataracts are "very ripe" before opting for surgery. They believe that if the cataract is "not ripe" enough, it cannot be removed. In reality, waiting for the cataract to turn dense may cause the surgery to be potentially more complicated and result in longer visual recovery time.

### Can cataract surgery be done on both eyes at the same time?

Cataract surgery itself carries a small risk of endophthalmitis (severe ocular infection), hence we strongly discourage performing surgery on two eyes simultaneously. But there are cases, such as mentally incapacitated patients who require general anaesthesia and have significant cataracts in both eyes, where we may opt to operate on two eyes at the same time.

There is no definite recommended time interval between surgeries, as this depends on the degree and density of the cataract in the fellow eye, as well as the patient's occupation and lifestyle. If patients are able to cope with vision in the fellow eye, it is advisable to wait till the operated eye has fully recovered.

### What defines a successful cataract surgery?

At SNEC, we define success as best-corrected visual acuity (BCVA) of 6/12 or better. According to our audit in 2020, 99% of our patients were able to achieve this outcome after cataract surgery [see page 11].

Personally, I feel that as long as the patient is satisfied with the result, the surgery is also considered a success. A patient with perfect vision (6/6) may not necessarily be happy due to other visual complaints, so success should not be defined by just a number; it should be evaluated based on patient feedback and their overall well-being post-surgery.

### Can cataract surgery improve other eye conditions?

Cataract surgery with IOL implantation can almost fully correct refractive errors such as myopia, hyperopia, astigmatism, and to a large extent, presbyopia.

### How long can the lens implant last? Can a cataract come back after surgery?

The IOL implant usually lasts a lifetime. After cataract surgery, it is not possible for a cataract to come back because the natural lens, which had turned yellow due to the cataract, has been removed.

However, a condition known as posterior capsule opacification (PCO) may occur three to six months after the surgery. In 20% of patients, it may happen within five years. Some people call it the "second cataract" but that is not the case. PCO happens because of the cells inside your eye that grow over the lens capsule, causing it to become cloudy. This can be resolved by a painless laser treatment called YAG capsulotomy, which takes only a few minutes to complete.

### Some patients may be worried about undergoing surgery in the midst of the COVID-19 pandemic. What measures are there in place?

You can rest assured that SNEC has put its best effort into ensuring the safety of all staff and patients. Safe distancing measures remain in place across the centre, including clinics and the post-operative recovery area. We have also reduced the number of surgeries each day, as well as limit the number of accompanying persons to one per patient. If a patient is unwell, his or her surgery will be postponed.

### Should patients delay surgery until after getting the COVID-19 vaccination?

No, if your vision is significantly affected, you should not defer surgery. There is no need to worry about going for cataract surgery without having had the vaccination.



## Cataract surgery in numbers

Cataract surgeries done in SNEC and its satellite clinics at Changi General Hospital, National Heart Centre Singapore and Sengkang General Hospital each year:

Approximately **21,000** (as at 2019)

**No.1** Most common surgery performed in SNEC

### Success rate:

✓ Overall visual success rate at **98% to 99%**

✓ Patients achieve best-corrected visual acuity of **6/12\*** or better

\*A 6/12 vision means that one see an object 6 metres away the same as a person with normal vision would see it from 12 metres away.



### Age group of patients who underwent cataract surgery



Under 41: **1.3%**



41-50: **3.8%**



51-60: **14.1%**



61-70: **40.6%**



71-80: **32.4%**



Above 80: **7.7%**

# Thank You for 31 years of service

We bade farewell to Ms Charity Wai, SNEC's former Chief Operating Officer, who played a pivotal part in establishing SNEC as one of the region's leading eye centres.

**A** pioneer leader of SNEC, Ms Charity Wai had helmed SNEC's Chief Operating Officer (COO) Office since 1990, the year SNEC began operations.

After more than 31 years of sterling service, Ms Wai relinquished her appointment as SNEC's COO in April 2021. As she continues her role as Deputy Group COO (Shared Services) of SingHealth, she has taken on the post of COO at Sengkang General Hospital (SKH) with effect from 1 June 2021.

Throughout her tenure, Ms Wai was actively involved in the strategic planning and development of SNEC's operational and management structures, in tandem with evolving patient needs and organisational goals. In recent years, she steered SNEC and SERI towards novel innovations and digital transformation.

Her contributions over the decades ranged far and wide – these included the expansion of clinical audit to a full-fledged department; launch of the Quality Service Department; setting up of SNEC branches and affiliated centres in KK Women's and Children's Hospital, Changi General Hospital, SKH and Bedok; introduction of new models of care; partnership with community optometrists; establishment of the office for data analytics, and more.

We would like to express our profound gratitude to Ms Wai for the indelible mark she has left on SNEC and SERI.



# Services at SNEC to know about

These services cater to patients with low vision and refractive errors.



## STAAR CORNER

Established in collaboration with SPD (previously known as Society for the Physically Disabled), the STAAR CORNER at SNEC provides trial and loan of Assistive Technology (AT) devices to patients with visual impairment.

Low vision refers to vision impairment that cannot be improved by glasses, medication or surgery. People with low vision have remaining useful vision that can be rehabilitated to help them continue leading a life of independence.

AT devices available for loan include high-definition handheld and desktop video magnifiers, talking scientific calculators, Braille touchscreen tablets with removable keyboards, head-mounted magnifying glasses, jumbo-size universal remote controls, and more.

Patients will be assessed for suitability by a low vision optometrist. Each device can be loaned for up to three weeks. The loan is free if the devices are returned in good order before the due date.

Through the trial, patients will be able to make better informed decisions on the devices appropriate for their needs.

Visit [www.sneec.com.sg/patient-care/specialties-and-services/clinics-centres/satellite-at-loan-library@sneec](http://www.sneec.com.sg/patient-care/specialties-and-services/clinics-centres/satellite-at-loan-library@sneec) or scan the QR code to find out more.



**Location: SNEC Level 3 (via Lobby C)**



## LASER VISION CENTRE

Catering to different eye conditions and needs, a wide range of vision correction options – also known as refractive surgical procedures – is available at SNEC's Laser Vision Centre to correct refractive errors, such as myopia (short-sightedness), hyperopia (long-sightedness) and/or astigmatism. These include LASIK, SMILE®, LASIK Xtra™, Advanced Surface Ablation, and Implantable Collamer Lens.

### Key features of SNEC's Laser Vision Centre:

- Quality Assurance programme backed by 100% clinical audit of outcomes
- A faculty of more than 10 senior ophthalmologists who are accredited to perform refractive laser vision correction, and have long-term commitments to both clinical practice and research
- Good LASIK outcomes that are published in international

peer-reviewed journals

- Treatments customised to the needs of each patient
- A regional training centre, where SNEC surgeons conduct LASIK courses for ophthalmologists from Singapore and other Asian countries, such as Malaysia, Thailand, China, India, Japan and Korea

The centre is constantly looking to expand the range of refractive errors that can be treated, improve the predictability and accuracy of the outcomes, and enhance safety of surgery.

Along with advancing technology, the number of vision correction options has increased. Choosing the right procedure takes careful consideration, understanding and planning. Consult your ophthalmologist for an evaluation to determine whether you are suitable for a refractive surgery.

**Location: Clinic 5C Laser Vision Centre, SNEC Level 5 (via Lobby C)**

Laser Vision Centre Hotline: **6322 8891**  
Email: [laservisioncentre@sneec.com.sg](mailto:laservisioncentre@sneec.com.sg)

Visit [www.sneec.com.sg/SLVC](http://www.sneec.com.sg/SLVC) or scan the QR code to find out more about our services.



**Besides the Laser Vision Centre, Clinic 5C also houses other subspecialty services:**

- Cataract & Comprehensive Ophthalmology
- Corneal & External Eye Disease
- Glaucoma
- Medical Retina
- Ocular Inflammation & Immunology

# Need surgery?

## Here's what to expect

A guide to take you through a typical patient journey at SNEC from the time of your specialist consultation to post-operative discharge.



### 1 When you need to do surgery, the doctor will explain:

- What the surgery is for, and if there are other options
- What outcome you can expect

### 2 You will be directed to 1C Pre-Surgery Services/Diabetes & Metabolism Centre (DMC) for financial counselling\*:

- Estimated total bill of the upcoming surgery
- Any out-of-pocket cash payment to be made

*\*Patients at SNEC Eye Clinic @ Bedok and SNEC Eye Clinic @ SKH will have their financial counselling done at the respective clinics.*

### 3 You will need to go for pre-operative assessment:

- Electrocardiogram (ECG)
- Blood pressure
- Biometry (if lenses are required)
- Fasting instructions



### 4 On the day of surgery, you should:

- Register with your Day Surgery Guide folder and relevant documents
- Bring along medications (with labels) and pre-operative eye drops
- Expect to be at the centre for about 3 to 5 hours, depending on the type of surgery you undergo



### 6 Going home

- When you are alert and stable, you are ready to go home. You will receive:
- Medications
  - Instructions on caring for your operated eye
  - Details of your follow-up appointment



### 5 After surgery

You will be taken to the recovery area by a nurse to monitor your general condition (such as blood pressure monitoring).



### 7 Post-surgery

After receiving your bill via post, you can submit insurance claims for your consultation(s) and pre-operative assessment.

# SNEC delivers medications for free

To reduce dwelling time in the centre, SNEC now offers free medication delivery service.

The safety of patients is SNEC and SERI's top priority. During the COVID-19 pandemic, we have spared no effort to strengthen capacity to provide patients with a safe environment to continue receiving care.

With our medication delivery service, patients can now have their medications conveniently sent to their doorstep without incurring delivery charges. This also means that patients can leave the clinic directly after consultation, reducing the waiting time spent at the Pharmacy and the risk of virus transmission.

## STEPS TO ORDERING

### Check eligibility

- A valid and original SNEC prescription with the Pharmacy
- Delivery address in mainland Singapore or Sentosa (excluding offshore islands and secured areas)
- Both refrigerated and non-refrigerated medications can be delivered
- Have enough medications for at least 2 weeks or till your planned delivery date

### Place order

Your doctor, a nurse, or you can submit the original SNEC prescription to the Pharmacy.

### Receive confirmation

The Pharmacy staff will call you within one to two working days to arrange your preferred delivery date and time slot. Delivery time slots are 10am to 2pm, 2pm to 6pm, and 6pm to 10pm from Mondays to Fridays. Delivery is unavailable on Saturdays, Sundays, Public Holidays, and eve of Public Holidays.

### Await delivery

Your medications will be delivered to your doorstep within three to five working days after order confirmation. Please ensure that there is someone to receive the delivery.

### Pay the bill

Your bill includes charges for medications, consultation, and any tests ordered by the doctor. It will be placed inside the parcel. You can make payment via AXS Station/e-Station/m-Station, DBS iBanking, Health Buddy Mobile Pay, Mail Order, or cheque issued to Singapore National Eye Centre.



## FAQ

### Can I use the medication delivery service to refill a previously submitted prescription?

Yes, you can order your prescription refill via the online request form on SNEC website ([www.snec.com.sg/patient-care/e-services/home-delivery-for-medication](http://www.snec.com.sg/patient-care/e-services/home-delivery-for-medication)) or scan the QR code below.

### I missed the delivery. Will my medications be delivered again?

If you missed the delivery, you will be contacted to schedule a redelivery. A charge of S\$8 (mainland Singapore) or S\$15 (Sentosa) will apply.

### Can I amend or cancel my order after it has been submitted? Can I change my delivery date and/or time?

Any amendment or cancellation request is subject to availability, depending on the stage of the delivery process. If you need to amend your order, please call the Pharmacy or use the online request form.

### Can I pay the bill directly to the delivery person?

No, the courier company is engaged for delivery services only. For payment methods, please refer to the "Steps to ordering" section on this page.

### Can I use Flexi-MediSave to pay for my medications?

Patients aged above 60 years old are eligible to use Flexi-MediSave (S\$200 per year) to pay for their medications, subject to CPF Board's approval. The final bill will be mailed to you within a month. If you are using Flexi-MediSave to pay, please inform the Pharmacy staff when ordering your medication delivery.

For further enquiries, please contact:

Tel: **6322 9348 / 6322 8315**  
(Monday-Friday, 9am-5pm, excluding Public Holidays)  
Email: [courier.service@snec.com.sg](mailto:courier.service@snec.com.sg)



# The Heroes Fund

Fund proceeds will help in detection of infectious diseases through the eyes, as well as support telemedicine and e-training for healthcare workers.

More than a year on, the COVID-19 pandemic has caused an unprecedented challenge to public health, and the way we live and work. To strengthen Singapore's defence against future health crises, SNEC and SERI have established The Heroes Fund.

Proceeds will be used for innovative virus detection via the eyes as well as better disease screening through advanced artificial intelligence. Studies have shown that infections from viruses such as SARS and ZIKA are detectable through human tears. In order to conduct such groundbreaking research, healthcare workers need continuous upskilling and training.

The Heroes Fund will go towards the development of e-learning programmes for healthcare workers in safe, contagion-free environments. It will provide our healthcare workforce with quality e-training and tools while introducing new models of care, such as telemedicine and virtual clinics for our patients.

The fundraising campaign ended on 30 June 2021, with our target of \$1 million successfully met. Thank you to all our donors for their generous donations to support our fight against infectious diseases and to nurture future generations of ophthalmologists.



## Supporting the advancement of healthcare



Designed for retina patients, a mobile app called Alleye enables the monitoring of visual distortion on a mobile device, with digitised patient-reported outcome measures (PROMs). A grant provided by The Heroes Fund supported a six-month pilot trial study to monitor retina patients whose appointments were rescheduled due to the Circuit Breaker last year and who used the Alleye app as a self-testing tool.

As self-monitoring continues to show promise in relieving clinic resources, such initiatives may be feasible beyond the COVID-19 pandemic. Grants for other education and research purposes are in the pipeline.

Alleye is available for download on App Store and Google Play.

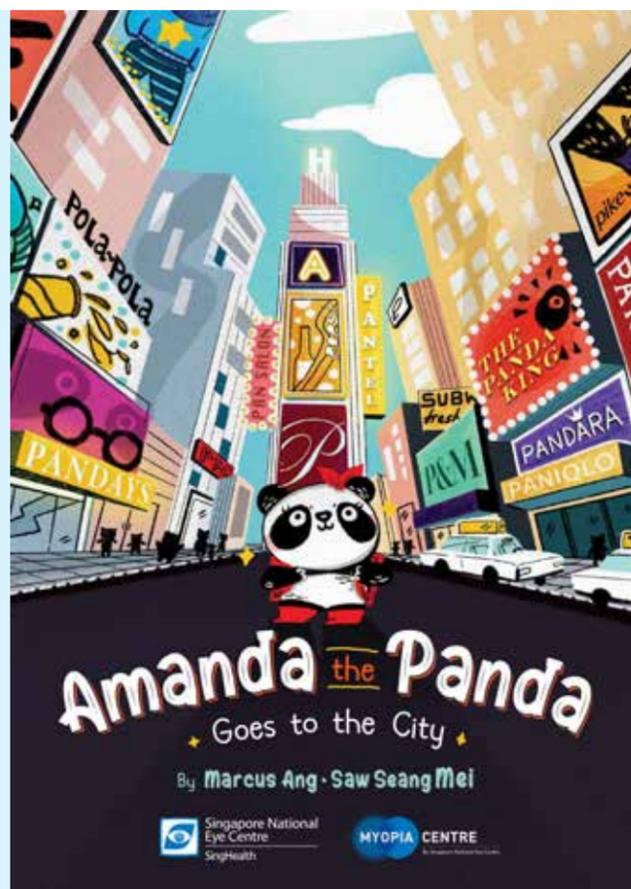
# Amanda the Panda is back!

The second edition of the *Amanda the Panda* children's book series was launched in conjunction with the Myopia Centre's first anniversary.

Measures taken to reduce the spread of COVID-19 have led to reduced outdoor time and increased near work, which are, unfortunately, factors associated with myopia progression in children. This is a cause for concern, especially for Singapore, where we face a high prevalence of childhood myopia.

To raise awareness of myopia prevention and offer tips on eye care, Assoc Prof Marcus Ang and Prof Saw Seang Mei from SNEC have joined hands to work on the second edition of the *Amanda the Panda* children's book series, which follows the adventures of a young panda who learns about healthy eye habits along her journey.

In this new book titled *Amanda the Panda: Goes to the City*, she encounters a new environment that she must adapt



to in order to protect her eyes. The book also highlights the vital role parents play in nurturing good eye habits in their children – for example, encouraging fun outdoor activities.

As Amanda the Panda learns to balance schoolwork and play, readers will also gain an understanding of how even simple habits, such as taking regular breaks from studying and near work, can help prevent myopia.

To purchase the book, scan the QR code below:



# Visit Myopia Exhibition at National Libraries

Learn more about eye care and myopia prevention at this roving exhibition.



Brought to you by SNEC's Myopia Centre, SERI and Wildtype Books, the first stop of the myopia exhibition kicked off at Marine Parade Public Library for a period of three months from March to May this year.

With the younger crowd in mind, the various installations are designed in the illustrative style of the *Amanda the Panda* children's book series [see page 20], while the language is kept simple and direct. Parents can also get important information on short-sightedness – from its

prevalence to common myths about the eye condition and consequences of leaving myopia untreated.

Interactive elements are also incorporated to make the learning process fun and engaging. There is even a 3D structure showing the eye anatomy!

As travel restrictions remain due to the pandemic, there is no better time than now to explore our island city. This exhibition makes for a great educational excursion for both young and old.

Check out details of the exhibition below:

**Bedok Public Library**

3 Aug to 30 Sep 2021

Level 3, Heartbeat@Bedok  
Opening hours:  
Mon-Sun, 10am-9pm  
Closed on Public Holidays.

**Tampines Regional Library**

3 Nov to 31 Dec 2021

Level 2, Our Tampines Hub  
Opening hours:  
Mon-Sun, 10am-9pm  
(Closed at 5pm on eves of Christmas and New Year)  
Closed on Public Holidays.

# Celebrating a successful inaugural SERI Research Day

This hybrid event was joined by audiences at the Academia auditorium and online.



Held on 19 March 2021, the first-ever SERI Research Day involved participation from clinicians, research faculty, staff and postdocs, who discussed various research topics, projects and personal experiences.

The opening address by Prof Wong Tien Yin, Medical Director of SNEC, provided insights on staying relevant and maintaining our world-class standard in research. Speaking via Zoom, Prof Robyn Guymer, Deputy Director of Centre for Eye Research Australia (CERA) and

Professor of Ophthalmology at Melbourne University, gave an International Keynote Address and updated the audience on the Laser Intervention in Early Stages of Age-Related Macular Degeneration (LEAD) study.

In the "Showcase Your Research" segment, faculty and postdocs from different SERI research groups presented their laboratories' latest works. Citing his personal anecdotes, neuro-ophthalmologist and clinician-scientist Prof Dan Milea offered advice to young clinicians and scientists on navigating a career

in research through a light-hearted sharing session.

Hosted by Assoc Prof Eranga Vithana and five other female panelists – namely Dr Vidhya Venkatraman Anandalakshmi, Dr Carla Lanca, Prof Saw Seang Mei, Dr Rachel Chong and Dr Shweta Singhal – a segment titled "SNEC/SERI Women in Science" deliberated the challenges faced by women in the field of science, as well as the changes that can be done. "We don't want positive discrimination but equal opportunities," said Assoc Prof Eranga.

The eventful SERI Research Day concluded with an awards presentation ceremony. Congratulations to the following winners:

## TOP 5 SCIENTIFIC RESEARCH PUBLICATIONS AWARD

- **Prof Dan Milea and Dr Raymond Najjar** - *The New England Journal of Medicine* paper on BONSAI
- **Dr Ong Hon Shing** - *The Ocular Surface* paper on Meibomian Gland Dysfunction
- **Mr Venkatesh Mayandi** - *ACS Publications* paper on Multifunctional Antimicrobial Nanofiber Dressings
- **Dr Tham Yih Chung** - *American Academy of Ophthalmology* paper on SEED study
- **Dr Seet Li Fong** - *Journal of Molecular Medicine* paper on valproic acid and its effects in postoperative conjunctiva

## RICHARD FAN GOLD MEDAL

- **Dr Beau James Fenner** Assoc Consultant, SNEC; and Outstanding Senior Resident of 2021

# Increasing efficiency with smart technology

SNEC aims to introduce a machine learning solution called the Appointment Scheduling Optimiser by the end of this year.

To shorten patients' waiting times, which could be as long as 45 minutes on a busy day, SNEC is looking at streamlining processes by leveraging technology.

Patients typically have to take several tests before seeing the doctor. Currently, appointments are arranged on a first-come, first-served basis, and do not take into account the time needed for these tests. This means that a patient who needs only one test may be scheduled behind a patient who needs multiple tests.

With a new scheduling system that employs artificial intelligence (AI), known as the Appointment Scheduling Optimiser (ASO), available resources and the various tests that patients have to take are considered before the best possible schedule with minimal waiting times is set.

Simulations of the ASO have shown that waiting times can be reduced by half to about 20 minutes. However, this can vary for complex cases, which make up approximately 15 to 20% of all patients. Over time, the ASO can

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## SNEC sets sights on cutting waiting times with smart scheduling system

Machine-learning solution offers best schedule for patients; will be used at all SingHealth institutions

**Adeline Tan**

The Singapore National Eye Centre (SNEC) is looking at using technology to reduce waiting times for its patients by up to half. The centre, which is under Singapore's largest public healthcare group SingHealth, will roll out a machine-learning solution called the Appointment Scheduling Optimiser (ASO) in the fourth quarter of this year.

Developed by Singapore-based information, communications and technology company NCS, the ASO will eventually be deployed across all SingHealth institutions, which include polyclinics, hospitals and specialist centres.

SingHealth's deputy group chief operating officer of shared services Charity Wai said waiting times at SNEC can stretch to 45 minutes on busy days.

"We need to make the appointments in our clinics more streamlined," she said. "The objective is to be a smart eye hospital, and one of the areas identified was making the clinic processes more streamlined."

At SNEC, patients typically have to take a number of tests before seeing the doctor. But currently, appointments are given on a first-come, first-served basis and do not take into account the preceding tests. This means that a patient who needs only one test may be scheduled behind one who needs multiple tests, causing a bottleneck and increasing waiting times for the other patients.

The ASO will take into account the resources available, as well as all the various tests that patients will have to take, and churn out the best possible schedule with minimal waiting times.

While simulations of the ASO have shown that waiting times can be cut down to about 20 minutes, the presence of complex cases – which make up about 15 per cent to 20 per cent of all patients – may cause this to vary as these patients often need more time.

The SNEC had tried to increase its manpower, but the long waiting times persisted.

Mr Howie Sim, vice-president of the healthcare and transport client service unit at NCS, said it would not be possible for an employee to attempt what the ASO can do as there were too many variables, such as the sequence of tests, for the employee to be able to find an optimal solution.

Over time, the ASO can pick up patterns from the data such as the need to allocate a longer time for a particular profile of patients, such as the elderly.

Mr Sim said: "This artificial intelligence technology has been around for decades, but traditionally it has been applied more to sectors such as manufacturing that require clockwork-like precision."

He added: "The adoption of such technology to drive innovation in healthcare has made headway in recent years."

Ms Wai hopes that with an optimised schedule, manpower needs will be better allocated at SNEC. For example, staff can be deployed based on the ASO's overview of when crowds will peak at the centre.

She said: "We will have a better idea of demand and supply that allows us to plan for the manpower much better, because we will be able to anticipate the workload and distribute it evenly."

tanyp@sph.com.sg

**IMPROVING EFFICIENCY**  
We need to make the appointments in our clinics more streamlined. The objective is to be a smart eye hospital, and one of the areas identified was making the clinic processes more streamlined.

**MS CHARITY WAI** SingHealth's deputy group chief operating officer of shared services, on the Appointment Scheduling Optimiser, which will be rolled out at Singapore National Eye Centre in the fourth quarter of this year.

An outpatient clinic at the Singapore National Eye Centre. Waiting times there can stretch to 45 minutes on busy days. PHOTO: SINGAPORE NATIONAL EYE CENTRE

identify patterns from the data, such as the need to allocate a longer time for a particular group of patients like the elderly.

Through an optimised schedule, the staff's workload can be better anticipated, and manpower resources more evenly and effectively allocated. For example,

more staff will be deployed during the peak periods indicated by the ASO.

Developed by Singapore-based information, communications and technology company NCS, the ASO will eventually be utilised across all SingHealth institutions.

# Inspired by patients and caregivers

Sometimes it is the patients' tenacity and caregivers' selflessness that motivate and boost the morale of healthcare professionals.

In the face of health challenges, some patients have shown incredible strength and resilience, while caregivers embody altruism with their unconditional support and generous deeds. These qualities have, in turn, become a source of inspiration for healthcare workers, motivating them to deliver better care and lead meaningful lives.

The Singapore Health Inspirational Patient & Caregiver Awards (IPCA) is organised annually to honour these outstanding individuals. This year, the IPCA were presented to 27 individuals, two of whom are featured in this article. Read on for their uplifting stories.

## GIVING BACK TO SOCIETY

Edwin Tan first learned of his eye disorder when he was in primary school. He was diagnosed with a rare hereditary condition called retinitis pigmentosa (bilateral rod cone dystrophy), which causes the light-sensing cells

at the back of the eye to gradually break down and result in visual impairment. His sight was further limited by bilateral cataracts, rendering him legally blind.

Growing up with visual impairment was challenging, but Edwin learned to live independently with the help of various tools. For instance, he uses voiceover and text-to-speech software to 'read' on digital devices, and magnifiers to enlarge text in print media. He also gets around on his own with a white cane.

After graduating from Temasek Polytechnic, Edwin joined local social enterprise Fairmarch, an online marketplace that offers a sustainable source of income for people with disabilities. In his free time, the 27-year-old enjoys playing chess and has represented Singapore at international chess tournaments, including the 8<sup>th</sup> ASEAN Para Games in 2015.

Edwin is also a member of Runninghour, a sports club that promotes integration of people with special needs through running or walking. In 2018, Edwin joined the Youth Development Programme organised by SPD. Through this initiative, Edwin and his team conducted workshops for students with autism at Singapore Polytechnic to help them better manage interpersonal conflicts and their moods.



*People with disabilities are not limited — I believe that we can and should take the initiative to better the lives of people in our community.*



"Despite the difficulties he faces with his poor vision, Edwin does not wallow in self-pity. Instead, he chooses to give back to society and help others who are less fortunate," said Dr Chan Choi Mun, Senior Consultant at SNEC's Medical Retina Department, who nominated Edwin for the IPCA.

Notably, Edwin was invited to deliver a speech at the Global Compact Network Singapore Youth Forum in 2019, where President Halimah Yacob was the guest of honour. Edwin spoke about empowering people with disabilities to gain meaningful employment at the event.

"Although I am visually impaired, I am still able-bodied and can accomplish many things. People with disabilities are not limited — I believe that we can and should take the initiative to better the lives of people in our community," he said.

## FERRYING KINDNESS

Tan Lai Hock, 52, has been a taxi driver for five years. He met his regular passenger, 85-year-old Lim Chong Khim, three years ago via a taxi booking.



*I believe that kindness begets kindness, so we should try to do good while we can.*

After reaching his destination, Lim asked if Tan could wait for him to finish his errand and send him home. "I agreed because I was not in a hurry and I empathised with him as he had difficulty in walking," Tan said.

By the end of the return journey, Tan agreed to assist Lim, who lives alone in a rental flat, on his monthly errands, such as visits to the bank, barber and market. Each trip can be as long as four hours due to Lim's osteoarthritis, which slows his movements. Tan also helps fulfil Lim's food cravings and special requests during the festive seasons.

Whenever Lim has a medical appointment, Tan would drive him there and wait with him in the clinic till they have collected his medications. This could take up to five hours each time. As Lim speaks only Mandarin and Hokkien, Tan also facilitates communication between Lim and the medical team.

"I often see patients coming alone for their appointments because their caregivers are too busy to accompany them. It is selfless of Mr Tan to sacrifice his time and income to help Mr Lim. I was overwhelmed by his kindness towards a fellow human being," said Mr Lakshmanasamudram S Mohanram, Ophthalmic Investigation Specialist at SNEC, who nominated Tan for the IPCA.

With Lim finally accepting Tan's suggestion to get a wheelchair, it has become much easier for Tan to bring Lim around.

"My philosophy in life is very simple: I believe that kindness begets kindness, so we should try to do good while we can. I do not think that what I do for Mr Lim is extraordinary. However, Mr Lim once said to me that 'I am very lucky to have met you,'" Tan shared.

# What's wrong with my eyes, doc?

**I am a 50-year-old woman and my eyelids kept twitching recently. Although it does not affect my daily activities, I am worried that it may be a sign of neurological conditions like Parkinson's disease. What can I do about it?**



Eyelid twitching occurs because of intermittent bursts of electrical activity in the nerves that control your eyelid muscles. To accurately diagnose your condition, it is important to note if it is unilateral or bilateral, and if it involves the face as well.

The most common form of eyelid twitching is eyelid myokymia. It typically affects only the lower or upper eyelid on one side, and is usually caused by fatigue, eye strain, stress, overconsumption of caffeine, and local irritative factors such as dry eyes or excessively oily eyelids (meibomitis and blepharitis). This can last for several days or weeks but is almost always benign, and usually resolves spontaneously or with conservative measures like using eye lubricants or cleaning your eyelids.

Some people may experience hemifacial spasm, in which there is intermittent, involuntary contraction of the muscles of half the face (the eye closes as if it is winking and the same half of the mouth is drawn upwards). This is due to compression of the facial nerve responsible for activating the facial muscles on the same side by a normal pulsating blood vessel in close proximity that has enlarged with age.

In benign essential blepharospasm (BEB), the patient experiences intermittent involuntary spasm and closure of both eyes. It may start with increased frequency in blinking in response to bright light, wind or stress. Then, the patient may find himself or herself closing his or her eyes uncontrollably. Sometimes, the spasm also involves other muscles of the lower face and neck, causing involuntary lip pursing and chewing movements. This is termed as Meige Syndrome. There is usually no underlying cause for this.



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

Patients with Parkinson's disease may have blepharospasm, but the incidence is low and is reported to be between 0.9% and 3%. Blepharospasm very rarely precedes Parkinson's disease.

## When should I see a doctor?

If the twitching involves half of your face or both eyes simultaneously and is persistent, it is advisable to seek medical attention.

## Treatments for twitching

For common eyelid myokymia, lifestyle adjustments such as getting adequate sleep, taking eye breaks from computer work, reducing caffeine intake, applying lubricating eye drops, and performing lid hygiene may help. For lid hygiene, you may use over-the-counter lid cleansers or baby shampoo diluted with warm water, together with a cotton bud or pad, to gently wipe your eyelid margin near the root of the lashes in a horizontal direction twice a day.

Both BEB and hemifacial spasm do not resolve on their own and require medical intervention.

For hemifacial spasm, magnetic resonance imaging (MRI) is recommended to exclude a compression of the facial nerve on the same side. If a blood vessel is found to be compressing on the facial nerve, neurosurgery can assist to move the offending vessel away from the facial nerve.

For both hemifacial spasm and BEB, Botulinum toxin (Botox) may be injected into the eyelids and facial muscles to relieve the spasms. Repetitive injections are required as the effect will wear off after four to six months.

**I have been experiencing red, watery and itchy eyes over the past week. I have read reports that some people with COVID-19 developed symptoms affecting the eyes. Is conjunctivitis a symptom of COVID-19? What is the connection between pink eye, allergies and coronavirus?**



Conjunctivitis, also known as pink eye, is an inflammation or infection of the clear tissue over the whites of your eyes and the inside of your eyelids. It usually leads to redness and swelling of your eyes. It can be caused by a viral or bacterial infection, or an allergy.

Several overseas studies published in late April 2020 examined the prevalence of pink eye in people with COVID-19. Out of the total 1,167 people with either mild or severe COVID-19, the researchers found that 0.7% of people with mild symptoms developed pink eye, while it occurred in 3% of people with severe symptoms.

The coronavirus is spread via respiratory droplets, but it can also be spread if people touch an object or surface with the virus, and then touch their mouths, noses or eyes.

## Is it allergies or COVID-19?

One easy way to tell the difference between allergy and coronavirus symptoms is to check your eyes. If they are red, watery and itchy, these are typically signs of allergies. It is important to note that viral

conjunctivitis also causes burning and red eyes, but there is usually a watery discharge, which may feel slightly thicker and stickier than tears.

Another key difference between seasonal allergy symptoms and coronavirus symptoms is having a fever. Allergy sufferers do not have fever as a symptom, while coronavirus patients often do.

Doctors would be concerned about coronavirus possibility if you have signs of conjunctivitis along with these symptoms:

- fever
- cough
- shortness of breath or difficulty in breathing
- bluish colour to lips or face
- chest pain or pressure
- being extremely tired
- loss of smell or taste
- feeling a new sense of confusion
- diarrhoea
- nausea

## Protecting our vision against COVID-19

- Avoid rubbing your eyes, especially in public or if you have not washed or sanitised your hands.
- Switch from contact lenses to glasses. Wearing glasses can reduce irritation and prevent you from touching your eye.
- Wash your hands frequently, and avoid touching your face.



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





# SNEC and SERI staff recognised at Singapore Health Quality Service Awards 2021

Ninety-four staff and faculty were awarded for their contributions in the nation's fight against COVID-19

Organised by the SingHealth Duke-NUS Academic Medical Centre since 2011, the Singapore Health Quality Service Awards (SHQSA) is Singapore's first and biggest event to acknowledge service excellence in the healthcare industry.

Themed "Celebration of Unity", the 2021 edition of SHQSA specially honours healthcare professionals and partners who have contributed significantly in helping the nation navigate the COVID-19 pandemic.

Some 7,000 individuals from 38 public and private healthcare institutions, community hospitals, as well as agencies from the Community Care sector were recognised at this year's SHQSA. Among them, 94 staff and faculty from SNEC and SERI were presented the Hero Awards for their exceptional support and service during these challenging times.

Notably, the team of winners from SNEC and SERI had stepped up during the peak of the COVID-19 outbreak last year by volunteering at the various facilities, which were a critical part of the nation's response to the pandemic.

 <b>Dr Allan Fong</b> Head & Senior Consultant, Cataract & Comprehensive Ophthalmology Department	 <b>Dr Lim Hou Boon</b> Consultant, Cataract & Comprehensive Ophthalmology Department	 <b>Dr Jean Chai</b> Senior Consultant, Cornea Department	 <b>Clin Assoc Prof Lim Li</b> Senior Consultant, Cornea Department	 <b>Dr Ti Seng El</b> Senior Consultant, Cornea Department
 <b>Prof Louis Tong</b> Senior Consultant, Cornea Department	 <b>Dr Ong Hon Shing</b> Consultant, Cornea Department	 <b>Dr Jayant Venkatramani Iyer</b> Consultant, Glaucoma Department	 <b>Dr Anita Chan</b> Head & Senior Consultant, Ocular Inflammation & Immunology Department	 <b>Prof Ian Yeo</b> Deputy Medical Director (Education) & Senior Consultant, Medical Retina Department
 <b>Prof Gemmy Cheung</b> Head & Senior Consultant, Medical Retina Department	 <b>Dr Kelvin Teo</b> Consultant, Medical Retina Department	 <b>Dr Loo Jing Liang</b> Head & Senior Consultant, Neuro-Ophthalmology Department	 <b>Clin Assoc Prof Quah Boon Long</b> Senior Consultant, Paediatric Ophthalmology & Adult Strabismus Department	 <b>Clin Assoc Prof Mohamad Rosman</b> Head & Senior Consultant, Refractive Surgery Department
 <b>Dr Daniel Chua</b> Consultant, Refractive Surgery Department	 <b>Clin Assoc Prof Edmund Wong</b> Deputy Medical Director (Clinical Services) & Senior Consultant, Surgical Retina Department	 <b>Clin Assoc Prof Lee Shu Yan</b> Head & Senior Consultant, Surgical Retina Department	 <b>Dr Donny Hoang</b> Senior Consultant, Surgical Retina Department	 <b>Assoc Prof Gavin Tan</b> Senior Consultant, Surgical Retina Department
 <b>Clin Assoc Prof Doric Wong</b> Senior Consultant, Surgical Retina Department	 <b>Assoc Prof Daniel Ting</b> Consultant, Surgical Retina Department	 <b>Dr Andrew Tsai</b> Consultant, Surgical Retina Department	 <b>Dr Wong Chee Wai</b> Consultant, Surgical Retina Department	 <b>Dr Arun Narayanaswamy</b> Senior Staff Physician, Clinical Services Department
 <b>Dr Prajod Padmalayam</b> Resident Physician, Clinical Services Department	 <b>Dr Terrence Chiew</b> Clinical Associate, Clinical Services Department	 <b>Dr Charles Ong</b> Resident, Training & Education Department	 <b>Dr Stanley Poh</b> Resident, Training & Education Department	 <b>Dr Loo Cheng Yi</b> Resident, Training & Education Department

 <b>Dr Nathan Siaw</b> Medical Officer, Training & Education Department	 <b>Dr Ralene Sim</b> Medical Officer, Training & Education Department	 <b>Jim Gu</b> Chief Operating Officer, GCOO's Office - Operations	 <b>Low Siow Ngim</b> Director, Regulatory, Compliance & Patient Care Delivery, COO's Office	 <b>Dr Loh Huey Peng</b> Director of Nursing, Executive Office	 <b>Chua Li Hong Rachel</b> Senior Staff Nurse, Nursing - Dayward	 <b>Ganchalee Sae Gan</b> Senior Staff Nurse, Nursing - Dayward	 <b>Yip Chee Kin</b> Senior Staff Nurse, Nursing - Dayward
 <b>Chan Sze Lin</b> Staff Nurse, Nursing - Dayward	 <b>Lee Siow Hua</b> Staff Nurse, Nursing - Dayward	 <b>Thian Shu Ping Wendy</b> Staff Nurse, Nursing - Dayward	 <b>Valerie A/p Varugeesu</b> Staff Nurse, Nursing - Dayward	 <b>Ng Puay Hong Angie</b> Principal Enrolled Nurse, Nursing - Dayward	 <b>Ong Sushan Shanna</b> Senior Staff Nurse, Nursing - ECS Clinic	 <b>Ong Yaw Gin</b> Staff Nurse, Nursing - ECS Clinic	 <b>Tan Kok Wei</b> Nursing - OPD Clinic F/Laser
 <b>Foo Cui Shan</b> Nurse Clinician, Nursing - Operating Theatre	 <b>Wu See Fong</b> Assistant Nurse Clinician, Nursing - Operating Theatre	 <b>Eng Sze Yin</b> Senior Staff Nurse, Nursing - Operating Theatre (NHCS)	 <b>Goh Hui Jin</b> Senior Staff Nurse, Nursing - Operating Theatre	 <b>Neo May Lin Eileen</b> Senior Staff Nurse, Nursing - Operating Theatre	 <b>Hamalatha A/p Vishnu</b> Senior Staff Nurse, Nursing - Operating Theatre	 <b>Chua Yong Xin</b> Staff Nurse, Nursing - Operating Theatre	 <b>Andrew Chung</b> Staff Nurse, Nursing - Operating Theatre
 <b>Ho Ying Ying</b> Staff Nurse, Nursing - Operating Theatre	 <b>Ling Nglik Ai</b> Staff Nurse, Nursing - Operating Theatre	 <b>Low Chia Shin</b> Staff Nurse, Nursing - Operating Theatre	 <b>Ng Jia Hao Eugene</b> Staff Nurse, Nursing - Operating Theatre	 <b>Ong Chu Ting</b> Staff Nurse, Nursing - Operating Theatre	 <b>Tay Jing Huan Celine</b> Staff Nurse, Nursing - Operating Theatre	 <b>Thiri Mya San</b> Staff Nurse, Nursing - Operating Theatre	 <b>Wu Jie</b> Staff Nurse, Nursing - Operating Theatre
 <b>Yuen Wyn Yan</b> Staff Nurse, Nursing - Operating Theatre	 <b>Kalyrani Arumugam</b> Senior Enrolled Nurse, Nursing - Operating Theatre	 <b>Nur Shaheerah binte Abdullah</b> Enrolled Nurse, Nursing - Operating Theatre	 <b>Giam Jin Pei</b> Enrolled Nurse, Nursing - Operating Theatre	 <b>Law Kui Xuan</b> Senior Enrolled Nurse, Nursing - Operating Theatre	 <b>Pauline Chan</b> Senior Optometrist, Myopia Centre	 <b>Cheryl Leow</b> Optometrist, Myopia Centre	 <b>Yap Siow Hui</b> Optician, Myopia Centre
 <b>Lakshmanasamudram S Mohanram</b> Ophthalmic Investigation Specialist, Ophthalmic Investigation Services	 <b>Ye Tun</b> Ophthalmic Investigation Specialist, Ophthalmic Investigation Services	 <b>Low Kheng Suan, Lydia</b> Ophthalmic Investigation Technologist, Ophthalmic Investigation Services	 <b>Tan Nurul Wahidah</b> Ophthalmic Investigation Technologist, Ophthalmic Investigation Services	 <b>Yap Zhen Ting</b> Optometrist, Optometry Service	 <b>Karen Zhang</b> Principal Orthoptist, Orthoptics Service	 <b>Alwin Tan Ai Wei</b> Senior Pharmacist, Pharmacy	 <b>Koek Chiew Yang</b> Pharmacy Technician, Pharmacy
 <b>Tan Chang Yong Lawrence</b> Pharmacy Technician, Pharmacy	 <b>Vincent Loke</b> Associate Executive, Pharmacy	 <b>Daren Teo</b> Assistant Director, Service Operations	 <b>Mok Zi Ying</b> Manager, Service Operations	 <b>Helen Hua</b> Assistant Manager, Patient Liaison Service	 <b>Nur Hazirah binte Haron</b> Manager, Patient Services	 <b>Tan Bee Hong</b> Quality Service Associate, Quality Service	 <b>Victor Yong</b> Senior Research Officer, Ocular Genetics, SERI
 <b>Justin Ng</b> Clinical Research Coordinator, Population Health Research, SERI	 <b>Sim Peiyang Anna</b> Senior Clinical Research Coordinator, Research Clinic, SERI	 <b>Su Junwei</b> Senior Clinical Research Coordinator, Research Clinic, SERI	 <b>Teng Wei Hong</b> Senior Clinical Research Coordinator, Research Clinic, SERI	 <b>Chua Xin Yi</b> Clinical Research Coordinator, Research Clinic, SERI	 <b>Ngiam Sin Kai Sam</b> Associate Research Coordinator, Research Clinic, SERI	 <b>Srivani Sistla</b> Senior Manager, SIPRAD, SERI	 <b>Myoe Maling Lynn</b> Research Associate, Translational Ophthalmic Pathology, SERI

# Reasons to rejoice

We are heartened to celebrate these accomplishments and achievements of our SNEC and SERI colleagues.

## SINGHEALTH DOCTORS AND DENTISTS LONG SERVICE AWARD 2021

The SingHealth Doctors and Dentists Long Service Award 2021 hybrid ceremony was held on 26 March 2021. Seven doctors from SNEC were honoured for devoting the best years of their lives to caring for patients and their commitment to public healthcare.

### 40 YEARS OF SERVICE



**Dr Yvonne Ling**  
Senior Consultant,  
Paediatric Ophthalmology  
& Adult Strabismus  
Department, SNEC

### 20 YEARS OF SERVICE



**Assoc Prof Audrey Chia**  
Head and Senior Consultant,  
Paediatric Ophthalmology  
& Adult Strabismus  
Department, SNEC



**Dr Allan Fong**  
Head and Senior Consultant,  
Cataract & Comprehensive  
Ophthalmology  
Department, SNEC



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

### 10 YEARS OF SERVICE



**Dr Wang Jenn Chyuan**  
Senior Consultant,  
Cataract & Comprehensive  
Ophthalmology  
Department, SNEC



**Dr Loh Kai-Lyn**  
Consultant,  
Cataract & Comprehensive  
Ophthalmology  
Department, SNEC



**Dr Ng Si Rui**  
Associate Consultant,  
Cataract & Comprehensive  
Ophthalmology  
Department, SNEC

## THE OPHTHALMOLOGIST POWER LIST 2021

Every year, *The Ophthalmologist*, a prestigious journal dedicated to the practice of ophthalmology, compiles a Power List of practitioners from around the world. In 2021, the spotlight is cast on the most influential female figures in the field.

This year's Power List saw close to 1,200 nominations for 300 individuals, with the final 100 whittled down by an international panel of judges.

Amongst them are Prof Gemmy Cheung, Head and Senior Consultant, Medical Retina Department, SNEC; and Prof Saw Seang Mei, SERI Professor of Ophthalmology Research, Duke-NUS Medical School, and Head, Myopia Unit, SERI.

Congratulations to Prof Cheung and Prof Saw for their well-deserved accolades!



*I feel very honoured to be on this prestigious list. It is heartening to see how much women are contributing to our profession. Those in leadership positions can lead by supporting and encouraging women at every level through their career development, as well as by creating opportunities for women to showcase their good work and be recognised.*

- Prof Gemmy Cheung



*This celebration highlights the achievements and successes of women who understand the unique struggles faced by other women in this field. In turn, this will inspire and encourage junior female ophthalmologists and others. As an Asian woman, I would like to support other women, especially those in Asian countries, and motivate them to aspire towards their goals.*

- Prof Saw Seang Mei

## PA Community Spirit Award 2020



Dr Allan Fong (leftmost) receiving the PACS Award on behalf of SNEC

## THE PEOPLE'S ASSOCIATION COMMUNITY SPIRIT AWARDS

The People's Association Community Spirit (PACS) Awards are presented to corporates or organisations that partner the North West Community Development Council (CDC) in community initiatives, as well as employers of grassroots leaders who support their staff's involvement in grassroots organisations.

For the 2020 edition of the PACS Awards, SNEC was selected as an awardee for its participation in the Project I-Care @ North West programme, which brings complimentary professional eye screening to the vulnerable elderly, with the objective of safeguarding their vision and improving their quality of life.

The award was presented on 19 March 2021 by Mr Chan Chun Sing, who was Minister for Trade and Industry, and Deputy Chairman of the People's Association. Dr Allan Fong, Head and Senior Consultant, Cataract & Comprehensive Ophthalmology Department, received the award on behalf of SNEC.

Over the past 17 years, the Project I-Care @ North West programme has nurtured a 'Caring Community' of over 100 professional eye specialists and 1,000 dedicated volunteers. More than 3,200 eye screenings for the seniors living in the North West District have been conducted.

SNEC has played a big part in providing eye screening for these elderly to assess if they require further checks or treatments. The doctors sacrifice their personal time to volunteer for this service so that those who are not able to travel to the eye centre can have easy access to quality eye care.

Forty percent of the elderly screened were found to have visual problems, such as cataract, glaucoma and other age-related eye diseases. While the majority of cases are benign, there have been instances where the eyesight of a patient was saved only because of the timely detection and swift follow-up actions of the eye care professionals on-site.

## CONGRATULATIONS!

ON YOUR APPOINTMENT AS PRESIDENT OF THE INTERNATIONAL THYROID EYE DISEASE SOCIETY



**Clin Assoc Prof Seah Lay Leng**  
Senior Consultant,  
Oculoplastic Department, SNEC

Adjunct Associate Professor,  
Yong Loo Lin School of Medicine, NUS

Clinical Associate Professor, SingHealth Duke-NUS  
Ophthalmology & Visual Sciences Academic Clinical Programme

ON BEING PRESENTED THE OUTSTANDING ACHIEVEMENT AWARD - PRESIDENT OF THE INTERNATIONAL PAEDIATRIC OPHTHALMOLOGY & STRABISMUS COUNCIL



**Dr Sonal Farzavandi**

Senior Consultant,  
Paediatric Ophthalmology & Adult Strabismus Department, SNEC

## NEW APPOINTMENTS



**Prof Aung Tin**  
Group Director,  
Research  
(Scientific),  
SingHealth



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



**Dr Yew Woon Si**  
Head, Anaesthesia  
Department, SNEC;  
Senior Consultant,  
Department of  
Anaesthesiology, SGH

## CONFERMENT OF DISTINGUISHED & FACULTY PROFESSORSHIPS

SNEC PROFESSORSHIP IN CLINICAL INNOVATION IN OPHTHALMOLOGY



**Prof Jodhbir Mehta**  
Deputy Vice Chair (Research),  
SingHealth Duke-NUS  
Ophthalmology & Visual Sciences  
Academic Clinical Programme;  
Head and Senior Consultant,  
Corneal & External Eye Disease  
Department, SNEC; Deputy  
Executive Director and Head,  
Tissue Engineering & Cell Therapy  
Research Group and Cornea &  
Refractive Research Group, SERI

SNEC PROFESSORSHIP IN CLINICAL EDUCATION IN OPHTHALMOLOGY



**Prof Chee Soon Phaik**  
Senior Consultant,  
Ocular Inflammation  
& Immunology  
Department, SNEC;  
Head, Cataract & Uveitis  
Research Group, SERI

SERI PROFESSORSHIP IN OPHTHALMOLOGY RESEARCH



**Prof Saw Seang Mei**  
SERI Professor in  
Ophthalmology Research,  
SingHealth Duke-NUS  
Ophthalmology & Visual  
Sciences Academic  
Clinical Programme;  
Co-Head, Myopia Unit,  
SERI; Professor, NUS  
Saw Swee Hock School of  
Public Health

ROBERT LOH ASSOCIATE PROFESSORSHIP IN OPHTHALMOLOGY



**Assoc Prof Audrey Chia**  
Vice-Chair, Faculty & Professional  
Development, SingHealth  
Duke-NUS Ophthalmology  
& Visual Sciences Academic  
Clinical Programme; Head and  
Senior Consultant, Paediatric  
Ophthalmology and Adult  
Strabismus, SNEC; SNEC  
Paediatric Ophthalmology Service  
@KKH; Co-Clinical Director,  
Myopia Centre, SNEC

## PROMOTIONS



**Dr Melissa Wong**  
Senior Consultant,  
Cataract &  
Comprehensive  
Ophthalmology  
Department, SNEC



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



**Clin Assoc Prof Anna Tan**  
Senior Consultant,  
Medical Retina  
Department, SNEC



**Dr Olivia Huang**  
Consultant,  
Glaucoma  
Department,  
SNEC



**Dr Fiona Lim**  
Consultant,  
Glaucoma  
Department,  
SNEC



**Dr Tan Licia**  
Consultant,  
Oculoplastic  
Department,  
SNEC



**Dr Wiryasaputra Shaan**  
Consultant,  
Medical Retina  
Department  
and Ocular  
Inflammation  
& Immunology  
Department, SNEC



**Dr Nathalie Chiam**  
Associate  
Consultant,  
Cataract &  
Comprehensive  
Ophthalmology  
Department,  
SNEC



**Dr Beau Fenner**  
Associate  
Consultant,  
Cataract &  
Comprehensive  
Ophthalmology  
Department,  
SNEC



**Dr Reuben Foo**  
Associate  
Consultant,  
Cataract &  
Comprehensive  
Ophthalmology  
Department,  
SNEC



**Dr Lee Yi Fang**  
Associate  
Consultant,  
Cataract &  
Comprehensive  
Ophthalmology  
Department,  
SNEC



**Dr Ng Wei Yan**  
Associate  
Consultant,  
Cataract &  
Comprehensive  
Ophthalmology  
Department,  
SNEC



**Dr Tan Peng Yi**  
Associate  
Consultant,  
Cataract &  
Comprehensive  
Ophthalmology  
Department,  
SNEC

## OPHTHALMOLOGY & VISUAL SCIENCES ACADEMIC CLINICAL PROGRAMME (EYE ACP)

PROFESSOR



**Prof Ian Yeo Yew San**  
Deputy Medical Director  
(Education), SNEC; Academic  
Vice-Chair, Education, EYE ACP;  
Senior Consultant, Medical and  
Surgical Retina Department, SNEC



**Assoc Prof Daniel Ting**  
Co-Deputy Director, Digital Transformation  
Office, SNEC; Deputy Clinical Director,  
Regional/Community Eyecare System  
(RES), SNEC; Consultant, Surgical Retina  
Department, SNEC; Head, AI & Digital  
Innovations Research Group, SERI

ASSOCIATE PROFESSOR (TENURE-TRACK)

ASSOCIATE PROFESSOR



**Assoc Prof Monisha Nongpiur**  
Clinician Scientist,  
Glaucoma Research  
Group, SERI



**Assoc Prof Michael Girard**  
Co-Head,  
Bioengineering &  
Devices Research  
Group, SERI

CLINICAL ASSOCIATE PROFESSOR



**Clin Assoc Prof Anshu Arundhati**  
Deputy Vice-Chair (Education), EYE ACP; Senior Consultant,  
Corneal & External Eye Disease Department, SNEC;  
Head and Senior Consultant, SNEC Eye Clinic @ CGH;  
Programme Director, Fellowships, SNEC;  
Clinical Director, Singapore Eye Bank

## AWARDS

AMERICAN GLAUCOMA SOCIETY  
**11th AGS International  
Scholar Award**  
Prof Aung Tin

IAPB VISION 2020  
**Vision Excellence Award**  
Assoc Prof Marcus Ang  
Prof Wong Tien Yin

INTERNATIONAL SOCIETY  
OF REFRACTIVE SURGERY  
(ISRS) AT AAO 2020  
**Casebeer Award 2020**  
Prof Jodhbir Mehta

MACULA SOCIETY  
**International Travel Grant  
Award 2021**  
Clin Assoc Prof Anna Tan

JAPAN AGENCY FOR MEDICAL  
RESEARCH AND DEVELOPMENT  
**Interstellar Initiative Healthy  
Longevity Award**  
Clin Assoc Prof Anna Tan

12TH DUNES SYMPOSIUM  
**Best Oral Presentation Award**  
Dr Vidhya Venkatraman Anandalakshmi

HEALTHCARE HUMANITY  
AWARDS 2020  
**Open Category**  
Dr Jayant Venkatramani Iyer

NATIONAL DAY AWARDS 2020  
**Efficiency Medal**  
Ms Lui Su Foong

NATIONAL MEDICAL RESEARCH  
COUNCIL (NMRC)  
**Clinician Scientist Award -  
Senior Investigator**  
Prof Jodhbir Mehta  
**Clinician Scientist Award -  
Investigator**  
Dr Danny Cheung  
**NMRC Research Training  
Fellowship 2020**  
Clin Assoc Prof Anna Tan  
**Singapore Translational Research  
(STaR) Investigator Award**  
Prof Aung Tin  
**Transition Award**  
Dr Kelvin Teo

NATIONAL MEDICAL  
RESEARCH FOUNDATION  
**NMRC Transition Award**  
Dr Ryan Man

NURSES' MERIT AWARD 2020  
Ms Teong Soh Keng

NUS MEDACE 2020  
**Dean's Award for  
Teaching Excellence**  
Dr Sonal Farzavandi  
**Junior Doctor Teaching Award**  
Dr Bryan Sim

THE COLLEGE OF  
OPTOMETRISTS' RESEARCH  
EXCELLENCE AWARDS  
**Bernard Gilmartin OPO Award**  
Prof Cheng Ching-Yu  
Assoc Prof Audrey Chia  
Assoc Prof Charumathi Sabanayagam  
Prof Saw Seang Mei  
Clin Prof Donald Tan  
Prof Wong Tien Yin

SINGHEALTH DIRECTOR OF  
NURSING AWARD 2020  
Ms Lim Sock Huang

SINGHEALTH DUKE-NUS  
RESEARCH TEAM AWARD 2020  
**2nd Prize**  
Prof Gemmy Cheung  
Prof Ecosse Lamoureux  
Assoc Prof Gavin Tan

SINGHEALTH NURSING  
AWARD 2020  
Ms Goh Hui Jin

SINGHEALTH PUBLISH!  
2020 AWARD  
Assoc Prof Charumathi Sabanayagam

RISE (RESIDENCY IN  
SINGHEALTH EXCELS)  
AWARDS 2020  
**Faculty Appreciation Award**  
Clin Assoc Prof Sunny Shen  
**Inspiring Resident  
Educator Award**  
Dr Tan Tien-En  
**Outstanding Faculty Award**  
Clin Assoc Prof Lim Li  
Clin Assoc Prof Sharon Tow  
Clin Assoc Prof Doric Wong  
**Partners-in-Education Award  
(Non-Physician Faculty)**  
Dr Daniel Su  
Clin Assoc Prof Ronald Yeoh  
**Residents' Committee (RC)  
Appreciation Award**  
Dr Valencia Foo

RICHARD FAN GOLD MEDAL  
FOR OUTSTANDING SENIOR  
RESIDENT 2021  
Dr Beau James Fenner

## 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:

Tel: 6227 7266

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

Visit us: [www.sneec.com.sg](http://www.sneec.com.sg)

Follow us on: [f](#) [in](#) [ig](#) [t](#)

**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 Ave  
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

### EAST

- 6 SNEC Eye Clinic @ Bedok**  
Blk 212 Bedok North Street 1,  
#03-147 Singapore 460212  
Tel: 6843 5001
- 7 Myopia Centre**  
Blk 212 Bedok North Street 1,  
#03-147 Singapore 460212  
(Located at SNEC Eye Clinic  
@ Bedok)  
Tel: 6843 5060  
WhatsApp: 9139 1712

- 8 SNEC Eye Clinic @ CGH  
Changi General Hospital**  
2 Simei Street 3, Level 1  
Singapore 529889  
Tel: 6850 1450 / 6850 1470

### NORTH EAST

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

Consultation by appointment: **6227 7266** GP Hotline: **6322 9399**  
Email: [appointments@sneec.com.sg](mailto:appointments@sneec.com.sg) Visit us: [www.sneec.com.sg](http://www.sneec.com.sg)

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