

# SING VISION

Tomorrow's Eye Care, Today \* [www.snec.com.sg](http://www.snec.com.sg)

A publication of Singapore National Eye Centre

**AT THE FOREFRONT:**  
INAUGURATION OF  
THE ROBERT LOH  
PROFESSORSHIP

**ALL ABOUT EYES:**  
DIGITAL  
DEVICES STRAIN  
YOUR EYES

**HERE'S  
LOOKING AT:**  
JOANNE CHANG  
AND BELLA TAN



Stop **THE MYOPIA  
TSUNAMI** In Its Tracks

ISSUE **2/2017**

 Singapore National  
Eye Centre  
SingHealth

 SINGAPORE  
EYE  
RESEARCH  
INSTITUTE

 SingHealth DukeNUS  
ACADEMIC MEDICAL CENTRE  
OPHTHALMOLOGY  
& VISUAL SCIENCES

# Editor's Note

Today, myopia affects 83% of Singapore's 18-year-olds. As the rate continues to rise and early onset myopia becomes more prevalent, the sight-threatening complications of this lifelong disease are reasons to be alarmed. In fact, high myopia can even lead to blindness.

Thirty years from now, the number of older adults with vision problems is expected to spike, which will drastically impact the socio-economy and people's quality of life. In the Cover Story (page 6), *SingVision* speaks with Adjunct Associate Professor Audrey Chia and Professor Saw Seang Mei, co-heads of the Myopia Research Group at Singapore Eye Research Institute (SERI), to learn about the dangers of myopia and steps that need to be taken now to fight the epidemic.

This issue, we feature the launch of The Robert Loh Professorship in Clinical Innovation in Ophthalmology in honour of the late eye surgeon Dr Robert Loh (page 4). In addition, read about a novel laser surgery developed by Singapore National Eye Centre (SNEC) for treating pterygium (page 12), and our Alexandra Branch's upcoming move to Sengkang General Hospital in July 2018 (page 15).

While digital devices improve productivity and bring convenience, their ubiquity has caused eye problems. We bring insights on a new mobile app called plano® (page 13) that encourages healthy use of smart devices in children and serves as a tool for myopia screening. On the same note, All About Eyes (page 18) offers tips on how you can prevent computer vision syndrome.

Meet Ophthalmic Assistants Joanne Chang and Bella Tan, who share their valuable experiences from an upskilling programme. Find out how these benefits have translated to better patient care in Here's Looking At (page 22). Also, don't miss out the photo highlights of our 27th Annual Dinner & Dance and Nurses' Day celebrations in Snapshots (page 26).

Last but not least, we would like to celebrate the achievements of our staff, including Professor Aung Tin, Deputy Medical Director (Research) of SNEC and Executive Director of SERI (page 5), and five young SNEC ophthalmologists (page 30) who have been recognised globally for their work.

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**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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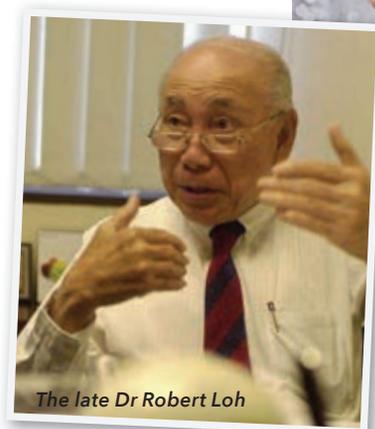
## ALL YOU NEED TO KNOW



# Inauguration of The Robert Loh Professorship

A new professorship has been initiated in honour of late eye surgeon Dr Robert Loh, one of Singapore's pioneers in ophthalmology.

**A**part from playing an instrumental role in the establishment of the Eye Bank at Singapore General Hospital in 1966, Dr Loh introduced microsurgery, laser surgery, intraocular implants, corneal grafting and modern retinal detachment surgery to Singapore.



*The late Dr Robert Loh*

Dr Loh's distinguished career is also marked by his leading positions in several medical societies and associations, including Academy of Medicine (AMS), Singapore Medical Association and Singapore Society of Ophthalmology (SSO). Not only was he the first president of the National Council of Social Service, he was also the longest-serving president of the YMCA here.

Following his passing in January this year, a fundraising campaign to set up The Robert Loh Professorship in Clinical Innovation in Ophthalmology was launched. Jointly administered by College of Ophthalmologists, Singapore (COPH), AMS, SSO and Duke-NUS Medical School, the endowed Professorship pays tribute to Dr Loh's legacy and selfless contributions. "Dr Loh is one of the reasons why eye care in Singapore is of world-class standards today," says Professor Wong Tien Yin, Medical Director of SNEC.



*At the launch ceremony (from left) Mr Stephen Loh; Adjunct Associate Professor Lee Shu Yen, President of Singapore Society of Ophthalmology and Honorary Secretary of College of Ophthalmologists, Singapore; Mrs Mary Loh; Mr Ong Ye Kung, Minister for Education (Higher Education and Skills) and Second Minister for Defence; Dr S R E Sayampanathan, Master, Academy of Medicine; Professor Wong Tien Yin, Medical Director, SNEC and President of College of Ophthalmologists, Singapore*

The Robert Loh Professorship in Clinical Innovation in Ophthalmology will fund the recipient's research efforts and lectures, among other things. According to Prof Wong, the recipient of this professorship must possess high academic standards and be proactive in innovating new technologies so that eye care will continue to improve. He or she should also, in the spirit of Dr Loh, have an impressive record of community service.

With a targeted amount of S\$10 million, the fundraising campaign was officially launched at the Academy of Medicine's 60th Anniversary Diamond Jubilee Charity Gala Dinner on 22 July 2017. Dr Loh's wife, Mrs Mary Loh, got the ball rolling with a S\$250,000 donation from her family, with further contribution by COPH, AMS and SSO collectively amounting to S\$200,000. There was also a donation of S\$50,000 by the Tan Chin Tuan Foundation. The goal is to raise S\$5 million by May next year, with a government matching of S\$5 million, subject to relevant approvals.



## Clinching the Dr Robert Ritch Award for Excellence and Innovation in Glaucoma

Professor Aung Tin, Deputy Medical Director (Research) of SNEC and Executive Director of SERI, was recognised for his extensive research on angle closure glaucoma and glaucoma genetics with a prestigious award from The Glaucoma Foundation.

The Dr Robert Ritch Award for Excellence and Innovation in Glaucoma – named after the founder and medical director of The Glaucoma Foundation – is an accolade that identifies and acknowledges the contributions of individuals who have played a significant role in promoting the medicine and science of glaucoma.

This year, the Dr Robert Ritch Award was conferred on Professor Aung Tin (first from right), who holds multiple positions within Singapore National Eye Centre (SNEC) and Singapore Eye Research Institute (SERI).

Besides his directorial responsibilities, he is also a Senior Consultant at the Glaucoma Department in SNEC, and a Professor at the Yong Loo Lin School of Medicine, National University of Singapore.

His research on angle closure glaucoma includes imaging, risk factors and randomised clinical trials on treatment methods. He also organised a worldwide consortium to study the genetics of angle closure glaucoma, leading to the discovery of eight novel genes involved in the disease. Another consortium led by Prof Aung investigated and found six new genes responsible for exfoliation syndrome. These efforts greatly enhanced the understanding of angle closure glaucoma and glaucoma genetics.

He has amassed numerous awards under his belt, including the Singapore Translational Research Investigator Award (2014), Singapore National Medical Research Council-Clinician Scientist Awards (2005, 2008), President's Science Award (2009), and the Alcon Research Institute Award (2013).

Prof Aung has written about 450 articles for various scientific journals. He is on the editorial boards of *Ophthalmology*, *Journal of Glaucoma*, *Eye*, *Graefe's Archive for Clinical and Experimental Ophthalmology*, and numerous other journals. Concurrently, he serves as the President of the World Glaucoma Association, and is a board member of the Asia-Pacific Glaucoma Society and the Asian Angle Closure Glaucoma Club.

# The Myopia Tsunami

More than just blurry vision, the sight-threatening complications of myopia will afflict many Singaporeans, if steps are not taken to halt the impending epidemic.

**S**ingapore has one of the highest rates of myopia in the world and the prevalence has risen since the 1970s. A study published in 2010 shows that short-sightedness affects almost 10% of Singapore children as young as five years old, and the rate hits 83% when they reach the age of 18. Among this 83%, 15% have high myopia, a proportion that may increase to 20-25% in the future.

Myopia can lead to sight-threatening diseases like retinal detachment, myopic macular degeneration, early cataract and glaucoma. Alarmingly, many of these conditions may result in low vision and even blindness in mid to late adulthood.

Currently, 26-36% of people aged between 40 and 80 have myopia. Among them, only 3-4% have high myopia. However, what we see now is not a complete reflection of the problem because many people with myopia and high myopia are still young. It is when they begin to enter their silver years over the next three decades that we will have myopia rates of 80% throughout the adult population. By 2067, we may see an increased number of older adults with myopia-related eye conditions with all its health and socio-economic consequences.



*Adjunct Associate Professor Audrey Chia*

“*Myopia can lead to sight-threatening diseases like retinal detachment, myopic macular degeneration, early cataract and glaucoma.*”

SingVision speaks with two co-heads of the Myopia Research Group at Singapore Eye Research Institute (SERI) – Adjunct Associate Professor Audrey Chia, Head of Paediatric Ophthalmology and Adult Strabismus Department in Singapore National Eye Centre

(SNEC) and Senior Clinical Investigator in SERI, and Professor Saw Seang Mei, Head of Myopia Unit in SERI – to learn about the complications of myopia, as well as measures to improve the situation.

#### **DANGERS OF EARLY ONSET MYOPIA**

The average age of onset of myopia in Singapore is 8.5 years. Based on the SCORM (Singapore Cohort Study of the Risk Factors for Myopia) study conducted by SERI, 25% of Primary One students have myopia; the percentage increases to 50% and 62% in Primary Four and Primary Six students respectively.

Myopia progresses as a child grows. Typically, myopia develops rapidly in the first few years following its onset, slows down in the teenage years, and stabilises when the person reaches 25. However, by this time, the eye is bigger than normal and damage

is already done. The progression begins earlier and the rate is faster in Asian children than kids from other continents.

“Once you have myopia, you will always have myopia – it is a lifelong disease. If you become short-sighted in kindergarten, your condition will progress over a longer duration compared to someone who develops myopia at 20. This puts you at greater risk of developing high myopia,” says Prof Saw.

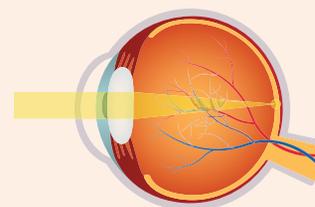
It is important to note that laser surgery, contrary to popular belief, does not reduce the risk of complications associated with myopia. LASIK reshapes the front part (the cornea) of the eye so that glasses are no longer needed. However, the back of the eye remains elongated and is still at risk of problems, such as retinal detachment and macular degeneration, as one gets older.

### **WHAT IS MYOPIA?**

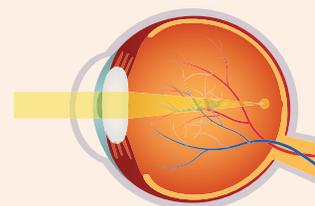
Myopia is a condition whereby a person is able to see near objects well but has difficulty seeing objects that are far away. It occurs when the eyeball is too long, causing light rays (containing image data) entering the eye to be unable to focus on the retina, a light-sensitive tissue at the back of the eye.

### **WHAT IS HIGH MYOPIA?**

High myopia, sometimes referred to as degenerative myopia or pathological myopia, is defined as short-sightedness of over 500 degrees. In high myopia, the excessive elongation of the eyeball causes stretch and degeneration of the retina either in its central part (myopic macular degeneration) affecting central high quality vision or the periphery (retinal detachment). It can also cause weakening of the optic nerve (glaucoma) and early-onset cataracts.



Normal Vision



Myopia

These complications can lead to sudden or gradual loss of vision. When a person with high myopia reaches 70, he may have poor vision or even turn blind. This will drastically affect the lives of the patient and his family.

### CAUSES OF MYOPIA

The cause of myopia is multifactorial, but two factors are identified as having a huge influence on the condition.

#### Family history

If both parents have myopia, the risk of their children becoming short-sighted is greater than those with only one parent who is short-sighted, and two to three times higher than a child whose

parents do not have myopia. Part of this may be genetic, but families may also share environmental habits. For instance, if parents prefer indoor activities and do not spend much time outdoors, then their children are likely to adopt the same lifestyle [see War Against Myopia].

In exploring the genetics of myopia, an international Consortium for Refractive Error and Myopia (CREAM), which involves 50,000 people and at least 20 studies around the world, recently discovered more than 50 minor genes that contribute to myopia. Thus, if children have this set of genes, their risk of myopia is higher.

#### Modernisation and environment

The spike in myopia rates in the 1970s marks the changes in school systems and lifestyles over the past few decades. A young person who went to school in the last 20 years reflects the current myopia rate and education system, while an elderly person who went to school 50 years ago reflects those back then.

Myopia rate is highest in countries with rigorous school systems, including Singapore, Hong Kong, Japan, China and South Korea. It is the advent of greater academic pursuit – more near work (such as reading and writing) and less outdoor activity – that leads to a higher likelihood of children developing myopia.

The lack of outdoor activity, in particular, is believed to be one of the most important modifiable risk factors for myopia. In the past, kids spent most of their after-school hours outdoors, such as catching spiders or running around outside. Now, students commonly engage in indoor activities like supplementary classes or computer games. A large-scale trial in Guangzhou, China, demonstrated how outdoor time is protective against myopia – out of 2,000 children, half of them participated in an outdoor exercise programme for one hour every day, and the myopia rate was found to decrease by 20%.



## WAR AGAINST MYOPIA

There are three main components in battling myopia:

### 1 Prevention

Understanding risk factors is crucial to identifying children who are predisposed to myopia and starting precision medicine early. The complications of myopia do not surface in childhood, but prevention must start early – the best age is in preschool, where schoolwork is less intensive and good eye care habits can be cultivated from young. The goal is to delay the onset of myopia in children below the age of 10, so that the power at age 25 does not go beyond 400 degrees.

### Spend at least 2 hours outdoors every day

According to worldwide statistics, kids in Singapore spend an average of one hour outdoors on a weekday whereas children from other countries spend two to three hours in the sun daily.

While reading and writing cannot be stopped altogether, children are encouraged to head outdoors more frequently. A SERI study using a life-sized mannequin presents that even with sun protection gear (such as sunglasses and hat) and the shade of a tree, natural sunlight has much higher light levels than any indoor lighting. Due to the hot and humid weather here, it is recommended to go outdoors in the morning or early evening.

# Myopia rate in Singapore

## 2017



**18-30  
years old**

Myopia rate **83%**

High Myopia rate **15%**



**40-80  
years old**

Myopia rate **26-36%**

High Myopia rate **3-4%**

## 2067



**18-90  
years old**

Myopia rate **80%**

High Myopia rate **20-25%**  
(one-third will have low vision)



# SINGAPORE EYE RESEARCH INSTITUTE



Professor Saw Seang Mei



“  
*Outdoor activity helps alleviate stress, allows appreciation of nature and reduces obesity.*”



encouraged to conduct classes (such as Science lessons) beyond the four walls. Students who are athletically inclined should join sports co-curricular activities to boost outdoor time.

Invented by Prof Saw, the FitSight watch is a smart device that displays and monitors the amount of time the wearer spends outdoors every day.

The watch is used in several ongoing research studies, including one that quantifies and analyses light levels. In addition, SERI is collaborating with the Ministry of Education for the Sunflower Project, where the watch is used as a fitness tracker.

## 2 Treatment

If a child already has myopia, the next step is to slow its progression and prevent high myopia. Prof Saw recommends a combination therapy or a multimodality approach over the course of a person's lifetime – for example, atropine treatment during the first 10 years after onset, followed by myopia-control contact lenses.

### Atropine eye drops

In the Atropine for the Treatment of Myopia (ATOM) 1 and 2 clinical trials, the focus was on using atropine eye drops to slow the

progression of myopia in children aged between 6 and 12.

According to Adj Assoc Prof Chia, ATOM 3 – a new study by SNEC, SERI and Singapore Clinical Research Institute (SCRI), which kick-started in June this year – is targeted at children at risk. These include young children whose parents have myopia, who are not yet but almost short-sighted or who just became short-sighted. The aim is to see if low-dose atropine can slow the onset or progress in these children, thus preventing them from developing high myopia. [Please contact SERI at 6322 4500/6322 4501 if you are interested to take part in the trial]

Trials are ongoing to develop bifocal, progressive or defocus spectacles, new soft daily disposable contact lenses, overnight (orthokeratology) contact lenses, and therapy with different lights.

## 3 Screening and raising awareness

Studies suggest that there is a need to raise awareness on low vision and blindness caused by high myopia. In the face of an impending epidemic, SNEC has set up the Myopia Clinic to screen and treat more people. Also in progress are further research on screening guidelines, a 12-year study on the progression rate of high myopia, eye shape studies, trials on diet, vitamins and effects of glaucoma eye drops, and surgical intervention techniques for lesions.

Besides shifting research emphasis to outdoor time, SNEC and SERI have also worked with relevant authorities, such as Health Promotion Board and NurtureSG, to launch nationwide programmes. Some of the strategies in practice include increasing outdoor activities at preschools and after-school care centres.

Data collected from weekly diaries and questionnaires show that a child naturally exercises more (walk, run and play) when he goes outside. Outdoor activity helps alleviate stress, allows appreciation of nature and reduces obesity. Teachers are also

# New hope for pterygium patients

A novel laser surgery could become the new gold standard for treating pterygium, an eye condition that affects approximately 15.5% of Singapore's population.



**P**terygium is a fleshy, triangular or wing-shaped growth that usually occurs in the inner or outer corner of the eye. One can get pterygium in one or both eyes. The condition is primarily caused by excessive exposure to ultraviolet light from the sun, and is thus more prevalent in tropical regions like Singapore.

Although it is a benign lesion, pterygium can induce astigmatism, and grow to cover the cornea and affect vision, if left untreated. When the pterygium becomes cosmetically obvious or causes symptoms such as blurry vision, surgical removal is recommended. SNEC performs an average of 500 pterygium procedures

annually, with 346 completed last year.

The standard procedure involves removing the growth and transplanting a translucent patch called the conjunctiva – usually from the patient's own eye (conjunctival autograft or CAG) – to reduce the risk of regrowth or the recurrence of pterygium.

"When CAG is done manually, a considerable amount of skill is needed to cut an autograft as thin as possible and if it is too thick, chances of the pterygium recurring are much higher," says Associate Professor Jodhbir Mehta, Head and Senior Consultant of SNEC's Corneal & External Eye Disease Department.

In July last year, SNEC performed the first femtosecond laser-assisted pterygium surgery (Flaps) in the world. This new laser surgical technique adopts the same technology commonly used in cataract and LASIK surgery, which enables an ultra-thin conjunctival graft to be harvested with precision and ease. Unlike manual excision, Flaps does not leave a scar on the conjunctiva.

An estimated 3-16% of CAG patients redevelop pterygium lesions, while Flaps patients appear less likely to experience recurrence. It is encouraging to note that no recurrence cases have been reported among the 35 successful Flaps surgeries done at SNEC to date.

## Symptoms of pterygium

- a whitish growth with prominent blood vessels on the inner and/or outer corners of the eye
- redness over the affected area
- irritation
- dry eye symptoms
- occasional tearing
- foreign body sensation
- blurry vision

# Plano<sup>®</sup> app keeps vision in check

Fresh out of the SERI (Singapore Eye Research Institute)-SNEC (Singapore National Eye Centre) Ophthalmic Technologies Incubator programme, plano<sup>®</sup> is a startup company focusing on an innovative parental management app for healthy and safe smart device use among children.

**T**he proliferation of technology, coupled with the convenience of mobile applications, has led to heavy dependence on smart devices. Excessive device use can create habits that cause ocular symptoms and increase risk factors associated with myopia, such as near work.

Co-funded by the National Health Innovation Centre Singapore (NHIC), plano<sup>®</sup> aims to minimise the potential adverse outcomes of inappropriate device use. The app not only serves as a screening tool, its features are also designed to help correct user behaviour. Ultimately, plano<sup>®</sup>'s analysis of big data can assist in early detection of decreased vision, identify prevention strategies, and refine intervention measures to improve paediatric eye health in Singapore and beyond.

According to plano<sup>®</sup>'s founder and chief executive officer, Dr Mo Dirani, who has conducted over 14 years of research in myopia and diabetic eye disorders, the younger the child, the easier it is for parents to introduce the right behaviour changes. By doing so, the onset of myopia can be delayed,

hence reducing the risk of high myopia [see Cover Story on page 6].

"Apps like plano<sup>®</sup> empower people to take charge of their own eye health. It is projected that myopia will affect more than half of the world's population by 2050. I am confident that plano<sup>®</sup> can make a difference, especially in Singapore, where both the myopia rate and usage level of smart devices are high," says Dr Dirani.

Launched first in Singapore, the plano<sup>®</sup> app can be downloaded for free on the iTunes App Store and Google Play Store.

## SERI-SNEC Ophthalmic Technologies Incubator

First introduced in 2013, the programme is dedicated to nurturing highly promising ophthalmic research and development projects, and accelerating them towards commercialisation and medical deployment via the creation of startup companies. The plano<sup>®</sup> app is the third project supported by this programme and its first successful spin-off, with several additional projects still in the pipeline.

## plano<sup>®</sup> KEY FUNCTIONS



### For parents:

- Monitor and limit the frequency and duration spent on digital devices
- Track the apps used and the distance at which the child holds the device
- Manage content viewed by child (hide browsers and downloaded apps)
- Schedule 'no device use' periods (such as homework, dinner and bedtime)
- Receive reader-friendly reports on device use and alerts for eye tests
- Subscribe to recommendations for better management
- Switch off the device remotely



### For children:

- Reminders to take breaks and move the device further from the eyes when necessary
- Friendly advice on best practices when using device
- Earn points for good device use; use points for in-app games or plano<sup>®</sup> partner offers
- Blue light filter at night-time



# Give Vision, **SAVE SIGHT** Lend a Hand



**VISIONSAVE**



The eye speaks a thousand words.  
With VisionSave by Singapore National Eye Centre (SNEC) and Singapore Eye Research Institute (SERI), our patients' eyesight can be saved, restored and protected.

Your generosity will go a long way towards providing financial assistance for needy patients, funding research for better treatments and training the next generation of eye specialists for excellent patient care.

Join us in paving the way to a brighter future by making a donation today.

 (65) 6322 8893

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

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

# Establishing our presence in Sengkang General Hospital

The Singapore National Eye Centre (SNEC) Eye Clinic at Alexandra Hospital will complete its move to the brand new Sengkang General Hospital in July 2018.

**T**he SNEC Alexandra Branch is an extension of our mission to provide high-quality, cost-effective and comprehensive eye care to patients within their community. Led by Dr Boey Pui Yi and Dr Khor Wei Boon, the team at Alexandra Branch consists of SNEC consultants, as well as a dedicated group of nurses, allied health and administrative staff.

A wide range of services is available at the Alexandra Branch, including outpatient evaluation and treatment of common eye conditions such as cataracts, glaucoma and diabetic eye disease. These services are supported by a comprehensive suite of investigative equipment and ophthalmic laser machines.

Patients who require cataract surgery undergo the procedure in a dedicated operating theatre within Alexandra Hospital (AH). The high surgical standards of SNEC are upheld by operating staff,



and implants and equipment directly from the main centre. In addition, our doctors also provide urgent consultations and ophthalmic care of patients warded at AH.

Come July 2018, the current operations in AH will shift to the pristine Sengkang General Hospital. Similarly, the SNEC Eye Clinic at Alexandra Hospital will transform into the SNEC Sengkang Branch, complete with new clinic facilities and operating theatres. Patients in the north-eastern part of Singapore can look forward to SNEC's excellent eye care services at their doorstep.

# Using Medications Safely

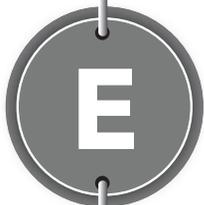
Medicines can help you feel better and get well when you are sick. But if you don't follow the prescriptions, medicines can be dangerous. Lower your chances of side effects from medicines by carefully following instructions on the drug label. When in doubt, consult your doctor or pharmacist.



## UNDERSTAND YOUR NEEDS



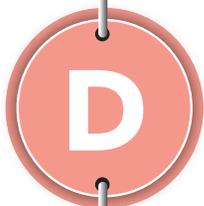
**Name**  
Ensure that your name is printed correctly on the drug label



**Expiry**  
Check that an expiration date is printed on the packaging



**Eye**  
Apply medication in the correct eye

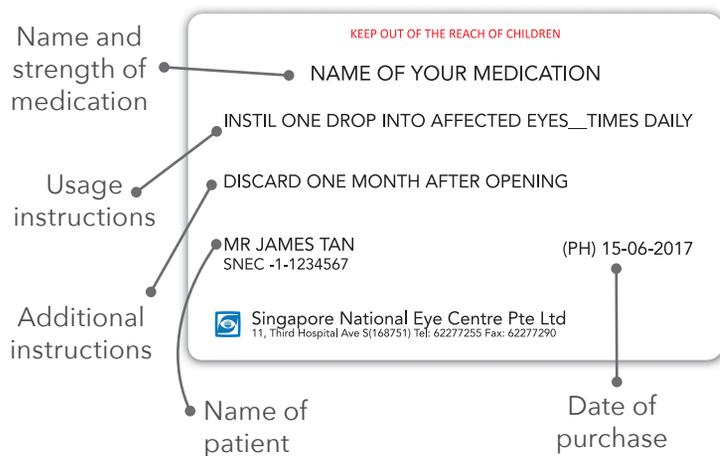


**Dosage**  
Use the right dose, at the right time, in the right way and frequency



**Storage**  
Store medicines at recommended conditions

## HOW TO READ A DRUG LABEL



**TIP!**  
Different eye drops have varying shelf lives. Write down the date that you start using the eye drops on its bottle to remind yourself when to discard it.



Discard **one month\*** after opening



Discard **12 hours\*** after opening

\*unless otherwise stated

# Medicine at Your Doorstep

You can now refill your prescription from Specialist Outpatient Clinics without having to step out of the house. This is a convenience that will be appreciated by those recuperating from a recent eye condition or surgery.

## Step 1:

Register and submit original prescription to SNEC pharmacy

## Step 2:

Call 6322 9348 or email [courier.service@sneec.com.sg](mailto:courier.service@sneec.com.sg) with your order at least three working days in advance

The medicine home delivery service can be completed in

# 4

easy steps:

## Step 4:

Receive your medications on the agreed date

## Step 3:

Your order will be processed and payment charged to your credit card

### Delivery details

Monday to Friday  
(excluding weekends and public holidays)  
Only within Singapore

**Normal delivery:** \$10.70

**Delivery of cold items:** \$12.80

**Delivery of bulky items or urgent delivery:**  
Additional fees apply



**Medicine home delivery service is not available for new patients or patients with prescriptions for new medications.**



# Digital devices strain your eyes

**T**he use of digital devices is ubiquitous in this day and age. Although these gadgets have increased productivity and enhanced convenience for us, their prevalence has caused eye problems such as computer vision syndrome (CVS).

Digital devices consist of more than smartphones. Mobile devices like laptops, tablets, e-readers, smart watches and handheld games account for some of the many devices that have pervaded our lives. At home, the digital revolution has bestowed us with flat screen televisions, desktop computers and gaming systems.

While these digital devices have made our lives more convenient, allowing us to be engaged and productive on the go, they have led to the development of CVS.

CVS is a group of eye and vision-related problems that result from prolonged use of digital devices. Common symptoms include eye strain, headaches, blurred vision, dry eyes, together with neck and shoulder pain.

It is hard to avoid, as a typical person would spend numerous hours a day staring at digital screens in various forms. "This condition is made worse if the person has pre-existing dry eyes and/or works in a low-humidity air-conditioned environment, or if a fan is blowing in his direction," says Dr Wesley Chong, Associate Consultant in SNEC's General Cataract & Comprehensive Ophthalmology Department. Left unaware, CVS can cause significant discomfort and may affect a person's ability to use the computer or other devices for work or leisure.

## PROTECT YOUR EYES

### Get the light and glasses right

Good lighting is essential to keep your eyes comfortable. Extreme contrast from a bright, glaring screen and a dark environment can cause significant discomfort and eye strain.

The inability to read fine print, also known as presbyopia or 'lao hua', tends to start from the age of 40. As it progresses with age, it will gradually make reading fine print tiring and strenuous. Patients with presbyopia who are engaged in prolonged reading or fine work without proper reading glasses will feel the effects of eye strain.

#### Tips

- Have adequate lighting in your room – do not use digital devices in the dark, or in extreme sunlight or glare
- Adjust your screen settings (such as brightness and contrast) to a comfortable level
- Keep window light to the side, rather than in front or behind you
- Use blinds or an anti-glare screen to minimise unwanted reflections
- Visit an optician to check for presbyopia if you are above 40 years and have difficulty reading

### Remember to blink

Blinking sweeps away debris while moistening and lubricating our eyes. In regular situations, such as when talking to someone, we blink about 15 times per minute. When reading – be it print or digital – that rate is reduced to about six a minute. The situation is worse for table-level devices like desktops as compared to handheld devices because our eyes tend to open wider, leading to more evaporation.

#### Tips

- Keep a bottle of eye drops in sight to remind yourself to blink
- Apply lubricant eye drops when your eyes feel tired and dry
- Use preservative-free lubricant eye drops if you are applying lubricants more than four times a day

### Rest and sit right

Handheld devices such as smartphones and tablets tend to be held close to our faces, forcing our eyes to focus at a much shorter distance. Muscles in the eyes contract to do this. Though flexible, when focusing muscles tense for too long, they have trouble returning to their relaxed state. This results in difficulty adjusting back when trying to look far – something referred to as transient myopia or pseudomyopia.

As for laptops and desktops, poor positioning of the screen and keyboard can often cause users to adopt awkward postures that lead to aches in the neck, shoulder and back, which worsen the overall discomfort.

#### Tips

- 20-20-20 Rule: After 20 minutes of work or viewing, look at something 20 feet away for 20 seconds
- Set your computer screen 5–40° below your horizontal line of sight, and about two feet away – the optimal positioning for both eye and neck comfort

## SYMPTOMS OF COMPUTER VISION SYNDROME



### TIRED, ITCHY & DRY EYES

*result from decreased blinking*



### HEADACHES

*can be caused by prolonged eye strain*



### NECK AND/OR SHOULDER ACHEs

*are associated with poor posture and positioning of screens*



### DOUBLE OR BLURRED VISION

*may occur due to screen glare*

# What's wrong with my eyes, doc?



## My daughter's kindergarten has an outbreak of pink eye. Should she skip her classes for the time being?

Pink eye (conjunctivitis) is an inflammation of the conjunctiva, a thin tissue covering the white part of the eye. Symptoms include eye redness, itch or swelling, watery or pus discharge, and sometimes blurred vision. Common causes are viral or bacterial infections, and allergy.

Viral conjunctivitis is common and highly contagious. It spreads from secretions from the eyes, nose and mouth of an affected person. It is caused by common cold viruses and usually resolves without treatment.

Bacterial conjunctivitis is less common but more serious, with more pus discharge and eye swelling. This condition frequently requires antibiotic treatment.

Allergic conjunctivitis is triggered by exposure to dust, pets or pollen. Itch is a prominent feature. Reducing exposure to allergens would help – for example, wash bed linen and soft toys regularly, and avoid triggers.

General tips to prevent the spread of conjunctivitis:

- Wash hands before and after touching your eyes or face
- Avoid touching or rubbing your eyes
- Avoid sharing personal items

Consult an ophthalmologist to determine the cause of pink eye and for treatment where necessary. As viral and bacterial conjunctivitis are contagious, it is recommended that affected children are kept away from school until they get well.



*Dr Boey Pui Yi  
Consultant  
Glaucoma Department, SNEC*

**My family has a history of a condition called 'lazy eye'. How does it arise? I am worried my baby boy may get it – what can I do for my little one?**

Lazy eye is also known as amblyopia, whereby one eye is weaker with poorer vision in the majority of cases, but it can happen to both eyes. It is caused by abnormal development of the nerve pathways connecting the eyes and the brain.

Normal vision develops during the first few years of a child's life. When a baby is born, the vision is poor because the brain is still learning how to 'communicate' to the eye. At the age of seven to eight, the development of the visual centre in the child's brain is almost complete. If the brain does not receive clear images from the weak eye prior to that, it would be difficult to improve vision in that eye thereafter. If left untreated, visual impairment can become permanent.

The main causes of amblyopia are uncorrected high refractive error (astigmatism, hyperopia and myopia) and large differences in refractive power between the two eyes. This type of amblyopia is commonly missed because the eyes appear normal and the child doesn't complain. However, it can be treated with glasses.

If the amblyopia is caused by a squint in which the deviating eye is being ignored or turned off by the brain, we can start patching the good eye to train the weak eye to see better. The earlier we start the patching, the better the response.



A minority of lazy eyes are due to conditions that obstruct vision, such as droopy eyelids and childhood cataracts. These cases may need surgery. If you are worried about your baby boy having lazy eye, have his sight checked by an ophthalmologist.

**My little boy tends to turn his head to one side when he watches TV. Is there anything wrong with his eyes?**

An abnormal head posture occurs when the head deviates from its normal straight position. If the child's abnormal head posture is exaggerated when he is trying to focus or see an object, it is likely caused by an eye problem.

Common eye-related causes include:

- Squint. The child will typically place his head in a different position to avoid double vision. In certain types of squint whereby a particular eye muscle is weak, the child will adopt a position that allows him to see more
- Nystagmus (jerky eye movements). The child will acquire a head turn in order to dampen fast jerks of the eyes to get a steadier image
- Refractive errors such as short-sightedness and astigmatism. When a child turns his head, he looks through a narrow opening of the lids to see better
- Differences in vision between the two eyes. The child turns his head to use his better eye to focus
- Droopy eyelids, in which the child will lift his chin up

There are other non-ocular causes, such as bony abnormalities, unilateral hearing loss, and shortening of the neck muscle.

Abnormal head postures can usually be improved depending on the cause. Surgical procedures are available to treat head postures related to squint, nystagmus and droopy eyelids. Glasses for refractive errors and patching therapy for amblyopia are other treatment alternatives.

**Dr Grace Wu**  
Consultant  
Paediatric Ophthalmology & Adult  
Strabismus Department, SNEC



# JOANNE CHANG & BELLA TAN

With the knowledge and skills acquired from the Ophthalmic Assistant course, Joanne and Bella now have greater confidence and responsibilities, which have translated to better patient care.



**J**oanne and Bella may have come from varied backgrounds and now work in different clinics under Singapore National Eye Centre (SNEC), but one thing they share is their dedication to the healthcare industry and eagerness to learn.

This passion, on top of the support from their respective nursing managers, drove them to sign up for the Ophthalmic Assistant course, a training programme jointly organised by SNEC and Duke-NUS Medical School.

## **FROM STRENGTH TO STRENGTH**

During her 15 years in SNEC, **Joanne** has participated in several in-house upskilling programmes and rose through the ranks – she started as a Clinic Assistant and was promoted to Senior Clinic Assistant; after the course, she was assigned the new role of Senior Ophthalmic Assistant.

On a daily basis, Joanne's job scope involves performing eye assessment tests, taking patients' medical histories, assisting doctors at consultation rooms, and helping with various procedural duties including dilation and instillation of eye drops.

As course application was open to the public, Joanne had the chance to attend the 16-week programme with colleagues and new faces in the field.

“There were nine people in my batch. Among the four of us who took the Ophthalmic Assistant course, three were totally new to eye care. I didn’t have to sign any bond because I’m already working here. The rest of them inked a one-year contract, which includes the course duration and on-the-job training afterwards,” she explains.

The Ophthalmic Assistant course consists of lectures that are held at the Academia and conducted by doctors and allied health staff, as well as 512 hours of clinical practicum. Upon successful completion of the training, participants are awarded a Joint Certificate by SNEC and Duke-NUS.

“Besides enhancing my understanding of the anatomy and physiology of the eye, the lectures also increased my knowledge of various eye-related conditions and the ways to manage them,” Joanne says.

Field visits to the operating theatre were the highlight of the course for Joanne, who has been stationed at the Glaucoma Clinic for the past seven years. Getting to observe pre-surgery preparations and a ‘live’ surgery for the first time was, in particular, an eye-opening experience.

Now that she has broadened her horizons, the benefits of the training are being transferred to the patients. Not only is she able to answer queries and explain about different parts of the eye (such as retina and cornea) with ease, she feels confident enough to lead the junior nurses and handle challenges in the clinic.

“I’m more confident about giving advice to patients, such as encouraging compliance in using eye drops. I am also able to better translate doctors’ instructions to elderly patients who can’t speak English. The most rewarding part of my job is seeing patients’ vision improve after treatment,” Joanne adds.

*Joanne demonstrates the technique of eye drop instillation to a patient*



“*Besides enhancing my understanding of the anatomy and physiology of the eye, the lectures also increased my knowledge of various eye-related conditions and the ways to manage them.*”

#### **POSITIVE INFLUENCE**

A work stint in a dental clinic sparked **Bella’s** interest in healthcare. One year after joining SNEC as a Clinic Assistant in July 2015, she jumped at the opportunity to register for the Ophthalmic Assistant course and even inspired a colleague to follow suit.

Thanks to the extensive curriculum and experienced team of trainers, Bella gained

greater awareness of how a clinic is run. The exposure to the Optical Coherence Tomography (OCT) imaging room also allowed her to learn how the machine functions, giving her a deeper understanding of the procedure.

Bella currently works at the SNEC Eye Clinic in Diabetes & Metabolism Centre (DMC) in Singapore General Hospital as an Ophthalmic Assistant. Equipped with theoretical knowledge and practical know-how, she is tasked to assist doctors independently, even guiding junior nurses along the way.

“Before the course, I assisted mostly Residents and Registrars. Now, I get to assist Senior Consultants and I can perform my daily work with more confidence,” Bella shares.

The DMC sees approximately 300 patients every day, with a majority of them being elderly. For Bella, one of the biggest takeaways from the course is the ability to enhance patient education. As aged patients may not comprehend the different types of treatment (such as laser surgery and injection), she makes an effort to provide detailed explanations and accurate information on the eye conditions and procedures.

“There was once when a patient in his 80s came to the clinic alone. As he was using a walking stick and dilation can cause his near vision to be blurry, I advised him to take a taxi or have a meal before going home about two hours later.”

Having benefitted markedly from the course, Joanne and Bella strongly encourage their colleagues and people who are keen on the eye care industry to take it up. “I am thankful to SNEC for the opportunity to upskill myself through the Ophthalmic Assistant course. It shows that anyone like me, who does not have a background in ophthalmology, can make it too,” Bella concludes.



*Bella's daily job scope includes assisting ophthalmologists with vision tests*

“  
*Before the course, I assisted mostly Residents and Registrars at the SNEC Eye Clinic in Diabetes & Metabolism Centre. Now, I get to assist Senior Consultants and I can perform my daily work with more confidence.*”



### **OPHTHALMIC ASSISTANT & OPHTHALMIC TECHNICIAN COURSES**

Ophthalmic Assistants and Technicians are essential members of the healthcare community. The Ophthalmic Assistant and Ophthalmic Technician courses offered by SNEC and Duke-NUS are designed to comprehensively combine theoretical knowledge and clinical experience so as to develop competent allied health professionals. Both programmes meet the Commission on Accreditation of Ophthalmic Medical Personnel (CoA-OMP) guidelines, and were awarded the International Joint Commission on Allied Health Personnel in Ophthalmology (IJCAHPO) accreditation for excellence.

### **IJCAHPO-SNEC REGIONAL TRAINING AND CERTIFICATION CENTRE**

At the regional and international level, SNEC has been approached to provide training to countries in the region through stakeholders like ASEAN Association of Eye Hospitals (AAEH), non-profit agencies and clinical institutions in developing countries. We are also working towards developing SNEC as a regional examination centre for Joint Commission on Allied Health Personnel in Ophthalmology (JCAHPO) certification and an international training hub for the eye care workforce.

IJCAHPO provides international accreditation by setting academic standards for ophthalmic training programmes to enhance the quality and availability of ophthalmic patient care. IJCAHPO is the international division of the JCAHPO, which offers certification and continuing education opportunities to ophthalmic allied health personnel.

For more information, please visit [www.snecmeetings.org](http://www.snecmeetings.org), email to [trainingedu@snec.com.sg](mailto:trainingedu@snec.com.sg) or call 6322 9591.

“  
SNEC is the first in  
Singapore and  
Southeast Asia to  
be accredited by the  
International Joint  
Commission on Allied  
Health Personnel  
in Ophthalmology  
(IJCAHPO).”



# BOARDING PASS

## Let the journey begin

Centred on the theme of 'Around The World', the Singapore National Eye Centre (SNEC) and Singapore Eye Research Institute (SERI) 27th Annual Dinner & Dance was held at Swissotel The Stamford on 24 September 2017.



It was a night of laughter and joy as the staff of SNEC and SERI turned up for the yearly event in myriad ethnic and national costumes from different parts of the globe. Expectedly, this increased the competition for the Best Dressed prizes in a good way.

First on the performance line-up was a dance segment by the Medical Director, Deputy Medical Director and Clinical Heads of Departments, which won loud cheers from the crowd. The inspiring work of our colleagues was recognised by various award presentations, including the Appreciation Award, the Spirit of Humanity Award and the Long Service Award.

One major highlight was 'SNEC Got Talent', where four groups of staff put up brilliant performances, such as tribal dance by Residents and Medical Officers. While enjoying the sumptuous dinner and onstage shenanigans, attendees also took part in a silent auction via the slips placed on the tables. Wrapping up the night, top 10 winners went home happy with prizes from the Grand Lucky Draw.



# In Celebration of our Angels in White



Singapore National Eye Centre (SNEC) and Singapore Eye Research Institute (SERI) Nurses' Day 2017 was held on 2 August amid much fun and excitement.

**E**very year, International Nurses Day commemorates the birthday of the world's most famous nurse, Florence Nightingale. More importantly, it recognises the crucial role and contributions of nurses in the healthcare industry globally.

Based on an angel theme, SNEC and SERI paid tribute to our nurses with an entertaining line-up of activities as part of its Nurses' Day 2017 celebrations.

Programme highlights include 'Angel Among Us' ballet performance, games and fringe activities, food and ice cream stalls, and an instant print photo booth. Nurses received flower-shaped fans as door gifts, while outstanding staff were presented with the SNEC Appreciation Awards and Ministry of Health Nursing Awards.





# Towards a Brighter Future of Eye Care

Five of SNEC's young ophthalmologists have made significant marks on the local and international field of ophthalmology.

**B**esides providing quality and cost-effective eye care, developing human resources has always been an integral part of Singapore National Eye Centre (SNEC) and Singapore Eye Research Institute (SERI). As a testament, five SNEC ophthalmologists under the age of 40 – Dr Marcus Ang, Dr Gavin Tan, Dr Daniel Ting, Dr Wong Chee Wai and Dr Kelvin Teo – have recently been recognised for their outstanding work and impactful research in ophthalmology.

"Winning these prestigious awards at such a young age is no easy feat in our field. Our mission has always been to lead the development of ophthalmology, and they have done just that," says Professor Wong Tien Yin, Medical Director of SNEC.



## Dr Marcus Ang

*Consultant, Corneal & External Eye Disease Department*

Dr Ang's specialty in corneal transplantation was rewarded with an honorary position in the renowned Moorfields Eye Hospital in London, UK, while his research on factors that improve the outcome of corneal transplantation has won him several international awards.

In the April 2017 issue of *The Ophthalmologist*, Dr Ang was voted by fellow professionals across Europe and North America, and placed seventh on *The Power List: Rising Stars of 2017* – an annual list known for celebrating the most influential people in ophthalmology around the globe. A widely published author, he is a recent graduand of the prestigious Asia Pacific Academy of Ophthalmology's Leadership Development Program.



**Dr Gavin Tan**  
Consultant, Surgical  
Retina Department

In 2014, Dr Tan completed a two-year fellowship in vitreo-retinal diseases and surgery at SNEC, where his career in ophthalmology first began. Dr Tan's exemplary work on diabetic retinopathy won him the SingHealth Outstanding Clinician

Researcher Award. In addition, he was conferred the Ministry of Health (MOH) Transition Award to study new imaging techniques and how these can improve understanding of diabetic eye diseases and their management, as well as reduce diabetes-led blindness.

**Dr Wong Chee Wai**  
Associate Consultant,  
General Cataract  
& Comprehensive  
Ophthalmology  
Department

Dr Wong attained the National Medical Research Council Research Training Fellowship, which is typically conferred to select and notable clinicians to support their pursuit of a post-graduate degree in research. With this, Dr Wong will be able to pursue a PhD in drug delivery for retinal diseases at Utrecht University.



*Winning these prestigious awards at such a young age is no easy feat in our field.*

**Dr Daniel Ting**  
Associate Consultant,  
General Cataract  
& Comprehensive  
Ophthalmology  
Department

Dr Ting is the first ophthalmologist from SNEC to receive the Fulbright U.S.-ASEAN Visiting Scholar Award 2017 – one of the most prestigious scholarships in the world.



As part of this award, he will represent Singapore to visit Johns Hopkins University's School of Medicine and Machine Learning Unit in the United States. His mission is to share and exchange ideas, and optimise the use of artificial intelligence for patients with diabetic eye diseases. Upon completion of this programme, Dr Ting aspires to continue to integrate the use of artificial intelligence in the telemedicine network to screen for diabetic eye diseases and prevent blindness for patients with diabetes in Singapore and around the world. This is especially critical for our country, where diabetes is a major public health concern, and dovetails well with the current push to establish Singapore as a Smart Nation.

**Dr Kelvin Teo**  
Associate Consultant, General Cataract &  
Comprehensive Ophthalmology Department

For his distinguished work in research and development, Dr Teo was awarded multiple grants, including the Co-Investigatorship for the Industrial Alignment Fund grant (worth S\$250,000), the National Medical Research Council New Investigator grant (worth S\$220,000) and the SingHealth Foundation Research grant (worth S\$50,000) in 2016. In addition, he was also accorded the 2017 National Health Innovation Centre grant (worth S\$250,000) to develop medical devices. Dr Teo is presently in Sydney, Australia, pursuing a Masters in Philosophy (Medical Research).



► **Dr Morgan Yang**

Senior Consultant  
Oculoplastic  
Department,  
SNEC



◀ **Dr Jay Siak**

Consultant  
Ocular Inflammation  
& Immunology  
Department, SNEC



► **Dr Deborah Tan**

Consultant  
Paediatric  
Ophthalmology &  
Adult Strabismus  
Department, SNEC



► **Dr Tay Su Ann**

Consultant  
Paediatric Ophthalmology  
& Adult Strabismus  
Department, SNEC

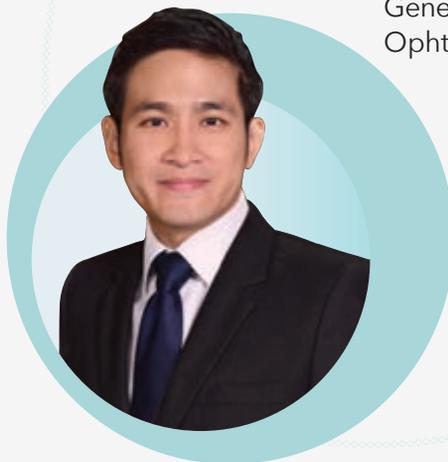


PROMOTIONS

*Well done, members of the Singapore National Eye Centre (SNEC) family who have recently been promoted!*



**▲ Dr Danny Cheung**  
Associate Consultant  
Surgical Retina Department,  
SNEC



**▼ Dr Wesley Chong**  
Associate Consultant  
General Cataract & Comprehensive  
Ophthalmology Department, SNEC



**▲ Dr Yap Zhu Li**  
Associate Consultant  
General Cataract & Comprehensive  
Ophthalmology Department,  
SNEC



**▲ Dr Virinder Kaur Dhillion**  
Senior Staff Registrar  
Clinical Services Department,  
SNEC



**▼ Dr Yang Xu**  
Resident Physician II  
Clinical Services  
Department, SNEC

Way to go, our colleagues in SNEC and Singapore Eye Research Institute (SERI)!

**DISTINGUISHED  
CHAMPION OF  
CHANGE LEADER  
AWARD**



**Adj Assoc Prof  
Edmund Wong**  
*Deputy Medical  
Director (Clinical  
Services), SNEC;  
Head & Senior  
Consultant,  
Surgical Retina  
Department, SNEC*

**SINGHEALTH  
GCEO  
EXCELLENCE  
AWARDS**

**OUTSTANDING  
CLINICIAN  
RESEARCHER  
AWARD**



**Dr Gavin Tan**  
*Consultant,  
Surgical Retina  
Department, SNEC;  
Clinical Director,  
SNEC Ocular  
Reading Centre*

**THE EFFICIENCY  
AWARD**



**Ong Chui Hong**  
*Senior Enrolled Nurse,  
Nursing – Outpatient  
Department, SNEC*

**NATIONAL  
DAY AWARDS**

**THE LONG  
SERVICE MEDAL**



**Patrick Ng**  
*Principal Ophthalmic  
Investigation Specialist,  
Ophthalmic  
Investigation Services,  
SNEC*

**NATURE  
GENETICS  
PAPER  
AWARDS**



**GENETIC ASSOCIATION STUDY OF  
EXFOLIATION SYNDROME IDENTIFIES  
A PROTECTIVE RARE VARIANT AT *LOXL1*  
AND FIVE NEW SUSCEPTIBILITY LOCI**

**Prof Aung Tin, Dr Lee Mei Chin, Dr Anita Chan,  
Assoc Prof Eranga Vithana,  
Dr Khor Chiea Chuen and The SERI/SNEC  
Glaucoma, Genetics & Pathology Groups**

**AWARDS**

**CLINICAL  
SCIENTIST AWARD  
(SENIOR CATEGORY)**



**Assoc Prof  
Cheng Ching Yu**  
*Clinician Scientist,  
Glaucoma  
Department, SNEC;  
Principal Clinician  
Scientist, SERI;  
Head, Ocular  
Epidemiology  
Research Group and  
Statistics Research  
Platform, SERI*

**NATIONAL MEDICAL  
RESEARCH COUNCIL**

**TRANSITION  
AWARD**



**Dr Liu Yu-Chi**  
*Clinician Scientist,  
Corneal & External  
Eye Disease  
Department, SNEC;  
Senior Clinical  
Research Fellow,  
SERI*

**THE DR ROBERT RITCH AWARD  
FOR EXCELLENCE AND  
INNOVATION IN GLAUCOMA**



**Prof Aung Tin**  
*Deputy Medical  
Director (Research),  
SNEC; Senior  
Consultant, Glaucoma  
Department, SNEC;  
Executive Director,  
SERI*

**ACADEMIC MEDICINE –  
ENHANCING TRAINING,  
HEALTHCARE, OUTCOMES  
& STANDARDS (AM-ETHOS)  
ACADEMIC ADMINISTRATOR  
FELLOWSHIP 2017/2018**



**Ms Sharmila Kannan**  
*Director,  
Ophthalmology  
& Visual Sciences  
Academic Clinical  
Program, SNEC;  
Director,  
Administration,  
Research Affairs &  
Support Services, SERI*

**MACULA  
SOCIETY YOUNG  
INVESTIGATOR  
AWARD**



**Assoc Prof  
Gemmy Cheung**  
*Deputy Head &  
Senior Consultant,  
Medical Retina  
Department, SNEC;  
Clinical Director,  
Ophthalmic Imaging  
Service, SNEC;  
Head, Retina  
Research Group,  
SERI*

## *SNEC provides eye treatment for the full spectrum of eye conditions:*

- General Cataract & Comprehensive Ophthalmology
- Cataract Subspecialty
- Corneal & External Eye Disease
- Glaucoma
- Neuro-Ophthalmology
- Ocular Inflammation & Immunology
- Oculoplastic
- Paediatric Ophthalmology & Adult Strabismus
- Refractive Surgery
- Medical & Surgical Retina

 **Where We Are**  
11 Third Hospital Avenue  
Singapore 168751  
[www.snec.com.sg](http://www.snec.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

## **Consultation by appointment:**

 **Tel: 6227 7266**

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

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

**GP Hotline: 6322 9399**

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

*Watch out for our new clinic in Bedok in first quarter 2018!*



## **SNEC** Branches

### **SNEC Alexandra Branch**

378 Alexandra Road  
Block 28 Alexandra Hospital  
Singapore 159964

Clinic A (Level 1)  
Tel: 6379 3230  
Fax: 6379 3239

Clinic C (Level 2)  
Tel: 6379 3500  
Fax: 6379 3519

### **SNEC Eye Associates**

6A Napier Road #02-39/40  
Gleneagles Hospital  
Annexe Block  
Singapore 258500  
Tel: 6835 1188  
Fax: 6835 1009

### **SNEC Eye Clinic @ CGH**

Changi General Hospital  
2 Simei Street 3  
Singapore 529889  
Tel: 6850 1450/6850 1470  
Fax: 6784 8718/6544 0087

### **KK Women's & Children's Hospital (Clinic E)**

100 Bukit Timah Road  
Singapore 229899  
Tel: 6394 1930/6394 1931  
Fax: 6394 1929