

SING VISION[®]

Tomorrow's Eye Care, Today[®] www.snec.com.sg

A publication of Singapore National Eye Centre

SNEC SPOTLIGHT:
A DIFFERENT
WORLD

ALL ABOUT EYES:
FOR YOUNG
EYES ONLY

**HERE'S
LOOKING AT:**
EILEEN LIM



GLAUCOMA

Your Eye
Under Pressure

Find out more inside

ISSUE **1/2017**



Singapore National
Eye Centre
SingHealth

Editor's Note

World Glaucoma Week is an annual event observed globally in the month of March to raise awareness of this disease. This year, SNEC marked Glaucoma Day on 18 March by holding an educational fair that attracted about 300 participants.

So what is glaucoma? It is a very serious eye condition that accounts for 40% of blindness in Singapore. Many refer to it as the 'silent thief of sight' as the onset of the disease carries no obvious symptoms. In fact, an explosion in glaucoma-related morbidity is likely in the near future because of our fast-ageing population. Associate Professor Tina Wong, newly appointed head of the glaucoma department at SNEC, shares in the cover story (page 12) her goal of achieving a more holistic care for glaucoma patients. Also in that article, Adjunct Associate Professor Shamira Perera goes into detail about the eye condition.

This issue, we highlight an experiential display stand located at the SNEC Main Centre at SGH Campus. On it are six special pairs of glasses, each of which simulates an eye condition. When visitors view the world through a pair, they will understand what patients with that particular eye disease have to cope with. It is hoped that this will create awareness of how bad the patients' vision can become, generate empathy for them among caregivers, and motivate people with normal vision to take care of their own eye health. Turn to Spotlight (page 4) to find out more. Vision is precious and ought to be taken care of from young. All About Eyes (page 18) offers tips on how you can help your little ones to maintain theirs.

We would also like to introduce you to someone who has had a personal encounter with glaucoma. Eileen Lim, an Ophthalmic Investigation Specialist with SNEC's Ophthalmic Investigation Services, reveals in Here's Looking At (page 22) that her grandmother suffers from an advanced case of the eye condition, and how this inspired her choice to join the eye care sector.

The Editorial Team

PUBLISHER

SINGAPORE NATIONAL EYE CENTRE
WWW.SNEC.COM.SG

EDITOR

LEE KAI YIN

DEPUTY EDITOR

TRICIA TAN

CONTRIBUTING EXPERTS

DR JEAN CHAI
DR ALLAN FONG
DR YVONNE LING
ADJ ASSOC PROF SHAMIRA PERERA
ASSOC PROF TINA WONG
DR MORGAN YANG
SHARMILA KANNAN
EILEEN LIM

PUBLISHING AGENT

THINKFARM PTE LTD



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.

Contents

12

18



22

02

EDITOR'S NOTE

04

SNEC SPOTLIGHT

- A different world
- Visiting SNEC: what to expect
- Give the gift of sight
- Eye experts gather

12

COVER STORY

Towards more holistic care for glaucoma patients

18

ALL ABOUT EYES

For young eyes only

20

Q&A

What's wrong with my eyes, doc?

22

HERE'S LOOKING AT

Eileen Lim

24

ALL YOU NEED TO KNOW

A Different World

If you have normal eyesight, you may find it difficult to imagine how certain eye conditions can affect your vision, even after wading through lengthy and technical write-ups. And if you get patients to describe how the world appears to them, the picture may not necessarily be any clearer if they are not articulate.



There is an easier way to understand the nature of some of these sight-threatening eye problems and how the vision of such patients is affected: head to the experiential stand at Level 1 of Singapore National Eye Centre (SGH Campus). The special eyeglasses on display simulate

six eye conditions – such as glaucoma and cataracts – in their advanced stages.

This hands-on experience helps caregivers and members of the public better understand and empathise with patients dealing with those challenges on a daily

basis. It also motivates people with normal vision to take care of their own eye health.

So try on the glasses for yourself and experience the visual effects as shown in the images on the next page.



Age-related Macular Degeneration (AMD)

is a chronic irreversible condition that results in loss of vision in the centre of the visual field (the macula) because of damage to the retina (innermost layer of the eye). The condition can make it difficult to read, recognise faces or drive safely.



Cataracts develop when the lens of your eye becomes cloudy. In most cases, it is a naturally occurring, age-related condition that begins in our 50s and progressively worsens over time.

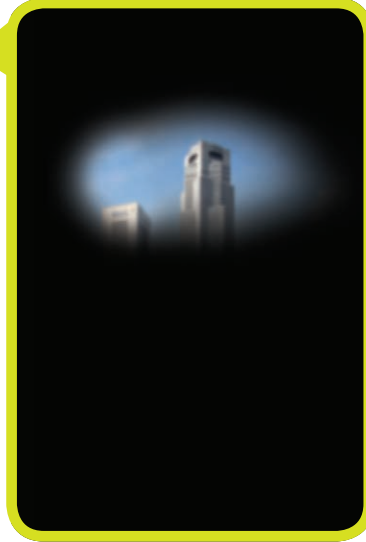
Diabetic Retinopathy

occurs when diabetes damages the tiny blood vessels inside the retina, leading to bleeding. If left untreated, it can lead to progressive and irreversible vision loss.



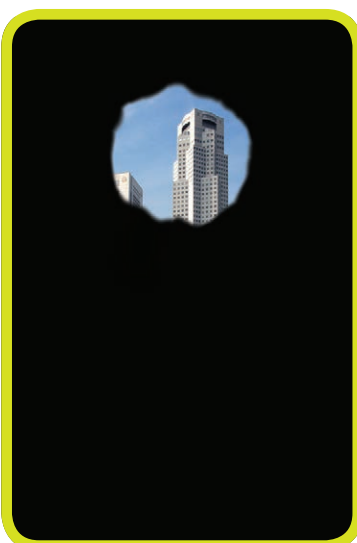
Glaucoma

is a disease in which fluid pressure within the eye rises and damages the optic nerve. If left untreated, it can cause progressive loss of peripheral vision. In advanced cases, patients will feel as though they are looking through a tunnel. At the final stage, the patient suffers from total permanent blindness.



Retinal Detachment

occurs when the retina separates from the outer layers of the eye. If it is not treated early, it may lead to permanent loss of vision, which can be partial or complete.



Retinitis Pigmentosa

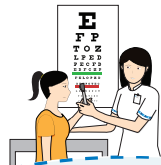
is an inherited eye disease in which the light-sensitive retina slowly and progressively degenerates. This leads to an increasing loss of peripheral vision, night blindness, central vision loss and, in some cases, blindness. The visual effects could be similar to that of glaucoma.

Visiting SNEC: what to expect

1 Registration



2 Basic Evaluation



3 Consultation



4 Investigations



7 Pharmacy



6 Billing & Appointment



5 Post-investigation Consultation



8 Home



You might be visiting SNEC for a regularly scheduled eye examination, or following up on a referral to see an eye doctor after a screening at a polyclinic or GP clinic. Whatever your reason, put your mind at ease and rest assured that we will take care of your eye care needs every step of the way (see chart above).

While you are here, we will use advanced diagnostic technology to assess your eye health, and recommend appropriate care with a long-term focus. As a dedicated centre for eye care, our care team understands the importance of patient

education and communication. We will explain your diagnosis and treatment options, help you make informed decisions about your care, and continue to guide and counsel you throughout your treatment.

We will do our best to see you promptly at your scheduled appointment time; however, we may have to attend to an emergency that can cause delay. We also seek your understanding that patients with more complex conditions require extra time; we endeavour to give you the same undivided attention when you are seen.

Give the Gift of Sight

Not everyone can afford an intervention to save his or her eyesight. VisionSave hopes to address this gap.

The VisionSave campaign, a joint effort between the Singapore National Eye Centre (SNEC) and the Singapore Eye Research Institute (SERI), seeks to save sight and improve the quality of life of our patients.

VisionSave aims to:

- Provide financial assistance for sight-threatening eye diseases
- Educate people in the areas of saving sight
- Develop long-term understanding of eye diseases and solutions
- Support research and innovation in the field of ophthalmology
- Build strong infrastructure and invest in capacity building

These steps will go a long way to:

- Save vision by preventing avoidable blindness
- Restore vision by helping those already experiencing vision loss
- Protect vision by addressing people at risk of sight loss

Help VisionSave fulfil these noble intentions by donating generously!



Donate generously!

Make a corporate, personal or anonymous donation to the VisionSave campaign at www.visionsave.sg/donate

Every contribution, regardless of size, counts in the fight against blindness.

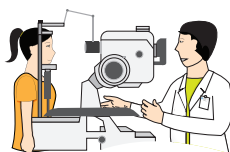


5a Surgery Listing

If surgery is required



5b Pre-operative Assessment



5c Investigations (Biometry)



5d Pre-operative Counselling

What to bring for your appointment

- Your spectacles and/or contact lens. If you are wearing contact lens, bring a contact lens case as you may need to remove your lenses for the eye checks
- Identification documents (Singapore NRIC or Passport and Employment Pass/Work Permit/Dependant Pass or Permanent Resident Card where applicable)
- Civil Service Card/Public Service Card/Medical Benefits Eligibility Card
- Referral letter from your polyclinic, private doctor or any other referral sources, especially if it is your first visit
- A cardigan, sweater or shawl – to keep you warm while waiting for consultation

Eye Experts Gather

Singapore welcomed the 32nd Asia-Pacific Academy of Ophthalmology (APAO) Congress from 1 to 5 March 2017 at Suntec Singapore Convention and Exhibition Centre. More than 5,000 delegates from 77 countries attended this prestigious ophthalmic event – a gathering of world-renowned ophthalmologists and thought leaders – to discuss the state-of-the-art treatments for myriad eye conditions, including imaging and surgical techniques catered to Asian eyes.

Besides scientific symposia, instruction courses and free paper sessions, APAO 2017 was made uniquely memorable with events that included a Welcome Reception, Presidential Dinner, Gala Dinner, Young Ophthalmologists' Night and a charity run.



Prof Wong Tien Yin (Congress President, APAO 2017; President, College of Ophthalmologists, Singapore; Medical Director, SNEC) welcoming the delegates at Suntec Singapore

60



ophthalmologists, researchers and allied health professionals

from SNEC and SERI participated as speakers and chairs in the symposiums, lectures and plenaries



Guest-of-Honour Minister for Health Mr Gan Kim Yong (third from left) opening the congress with Senior Minister of State for Health and Transport Dr Lam Pin Min (fourth from left) as well as APAO and ICO Committee Members



Prof Wong flagging off the 'I (Eye) Run for Sight' charity run, which raised more than S\$11,000 for various charitable causes with an ophthalmic mission

SNEC & SERI highlights during APAO 2017

Live Surgery: from SNEC to Suntec Singapore

Twelve cases of cataract, glaucoma, ReLEx Smile and cornea transplant surgeries were carried out on 4 March in Singapore National Eye Centre (SNEC) operating theatres and telecast live in high definition from SNEC to the congress venue at Suntec Singapore. The SNEC surgeons who participated were Professor Donald Tan, Professor Chee Soon Phaik, Associate Professor Jodhbir Mehta, Adjunct Associate Professor Ho Ching Lin, Dr Allan Fong, as well as Dr Mahipal Sachdev from India.



SNEC surgeons Dr Allan Fong (left) and Prof Chee Soon Phaik, both on screen from the SNEC operating theatre, discussing the cases they had just completed with a panel of moderators at Suntec

*Moderators (from left):
Dr Ruth Lapid-Gortzak (Netherlands), Dr Abhay Vasavada (India), Dr Rick Wolfe (Australia), Prof Joaquim Murta (Portugal)*



12

surgeries performed and telecast live from SNEC to the congress venue at Suntec Singapore



The SNEC nursing team supporting the live surgeries



(from left) Dr Naveed Shams, Head of Global R&D, Santen Pharmaceuticals; Mr Akira Kurokawa, President and Chief Executive Officer, Santen Pharmaceuticals; Prof Aung Tin, Executive Director, SERI; Prof Wong Tien Yin, Medical Director, SNEC

SERI-Santen MOU Signing

An agreement was inked between Singapore Eye Research Institute (SERI) and Santen Pharmaceuticals to jointly run a S\$37 million laboratory, to be located at the Academia Building. The new facility will focus on putting together SERI's novel technologies and translational research capabilities and Santen's asset portfolio and longstanding drug development programme. "SERI will leverage its substantial experience in translational ophthalmic research and the leading position we've achieved in several ophthalmic fields towards expanding the work we're doing with Santen," says Professor Aung Tin, Executive Director of SERI.

S\$37 million
deal signed between SERI
and Santen Pharmaceuticals



International Conference on Ophthalmic Photography (ICOP)

In conjunction with APAO 2017, SNEC hosted this conference, which focused on the importance of imaging. Ophthalmic imaging has evolved as a key diagnostic technology for managing eye diseases. SNEC actively participates in ocular imaging projects, supports the continuous learning of its staff, and



ICOP delegates viewing some of the winning photographs with SNEC Chief Operating Officer Ms Charity Wai

constantly enhances the standards of ophthalmic photographers in the region. The centre has been recognised as the Asia Pacific Chapter for the Ophthalmic Photographers' Society. ICOP was last held in Singapore 20 years ago. More than 70 delegates from 14 countries attended this conference.

350



A PAO DELEGATES FROM 22 COUNTRIES VISITED SNEC AND SERI FACILITIES



SNEC & SERI Open House

Over the congress period, SNEC and SERI welcomed more than 350 delegates to our facilities in SGH Campus. These delegates – from Malaysia, Indonesia, Thailand, Cambodia, Vietnam, Myanmar, Philippines, China, Taiwan, Hong Kong, Korea, Japan, India, Pakistan, Bangladesh, Nepal, Africa, Australia, the Middle East, US and Europe – visited SNEC, Singapore Eye Research Institute and Singapore Eye Bank for the first time and were impressed by our facilities and the hospitality provided during the guided tours. Many expressed that it was an eye-opening experience going through SNEC/SERI's care and research processes, as well as the focus given to quality and clinical outcomes.





Towards more holistic care for glaucoma patients

Associate Professor Tina Wong, the newly appointed head of the glaucoma department at SNEC, shares her vision of where she intends to steer the service.

"For the glaucoma service, we are looking at the inevitable rise in the number of patients consulting the service. Glaucoma is an ageing disease; people are living longer. If they're living longer, then they're going to get glaucoma."

This warning comes from Associate Professor Tina Wong, who was recently appointed Head of the department (HOD). "Because glaucoma is a lifelong disease, I would liken the glaucoma service at SNEC as 'Hotel California' (the song by The Eagles) – you can check out anytime you like, but you can never leave! But we're trying to change that. That's my mission as HOD," Assoc Prof Wong assures.

Efficiency in patient care

SNEC has the largest glaucoma faculty in Singapore on a clinical level. It currently has

11 consultants dealing with all aspects of glaucoma. The time they spend with patients could range from five minutes with straightforward glaucoma suspects coming for annual checks to an hour with more complex and challenging cases that are often co-managed with other sub-specialties in the centre.

Assoc Prof Wong feels that the department's expertise can be more effectively harnessed via shared care and right-siting of patients, a model implemented in the US, Canada, Europe and Australia that has achieved good results. "It is not necessary nor efficient in resources used and time spent for patients to come to a busy tertiary referral centre such as SNEC just to have their regular screening because they have a family history of glaucoma," she clarifies. "It's about identifying and shifting the right population

of patients to be seen in the right environment."

Holistic glaucoma care

Assoc Prof Wong and her team of forward-thinking, dynamic consultants share the common goal of improving patient care with right-siting. In this model of care, every stakeholder – including GPs and optometrists – plays a significant role. With this model, glaucoma patients with stable conditions can be seen at primary eye care clinics, while the consultants can dedicate more time and resources to complex cases.

At the same time, Assoc Prof Wong empathises with the patients' concerns. She mentions cases of patients who had been consulting at SNEC's main centre at the SGH campus for a long time, and who were later seen at the then Balestier branch for their

“Because glaucoma is a lifelong disease, I would liken the glaucoma service at SNEC as ‘Hotel California’ (the song by The Eagles) – you can check out anytime you like, but you can never leave! But we’re trying to change that.”

convenience. But after one or two visits, they would go back to the main centre. To offer assurance and help patients understand the benefits of the new system, the team gathers their feedback for improvement. “We ask them questions like ‘Is there a problem with the arrangement? How can we enable you to be seen in the

primary eye care clinic?’,” she says. It is also about a change in mindset by patients and how they can see this as an improvement in the current healthcare system. Any kind of change will take time to become the new norm.

On the cutting edge

In 2014, a team comprising Assoc Prof Wong and Nanyang Technological University’s Professor Subbu Venkatraman and Professor Freddy Boey was conferred the President’s Technology Award for research projects, which underscored the centre’s commitment to clinical innovation.

Led by Assoc Prof Wong, the team developed a method that enables sustained release of glaucoma medication by using a single injection of nanomedicine. Their work will go a long way to prevent blindness caused by patients’ non-compliance with daily eye drop treatment.

“As HOD, my job is to support every consultant to be productive and do their work efficiently and effectively, while enabling them to professionally grow. At the same time, we are all aligned on and

know the goals to be achieved for the service in the next stages of development and expansion. Every member of the department plays a unique role that helps form part of the bigger plans. We work together as one team to take the service to the next level of excellence in clinical service, education and research,” she says.

To further raise efficiency, Assoc Prof Wong is also keen for the department to invest in technology. With all medical records filed electronically now, personnel from any institution can pull out a patient’s records easily. In a non-real time virtual clinic, tests and evaluation are done separately. This means that the doctor and patient do not see each other – the consultant would rely on the patient’s electronic medical records (EMR) to review and make recommendations.

As glaucoma is an investigation-heavy condition, imaging technologies – such as telemedicine, augmented or virtual reality – could also be invaluable tools that will be adapted to improve care to the increasing number of glaucoma patients in Asia.

SNEC GLAUCOMA DEPARTMENT

HEAD AND SENIOR CONSULTANT: Assoc Prof Tina Wong

SENIOR CONSULTANTS: Prof Aung Tin, Adj Assoc Prof Ho Ching Lin, Adj Assoc Prof Shamira Perera, Adj Assoc Prof Rahat Husain

CONSULTANTS: Dr Boey Pui Yi, Dr Annabel Chew, Dr David Goh, Dr Desmond Quek, Dr Tan Yar Li, Dr Jayant Venkatramani

CLINICIAN SCIENTISTS: Assoc Prof Cheng Ching-Yu, Asst Prof Baskaran Mani, Asst Prof Monisha Nongpiur

Glaucoma: a slow descent into blindness

After learning where Assoc Prof Wong intends to steer the glaucoma department, *SingVision* turns to the department's Adjunct Associate Professor Shamira Perera for a deeper understanding of the condition, which, left untreated, is a slow descent into blindness. He shares that, of all cases of blindness in Singapore, a large proportion – around 40% – is the result of glaucoma. In fact, SNEC sees up to 40,000 glaucoma patients annually. "Much of the morbidity from glaucoma will come from Asia in the future," he says.

He backs up this prognosis by citing ageing trends in this part of the world, that populations in Asia are growing old very fast compared to the West. More morbidity will come from Asia because "glaucoma becomes more common as we age".

What is glaucoma?

Glaucoma is a group of diseases that often leaves sufferers with worsening peripheral vision. They feel like they are viewing the world through a narrower and narrower tunnel until total blindness occurs.

Most – but not all – of these diseases are indicated by a rising pressure within the eye, known as the intraocular pressure (IOP). This build-up of pressure is due to an imbalance between the production and the drainage of fluid in the eyeball. The increased pressure causes damage to the optic nerve, which carries signals from the eye to the brain. The degree of damage depends on the individual and the resistance of his optic nerve.

Glaucoma is often called the 'silent thief of sight' because the initial loss of peripheral vision is gradual and thus not really noticeable. Central vision and reading vision are usually affected at later stages.

The alarming thing is that it is possible for someone with the condition to remain asymptomatic until it is too late – when most of the vision has already been irreversibly lost.

Raising awareness

To mitigate the expected rise in glaucoma cases here, SNEC has been holding events annually to raise awareness of this eye condition. This year, it took the form of an educational fair, and was held on 18 March 2017 in conjunction with World Glaucoma Week. About 300 people turned up for the event.

"We conducted talks for the public in both Chinese and English. This time, we did it quite differently as we had a fair. It was very interactive and allowed people to step into the shoes of people who are partially blind," shares Adj Assoc Prof Perera. Besides a public forum and interactive games, the educational fair also included booths that offered glaucoma information, tips to optimise the home for low-vision family members, mobile massages by the Singapore Association of the Visually Handicapped, and a chance to interact with and learn about guide dogs from the Guide Dogs Association of the Blind.

Pushing boundaries

Besides conducting educational talks and events, SNEC – as the nation's dedicated centre for all aspects of eye health – is also involved in research.

On any given day, there would be around 30 research projects going on at SNEC. "Too many to list," shares Adj Assoc Prof Perera. However, he is quick to say that the three glaucoma-related projects he is most excited about "have received funding that runs into several million dollars".



SNEC and its research arm, SERI, are rated No. 1 by Expertscape among all health institutes worldwide that are working on closed-angle glaucoma

In fact, SNEC and its research arm, the Singapore Eye Research Institute (SERI), are rated No. 1 by Expertscape (www.expertscape.com) among all health institutes worldwide that are working on closed-angle glaucoma [see sidebar on the next page for information on the various types of glaucoma].

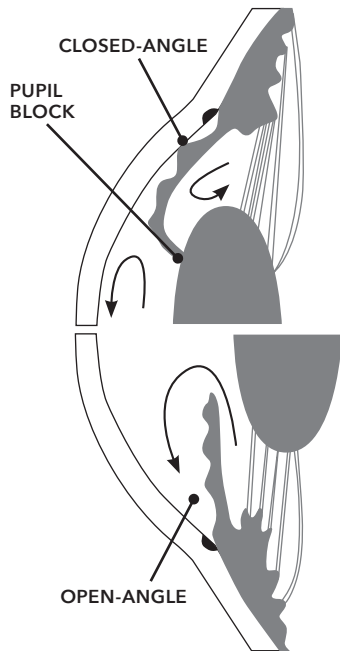
Slowing the progression

Since glaucoma does not present symptoms at the early stage, he urges everyone to start getting tested in their 40s – “unless there is family history, in which case it might be beneficial to be seen earlier”. This is all the more important as there is no cure for the disease, and any form of treatment – even surgery – only slows down its progression.

“Leading a healthy lifestyle with exercise in general is thought to be helpful,” he shares. He also advises people to avoid activities that increase pressure in the eyeball for a sustained amount of time, such as trombone playing, wearing tight neckties and goggles, and certain upside-down positions in yoga. Although there has been little research on the effectiveness of alternative therapies such as traditional Chinese medicine (TCM) on glaucoma, he has no objections to patients pursuing this option. “The only caveat is that some TCM herbs may contain steroids that can actually increase the IOP,” he points out.

The mainstay of glaucoma treatment is eye drops, “but we are slowly pushing towards alternatives like slow-release medications

TYPES OF GLAUCOMA



CLOSED-ANGLE

This type of glaucoma can be further divided into acute and chronic cases. In chronic cases, the patient may be asymptomatic, as in the case of open-angle glaucoma. In acute cases, the intraocular pressure (IOP) rise is quick and sudden. This can lead to eye pain and redness, blurred vision, and the appearance of halos around light sources; thus, prompt treatment is advised.

OPEN-ANGLE

This is the most common type of glaucoma. It is asymptomatic and progresses slowly – the rise in IOP is gradual and painless.

CONGENITAL

In rare cases, glaucoma occurs at birth. Symptoms that need to be followed up on include enlargement of the baby's eyes, corneal haze, tearing, and unusual light sensitivity.

SECONDARY

Glaucoma cases are said to be secondary if they are caused by other conditions, such as poorly controlled diabetes, steroid medication for the eye, eye inflammation, previous eye surgery, tumours, advanced-stage cataracts, or injuries.

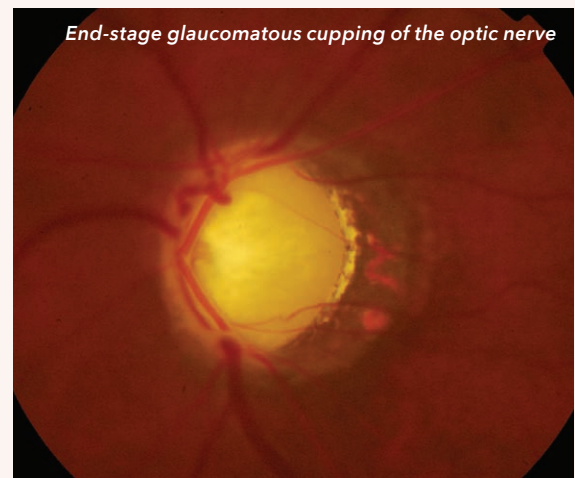
via injections and implants." Adj Assoc Prof Perera encourages patients to stick with their drug regimen, attend regular check-ups, and educate themselves about their condition.

More recently, minimally invasive glaucoma surgery procedures have been added to a doctor's armoury of anti-glaucoma weapons. "While it is still surgery, it has a lower risk profile and can often be done with cataract surgery in less severe glaucomas to control the disease better or decrease the reliance on drops," he explains.

Sustaining quality of life

Whatever the treatment option prescribed, Adj Assoc Prof Perera stresses that follow-ups are still regularly required. Through constant monitoring of IOP and sticking to the prescribed treatment, a patient's quality of life can be sustained.

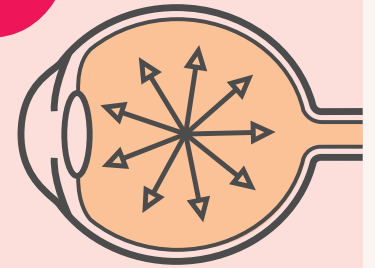
There is no permanent cure for glaucoma; we can only slow down the progression of the disease. Thus, it is important that you get your eyes checked regularly so that we can intervene before anything serious develops.



GLAUCOMA: BY THE NUMBERS

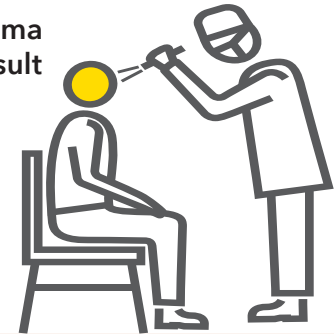
40%

percentage of blindness cases in Singapore caused by glaucoma

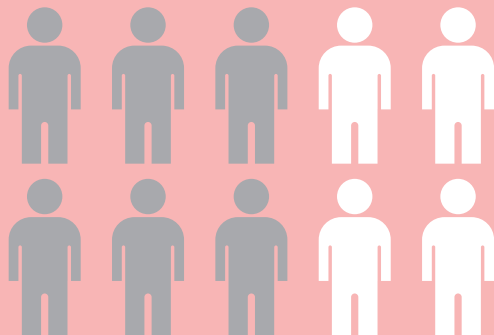


40,000

number of glaucoma patients who consult SNEC annually



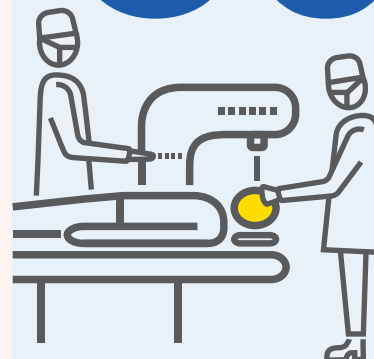
6 in 10



proportion of glaucoma patients worldwide who do not stick to using eye drops

600

average number of glaucoma surgeries performed at SNEC annually



FOR YOUNG EYES ONLY

It's never too early to start taking good care of our children's eyes. An increasing number of children are spending too little time outdoors and, instead, are spending more time on near work at a young age. It is not uncommon to see toddlers mesmerised by cartoons on handheld devices, so much so that they refuse to play outdoors – this may be the start of them becoming near-sighted (a condition known as myopia) earlier in life, resulting in high myopia that may cause other eye conditions in adulthood.

Importance of going outdoors to play every day

There is strong evidence that children need to engage in outdoor activities (i.e. under an open sky) for two to three hours a day while there is still sunlight in order to prevent or slow down the progression of myopia. A child's eyeball elongates as it becomes more myopic – the situation is irreversible as the eyeball cannot shrink again. Hence, parents need to make an effort to take their young children, even infants and toddlers, outdoors as much as possible rather than wait for myopia to develop before taking corrective measures.



Health Promotion Board

The Health Promotion Board not only educates children to help prevent the onset of myopia, but also sends teams from the School Health Service to conduct health screening for primary school children. The health screen includes an eyesight test, which can detect myopia. Those in Primary 1 are also checked for three-dimensional vision, which may be deficient if the eyes are misaligned (squint).

Specialists in attendance

There are three types of professionals who may be present in an eye examination: ophthalmologists, optometrists and opticians. An ophthalmologist is a medical doctor who can diagnose and treat

eye diseases and perform surgery. An optometrist is an allied health professional who conducts basic eye examinations, prescribes corrective lenses, and diagnoses common eye disorders. An optician sells and fills prescriptions for spectacles.

Eye care tips

For day-to-day living, ensure that your little ones take care of their overall health and practise good habits to maintain their eyesight. Here are some tips that the SNEC recommends:



ENSURE THAT YOUR CHILD...	AVOID...
eats a balanced, healthy diet	watching TV and videos while eating
has enough sleep (8-10 hours a day)	too much near work
engages in outdoor activities daily (average of 2 hours)	reading while lying down
conducts activities in adequate light	reading in poor light
takes a break after every 30-40 minutes of near work (reading, writing, etc) to rest his or her eyes	using the computer or hand-held devices (mobile phones, etc) for more than 30 minutes at a stretch
is protected against excessive UV exposure and wears sunglasses or hat	reading in a moving vehicle

What's wrong with my eyes, doc?

Q My eyes look like they are bulging out of their sockets. I am a 50-year-old woman, and I've been smoking since I was a teenager. I suspect that there is something wrong with my thyroid. Am I right?



You are a prime candidate for an abnormal thyroid. People usually get it when they are middle-aged, especially if they have been smoking. The condition is more common in women.

Your thyroid, a butterfly-shaped organ in front of the windpipe, is probably overactive and enlarged – check for swelling around your neck. However, bulging eyes can still occur when thyroid hormone levels are normal or even low. To confirm, blood needs to be drawn for a thyroid function test. A thyroid scan may also be ordered. A positive test means you have an autoimmune disease; your body is producing antibodies that are attacking the

tissues around your eyes. Bringing the thyroid under control usually stops the eye protrusion from worsening, but this doesn't always happen, so do see an eye specialist.

Because your eyes are more exposed, they tend to dry up, so stock up on eye drops. Sleeping on extra pillows helps to reduce the eye swelling. Sometimes, double vision may develop; in this case, special glasses with prisms incorporated are helpful.

Thyroid eye disease fluctuates in the first year or two before stabilising. Immunosuppression (usually steroids) and radiotherapy (in low doses with few side effects) can be administered when the patient is in the active phase. When the disease is quiescent, surgery to correct the protruding eyes, double vision and eyelid retraction is worth considering.

Q Ever since my dad had cataract surgery a couple of years ago (he's in his late 70s), he looks tired all the time, no thanks to his now droopy eyelids. What caused this?

It sounds like your dad has a condition called ptosis, or droopy eyelids. Ptosis can affect one eye or both eyes (not necessarily to the same degree).

Your dad likely has acquired aponeurotic ptosis (as opposed to congenital ptosis), meaning his eyelids started to droop later in life after the levator muscle has sagged and stretched, losing its elasticity. Acquired ptosis can also be brought on by trauma from injury or disease, prolonged contact lens wearing, or eye surgery, so it is possible that your dad's cataract operation also played a part.

Treatment usually means surgery, either to tighten the levator muscle or to remove the extra skin and tighten the levator muscle. Local anaesthesia is sufficient and perfect symmetry is not always guaranteed. The main indication for the surgery is to improve the patient's vision. If he chooses not to have surgery, he could consider wearing spectacles with built-in crutches to lift his eyelids. Bring him to see an ophthalmologist if you have any concerns.



Dr Morgan Yang
Senior Consultant
Oculoplastic Department, SNEC

Lately, I keep getting blurred vision when working on my laptop. Have I got what the Chinese call 'lao hua yan'? I am 42 years old and have had type 2 diabetes for about a decade.



Given your age and your symptoms, it is likely that you have just started to experience presbyopia, commonly referred to as 'lao hua yan' in Mandarin. This condition is a type of refractive error, and refers to the worsening ability to focus on close objects. It usually occurs when people hit 40 years of age.

This can be managed by visiting your optometrist or optician, and getting a pair of reading glasses for near work, such as working on your laptop. If you have other refractive errors such as long-sightedness (hyperopia), short-sightedness (myopia) or astigmatism, your optometrist will discuss

special lenses such as progressive or bifocal lenses to correct these as well as presbyopia.

You also mentioned that you are diabetic. Your blurred vision may be the result of fluctuating sugar levels, where the sugar levels are too high or too low. It can be due to conditions such as diabetic macula edema, diabetic retinopathy, cataracts or glaucoma.

Diabetic patients usually undergo annual eye photographs or regular eye screening to detect these conditions. If you have not had any eye screening, you should see an eye specialist for further tests.

My eyes frequently feel really dry. I noticed that this condition arose at around the same time that I became menopausal. Is there a link? Will over-the-counter eye drops help?

Yes, there is a link between the ageing process – especially the hormonal changes that occur in menopause – and Dry Eye Syndrome. Dry eyes are also commonly caused by meibomian gland disease, a condition of the oil glands in the eyelids. Other common causes include contact lens wear, windy or low humidity environments (such as air-conditioned rooms) and medications (such as antihistamines and high blood pressure medicines). Less commonly, dry eyes may be due to illnesses that affect the immune system, such as Sjogren's syndrome and rheumatoid arthritis.

Reducing contact lens wear, taking frequent eye breaks during prolonged near work, and ensuring that the air conditioner and fan are not blowing directly at your face are some ways to relieve dry eyes. Getting sufficient sleep and consuming a balanced diet with sufficient omega-3 (fish oils) would also help relieve dry eyes.

For mild conditions, you may purchase artificial tears available as over-the-counter eye drops. If you are a contact lens user, you should consult your contact lens practitioner for a suitable type of eye drops. If you have meibomian gland dysfunction, applying a warm, moist towel to the eyelids and cleaning the eyelashes with a lid shampoo are additional measures you can take.

If symptoms persist after the above measures, consult an eye specialist. Additional tests, medicated eye drops (such as antibiotics or steroids) or even surgery may be indicated to treat more severe cases of dry eyes.



Dr Jean Chai
Consultant
Corneal & External Eye Disease
Department, SNEC

EILEEN LIM

Her personal experience as the granddaughter of a glaucoma patient was one reason why she was keen to be part of the eye care sector. As an Ophthalmic Investigation Specialist at the Singapore National Eye Centre, she views her occupation as a way to give back to society.

During her university days, Eileen worked as a part-time assistant at a neighbourhood clinic, which ignited her passion for healthcare. After graduating from the Department of Biological Sciences at the National University of Singapore, her enthusiasm for health sciences grew stronger. She was determined to land herself a job in the medical industry.

"I wanted to know about the different aspects of healthcare that can enhance someone else's life. And because the Singapore population is ageing rapidly, I wanted to contribute to the society," she reveals.

The opportunity to join the Singapore National Eye Centre (SNEC) was one that Eileen couldn't miss, particularly because it is a highly specialised institution dedicated to eye care. After seven years, she has grown from a fresh graduate who was initially overwhelmed by the complexities of eye conditions to a confident and professional Ophthalmic Investigation Specialist (OIS).

"Although the eye is just a small organ, it has a very important function and affects what is arguably the most important of the five senses – our vision," she shares. "I was keen to find out the numerous ways to save the eye; in SNEC, I learnt about the services provided by different subspecialty clinics."

Eileen's wish to improve the quality of life of her grandmother, who has advanced glaucoma, also greatly inspired her career

Eileen's wish to improve the quality of life of her grandmother, who has advanced glaucoma, also greatly inspired her career choice.

choice. "As my grandma is aged, we thought she had cataracts when she often complained about her blurred vision. It was only during a check-up that we realised she is a glaucoma suspect. Although she started on eye drops immediately, she was already suffering from reduced vision."

Glaucoma requires regular monitoring of eye pressure. Eye drops are used to prevent the condition from deteriorating. The problem, however, is that elderly glaucoma patients tend to forget to apply the eye drops, or simply neglect to do so because they do not recognise its importance. "I always remind my grandma to use eye drops to keep the intraocular pressure in check. I also frequently ask whether her eyes feel painful, or if she gets sudden headaches," she says.

A keen eye for detail

In her early years at SNEC, Eileen's duties as an Ophthalmic Investigation Technician included basic ophthalmic investigations, such as visual field testing, pachymetry, and auto-refraction eye examinations. Over time, she handled more sophisticated instruments and got a better grasp of their roles in diagnostic medicine and therapeutics.

Under the guidance of her mentors – Patrick Ng, Principal Ophthalmic Investigation Specialist, and Adjunct Associate Professor Shamira Perera [see cover story], Senior Consultant-in-charge of Ophthalmic Investigation Services – Eileen rose through the ranks, and is now an OIS skilled in conducting comprehensive ophthalmic investigation procedures for patients. These involve interpreting results, improving quality of patient care, and ensuring accuracy of biometric results to achieve optimal post-operative vision.

Eileen is especially thankful for Patrick's generous advice, and pays it forward by sharing her experiences with the juniors. "He motivates me greatly. He was the one who guided me from basic anatomy to dealing with unusual cases, giving me a lot of room to learn and grow in the process," she says.

While she does not treat patients directly, Eileen is proud to be part of a dynamic team behind a person's sight-saving journey. "I don't perform the operation, but I conduct tests and investigations to obtain highly precise measurements that enable surgeries to be customised," she explains.

Supportive team members and watching patients regain their eyesight have made Eileen's career an extremely gratifying one. Her passion is further fuelled by SNEC's extensive facilities and services. "We are equipped with advanced technology and specialised tools to evaluate test results and help the doctors make accurate diagnoses quickly. In complex cases, these diagnostic tests help the doctors determine the most appropriate treatment option."

Learn to appreciate

Having encountered many cases through the years and with her family history, Eileen is understandably worried about her own vision despite her perfect eyesight at the moment. "I used to read on my smartphone in moving vehicles, but I stopped after learning that it could lead to potential ocular problems in the future," she states.

Eileen's work has also made her appreciate the sense of sight more. To better relate to her patients, she has even gone to experience dining in the dark at NOX restaurant. "I wanted to understand their needs and how we can help improve their lives," she says.

OPHTHALMIC INVESTIGATION SERVICES

- *In order to diagnose or manage a range of eye diseases, tests and measurements have to be done.*
- *These fall under the purview of this department, which is set up with numerous cutting-edge*
- *equipment. These instruments include imaging*
- *tools for assessing the optic nerve, and precise*
- *measurement tools for cataract surgery.*


*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

 **Opening Hours**
8:30am to 5:30pm
Mondays to Fridays
No clinic sessions on
Saturdays, Sundays and
Public Holidays

 **Visit us**
www.snec.com.sg

 **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

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

GP Hotline

Hotline: 6322 9399

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

Consultation by appointment:

Tel: **6227 7266**

Email: appointments@snec.com.sg