

# MEDICO

## CUTTING EDGE

New MIS for  
Enlarged Prostate

## IN ADDITION

Andrological Care  
in Urology

## RESOURCES

The Suspicious  
Eyelid Lump

## UP CLOSE WITH

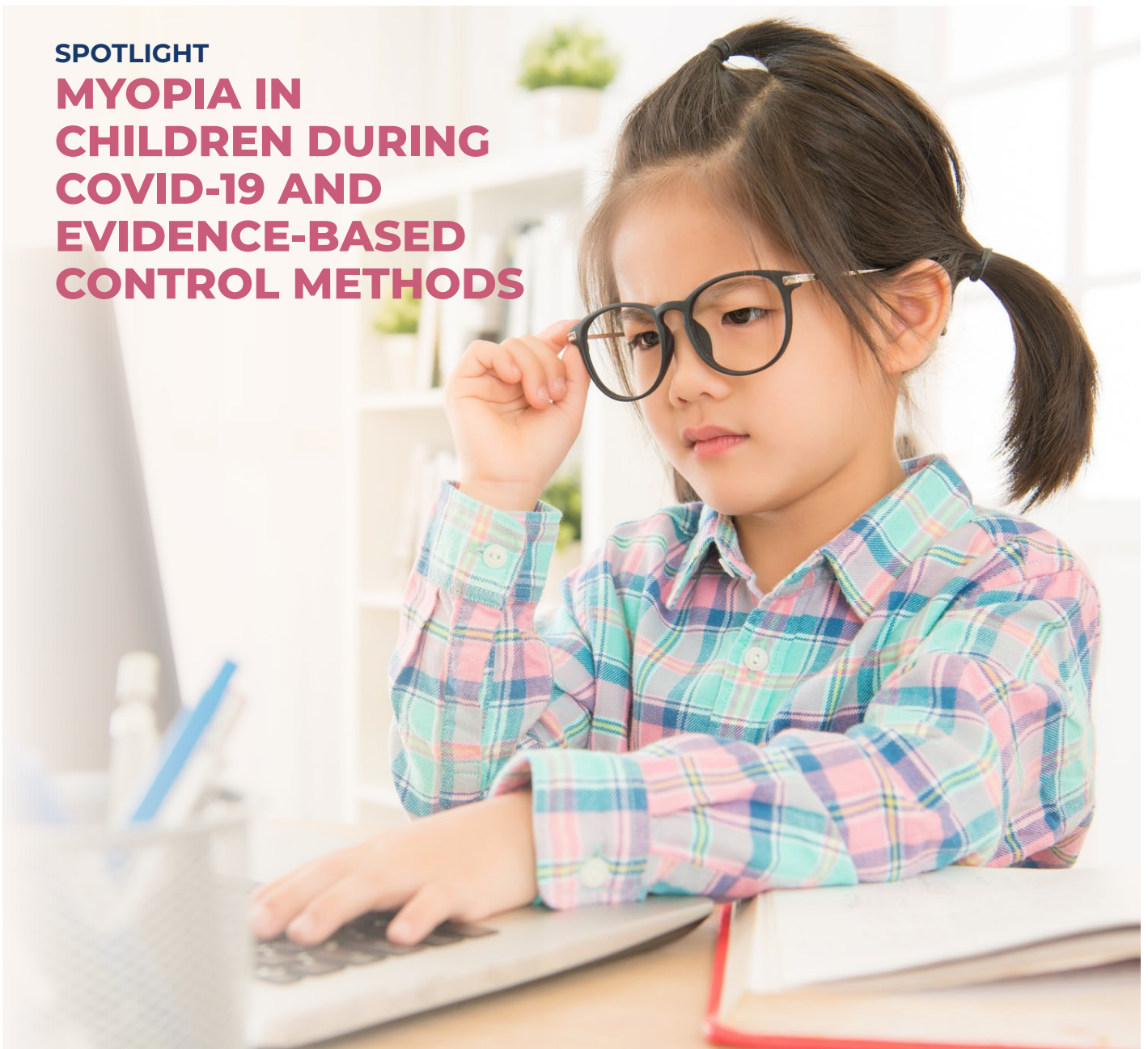
Dr Gangadhara Sundar,  
Ophthalmologist

## INSIGHTS

Hives –  
Is it an Allergy?

## SPOTLIGHT

# MYOPIA IN CHILDREN DURING COVID-19 AND EVIDENCE-BASED CONTROL METHODS

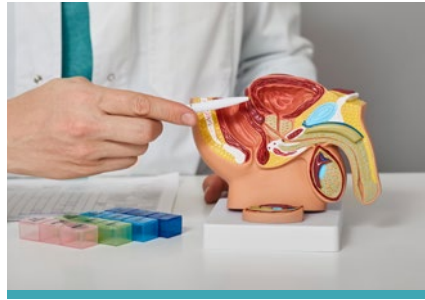


# IN THIS ISSUE



## 03 SPOTLIGHT

Myopia Progression Among Children During the COVID-19 Pandemic and Evidence-based Methods of Myopia Control



## 07 CUTTING EDGE

New Minimally Invasive Treatment Options at NUH for Enlarged Prostate



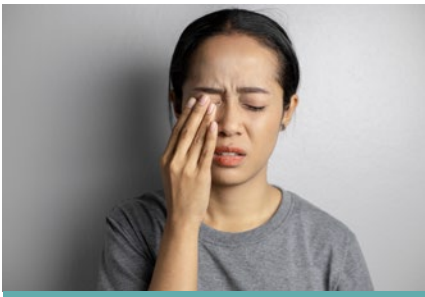
## 09 INSIGHTS

Hives – Is it an Allergy?



## 11 IN ADDITION

Andrological Care in Urology



## 13 RESOURCES

A Less Bumpy Ride – The Suspicious Eyelid Lump



## 15 UP CLOSE WITH

Dr Gangadhara Sundar, Ophthalmologist



## 17 IN AND OUT

New Main Building Pharmacy



## 17 IN AND OUT

Next Generation Electronic Medical Record

# MYOPIA PROGRESSION AMONG CHILDREN DURING THE COVID-19 PANDEMIC AND EVIDENCE-BASED METHODS OF MYOPIA CONTROL

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## MYOPIA EPIDEMIOLOGY IN SINGAPORE

Singapore has one of the world's highest myopia prevalence rates. A study on young males at the National Service pre-enlistment screening in 2010 showed that 81.6% of them were myopic (Koh et al. 2014). This contrasts with the global average myopia rate of 30% estimated by the World Health Organization (WHO). A recent report published by the Health Promotion Board (HPB) demonstrated an increase in prevalence rate of myopia from sub-10% among Primary 1 students to near 60% among Primary 6 students in Singapore (Karuppiah et al. 2021).



*Multiple studies have established that the lack of outdoor time and increase in near reading are two of the most significant risk factors of myopia development and progression in children*



**81.6%**  
Myopic among young males in 2010 national service pre-enlistment screening



**~30%**  
Global average myopia rate (WHO)



**~60%**  
Prevalence rate of myopia among Primary 6 students (HPB)

**PATHOPHYSIOLOGY OF MYOPIA**

In an emmetropic eye (i.e. without refractive error), the refractive power of the cornea and crystalline lens results in light rays being perfectly focused on the retina. Myopia is a type of refractive error where the length of the eyeball, or axial length, is longer than the focus of cornea and lens such that the image is formed in front of the retina. In patients with progressively higher myopia, the underlying cause is due to progressive elongation of the eyeball. Axial length elongation increases the risk of complications such as retinal detachment and myopic macular degeneration. Although myopia can be corrected by wearing spectacle lenses, contact lenses or refractive surgery such as LASIK, these methods do not alter the underlying excessive elongation of axial length.

**RISK FACTORS OF MYOPIA PROGRESSION EXACERBATED BY COVID-19**

Multiple studies have established that the lack of outdoor time and increase in near reading are two of the most significant risk factors of myopia development and progression in children (Rose, Morgan, Ip, et al. 2008). The WHO recommends two hours of outdoor time daily for children to prevent myopia (Mariotti et al. 2015). On average, children in Singapore engage in only 26 minutes of outdoor

time per day (Rose, Morgan, Smith, et al. 2008). The lack of outdoor time and frequency of near reading is further exacerbated by lockdown measures and home-based learning arrangements during the COVID-19 pandemic. The National University Hospital's Eye Clinic Surgery Centre has also observed significantly worsening myopia progression in children compared to pre-pandemic times.

**MYOPIA STUDIES CONDUCTED IN RELATION TO COVID-19**

Recent studies from China have reported a significant increase in myopia incidence compared to the pre-COVID-19 era (Hu et al. 2021; Ma et al. 2021; Wang et al. 2021; Xu et al. 2021; Zhang et al. 2021).

Wang et al. reported a prospective cross-sectional study using school-based photoscreenings in 123,535 children aged 6 to 13 years across 10 elementary schools in Feicheng, China. The study was conducted from 2015 to 2020. A substantial myopic shift (approximately -0.3 diopters [D]) was found in the 2020 school-based photoscreenings as compared to previous years (2015-2019). The prevalence of myopia in the 2020 photoscreenings was higher than the highest prevalence of myopia within 2015-2019 for children aged 6 (21.5% vs 5.7%), 7 (26.2% vs 16.2%), and 8 (37.2% vs 27.7%) years.

Xu et al. reported a large-scale study of myopia development with 12-month follow-up among 1,060,925 children in 1,305 elementary and high schools in Wenzhou City, China. Six-month myopia progression among all children increased by approximately 1.5 times from -0.23 D before the COVID-19 quarantine to -0.343 D after the COVID-19 quarantine (P < 0.001).

While the abovementioned two studies had a large number of children participants, they were screened by an auto-refractor without cycloplegia, which can result in inaccurate refractive error measurement. To address this, Hu et al. examined cycloplegic refraction and axial length elongation measurement on 2,114 Primary 2 students with a one-year follow up period. In the post-COVID group, myopia was increased by 0.36D, axial length elongated by 0.08mm, and myopia incidence was 7.9% higher than the pre-COVID group.

Zhang et al. in Hong Kong compared two separate longitudinal cohorts of children aged 6 to 8 years, pre-COVID and post-COVID, with a detailed lifestyle questionnaire. During the COVID-19 pandemic, the change in refractive error and axial length was -0.50D and 0.29mm respectively; the time spent on outdoor activities decreased from 1.27 to 0.41 hours per day, while screen time increased from 2.45 to 6.89 hours per day.

# EVIDENCE-BASED METHODS OF MYOPIA CONTROL

## OUTDOOR TIME

Parents should be counselled on lifestyle modifications based on the 20-20-2 rule (Dwight H. Akerman 2020). After 20 minutes of near reading, it is recommended that children gaze at objects in the distance for 20 seconds and spend time outdoors intermittently for at least 2 hours daily.



## ATROPINE EYE DROPS

A series of randomised controlled trials conducted in Singapore and Hong Kong has established that atropine eye drops are safe and effective in controlling myopia progression (Chia, Lu, and Tan 2016; Yam et al. 2021).

## OPTICAL METHODS

Optical correction based on the principle of “peripheral defocus” is effective in myopia control. However, its implementation had previously been limited to contact lenses, which carries a risk of microbial infection. This has since changed, with optical lens manufacturers launching spectacle lenses based on peripheral defocus technology, and its efficacy supported by clinical studies (Bao et al. 2021; Lam et al. 2020). Parents may consider purchasing these spectacles for their children to curb myopia progression.



## Message to Primary Care Physician

Myopic children should achieve two hours of outdoor time daily and refrain from near reading. If myopia progression is observed despite lifestyle modifications, it is advised that the child be referred to a paediatric ophthalmologist for further evaluation and treatment.

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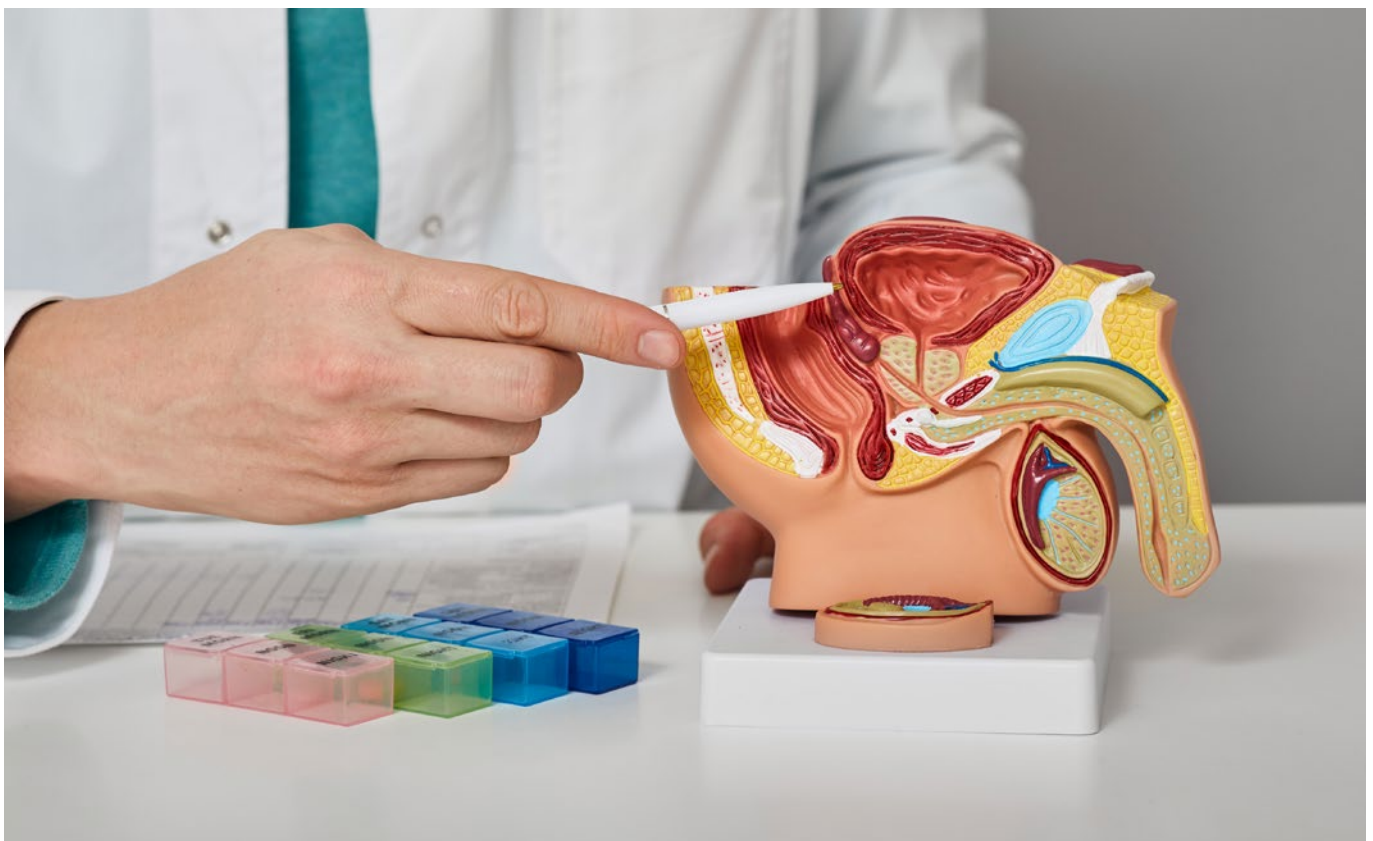
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# NEW MINIMALLY INVASIVE TREATMENT OPTIONS AT NUH FOR ENLARGED PROSTATE

Men with mild to moderate prostate enlargement, or Benign Prostate Hypertrophy (BPH), can now be treated with two new minimally invasive procedures in National University Hospital (NUH) – UroLift and Rezum. These procedures offer faster recovery, enabling patients to return to their normal day-to-day activities within 1 to 2 weeks.



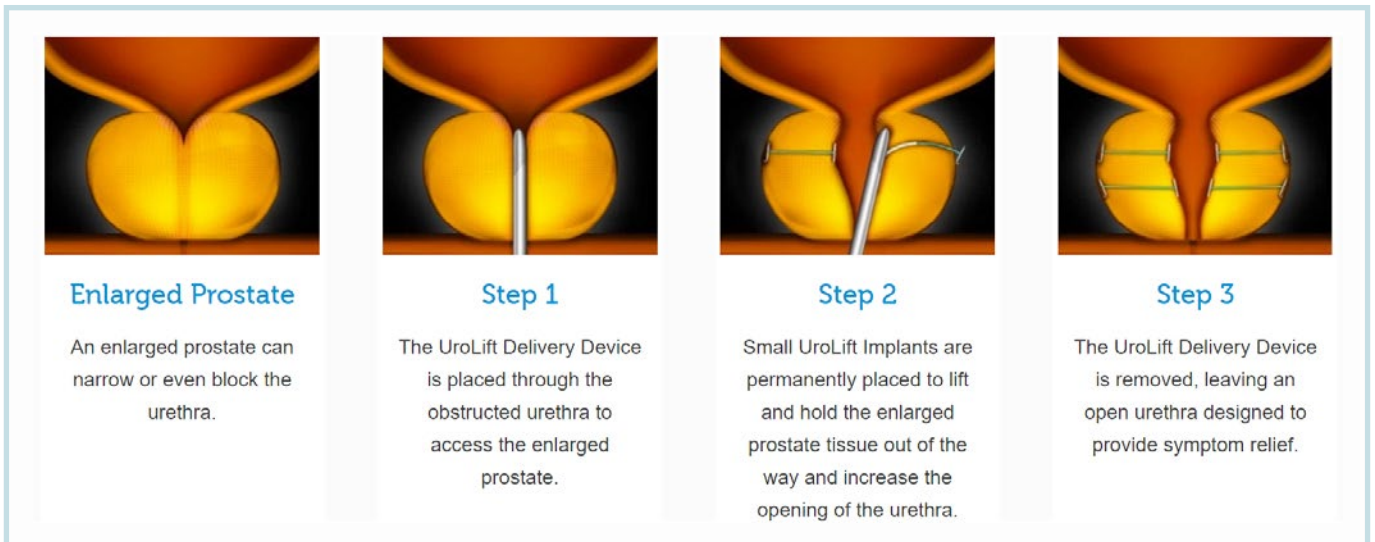


Fig. 1: UroLift procedures Credit: www.urolift.com

**UROLIFT**

The UroLift system uses a revolutionary approach to treat BPH by lifting and holding the enlarged prostate tissue out of the way so it no longer blocks the urethra. There is no heating, cutting, or removal of prostate tissue.

The UroLift procedure is performed as a day case. It is free from possible serious adverse effects of traditional BPH surgery, such as stress urinary incontinence and transfusion, and provides quick relief of BPH symptoms with a shorter recovery time.

**REZUM**

Rezum is a transurethral thermal therapy that uses steam to treat BPH by delivering targeted, controlled doses of thermal energy directly to the prostate gland. The steam is dispersed between cells, releasing heat that gently kills excess prostate cells. Over time, the body’s natural healing response removes the dead cells, shrinking the prostate and opening up the urethra, thus relieving any BPH symptoms.



Credit: www.rezum.com

Rezum is also performed as a day case. Post procedure, patients will need to be on a urinary catheter for 10 to 14 days. Most men experience symptom relief in 1 to 3 months and will be able to return to normal activities within 2 to 4 weeks after treatment.

**SELECTION OF PATIENTS**

Patients suitable for UroLift and Rezum:

- Show moderate BPH symptoms
- Want to preserve sexual function
- Have failed or do not wish to be on long-term medication
- Are unable to tolerate the side effects of medication
- Prostate volume to be 30 to 80mls

**OUR INITIAL EXPERIENCE**

Both UroLift and Rezum have shown to be safe and effective in relieving the symptoms of BPH. Patients treated with either procedure have shown statistically significant symptomatic relief from bothersome symptoms.

*Minimally invasive surgeries fill a void between medical therapy and Transurethral Resection of Prostate (TURP) by being a compromise between the limited efficacy of drug treatment and the invasiveness of surgery.*

*We propose minimally invasive surgeries as a second line treatment when medical therapy fails to improve a patient’s obstructive and irritative symptoms. It can also be proposed to patients who wish for a rapid treatment in a day surgery setting, or who wish to preserve sexual function.*



# HIVES – IS IT AN ALLERGY?

Urticaria (also known as hives) is a common skin condition, and one that children are more susceptible to developing. Angioedema, the swelling of the deeper layers of the skin, often accompanies urticaria in the form of swelling of the lips or periorbital region.



Hi doctor, I think my child, Di, is allergic to oyster sauce.

*I glance at Di. She is 4 years old, and sitting quietly in her chair. She looks fine.*

Mr Tan, can you tell me more about what happened?

Di has been having this itchy rash.

*Her father shows me a photo on his phone – erythematous splotches both large and small, which look like hives.*

It started after she consumed oyster sauce during dinner. The oyster sauce was the only new food she ate. The next day, we observed this rash when she came home from school.

*I glance at Di. There's no visible rash at the moment.*

Is the rash still there today?

No.

Was the rash bumpy, similar to the bumps you get from mosquito bites?

Yes.

Am I correct to assume you stopped giving her oyster sauce after that dinner?

Yes.

How long did the rash take to disappear completely?

Six days.

How did the rash behave during those six days? Did it come and go, and move around different parts of the body?

Oh, yes!

Was Di given any medication for the rash?

Yes, we saw a doctor at a general clinic and gave her Cetirizine. Sometimes the rash gets a bit better with the medicine, but other times it doesn't.

Did she show any other symptoms, like difficulty breathing, vomiting or changes in her behaviour?

No.

Thank you. Based on the symptoms, this is not an allergy. Allow me to explain...



The opening story to this article illustrates a common scenario seen by the Paediatric Allergy and Immunology team. A doctor can use the same ‘clues’ to differentiate between the causes of urticaria, and manage the condition accordingly. It is vital to obtain the details of the rash, including its behaviour and time course, and to ensure the urticaria-angioedema is isolated. If there are other symptoms to suggest anaphylaxis, it is vital to identify the allergen. Though rare, there are cases of wheat allergy in adults – sometimes manifesting as isolated urticaria-angioedema fitting the “allergy pattern” seen in Table 1, and becoming more prominent with physical exertion.

The differential diagnoses for isolated urticaria can be divided into allergic and non-allergic causes:

- **Allergy:**
  - ♦ Almost all allergic reactions that manifest as isolated urticaria-angioedema are observed within two hours of exposure to the allergen.
  - ♦ These tend to resolve spontaneously within 24 hours of onset. If treated with oral antihistamines, resolution is often total within two hours of treatment.

- **Non-allergic, idiopathic:**
  - ♦ In children, the vast majority of isolated urticaria occurs without clear cause, and is called ‘idiopathic’. Idiopathic urticaria is also common in adults.
  - ♦ Some occur within the first two weeks of the start of an infection, like the flu or Mycoplasma Pneumoniae infection.
  - ♦ Unlike allergy-related hives, most patients with idiopathic hives described that it began more than two hours after exposure to the suspected ‘culprit’, lasted for days to weeks even after avoiding the ‘culprit’, and tend to wax, wane and migrate whilst present.
  - ♦ Since these are non-allergic, a single dose of antihistamines often fails to obtain the resolution seen in treating isolated allergic urticarial-angioedema.
- **Non-allergic, vasculitic:**
  - ♦ Known as urticarial vasculitis, the rash can be painful and leave residual hyperpigmentation lasting for days to weeks.
  - ♦ Causes include vasculitic disorders such as lupus, and cancer. If suspected,

appropriate specialist referral is recommended.

As the majority of isolated urticaria-angioedema is idiopathic or allergic, Table 1 summarises the differences between the two.

Idiopathic urticaria can be acute (lasting less than six weeks) or chronic (lasting six weeks or more). When treating acute idiopathic urticaria, the primary aim is to suppress the itch, especially when a single oral antihistamine has little effect on the rash. This can involve a combination of a sedating antihistamine at night, and a non-sedating antihistamine in the day.

Chronic idiopathic/spontaneous urticaria (CSU) can last for months to years. It usually responds to a single non-sedating antihistamine. If administered prophylactically, the minimum frequency of dosing should match the frequency of urticaria episodes. For example, someone with daily CSU benefits from antihistamines given daily. Conversely, someone with CSU occurring once in three days only requires antihistamines once every three days prophylactically.

Feature	Allergen-induced	Infection-related or idiopathic
Onset relative to suspected ‘culprit’	<ul style="list-style-type: none"> <li>• Within 2 hours (almost always)</li> </ul>	<ul style="list-style-type: none"> <li>• No apparent relationship with a consistent trigger</li> </ul>
Resolution after onset	<ul style="list-style-type: none"> <li>• Within 24 hours of ingestion (often)</li> </ul>	<ul style="list-style-type: none"> <li>• May take days/weeks</li> </ul>
Pattern	<ul style="list-style-type: none"> <li>• Appears, peaks, then disappears</li> </ul>	<ul style="list-style-type: none"> <li>• Waxes and wanes</li> <li>• May migrate</li> <li>• Often large or irregularly-shaped</li> </ul>
Response to a standard age-appropriate dose of antihistamines, within 2 hours	<ul style="list-style-type: none"> <li>• Usually total or near-total resolution.</li> </ul>	<ul style="list-style-type: none"> <li>• Mild or no response (May totally resolve occasionally)</li> </ul>

TABLE 1: Isolated urticaria-angioedema



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# ANDROLOGICAL CARE IN UROLOGY

Men in Singapore suffer from more severe chronic conditions than women, and their life expectancy is approximately 3-4 years shorter. As such, the healthcare needs of males differ from females in many ways. Reproductive and sexual function are key aspects of men's health, affecting both quality and social aspects of their lives.

Andrology is a subspecialty field within Urology that provides a continuum of care for men experiencing male reproductive issues and sexual dysfunction.



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**Image 1: Microsurgical varicocelectomy performed for subfertile male patient with palpable varicoceles.**

Credit: Department of Urology, National University Hospital

Men face health challenges at different stages of life. For younger men, the problem of congenital penile curvatures are usually unmasked at sexual maturity when penetrative intercourse is difficult and impeded. Corrective surgery is often needed to straighten the shaft of the penis. Severe forms of male factor infertility manifest when some men try to start a family after marriage. Microsurgical procedures are useful in managing large varicoceles which impair sperm parameters. In azoospermic men, microdissection allows potential sperm retrieval to be achieved, making assisted reproduction possible.

Approximately 20% of men suffer from varying degrees of Erectile Dysfunction (ED). A comprehensive range of therapeutics is available to treat ED from its mildest form to the most severe state. When oral medications fail, intracavernosal injections of vasodilators and other modalities are used. Low intensity shockwave therapy (Image 2) is a repetitive treatment which uses physical energies to stimulate biochemical changes in the penis that can lead to angiogenesis and better perfusion during erections.

Such regenerative properties go beyond symptomatic treatment to potentially reverse the underlying problem of ED. For the most severe type of ED, penile prostheses (Images 3 and 4 - functional devices surgically implanted into the diseased penises) allow patients to re-create erections, effectively restoring sexual function.

The accumulation of advanced skillsets and know-how in the management of men's health allow us to care for patients holistically.

ED THERAPIES	THINGS TO NOTES
Oral medications	<ul style="list-style-type: none"> <li>Sildenafil (Viagra™), Tadalafil (Cialis™), Vardenafil (Levitra™), Avanafil (Spedra™)</li> </ul>
Low-intensity shockwave therapy of the penis	<ul style="list-style-type: none"> <li>1-2 sessions per week for 6-12 sessions</li> </ul>
Intracavernosal injections of vasodilators to penis	<ul style="list-style-type: none"> <li>Patient taught to self-administer</li> </ul>
Vacuum erection devices	<ul style="list-style-type: none"> <li>Reusable mechanical device</li> </ul>
Insertion of penile implants / prosthesis	<ul style="list-style-type: none"> <li>Surgically implanted</li> <li>Hospitalisation for 1-2 days</li> </ul>



**Image 2:**  
**Low-intensity shockwave machine**  
 Credit: Department of Urology, National University Hospital



**Image 3 and 4:**  
**Penile implant being inflated**  
 Credit: Department of Urology, National University Hospital

# A LESS BUMPY RIDE – THE SUSPICIOUS EYELID LUMP



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## INTRODUCTION

As the saying goes, a stitch in time saves nine. In the ophthalmology field, we often see patients who notice a lump on their eyelids consulting their primary care provider first in hopes of obtaining closure. Although these eyelid lumps are often benign, they may sometimes be more sinister and be a harbinger of mortality and further spread. Prompt recognition through careful history and examination may allow appropriate management and investigations to be instituted before the issue escalates, often affecting the amount of reconstruction and causing significant ocular morbidity.

## EPIDEMIOLOGY

Skin cancers are listed as one of the top ten most frequent cancers in men and

women in Singapore. About 5% to 9.2% of all skin cancers arise in the eyelid and cancers in this location account for at least 11% of all mortalities from skin malignancies. In Singapore, 1.9% of all melanomas and 8.5% of all non-melanoma cancers of the skin, recorded from 1968 to 1992, arise in the eyelid. The incidence of sebaceous gland carcinomas (SGC), squamous cell carcinomas (SCC) and melanoma in the eyelids in Singapore remained relatively stable from 1996 to 2008, with a median age at diagnosis of 66 years in males, and 67 years for female subjects. The average annual age-standardised incidence rate of all eyelid cancers over the 13 years was 5.0 per million. The most common cancer was basal cell carcinoma (82%), followed by sebaceous gland carcinoma (11%) and squamous cell carcinoma (4%).

**Fig. 1: Malignant Eye Tumours**

(Top left) A basal cell carcinoma presenting as a naevus which had been first lasered by a beautician three years ago but recurred, bigger than before with central ulceration.

(Top right) Initially presenting as biopsy proven actinic keratosis, this patient opted for cryotherapy and excision three years later revealed squamous cell carcinoma.

(Bottom left) This child was initially referred for an unresolving chalazion. Examination showed that the lump was deeper, reducible and was associated with displacement of the orbit. Orbital imaging showed a right orbital mass and surgical removal revealed a rhabdomyosarcoma.

(Bottom right) This patient had a history of unresolving and recurrent hordeola. An incisional biopsy was performed, revealing a sebaceous gland carcinoma.



Credit: Department of Ophthalmology, National University Hospital

**RISK FACTORS AND RED FLAGS**

Risk factors for developing skin cancers are similar to systemic cutaneous skin cancers which include fair skin, excessive sun exposure without UV light protection, history of previous skin cancer, previous radiation, smoking and immunosuppression.

A history of a recurrent lump with a painless gradual enlarging lesion should raise alarm bells and warrant further review. Clinically, there may be the presence of a lump that may be revealed with eversion of the eyelid during examination. The presence of ulceration may be suggestive of a basal cell carcinoma, but if associated with ‘flaky’ skin may even represent a squamous cell carcinoma which can be more aggressive.

The presence of induration, destruction of the eyelid architecture with loss of lashes (madarosis) is also a red flag and should warrant further

review. There may be telangiectasis and altered sensation with irregular or “pearly” borders seen. Systemic review may sometimes reveal regional lymphadenopathy (especially preauricular).

Ascertaining the depth of the lump is also important, as this may be an adnexal growth, such as that in the lacrimal gland instead, of which lymphomas are the commonest, followed by adenoid cystic carcinomas but are not included in the scope of this article.

**WHAT SHOULD WE DO?**

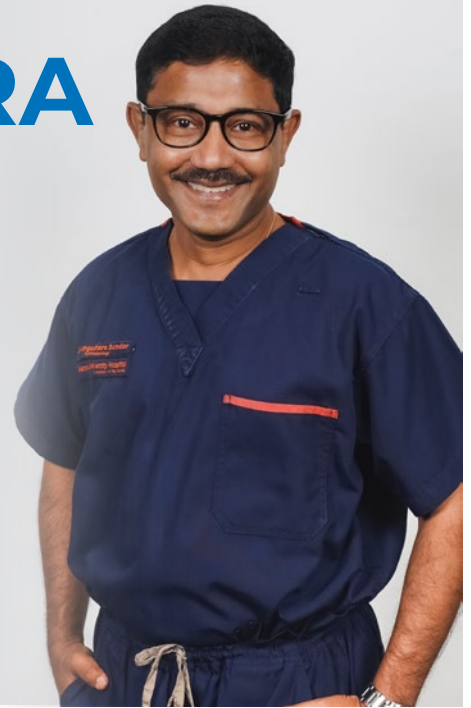
Once the index of suspicion is present, do refer the patient to an Oculoplastics Ophthalmologist or a tertiary care hospital for further evaluation, where a biopsy of the lesion may be performed preoperatively to allow for intraoperative margin control and reconstruction and management of any associated morbidity.

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# DR GANGADHARA SUNDAR

*Dr Gangadhara Sundar is a Senior Consultant and Head of Orbit & Oculofacial Surgery Service from the Department of Ophthalmology at the National University Hospital. He specialises in the diseases and surgery of the eyelids, lacrimal system, as well as orbit and oculofacial diseases. Dr Gangadhara also partnered with specialists from various disciplines to spearhead various multidisciplinary services, including the Retinoblastoma Service, Thyroid Eye Disease Service, and the Lacrimal Service.*



## What is a typical day like for you?

The daily grind starts with either teaching or attending a teaching session with our residents in the morning. Then, I start off in the clinic on most days with patients. The occasional day starts off in the Operating Theatre.

There is usually non-stop action clinically, surgically or teaching-wise followed by official or patient correspondences, and reports at the end of the day. After hours are frequently occupied by preparation for teaching within the department, nationally or even more commonly now – regional or international teaching through webinars and virtual meetings.

Weekends are for time with nature, attending international webinars to network and liaise with colleagues from around the world, and occasionally conducting teaching sessions with residents from overseas.

## What do you enjoy most about your work?

I enjoy interacting with residents and fellows, diagnosing and managing complex orbit and oculofacial cases (trauma, oncology, multidisciplinary diseases e.g. thyroid eye disease),

as well as exchanging ideas and knowledge with and learning from colleagues around the world.

Learning, creating and perfecting new knowledge that benefits everyone is always fun and professionally satisfying.

## Could you share your most rewarding professional moments?

Several highlights include:

- Seeing very complex cases that I've managed years ago for follow ups with good outcomes and going about a normal life. These former cases are students, adults, and even the elderly leading economically and socially productive and successful lives.
- Strengthening and building new relationships with colleagues from other disciplines, managing complex multidisciplinary diseases both from within NUH and beyond.
- Watching the careers of residents and fellows that I've trained from around the world, rising and shining regionally and internationally, doing good work and in turn training the next generation.

### What do you do to prevent burnouts, and to maintain good mental and physical well-being?

I am constantly searching to find the balance between work, family and time with nature – long walks or runs, exploring and seeking new nooks and corners in Singapore such as nature parks, trails and food.

During pre-COVID times, one way I prevented burnout was travelling internationally for professional meetings and conferences, and interacting with colleagues from around the world while learning about new cultures.

### What are the three most important things to you in your career?

Serve the patient well, aim to provide the best outcomes possible, and pass on skills to the next generation.

### What are your personal and career goals and dreams that you hope to achieve?

Think locally, act globally, and pay it forward. Create a global network of like-minded individuals, groom the next generation well beyond geographic and cultural boundaries, and make learning democratic.

Constantly and fervently improve on the task of taking the best of what we have learnt, sharing it with residents

and colleagues beyond the shores, breaking barriers to knowledge-gathering and sharing, improving on self and others both professionally and otherwise, and never be content with outcomes. One must constantly strive to excel.

### Do you have any tips to share with our primary care physician partners in managing patients who have common eye problems?

Most common conditions can be easily diagnosed and managed by primary care physicians e.g. conjunctivitis, simple injuries, screening for common medical conditions such as diabetic/hypertensive retinopathy.

This can be aided with photographic documentation of the anterior and posterior segment (fundus) with newer smartphones and adapters. However, conditions that are persistent or refractory to standard treatment, especially those without an obvious diagnosis, persistent red/painful eyes or those with significant blurred vision are better off referred to the ophthalmologist for the management of more complex conditions.

Just as how each individual in Singapore should, ideally, have his/her own General Practitioner who knows them well, it is recommended for all adults to also have an ophthalmologist who can be reached for urgent opinions and referrals. Individuals should also undergo an eye exam every one to two years.



(Left) Teaching Session in NUH Ophthalmology. (Middle & Right) Yangon, Myanmar Teaching Trip.



# NEW MAIN BUILDING PHARMACY

The new main building pharmacy (MBP) is now open! Located in front of the drop-off point at Zone F, NUH Main Building, Level 1, it offers a bigger space and a more seamless experience – whether patients are collecting their medications or looking for Pharmacy-related retail products.

Open from Monday to Friday, 9.00am to 6.30pm, it houses four pharmacies under one roof:

- Pharmacy @ Main Building
- Pharmacy @ Heart Clinic
- Pharmacy @ Emergency Medicine Department (A&E) (Open 24 hours)
- Discharge Pharmacy @ Main Building (Open 24 hours)

For more information, please visit [bit.ly/newMBPharmacy](https://bit.ly/newMBPharmacy)



## OPENING HOURS

### Outpatient

Mon to Fri 9.00am to 6.30pm  
(Closed on Sat, Sun & PH)

### A&E / Discharge

Open 24 Hours

# NEXT GENERATION ELECTRONIC MEDICAL RECORD

The Next Generation Electronic Medical Record (NGEMR) is an advanced centralised electronic medical record system for the Singapore population. An initiative by the Singapore's Ministry of Health, it consolidates patients' records into one single medical record that tracks their entire patient journey – from admission, discharge, to all appointments – across two clusters, NUHS and the National Healthcare Group.

The National University Hospital, a member of the National University Health System (NUHS), successfully cut-over to NGEMR on 26 February 2022.

NGEMR will enable NUH to develop a more comprehensive and in-depth view of each patient's journey and health status, and allow us to develop a care plan that is customised around the patient's individual healthcare needs.



**NGEMR**  
INTEGRATED • INCISIVE • INNOVATIVE



### Primary Care Engagement (PCE)

At National University Hospital (NUH), we recognise the pivotal role general practitioners (GPs) and family physicians play in general healthcare provided within the community. As such, we believe that through closer partnerships, we can deliver more personalised, comprehensive, and efficient medical care for our mutual patients.

Primary Care Engagement Department aims to facilitate collaboration among GPs, family physicians and our specialists. As a central coordinating point, we support patient referrals and organise continuing medical education (CME) events. Through building these important platforms of shared care and communication, we hope that our patients will be the greatest beneficiaries.

### Continuing Medical Education (CME) Events

At NUH, we strive to advance health by integrating excellent clinical care, education and research. As part of our mission, we are committed to providing regular CME events for GPs and family physicians. These events aim to provide the latest and relevant practical clinical updates towards patient care.

Organised jointly by Primary Care Engagement Department and the various clinical departments within NUH, our specialists will present different topics in their own areas of specialties during these symposiums.

**We would love to hear your feedback on MEDICO. Please contact us at:**

**Primary Care Engagement Department  
Email: [pcce@nuhs.edu.sg](mailto:pcce@nuhs.edu.sg)**

**For GP referral appointments, please contact us at:**

**Tel: +65 6772 2000  
Fax: +65 6777 8065  
Email: [gp@nuhs.edu.sg](mailto:gp@nuhs.edu.sg)**

**For more information on our CME events, please visit:  
[www.nuh.com.sg](http://www.nuh.com.sg)**



**A Publication of NUH Primary Care Engagement Department  
Advisor: A/Prof Goh Lee Gan**

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