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Welcome to 2017!

As per announced by the Malaysian Optical Council (MOC), optometrist will need to collect a minimum of 20 points from continuing professional development (CPD) in order to renew their annual practicing certificate (APC), which will be one of the section listed in the new Optical Act.

CPD is important for the optometrist as it ensures you continue to be competent in profession. This is an ongoing process and shall continue throughout your professional's career.

It is always been one of the Association of Malaysian Optometrists (AMO) focus, whereby "A" stands for public awareness on optometrist, "M" stands for membership drive and "O" stands for optometry upgrade.

This year, AMO will focus on the continuing education for optometry upgrade. There will be series of seminar, co-organised with key industrial partners focusing on ophthalmic lenses and contact lenses.

Let's upgrade your professional knowledge with AMO!

"We believe in AMO!"

“Education is not the learning of facts, but the training of the mind to think” – Albert Einstein.

All the best in your future undertaking and may a new year be filled with blessings and joy for all AMO members reading this message...

I last laid finger on this 4 years ago as an assisting hand to Deric Ho (Ipoh), the then Editor, who was ever so meticulous in not only the text, but aesthetics as well...

This edition is compiled to fulfill: Informative, Short, Compact and Current – to ensure reading at ease while gaining insights of the Optometric industry (locally and internationally – where applied).

My hope for this edition is for it to be the above & “word perfect” – However, let us “not wait for the perfect moment, instead take the moment and make it perfect”...

From Optometrist’s Editorial Desk—JhoYan; chiajhoyan@yahoo.com

Acknowledgement: Xuan Li (Administrative Assistant), Prema (Article Contribution), Sponsor articles & Independent article contributors...
UP YOUR GAME WITH PRESBYOPES
A CONTACT LENS WITH AN INNOVATIVE NEW PUPIL-OPTIMIZED DESIGN EXCEEDS EXPECTATIONS WITH MULTIFOCAL WEARERS

As a big prescriber of multifocal contact lenses, I'll be the first to admit that it hasn't always been easy to give patients great comfort, great near vision and great distance vision in the same lens. Typically, we had to choose which of those features was least important and compromise a little in that area. From my perspective, that was still a better option than monovision. And most of the time, my patients have been willing to tolerate the tradeoffs for spectacle-free vision.

When 1-DAY ACUVUE MOIST Brand MULTIFOCAL Contact Lenses were first introduced, I was a bit skeptical. But after my first few cases, the skepticism went out the window. This lens has taken my patients from saying, "This is working... I'm okay with this" to "Wow, this is fantastic!" In my experience, it works so well for such a broad range of patients that I've been switching most of my existing multifocal contact lens wearers — both daily disposable and reusable — into the lens.

Being a daily disposable lens usually means a bigger price tag. But, price hasn't been much of an issue because of how we position the lens to patients. I let them try the lens and, if they don't think the benefit is worth the additional cost, there is no harm done; they can stick with their current lenses. However, for most patients, the value — crisp vision at all distances and great comfort — greatly outweighs the costs.

This lens has quickly become my go-to lens for all types of presbyopic patients, from emerging presbyopes to current multifocal to presbyopic spectacle wearers who would benefit from trying multifocal contact lenses.

Figure 1: Fitting multifocals keeps patients in contact lenses as they age and attracts new wearers as well.
I LIKE TO SPEND A LITTLE TIME EXPLAINING THE TECHNOLOGY THAT MAKES A MORE EXPENSIVE LENS WORTH THE MONEY

THE EMERGING PRESBYOPE
If an emmetrope or a single vision contact lens wearer in her late 30s to early 40s mentions anything about eye strain or blur, I trial frame a +1.00 add to see whether she likes it better.

Some doctors don’t test near vision or consider near correction for patients under the age of 40, but I find that with the increased near demands of technology, patients are having problems with convergence and accommodation earlier than they did in the past.

Assuming the patient responds well to the add, I say, “You’re wearing contact lenses because you didn’t want to wear glasses all the time, right? I can give you a lens that has that little bit of reading help that I just showed you incorporated into the lens itself, so you don’t have to wear reading glasses over your contact lenses.” It’s a really easy conversation.

This lens is a great lens to put on these younger patients. I tell them not to expect much change in how they see, but more in how they feel.

Here’s how I explain it: “That small adjustment made it easier for you to read for 20 seconds. Just imagine how much better your eyes will feel getting that near vision help all day long.”
It’s also nice to know that patients will be able to continue in this lens for many years as presbyopia progresses, simply by changing the add combination.

THE CURRENT MULTIFOCAL WEARER
I have a lot of patients currently in other multifocal contact lenses.
When one of these patients comes in for an annual exam, I ask four questions:
• Can you wear your lenses comfortably all day long?
• How is your distance vision?
• How is your computer vision?
• How is your vision for reading or up close?

If a patient can legitimately answer that his lenses are performing great on all four of those measures, then I probably wouldn’t suggest a change. But, hardly anyone is doing great on all four. That makes it easy to say, “I have a new lens that should address the problem you are having.” I’m finding that most of the time, this lens works better than the patient’s current multifocals.
TALK ABOUT TECHNOLOGY, NOT COST
If you ask patients, “Do you want product A for $5 or product B for $10?” they will choose A every time. Wouldn’t you? But if you tell them why a certain lens will meet their needs better or solve a problem for them, it changes the conversation. Now you are talking value, not price.

I like to spend a little time explaining the technology that makes a more expensive lens worth the money. Being “new” is not enough of a benefit.

For example, when introducing these lenses, I tell patients that advanced technology helps it center well over the cornea, and I explain pupil optimization in layman’s terms: “In some people, the pupil is a little larger or smaller than normal. So, if the lens is designed for a 7.0mm pupil and you have a 4.0mm pupil, you are missing all that vision around the edges. It’s better to have a lens that is designed to closely match the pupil size we expect for people your age with your prescription.”

USE THE FITTING GUIDE
I don’t usually use fitting guides, but I use the fitting guide for 1-DAY ACUVUE MOIST MULTIFOCAL because it works (see below). In fact, if you try to fit this lens like you fit other multifocals, you may run into problems.

That’s because we’ve all become accustomed to using little tricks to compensate for the flaws in older multifocal lens technology: We over-minus the distance in the dominant eye and under-minus it in the nondominant eye to provide mini-monovision. The lens has such good optics and centration that it already provides the full range of vision it’s supposed to — without the workaround.

We saw this same trajectory with progressive spectacle lens technology. Early progressives weren’t very good at getting the full add into the lens, so optometrists got in the habit of just prescribing 0.25D more plus. With newer designs, we stopped doing that. The bottom line is that the fitting guide is the best way to determine the starting pair and any adjustments that need to be made. I rarely make more than one small change in one eye.

![Figure 2: A four-page fitting guide is available to help O.D.s successfully fit the lens.](image)
BEST PRACTICES
You need to start with a good refraction and add power determination (see “Avoiding Common Mistakes”). Although there are rough age guidelines, I feel it’s important to test patients’ near vision, and I like to use fused cross-cylinder over their distance prescription to determine the add. This is a quick way to test their accommodative ability in conjunction with their eye posture, or convergence.

This lens needs to settle for about 10 minutes and its performance is best determined in the real world, not the exam lane. Some doctors have patients wait and then test it out by looking across the parking lot and down at their smart phone. Because of the way my work flow is set up, I usually send them home with trial pairs based on the fitting guide and I advise them, “Don’t judge these by the first few minutes!” Then, I make any needed adjustments at the one-week check.

Avoiding Common Mistakes

1. Incorrect distance refraction or add power
   - DON’T over-minus for distance or over-plus for near — +0.75 over should blur out the best acuity line
   - DON’T use an old contact lens prescription
   - DO obtain a new, functional (maximum plus) distance refraction
   - DO determine an appropriate functional add (minimum plus to functional vision for essential tasks)

2. Multiple re-fits or low fit success rate
   - DON’T follow the fit guide from a different brand
   - DON’T refract in the dark
   - DO perform a modified Humphris over-refraction

3. Dissatisfied patient
   - DON’T promise to solve everything with a contact lens
   - DO set proper expectations for task-related spectacle wear in some situations as patients age
   - DO consider separate prescriptions for “work” and “play”

IMPROVING VISION
Through the years I’ve been surprised by how often patients tell me their previous doctor never even mentioned multifocal contact lenses. I see these lenses as a great way to build patient loyalty and generate referrals. Fitting multifocals allows us to retain contact lens wearers as they age and attract new wearers who become presbyopic and prefer not to wear glasses (Figure 1).

There is minimal risk to re-fitting current multifocal wearers in these lenses or trying it on emerging presbyopes. In the worst-case scenario, the patient doesn’t see any benefit over their current lenses. But in many cases, you can bring them new technology with the potential to improve their quality of life — and make you look like the hero. OM

MICHAEL CISZEK, O.D.,
is in private practice at Visionary Eye Care, with two offices in Chicago. He received compensation from Johnson & Johnson Vision Care, Inc., for his time in writing this article.
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Her Experience Won’t.

Now you can continue excellent care as her vision evolves into presbyopia

1-DAY ACUVUE® MOIST Brand MULTIFOCAL Contact Lenses:
The ONLY MULTIFOCAL LENS that uniquely optimizes the optical design to the pupil size for predictable performance across the refractive range and ADD powers.

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* In-market assessment with 1-DAY ACUVUE® MOIST Brand MULTIFOCAL, 5 to 10 days daily wear with new and existing soft contact lens wearers. UK: 82 sites and 901 subjects; USA: 152 sites and 1092 subjects. Eye care professional results are based on 168 responses. Patient results are based on responses of 378 patients to a follow-up survey after 1 week of wear.

WARNING: UV-blocking contact lenses are NOT substitutes for protective UV-blocking eyewear such as UV-blocking goggles or sunglasses because they do not completely cover the eye and surrounding area. You should continue to use UV-blocking eyewear as directed. NOTE: Long-term exposure to UV radiation is one of the risk factors associated with cataracts. Exposure is based on a number of factors such as environmental conditions (altitude, geography, cloud cover) and personal factors (extent and nature of outdoor activities). UV-blocking contact lenses help provide protection against harmful UV radiation. However, clinical studies have not been done to demonstrate that wearing UV-blocking contact lenses reduces the risk of developing cataracts or other disorders. Consult your eye care practitioner for more information.

Purpose: Presbyopic contact lens (CL) wearers of Asian descent are predisposed to experience microtrauma of the ocular surface as a result of a thinner post-lens tear film, high eyelid tension and underlying ocular tissue dryness associated with age. The objective of this study was to quantify the effect of a material that combines low modulus and friction with a thin, knife edge on the ocular surface response of a population of presbyopic CL wearers of Asian descent.

Method: Twenty established presbyopic CL wearers (hydrogel n=5, none habitual etafilcon A wearers; silicone hydrogel n=15) were refitted with etafilcon A multifocal daily disposable CLs for one month of daily wear. Digital photographs were taken after six hours wear of the habitual lenses, one month of daily wear. Digital photographs were taken after six hours wear of the habitual lenses, one day without CLs and size hours wear of the test lenses after one month. The photographs were masked according to study visit and staining extent measured using OTG-i proprietary software.

Results: Lid margin staining was significantly (p=0.010) lower (-38%) with the study lenses (2.0±1.0mm²) than with habitual lenses (3.2±3.0mm²) after six hours of wear and not different after one day without lenses (p=0.507). Limbal staining was significantly lower (-30%) with the study lenses (0.7±1.0%) (p=0.009) than with the habitual lenses (1.0±1.6%) after six hours of wear and after one day without lenses (0.8±4.8%) (p=0.001). There was minimal and similar upper corneal staining at all three measurement times (p=0.122 & 0.214).

Conclusions: The combined low modulus and friction etafilcon A material with thin, knife edge design, was shown to reduce upper lid margin and limbal staining in presbyopic CL wearers of Asian descent, compared with other materials. With the high preponderance of dryness symptoms amongst presbyopes, material selection is an important consideration when fitting them with CLs.

Source: BCLA Asia Conference (13-14 September 2016), Hong Kong
Local Research Papers:

The Effect of Visual Display Unit (VDU) Use on Blink Rate Pattern

Prema Muthiah, Esther Lau Siew Seng, Loh Bee Yuan and Liew Shwu Jian.
School of Optometry, National Institute of Ophthalmic Sciences (NIOS), The Academic Arm of The Tun Hussein Onn of National Eye Hospital (All Authors)

PURPOSE:
To determine the effects of visual display unit (VDU) use on blink rate pattern in a sample of Malaysian Optometry Students of National Institute of Ophthalmic Sciences (NIOS) 2016.

METHODS:
The study involves two stages; first stage to screen for inclusion and exclusion criteria. The subjects were free from any ocular diseases or pathology. McMonnies Dry Eye Questionnaire (MDEQ) was used to screen for dry eye symptoms and subjects with scores of 10 or above were excluded. Total of 54 subjects age range from 20 to 25 years old who passed the inclusion criteria were then included in the second stage. The subjects were asked to view VDU with movie with muted audio (VDU-A) and VDU with text display (VDU-T). The blink rate, blink pattern and inter-blink interval were compared between different VDU tasks of VDU-A and VDU-T. The study obeys the Declaration of Helsinki and has been approved by Research Review Board of NIOS.

RESULTS:
The data was not normally distributed ($p < 0.05$) and therefore non-parametric test of Wilcoxon Signed-Rank Test was selected. McNemar Test was used to compare blink pattern between a text and a mute video. There was 24% male and 76% female subjects. There was a statistically significance difference in blink rate between VDU-A and VDU-T ($p < 0.001$). The mean blink rate when watching video (VDU-A) was $17.62 \pm 10.50$ blinks/minute and $15.03 \pm 9.34$ blinks/minute for test (VDU-T). There was no difference in blink pattern between VDU-A and VDU-T ($p = 1.000$). The mean inter-blink interval of subjects when watching a video was $6.94 \pm 4.71$ blinks/minute while reading text showed a higher mean inter-blink interval of $8.02 \pm 6.04$ blinks/minute ($p = 0.041$). The study also noted as the blink rate increases, the inter-blink intervals were shortened.

CONCLUSION:
This study has shown the blink rate during reading a text was significantly lower compared to watching mute video. The inter-blink interval while reading text is significantly higher compared to watching mute video. Reading a text requires as higher concentration and classified as high cognitive demand task. Hence, blink rate was reduced as cognitive demands and visual attentions of the task were increased.
Case Series:

**Meibomian Gland Imaging of Patients with Clinically Significant Meibomian Gland Dysfunction (MGD)** Chia Jho Yan MHS (Clin Optom) UKM Mal

**MEIBOMIAN GLAND IMAGING**

Meibography is a new technique that provides photographic documentation of the meibomian glands (MG) under specialized illumination techniques\(^1\). Types of meibography available include:

(i) Transillumination of the everted lid\(^2\)
(ii) Direct illumination i.e. the non contact meibography\(^3\) – slit lamp equipped.

To date, numerous grading scales produced measured the “area of MG loss”.

![Meibography imaging of normal MG](image)

**CASE SERIES**

Three (3) patients with clinically significant meibomian gland dysfunction (MGD) were assessed with the meibography imaging system.

**CASE 1 YQR:** A 23-year old, Oriental, male patient – NIBUT OD Ave 2.79sec; OS Ave 3.12sec.

Meibography imaging of OD & OS showed shortened and dilated MG.

**CASE 2 Y:** A 25-year old, Indian, male patient – NIBUT OD Ave 5.66sec; OS Ave 13.3sec.

Meibography imaging of OD showed MG drop out with absence of glandular tortuosity or glandular dilatation. The OS nasal MG was seen dilated and tortuous, while the temporal MG was seen shortened (a sign of drop out).
CASE 3 Ng: A 21-year old, Chinese, male patient – NIBUT OD Ave 5sec; OS Ave 7sec.
Meibography imaging of OD and OS showed tortuous and dilated MG. Areas of gland tortuosity and dilatation coincide with areas of MG non secretion.

MANAGEMENT & DISCUSSION
Reduced value of NIBUT was a good indicator of evaporative dry eye and MGD. Our 3 patients with known MGD were found to have MG that was shortened, dilated and tortuous compared to normal subjects. All 3 patients were advised to adhere to lid hygiene treatment and to carry out daily warm compression to alleviate symptoms of MGD. If required, they were also advised to apply viscous lubricating eye drops daily. Periodic meibography documentation and NIBUT assessment were scheduled every 6 months.

Use of meibography in imaging the MG morphology greatly helps in understanding the changes of the MG in diseased conditions of the external ocular surface of the eye.

From observation, we believe that the changes of MG in MGD involve the follow: dilatation >> tortuosity >> glandular drop out

Disclaimer
Part of this reported case series had been previously presented orally in the 20th Asia Pacific Optometric Congress (APOC) 2015 (Kuala Lumpur), the 10th Asia Cornea & Contact Lens Conference (ACCLC) 2016 (Hong Kong) – accepted but not presented, and the 6th ASEAN Optometric Congress (AOC) 2016 (Manila).
Purchase of Oculus KSM topographer with incorporated meibography imaging was funded by SEGi University internal research grant: (i) SEGiIRF/2014-43/FOOPVS-5/51; (ii) SEGiIRF/2014-44/FOOPVS-4/51; (iii) SEGiIRF/2014-42/FOOPVS-4/51

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References
IN Focus:

**Ultraviolet (UV) ray and adequate UV protection for the eye**

*Chia Jho Yan MHSc (Clin Optom) UKM Mal*

Much of the shorter wavelength UV light emitted from the sun (UVC & UVB) is absorbed by the atmosphere. Some UVB and UVA light make it to the ocular surface and is linked with anomalies. Experts reported that a total of 95% of UVA and a 5% of UVB reach the earth. Of all ocular structures, the crystalline lens absorbs most of the remaining UV light by adulthood and is a well recognized risk factor for cataract.¹

![Diagram of eye showing UV light wavelengths and eye structures](image)

**Figure 1:**

There are three types of UV, UVC which can kill microorganisms, bacteria and cells (most damaging). Luckily it is blocked by the ozone layer which is protecting us. Second is UVB, which is mostly absorbed by the Cornea but some amount, will pass through the Crystalline lens. Third is UVA, close to visible light which is particularly absorbed by the Crystalline lens. The combination of the A and B UV light will induce onset of cataracts.

Various reports had reported linkage of UV light exposure causing eye anomalies such as pinguecula, pterygia, carcinomas and also age-related macular degeneration. From these, it is understood that the shorter the wavelength, the greater the likelihood of retinal damage.²

UV protection in contact lenses was found to improve accommodative response, and is beneficial in maintaining macular pigment density. In a review article written by Wolffsohn (2012), he recommended for the use of UV-blocking contact lenses alongside sunglasses and a wide-brimmed hat. He considered the variable quality of UV protection from over-the-counter sunglasses (with the dilation of the pupil when shielded with dark glasses) and non wrap-around design of these sunglasses. Figure 2 explains the concept of peripheral light focusing effect (PLF) which supported his recommendations.
Eye care practitioners in Malaysia have an obligation to warn patients of the risk of UV and recommend appropriate eye protection against UV.

Figure 2: Peripheral light focusing effect (PLF). The PLF has been shown to occur over a range of incidence angles, including very oblique trajectories that originate from behind the eye’s frontal plane.³

References
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**Designs for your Lifestyle**

- **VARILUX® Digitime® Near**
  - Ideal for natural vision and posture when using smartphones and tablets or doing precision tasks.

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  - Ideal for comfortable vision on computer screens or other desk activities.

- **VARILUX® Digitime® Room**
  - Ideal for usage of large screens and for multi-tasking lifestyle involving near and intermediate tasks.

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Each vision zone is ergonomically positioned in the lenses taking into account the R&D study results to offer the wearer optimal visual and postural comfort. Images are for illustration purposes only.
Optometry is a very new field in Vietnam eye care system. There was no optometrist until 2009, when 2 international NGOs: Brien Holden Vision Institute (BHVI) and Eye Care Foundation sent the first batch of students to study optometry in India and Malaysia.

Ms. Tran Minh Anh, the very first optometrist in Vietnam recalls her memory: “In July 2009, upon graduation from my Optometry degree, I have increased the number of optometrists in VN by 1/3. By now we have had in total 13 optometrists. We have come from zero to become a new potential profession in Vietnam”.

How we are helping in eye care system in Vietnam:

As the pioneers, optometrists are co-working with ophthalmologists to give the better health care for the patients. Ms. Pham Phuong Ngá, one of the optometrist graduated from Malaysia share her experience working in national eye hospital: “The hospital is always overwhelmed with a lot of people who attends the eye clinic for eye check. All the work in hospital mainly is based on nurses and ophthalmologist. Nevertheless, some ophthalmologists understand my role and I can still practice as an optometrist in refraction, binocular vision test, contact lenses fitting and diagnoses”.

From left: Young Optometrists - Bui & Pham accompanied by their counterparts from their sponsoring body in Australia – Carina Trinh, May Ho (BHVI), Dr Richard Linsay (Contact lens specialist from Melbourne), Ms Tran Minh Anh (first sponsored Optometry graduate in Vietnam - BHVI) & fellow ophthalmic nurses.
Optometry education in Vietnam:

The goal for a sustainable optometry development in Vietnam is through education. With the help of BHVI, we are now having 2 institutions one in Hanoi and one in Ho Chi Minh City offering an optometry degree (4 years study). Until now we have managed to recruit more than 180 optometry students.

Teaching is the way we can help more people of Vietnam in the long term. We inspire students the importance of optometry and empower them with knowledge we have from abroad, thus after graduate, they can give better eye care service for society.

Challenges:

As a new profession, there is limited funding available from government. We still have to be recognized by the Government in order to contribute more to our society. One of our main aim, is for the role of the profession to be enacted in the law with proper regulation; similar to the Optical Act 1991 of Malaysia.

In addition, Optometric education program is lack of learning material & reference resources. Optometric instruments are also an issue. “Students have to purchase equipment for their use during clinical training. As most of these are imported into Vietnam, the costs are very high, lead to an additional burden to the overall costs to the students”, said Ms. Mai Huong – Optometrist volunteers at Hanoi Medical University.

At the beginning, we have 180 students and their parents understand about our job and our scopes. This number will increase over year fortunately, but with the population of 90 million, we understand it will take longer time to be a well-known career.

Opportunities:

Despite all the challenges, we as the team have been doing our best with all our effort to establishing Optometry in Vietnam with the aim to help improving eye care in our country.

Optometry Vietnam will have a long journey ahead to reach the international standard. With all the help and support from international organizations and international optometric association, we believe optometry in Vietnam will play a crucial role in Vietnam health care system and be part of the world optometric family.
Being an optometrist has brought me to various states; from Terengganu to Sarawak, followed by Kelantan, and finally to Putrajaya. I’ve been practicing for 15 years and there were a lot of sweet sour experiences that I’ve been through. Practicing in private sector has thought me how to deal with people (mostly normal individuals with healthy eyes), knowing about the financial term, the meaning of rivalry between business competitors and learning how to manage a practice. Customer is the priority and profit must be earned at maximum value. We strived for the best and teamwork is of utmost importance.

After 2 years in private sector, I joined the government; offering my service in the hospital. Being transferred to Sarawak first in 2003, followed by a second transfer in 2009, I had the opportunity to meet patients from various races and culture including the Iban (mostly), the Dayak, the Kadazan and the Penan. Most of them lives in rural area and had to travel which took long time and some of them had to stay overnight at the provided places just to seek medical treatment. They usually need financial support from the hospital charity fund. In the hospital, the scenario of branded glasses, changing ringgit notes, swiping credit cards, entertaining customers, 10 to 10 working hours were absent. Most of the patients were of the geriatric and paediatric category. From here, I had the opportunity to practice binocular vision, low vision and geriatric knowledge and most of the skills gained during campus time. There is a higher need for specialty skills in the government hospital.
The hospital environment enabled me to practice co-management. Dealing with other professionals taught me how to speak in their language and this is very crucial as the ability to communicate effectively between profession allowed better treatment in co-management of diseases such as diabetes, hypertension or rarer conditions like the ankylosing spondylitis.

The point that I’m trying to say is, wherever you are practicing now, always give your best, think positive, learn from others and try to understand your patient. Sometimes what our patients really need is someone to listen to their problem, and not only the treatment that we give. Practice empathy because patients are ill and we will never know, one day, we may be in their place.
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NIOS Community Service

By Ms PREMA MUTHIAH, BOptom (Hons), IUCTT; MHSc (Clinical Optom), UKM

On 5th March 2017, students of National Institute of Ophthalmic Sciences (NIOS), the Academic Arm of The Tun Hussein Onn National Eye Hospital collaborated with Lion’s Club of Sungai Buloh for a community service. The community social responsibility project took place at Dewan MPRP of Jalan Pandan Indah 6/1, Pandan Indah, Kuala Lumpur. The visual and eye screening targeted the residents of low cost flats around the Pandan Indah area.

The objectives of the community service was to expose the students with real-life examination scenario, strengthen the ties between the students and residents of low income group and also provide an opportunity to the members of the public for proper visual examination.

A total of ten Year Three and Year Four students participated in the vision screening exercise under the supervision of Dr Ananth Sailoganathan, Academic Director of National Institute of Ophthalmic Sciences (NIOS) and Ms Wee Xiao Hui, Optometrist and Clinical supervisor at NIOS. The students performed visual acuity test at distance and near, cover test, stereopsis, color vision assessment and fundus examination for the residents.

Figure 1: The residents with poor visual acuity were further examined for refractive error and ocular media abnormalities. Overall, the program was successful where 520 residents were screened and managed appropriately. Referral to NIOS optometry clinic and THONEH was done for further examinations.
Students were exposed to people with different social and economical background and this has helped to improve the student’s communication and interpersonal skills. The program had also cultivated leadership skills and teamwork among the students and lecturers.

Figure 2: Group photo of NIOS faculty members, students and Patrons of Lions Club
Orthoptists are professionals involved in the management of patients with eye movement disorders and specifically with strabismus. The American Association of Certified Orthoptists (AACO) defined the role an Orthoptists as investigating, diagnosing and treating disorders of ocular motility, monocular and binocular vision and associated disorders. In 2015, Renuka Sundram and Tan Sweet Wei, graduates from National Institute of Ophthalmic Sciences (NIOS) were selected to undergo the Fellowship in Orthoptists.

The fellowship training period was 6 months in duration which includes didactic learning and clinic rotations in THONEH pediatric ophthalmology clinics. The trainers were experienced visiting Orthoptists from France, United States and Canada. During the training, both the students were given lectures on pertinent topics and were involved in hands-on training under the supervision of the visiting Orthoptists where they have been exposed to the life of an Orthoptists.

Being a graduate Optometrist has served to be an advantage for both Renuka and Sweet Wei as the fundamental basis of visual science and binocular vision was obtained during their bachelors programme. Besides the Orthoptists skills, they have also exposed to the art of handling and managing young children with excellent communication and interpersonal skills.

After the completion of the fellowship training, Renuka and Sweet Wei have undergone written, oral and practical examination before certified as fellow of Fellowship in International Orthoptic
Association (FIOA). They were individually assessed by the Dr Karen McMaim, the President of International Orthoptic Association (IOA) and also Associate Professor in Clinical Vision Science Program at Dalhousie University, Canada. Upon successful completion of the training with outstanding results in their examinations, Renuka and Sweet Wei were awarded as fellows of FIAO and certified to practice as Orthoptist fellow.

Now, both of them are practicing independently and successfully in The National Eye Hospital (THONEH) as Optometrist and also Fellows in Orthoptists. They work closely and primarily with pediatric ophthalmologists in THONEH in diagnosing and managing conditions of strabismus, amblyopia, and diplopia.

Tan Sweet Wei and Renuka Sundram with Ms Heather Fennell-Al Sayed (middle), an assistant professor in Clinical Vision Science who also practices orthoptics as a member of the IWK Eye Care Team, Canada.
HOYA Hard/EX Proud

revolutionary new design RGP contact lens enables smooth tear flow for optimum comfort

Available in Malaysia now

 Revolutionary new design …
✓ Smoother tear flow
✓ Optimize comfort
✓ Stop tears evaporation
✓ Decrease lens clouding
✓ Superior fitting

• 割数する淚液を留め、乾きにくくし、クモリ軽減を狙った
• Made in Japan

<table>
<thead>
<tr>
<th>Oxygen Permeability [ Dk ]</th>
<th>125×10⁻¹¹ (cm³/sec)-(ml.O₂/ml.mmHg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific Gravity</td>
<td>1.18</td>
</tr>
<tr>
<td>Refractive Index</td>
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<tr>
<td>Light Transmittance</td>
<td>88%</td>
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<tr>
<td>Parameters</td>
<td>[BC] 6.00 ~ 9.00mm (0.05mm step)</td>
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<tr>
<td></td>
<td>[Sph] +25.00 ~ -25.00D (0.25D step)</td>
</tr>
<tr>
<td></td>
<td>[Dia] 7.5mm ~ 9.3mm (0.1mm step)</td>
</tr>
</tbody>
</table>

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Authorized distributor of Hoya contact lenses

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Contact lenses are placed directly over the cornea.

However, as the cornea is made up of avascular tissue, it needs to continually take in oxygen from the air. Given this, improving oxygen permeability has become a major theme in the development of contact lenses. In particular, the hurdles are higher for soft lenses as opposed to hard lenses, and we have pursued material development in this area.

In the course of development, one material attracted attention as a next-general material for soft lenses. The material is known as silicon hydrogel. Instead of oxygen only passing through the moisture contained in the lens as with conventional soft lenses, this revolutionary material allows oxygen to permeate directly through the lens.

We set the goal of achieving “outstanding oxygen permeability” as the greatest advantage offered to our users. We quickly began development of disposable lens products using...
Our aim is to surpass the oxygen permeability of hard lenses...

this material to differentiate our products from those of competitors. But naturally, if we use the existing raw materials provided from material manufacturers, we cannot clearly express differentiation from the products of our competitors. To address this, we pursued independent research into the design of the material’s molecular structure and methods for its synthesis. Our specific aim was to surpass the oxygen permeability of hard lenses. We continued with a process of trial and error to determine what molecular structure could achieve this and how we could synthesize such a substance.

In addition, to reduce costs through mass production, we introduced a manufacturing method known as cast mold manufacturing as well as a light-based lens curing technique. As a result, we succeeded in drastically shortening the time taken for lens curing from the 48 hours of conventional heat-based curing to just 20 minutes.

To deliver even better products to the world, when we develop a new product we first consider what features we can add so that customers will be able to use the product with greater comfort. In the case of this product, in addition to high oxygen permeability, the features we added were stain-resistance and UV filtering. Achieving stain-resistance proved difficult. As silicon has strong water-repelling properties, it is easy for substances such as the fats and proteins in lacrimal fluid to stick to the material. To resolve this, we considered a technique to coat the surface of the lens using a technology known as plasma coating. However, this was uncharted territory for us and there was no accumulation of technologies. We undertook a repeated process of trial and error as we explored how to achieve a coating film with high stain-resistance and how to achieve uniform coating films on the surface of a tiny soft contact lens through mass production. We finally established the technologies for stably producing products that would not stain easily.

In 2009 the long-awaited market release of Hoya Airy One Month was achieved, silicone hydrogel soft contact lenses designed for regular monthly replacement. Today, various companies sell competing products which also use silicon hydrogel, but even among them, our product boast superior oxygen permeability and stain-resistance. Our lenses are also rated highly by users in terms of wearing comfort and moist, and by including a feature to filter out UV light, we receive reports from sales outlets about the high repeat rate among users. Our product will also focus on specialized needs such as lenses for astigmatism and multifocal. Moving forward, however, we will continue to add features that will offer more benefits to users and bolster our market presence.

Source: Hoya Corporation
Reproduced by: Optolab Sdn Bhd
Email: optolab@outlook.my
When I came across this brand of contact lens, I let my wife try a pair for a month. She felt comfortable throughout. I am now fitting this CL regularly to my patients who wants longer wearing hours as I know the eye health benefits it can bring in long term.

Ahmad Fuzai (Vice President of AMO and practice owner)

I have a patient, male in his late 20s who wanted CL but warned me that he had tried many brands of CL but was unsuccessful. I prescribe him with Hoya Airy and he immediately felt the comfort upon insertion. He is now wearing Hoya Airy regularly and has become my loyal customer. To build a successful practice, I see the need to differentiate and avoid CL that have been commoditize and Hoya Airy is able to give me that alternative.

Christina Tan (Secretary of AMO and practice owner)

I have been fitting Hoya Airy ever since I started my practice a few months back. Patients respond are good and I have 100% success rate with proper fitting evaluation. It is also the best option for a new practice like mine because it does not give me pricing problems and I am able to differentiate my practice and build customer loyalty by leveraging on the Hoya brand.

Muhd Syukri (Asst. Secretary of AMO and practice owner)