

BY KHIRTINI K KUMARAN

**D**IAGNOSTIC tools and instruments are vital components of an optometry practice. Optometrists need these technologies to conduct eye examinations and diagnose eye diseases safely and accurately.

Optometry practices need to stay at the forefront of technology because they cannot sustain themselves by providing traditional eye examinations with basic and outdated instrumentations.

Optometrist Ryan Ban, owner and founder of Ban UK Optometrist, said: "Some of the older technology practices are based on relatively basic systems, which only use light and magnification.

"Meanwhile, the latest and advanced equipment achieves the same goals digitally, with greater clarity and precision.

"For example, the way we check eye pressure has evolved over the years, from using fingers to a tonometry gun and now with the much easier and more accurate tonometry machine."

### Useful tools for optometrists

Utilising new and advanced diagnostic technologies is beneficial for eye care professionals (ECPs) as it improves service performance and reduces the potential for diagnostics errors.

Firstly, the accuracy and clarity of advanced diagnostic equipment allow the optometrist to detect underlying eye diseases even before the symptoms are present.

"For example, the retinal screening machine, also known as the Fundus camera, allows us to assess the photograph of the retina, and we would be able to detect diabetic retinopathy from the photos, which is one of the leading causes of vision loss around the world."

Based on the results and analysis, he said, optometrists can determine if patients should see an eye surgeon for further evaluation or preventative treatment.

"In some cases, these technologies even gather results and notes data for us, ensuring our patients' files are 100 per cent accurate and up to date," Ban added.

### Optometrist and technology

Ban acknowledged that with the

# Importance of diagnostic technologies

New and advanced diagnostic technologies help improve optometry performance and reduce the potential for diagnostics errors



advancement of technology, patients could conduct basic eye exams themselves. This was observed during the pandemic when some optometry practices and eyewear retailers offered an online vision screening test.

"Please bear in mind that these 'home eye exams' only provide basic vision screening and are not able to evaluate the physical health of the eye," he stressed.

According to Ban, technology could replace humans to conduct examinations and diagnostics in the future, but certainly with limitations.

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– Ryan Ban



"Through high-quality cameras and software, patients may someday use advanced technology to evaluate their eye health at home. But in reality, optometric examinations will always require some level of human interaction."

He explained that the importance of exceptions to rules and patterns is vital because the human body and health factors differ from one another.

"Sometimes, certain conditions or symptoms may produce different results and varying diagnosis. Therefore, we will still need the human ability to communicate with patients, refer to previous experiences and knowledge, to search for a possible alternative and conclusive answer.

"Another major element missing from technologies is human connections and humanity. Any medical field requires a personal connection to deliver good and difficult news. Or even to reassure the patient."

### Public awareness level

Ban graduated from Cardiff University UK and has been in the optometry industry for 14 years. He opened his first practice, Ban UK Optometrist, at Berjaya Times Square in Kuala Lumpur in 2015. He now has five branches, with the latest in Sri Petaling.

The public, he said, thinks of optometry practices as a retail shop for contact lenses and glasses and usually expects fast, cheap and affordable services.

"This is why our outlets are equipped with the latest technologies to create awareness that optometry practice is more than just a retail shop and can provide primary eye care services and conduct comprehensive eye examinations."

According to Ban digital eye strain and dry eyes are common issues. "Ninety per cent of our patients heavily use digital devices and are experiencing eye strain and dry eyes. This is because our eyes blink 60 per cent less when using digital devices.

"We recommend patients to use the Acuvue 1-day Oasys contact lenses, as it provides lubricity and mimics mucins to the eye, delivers superior comfort and reduces dryness." – *The Health*



From left: Ryan Ban Lijia, Kah Mun Mak, Gary Soo Jun Kit and Jerry Ong Han Yong.