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Single Use Probes Recommended to Measure IOP During COVID Crisis



RANZCO has cautioned that puff tonometry should not be used, and disposable probes are preferred when measuring the intraocular pressures of patients with, or suspected of having, glaucoma.

In a statement addressing the need for clinics to protect staff and patients, RANZCO said, “Use Icare tonometry while standing beside the patient. Do NOT use puff tonometry and only use Goldmann applanation tonometry if essential. When using Goldmann applanation tonometry, disposable tips are preferred, but if this is not available, 70% alcohol solutions should be effective at disinfecting tonometer tips from SARS-CoV-2. 3 puff tonometry.”

Shane Hage, Regional Director Asia Pacific at Icare says the use of disposable tips and probes is something all eye care professionals should be more vigilant about.

“The gold-plated metallic wire probe used with the Icare tonometer has been approved by the Therapeutic Goods Administration for single use, yet some eye care professionals make use of them multiple times. At just AU\$1.50 per probe, and with no need for fluorescein or anaesthetic drops, using each probe once is inexpensive and improves safety,” he said.

“If you’re not using a single use probe you are putting your patients at risk of cross contamination by bacteria, viruses, spores and particles. Additionally, operational reliability and accuracy of measurements are at risk.”

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Lowering Risk of Virus Transmission

Mr Hage said the Icare tonometer is being recognised internationally as an advantageous way to measure intraocular pressures, especially during the current COVID-19 pandemic.

“The Icare tonometer enables eye pressure to be measured without creating microaerosol formations that are created by air puff tonometry,” he said.

COVID-19 is known to be transmitted via large droplets (100-500um), however small droplets (<100um) can also spread the virus.

According to one study, reported in the *New England Journal of Medicine*, SARS-CoV-2 remained viable in aerosols for the duration of a three-hour experiment, with a reduction in infectious titre from $10^{3.5}$ to $10^{2.7}$ TCID₅₀ per litre of air. The half-life of SARS-CoV-2 in aerosols was approximately 1.1 to 1.2 hours.¹

The same researchers found that viable SARS-CoV-2 virus could be found on plastic, stainless steel, copper and cardboard up to 72 hours after application albeit with greatly reduced virus titre.

In Hong Kong, two hospitals – the United Christian Hospital and Tseung Kwan O Hospital – have reported that they are avoiding the use of micro-aerosol generating procedures, such as noncontact tonometry to minimise the risk of disease transmission via droplets.²

Icare Portability an Advantage

Mr Hage said the small size of the Icare is another advantage for patients who are unable or anxious about attending eye health appointments.

“The small size of the Icare means it is easy to clean down with alcohol wipes after each use. Additionally, the Icare has been designed specifically for at-home use so that patients can measure their IOP at different times of the day. In the context of COVID-19, when many optometry practices and ophthalmology clinics are limiting appointments, this is a great piece of equipment to ensure continuity of monitoring and care. Patients can monitor their IOP from home and measurements can be sent, using the App, to their eye health practitioner. Collaborative care between the patient’s optometrist and ophthalmologist can be facilitated by sharing IOP measurements using systems such as the Oculo platform.”

References

1. *van Doremalen Neeltje, Bushmaker Trenton, Morris Dylan H., Phil M. Aerosol and Surface Stability of SARS-CoV-2 as Compared with SARS-CoV-1 The New England Journal of Medicine, 1 April 2020*
2. *Lai Tracy H. T., Tang Emily W. H., Chau Sandy K. Y., Fung Kitty S. C. Li Kenneth K. W. Stepping up infection control measures in ophthalmology during the novel coronavirus outbreak: an experience from Hong Kong. Graefe’s Archive for Clinical and Experimental Ophthalmology. doi.org/10.1007/s00417-020-04641-8*