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strategies after a one-month trial. For patients who present with a positive symptomatic improvement after one month (evaluated using validated questionnaires), continuation of therapy may be beneficial. The gradual and relatively late improvements in clinical signs (compared to symptomatic improvements) observed in this study indicate that restoring ocular surface homeostasis hinges on the prolonged, regular tear film supplementation over several months. As always, compliance is paramount.

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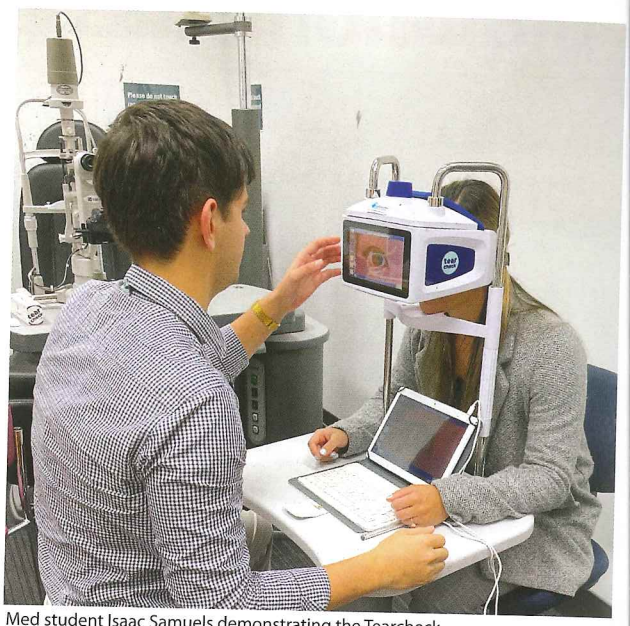
New kids on the block

By Catherine Shon

AS RESEARCH IN dry eye disease (DED) continues to take important steps forward, industry partners have stepped up to bring an exciting range of multifunctional devices to market to assist practitioners in efficiently and effectively diagnosing and managing DED. The Ocular Surface Laboratory (OSL) team benefits from early access to some of these new products and the opportunity to use them in research projects, so we can offer practice owners evidence-based information when deciding if they will suit their practice and patients.



Med student Isaac Samuels demonstrating the Tearcheck

Tearcheck

One of the newest diagnostic instruments on the market is Tearcheck from ESW Vision, manufacturers of the therapeutic E-Eye intense regulated pulsed light (IRPL) device for meibomian gland dysfunction (MGD). Tearcheck is a multifunctional dry eye analysis tool, boasting a range of standard tests plus two new, patented examinations: the tear film stability evaluation (TFSE) and ocular surface inflammatory evaluation (OSIE). TFSE evaluates micro-movements of the tear film over a 10-second period, delivering a score reflecting ocular surface dryness. OSIE gives information about the increased risk of inflammation in the eye, as well as the exact dimension and score of the dryness. The Tearcheck device is relatively small, resembling a VR headset and can be head-mounted or mounted to an adjustable table. The software itself is user-friendly, intended for easy administration by all practice staff.

Myah

Another multifunctional diagnostic instrument being evaluated at the University of Auckland in collaboration with the University of Waterloo in Canada and Aston University in the UK, is the Myah device from Topcon, which can provide both dry eye assessment and myopia management. It includes corneal topography, a comprehensive suite of dry eye assessment tools, axial length measurements by optical low coherence interferometry and progression reports for analysing myopia control treatment efficacy. The instrument is compact and easy to operate.

iLux

Things are just as exciting on the therapeutic side, with a new investigator-led trial about to commence to explore the benefits of a hand-held thermal pulsation device, Systane iLux from Alcon, which is not yet commercially available in New Zealand. The portable device treats MGD in 8-12 minutes via a disposable patient interface. During treatment, practitioners can monitor heat and pressure levels applied to the eyelids, while visualising the treatment zone. Blocked meibomian glands can be targeted, with the potential to deliver individualised treatment. In recent research Systane iLux has been shown to be comparable to LipiFlow in improving signs and symptoms of MGD four weeks after treatment[1].

Rexon-Eye

The Rexon-Eye is a non-invasive device designed to treat both aqueous-deficient and evaporative dry eye disease. The device applies low-power, high-frequency electric fields to stimulate metabolism and promote natural cell regeneration. Therapy consists of four treatment sessions of 20 minutes each, at one-week intervals. Ryan Mahmoud, an Auckland-based optometrist specialising in dry eye, will evaluate the device as part of an Auckland University postgraduate certificate in collaboration with OSL.

All of the above studies will be carried out in Auckland, so if you have any patients who might be interested in taking part in, or discovering more about our ongoing studies, please scan the QR code or visit tinyurl.com/UoAOSL.

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