Highlights from this issue

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Tackling HTLV-1 infection in ophthalmology: a nationwide survey of ophthalmic care in an endemic country, Japan (*see page 1647*)
In a nationwide survey in Japan, most ophthalmic facilities examined for HTLV-1 infection when considering he differential diagnoses for uveitis. Providing information on HTLV-1 infection to ophthalmologists has been successfully implemented over recent decades.

Vision loss in anterior uveitis (*see page 1652*)
In 2526 eyes with anterior uveitis, the incidence of permanent visual loss was 0.006/eye-year with a cumulative 10-year risk of 6.6% (5.2-8.4%). Uveitic glaucoma was the most common cause of vision loss.

Prevalence and causes of vision loss in sub-Saharan Africa in 2015: magnitude, temporal trends, and projections (*see page 1658*)
Approximately 22 million Africans have poor distance vision and an additional 101 million have poor near vision or presbyopia. The main causes are the easily treatable cataract and under-correction of refractive error. Glaucoma, age related macular degeneration and diabetic retinopathy are on the increase.

Retrospective cohort study of severe dysfunctional tear syndrome patients and resolution of central corneal staining (*see page 1669*)
The authors report that 88% of severe dry eye patients achieved a significant improvement in corneal epitheliopathy after an average of 4 years of treatment. Autoimmune disease and graft-versus-host disease limit improvement despite a long treatment duration.

Meibography guided intraductal meibomian gland probing using real-time infrared video feed (*see page 1676*)
Analogous to CT directed biopsy of vital organs, technology is now available to visualise and perform real time meibography guided intraductal meibomian

gland procedures which in turn have confirmed its safety.

Posterior corneal features in Down syndrome patients and their relation with keratoconus (*see page 1683*)
Down syndrome patients show posterior corneal morphological alterations that are similar to the ones present in mild keratoconic patients and significantly differ from healthy corneas.

Visual field progression 8 years after trabeculectomy in Asian eyes: results from the Singapore 5-fluorouracil study (*see page 1690*)
Greater post-operative IOP fluctuation, but not the use of intra-operative 5-fluorouracil, is associated with long-term visual field progression after trabeculectomy in Asian eyes.

The usefulness of data augmentation for visual field trend analyses in glaucoma patients (*see page 1697*)
Affine transformations were applied to augment visual field data from 638 eyes of 417 patients with open angle glaucoma. Prediction accuracy and the assessment of progression rate with the pointwise linear regression were significantly improved.

Acceptability, adherence, and economic analyses of a new clinical pathway for the identification of non-responders to glaucoma eye-drops: a prospective observational study (*see page 1704*)
The authors describe a clinical pathway that provides valuable insights into the interaction between adherence with glaucoma medications and clinical efficacy, at minimal cost. The clinical implementation of this pathway was acceptable to patients and has been modified to support clinical adoption.

Effect of fundus tracking on structure-function relationship in glaucoma (*see page 1710*)
The average structure-function relationship with fundus perimetry is similar to traditional perimetry with a 24–2 grid. However, in eyes with perimetric damage, discriminatory ability with a combined structure-function index was significantly

improved when compared with structure alone, only with fundus tracking perimetry.

Discriminating glaucomatous and compressive optic neuropathy on spectral-domain optical coherence tomography with deep learning classifier (*see page 1717*)
An SD-OCT based deep learning system accurately discriminated compressive and glaucomatous optic neuropathy with high sensitivity and specificity and outperformed the clinical diagnostic parameters including SD-OCT thickness profiles.

Asymmetry analysis of macular optical coherence tomography angiography in glaucoma patients and healthy subjects (*see page 1724*)
We present an alternative approach for analysing optical coherence tomography angiographic data that accounts for both global and localised perfusion changes, which increases the separation in results between glaucoma patients and healthy controls.

Improved localization and discrimination of heat emitting household objects with the artificial vision therapy system by integration with thermal sensor (*see page 1730*)
Feasibility of integrating a thermal camera into an artificial vision therapy system was demonstrated by wearers' superior performance in locating and discriminating heat-emitting objects using the thermal camera compared with the current visible-light camera.

Prediction of OCT images of short-term response to anti-VEGF treatment for neovascular age-related macular degeneration using a generative adversarial network (*see page 1735*)
We trained a generative adversarial network to synthesise post-therapeutic optical coherence tomography images of neovascular age-related macular degeneration patients based on their pre-therapeutic images. The quality, authenticity and predictive power for synthetic images were outstanding.

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At a glance

An optical coherence tomography-based consensus definition for lamellar macular hole (*see page 1741*)
An international group of retinal specialists proposes a definition for the diagnosis of lamellar macular hole, macular pseudohole and epiretinal membrane foveoschisis. Definitions for all three entities will provide uniform language for clinicians and researchers.

Prevalence of myopic macular degeneration worldwide: a systematic review and meta-analysis (*see page 1748*)
In this representative sample of 58558 subjects of 12 studies, the prevalence of myopic macular degeneration was 2.1% (95%CI: 1.3% to 3.3%) which highlights the importance of myopia prevention and control.

Real world management of treatment-naïve diabetic macular edema: 2-year visual outcome focusing upon the starting year of intervention from STREAT-DME study (*see page 1755*)
As a clinical intervention for treatment naïve centre-involving DME, anti-VEGF therapy has been used more frequently to become first line therapy, and the visual prognosis after a 2 year clinical course has improved year by year.

Disparity of microaneurysm count between ultrawide field colour imaging and ultrawide field fluorescein angiography in eyes with diabetic retinopathy (*see page 1762*)
Microaneurysm counts are substantially greater on ultrawide field fluorescein angiography than on colour images, potentially resulting in retinopathy severity differences if not appropriately adjusted

Association of renal function with retinal vessel density in patients with type 2 diabetes by using swept source optical coherence tomographic angiography (*see page 1768*)
This cross-sectional study of a large sample of Chinese diabetic patients demonstrated that the retinal vessel density reflecting retinal microvascular changes independently correlated with renal function, suggests the potential of OCTA to detect early microvascular changes caused by diabetic nephropathy.

Does daily dietary intake affect diabetic retinopathy progression? 10-year results from the 45 and up study (*see page 1774*)
Higher consumption of cheese and wholemeal bread is associated with a reduced risk of diabetic retinopathy progression among a middle-aged Australian cohort.