At a glance

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Incidence and epidemiology of conjunctival squamous cell carcinoma in relation to the HIV epidemic in South Africa: a 25-year analysis of the National Cancer Registry (1994–2018) (*see page 175*)
There have been considerable changes in conjunctival squamous cell carcinoma incidence rates over the course of the HIV epidemic in South Africa. Declining rates coincide with notable changes in the availability of effective antiretroviral therapy.

Intraocular pressure increases the rate of macular vessel density loss in glaucoma (*see page 181*)
Peak IOP, mean IOP, and IOP fluctuation are associated with faster rates of microvascular loss in the macula. Mean IOP is associated with faster rates of microvascular loss, even in eyes with seemingly controlled IOP.

Decreased macular deep capillary plexus is associated with functional progression of normal tension glaucoma patients with unilateral visual field loss (*see page 188*)
We report a longitudinal study that demonstrates that decreased deep capillary plexus density is associated with progression of visual field loss in fellow eyes of normal tension glaucoma patients.

Longitudinal change of peripapillary vessel density and retinal nerve fibre layer thickness in normal tension and primary angle closure glaucoma (*see page 195*)
NTG eyes demonstrated more extensive and faster rate of peripapillary vessel density loss than PACG eyes in this longitudinal study, despite a similar rate of retinal nerve finre layer thinning.

Effects of socioeconomic status on baseline values and outcomes at 24 months in the treatment of advanced glaucoma study randomised controlled trial (*see page 203*)
For patients presenting with advanced glaucoma, socioeconomic status influences disease severity at presentation but has no effect on success of either medical or surgical treatment interventions.

Evaluation of the long-term variability of macular OCT/OCTA and visual field parameters (*see page 211*)
In both stable and all eyes, 24–2 VF and macular OCT/OCTA showed small long-term variability suitable for glaucoma follow-up. Progression is suggested when macular VD change exceeds 4–5% and/or GCC thickness change exceeds 2 µm.

Bio-tissue stent for supraciliary outflow in open-angle glaucoma patients: surgical procedure and first clinical results of an aqueous drainage biostent (*see page 217*)
Minimally-invasive supraciliary scleral allograft biostent insertion during phacoemulsification cataract surgery safely lowered IOP by>20% through 1 year in 8/10 patients with open angle glaucoma, and reduced the average number of glaucoma medications needed by 62%.

AI-based clinical assessment of optic nerve head robustness superseding biomechanical testing (*see page 223*)
Using geometric deep learning, we could assess optic nerve head robustness (ie, sensitivity to a change in intraocular pressure) from a standard optical coherence tomography scan that might help to identify patients with rapid progression of visual field loss.

Endophthalmitis rates and risk factors following intraocular surgeries in the medicare population from 2016 to 2019 (*see page 232*)
Nearly 10 million intraocular surgical procedures were performed among Medicare beneficiaries from 2016 to 2019, with a 42-day postoperative endophthalmitis rate of 0.09%. Endophthalmitis rates were highest, not for cataract surgery but corneal transplants, followed by secondary intraocular lens implantation.

Safety and effectiveness of intravitreal dexamethasone implant in patients with ocular toxocariasis (*see page 238*)
The treatment for ocular toxocariasis (OT) has not been standardised. Intravitreal dexamethasone implants have for the first time been used in patients with OT and can effectively reduce ocular inflammation and improve BCVA in eyes without macula involvement.

Efficacy and safety of abatacept to treat active birdshot uveitis: a prospective open label interventional proof-of-concept trial (*see page 244*)
In this trial, abatacept proved to be a very effective drug to treat birdshot uveitis. The dual fluorescein angiography and indocyanine angiography score is a quantitative and reproducible tool to monitor the disease.

AI-based fluid quantification and associated visual outcomes in a real-world, multicentre neovascular age-related macular degeneration national database (*see page 253*)
This real-world, multicentre study describes objective baseline patient profiles using AI-based OCT-derived fluid quantifications that associate 12 month visual outcomes in neovascular AMD, representing a potentially useful tool for clinicians and patient counselling at diagnosis.

Hyperpigmentary abnormalities in age-related macular degeneration: association with progression and impact on visual sensitivity (*see page 263*)
This study investigated the additional prognostic value of quantifying the extent of hyperpigmentary abnormalities (compared with presence alone) for predicting progression in intermediate age-related macular degeneration, and also its association with visual sensitivity.

Validation of a deep learning system for the detection of diabetic retinopathy in indigenous Australians (*see page 268*)
This external validation study found that a deep learning system had higher sensitivity and similar specificity compared with a human retinal specialist for the detection of diabetic retinopathy in an Indigenous Australian population.

Quantitative analysis of choriocapillaris flow deficits and choroidal thickness in children with Marfan syndrome (*see page 274*)
Compared with healthy controls there was lower choroidal thickness and a lower choriocapillaris flow rate in children with Marfan syndrome. Further, the authors found that worse visual acuity and cardiac function were associated with percentage reduction in choriocapillaris flow.

Distribution and causes of blindness and severe visual impairment in children at a tertiary referral centre in Rwanda (*see page 280*)
Precis: 10.9% of children presenting to a tertiary referral centre in Rwanda were blind/severely visually impaired on one or two eyes. 87% of cases were avoidable.

Interpretable model predicts visual outcomes of no light perception eyes after open globe injury (*see page 285*)
This study constructed a machine learning model named ï¿½VisionGoï¿½ to predict the visual outcomes of surgical treatment for open globe injury of no light perception eyes and provide an explanation system for the predicting results.

Presentation of Graves' orbitopathy within European Group on Graves' Orbitopathy centres from 2012 to 2019 (Prego III) (*see page 294*)
In 2019 referral times of Graves' orbitopathy (GO) patients to tertiary EUGOGO (European Group On Graves' Orbitopathy) centres was shorter (only 2 months) with less severe stages of the disease compared with 2012.

Persistence of severe global inequalities in the burden of blindness and vision loss from 1990 to 2019: findings from the global burden of disease study 2019 (*see page 301*)
This analysis revealed that although countries with middle and low-middle income were the most successful in decreasing burden of blindness and vision loss, a high level of cross-national health inequality persisted over the past three decades.

Associations of vision impairment and eye diseases with frailty in community-dwelling older adults: a nationwide longitudinal study in China (*see page 310*)
Vision problems, vision impairment and glaucoma are important predictors of frailty in older adults. Our findings suggest that screening and treating eye problems is of great importance for the prevention of frailty in older adults.

Fungal microbiome (mycobiome) and virome of the lacrimal sac in patients with PANDO: the lacriome paper 5 (*see page 317*)
The lacrimal sacs harbour a rich diversity of several fungal and viral taxa.

Functional consequences of pathogenic variant C.61G>C in the Inflammasome gene Nlrp3 underlying keratitis fugax hereditaria (*see page 323*)
NLRP3 c.61G>C variant, causing keratitis fugax hereditaria (KFH), is a gain-of-function variant leading to a reduced threshold for NLRP3 inflammasome activation. In cells from patients with KFH, glucocorticoids effectively reduce interleukin-1β release following NLRP3 inflammasome activation.