Articles

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**Evolution in the risk of cataract surgical complications among patients exposed to tamsulosin: a population-based study.**
Campbell RJ. *Ophthalmology* 2019;126(4):490-496.
[Tamsulosin is associated with intraoperative floppy iris syndrome (IFIS), an important risk factor for complications during cataract surgery. Significant efforts have been made to increase awareness of the risks associated with tamsulosin, and educational initiatives have fostered the uptake of technical adjustments to decrease adverse event rates among tamsulosin-exposed patients. However, the effectiveness of these efforts at the population level has not been studied.]
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**A randomized, controlled trial of cyclosporine a cationic emulsion in pediatric vernal keratoconjunctivitis: the VEKTIS study.**
[Vernal keratoconjunctivitis (VKC) is a chronic, allergic, and potentially severe ocular disease affecting children and adolescents that can lead to impaired quality of life (QoL) and loss of vision. This study evaluated the efficacy and safety of an investigational therapy for severe VKC, cyclosporine A (CsA) cationic emulsion (CE), an oil-in-water emulsion with increased bioavailability versus conventional CsA formulations.]
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**Aqueous shunts with mitomycin C versus aqueous shunts alone for glaucoma.**
Foo VHX. *Cochrane Database of Systematic Reviews* 2019;4:CD011875.
[Proliferation of fibrous tissue around an implanted aqueous shunt may block the diffusion of aqueous humour. Mitomycin C (MMC) is one of two commonly used adjunct antifibrotic agents used during aqueous shunt surgery to prevent proliferation of fibrous tissue. However, the effectiveness and safety of the use of intraoperative MMC during aqueous shunt surgery has not been established.]

**Calculation of axial length using a single group refractive index versus using different refractive indices for each ocular segment: theoretical study and Refractive outcomes.**
[The purpose of this retrospective study was to investigate the difference between the segmented axial length (AL) and the displayed AL on an optical low-coherence reflectometry (OLCR) biometer and to compare the refractive prediction errors calculated using the segmented and displayed ALs.]
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Cataract surgery refractive outcomes: representative standards in a National Health Service setting.
[The purpose of this study was to report refractive outcomes from a National Health Service (NHS) cataract surgery service and assess if results meet suggested benchmark standards. Refractive outcomes following routine cataract surgery reported here are well within the targets recommended by the RCO and European guidelines, but suggest that higher cataract refractive outcome benchmark standards may not yet be a realistic expectation for all NHS units with current biometry practice.]
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Characteristics of patients with neovascular age-related macular degeneration who are non-responders to intravitreal aflibercept.
[The purpose of this retrospective, interventional, consecutive case series was to investigate the frequency and patient characteristics that influence anatomic response of intravitreal aflibercept in treatment-naïve neovascular age-related macular degeneration (AMD).]
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Characterization of poor visual outcomes of neovascular age-related macular degeneration treated with anti-vascular endothelial growth factor agents.
[The purpose of this observational study was to investigate the incidence, characteristics, and baseline predictors of poor visual outcomes in eyes with neovascular age-related macular degeneration (nAMD) receiving intravitreal anti-vascular endothelial growth factor (anti-VEGF) agents in daily clinical practice.]
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Choriocapillaris and retinal vascular plexus density of diabetic eyes using split-spectrum amplitude decorrelation spectral-domain optical coherence tomography angiography.
[Split-spectrum amplitude decorrelation angiography for spectral-domain optical coherence tomography has enabled detailed, non-invasive assessment of vascular flow. This study evaluates choriocapillaris and retinal capillary perfusion density (CPD) in diabetic eyes using optical coherence tomography angiography (OCTA).]
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Clinical features of paediatric uveitis at a tertiary referral centre in São Paulo, SP, Brazil.
[The purpose of this study was to analyse the clinical features, systemic associations, treatment and visual outcomes of uveitis in children from a referral centre in São Paulo, Brazil. It concludes that paediatric patients with uveitis are referred early to this centre and, although severe, adequate management with systemic IMT may preserve VA.]
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Comparative effectiveness and harms of intravitreal antivascular endothelial growth factor agents for three retinal conditions: a systematic review and meta-analysis.
[The authors conducted a systematic review to compare the effects of aflibercept, bevacizumab and ranibizumab on best-corrected visual acuity (BCVA) changes, quality of life and ocular or systemic adverse events in patients with neovascular age-related macular degeneration (NVAMD), diabetic macular oedema (DME) and central or branch retinal vein occlusion (RVO).]

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Compared performance of Spot and SW800 photoscreeners on Chinese children.
[Amblyopia is a permanent visual impairment developed from ophthalmic abnormalities in early childhood. Refractive errors, strabismus and anisometropia are reported to be the most common amblyopia risk factors (ARFs), followed by visual deprivation.1–3 Early diagnosis and intervention are the key in the prevention of amblyopia and preservation of vision.]

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Comparison of short-wavelength blue-light autofluorescence and conventional blue-light autofluorescence in geographic atrophy.
[The purpose of this study was to systematically compare the intermodality and inter-reader agreement for two blue-light confocal fundus autofluorescence (FAF) systems. The authors conclude that the isolation of the REFC from the 450-FAF images allowed for a reproducible quantification of GA. This assessment had good comparability with that obtained with 488-FAF images.]

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Correlation between aqueous flare and residual visual field area in retinitis pigmentosa.
[The purpose of this study was to investigate the relationship between aqueous flare, visual function and macular structures in retinitis pigmentosa (RP).]

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DeepSeeNet: a deep learning model for automated classification of patient-based age-related macular degeneration severity from color fundus photographs.
[By simulating the human grading process, DeepSeeNet demonstrated high accuracy with increased transparency in the automated assignment of individual patients to AMD risk categories based on the AREDS Simplified Severity Scale. These results highlight the potential of deep learning to assist and enhance clinical decision-making in patients with AMD, such as early AMD detection and risk prediction for developing late AMD.]

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Durability of diabetic retinopathy improvement with as-needed ranibizumab: open-label
extension of RIDE and RISE studies.
[The purpose of this study was to evaluate the durability of diabetic retinopathy (DR) improvements after a change in ranibizumab dosing from monthly to individualized pro re nata (PRN) therapy.]

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Effect of an injectable fluocinolone acetonide insert on recurrence rates in chronic noninfectious uveitis affecting the posterior segment: twelve-month results.
[The purpose of this multicentre, randomized, prospective, double-masked sham controlled trial was to assess the safety and efficacy of an intravitreal fluocinolone acetonide (FA) insert to manage inflammation associated with chronic noninfectious posterior uveitis.]

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Effect of ciliary neurotrophic factor on retinal neurodegeneration in patients with macular telangiectasia Type 2: a randomized clinical trial.
[The purpose of this randomized sham-controlled clinical trial was to test the effects of an encapsulated cell-based delivery of a neuroprotective agent, ciliary neurotrophic factor (CNTF), on progression of macular telangiectasia type 2, a neurodegenerative disease with no proven effective therapy.]

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Femtosecond laser-assisted cataract surgery for the white cataract.
[The purpose of this study was to report the capsulotomy and lens fragmentation outcomes of white cataracts managed with the femtosecond laser (FL).]

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Five-year follow-up of nonfibrotic scars in the comparison of age-related macular degeneration treatments trials.
[The purpose of this study was to describe changes in visual acuity (VA) and macular morphologic features at 5 years in eyes with nonfibrotic scar (NFS) identified at 1 year in the Comparison of Age-Related Macular Degeneration Treatments Trials (CATT).]

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Five-year visual outcomes after anti-VEGF therapy with or without photodynamic therapy for polypoidal choroidal vasculopathy.
[The purpose of this retrospective, observational study was to evaluate the 5-year visual and anatomical outcomes after anti-vascular endothelial growth factor (VEGF) therapy alone or in combination with photodynamic therapy (PDT), followed by pro re nata (PRN) anti-VEGF therapy with or without PDT, for polypoidal choroidal vasculopathy (PCV).]
From Machine to machine: an OCT-trained deep learning algorithm for objective quantification of glaucomatous damage in fundus photographs.
[Previous approaches using deep learning (DL) algorithms to classify glaucomatous damage on fundus photographs have been limited by the requirement for human labeling of a reference training set. The authors propose a new approach using quantitative spectral-domain (SD) OCT data to train a DL algorithm to quantify glaucomatous structural damage on optic disc photographs.]

Is combined cataract surgery associated with acute postoperative endophthalmitis? A nationwide study from 2005 to 2014.
[The purpose of this cohort study was to assess the incidence of acute postoperative endophthalmitis (POE) after cataract surgery combined with corneal, glaucoma or vitreoretinal surgical procedures from 2005 to 2014 in France. The incidence of acute POE after combined surgery was related to the type of surgery performed simultaneously with cataract extraction.]

Lamina cribrosa morphology in glaucomatous eyes with Hemifield defect in a Korean population.
[The purpose of this cross-sectional study was to compare regional variations in lamina cribrosa (LC) curvature and depth between healthy eyes (group 1) and naïve eyes with primary open-angle glaucoma (POAG) having superior (group 2), inferior (group 3), and both (group 4) hemifield retinal nerve fiber layer (RNFL) defects.]}

Long-term visual outcome and its predictors in macular oedema secondary to retinal vein occlusion treated with dexamethasone implant.
[The purpose of this study was to evaluate the functional long-term outcome in patients with macular oedema (MO) secondary to central retinal vein occlusion (CRVO) and branch retinal vein occlusion (BRVO) treated with dexamethasone implant (DEX implant) and to identify its clinical predictors.]

Long-term visual outcomes and causes of vision loss in chronic central serous chorioretinopathy.
[The purpose of this retrospective, longitudinal study was to evaluate the long-term visual outcomes and causes of vision loss in chronic central serous chorioretinopathy (CSC). The study concludes chronic CSC can be a sight-threatening disease leading to legal blindness. Age at presentation and outer retinal changes on multimodal imaging were associated with long-term BCVA changes and may be predictors of long-term visual outcomes.]
LVP keratoprosthesis: anatomical and functional outcomes in bilateral end-stage corneal blindness.
[The purpose of this report was to describe the anatomical and functional outcomes of the novel LVP keratoprosthesis (Kpro), developed as an alternative to the modified osteo-odonto keratoprosthesis (MOOKP), in eyes with end-stage corneal blindness where conventional corneal surgeries are contraindicated.]
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Microvascular abnormalities secondary to radiation therapy in neovascular age-related macular degeneration: findings from the INTREPID clinical trial.
[The purpose of this study was to report the incidence and features of retinal microvascular abnormalities (MVAs) occurring secondary to stereotactic radiotherapy (SRT) in a randomised double-masked sham-controlled clinical trial at 21 European sites.]
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Morphological and topographical appearance of microaneurysms on optical coherence tomography angiography.
[To investigate retinal microaneurysms in patients with diabetic macular oedema (DME) by optical coherence tomography angiography (OCTA) according to their location and morphology in relationship to their clinical properties, leakage on fundus fluorescein angiography (FFA) and retinal thickening on structural OCT.]
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Oxidized low-density lipoprotein and the incidence of age-related macular degeneration.
[The purpose of this observational study was to examine the relationship between serum oxidized low-density lipoprotein (ox-LDL) cholesterol and the incidence of age-related macular degeneration (AMD) over a 25-year period in a sample of persons from the population-based Beaver Dam Eye Study (BDES).]
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Quantitative retinal microvasculature in children using swept-source optical coherence tomography: the Hong Kong Children Eye Study.
[The purpose of this study was to evaluate the distributions of quantitative optical coherence tomography angiography (OCT-A) metrics and its associated factors in children.]
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Randomised, prospective clinical trial of platelet-rich plasma injection in the management of
severe dry eye.
[The purpose of this prospective, intervention study was to evaluate the effectiveness of platelet-rich plasma (PRP) injections in the treatment of severe dry eye. The study concludes that PRP injection is safe and effective in improving tear parameters as well as subjective parameters, and was found to be superior to hyaluronic acid alone in the management of patients with severe dry eye. This represent a novel alternative treatment for severe dry eye.]

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Relationship between vessel density and visual field sensitivity in glaucomatous eyes with high myopia.
[The purpose of this study was to investigate the global and regional relationships between peripapillary vessel density (pVD) and visual field mean sensitivity (VFMS) in glaucomatous eyes with and without high myopia in comparison with those between peripapillary retinal nerve fibre layer thickness (pRNFLT) and VFMS.]

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Relationship of intercapillary area with visual acuity in diabetes mellitus: an optical coherence tomography angiography study.
[The purpose of this cross-sectional study was to examine the correlation of best-corrected visual acuity (BCVA) with intercapillary area (ICA) measured from optical. The study concludes that an increased ICA measured from OCT-A, describing enlargement of capillary rarefaction or closure at macular area, is independently associated with BCVA, suggesting that ICA is a potential marker to quantify retinal microvascular abnormalities relating to vision among individuals with diabetes.]

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Repeatability of vessel density measurements using optical coherence tomography angiography in retinal diseases.
[The purpose of this study was to analyse the repeatability of vessel density (VD) measurements using optical coherence tomography angiography (OCTA) in patients with retinal diseases.]

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Retinal nerve fiber layer thickness in a multiethnic normal Asian population: The Singapore epidemiology of eye diseases study.
Ho H. Ophthalmology 2019;126(5):702-711.
[The purpose of this population-based, cross-sectional study was to describe variations in retinal nerve fiber layer (RNFL) thickness based on spectral-domain (SD) OCT in a multiethnic Asian population.]

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Spectral-domain OCT measurements in Alzheimer’s Disease: a systematic review and meta-
**Analysis.**

OCT is a noninvasive tool to measure specific retinal layers in the eye. The relationship of retinal spectral-domain (SD) OCT measurements with Alzheimer’s disease (AD) and mild cognitive impairment (MCI) remains unclear. Hence, we conducted a systematic review and meta-analysis to examine the SD OCT measurements in AD and MCI. The results confirmed the associations between retinal measurements of SD OCT and AD, highlighting the potential usefulness of SD OCT measurements as biomarkers of AD. 

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**Surgical outcomes of a new affordable non-valved glaucoma drainage device and Ahmed glaucoma valve: comparison in the first year.**

[A new low-cost, indigenously manufactured, non-valved glaucoma drainage device (GDD) has been introduced and its design is based on the Baerveldt Glaucoma Device. The study aimed to demonstrate the efficacy and safety of this GDD (Aurolab aqueous drainage implant, AADI) vis-à-vis the valved device, Ahmed glaucoma valve (AGV), in the management of refractory glaucomas.] 

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**The ARMS2 A69S polymorphism is associated with delayed rod-mediated dark adaptation in eyes at risk for incident age-related macular degeneration.**

[The purpose of this cross-sectional study was to examine the association between sequence variants in genetic risk factors for age-related macular degeneration (AMD) and delayed rod-mediated dark adaptation (RMDA), the first functional biomarker for incident AMD, in older adults with normal macular health and early AMD.] 

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**The Effect of Anti-vascular endothelial growth factor agents on intraocular pressure and glaucoma: a report by the American Academy of Ophthalmology.**

[The purpose of this report was to assess the effect of intravitreal injections of anti-vascular endothelial growth factor (VEGF) agents on immediate and long-term intraocular pressure (IOP) elevation and glaucoma.] 

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**Three-year outcomes of small incision lenticule extraction (SMILE) and femtosecond laser-assisted laser in situ keratomileusis (FS-LASIK) for myopia and myopic astigmatism.**

[The purpose of this retrospective study was to compare long-term clinical outcomes following small incision lenticule extraction (SMILE) and femtosecond laser-assisted laser in situ keratomileusis (FS-LASIK) for myopia and myopic astigmatism correction. It concludes that long-term follow-up analysis suggested that both SMILE and FS-LASIK were safe and equally effective for myopic and astigmatic correction.]

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Tolerating Subretinal Fluid in Neovascular age-related macular degeneration treated with ranibizumab using a treat-and-extend regimen: FLUID study 24-month results
Guymer RH. *Ophthalmology* 2019;126(5):723-734.
[The purpose of this multicentre, randomized study was to test the hypothesis that tolerating some subretinal fluid (SRF) in patients with neovascular age-related macular degeneration (nAMD) treated with ranibizumab using a treat-and-extend (T&E) regimen can achieve similar visual acuity (VA) outcomes as treatment aimed at resolving all SRF.]

Use of orthokeratology for the prevention of myopic progression in children: a report by the American Academy of Ophthalmology,
[The purpose of this report was to review the published evidence to evaluate the ability of orthokeratology (Ortho-K) treatment to reduce myopic progression in children and adolescents compared with the use of spectacles or daytime contact lenses for standard refractive correction.]

Using a deep learning algorithm and integrated gradients explanation to assist grading for diabetic retinopathy.
[The purpose of this evaluation of diagnostic technology was to understand the impact of deep learning diabetic retinopathy (DR) algorithms on physician readers in computer-assisted settings. The evaluation concludes that deep learning algorithms can improve the accuracy of, and confidence in, DR diagnosis in an assisted read setting. They also may increase grading time, although these effects may be ameliorated with experience.]

Variability in the ocular phenotype in mucopolysaccharidosis.
[The ocular phenotype in MPS is variable, with corneal clouding occurring in MPSI, MPSIV and MPSVI, and retinopathy in MPSI only. There was an association between corneal clouding and efficacy of systemic treatment as measured by biomarkers.]

White matter microstructural alterations in amblyopic adults revealed by diffusion spectrum imaging with systematic tract-based automatic analysis.
[The study investigated the microstructural changes in white matter of adults with amblyopia using diffusion spectrum imaging with systematic tract-based automatic analysis of the whole brain.]
Websites

The following website(s) may be of interest:

**Association of Optometrists Awards**

https://www.aop.org.uk/education-and-events/aop-awards

[The AOP Awards celebrate extraordinary talent and outstanding contributions from across the optometrist profession. Deadline: 19th July 2019.]

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