

Cover image: Taken from Maupin et al, figure 1. Optic nerve head photograph of a healthy eye, illustrating a violation of the ISNT rule (the temporal rim is larger than the nasal rim).

## **Editors-in-Chief**

Keith Barton (UK) Jost Jonas (Germany) James Chodosh (USA)

## **Editorial Office**

BMJ Publishing Group Ltd, BMA House, Tavistock Square, London WC1H 9JR, UK

T: +44 (0)20 7111 1105 E: bjo@bmj.com Twitter: @BJOphthalmology

ISSN: 0007-1161 (print) ISSN: 1468-2079 (online)

## Impact factor: 3.611

Disclaimer: The Editor of British Journal of Ophthalmology has been granted editorial freedom and British Journal of Ophthalmology is published in accordance with editorial guidelines issued by the World Association of Medical Editors and the Committee on Publication Ethics. British Journal of Ophthalmology is primarily intended for healthcare professionals and its content is for information only. The Journal is published without any guarantee as to its accuracy or completeness and any representations or warranties are expressly excluded to the fullest extent permitted by law. Readers are advised to independently verify any information on which they choose to rely. Acceptance of advertising by British Journal of Ophthalmology does not imply endorsement BMJ Publishing Group Limited shall not be liable for any loss, injury or damage howsoever arising from British Journal of Ophthalmology (except for liability which cannot be legally excluded).

**Copyright:** © 2020 BMJ Publishing Group Ltd. All rights reserved; no part of this publication may be reproduced in any form without

British Journal of Ophthalmology is published by BMJ Publishing Group Ltd and printed in the UK on acid-free paper.

British Journal of Ophthalmology ISSN 0007-1161 (USPS 2159) is published monthly by BMJ Publishing Group Ltd, BMA House, Tavistock Square, WC1H 9JR London. Airfreight and mailing in the USA by agent named WN Shipping USA, 156-15, 146th Avenue, 2nd Floor, Jamaica, NY 11434, USA. Periodicals postage paid at Brooklyn, NY 11256. US Postmaster: Send address changes to Rigith, Journal of Send address changes to *British Journal of Ophthalmology*, WN Shipping USA, 156-15, 146th Avenue, 2nd Floor, Jamaica, NY 11434, USA. Subscription records are maintained at BMA House, Tavistock Square WC1H 9HR Lodnon. Air Business Ltd is acting as our mailing agent. **Contents** Volume 104 Issue 10 **BJ0** October 2020

# **Editorial**

**1329** Is physical activity protective against myopia? J Foreman, J G Crowston, M Dirani

#### Review

1331 Inherited cataracts: molecular genetics, clinical features, disease mechanisms and novel therapeutic approaches

V Berry, M Georgiou, K Fujinami, R Quinlan, A Moore, M Michaelides

# **Clinical science**

1338 Thirty-five-year trend in the prevalence of refractive error in Austrian conscripts based on 1.5 million participants

L Yang, C Vass, L Smith, A Juan, T Waldhör

**1345** Outcomes in randomised controlled trials of multifocal lenses in cataract surgery: the case for development of a core outcome set J R Evans, S R de Silva, M Ziaei, V Kirthi, M D Leyland

1350 Correlation between lens thickness and lens density in patients with mild to moderate cataracts

> M A Henriquez, J A Mejías, M Rincon, L Izquierdo Jr, P S Binder

1358 Hybrid Descemet Membrane Endothelial Keratoplasty (H-DMEK): results of a donor insertion pull-through technique using donor stroma as carrier

J H Woo, H M Htoon, D Tan

1363 Conjunctival lymphangiectasia as a biomarker of severe systemic disease in Ser77Tyr hereditary transthyretin amyloidosis

R Bunod, D Adams, C Cauquil, B Francou, C Labeyrie, H Bourenane, C Adam, V Algalarrondo, M Slama, M Darce-Bello, E Barreau, M Labetoulle, A Rousseau

**1368** Epidemiology of invasive ocular surface squamous neoplasia in Canada during 1992-2010

> R Darwich, F M Ghazawi, M Le, E Rahme, N Alghazawi, A Zubarev, L Moreau, D Sasseville, M N Burnier Jr, I V Litvinov

**1373** Effect of a formulated eye drop with Leptospermum spp honey on tear film properties

J Tan, T Jia, R Liao, F Stapleton

**1378** Outcomes of phacoemulsification combined with two iStent inject trabecular microbypass stents with or without endocyclophotocoagulation A D Pantalon, A D De Oliveira Barata, M Georgopoulos, G Ratnarajan

**1384** Comparison of early versus late laser goniopuncture following deep sclerectomy for the management of open-angle glaucoma

D Holmes, M M P Hui, C Clement

**1390** Predictors of selective laser trabeculoplasty success in open angle glaucoma or ocular hypertension: does baseline tonography have a predictive role?

> P Alaghband, E A Galvis, A Daas, A Nagar, L Beltran-Agulló, A P Khawaja, S Goyal, K S Lim

**1394** Development and validation of a machine learning, smartphone-based tonometer

Y Wu, I Luttrell, S Feng, P P Chen, T Spaide, A Y Lee, I C Wen

**1399** Diagnostic performance of modern imaging instruments in glaucoma screening

> E Karvonen, K Stoor, M Luodonpää, P Hägg, T Lintonen, J Liinamaa, A Tuulonen, V Saarela

**1406** Progression from ocular hypertension to visual field

loss in the English hospital eye service

OPEN ACCESS S R Kelly, A P Khawaja, S R Bryan, A Azuara-Blanco, J M Sparrow, D P Crabb

1412 Accuracy of the ISNT rule and its variants for differentiating glaucomatous from normal eyes in a population-based study

> E Maupin, F Baudin, L Arnould, A Seydou, C Binquet, A M Bron, C P Creuzot-Garcher

> > MORE CONTENTS ▶



This article has been chosen by the Editor to be of special interest or importance and is freely available online.

This article has been made freely available online under the BMJ Journals open access scheme.

See http://authors.bmj.com/open-access



This journal is a member of and subscribes to the principles of the Committee on Publication Ethics

www.publicationethics.org.uk



bjophthalmol\_104\_10\_TOC.indd 1 05/09/20 9:43 PM

- **1418** Evaluation of contrast sensitivity in patients with advanced glaucoma: comparison of two tests *A A Jammal, B G Ferreira, C S Zangalli, J R Vianna, A C Thompson, P H Artes, V P Costa, A S C Reis*
- **1423** Age as a risk factor for steroid-induced ocular hypertension in the non-paediatric population W Choi, H W Bae, E Y Choi, M Kim, E W Kim, C Y Kim, M Kim, G Je Seong
- **1430** Retinal vessel diameter changes after 6 months of treatment in the Idiopathic Intracranial Hypertension Treatment Trial H E Moss, R A Hollar, W S Fischer, S E Feldon
- 1435 Relation between retinal vessel diameter and posterior segment optical coherence tomography variables in middle-aged Caucasians: the Northern Finland Birth Cohort Eye Study

M I Geneid, J J Uusitalo, I L Leiviskä, V O Saarela, M J Liinamaa

- **1443** Retinal pigment epithelial atrophy after antivascular endothelial growth factor therapy for polypoidal choroidal vasculopathy

  H J Cho, K Kim, S H Lim, D H Kang, J W Kim
- **1448** Genetic influence on macular retinal nerve fibre layer thickness according to retinal subfield

S Hwang, M Kong, H Ko, D-I Ham, Y-M Song

**1453** OCTA characterisation of microvascular retinal alterations in patients with central serous chorioretinopathy

M Battista, E Borrelli, M Parravano, F Gelormini, M Tedeschi, D De Geronimo, R Sacconi, L Querques, F Bandello, G Querques

**1458** Orbital MRI versus fundus photography in the diagnosis of optic nerve hypoplasia and prediction of vision

J Kruglyakova, P Garcia-Filion, M Nelson, M Borchert

1462 Effects of plaque brachytherapy and proton beam radiotherapy on prognostic testing: a comparison of uveal melanoma genotyped by microsatellite analysis

S Thornton, S E Coupland, H Heimann, R Hussain, C Groenewald, A Kacperek, B Damato, A Taktak, A Eleuteri, H Kalirai

# **Laboratory science**

**1467** Association of toll-like receptor 10 polymorphisms with paediatric idiopathic uveitis in Han Chinese M Lv, H Tan, J Deng, L Du, G Su, Q Wang, Z Zhong,

X Tan, Q Cao, A Kijlstra, P Yang

**1472** Association of the *ZC3H11B*, *ZFHX1B* and *SNTB1* genes with myopia of different severities *S M Tang*, *F F Li*, *S Y Lu*, *K W Kam*, *P O S Tam*, *C C Tham*, *C P Pang*, *J C S Yam*, *L J Chen* 

bjophthalmol\_104\_10\_TOC.indd 2 05/09/20 9:43 PM