

# AMERICAN JOURNAL OF OPHTHALMOLOGY®

THE AMERICAN JOURNAL OF OPHTHALMOLOGY (ISSN 0002-9394) is published monthly (For Post Office use only: Volume 199) by Elsevier Inc., 230 Park Avenue, Suite 800, New York, NY 10169, U.S.A. In 2018, the subscription rates in the United States and Canada will be as follows: Individual \$339, Student/Resident \$121. In all other countries the rates will be: Individual \$554, Student/Resident \$318. The GST number for Canadian subscribers is 137135919. Subscription orders: AMERICAN JOURNAL OF OPHTHALMOLOGY, P.O. Box 2123, Marion, OH 43306-8223.

For issues not received, send claim no later than two months after the issue date for domestic and Canadian subscribers and four months after the issue date for all other subscribers. Customer Service (orders, claims, online, change of address): Elsevier Health Sciences Division, Subscription Customer Service, 1799 Highway 50 East, Linn, MO 65051; e-mail: [JournalsCustomerService-USA@elsevier.com](mailto:JournalsCustomerService-USA@elsevier.com) (for print support); [JournalsOnlineSupport-USA@elsevier.com](mailto:JournalsOnlineSupport-USA@elsevier.com) (for online support).

All manuscripts including reader correspondence should be submitted through the electronic web submission system at <http://ees.elsevier.com/ajo/>. Please view Author Information at [AJO.com](http://AJO.com) for details about the AJO format. Other queries may be sent to Richard K. Parrish II, MD, Editor-in-Chief, American Journal of Ophthalmology, [rparrish@med.miami.edu](mailto:rparrish@med.miami.edu)

After acceptance of a manuscript by the Editorial Board, the publisher, Elsevier, will send to the Corresponding author the forms to complete the transfer of copyright to Elsevier. Do not send copyright transfer forms to the AJO office. Elsevier conforms to the National Institutes of Health and other governmental open access policies.

Manuscripts submitted for consideration are reviewed by members of the Editorial Board and other experts in the field. An unpublished manuscript is a privileged document that must be protected from any form of exploitation. The reviewer should not cite the manuscript or refer to the work it describes before it has been published. Reviewers must refrain from using the information contained in the manuscript for the advancement of their own work, their colleagues' work, or their institution's work. Reviewers are consultants to the editor and are instructed not to discuss the paper with the authors. Reviewers work anonymously and their identity may not be revealed to authors or to others.

**Advertising inquiries** should be addressed to Ken Senerth, Representative; telephone: (609) 577-0916; e-mail: [ksenerth@gmail.com](mailto:ksenerth@gmail.com). **Commercial reprint inquiries** should be addressed to Derrick Imasa at 212-633-3874, Elsevier Inc., 230 Park Avenue, Suite 800, New York, NY 10169. Fax: 212-462-1935; email: [reprints@elsevier.com](mailto:reprints@elsevier.com). **Classified advertising inquiries** should be addressed to Classified Advertising Dept., Elsevier Inc., 230 Park Avenue, Suite 800, New York, NY 10169; telephone: (212) 633-3713; fax: (212) 633-3820; e-mail: [usclassifieds@elsevier.com](mailto:usclassifieds@elsevier.com)

No responsibility is assumed by the Publisher or the Editor-in-Chief for any injury and/or damage to persons or property whether such liability, if any, arises as a matter of products liability, negligence or otherwise, or from any use or operation of any methods, products, instructions or ideas contained in the material herein. Because of rapid advances in the medical sciences, the Publisher recommends that independent verification of diagnosis and drug dosages should be made.

© 2019, Elsevier Inc. Periodicals postage paid at New York, NY, and at additional mailing offices. Canada Post International Publications Mail Product (Canadian Distribution) Sales Agreement No. 0823295. Printed in U.S.A. **POSTMASTER:** Send address changes to American Journal of Ophthalmology, Elsevier Health Sciences Division, Subscription Customer Service, 1799 Highway 50 East, Linn, MO 65051.

## AJO®

AJO is a registered service mark of Elsevier Inc.  
The American Journal of Ophthalmology is a registered trademark of Elsevier Inc.

# AMERICAN JOURNAL OF OPHTHALMOLOGY®

This journal and the individual contributions contained in it are protected under copyright, and the following terms and conditions apply to their use in addition to the terms of any Creative Commons or other user license that has been applied by the publisher to an individual article:

## **Photocopying**

Single photocopies of single articles may be made for personal use as allowed by national copyright laws. Permission is not required for photocopying of articles published under the CC BY license nor for photocopying for non-commercial purposes in accordance with any other user license applied by the publisher. Permission of the publisher and payment of a fee is required for all other photocopying, including multiple or systematic copying, copying for advertising or promotional purposes, resale, and all forms of document delivery. Special rates are available for educational institutions that wish to make photocopies for non-profit educational classroom use.

## **Derivative Works**

Users may reproduce tables of contents or prepare lists of articles including abstracts for internal circulation within their institutions or companies. Other than for articles published under the CC BY license, permission of the publisher is required for resale or distribution outside the subscribing institution or company.

For any subscribed articles or articles published under a CC BY-NC-ND license, permission of the publisher is required for all other derivative works, including compilations and translations.

## **Storage or Usage**

Except as outlined above or as set out in the relevant user license, no part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without prior written permission of the publisher.

## **Permissions**

For information on how to seek permission visit [www.elsevier.com/permissions](http://www.elsevier.com/permissions) or call: (+1) 800-523-4069 x 3808.

## **Author rights**

Author(s) may have additional rights in their articles as set out in their agreement with the publisher (more information at <http://www.elsevier.com/authorsrights>).

## **Notice**

Practitioners and researchers must always rely on their own experience and knowledge in evaluating and using any information, methods, compounds or experiments described herein. Because of rapid advances in the medical sciences, in particular, independent verification of diagnoses and drug dosages should be made. To the fullest extent of the law, no responsibility is assumed by the publisher for any injury and/or damage to persons or property as a matter of products liability, negligence or otherwise, or from any use or operation of any methods, products, instructions or ideas contained in the material herein.

Although all advertising material is expected to conform to ethical (medical) standards, inclusion in this publication does not constitute a guarantee or endorsement of the quality or value of such product or of the claims made of it by its manufacturer.

This paper meets the requirements of ANSI Standard Z39.48-1992 (Permanence of Paper).