

**Journal of the
Association of Clinical
Pathologists**

President
S Lishman

Past President
I Frayling

Chair of Council
A Pugh

Honorary Secretary
K Skordilis

Honorary Treasurer
T El-Shanawany

General Administrator
R Eustace,
189 Dyke Road, Hove,
East Sussex BN3 1TL UK
T: +44 (0)1273 775 700
E: info@pathologists.org.uk
<http://www.pathologists.org.uk/>

acp

Impact Factor: 3.4

Disclaimer: The Editor of *Journal of Clinical Pathology* has been granted editorial freedom and *Journal of Clinical Pathology* is published in accordance with editorial guidelines issued by the World Association of Medical Editors and the Committee on Publication Ethics. *Journal of Clinical Pathology* 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 *Journal of Clinical Pathology* does not imply endorsement. Neither ACP nor BMJ Publishing Group Limited shall have any liability for any loss, injury or damage howsoever arising from *Journal of Clinical Pathology* (except for liability which cannot be legally excluded).

Copyright: © 2023 BMJ Publishing Group Ltd & Association of Clinical Pathologists. All rights reserved; no part of this publication may be reproduced in any form without permission.

Journal of Clinical Pathology is published by BMJ Publishing Group Ltd, typeset by Exeter Premedia Services Private Ltd, Chennai, India and printed in the UK on acid-free paper.

Journal of Clinical Pathology (ISSN No: 0021-9746) is distributed in the USA by Air Business Ltd. Periodicals postage paid at Jamaica NY 11431. POSTMASTER: send address changes to *Journal of Clinical Pathology*, Air Business Ltd, c/o Worldnet Shipping Inc., 156-15, 146th Avenue, 2nd Floor, Jamaica, NY 11434, USA

Journal of Clinical Pathology

JCP offers a mix of cutting-edge academic research and practical clinical advice. As one of the few broad scope pathology journals, it enables the busy pathologist to keep up to date with the latest developments in all disciplines of pathology.

Editorial Board

Editor-in-Chief
Vikram Deshpande (USA)

Honorary Editors
Cheok Soon Lee (Australia)
Tahir Pillay (South Africa)

Associate Editors
Munita Bal (India)
Runjan Chetty (Canada)

Sarah Chiang (USA)
Laura Collins (USA)
David Creytens (Belgium)
Laurence de Leval (Switzerland)

Deepa Patil (USA)
Eric Rosenberg (USA)
Patrick Twomey (Ireland)
Murali Varma (UK)
Yoh Zen (UK)

Statistical Editor
Fowzia Ibrahim (UK)

Social Media Editors
Swati Bhardwaj (USA)
Adam Booth (USA)
Lisa Zhang (USA)

Editorial Board

Dorothy Adcock (USA)
Volkan Adsay (Turkey)
Abbas Agaimy (Germany)
Alyaa Al-Ibraheemi (USA)
Manju Aron (USA)
Sylvia Asa (Canada)
Adrian Bateman (UK)
Jacob Bledsoe (USA)
Mark Catherwood (UK)
Liang Cheng (USA)
John Chrisinger (USA)
Kumarasen Cooper (USA)
Wendy Cooper (Australia)
Kristine Cornejo (USA)
Gábor Cserni (Hungary)
Kyle Devins (USA)
Brendan Dickson (Canada)
Fei Dong (USA)
Mona El-Bahrawy (UK)
Wendy Erber (Australia)
Ana Felix (Portugal)

Rousseau Gama (UK)
Russell Higgins (USA)
Seung-Mo Hong (South Korea)
Venkateswaran Iyer (India)
Deepali Jain (India)
Aidan Ryan (Ireland)
Gregor Krings (USA)
Hwa Jeong (Jenny) Lee (USA)
Long Le (USA)
Abner Louissaint (USA)
Catriona McKenzie (Australia)
Claire Meek (UK)
Santosh Menon (India)
Sanjay Mukhopadhyay (USA)
Kikkeri Naresh (USA)
Anupma Nayak (USA)
Robert Odze (USA)
Jon Oxley (UK)
Sanjay Pai (India)
Young Nyun Park (South Korea)
Kornelia Pillay (South Africa)

Emad Rakha (UK)
John Reith (USA)
Tim Reynolds (UK)
Lisa Rooper (USA)
Christophe Rosty (Australia)
Sunati Sahoo (USA)
Rajeev Shukla (UK)
Bill Simpson (UK)
Alyah Sohani (USA)
Steven Tahan (USA)
Giancarlo Troncone (Italy)
Paul VanderLaan (USA)
Michael Vieth (Germany)
Monica Vyas (USA)
Erik A Williams (USA)
Christina Wojewoda (USA)
Omer Yilmaz (USA)
Osman Yilmaz (USA)
Lei Zhao (USA)

JCP Online Archive

The full back archive of *Journal of Clinical Pathology* is now available from 1969 at <http://jcp.bmj.com/>. Users have FREE access to all articles right back to Volume 1, Issue 1 and up to and including Volume 58, Issue 12.* The online archives were digitised with the help of the US National Library of Medicine.

Personal subscribers must sign in to access this content. Users not covered by an institutional or personal subscription will have to complete a one-time registration that grants access to all archive content, across all our titles.

*Articles that have been published after this issue require a subscription to access them.

Subscription Information

Journal of Clinical Pathology is published monthly (subscribers have access to all supplements)

Institutional Rates 2023

Print
£1171

Online

Site licences are priced on FTE basis and allow access by the whole institution.

Personal Rates 2023

Print (includes online access at no additional cost)
£424

Online only

£224
ISSN: 0021 9746 (print)
ISSN: 1472 4146 (online)

Personal print or online only and institutional print subscriptions may be purchased online at <http://jcp.bmj.com/pages/subscribe/> (payment by Visa/Mastercard only)

Residents of some EC countries must pay VAT; for details, call us or visit <http://www.bmj.com/company/eu-vat-rates/>

Contact Details

Editorial Office

Journal of Clinical Pathology, BMJ Journals, BMA House, Tavistock Square, London WC1H 9JR, UK
E: info.jcp@bmj.com
Twitter: @JClinPath_BMJ

Customer Support

For general queries and support with subscriptions:
W: support.bmj.com
T: +44 (0)20 7111 1105
E: support@bmj.com

Self-archiving and permissions

W: bmj.com/company/products-services/rights-and-licensing/
E: bmj.permissions@bmj.com

Advertising

W: bmj.com/company/for-advertisers-and-sponsor/

Display Advertising ROW

Sophie Fitzsimmons
T: +44 (0)20 3655 5612
E: sftzsimmons@bmj.com

Online Advertising ROW

Marc Clifford
T: +44 (0)20 3655 5610
E: mclifford@bmj.com

Display & Online Advertising Americas

American Medical Communications (AMC)
T: +1 973 214 4374
E: rgordon@americanmedicalcomm.com

Author Reprints

BMJ Reprints Team
E: admin.reprints@bmj.com

Commercial Reprints ROW

Nadia Gurney-Randall
M: +44 (0)7866 262 344
E: ngurneyrandall@bmj.com

Commercial Reprints Americas

Ray Thibodeau
T: +1 267 895 1758
M: +1 215 933 8484
E: ray.thibodeau@contentednet.com

Production Editor

Kailash Singh
E: production.jcp@bmj.com

For all other JCP journal contacts
<http://jcp.bmj.com/pages/contact-us/>

Guidelines for Authors and Reviewers

Full instructions are available online at <http://jcp.bmj.com/pages/authors/>. Articles must be submitted electronically via <https://mc.manuscriptcentral.com/jclinpathol>. Authors retain copyright but are required to grant *Journal of Clinical Pathology* an exclusive licence to publish (<https://jcp.bmj.com/pages/authors/>)