



Canadian Journal of
Neurological Sciences

Journal Canadien des
Sciences Neurologiques



CJNS

The official Journal of **The Canadian Neurological Sciences Federation**



CAMBRIDGE
UNIVERSITY PRESS



OBITUARY

- 171** An Homage to Dan Morin, 16 June 1948–29 July 2024
Jeanne S. Teitelbaum

REFLECTIONS

- 172** Canadian Leader in Neurology: Thomas E. Feasby
Sina Marzoughi

COMMENTARY

- 175** Health Canada Drug Approval Process: A Barrier to Personalized Care in Multiple Sclerosis
Jiwon Oh, Virender Bhan, Anthony Traboulsee, Sarah A. Morrow, Liesly Lee, Michael Levin, Courtney Casserly, Mark S. Freedman, Paul S. Giacomini, François Émond, Penelope Smyth, Fraser Clift and Daniel Selchen

REVIEW ARTICLES

- 179** Evidence-Based Physiotherapeutic Interventions Enhancing Hand Dexterity, Activities of Daily Living and Quality of Life of Parkinson's Disease Patients: A Systematic Review
Deepak Thazhakkattu Vasu, Ming Hui Lim, Wei Han Fong, Pui Kuan Choong and Li-Wei Chou
- 192** The Evolving Role of Electroencephalography in Postarrest Care
Caralyn Bencsik, Colin Josephson, Andrea Soo, Craig Ainsworth, Martin Savard, Sean van Diepen, Andreas Kramer and Julie Kromm
- 205** Integrated Care in Neurology: The Current Landscape and Future Directions
Tanya L. Feng, A. Jon Stoessl and Rebecca A. Harrison

ORIGINAL ARTICLES

- 214** Trends in Brain Research: A Bibliometric Analysis
Marc-André Simard, Diego Kozłowski, Julia Segal, Mia Messer, Don Daniel O'cay, Toni Saari, Catherine E. Ferland and Vincent Larivière
- 225** Health Care Encounters Prior to Hospitalization for Cerebral Venous Thrombosis Patients
Zeina Waheed, Thalia S. Field and Lily W. Zhou

ERRATUM

- 232** Health Care Encounters Prior to Hospitalization for Cerebral Venous Thrombosis Patients – ERRATUM
Zeina Waheed, Thalia S. Field and Lily W. Zhou

ORIGINAL ARTICLES

- 233** Canadian Practice and Recommendations on Functional MRI to Lateralize Language in Epilepsy
Madeleine R. Falby, Donald C. Brien, Lysa Boissé Lomax, Garima Shukla and Gavin P. Winston
- 241** Clinical Predictors of Acute Ischemia in Patients with Low-Risk Neurological Deficits
Martha Marko, Francois Moreau, Jean-Martin Boulanger, Marie-Christine Camden, Bruce C.V. Campbell, Thalia S. Field, Martin Krause, Robert Mikulik, Andrew M. Penn, Richard H. Swartz, Michael D. Hill and Shelagh B. Coutts
- 247** Workflow and Outcome of Thrombectomy in Late Time Window: A Pooled Multicenter Analysis
Ayoola Ademola, Fouzi Bala, Bijoy K. Menon, John Thornton, Ilaria Casetta, Stefania Nannoni, Mayank Goyal, Darragh Herlihy, Enrico Fainardi, Sarah Power, Valentina Saia, Aidan Hegarty, Giovanni Pracucci, Andrew Demchuk, Salvatore Mangiafico, Karl Boyle, Patrik Michel, Kevin A. Hildebrand, Tolulope T. Sajobi, Michael D. Hill, Danilo Toni, Sean Murphy, Beom Joon Kim and Mohammed A. Almekhlafi
- 254** Geographical Variation In Medication and Health Resource Use In Multiple Sclerosis
Erin F. Balcom, Jennifer A. McCombe, Mahesh Kate, Khanh Vu, Karen J. B. Martins, Sylvia Aponte-Hao, Huong Luu, Lawrence Richer, Tyler Williamson, Scott W. Klarenbach and Penelope Smyth
- 263** Screening for Cognitive Impairment in Bilinguals: What Is the Influence of the Language of Assessment?
Rania Kassir, Martine Roussel, Halim Abboud and Olivier Godefroy
- 269** Comparison of Sleep Apnea Questionnaires and Reported Diagnosis in Neurological Disorders of Aging
Teresa Gomes, Andrea Benedetti, Ron Postuma, Dorrie Rizzo, Marc Baltzan, Richard John Kimoff and Marta Kaminska



- 276** Neurosurgical Operative Cancellations in Canada: A Multicentre Retrospective Cohort Study

Mark A. MacLean, Amit R. Persad, Nicole R. Coote, Dilakshan Srikanthan, Michael A. Rizzuto, Jonathan Chainey, Taylor Duda, Matthew E. Eagles, Shannon Hart, Jessica Jung, Michelle M. Kameda-Smith, Melissa Lannon, Eric Toyota, Nicolas Sader, Sean Christie and on behalf of the Canadian Neurosurgery Research Collaborative (CNRC)

EDITORIAL

- 283** Cancel Culture: Quantifying Operative Neurosurgical Cancellations in Canada

Cameron Elliott and Tejas Sankar

ORIGINAL ARTICLE

- 284** Quality of Life Factors and Measurement in Adult Meningioma Patients: A Systematic Review

Kara Jonas, Melissa Fazari, Michael D. Cusimano and Matthew Ahn

PRACTICE PEARLS

- 304** Acute Neurological Complications in Pediatric Diabetic Ketoacidosis

Michael S. Salman and Katherine Falla

NEUROIMAGING HIGHLIGHTS

- 307** Metachronous Brain Tumors: Supratentorial Ependymoma Following Polymorphous Low-Grade Neuroepithelial Tumor of the Young

Nadav Gasner, John Provias, Jian-Qiang Lu and Crystal Fong

- 309** Acute Vertebral Artery Dissection in the Context of Bilateral Duplicated Vertebral Arteries

Jacky C.K. Chow, May Yau, Morgan Willson and Muneer Eesa

- 311** A Massive Thoracic Meningocele in a Patient with NF1

Pushan Dasgupta, Ian E. McCutcheon and John M. Slopis

- 312** Anti-Ma-Associated Paraneoplastic Syndrome: Imaging Findings Adding to Its Spectrum

Farsana Mustafa, Shivam Mirg, Rajesh Kumar Singh, Deepti Vibha and Manjari Tripathi

BRIEF COMMUNICATIONS

- 314** Treatment of CACNA1A Encephalopathy and Cerebral Edema with Magnesium and Dexamethasone

Cailey Turner, Lauren Campbell, Ryan Fung, Srirupa Desai, Abimbola Oyenubi, Francisco Cayabyab and Richard James Huntsman

- 318** Evaluation of Commercially Available Seizure Detection Wearables in Canada: Current Evidence

Yassine Lamrani, Amirhossein Jahani, Laura Gagliano, Dang Khoa Nguyen and Elie Bou Assi

- 322** Sociocultural Factors Influence on Burden and Stress of Caregivers of Children with Epilepsy

Katharina Schiller, Christelle Dassi, Saoussen Berrahmoune, Birgit Frauscher and Kenneth A. Myers

- 327** Low Yield of Routine Cerebrospinal Fluid Analysis to Assess for An Autoimmune Etiology in Patients with Chronic Seizures of Unknown Cause

Meaghan Daub, Kamala Sangam, Jorge G. Burneo and Adrian Budhram

LETTER TO THE EDITOR: NEW OBSERVATIONS

- 331** Failure of Hematopoietic Cell Transplantation in Immune-Mediated Necrotizing Myopathy

Tefani Perera, Sameer Chhibber and Jan Storek

- 333** The Capsular Warning Syndrome in a Young Male Patient with Systemic Lupus Erythematosus

Victor Aguilar-Fuentes, Patricia Orozco-Puga, Juan Antonio Sotelo-Ramirez, José Luis Ruiz-Sandoval and Amado Jiménez-Ruiz

- 335** Multifocal Myelitis Associated with Chronic Lymphocytic Leukemia

Cathy Meng Fei Li, Jessica Francis, Seth Climans and Juan Manuel Racosta

- 338** ALS, MAiD and Tissue Donation: Case Reports from Six Patients' Care Journeys

Pierre Trudel, Marie-Hélène Quesnel-Olivo, Mathieu Blais, Christen Shoesmith and Nicolas Dupré

LETTERS TO THE EDITOR: PUBLISHED ARTICLES

- 340** Management of Seizures and Epilepsy in Patients with Autoimmune Encephalitis

Jorge G. Burneo

- 341** Response to: Management of Seizures and Epilepsy in Patients with Autoimmune Encephalitis

Chris Hahn, Jennifer A. McCombe and Adrian Budhram



Canadian Journal of Neurological Sciences



Journal Canadien des Sciences Neurologiques

Volume 52 / Number 2 / March 2025

Éditeur-in-Chief/Rédacteur en chef

Tejas Sankar EDMONTON, AB

Associate Editors/Rédacteurs associés

Robert Hammond LONDON, ON
Philippe Huot MONTREAL, QC
Andrew Kirk, SASKATOON, SK
Mahendranath Moharir TORONTO, ON
Gwynedd Pickett, HALIFAX, NS
Jodie Roberts, CALGARY, AB
Manas Sharma LONDON, ON
Amy Yu TORONTO, ON

Past Editors/Anciens rédacteurs en chef

Robert Chen, TORONTO, ON
G. Bryan Young LONDON, ON
Douglas W. Zochodne CALGARY, AB
James A. Sharpe TORONTO, ON
Robert G. Lee CALGARY, AB
Robert T. Ross WINNIPEG, MB
(Emeritus Editor, Founding Editor)

Social Media Editors

Aleksandra Mineyko, CALGARY, AB
Amit Persad, PALO ALTO, CA

Editorial Board/Comité éditorial

Jorge Burneo, LONDON, ON
Jodie Burton, CALGARY, AB
Colin Chalk, MONTREAL, QC
K. Ming Chan, EDMONTON, AB
Thalia Field, VANCOUVER, BC
Alan Goodridge, ST. JOHN'S, NL
Mark Hamilton, CALGARY, AB
Michael Hill, CALGARY, AB
Alan C. Jackson, CALGARY, AB
Draga Jichici, HAMILTON, ON
Suneil Kalia, TORONTO, ON
Daniel Keene, OTTOWA, ON
Julia Keith, TORONTO, ON
Andrew Kirk, SASKATOON, SK
Nir Lipsman, TORONTO, ON
Stephen Lownie, LONDON, ON
Jian-Qiang Lu, HAMILTON, ON
Patrick McDonald, WINNIPEG, MB

Joseph Megyesi, LONDON, ON
Tiago Mestre, OTTOWA, ON
Sarah Morrow, LONDON, ON
Michael Nicolle, LONDON, ON
Ian Parney, ROCHESTER, MN
Narayan Prasad, LONDON, ON
Alex Rajput, SASKATOON, SK
Kesh Reddy, HAMILTON, ON
Jodie Roberts, CALGARY, AB
Larry Robinson, TORONTO, ON
Ramesh Sahpaul, NORTH VANCOUVER, BC
Dipanka Sarma, TORONTO, ON
Jai Shankar, WINNIPEG, MB
Madeleine Sharpe, MONTREAL, QC
Ashkan Shoamanesh, HAMILTON, ON
Sean Symons, TORONTO, ON
Brian Toyota, VANCOUVER, BC
Brian Weinschenker, ROCHESTER, MN
Sam Wiebe, CALGARY, AB
Jefferson Wilson, TORONTO, ON
Eugene Yu, TORONTO, ON

Journal Staff/Effectif du Journal

Donna Irvin CALGARY, AB
*CNSF Membership Services /
Communications Officer*
Nicole Rozak CALGARY, AB
CNSF Administration

The official journal of: / La Revue officielle de:

The Canadian Neurological Society
La Société Canadienne de Neurologie

The Canadian Neurosurgical Society
La Société Canadienne de Neurochirurgie

The Canadian Society of Clinical Neurophysiologists
La Société Canadienne de Neurophysiologie Clinique

The Canadian Association of Child Neurology
L'Association Canadienne de Neurologie Pédiatrique

The Canadian Society of Neuroradiology
La Société Canadienne de Neuroradiologie

Canadian Stroke Consortium
Consortium Neurovasculaire Canadien

The permanent secretariat for the six societies and the
Canadian Neurological Sciences Federation is at:

Le secrétariat des six associations et de la Fédération des sciences neu-
rologiques du Canada est situé en permanence à :

143N – 8500 Macleod Trail SE
Calgary, Alberta T2H 2N1 Canada
CNSF (403) 229-9544
Fax (403) 229-1661

The Canadian Journal of Neurological Sciences is published bi-monthly.
The annual subscription rate for Individuals (electronic) is £187/US\$308. The
annual subscription rate for Institutions (electronic) is £247/US\$410. See
<cambridge.org/cjn> for full details including taxes; e-mail: subscriptions_newyork@cambridge.org. Send address changes to Journals Fulfillment
Department, Cambridge University Press, One Liberty Plaza, New York,
NY 10006 USA; usmemberservices@cambridge.org. The Canadian Journal of
Neurological Sciences is included in the Cambridge Core service, which can be
accessed at cambridge.org/cjn. For information on other Cambridge titles,
visit www.cambridge.org. For advertising rates contact M. J. Mrvica Associates,
2 West Taunton Avenue, Berlin, NJ 08009; Phone: 856-768-9360;
Fax: 856-753-0064; Email: mjmrvica@mrsvica.com.

Le Journal Canadien des Sciences Neurologiques est publié tous les deux mois.
Le prix d'abonnement annuel pour les individus (électronique) est 187\$/US\$308.
Le prix d'abonnement annuel pour les établissements (électronique) est
247\$/US\$410. Veuillez consulter <cambridge.org/cjn> pour tous les détails,
y compris les taxes; email: subscriptions_newyork@cambridge.org. Envoyer
les changements d'adresses aux Journals Fulfillment Department, Cambridge
University Press, One Liberty Plaza, New York, NY 10006 USA;
usmemberservices@cambridge.org. Le Journal canadien des sciences
neurologiques est inclus dans le service Cambridge Journals Online, accessible
à cambridge.org/cjn. Pour plus d'informations sur les titres disponible chez
Cambridge, veuillez consulter www.cambridge.org. Pour les tarifs de publicité,
contacter M. J. Mrvica Associates, 2 West Taunton Avenue, Berlin, NJ 08009;
Téléphone: (1)856-768-9360; Email: mjmrvica@mrsvica.com.

This journal is indexed by / Cette revue est indexée par:
*Adis International, ArticleFirst, BIOBASE, BioLab, BioSci, BIOSIS Previews, Centre
National de la Recherche Scientifique, CSA, CurAb, CurCont, De Gruyter Saur,
E-psyche, EBSCO, Elsevier, EMBASE, FRANCIS, IBZ, Internationale
Bibliographie der Rezensionen Geistes-und Sozialwissenschaftlicher Literatur,
MEDLINE, MetaPress, National Library of Medicine, OCLC, PE&ON, Personal
Alert, PsycFIRST, PsycINFO, PubMed, RefZ, SCL, SCOPUS, Thomson
Reuters, TOCpremier, VINITI RAN, Web of Science.*

ISSN: 0317-1671
EISSN: 2057-0155

COPYRIGHT © 2025 by CANADIAN NEUROLOGICAL SCIENCES
FEDERATION All rights reserved. No part of this publication may be reproduced,
in any form or by any means, electronic, photocopying, or otherwise, without
permission in writing from Cambridge University Press. Policies, request forms and
contacts are available at: <http://www.cambridge.org/about-us/rights-permissions>.
Permission to copy (for users in the U.S.A.) is available from Copyright Clearance
Center: <http://www.copyright.com>, email: info@copyright.com.

COPYRIGHT © 2025 du CANADIAN NEUROLOGICAL SCIENCES
FEDERATION Tous droits réservés.
Aucune partie de cette publication ne peut être reproduite, sous quelque forme ou
par quelque procédé que ce soit, électronique ou autre, y compris la photocopie,
sans l'accord écrit de Cambridge University Press. Les politiques, les formulaires
de demande et les contacts sont disponibles à: <http://www.cambridge.org/about-us/rights-permissions>.
La permission de copier (pour les utilisateurs aux États-
Unis) est disponible auprès Copyright Clearance Center: <http://www.copyright.com>, email: info@copyright.com.

INVEST IN YOUR GOALS



**We're dedicated to helping physicians
and their families reach their financial goals.**

Our MD Advisors* understand a physician's unique needs. Whether you want to buy your dream home, fund a child's education, plan a vacation or secure a comfortable retirement, our Advisors can help you reach your financial goals.

**Discover how MD Financial Management
can enhance your financial well-being.**



md.ca/investing

* MD Advisor refers to an MD Management Limited Financial Consultant or Investment Advisor (in Quebec), or an MD Private Investment Counsel Portfolio Manager. • MD Financial Management provides financial products and services, the MD Family of Funds and investment counselling services through the MD Group of Companies and Scotia Wealth Insurance Services Inc. For a detailed list of the MD Group of Companies visit md.ca and visit scotiawealthmanagement.com for more information on Scotia Wealth Insurance Services Inc.

