

**Editor**  
Matthew C Kiernan (Australia)

**Deputy Editors**  
Karen L Furie (USA)  
Satoshi Kuwabara (Japan)  
Lawrence Wong (China)

**Associate Editors**  
Alan Carson (UK)  
Nick Ward (UK)  
Peter Warnke (USA)

**Commissioning Editor**  
Martin Turner (UK)

**Web Editors**  
Clare Caldwell  
Arun Krishnan  
Cindy Lin  
Steve Vucic

**Podcast Editor**  
Colin Mahoney

**JNNP Blog Editors**  
Jose Manuel Matamala  
Thanuja Dharmadasa

**JNNP Facebook Editors**  
Cindy Lin  
William Huynh

**Editors, Practical Neurology**  
Geraint Fuller (UK)  
Phil Smith (UK)

**Editorial Office**  
*Journal of Neurology Neurosurgery & Psychiatry*

BMJ Publishing Group Ltd  
BMA House  
Tavistock Square  
London WC1H 9JR, UK  
E: [jnnp@bmj.com](mailto:jnnp@bmj.com)  
Twitter: @JNNP\_BMJ  
ISSN: 0022-3050 (print)  
ISSN: 1468-330X (online)  
**Impact factor: 10.154**

**Disclaimer:** The Editor of *JNNP* has been granted editorial freedom and *JNNP* is published in accordance with editorial guidelines issued by the World Association of Medical Editors and the Committee on Publication Ethics. *JNNP* 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 *JNNP* does not imply endorsement. BMJ Publishing Group Limited shall not be liable for any loss, injury or damage howsoever arising from *JNNP* (except for liability which cannot be legally excluded).

**Copyright:** © 2021 BMJ Publishing Group Ltd. All rights reserved; no part of this publication may be reproduced in any form without permission.

*JNNP* 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 from sustainable forests.

*Journal of Neurology Neurosurgery & Psychiatry* ISSN 0022-3050 (USPS 2156) is published monthly by BMJ Publishing Group Ltd, BMA House, Tavistock Square, WC1H 9JR London. Airfreight and mailing in the USA by agent named World Container Inc, 150-15, 183rd Street, Jamaica, NY 11413, USA. Periodicals postage paid at Brooklyn, NY 11256. US Postmaster: Send address changes to *Journal of Neurology Neurosurgery & Psychiatry*, World Container Inc, 150-15, 183rd Street, Jamaica, NY 11413, USA. Subscription records are maintained at BMA House, Tavistock Square, WC1H 9JR London Air Business Ltd is acting as our mailing agent.

## Editorial commentaries

**1025** Autoimmune nodopathies: treatable neuropathies beyond traditional classifications  
*L Querol*

**1026** Expanding the therapeutic toolkit in functional neurological disorder: consensus recommendations for speech and language therapy  
*D L Perez*

**1027** To treat or not to treat mild Guillain-Barré syndrome: limited evidence for but still none against  
*H S Goedee, Y A Rajabally*

**1029** Relationships with MS not unique to relapsing-onset phenotypes  
*S Simpson-Yap*


**1031** Atrial fibrillation and stroke: time for a shift towards personalised and precision medicine?  
*D Wilson, T Y Wu*

**1032** Precision medicine for epilepsies: are we there yet?  
*D M Andrade*

## Occasional essay

**1033** Vaccination and multiple sclerosis in the era of the COVID-19 pandemic  
 *T Monschein, H-P Hartung, T Zrzavy, M Barnett, N Boxberger, T Berger, J Chataway, A Bar-Or, P S Rommer, U K Zettl*

## Epilepsy

**1044** Real-life survey of pitfalls and successes of precision medicine in genetic epilepsies  
 *S Balestrini, D Chiarello, M Gogou, K Silvennoinen, C Puvirajasinghe, W D Jones, P Reif, K M Klein, F Rosenow, Y G Weber, H Lerche, S Schubert-Bast, I Borggraefe, A Coppola, S Troisi, R S Møller, A Riva, P Striano, F Zara, C Hemingway, C Marini, A Rosati, D Mei, M Montomoli, R Guerrini, J H Cross, S M Sisodiya*

## Movement disorders

**1053** Wilson's disease: update on pathogenesis, biomarkers and treatments  
*S Shribman, A Poujois, O Bandmann, A Czlonkowska, T T Warner*

## Cerebrovascular disease

**1062** Ischaemic stroke on anticoagulation therapy and early recurrence in acute cardioembolic stroke: the IAC study  
*S Yaghi, N Henninger, J A Giles, C Leon Guerrero, E Mistry, A L Liberman, D Asad, A Liu, M Nagy, A Kaushal, I Azher, B Mac Grory, H Fakhri, K Brown Espaillat, H Pasupuleti, H Martin, J Tan, M Veerasamy, C Esenwa, N Cheng, K Moncrieffe, I Moeini-Naghani, M Siddu, E Scher, T Trivedi, K L Furie, S G Keyrouz, A Nouh, A de Havenon, M Khan, E E Smith, M E Guroi*

**1068** Age-dependent effect of susceptibility factors on the risk of intracerebral haemorrhage: Multicenter Study on Cerebral Hemorrhage in Italy (MUCH-Italy)  
*M Locatelli, M Grassi, V Saba, L Iacovello, A di Castelnuovo, G de Gaetano, M Zedde, S Marcheselli, G silvestrelli, A Ciccone, M L Delodovici, L Princiotta Cariddi, A giossi, A Zini, M Paciaroni, M Acciarresi, C Azzini, A De Vito, M Gamba, M Magoni, M del Sette, A Toriello, C Gandolfo, C Finocchi, D M Bonifati, R Tassi, G Martini, A Cavallini, A Morotti, sonia bonacina, V Mazzoleni, D Pezzini, A Chiti, R S Calabrò, R Musoloni, P La Spina, F Grillo, G Tomelleri, C Lodigiani, M Ritelli, M Colombi, A Padovani, A Pezzini, on behalf of the Multicenter Study on Cerebral Hemorrhage in Italy (MUCH-Italy) Investigators*

[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 chosen in conjunction with the BMJ Patient Forum to be of particular interest to patients 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/>



The article is part of the Impact Commentaries series



Member since 2008  
JM00010

This journal is a member of and subscribes to the principles of the Committee on Publication Ethics  
<http://publicationethics.org/>



When you have finished with this magazine please recycle it.



The online version of this article contains multiple choice questions hosted on BMJ Learning.

## Neuromuscular

**1072** Ratio of urinary N-terminal titin fragment to urinary creatinine is a novel biomarker for amyotrophic lateral sclerosis  
*S Yamada, A Hashizume, Y Hijikata, D Ito, Y Kishimoto, M Iida, H Koike, A Hirakawa, M Katsumo*

**1080** Intravenous immunoglobulin treatment for mild Guillain-Barré syndrome: an international observational study



OPEN ACCESS

*C Verboon, T Harbo, D R Comblath, R A C Hughes, P A van Doorn, M P Lunn, K C Gorson, F Barroso, S Kuwabara, G Galassi, H C Lehmann, S Kusunoki, R C Reisin, D Binda, G Cavaletti, B C Jacobs, IGOS consortium*

**1089** IgG<sub>1</sub> pan-neurofascin antibodies identify a severe yet treatable neuropathy with a high mortality



OPEN ACCESS

*J Fehmi, A J Davies, J Walters, T Lavin, R Keh, A M Rossor, T Munteanu, N Delanty, R Roberts, D Bäumer, C Lennox, S Rinaldi*

## Multiple sclerosis

**1096** Factors affecting the risk of relapsing-onset and progressive-onset multiple sclerosis



OPEN ACCESS

*A K Hedström, J Hillert, T Olsson, L Alfredsson*

## Neuro-oncology

**1103** Advances in the management of glioblastoma  
*R Ma, M J B Taphoorn, P Plaha*

## General neurology

**1112** Management of functional communication, swallowing, cough and related disorders: consensus recommendations for speech and language therapy



EDITOR'S CHOICE

*J Baker, C Barnett, L Cavalli, M Dietrich, L Dixon, J R Duffy, A Elias, D E Fraser, J L Freeburn, C Gregory, K McKenzie, N Miller, J Patterson, C Roth, N Roy, J Short, R Utianski, M van Mersbergen, A Vertigan, A Carson, J Stone, L McWhirter*

## Neurodegeneration

**1126** Split-hand and split-limb phenomena in amyotrophic lateral sclerosis: pathophysiology, electrophysiology and clinical manifestations



PATIENT'S CHOICE

*P Corcia, P Bede, P-F Pradat, P Couratier, S Vucic, M de Carvalho*

## Neurological picture

**1131** Bow Hunter's syndrome: an unusual case of bilateral dynamic occlusion of vertebral arteries

MCQs

*T Toluian, D Volterra, A Gioppo, P Rigamonti*

## PostScript

**1133** Letters