

Cover image: Brain tree.

**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](https://twitter.com/JNNP_BMJ)

ISSN: 0022-3050 (print)

ISSN: 1468-330X (online)

Impact factor: 10.283

**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 No: 0022-3050) is distributed in the USA by Air Business Ltd. Periodicals postage paid at Jamaica NY 11431. POSTMASTER: send address changes to *Journal of Neurology Neurosurgery & Psychiatry*, Air Business Ltd, c/o Worldnet Shipping Inc., 156-15, 146th Avenue, 2nd Floor, Jamaica, NY 11434, USA

## Contents

Volume 92 Issue 12 | JNNP December 2021

### Editorial commentaries

**1249** The end of the affair?

*M C Kiernan*

**1251** Remyelination and neuroprotective effects of alemtuzumab therapy in patients with multiple sclerosis

*H Masuda, M Mori, S Kuwabara*

**1252** Maximising returns: combining newborn screening with gene therapy for spinal muscular atrophy

*T H Gillingerwater*

**1253** Glial fibrillary acidic protein: a blood biomarker to differentiate neurodegenerative from psychiatric diseases

*H Zetterberg*

### Cognition

**1254** Anxiety and depression symptoms after COVID-19 infection: results from the COVID Symptom Study app

*K Klaser, E J Thompson, L H Nguyen, C H Sudre, M Antonelli, B Murray, L S Canas, E Molteni, M S Graham, E Kerfoot, L Chen, J Deng, A May, C Hu, A Guest, S Selvachandran, D A Drew, M Modat, A T Chan, J Wolf, T D Spector, A Hammers, E L Duncan, S Ourselin, C J Steves*

### Cognitive neurology

**1259** Diffusion and functional MRI findings and their relationship to behaviour in postconcussion syndrome: a scoping review

*M Gumus, A Santos, M C Tartaglia*

### Cerebrovascular disease

**1271** Rate of, and risk factors for, white matter hyperintensity growth: a systematic review and meta-analysis with implications for clinical trial design

*R Brown, A Low, H S Markus*

### Neurogenetics

**1278** Plasma NFL levels and longitudinal change rates in *C9orf72* and *GRN*-associated diseases: from tailored references to clinical applications

*D Saracino, K Dorgham, A Camuzat, D Rinaldi, A Rametti-Lacroux, M Houot, F Clot, P Martin-Hardy, L Jornea, C Azuar, R Migliaccio, F Pasquier, P Couratier, S Auriacombe, M Sauvée, C Boutoleau-Bretonnière, J Pariente, M Didic, D Hannequin, D Wallon, the French Research Network on FTD/FTD-ALS, the PREV-DEMALS and Predict-PGRN study groups, O Colliot, B Dubois, A Brice, R Levy, S Forlani, I Le Ber*

### Neurodegeneration

**1289** Associations of longitudinal plasma p-tau181 and NfL with tau-PET, Aβ-PET and cognition



*B S Rauchmann, T Schneider-Axmann, R Perneczky, For the Alzheimer's Disease Neuroimaging Initiative (ADNI)*

**1296** Newborn screening for spinal muscular atrophy with disease-modifying therapies: a cost-effectiveness analysis

*S TF Shih, M A Farrar, V Wiley, G Chambers*

**1305** GFAP as a biomarker in frontotemporal dementia and primary psychiatric disorders: diagnostic and prognostic performance

*K Katsisko, A Cajanus, N Huber, O Jääskeläinen, T Kokkola, V Kärkeläinen, H Rostalski, P Hartikainen, A M Koivisto, S Hannonen, J-M Lehtola, V E Korhonen, S Helisalmi, H Koivumaa-Honkanen, S-K Herukka, A M Remes, E Solje, A Haapasalo*

### Movement disorders

**1313** Predictors of short-term impulsive and compulsive behaviour after subthalamic stimulation in Parkinson disease



*A Sauerbier, P Loehrer, S T Jost, S Heil, J N Petry-Schmelzer, J Herberg, P Bachon, S Aloui, A Gronostay, L Klingelhoefer, J C Baldermann, D Huys, C Nimsky, M T Barbe, G R Fink, P Martinez-Martin, K Ray Chaudhuri, V Visser-Vandewalle, L Timmermann, D Weintraub, H S Dafsari, On behalf of EUROPAR and the International Parkinson and Movement Disorders Society Non-Motor Parkinson's Disease Study Group*

[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.


## Multiple sclerosis

- 1319** Multiple sclerosis: structural and functional integrity of the visual system following alemtuzumab therapy  
 *C Wang, J Barton, K Kyle, L Ly, Y Barnett, H-P Hartung, S W Reddel, H Beadnall, M Taha, A Klistorner, M H Barnett*


## Migraine

- 1325** Calcitonin gene related peptide in migraine: current therapeutics, future implications and potential off-target effects  
 *J C Ray, M Kapoor, R J Stark, S-J Wang, L Bendtsen, M Matharu, E J Hutton*
- 1335** Greater occipital nerve block modulates nociceptive signals within the trigeminocervical complex  
*J Hoffmann, J Mehmert, E M Koo, A May*

## Neuropsychiatry

- 1341** Misdiagnosis of prolonged psychogenic non-epileptic seizures as status epilepticus: epidemiology and associated risks  
 *J Jungilligen, R Michaelis, S Popkirov*

## Neurological picture

- 1346** Spontaneous resolution of cervicothoracic spinal cord syrinx after significant weight loss  
 *D P Bray, G Bouobda, N G Laxpati, M F Gary*

## PostScript

- 1348** Letters  
