



Cover image: Mental Fitness, based on the image by Richard Tuschman.  
Credit: Getty Images

#### Editor

Matthew C Kiernan (Australia)

#### Deputy Editors

Karen L Furie (USA)  
Michael Hanna (UK)

#### Associate Editors

Alan Carson (UK)  
Satoshi Kuwabara (Japan)  
Nick Ward (UK)  
Peter Warnke (USA)

#### Web Editors

Clare Caldwell  
Arun Krishnan  
Cindy Lin  
Steve Vucic

#### 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

T: +44 (0)20 7383 6909

F: +44 (0)20 7383 6668

E: [jnnp@bmj.com](mailto:jnnp@bmj.com)

Twitter: @JNNP\_BMJ

ISSN: 0022-3050 (print)

ISSN: 1468-330X (online)

Impact factor: 5.58

**Disclaimer:** *JNNP* is published by BMJ Publishing Group Ltd, a wholly owned subsidiary of the British Medical Association. The BMJ Group grants editorial freedom to the Editor of *JNNP*. *JNNP* follows guidelines on editorial independence produced by the World Association of Medical Editors and the code on good publication practice of the Committee on Publication Ethics.

*JNNP* is intended for medical professionals and is provided without warranty, express or implied. Statements in the journal are the responsibility of their authors and advertisers and not authors' institutions, the BMJ Publishing Group or the BMA unless otherwise specified or determined by law. Acceptance of advertising does not imply endorsement.

To the fullest extent permitted by law, the BMJ Publishing Group shall not be liable for any loss, injury or damage resulting from the use of *JNNP* or any information in it whether based on contract, tort or otherwise. Readers are advised to verify any information they choose to rely on.

**Copyright:** © 2014 BMJ Publishing Group. All rights reserved; 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 permission.

*JNNP* is published by BMJ Publishing Group Ltd, typeset by Techset, Chennai, India and printed in the UK on acid-free paper from sustainable forests.

*Journal of Neurology Neurosurgery & Psychiatry* (ISSN No: 0022-3050) is published monthly by BMJ Publishing Group and 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 85 Issue 10 | JNNP October 2014

### Editorial commentaries

**1061** Apathy and impaired recognition of emotion: are they related in Parkinson's disease?  
*K Dujardin, R Lopes*

**1062** Multifocal motor neuropathy: lost in conduction block?  
*C S-Y Lin*

**1063** Deep brain stimulation surgery under general anaesthesia with microelectrode recording: the best of both worlds or a little bit of everything?  
*P C Warnke*

**1064** The mind's eye  
*C E Caldwell*

### Neurodegeneration

**1065** Cerebrospinal fluid biomarkers in parkinsonian conditions: an update and future directions  
*N Magdalinou, A J Lees, H Zetterberg*

**1076** Tracking the progression of social cognition in neurodegenerative disorders  
*F Kumfor, M Irish, C Leyton, L Miller, S Lah, E Devenney, J R Hodges, O Piguet*

### Epilepsy

**1084** Increased mortality persists in an adult drug-resistant epilepsy prevalence cohort  
*B Callaghan, H Choi, M Schlesinger, W Rodemer, J Pollard, D C Hesdorffer, W A Hauser, J French*

### Multiple sclerosis

**1091** Tobacco smoking and excess mortality in multiple sclerosis: a cohort study  
*A Manouchehrinia, M Weston, C R Tench, J Britton, C S Constantinescu*

**1096** Assessment of cancer risk with  $\beta$ -interferon treatment for multiple sclerosis  
*E Kingwell, C Evans, F Zhu, J Oger, S Hashimoto, H Tremlett*

**1103** Major stressful life events in adulthood and risk of multiple sclerosis  
*N M Nielsen, P Bager, J Simonsen, A Hviid, E Stenager, H Brønnum-Hansen, N Koch-Henriksen, M Frisch*

**1109** Brain atrophy and disability progression in multiple sclerosis patients: a 10-year follow-up study  
*C Jacobsen, J Hagemeyer, K-M Myhr, H Nyland, K Lode, N Bergsland, D P Ramasamy, T O Dalaker, J P Larsen, E Farbu, R Zivadinov*

**1116** Autologous haematopoietic stem cell transplantation for aggressive multiple sclerosis: the Swedish experience  
*J Burman, E Iacobaeus, A Svenningsson, J Lycke, M Gunnarsson, P Nilsson, M Vrethem, S Fredrikson, C Martin, A Sandstedt, B Uggla, S Lenhoff, J-E Johansson, C Isaksson, H Häggglund, K Carlson, J Fagius*

### Neuropsychiatry

**1122** Attention! A good bedside test for delirium?  
*N A O'Regan, D J Ryan, E Boland, W Connolly, C McGlade, M Leonard, J Clare, J A Eustace, D Meagher, S Timmons*

**1132** The role of alexithymia in the development of functional motor symptoms (conversion disorder)  
*B Demartini, P Petrochilos, L Ricciardi, G Price, M J Edwards, E Joyce*

**1138** The neuropsychiatry of tinnitus: a circuit-based approach to the causes and treatments available  
*M T Minen, J Camprodon, R Nehme, Z Chemali*

### Neuromuscular

**1145** Pharmacokinetics of intravenous immunoglobulin in multifocal motor neuropathy  
*L Vlam, E A Cats, E Willemsse, H Franssen, J Medic, S Piepers, J H Veldink, L H van den Berg, W-Ludo van der Pol*

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://jnnp.bmj.com/site/about/guidelines.xhtml#open>



The article is part of the Impact Commentaries series



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



- 1149** Autosomal dominant eccentric core disease caused by a heterozygous mutation in the *MYH7* gene



OPEN ACCESS

*N B Romero, T Xie, E Malfatti, U Schaeffer, J Böhm, B Wu, F Xu, S Boucebcı, S Mathis, J-P Neau, N Monnier, M Fardeau, J Laporte*

## Movement disorders

- 1153** Apathy and impaired emotional facial recognition networks overlap in Parkinson's disease: a PET study with conjunction analyses

*G Robert, F Le Jeune, T Dondaine, S Drapier, J Péron, C Lozachmeur, P Sauleau, J-F Houvenaghel, D Travers, B Millet, M Vérin, D Drapier*

- 1159** Bone health in Parkinson's disease: a systematic review and meta-analysis



OPEN ACCESS

*K M Torsney, A J Noyce, K M Doherty, J P Bestwick, R Dobson, A J Lees*

- 1167** Controlled general anaesthesia for subthalamic nucleus stimulation in Parkinson's disease

*F Fluchere, T Witjas, A Eusebio, N Bruder, R Giorgi, M Leveque, J-C Peragut, J-P Azulay, J Regis*

## Historical note

- 1174** Engraved hexagons on an Ice Age ivory: a neurological perspective on an anthropological debate

*G D Schott*

## PostScript

- 1177** Letter

## Electronic pages

- e4** ABN Abstracts

Receive regular table of contents by email.

Register using this QR code.

