



**Cover image:** Computational fluid dynamic (CFD) images and conventional digital subtraction angiography (DSA) images from a patient whose communicating segment right internal carotid aneurysm remained patent six months following flow diverter (FD) placement.

**Editor**  
Robert W Tarr

**Associate Editors**

Felipe Albuquerque  
Michael Chen  
Dave Fiorella  
Rishi Gupta  
Joshua Hirsch  
Italo Linfante  
William Mack  
J Mocco  
Ansaar Rai

**Assistant Editors, Social Media**

Kyle Fargen  
Brijesh Mehta

**Assistant Editor, Point-Counterpoint Section**

Kristine Blackham

**Assistant Editor, Book Review Section**

Albert Yoo

**Assistant Editor, Basic Science**

Matthew Gounis

**SNIS Executive Director**

Marie Williams

**Editorial Office**

Journal of NeuroInterventional Surgery BMJ Publishing Group Ltd  
BMA House  
Tavistock Square  
London, WC1H 9JR, UK

T: +44 (0)20 7383 6170  
E: [info.jnis@bmjgroup.com](mailto:info.jnis@bmjgroup.com)

**Guidelines for authors and reviewers**

Full instructions are available online at <http://JNIS.bmj.com/fora>. Articles must be submitted electronically <http://mc.manuscriptcentral.com/jnis>. Authors retain copyright but are required to grant JNIS an exclusive licence to publish <http://JNIS.bmj.com/fora/licence.dtl>

ISSN: 1759-8478 (print)  
ISSN: 1759-8486 (online)

Twitter: @JNIS\_BMJ

**Disclaimer:** While every effort is made by the publishers and editorial board to see that no inaccurate or misleading data, opinions, or statements appear in this Journal, they wish to make it clear that the data and opinions appearing in the articles and advertisements herein are the responsibility of the contributor or advertiser concerned.

Accordingly, the publishers and the Society of NeuroInterventional Surgery, the editorial committee and their respective employees, officers and agents, accept no liability whatsoever for the consequences of any such inaccurate or misleading data, opinion or statement. While every effort is made to ensure that drug doses and other quantities are presented accurately, readers are advised that new methods and techniques involving drug usage, described within this Journal, should only be followed in conjunction with the drug manufacturer's own published literature.

**Copyright:** © 2015 Society of NeuroInterventional Surgery. 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.

Journal of NeuroInterventional Surgery is published by BMJ Publishing Group Ltd, typeset by Techset, India and printed in the US.

Journal of NeuroInterventional Surgery (ISSN 1759-8478) 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 NeuroInterventional Surgery, Air Business Ltd, c/o Worldnet Shipping Inc., 156-15, 146th Avenue, 2nd Floor, Jamaica, NY 11434, USA.

**Editor's column**

**229** Systematic regionalization of stroke care  
*K M Fargen, D Fiorella, F Albuquerque, J Mocco*

**Ischemic stroke**

**231** Interhospital variation in reperfusion rates following endovascular treatment for acute ischemic stroke  
*J T P Liggins, M Mlynash, T G Jovin, M Straka, S Kemp, R Bammer, M P Marks, G W Albers, M G Lansberg, on behalf of the DEFUSE 2 Investigators*

**234** Endovascular treatment for M2 occlusions in the era of stentriever: a descriptive multicenter experience  
*A Flores, A Tomasello, P Cardona, M A de Miquel, M Gomis, P Garcia Bermejo, V Obach, X Urrea, J Martí-Fàbregas, D Cánovas, J Roquer, S Abilleira, M Ribó, on behalf of the Catalan Stroke Code and Reperfusion Consortium (Cat-SCR)*

**238** Emergency carotid artery stenting in patients with acute ischemic stroke due to occlusion or stenosis of the proximal internal carotid artery: a single-center experience  
*S Son, D S Choi, M K Oh, S-K Kim, H Kang, K-J Park, N-C Choi, O-Y Kwon, B H Lim*

**245** Stenting of symptomatic intracranial stenosis using balloon mounted coronary stents: a single center experience  
*C R Durst, S R Geraghty, A M Southerland, R M Starke, K Rembold, S Malik, M Wintermark, K C Liu, R W Crowley, J Gaughen, M E Jensen, A J Evans*

**Hemorrhagic stroke**

**250** Endovascular coiling versus parent artery occlusion for treatment of cavernous carotid aneurysms: a meta-analysis  
*Z A Turfe, W Brinjikji, M H Murad, G Lanzino, H J Cloft, D F Kallmes*

**256** Endovascular treatment of unruptured wide-necked intracranial aneurysms: comparison of dual microcatheter technique and stent-assisted coil embolization  
*R M Starke, C R Durst, A Evans, D Ding, D M S Raper, M E Jensen, R W Crowley, K C Liu*

**262** Conventional endovascular treatment of small intracranial aneurysms is not associated with additional risks compared with treatment of larger aneurysms  
*W R Stetler Jr, T J Wilson, W N Al-Holou, N Chaudhary, J J Gemmete, B G Thompson, A S Pandey*

**New devices**

**266** Safety and performance of the Penumbra Liberty stent system in a rabbit aneurysm model  
*R Chavan, S Pons, V Gupta, D Hui, A Bose*

**272** Effect of aneurysm and ICA morphology on hemodynamics before and after flow diverter treatment  
*I Larrabide, A J Geers, H G Morales, M L Aguilar, D A Rüfenacht*

**281** Low-profile Visualized Intraluminal Support device (LVIS Jr) as a novel tool in the treatment of wide-necked intracranial aneurysms: initial experience in 32 cases  
*D Behme, A Weber, A Kowoll, A Berlis, T H Burke, W Weber*



**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 made freely available online under the BMJ Journals Open Access scheme. See <http://JNIS.bmj.com/site/about/guidelines.xhtml#open>



This journal is a member of and subscribes to the principles of the Committee on Publication Ethics

<http://publicationethics.org/>



Receive regular table of contents by email. Register using this QR code.



---

**Basic science**

- 286** Association between hemodynamic conditions and occlusion times after flow diversion in cerebral aneurysms

*F Mut, M Raschi, E Scrivano, C Bleise, J Chudyk, R Ceratto, P Lylyk, J R Cebral*

- 291** Mechanical properties and fibrin characteristics of endovascular coil–clot complexes: relevance to endovascular cerebral aneurysm repair paradigms

*K J Haworth, C R Weidner, T A Abruzzo, J T Shearn, C K Holland*

---

**Neuroimaging**

- 297** Enterprise stenting for intracranial aneurysm treatment induces dynamic and reversible age-dependent stenosis in cerebral arteries

*B Gao, M G Safain, A M Malek*

---

**Spine**

- 303** Combining C-arm CT with a new remote operated positioning and guidance system for guidance of minimally invasive spine interventions

*C Czerny, K Eichler, Y Croissant, B Schulz, G Kronreif, R Schmidt, M von Roden, C Schomerus, T J Vogl, I Marzi, S Zangos*

---

**Socioeconomics**

- 309** Current procedural terminology: a primer

*J A Hirsch, T M Leslie-Mazwi, G N Nicola, R M Barr, J A Bello, W D Donovan, R Tu, M D Alson, L Manchikanti*

---

**Electronic pages**

- e13** Failure of aneurysm occlusion by flow diverter: a role for surgical bypass and parent artery occlusion

*T Mattingly, B Van Adel, E Dyer, P Lopez-Ojeda, D M Pelz, S P Lownie, T Marotta, M Boulton*

- e14** Carotid stent infection: a rare but potentially fatal complication of carotid artery stenting

*S Son, N-C Choi, D S Choi, O H Cho*

- e15** Ethmoidal dural arteriovenous fistula with unusual drainage route treated by transarterial embolization

*A Inoue, M Tagawa, Y Kumon, H Watanabe, D Shoda, K Sugiu, T Ohnishi*

- e16** Onyx embolization of dural arteriovenous fistulas of the cavernous sinus through the superior pharyngeal branch of the ascending pharyngeal artery

*G Pero, L Quilici, M Piano, L Valvassori, E Boccardi*