

*Nature Reviews Neurology* **10**, 673 (2014); published online 18 November 2014;  
 doi:10.1038/nrneuro.2014.222;  
 doi:10.1038/nrneuro.2014.223;  
 doi:10.1038/nrneuro.2014.224;  
 doi:10.1038/nrneuro.2014.225

## IN BRIEF

### PARKINSON DISEASE

#### Deep brain stimulation does not provide long-term benefit to postural and gait disturbances in Parkinson disease

Results from a prospectively followed cohort of patients with Parkinson disease (PD) indicate that although deep brain stimulation (DBS) of the subthalamic nucleus is associated with long-term benefits in tremor reduction, it is far less effective for preventing bradykinesia or postural and gait disturbances. These 'nondopaminergic' motor symptoms of PD progressed at approximately the same rate, regardless of DBS, over a follow-up of 6–9 years.

**Original article** Lilleeng, B. *et al.* Motor symptoms after deep brain stimulation of the subthalamic nucleus. *Acta Neurol. Scand.* doi:10.1111/ane.12342

### NEURODEGENERATIVE DISEASE

#### Serial diffusion tensor imaging charts longitudinal course of frontotemporal dementia

A new study suggests that changes on diffusion tensor imaging might be useful biomarkers for frontotemporal dementia (FTD). Mahoney *et al.* conducted two scans approximately 1 year apart in 23 patients with FTD and 18 controls. FTD-specific changes between the two scans were most pronounced for fractional anisotropy in the right paracallosal cingulum, which could be used to classify participants with 94% specificity and 63% sensitivity.

**Original article** Mahoney, C. J. *et al.* Longitudinal diffusion tensor imaging in frontotemporal dementia. *Ann. Neurol.* doi:10.1002/ana.24296

### MIGRAINE

#### Nasal sumatriptan could provide quick relief for migraine

Sumatriptan has been established as an effective treatment for migraine, but absorption of oral migraine medications is often delayed. In a double-blind, placebo-controlled phase III trial, participants self-administered sumatriptan or placebo via a nasal inhaler device at migraine onset. Participants who received sumatriptan were more likely than those receiving placebo to report reduction in pain intensity, starting as early as 30 min after dose and lasting up to 48 h.

**Original article** Cady, R. K. *et al.* A randomized, double-blind, placebo-controlled study of breath powered nasal delivery of sumatriptan powder (AVP-825) in the treatment of acute migraine (The TARGET Study). *Headache* doi:10.1111/head.12472

### PAIN

#### Loss of inhibitory signalling associated with hyperalgesia

Altered pain responses in the brainstem and spinal cord could contribute to hyperalgesia. Rempe *et al.* administered a moderately painful mechanical stimulus to the arms of healthy volunteers before and after pain sensitization with heat and capsaicin. Functional MRI scans showed that mechanical pain alone increased activity in the dorsolateral pontine tegmentum, which negatively correlated with activity in the spinal cord dorsal grey matter. After sensitization, activity of the pain modulation areas in the brainstem decreased and spinal cord dorsal grey matter activity increased, implicating reduced descending inhibition in hyperalgesia.

**Original article** Rempe, T. *et al.* Spinal fMRI reveals decreased descending inhibition during secondary mechanical hyperalgesia. *PLoS ONE* **9**, e112325 (2014)