# IN BRIEF

## ALZHEIMER DISEASE

### Homocysteine and holotranscobalamin and the risk of Alzheimer disease: a longitudinal study

Hooshmand, B. *et al. Neurology* **75**, 1408–1414 (2010)

High serum homocysteine (tHcy) levels can reflect a B vitamin deficiency and have been linked to increased risks of stroke and cognitive decline. A study of 271 elderly individuals found that each 1 μM increase in tHcy raised the risk of Alzheimer disease (AD) by 16%, whereas every 1 pM rise in holotranscobalamin (holoTC)—the active component of vitamin $B_{12}$—reduced this risk by 2%. According to the study's investigators, tHcy and holoTC may affect the development of AD.

## NEUROMETABOLIC DISEASE

### Oestrogens ameliorate mitochondrial dysfunction in Leber's hereditary optic neuropathy

Giordano, C. *et al. Brain* doi:10.1093/brain/awq276

Leber hereditary optic neuropathy (LHON) is caused by mitochondrial DNA mutations. In a new study, LHON osteosarcoma-derived cybrids showed greater reactive oxygen species-linked pathology than control cybrids in the presence of an estrogen receptor antagonist, with estrogen receptor agonist treatment rescuing this pathology. Estrogen's effect may explain why LHON mostly occurs in men, the study's researchers suggest.

## MOVEMENT DISORDERS

### Poor effect of guideline based treatment of restless legs syndrome in clinical practice

Godau, J. *et al. J. Neurol. Neurosurg. Psychiatry* doi:10.1136/jnnp.2010.211417

Restless legs syndrome (RLS) is, in general, not effectively treated in the clinic, despite the efficacies displayed by various agents in clinical trials. Godau *et al.* prospectively assessed guideline-based RLS therapy in 100 patients and found that, on average, no improvements occurred in symptoms or quality of life after 12 months, and that poor treatment success was related to neuropsychiatric comorbidities.

## NEUROMUSCULAR DISEASE

### Orderly recruitment of motor units under optical control *in vivo*

Llewellyn, M. E. *et al. Nat. Med.* **16**, 1161–1165 (2010)

Electrical stimulation for muscle control has found limited use in neuroprosthetics, as large motor units are recruited before smaller motor units—the reversal of the physiological scenario—leading to early-onset muscle fatigue. Using transgenic mice, researchers have found a way to recruit motor units in an orderly fashion via photoactivation. With advances in gene therapy, this approach may find clinical applications for motor control, the investigators conclude.