

## IN BRIEF

**D** DEMENTIA**Persistent pain might be a harbinger of cognitive decline in older people**

The presence of persistent pain is linked to an increased risk of accelerated memory decline and dementia in older individuals, according to a population-based cohort study with over 10,000 participants. Elizabeth Whitlock and colleagues at the University of California, San Francisco, USA recruited 10,065 individuals who were aged  $\geq 62$  years in the year 2000. In this population, persistent pain — as ascertained by interviews conducted in 1998 and 2000 — was found to be associated with a significant increase in the rate of memory decline and the probability of developing dementia over a 10-year follow-up period. The precise nature of this relationship remains unclear, but the authors propose that persistent pain could aid the identification of individuals who are at elevated risk of cognitive decline and dementia.

**ORIGINAL ARTICLE** Whitlock, E. L. *et al.* Association between persistent pain and memory decline and dementia in a longitudinal cohort of elders. *JAMA Intern. Med.* <http://dx.doi.org/10.1001/jamainternmed.2017.1622> (2017)

**D** INFECTIOUS DISEASE**Musashi-1 protein could mediate the effects of Zika virus on brain development**

The causal link between maternal Zika virus (ZIKV) infection and neonatal microcephaly is now well established, but the factors that render the immature brain particularly susceptible to ZIKV are still being explored. A new study published in *Science* has identified the RNA-binding protein Musashi-1 (MSI1) as a possible mediator of the effects of ZIKV on the developing brain. The research team, led by Fanni Gergely at the MRC Laboratory of Molecular Biology in Cambridge, UK, showed that MSI1 could bind to ZIKV RNA and promote replication of the viral genome in neural cell lines. MSI1 is expressed at high levels in neural progenitor cells in the developing human brain, and a mutation in the *MSI1* gene has previously been implicated in autosomal primary microcephaly. Taken together, the data build a convincing case for MSI1 as a determinant of the vulnerability of the fetal brain to ZIKV.

**ORIGINAL ARTICLE** Chavali, P. L. *et al.* Neurodevelopmental protein Musashi 1 interacts with the Zika genome and promotes viral replication. *Science* <http://dx.doi.org/10.1126/science.aam9243> (2017)

**D** PARKINSON DISEASE**Plasma  $\alpha$ -synuclein — a potential marker of cognitive impairment in Parkinson disease**

Levels of  $\alpha$ -synuclein in the plasma correlate with cognitive impairment — but not motor symptom severity — in patients with Parkinson disease (PD), research from Taiwan indicates. Ming-Jang Chiu and co-workers used an ultrasensitive immunoassay to measure plasma levels of  $\alpha$ -synuclein in 80 patients with PD and 34 controls. Overall, the levels were higher in the patients with PD than in the controls, and were further elevated in PD patients with cognitive impairment. By contrast, no significant correlation was found between plasma  $\alpha$ -synuclein levels and motor symptom severity in the PD group. The findings raise the possibility that plasma  $\alpha$ -synuclein could serve as a biomarker to gauge the risk of cognitive decline in patients with PD.

**ORIGINAL ARTICLE** Lin, C.-H. *et al.* Plasma  $\alpha$ -synuclein predicts cognitive decline in Parkinson's disease. *J. Neurol. Neurosurg. Psychiatry* <http://dx.doi.org/10.1136/jnnp-2016-314857> (2017)