

IN BRIEF

BRAIN IMAGING

A study conducted at the University of Hawaii indicates that children with prenatal exposure to methamphetamine have a reduced apparent diffusion coefficient in the white matter of the brain. Cloak *et al.* performed diffusion tensor imaging on an MRI scanner on 29 children aged 3–4 years whose mothers used methamphetamine while pregnant and 37 unexposed children of the same ages. Compared with unexposed children, diffusion in the white matter of the brain was up to 4% lower in those exposed to methamphetamine, similar to that in older normally developing children. These results indicate that brain development is accelerated abnormally in children with prenatal exposure to methamphetamine.

Original article Cloak, C. C. *et al.* Lower diffusion in white matter of children with prenatal methamphetamine exposure. *Neurology* doi:10.1212/01.wnl.0000346516.49126.20

BRAIN IMAGING

Frequent episodes of hypoxia experienced by people with obstructive sleep apnea–hypopnea have a considerable effect on the brain’s bioenergetic status, according to a report by Rae and colleagues. A ³¹P magnetic resonance spectroscopy study of 13 men with severe, obstructive sleep apnea–hypopnea found that oxygen desaturation above 10% of the sleeping baseline level led to a reduction in brain ATP and increases in inorganic phosphate. The researchers explain that transient hypoxia in patients with this sleep disorder induces brain mitochondria to metabolize ATP, and that the mechanism involved is different from that seen in the awake, working brain under normoxic conditions.

Original article Rae, C. *et al.* Dynamic changes in brain bioenergetics during obstructive sleep apnea. *Cereb. Blood. Flow. Metab.* doi:10.1038/jcbfm.2009.57

SENSORY SYSTEMS

Zwergal and colleagues have devised a simple, cheap, and reliable test for determining monocular and binocular subjective visual vertical tilt. Conventional testing, such as the hemispheric dome method, is expensive and can only be carried out by experienced operators at specialized centers. The ‘bucket method’ requires patients to look into a bucket (covering their visual field) and attempt to properly align a straight line visible on the bottom of the bucket that is rotated at random by the examiner. This method accurately diagnosed subjective visual vertical tilt and was comparable to the hemispheric dome method.

Original article Zwergal, A. *et al.* A bucket of static vestibular function. *Neurology* 72, 1689–1692 (2009).