

Carphology by A Fo Ben



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New parents take note

How disturbed does your sleep need to be before your memory is disturbed? New parents and those on acute stroke thrombolysis rotas know that an impaired night's sleep has an impact on the next day's performance—but interrupting a third of the total sleep time has been shown to disrupt memory consolidation. Texan researchers specifically targeted hypocretin/orexin neurons in mice to fragment sleep without affecting the number of hours or the composition of (rapid eye movement (REM)/non-REM) sleep. Mice with interrupted sleep performed significantly less well on new object recognition tasks. Sleep fragmentation may well impair memory in people with obstructive sleep apnoea, alcohol dependence or those taking regular psychoactive medications.

PNAS 2011;108:13305–10.

Ticking tinnitus

Cave canem! Or even beware of your sleeping partner. The incredible photograph below is of a tympanic membrane complete with the American dog tick (*Dermacentor variabilis*). The 47-year-old woman was prone to let her sleeping dog lie in her bed at night and as such played host to its ticks. Her only symptoms were of a crackling in that ear and the membrane was unharmed (both by the tick and the endoscopic removal). The American dog tick is not implicated in Lyme disease—but can be



a vector for Rocky Mountain spotted fever—not widely endemic in her area of Minnesota.

Lancet 2011;378:347.

A fishy tale

In *The Tempest*, the slave Caliban (and his smell) is described—“what have we here? a man or a fish? dead or alive? A fish: he smells like a fish; a very ancient and fish-like smell.” Shakespeare was well aware of the symptoms of trimethylaminuria, which is characterised by large amounts of trimethylamine in body fluids due to flavin-containing mono-oxygenase deficiency in the liver, which oxidises the odorous trimethylamine into its non-odorous N-oxide. This knowledge would have allowed Shakespeare to diagnose the case of the fishy smelling clerical worker—who shared the same malodorous problem as his brother and father—but as a family it was ‘never discussed’. However, it was the cause of marital disharmony.

Lancet 2010;376:1710.

Knees up Mother Brown?

Choral singing is undergoing a new lease of life, following on from television programmes such as *The Choir*, and now the medical benefits are being examined. Professor Hancox, based in Canterbury, UK, recently formed a choir for people with Parkinson's disease. ‘Skylarks’ aims to help patients improve their posture and muscle control. Also promoting a sense of community, it is easy to see how group music-making could catch on, although whether it is also therapeutic for the audience remains to be determined.

The Telegraph 12 September 2011. <http://www.telegraph.co.uk/health/healthnews/8752955/Health-choirs-lets-have-singing-on-prescription.html>

Walk the walk

Chronic stroke is the most common cause of adult disability in the UK, and

treatment options to improve function are still limited. In a recent study of 408 patients within 2 months of stroke who had some degree of residual walking impairment, patients were randomised to a 12-week treadmill training programme or home physiotherapy over the same period. At 1 year, 52% of participants in the study had improved in their functional walking ability, but there was no benefit of treadmill training over the physiotherapy intervention and slightly more adverse events were reported in the treadmill group. Physiotherapy, therefore, still remains the gold standard treatment in these patients.

N Engl J Med 2011;364:2026.

Three is the magic number

We all have moments that we will always remember, but have you ever wondered how long these last? It appears that it will almost certainly have been 3 seconds. Emese Nagy, from the University of Dundee, studied the time athletes spent in spontaneous embraces at the 2008 Olympics and found that they lasted for about 3 seconds, regardless of the ethnicity of the athletes involved. This timing is in line with other experiences such as breathing, waving goodbye and infants babbling, suggesting that humans have a natural, universal, temporal building block.

J Ethol 2011;29:389.

Light at the end of the tunnel?

What happens to us once we are dead is a theological debate. What happens to us as we die, however, is the subject of a recent project by a group of German scientists. They monitored extracellular levels of serotonin in rat brains during dying and found a threefold increase in the last few moments of life. While it is debatable how directly we can translate this finding into humans, it may be that the release of serotonin, in addition to endogenous opiates, is responsible for near-death experiences.

Neurosci Lett 2011;498:20.