

FRIED EGGS

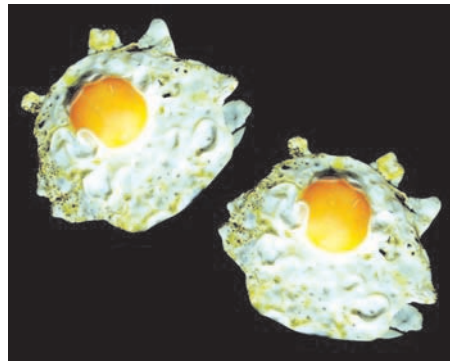
The consumption of *trans* fatty acids (TFAs) found in commercially baked and fried products may be linked with an increased risk of ovulatory infertility, according to a US study. Researchers carried out a prospective cohort study examining dietary intake and fertility in over 18000 women. For every 2% increase in intake of energy from *trans* fats, as opposed to carbohydrates, researchers noted a 73% increase in the risk of infertility. This risk remains significant after adjustment for other risk factors, including age, body mass index, smoking, and physical activity. The researchers propose that intake of TFAs may increase insulin resistance via interference with PPAR- γ , a cell receptor involved in inflammation, glucose metabolism and insulin sensitivity. They comment that the association appears to resemble that between fat intake and insulin resistance in polycystic ovary syndrome.

Am J Clin Nutr 2007; 85: 231-237

BRITTLE BONES BREAK

Both men and women who have experienced a low-trauma (osteoporotic) fracture are at increased risk of suffering a subsequent fracture, Australian researchers have shown. The study, carried out as part of the Dubbo Osteoporosis Epidemiology Study, assessed all fractures occurring in people aged 60 years or older living in Dubbo, New South Wales. The 16-year study followed 905 women and 337 men with an initial osteoporotic fracture and found the relative risk of refracture to be 1.95 for women and 3.47 for men. The increase in fracture risk continued for up to 10 years, with about half of the surviving men and women having another fracture in this period. The authors conclude that almost all low-trauma fractures in both sexes indicate a need for preventive therapy — a point that has been under-recognised in the past, particularly in men.

JAMA 2007; 297: 387-394



ARMED AND FUNCTIONAL

The function of artificial limbs may be significantly improved by a new reinnervation technique pioneered by a team of US surgeons. Targeted muscle reinnervation (TMR) transfers residual nerves from the limb stump onto other muscles that are not functional, as they are no longer attached to the amputated arm. The signal from the reinnervated muscle then provides an input to close the motorised hand or flex the elbow in a prosthesis. Surgeons are able to transfer multiple nerves, allowing simultaneous control of several joints. Targeted sensory reinnervation could also be used to allow the amputee to have a sense of touch in the missing limb. The patient, a woman who had a left arm amputation at the humeral neck, underwent TMR and was fitted with a new prosthesis. Surgeons transferred the ulnar, median, musculocutaneous and distal radial nerves to separate segments of the pectoral and serratus muscles, and two sensory nerves were cut and anastomosed to the ulnar and median nerves. After surgery, the patient was able to control the artificial limb intuitively — when she thought about using her hand, the prosthesis responded appropriately. She reported feeling touch and other sensations in the missing hand when the reinnervated areas on her chest were stimulated and was highly satisfied with the outcome, compared to her previous traditional prosthesis. Functional tests showed a significant improvement in motor skills and near-normal results for sensory modalities.

Lancet 2007; 369: 371-380

OILS BUSTED

Male prepubertal gynaecomastia, usually considered idiopathic, may be related to topical application of products containing lavender and tea tree oils, according to researchers in Colorado and North Carolina. Their report describes three boys, between the ages of 4 and 10, who developed enlarged breasts while using lotions, soaps and shampoos containing lavender and tea tree oils. The gynaecomastia resolved in all patients when the use of the products was discontinued. In-vitro studies indicate that the activity of these oils is oestrogen-receptor-dependent. Both oils also demonstrate anti-androgenic properties in laboratory studies — findings which the researchers conclude indicate that they may contribute to an imbalance in oestrogen and androgen pathway signalling. As gynaecomastia in men is classified as idiopathic in 10 per cent of cases, the authors speculate that “unidentified exogenous sources of endocrine-disrupting chemicals may contribute to the onset or progression of the condition”.

N Engl J Med 2007; 356: 479-485

DYEING TO SCRATCH

European dermatologists have called for a review of the safety and composition of hair dyes, after a rise in the frequency of allergic reactions to these substances. The authors quote data from Europe, the United States and Japan describing an increase in use of hair dye across all age groups, along with a lowering of the age at which people first colour their hair. Allergic reactions to paraphenylenediamine (PPD) range from dermatitis around the face and hairline to severe facial swelling that mimics angioedema. According to the authors, positive reactions to patch testing for PPD are rapidly increasing in Asia and Europe, along with a trend for continued use among affected patients, despite continuing allergic symptoms.

BMJ 2007; 334: 220

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