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## IN BRIEF

### OBESITY

#### Adult human brown fat is actually 'beige'

'Beige' adipocytes are found amidst white adipocytes but have similarities to brown adipocytes, which are thermogenic and protect against obesity and type 2 diabetes mellitus. Wu *et al.* report the isolation of 'beige' adipocytes from mice and also show that previously identified brown fat deposits in adult humans are composed of cells that resemble 'beige' adipocytes. Murine 'beige' adipocytes can switch from energy storage to energy dissipation and are sensitive to irisin. Activation of 'beige' adipocytes with 'browning'-inducing hormones such as irisin could have therapeutic potential.

**Original article** Wu, J. *et al.* Beige adipocytes are a distinct type of thermogenic fat cell in mouse and human. *Cell* **150**, 1–11 (2012)

### EPIDEMIOLOGY

#### Exercise to improve life expectancy

Physical inactivity is known to increase the risk of many adverse health outcomes. These include the major non-communicable diseases emphasized by the UN as "threats to global health" in 2011: type 2 diabetes mellitus, coronary heart disease, breast cancer and colon cancer. A study has now shown that physical inactivity might be responsible for 6–10% of the burden of major non-communicable diseases and 9% of premature mortality. The researchers estimate that if physical inactivity were eliminated, life expectancy worldwide would increase by 0.68 years.

**Original article** Lee, I. M. *et al.* Effect of physical inactivity on major non-communicable diseases worldwide: an analysis of burden of disease and life expectancy. *Lancet* **380**, 219–229 (2012)

### THERAPY

#### Spironolactone—no increase in breast cancer risk

Spironolactone is used to treat chronic cardiovascular diseases but has been suspected to increase the risk of breast cancer. The drug is known to induce antiandrogenic and progestogenic signalling by interacting with steroid receptors. However, a UK population study in women aged >55 years has shown no association between spironolactone use and breast cancer risk. The unadjusted incidence rates of breast cancer in women who had received spironolactone ( $n = 28,032$ ) and those who had not (55,961 age-matched individuals) were 0.39% and 0.38% per year, respectively.

**Original article** Mackenzie, I. S. *et al.* Spironolactone and risk of incident breast cancer in women older than 55 years: retrospective, matched cohort study. *BMJ* doi:10.1136/bmj.e4447

### BONE

#### Osteoporosis reduces quality of life even without vertebral fracture

A systematic review of 27 studies has shown that patients with osteoporosis who have not experienced a vertebral fracture still have reduced health-related quality of life (HRQoL). An analysis of raw data from 21 studies showed that these patients have clinically relevant reductions in physical function and general and mental health, and increased pain. Of note, low upper-femur BMD was associated with reduced HRQoL.

**Original article** Wilson, S. *et al.* Health-related quality of life in patients with osteoporosis in the absence of vertebral fracture: a systematic review. *Osteoporos. Int.* doi:10.1007/s00198-012-2050-6