In light of these findings, the authors believe that a statin regimen that achieves a substantial reduction in LDL cholesterol should be considered in all patients with diabetes who are at risk of vascular disease, irrespective of their lipid profile.

**Original article** Cholesterol Treatment Trialists' (CTT) Collaborators (2008) Efficacy of cholesterol-lowering therapy in 18 686 people with diabetes in 14 randomised trials of statins: a meta-analysis. *Lancet* **371:** 117–125

## Concerns over cardiovascular safety of calcium supplementation

Calcium supplementation in healthy, postmenopausal women acutely elevates serum calcium levels, and increases the HDL:LDL cholesterol ratio. Evidence exists that a high calcium intake might also reduce cardiovascular event rates. Bolland and colleagues accordingly investigated whether calcium supplementation influenced myocardial infarction, stroke, and sudden death rates in a preplanned secondary analysis of data from the Auckland calcium study (a randomized, controlled trial designed primarily to assess the effects of calcium supplementation on bone density and fracture incidence).

Healthy, postmenopausal women (aged >55 years) were randomly allocated to receive placebo ($n = 739$) or supplementation with 1 g elemental calcium ($n = 732$), taken as two tablets before breakfast and three in the evening. The women were followed up every 6 months for 5 years; tablet counts and validated questionnaires were used to assess compliance with treatment and dietary calcium intake.

Surprisingly, cardiovascular event rates were significantly increased ($P = 0.008$) in the calcium-supplementation group. Not only was this effect strongest in the most treatment-compliant women, the greatest increases occurred during the second half of follow-up. This pattern implies that vascular damage occurs before event rates increase. The authors note that the beneficial effects of calcium supplementation on bone loss would be rapidly outweighed by increased cardiovascular event rates (e.g. the 5-year number needed to treat to cause one stroke was 56, whereas the number needed to treat to prevent one symptomatic fracture was 50). Although not definitive, the authors' conclusions flag cardiovascular health as an area of concern in relation to calcium supplementation.

**Original article** Bolland MJ *et al.* (2008) Vascular events in healthy older women receiving calcium supplementation: randomised controlled trial. *BMJ* [doi:10.1136/bmj.39440.525752.BE]

## GH therapy benefits adults with Prader–Willi syndrome

Children with Prader–Willi syndrome (PWS) receive growth-hormone (GH) replacement therapy. Small studies suggested that GH administration might also benefit adults with PWS; however, GH has multiple effects on glucose homeostasis, and might worsen patients' risks of developing diabetes or the metabolic syndrome.

Mogul and colleagues' 1-year, multicenter, US study evaluated open-label GH therapy in a phenotypically diverse cohort of 38 adults (age range 17–49 years, BMI range 22.0–63.6 kg/m$^2$, 25 women) with genotype-confirmed PWS. All patients were GH-deficient and had not used GH therapy in the preceding 12 months. GH therapy was started at 0.2 mg daily and increased by 0.2 mg increments each month, as tolerated, unless IGF-I levels became elevated by ≥1 SD, in which case the GH dose was reduced to the previous level for the rest of the study. Following the dose-optimization phase, all patients' daily GH doses were kept constant for the rest of the study (mean dose 0.6 mg). GH therapy significantly increased lean body mass and decreased body fat, particularly in men, although BMI remained unchanged. All measures of insulin and glucose homeostasis remained within normal ranges, even in the five diabetic patients.

Patients with PWS are thought to have a normal thyroid axis, but 20% of this cohort had baseline $T_3$ abnormalities that normalized with GH therapy. The authors suggest that peripheral $T_4$–$T_3$ conversion contributes to GH-mediated enhancement of resting energy expenditure, which increases lean body mass. GH therapy also improved patients' energy levels, attention span, and wellbeing.

**Original article** Mogul HR *et al.* (2008) Growth hormone treatment of adults with Prader Willi syndrome and growth hormone deficiency improves lean body mass, fractional body fat, and serum triiodothyronine without glucose impairment: results from the US multi-center trial. *J Clin Endocrinol Metab* [doi:10.1210/jc.2007-2212]