The 21 men evaluated in this 6 month study were randomly allocated to receive one of four treatments: growth hormone monotherapy; testosterone monotherapy; growth hormone plus testosterone; or placebo. An analysis of VLDL apolipoprotein B kinetics indicated that no treatment had any effect on VLDL composition, apolipoprotein B metabolism or plasma lipid profile. A substantial decrease in body fat was observed only in men treated with growth hormone plus testosterone; in this group, total body fat (measured by dual-energy X-ray absorbtiometry) decreased from 22.2 kg to 18.6 kg; intra-abdominal fat (measured by CT) decreased by 35.9 cm^2, and subcutaneous fat by 50.1 cm^2.

The authors conclude that combination therapy with growth hormone and testosterone has a beneficial effect on body composition in healthy elderly men, and has no adverse effect on their plasma lipid profile.

Original article Giannoulis MG *et al.* (2006) Effects of growth hormone and/or testosterone on very low density lipoprotein apolipoprotein B100 kinetics and plasma lipids in healthy elderly men: a randomized controlled trial. *Growth Horm IGF Res* **16:** 308–317

Calcitriol does not prevent the BMD loss caused by inhaled glucocorticoids

Oral glucocorticoids are associated with reduced BMD, but it is unclear whether inhaled glucocorticoids, used by most asthma sufferers, have the same effect. Calcitriol is thought to counteract the BMD loss caused by oral glucocorticoids, by promoting intestinal calcium absorption. Researchers in Australia hypothesized that inhaled glucocorticoids would also cause BMD loss that could be prevented by calcitriol treatment. They found that inhaled glucocorticoids did indeed have an adverse effect on BMD; however, this BMD loss was not prevented by calcitriol treatment.

Patients with asthma (mean age 50.6 years; 41 men and 67 women) who were taking ≥800 μg beclomethasone dipropionate (or equivalent) daily were randomly allocated to receive either 0.25 μg calcitriol twice daily, or placebo. Patients also took intermittent short courses of oral glucocorticoids. The study was completed by 41 patients in the calcitriol-treated group and 37 patients in the placebo-treated group. At 2 years, femoral-neck BMD had declined by a similar amount in calcitriol-treated patients and placebo-treated patients (1.9% versus 1.6%). Lumbar spine BMD declined in both calcitriol-treated and placebo-treated patients (by 1.6% and 0.2%, respectively); the differences between the groups were not statistically significant.

The power of the study was limited by the small sample size; however, the authors concluded that calcitriol did not prevent BMD loss and, therefore, might not be appropriate therapy for patients with asthma who take inhaled glucocorticoids.

Original article McDonald CF *et al.* (2006) Calcitriol does not prevent bone loss in patients with asthma receiving corticosteroid therapy: a double-blind placebo-controlled trial. *Osteoporos Int* **17:** 1546–1551

No effect of mild thyroid abnormalities on cognition and mood?

Subclinical thyroid abnormalities have been postulated to affect cognitive function and mood. Roberts and colleagues, therefore, performed a cross-sectional study in elderly people to assess whether minor thyroid dysfunction (which is common in this population) is associated with cognitive impairment, depression or anxiety.

The authors recruited 5,868 patients (mean age 73.6 years) with no known current diagnosis of thyroid disease from 20 primary-care practices. Serum TSH and free endogenous T_4 levels were measured; depression and anxiety were assessed by the Hospital Anxiety and Depression Scale, and cognitive functioning was determined by two different mental-state examination methods.

TSH and free T_4 levels were positively correlated with cognitive functioning as assessed by the Folstein Mini Mental State Examination, but no correlation was found when the Middlesex Elderly Assessment of Mental State (which is considered to be more sensitive than the Folstein test) was used. Depression was also found to be independent of thyroid function. Both cognitive function and depression were, however, strongly associated with chronic, comorbid diseases (e.g. diabetes or lung disease) and medication (e.g. antidepressants). Roberts and colleagues suggest that previous studies might have reported