change in pain score ($r = 0.21$, $P = 0.0003$), with a VAS increase of 3.15 mm per unit of synovitis score (95% CI 1.04–5.26, $P = 0.003$). Changes in synovitis score at the infrapatellar fat pad and intercondylar region were also significantly correlated with increased pain scores.

The authors conclude that the relationship shown between changes in MRI-detected synovial thickening and pain suggests that treatments targeting synovitis might help to reduce pain in patients with knee OA.

Original article Hill CL *et al.* (2007) Synovitis detected on magnetic resonance imaging and its relation to pain and cartilage loss in knee osteoarthritis. *Ann Rheum Dis* **66:** 1599–1603

Patients with hand OA have increased BMD levels at axial sites

A few studies have reported increased BMD in patients with osteoarthritis (OA), but the findings for hand OA (HOA) have been inconclusive. Haugen *et al.*, therefore, compared BMD levels and frequency of osteoporosis at the total hip, femoral neck and lumbar spine in patients with HOA, rheumatoid arthritis (RA) and in controls; furthermore, the relationship between BMD and disease characteristics in patients with HOA was investigated.

The study, conducted in Oslo, Norway, included women (aged 50–70 years) with HOA ($n = 190$) and RA ($n = 194$), and population controls ($n = 122$). Participants' BMD was measured by the same dual-energy X-ray absorptiometry equipment, and self-reported questionnaires, clinical joint examination and interview were used to obtain demographic and clinical variables.

BMD levels (adjusted for height, weight and age) were increased in patients with HOA compared with those in controls or in patients with RA, but BMD levels did not correlate with either symptom duration or health status in patients with HOA. Frequency of osteoporosis was lower in patients with HOA than those with RA, but was not significantly different between patients with HOA and controls. Lastly, adjusted BMD levels were similar for patients with HOA only and those with additional knee OA.

The findings provide evidence that increased BMD precedes the development of OA, although the authors concede that lack of adjustment for confounders such as smoking might have contributed to the increased BMD in the cohort of patients with HOA.

Original article Haugen IK *et al.* (2007) Bone mineral density in patients with hand osteoarthritis compared to population controls and patients with rheumatoid arthritis. *Ann Rheum Dis* **66:** 1594–1598

C5a receptor blocker fails to show clinical benefit in patients with RA

In rheumatoid arthritis (RA), the synovial compartment is infiltrated by a variety of immune cells. One factor that seems to be involved is C5a, a protein involved in chemotaxis. Theoretically, blocking C5a receptor (C5aR) activity could form a therapeutic strategy for RA. The recently developed cyclic peptide AcF-[OpdChaWR] (PMX53) competes effectively with C5aR without causing agonist effects. Preliminary results in rats suggest that PMX53 reduces the symptoms of experimental arthritis, and Vergunst *et al*. have investigated its potential as a therapeutic agent for RA in a proof-of-concept trial.

A total of 21 RA patients participated in a double-blind, placebo-controlled, phase Ib clinical trial. Orally administered PMX53 was assessed for safety, and its ability to reduce synovial inflammation was determined. The mean serum concentration of PMX53 achieved—40.8 nmol/h/l—has been shown *in vitro* to block C5aR-mediated cell activation. When synovial tissue obtained after 28 days of treatment was compared with that obtained at baseline, however, no changes in cell infiltration or key biomarkers were detected. The treatment group showed no clinical improvement, or even a trend towards it, and there was no correlation between the serum level of PMX53 and clinical response in individual patients.

Despite reaching serum levels high enough for C5aR-blocking activity, treatment of human patients with PMX53 did not reduce synovial inflammation. The authors conclude that C5aR blockade by PMX53 does not reduce synovial inflammation in human patients with RA.

Original article Vergunst CE *et al.* (2007) Blocking the receptor for C5a in patients with rheumatoid arthritis does not reduce synovial inflammation. *Rheumatology* **46:** 1773–1778