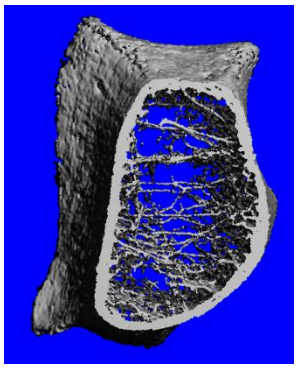
# The Academic Unit of Bone Metabolism Provides Additional Insight into the Effects of Osteoporosis Treatments on Bone



Osteoporosis is a common disease characterised by low bone mass and a deterioration in bone structure. It causes an increase in fracture risk particularly of the wrist, spine and hip. Almost 1 in 3 women and 1 in 5 men over the age of 50 years will have one or more osteoporotic fractures.

Bisphosphonates are commonly used to treat osteoporosis and help to reduce fracture risk. Clinical trials have previously only studied the effects of bisphosphonates on the central skeleton i.e. the hip and the spine. The Academic Unit of Bone Metabolism, The University of Sheffield, have examined the effects of bisphosphonates on bone at the wrist, ankle and heel (peripheral skeleton), as part of the TRIO study. We have also investigated whether some bisphosphonates have greater effects on bone than others.

172 postmenopausal women (ages 53-84 years), who had low bone mineral density, participated in the TRIO study. They took one of three bisphosphonates, either ibandronate, alendronate or risedronate for 2 years. We examined the effects of these different bisphosphonates on the peripheral skeleton using a number of bone imaging techniques. The TRIO study showed that ibandronate and alendronate caused larger increase in bone mineral density at the spine and hip than risedronate. However, treatment effects on the peripheral skeleton did not differ between the three bisphosphonates.

We are now investigating how the skeleton responds when bisphosphonate treatment is stopped (the TRIO Offset Study), and whether different effects are seen in those women who had previously taken ibandronate, alendronate or risedronate.

The findings from the TRIO Study have recently been published in the journal, *Osteoporosis International*. The full text article can be accessed using the following link:

http://link.springer.com/article/10.1007%2Fs00198-014-2817-z