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# NEWSLETTER

**WINTER 2008**

AUCKLAND Bonedensity
Managing Bone Health

## ABSOLUTE FRACTURE RISK

The WHO fracture risk assessment tool has become available in its initial form, utilising clinical risk factors and the bone density at the femoral neck or total hip region. Whilst there are some limitations, it is the first absolute fracture risk tool available for different ethnicities.

The calculation tool can be used online or simplified paper versions downloaded for office use. However, where practicable, we will provide absolute fracture risk predictions for you in our reports to referring doctors.
www.shef..ac.uk/FRAX

## HIGH TRAUMA FRACTURES AND BONE MINERAL DENSITY

Low bone mineral density (BMD) is a robust predictor of osteoporotic fracture risk. In contrast to low-trauma fractures, the conventional view has been that high-trauma fractures, such as those in a motor vehicle crash or a fall from greater than standing height, should not be considered "osteoporotic" fractures, since even normal bones might be expected to fail under these greater loads. This concept has not before been rigorously tested.

The findings from the study by Mackey and colleagues referenced below are perhaps counter-intuitive: among women each 1 SD reduction in BMD was associated with virtually identical increases in risk of high trauma fractures and low trauma fractures (Relative Hazard: 1.45 and 1.49 respectively). Moreover, among women, the risk of subsequent fracture following a high trauma fracture was the same as following a low trauma fracture (Relative Hazard 1.31). Thus, both high and low trauma fractures increased risk of subsequent fracture to exactly the same extent. Similar trends were observed among men although power was limited due to fewer fractures in men.

**THUS, both low trauma and high trauma fractures appear to matter equally.**

**Reference**

Mackey DC, et al. High-trauma Fractures and Low Bone Mineral Density in Older Women and men. JAMA. 2007;298:2381-2388.

AUCKLAND BONE DENSITY NEWSLETTER

Winter 2008

AUCKLAND Bonedensity Managing Bone Health

## VITAMIN D

Christchurch research suggests that the optimum plasma 25hydroxy vitamin D concentration is probably >75nmol/L. Studies of 199 healthy Christchurch volunteers showed that 100% were below that in June and July and 88% were still below in February.

Auckland research shows similar trends, especially among women.

Vitamin D has roles far beyond calcium regulation and bone health: cell proliferation and immune system modulation. Epidemiological studies show relationships between vitamin D levels and breast, prostate and bowel cancers, Hodgkin's Disease, and most recently Type 1 diabetes. Biocellular research continues.

The Christchurch research concludes that most Christchurch people are Vitamin D deficient most of the time and a daily supplement of 2600 IU vitamin D3 (cholecalciferol) would correct this.

We recommend that all Asians (especially Asian Indians), all older people and all those protected from the sun administer monthly Calciferol 1.25 mg (50,000IU= 1670 IU/day) and that Calciferol continues to be co-administered with FosamaxPlus (2800IU = 400 IU/day). Fosamax with an appropriately higher dose of vitamin D we understand to be in the registration pipeline.

**References**

John Livesey et al. Journal of the NZMA 21.09.2007.
Mark Bolland et al. American Journal of Clinical Nutrition 2007

**NATURAL DIETARY SOURCES OF VITAMIN D**

| | | |
|---|---|---|
| Cod Liver Oil | (1 tbspn) | 1360 IU |
| Salmon | (100 gm) | 360 IU |
| Sardines | (50 gm) | 250 IU |
| Tuna | (80 gm) | 200 IU |
| Anlene Milk | (1 cup) | 400 IU |
| Egg | (1 whole) | 20 IU |
| Swiss cheese | (30 gm) | 12 IU |