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Low fat milk fortified with calcium and vitamin D3 prevents bone loss in older men
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**Background** - Osteoporosis and its related problems are now recognised as an increasing public health problem in men. This highlights the importance of identifying lifestyle interventions that are effective at maintaining bone mass in men.

**Objective** - The aim of this study was to examine the effect of milk fortified with additional calcium and vitamin D3 on bone mineral density (BMD) in ambulatory community living men aged 50 to 87 years.

**Design** - This was a two year randomized controlled study in which 167 men [mean age ± SD; 61.9 ± 7.7 years] were assigned to receive either 400 ml per day [2 x 200 ml tetra packs] of reduced fat [~1%] UHT milk containing 1000 mg of calcium plus 800 IU of vitamin D3 or to a control group receiving no additional milk. Primary endpoints were changes in BMD, serum vitamin D [25(OH)D] and parathyroid hormone [PTH] concentrations.

**Outcomes** - A total of 149 men completed the study [milk compliance averaged 88%]. Baseline characteristics between the groups were no different; mean dietary calcium and serum 25(OH)D levels were 941 ± 387 mg per day and 77 ± 23 nmol/L, respectively. After two years, the mean percent change in BMD at the femoral neck, total hip and ultra-distal radius was 0.9 to 1.6% less in the milk compared to control group \([P<0.05 \text{ to } <0.001}\). No differences were detected for lumbar spine BMD after two years. Serum 25(OH)D levels increased and PTH decreased in the milk relative to control group after one year \([P<0.001]\), and these differences remained after two years. Body weight remained unchanged in both groups.

**Conclusion** - In conclusion, supplementing the diet of men aged over 50 years with reduced fat, calcium and vitamin D3 enriched milk may represent a simple, nutritionally sound and cost effective strategy to reduce age-related bone loss at several skeletal sites at risk of fracture.