

Calcium supplements have 'little benefit' for kids

By Stephen Daniells

19/04/2006 - A review of 19 studies has concluded that kids do not benefit from calcium supplements and fortified foods, despite many not meeting recommended daily intakes of the mineral.

There has been considerable debate about childhood calcium intake and the onset of osteoporosis in adulthood, a disease that affects over 75 million people in Europe, the USA and Japan. *"The review shows that supplementing the diet with calcium in healthy children has little benefit for bone health,"* said lead author Tania Winzenberg from the Menzies Research Institute, Australia.

Published in the current issue of *The Cochrane Database of Systematic Reviews* (Issue 2, 2006), the researchers pooled 19 intervention studies investigating the effects of extra calcium for boys and girls aged three to 18.

Arm bone density did increase, and the risk of fracture decreased by about 0.2 per cent per year. Only the arm had sustained benefits once the supplementation was stopped, report the researchers.

"We found there wasn't much effect at all. It does challenge what we thought we knew," said Winzenberg.

The results of the review led Winzenberg and her colleagues to conclude that healthy children would not benefit from calcium supplements and fortified foods. They did however concede that child populations not represented in the review may benefit from such products.

"Such foods may have a role in children with medical conditions affecting their bones or their ability to absorb calcium, or in children with very low dietary calcium intake; for example in children who do not consume any dairy products at all," she said.

A recent study from the US showed that about 30 per cent of boys and only 10 per cent of girls were achieving the recommended daily intake (RDI) of calcium, a startling statistic that was blamed on the preference of children for soft drinks and not milk.

The researchers of this study (*Pediatrics*, Vol. 117, pp. 578-585) stressed however that a calcium supplement does not offer the benefits of the other 15 minerals and vitamins that a glass of milk could provide, including vitamin D which is well established to aid calcium absorption from the diet.

The RDIs for children older than nine is 1,300 milligrams, and the peak calcium buildup rate is said to occur at age 12.5 for girls and 14 for boys.

Other studies have suggested that calcium supplements could increase bone mineral content of children, but short-term supplementation of up to two years did not indicate any long-term benefits (*Nutrition Reviews*, Vol 58, pp 253-268).

Professor Frank Greer from the University of Wisconsin Medical School, said that the Cochrane review agreed with adult study results that the use of supplements had no effect, but said that the findings had no impact on calcium intake guidelines.

"Those recommendations are for adequate daily calcium intake, not supplement intake. In fruits and vegetables and dairy products the calcium is incorporated in the protein. If you absorb the calcium with the protein, you are going to absorb most of the calcium, rather than have it slip through the intestine, and then be excreted," he said.

According to the International Osteoporosis Foundation, the total direct cost of osteoporotic fractures is € 31.7 billion in Europe, and 17.5 billion in the US (2002 figure). The total annual cost of osteoporosis in the UK alone is over £1.7 billion (€ 2.5 billion), equivalent to £5 million (€ 7.3 million) each day.