

## **Clinical References for LiquiDaily and Bio-Complete Calcium Plus**

Calcium is one of the most difficult of all minerals to absorb. Since it only absorbs in an acid environment, as we age and lose much of the natural stomach acid production, this mineral becomes more and more difficult to absorb. For this reason, chelated calcium are essential in helping to ensure proper absorption of both calcium and magnesium, which are responsible for replacing lost bone tissue and preventing osteoporosis. Following are a selection of the many studies we researched in our formulation development:

“The biochemical association of manganese and copper deficiency may represent alterations in regulatory control of calcium at the level of the bone (decreased mineralization) combined with an increase in bone re-absorption. The effect of long-term dietary deficiencies of manganese and copper should be considered in human bone metabolism.” *Journal of Nutrition* 1986: 116

“These data suggest that bone loss in calcium-supplemented, older postmenopausal women can be further arrested by concomitant increases in trace mineral intake.” *Journal of Nutrition* 1994: 124

“The data show that divalent strontium salts S12911 enhances the replication of preosteoblastic cells and bone formation...showing that low doses of strontium salts may increase bone formation in vitro and in vivo.” *Bone* 1996: 18

The following are additional references among the many, used in our research:

1. Andon MB., et al. Calcium absorption from apple and orange juice fortified with calcium citrate/malate *J. Am Coll Nutr* 15: 313-16, 1996.
2. Andon M., et al. Calcium bio-availability from calcium salts. *FASEB J* 7: A308-1993.
3. Miller JZ., et al. Calcium absorption from calcium carbonate and a new form of calcium citrate/malate in healthy male and female adolescents. *Am J Clin Nutr.* 48: 1291-94.
4. Fox MM., et al. Impact of saturated fatty acid content of plant triglycerides on calcium bioavailability from Caco3 and the citrate/malate calcium delivery system. *FASEB J* 4: 1046.
5. Strause, L. et al. Bone Loss in Postmenopausal women supplemented with calcium and trace minerals. *J Nutr* 124: 1060-64, 1994.
6. Strause L., et al. Calcium copper, manganese and zinc supplementation sustains spinal bone density in postmenopausal women. *J Bone Min Res* 6: S282.
7. Nilas L., et al. Calcium supplementation and postmenopausal bone loss. *Br Med J* 289: 1103-06.
8. Cumming RG. Calcium intake and bone mass: A quantitative review of the evidence. *Calcif Tissue Int* 47: 194-201. 1990.

9. Strause, L., et al. Trace elements and bone metabolism. In *Nutritional Aspects of Osteoporosis*, ed. P Burckhardt, RP Heaney (New York: Raven Press, 1992. 223-33.
10. Orwoll ES., et al. The rate of bone mineral loss in normal men and the effects of various calcium and cholecalciferol supplementation. *Ann Intern Med* 112: 29-34.
11. Ricci TA., et al. Calcium supplementation suppresses bone turnover during weight reduction in postmenopausal women. *J Bone Min Res* 13: 1045-50, 1998.
12. Andon MB., et al. Magnesium balance in adolescent females consuming low or high calcium diets. *Am J Clin Nutr* 63: 950-53.