

**SUPPLEMENTATION WITH OVER-THE-COUNTER
CHOLECALCIFEROL INCREASES SERUM 25 HYDROXY
VITAMIN D LEVELS IN HEMODIALYSIS SUBJECTS. Clement**

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Vitamin D deficiency is very prevalent in hemodialysis (HD) subjects, and ergocalciferol in a once a month dose has been demonstrated to improve vitamin D status in HD subjects. In non-dialysis subjects, cholecalciferol (vitamin D 3) has been reported to be more effective than ergocalciferol (vitamin D 2) in raising serum 25 hydroxy vitamin D levels. The purpose of this study was to evaluate the effect of a once daily oral dose of over-the-counter (OTC) cholecalciferol on serum 25 hydroxy vitamin D levels in HD subjects.

Subjects (n=84) on HD had serum 25 hydroxy vitamin D levels measured and 68 subjects (81%) were found to have levels below 30 ng/mL. The subjects with serum 25 hydroxy vitamin D levels below 30 ng/mL were instructed to take a once daily dose of 1000 IU cholecalciferol per day for 20 weeks. Serum 25 hydroxycholecalciferol, calcium, and phosphorus values were obtained by chart review before and after supplementation. Subjects (n=53) whose pill count values exceeded 40% and serum 25 hydroxy vitamin D levels were above 30 ng/mL at the 20 week time point were assigned to the compliant group for comparison of pre and post-supplementation values. Paired sample t tests were used to determine significant differences in pre- and post-supplementation mean values.

In the compliant group, mean serum 25 hydroxy vitamin D levels rose significantly ($p<0.0001$) from 16.2 ± 6.5 to 51.4 ± 14.4 ng/mL. Serum corrected calcium levels were slightly but significantly lower ($p<0.007$) after supplementation (9.3 ± 0.5 ; 9.1 ± 0.6) and mean serum phosphorus levels were not significantly different ($p<0.365$).

Daily oral supplementation with OTC cholecalciferol is effective in improving serum 25 hydroxy vitamin D levels in HD subjects, without raising serum calcium or phosphorus levels. Although preliminary, this is the first published study reporting the use of cholecalciferol, rather than ergocalciferol, for the treatment of vitamin D insufficiency and deficiency, in the HD population.