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24 hr urinary Ca and Ox in stone-free and stone-prone population groups following fatty acids ingestion

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Introduction: Eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) ingestion have previously reduced urinary calcium (Ca) in hypercalciuric but not in normocalciuric group [1-3]. Urinary oxalate (Ox) excretion has been reported as either reduced or unchanged [2-4]. We measured effects of EPA and DHA ingestion on these parameters in South Africa's stone-prone white (*W*) and relatively stone-free black (*B*) ethnic groups. The 2 groups have previously responded differently to different supplemental challenges.

Methods: For study 1, healthy *B* (n=12) and *W* (n=11) males ingested n-3 Essential Fatty acid (EFA) capsules (1140 mg EPA and 780 mg DHA) daily for 1 month while for study 2, subjects (n=5 in each group) ingested 164 mg EPA and 110 mg DHA. Subjects provided 24 h dietary records and 24 h urine samples on day 0 and day 30. Urinary Ca and Ox were determined.

Results: Home dietary intake of EPA and DHA was similar in the 2 groups. Mean 24 h urinary Ca and Ox values before and after EPA and DHA ingestion did not change significantly in either study for both groups.

Conclusion: The different dosages of EPA and DHA did not elicit any significant intra and inter group changes. We suspect that this may be due to lack of control of diet or the fact that our subjects were normocalciuric and normooxaluric. Perhaps the effects of EPA and DHA are corrective in terms of their mechanistic action. This notion is further supported by our observation that no changes in urinary Ca and Ox occurred in the *B* group in which higher sensitivity to dietary supplements has been previously reported.

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