

ABSTRACT PRESENTED AT 2003 FOOD AND AMERICAN DIETETIC
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TITLE MICRONUTRIENT CONTENT OF AN OPTIMALLY SELECTED KETOGENIC DIET

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TEXT

The ketogenic diet has become a more common therapy for children with medically refractory seizures in recent years. The ketogenic diet is a high-fat, moderate protein, carbohydrate restricted diet that forces the body into a state of ketosis which serves to abate seizures. Fat comprises 80-90% of the calories of the diet and is provided by foods such as whipping cream, butter, and vegetable oils. The remaining calories are first allocated to the necessary protein requirements of the individual and secondly to carbohydrate. These restrictions limit actual food intake to quantities far below the United States Department of Agriculture's Food Guide Pyramid. A 3-day planned ketogenic diet of 1250 kilocalorie 4:1(fat:non-fat) was analyzed for micronutrient content using Databank Nutritionist Pro Software™. Nutrient-dense foods were purposely selected for this study to optimize results. Of the 24 micronutrients evaluated, 19 were below the Dietary Reference Intakes (DRIs). The following 11 nutrients were provided at less than 50% of the DRIs: Thiamin, Folate, Pantothenic Acid, Calcium, Copper, Iron, Magnesium, Manganese, Molybdenum, Selenium and Zinc. A selection of less nutritionally dense foods would have resulted in even lower intakes of these nutrients. The ketogenic diet provides sub-optimal levels of many micronutrients required by children. Supplementation of the ketogenic diet with appropriate low carbohydrate vitamins and minerals is recommended.

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