

APPENDIX 4–E

RECENT RESEARCH FOCUSING ON VEGETARIAN EATING BENEFITS

Dietary flavonoid intake and risk of cardiovascular disease in postmenopausal women. Yochum L, Kushi LH, Meyer K, Folsom AR. *Am J Epidemiol.* 1999;149:943-949.

In a prospective study of 34,000 postmenopausal women, the total flavonoid intake was associated with a decreased risk of CHD death after adjusting for age and energy intake. Relative risks of CHD death from lowest to highest flavonoid intake were 1.0, 0.67, 0.56, 0.86, and 0.62.

Health benefits of a vegetarian diet. Key TJ, Davey GK, Appleby PN. *Proc Nutr Soc.* 1999;58:271-275.

Compared with nonvegetarians, Western vegetarians have a lower mean BMI (by about 1 kg/m), a lower mean plasma total cholesterol concentration (by about 0.5 mmol/L or 19 mg/dL), and a lower mortality from ischemic heart disease (by about 25%). Evidence suggests that widespread adoption of a vegetarian diet could prevent approximately 40,000 deaths from ischemic heart disease in Britain each year.

Antioxidants and breast cancer. McKeown N. *Nutr Rev.* 1999;57:321-324.

In the Nurses' Health Study, premenopausal women in the highest quintile of fruit and vegetable intake experienced a 23% reduction in risk of breast cancer compared to women in the lowest quintile, while the use of supplements of vitamins A, C, and E and multivitamins were not associated with overall risk of breast cancer. The chemopreventive effect is likely due to the interaction of several nutrients.

Grape juice, but not orange juice or grapefruit juice, inhibits human platelet aggregation. Keevil JG, Osman HE, Reed JD, Folts JD. *J Nutr.* 2000;130:53-56.

In a randomized cross-over design, 10 healthy adults 26-58 years old daily drank 5 to 7.5 mL/kg of purple grape juice, orange juice, or grapefruit

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juice for 7 to 10 days each. Drinking purple grape juice for one week reduced the blood platelet aggregation response to collagen by 77% while orange and grapefruit juices had no effect on platelet aggregation. The polyphenolics in citrus juices (flavanones and flavones) are different from the polyphenolics in purple grape juice (flavonols, anthocyanidins, and proanthocyanidins). The grape juice had a total polyphenolic concentration that was almost 3 times that of orange or grapefruit juice.

Intakes of vitamin C, vegetables and fruits: which schoolchildren are at risk? Hampl JS, Taylor CA, Johnston CS. *J Am Coll Nutr.* 1999;18:582-590.

Scurvy in children is not just a disease of the past. Marginal vitamin C status can result in fatigue, irritability, bone thinning, and easy hemorrhaging. Vitamin C intake of 2,258 schoolchildren, 7-18 years of age, show that among the 7- to 12-year-olds, 12-13% had mean vitamin C intakes that were less than 30 mg/day, while among the 13- to 18-year-olds, 14% of boys and 20% of girls had vitamin C intakes less than 30 mg/day. Children with vitamin C intake > 60 mg/d consumed significantly more folate and vitamin B₆; children with vitamin C intakes < 30 mg/d tended to have significantly greater intakes of fat and saturated fat. Their vitamin C intakes averaged only 2 daily servings of vegetables and fruits, of which less than one fifth of a serving was citrus. Children with desirable vitamin C intakes consumed an average of 1 daily serving of citrus. Five daily servings of fruits and vegetables for children seems appropriate.

Hematological parameters, ferritin and vitamin B₁₂ in vegetarians. Pongstaporn W, Bunyaratavej A. *J Med Assoc Thai.* 1999;82:304-311.

Iron status parameters for 179 vegetarians were significantly lower compared to 58 controls objects. There were 34 cases of iron deficiency in 179 vegetarians, or 19%. Vitamin B₁₂ deficiency was found in 27 cases of 68 vegetarians, or 40%.

Increased risk of iodine deficiency with vegetarian nutrition. Remer T, Neubert A, Manz F. *Br J Nutr.* 1999;81:45-49.

Six healthy adults volunteered for a study with 3 diets, each of which they consumed for 5 days. Urinary iodide excretion was significantly lower with the lactovegetarian diet (36.6 µg/d) than with the normal (50.2 µg/d) and the protein-rich diet (61.0 µg/d). A markedly reduced iodine intake was found on the lactovegetarian diet, 15.6 µg/d versus 35.2 and 44.5 µg/d, respectively. The low intake and urinary iodine output for the lactovegetarian diet suggest that dietary iodine may be limiting when strict forms of vegetarian dietary practices (without any iodized salt) are followed.

The influence of a vegetarian diet on hemostatic risk factors for cardiovascular disease in Africans. Famodu AA, Osilesi O, Makinde YO, et al. *Thromb Res.* 1999;95:31-36.

The blood pressure, plasma fibrinogen concentration, and fibrinolytic activity of 40 Nigerian nonvegetarians (NV) was compared with 36 Seventh Day Adventist vegetarians (VG; 8 VG and 28 semi-VG). All blood pressures were < 140/90 mm Hg, and no one was on any medical treatment. The NV had significantly decreased fibrinolytic activity and increased plasma fibrinogen levels compared with the semi-VG and VG. There were no significant

differences between the blood pressure levels of the 3 groups. Black Africans who follow a vegetarian diet may be protected against premature cardiovascular disease because of beneficial dietary effects on plasma fibrinogen levels and fibrinolytic activity.

Plant stanol ester and bran fiber in childhood: effects on lipids, stool weight and stool frequency in preschool children. Williams CL, Bollella MC, Strobino BA, et al. *J Am Coll Nutr.* 1999;18:572-581.

About 30% of American children over 2 years of age have borderline high cholesterol values with an additional 10% having values in the high range. Healthy 2- to 5-year-old children were fed either a spread containing 1 gram of plant stanols 3 times/day or wheat bran fiber containing 5 to 10 grams of dietary fiber. After 4 weeks, the plant stanol ester spread produced a 12.4% and 15.5% reduction in total cholesterol and LDL cholesterol levels, respectively, with no significant changes in HDL cholesterol or triglyceride levels. The wheat bran produced only 4% reduction in total cholesterol levels.