



## Tea and Heart Disease

### **Dietary Antioxidant Flavonoids and Risk of Coronary Heart Disease: The Zutphen Elderly Study**

Kromhout, D., *et al. The Lancet*, 342:1007-1011, 1993.

A study of 805 Dutch men aged 65 to 84 years found that flavonoid consumption was inversely related with mortality from coronary heart disease and incidence of myocardial infarction. In the subjects' diets, black tea was the primary source of flavonoids, accounting for 61% of the total. Onions and apples accounted for 13% and 10% of total flavonoids, respectively. The researchers concluded that consuming diets rich in flavonoids on a regular basis may help reduce the risk of death from myocardial infarction.

### **Plant Flavonoids, Especially Tea Flavonoids, Are Powerful Antioxidants Using an *in vitro* Oxidation Model for Heart Disease**

Vinson, J., *et al. Journal of Agricultural & Food Chemistry*, 43:2800-2802, 1995.

In this first-of-its-kind study, researchers examined the antioxidant effects of various plant flavonoids and antioxidant vitamins using an *in vitro* lipoprotein oxidation model. This model simulates the oxidation mechanism of low density lipoproteins, thought to play an important role in atherosclerosis. Compared to flavonoids in other plant foods, the flavonoids in tea were the most powerful antioxidants in inhibiting lipoprotein oxidation. The tea flavonoid epigallocatechin gallate (EGCG) was the most potent of all antioxidants tested-about 20 times more effective than the most potent antioxidant vitamin, ascorbic acid. These results help provide a plausible mechanism to support the epidemiological data which suggests a lower risk of heart disease with greater flavonoid consumption.

### **Bioavailability of Flavonoids in Tea**

Hollman, P., *et al. Critical Reviews in Food Science Nutrition*, 37/8:719-738, 1997.

The understanding of the association of tea consumption with the incidence of cancer and cardiovascular disease requires quantitative data on the bioavailability of tea components. The differing results of epidemiological and animal studies on tea and cancer might be due to relative differences in the bioavailabilities and actions of the active components involved. This review describes the available data on the absorption, distribution, metabolism and excretion of the major flavonoids in tea i.e. catechins, quercetin and catechin condensation products. There is also evidence that catechins are rapidly absorbed in humans and that the absorption of flavonoids is not inhibited by milk. In humans the absorption of quercetin ranged from 20 to 59%.

Informação destinada apenas a profissionais de Saúde e Nutrição.

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Para mais informações, contacte o  
Centro de Informação LIPTON CHÁ & SAÚDE  
Lg. Monterroio Mascarenhas, 1  
1070 – 184 Lisboa  
Tel. 800 20 29 96  
Visite-nos em WWW.LIPTON.PT



### **Coffee and Tea Intake and the Risk of Myocardial infarction**

Sesso, H.D., Gaziano, J.M., Buring, J.E., Hennekens C. H. *American Journal of Epidemiology*, 149 (2):162-167, 1999.

The authors investigated the association of caffeinated coffee, decaffeinated coffee, and tea with myocardial infarction in a study of 340 cases and age-, sex-, and community-matched controls. The odds ratio for drinking  $\geq 4$  cups/ day of caffeinated coffee versus drinking  $< 1$  cup / week was 0.84 (95% confidence interval (CI) 0.49-1.42) after adjustment for coronary risk factors (1 cup = 237 ml). The odds ratio for drinking  $> 1$  cup / day of decaffeinated coffee versus nondrinkers was 0.56 (95% CI 0.35-.90). In these data, only tea was associated with lower risk of myocardial infarction.

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