**Low Doses of Caffeine Reduce Heart Rate During Submaximal Cycle Ergometry**

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**Background**

The purpose of this study was to examine the cardiovascular effects of two low-levels of caffeine ingestion in non habitual caffeine users at various submaximal and maximal exercise intensities.

**Methods**

Nine male subjects underwent three testing sessions administered in a randomized and double-blind fashion. During each session, subjects were provided 4 oz of water and a gelatin capsule containing a placebo, 1.5 mg/kg caffeine, or 3.0 mg/kg caffeine. Each subject completed their three exercise trials on a bicycle ergo meter. For each exercise session, after a warm-up period (30 Watts for 2 min) a pedal rate of 60 rpm was maintained for the remainder of the test. For the first phase the workload was initially set at a steady-state power output of 60 watts (~30% of VO2max) for five minutes; the workload was then increased to 120 watts (~46% of VO2max) for five minutes and then to 180 watts (~64% of VO2max) for five minutes. The second phase of the exercise protocol started after a 2 min rest. The subjects were quickly brought back up to 180 watts for one minute again maintaining a pedal rate of 60 rpm. The workload was then increased by 30 watts every minute until exhaustion (with exhaustion being determined when the 60 rpm pedal rate was no longer able to be maintained). The subjects then were then cooled down to ensure safety of the trial.

**Results**

Caffeine at 1.5 and 3.0 mg/kg body weight significantly lowered, by a range of 4 to 7 bpm, HR during all three submaximal exercise intensities compared to placebo (**P < 0.05**) but not at rest (**P > 0.05**) or maximal exercise (**P > 0.05**).

## Green Tea and the Prevention of Breast Cancer

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**Introduction**  
Breast cancer is the most common malignancy in women in theworld and its rate is increasing in both developed and developingcountries. There are profound geographic differences inthe incidence rates of breast cancer. The rate in China is 18.7per 100 000 women-years, which is 4- to 5-fold lower than ratestypically found in developed countries.

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| Tea polyphenols, particularly green tea polyphenols, have beenshown to possess anticarcinogenic effects against breast cancerin experimental models. However, epidemiologic data, arising mainly from Western populations,are not supportive of a protective role of tea in the preventionof breast cancer. Most of the studies **yieldingnull results** were conducted in Western populations that consumedexclusively black tea, not green tea (the processing of black tea generally guarantees that it has different polyphenols than green tea...see diagram at right). | **Breakdown of Polyphenols**  **in Green and Black Teas**  Graph showing total flavonoids in tea  (image courtesy of <http://lpi.oregonstate.edu/f-w02/tea.html>)  **(Continued on next page)** |

**Materials/Methods/ Results**

A case–control studywas conducted in Southeast China between 2004 and 2005. Theincidence cases were 1009 female patients aged 20–87 yearswith confirmed breast cancer. The 1009 controls were healthy women randomly recruited from breast diseaseclinics. The proportion of lost or non-respondingpatients among the cases was 1.2%, similar to the percentage among the controls. Potential control women were excluded ifthey had a previous diagnosis of either breast cancer or anothermalignant disease. *Information on duration, frequency, quantity, preparation,type of tea consumption, diet and lifestyle were collected byface-to-face interview using a validated and reliable questionnaire*. *Tea consumption was measured using a tea questionnaire adaptedfrom previous studies. This self-reportedinstrument was used to assess tea consumption by several methods*. All data were checked for completeness at the end of each interview.

Green tea consumptionwas associated with a reduced risk of breast cancer with a statistically significant test for trend (***P* < 0.001**). Similar dose–response relationships were observed forduration of drinking green tea, number of cups consumed andnew batches prepared per day. Our results in Chinese women suggest that increasingduration, frequency and quantity of green tea consumed was inverselyassociated with breast cancer risk in a significant dose–responserelationship.

 

## Acute and Short-term Effects of Secondhand Smoke on Lung Function and Cytokine Production

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**Rationale**

The acute effect of secondhand smoke (SHS) on lungfunction and the duration of system disruption remain unknown. This study will assess the SHS effects and their duration onlung function and inflammatory markers.

**Methods**

In a randomized single-blind crossover experiment datawere obtained from 16 (8 women) nonsmoking adults at baselineand at 0, 1, and 3 hours after a 1-hour SHS exposure set atbar/restaurant SHS levels.

**Measurements and Main Results**

Many lungfunctions were measured 0, 1, and 3 hours after the 1 – hour exposure. At 0 to 1 hour (time of initial SHS exposure) most lung function parameters weresignificantly reduced (**P < 0.05**), but at 3 hours they were at baseline levels (**P > 0.05**).