

Metabolism

Clinical and Experimental

VOL 45, NO 8 AUGUST 1996

Smoking Multiple High- Versus Low-Nicotine Cigarettes: Impact on Resting
Energy Expenditure

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ABSTRACT: The thermic effect of smoking multiple cigarettes varying substantially in nicotine yield was investigated. Three treatments were imposed: nonsmoking at baseline, smoking six low-nicotine (0.8 mg nicotine) cigarettes (LOW), and smoking six high-nicotine (1.74 mg nicotine) cigarettes (HIGH). An initial increase of 6.8% in resting energy expenditure (REE) above baseline REE occurred after consumption of two consecutive cigarettes for both the HIGH and LOW treatments. With consumption of more cigarettes, the peak increase for the HIGH treatment was 9.3%, significantly greater than the peak of 5.9% for the LOW. Averaged over 2 hours, the HIGH treatment significantly increased REE by 6.9% and the LOW treatment significantly increased REE by 5.2%. Expired carbon monoxide (CO) measurements indicated that LOW cigarettes were smoked more aggressively than HIGH cigarettes. It was concluded that, initially, the nicotine yield of cigarettes is not an important influence on the thermic effect of smoking. But over a longer period and after multiple cigarettes, the nicotine yield may become an important influential factor.

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