

Coffee associated with reduced risk of hospitalization for heart rhythm disturbances: study

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Coffee drinkers may be less likely to be hospitalized for heart rhythm disturbances, according to a new study by the Kaiser Permanente Division of Research in Oakland, Calif. The researchers, who note the findings may be surprising because patients frequently report palpitations after drinking coffee, are presenting the study at the American Heart Association's 50th Annual Conference on Cardiovascular Disease Epidemiology and Prevention in San Francisco on March 5, 2010.

While it has been established that very large doses of caffeine, the most active ingredient in [coffee](#), can produce rhythm disturbances, there has been limited epidemiologic research about the caffeine doses people take. Previous data from a population study in Denmark compared heavy to light coffee drinkers with respect to risk of atrial fibrillation, the most common major rhythm disturbance, and found no statistically significant difference. This research presentation is believed to be the first large, multiethnic population study to look at all major types of heart rhythm disturbance, the researchers said.

The researchers followed 130,054 men and women and found that those who reported drinking four or more cups of coffee each day had an 18 percent lower risk of hospitalization for [heart rhythm disturbances](#). Those who reported drinking one to three cups each day had a 7 percent reduction in risk, according to Arthur Klatsky, MD, the study's lead

investigator and a senior consultant in cardiology at Kaiser Permanente Division of Research in Oakland, Calif.

"Coffee drinking is related to lower risk of hospitalization for rhythm problems, but the association does not prove cause and effect, or that coffee has a protective effect," Klasky said. Other explanations for the association might include other traits of coffee drinkers such as exercise or dietary habits. Additionally, some people with heart rhythm problems often are not hospitalized.

"However, these data might be reassuring to people who drink moderate amounts of coffee that their habit is not likely to cause a major rhythm disturbance," Klatsky said. While this report is not sufficient evidence to say that people should drink coffee to prevent rhythm problems, it supports the idea that people who are at risk for rhythm problems, or who have rhythm problems, do not necessarily need to abstain from coffee, emphasized Klatsky.

The long-term observational study involved 130,054 men and women, 18 to 90 years old, with the majority less than 50 years old. About 2 percent (3,317) were hospitalized for rhythm disturbances; 50 percent of those were for atrial fibrillation, the most common heart rhythm problem. The 18 percent reduction in risk was consistent among men and women, different ethnic groups, smokers and nonsmokers. It also was similar for various rhythm problems such as paroxysmal supraventricular tachycardia, atrial flutter, and [atrial fibrillation](#).

Fourteen percent of the people in the study drank less than one cup of coffee a day; 42 percent drank one to three cups of coffee a day; and 17 percent reported drinking four cups or more each day. Only 27 percent of the people in the study were not coffee drinkers.

While emphasizing that these observational data do not establish

causality and a protective mechanism is unclear, researchers speculate that moderate doses of caffeine may affect rhythm disturbances by antagonism of adenosine, a nucleoside compound widely distributed in the body. In the heart adenosine has several effects on conduction of electrical impulses, muscle cell energetics, and heart muscle cell recovery that might predispose to rhythm problems. Caffeine antagonizes adenosine effects by blocking its chemical sites of action.

The researchers examined hospitalization data by elapsed time after the initial examination. For hospitalization within 10 years, the reduction in hospitalizations for people who consumed four cups of coffee or more each day reached 28 percent.

The researchers also studied persons in the group with or without symptoms or history of heart and respiratory disease. For both groups, consuming four cups of coffee daily appeared to be associated with fewer hospitalizations for rhythm disturbances.

Provided by Kaiser Permanente

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