

# Drinking 4 or more cups of coffee a day may help prevent gout

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## **Long-term study links increased coffee consumption to decreased risk of gout in men over age 40**

Coffee is a habit for more than 50 percent of Americans, who drink, on average, 2 cups per day. This widely consumed beverage is regularly investigated and debated for its impact on health conditions from breast cancer to heart disease. Among its complex effects on the body, coffee or its components have been linked to lower insulin and uric acid levels on a short-term basis or cross-sectionally. These and other mechanisms

suggest that coffee consumption may affect the risk of gout, the most prevalent inflammatory arthritis in adult males.

To examine how coffee consumption might aggravate or protect against this common and excruciatingly painful condition, researchers at the Arthritis Research Centre of Canada, University of British Columbia in Canada, Brigham and Women's Hospital, Harvard Medical School, and Harvard School of Public Health in Boston conducted a prospective study on 45,869 men over age 40 with no history of gout at baseline. Over 12 years of follow-up, Hyon K. Choi, MD, DrPH, and his associates evaluated the relationship between the intake of coffee and the incidence of gout in this high risk population. Their findings, featured in the June 2007 issue of *Arthritis & Rheumatism* (<http://www.interscience.wiley.com/journal/arthritis>), provide compelling evidence that drinking 4 or more cups of coffee a day dramatically reduces the risk of gout for men.

Subjects were drawn from an ongoing study of some 50,000 male health professionals, 91 percent white, who were between 40 and 75 years of age in 1986 when the project was initiated. To assess coffee and total caffeine intake, Dr. Choi and his team used a food-frequency questionnaire, updated every 4 years. Participants chose from 9 frequency responses – ranging from never to 2 to 4 cups per week to 6 or more per day – to record their average consumption of coffee, decaffeinated coffee, tea, and other caffeine-containing comestibles, such as cola and chocolate.

Through another questionnaire, the researchers documented 757 newly diagnosed cases meeting the American College of Rheumatology criteria for gout during the follow-up period. Then, they determined the relative risk of incident gout for long-term coffee drinkers divided into 4 groups – less than 1 cup per day, 1 to 3 cups per day, 4 to 5 cups per day, and 6

or more cups per day – as well as for regular drinkers of decaffeinated coffee, tea, and other caffeinated beverages. They also evaluated the impact of other risk factors for gout – body mass index, history of hypertension, alcohol use, and a diet high in red meat and high-fat dairy foods among them – on the association between coffee consumption and gout among the study participants.

Most significantly, the data revealed that the risk for developing gout decreased with increasing coffee consumption. The risk of gout was 40 percent lower for men who drank 4 to 5 cups a day and 59 percent lower for men who drank 6 or more cups a day than for men who never drank coffee. There was also a modest inverse association with decaffeinated coffee consumption. These findings were independent of all other risk factors for gout. Tea drinking and total caffeine intake were both shown to have no effect on the incidence of gout among the subjects. On the mechanism of these findings, Dr. Choi speculates that components of coffee other than caffeine may be responsible for the beverage's gout-prevention benefits. Among the possibilities, coffee contains the phenol chlorogenic acid, a strong antioxidant.

While not prescribing 4 or more cups a day, this study can help individuals make an informed choice regarding coffee consumption. "Our findings are most directly generalizable to men age 40 years and older, the most gout-prevalent population, with no history of gout," Dr. Choi notes. "Given the potential influence of female hormones on the risk of gout in women and an increased role of dietary impact on uric acid levels among patients with existing gout, prospective studies of these populations would be valuable."

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