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[Journal of the National Cancer Institute](#)

Million women study shows even moderate alcohol consumption associated with increased cancer risk

Low to moderate alcohol consumption among women is associated with a statistically significant increase in cancer risk and may account for nearly 13 percent of the cancers of the breast, liver, rectum, and upper aero-digestive tract combined, according to a report in the February 24 online issue of the *Journal of the National Cancer Institute*.

With the exception of breast cancer, little has been known about the impact of low to moderate alcohol consumption on cancer risk in women.

To determine the impact of alcohol on overall and site-specific cancer risk, Naomi Allen, D.Phil., of the University of Oxford, U.K., and colleagues examined the association of alcohol consumption and cancer incidence in the Million Women Study, which included 1,280,296 middle-aged women in the United Kingdom. Participants were recruited to the study between 1996 and 2001. Researchers identified cancer cases through the National Health Service Central Registries.

Women in the study who drank alcohol consumed, on average, one drink per day, which is typical in most high-income countries such as the U.K. and the U.S. Very few drank three or more drinks per day. With an average follow-up time of more than 7 years, 68,775 women were diagnosed with cancer.

The risk of any type of cancer increased with increasing alcohol consumption, as did the risk of some specific types of cancer, including cancer of the breast, rectum, and liver. Women who also smoked had an increased risk of cancers of the oral cavity and pharynx, esophagus, and larynx. The type of alcohol consumed--wine versus spirits or other types--did not alter the association between alcohol consumption and cancer risk.

Each additional alcoholic drink regularly consumed per day was associated with 11 additional breast cancers per 1000 women up to age 75; one additional cancer of the oral cavity and

pharynx; one additional cancer of the rectum; and an increase of 0.7 each for esophageal, laryngeal, and liver cancers. For these cancers combined, there was an excess of about 15 cancers per 1000 women per drink per day. (The background incidence for these cancers was estimated to be 118 per 1000 women in developed countries.)

"Although the magnitude of the excess absolute risk associated with one additional drink per day may appear small for some cancer sites, the high prevalence of moderate alcohol drinking among women in many populations means that the proportion of cancers attributable to alcohol is an important public health issue," the authors write.

In an accompanying editorial, Michael Lauer M.D., and Paul Sorlie, Ph.D., of the National Heart, Lung, and Blood Institute, in Bethesda, M.D., emphasize that these new results derived from such a large study population should give readers pause. Although previous epidemiological studies have suggested that there is a cardiovascular benefit associated with moderate alcohol consumption, the excess cancer risk identified in the current study may outweigh that benefit. "From a standpoint of cancer risk, the message of this report could not be clearer. There is no level of alcohol consumption that can be considered safe," the editorialists write.

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- Editorial: Alcohol, Cardiovascular Disease, and Cancer: Treat With Caution. J Natl Cancer Inst 2009;101: 282-283

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