

# Smoking may be associated with increased risk of breast cancer: study

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Smoking before menopause, especially prior to giving birth, may be associated with a modest increase in the risk of developing breast cancer, according to a report in the January 24 issue of *Archives of Internal Medicine*.

"[Breast cancer](#) is the most common cancer to affect women worldwide," according to background information in the article. "[Tobacco smoke](#) contains potential human breast carcinogens, including polycyclic aromatic hydrocarbons, aromatic amines and N-nitrosamines."

Using data collected from the Nurses' Health Study, Fei Xue, M.D., Sc.D., of Brigham and Women's Hospital and Harvard Medical School, Boston, and colleagues examined the records of 111,140 women from 1976 to 2006 for active smoking and 36,017 women from 1982 to 2006 for passive (secondhand) smoking.

A total of 8,772 breast cancer cases developed during follow-up. The development of breast cancer was associated with a higher quantity of current and past smoking, smoking for a longer period of time, younger age at smoking initiation and more pack-years (product of the number of packs per day and the number of years that quantity was smoked) of smoking.

"Smoking before menopause was positively associated with breast cancer risk, and there were hints from our results that smoking after menopause might be associated with a slightly decreased breast cancer risk," the authors write. "This difference suggests an antiestrogenic effect of smoking among postmenopausal women that may further reduce their already low endogenous estrogen levels."

Conversely, never smoking and [passive smoking](#) in childhood or adulthood were not associated with an increase in [breast cancer risk](#). Exposure to parents who smoked while living in the same

house, passive smoking while at work or at home and the number of years living with someone who smoked were not related to increased risk of breast cancer after adjusting for other possible factors.

"In the present study, we created an index of active smoking that integrates quantity, age at which one started smoking and duration of smoking," the authors conclude. "The results suggested that, although an elevated risk for light smokers and moderate smokers was not apparent, heavy smokers who started smoking early in life, smoked for a long duration and smoked a high quantity were at the highest risk of breast cancer, supporting an independent and additive effect from various [smoking](#) measures on breast carcinogenesis."

**More information:** *Arch Intern Med.* 2011;171[2]:125-133

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