

Night shift work and breast cancer

A new cohort study has concluded that night shift work does not increase the risk of breast cancer.

The study population consisted of 102 869 women from the Generations Study cohort in the UK who had no previous invasive or in situ breast cancer, recruited from 2003 to 2014. The investigators used a series of detailed questionnaires to estimate the risk of breast cancer related to night shift work in the past 10 years. Follow-up information and confirmation of cases of breast cancer was available for 99% of participants in the study.

At a median follow-up of 9.5 years, 2059 women had developed invasive breast cancer. "There was no overall association between working at night and the risk of breast cancer", commented co-author Michael Jones (The Institute of Cancer Research, London, UK). With adjustment for

confounding factors, the hazard ratio for breast cancer in relation to night shift work was 1.00 (95% CI 0.86–1.15; $p=0.96$). The risk of breast cancer did not significantly increase with hours worked per night, nights worked per week, cumulative hours worked, time since cessation of night shift work, type of occupation, age at which women started night shift work, or age at which women started shift work in relation to their first pregnancy. As the study was based on women in the UK, speaking to *The Lancet Oncology*, Jones cautioned that patterns might be different in women from different ethnic groups.

Average hours of night work per week was the only variable that showed a significant trend (fully adjusted $p_{\text{trend}}=0.035$). Jones thinks that this particular association might

have been a chance occurrence. "It is unusual to see one trend popping out in the absence of any other associations", he commented. "When operating a 0.05 significance level, you would expect one in 20 associations to show as significant even if there was no real effect."

Georgina Hill (Cancer Research UK, London, UK) welcomed the results. "They add to the existing evidence that there is no link between night shift work and breast cancer", she said. She noted that the International Agency for Research on Cancer currently classifies night shift work as "probably carcinogenic", and the agency is in the process of reviewing the literature on the subject. "It will be interesting to see whether they will downgrade night shift work as a risk factor for breast cancer", said Hill.

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For the study by Jones and colleagues see *Br J Cancer* 2019; published online May 29. <http://dx.doi.org/10.1038/S41416-019-0485-7>