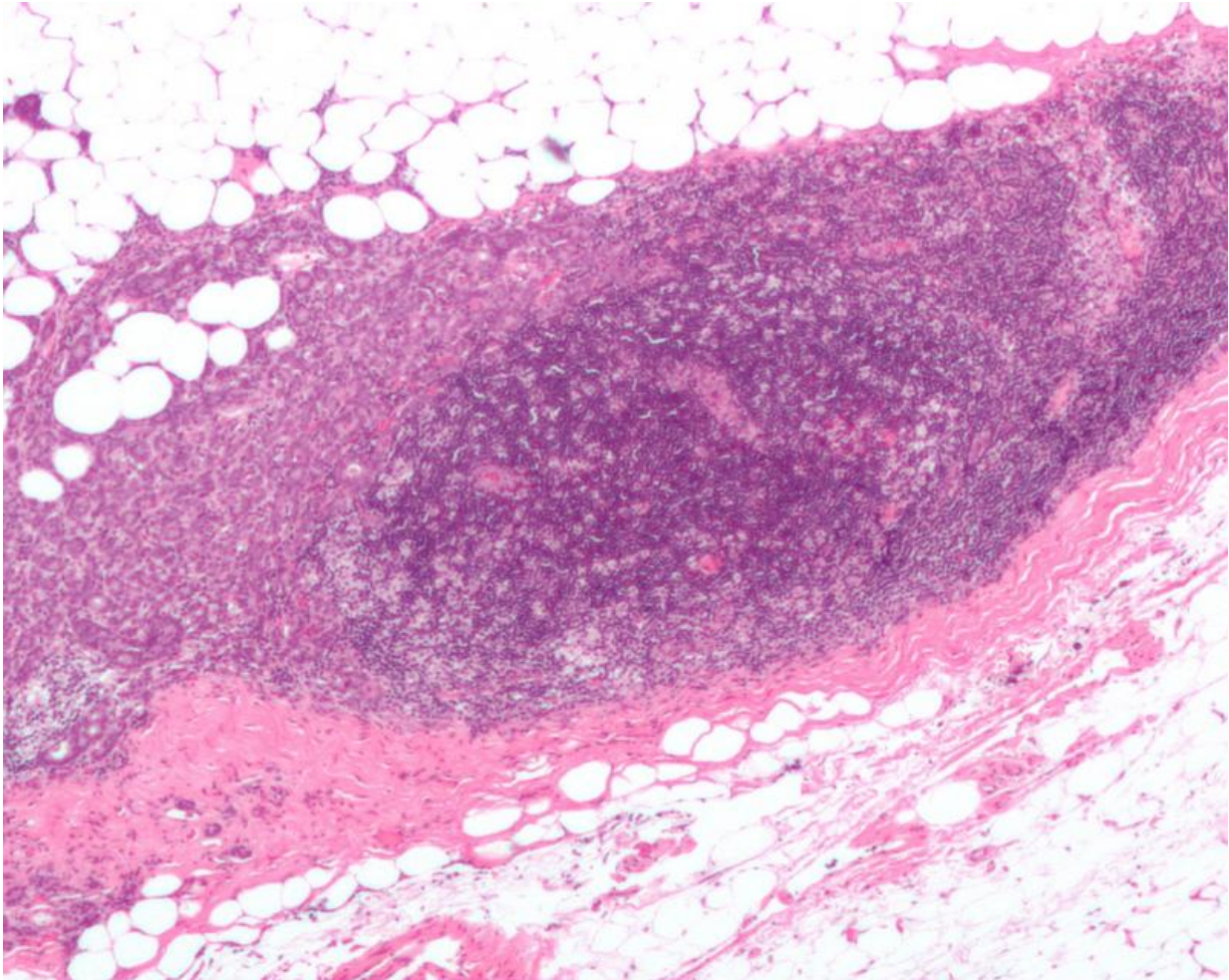


# Night shift work and breast cancer risk

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Micrograph showing a lymph node invaded by ductal breast carcinoma, with extension of the tumour beyond the lymph node. Credit: Nephron/Wikipedia

Despite an assessment in 2007 indicating that night shift work was

probably carcinogenic, data from three new studies and from a review of currently available evidence, published in the *Journal of the National Cancer Institute*, indicate that night shift work has little or no effect on breast cancer incidence.

In its 2007 review, the World Health Organization's International Agency for Research on Cancer categorized shift work that involves disruption of the circadian rhythm, people's internal "body clock," as a probable carcinogen. This was based on evidence about breast cancer in animal studies. At the time there was only limited evidence about [breast cancer risk](#) in humans.

To examine whether night shift work could increase women's risk of developing breast cancer, Ruth Travis, DPhil, and colleagues from the Cancer Epidemiology Unit at Oxford University, United Kingdom, followed a total 800,000 women in three large UK studies and estimated the relative risks of breast cancer among women who reported night shift work versus no night shift work.

Overall 522, 246 participants in the Million Women Study, 22,559 EPIC-Oxford participants, and 251,045 UK Biobank participants answered questions on shift work and were followed for incident cancer. No increase in breast cancer risk associated with night shift work, including long-term night shifts, was found in any of these studies.

In a meta-analysis of the worldwide evidence the authors combined results from the three UK studies with those from all seven previously published prospective studies (two in the USA, two in China, two in Sweden, and one in the Netherlands). The 10 studies included a total of 1.4 million women among whom 4660 breast cancers occurred in women who reported ever having done night shift work.

Dr. Travis said: "We found that women who had worked night shifts,

including long-term night shifts, were not more likely to develop breast cancer, either in the 3 new UK studies or when we combined results from all 10 studies that had published relevant data."

Compared with women who had not reported doing night shift work, the combined relative risks taking all 10 studies together were 0.99 for any night shift work, 1.01 for 20 or more years of night shift work, and 1.00 for 30 or more years night shift work. In other words, the incidence of [breast cancer](#) was essentially the same whether someone did no night [shift work](#) at all or did [night shift](#) work for several decades.

**More information:** "Night Shift Work and Breast Cancer Incidence: Three Prospective Studies and Meta-analysis of Published Studies" [DOI: 10.1093/jnci/djw169](#) , [jnci.oxfordjournals.org/content/108/12/djw169](#)

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