

Does night work put women's health at risk?

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Breast cancer is the number one cause of female mortality. It affects 100 out of 100,000 women per year in developed countries. Each year, more than 1.3 million new cases are diagnosed, 53,000 of these in France.

The risk factors of breast cancer are varied. They include [genetic mutations](#), late first pregnancy, low parity or hormone therapy, but other causes of breast cancer such as way of life, environmental or professional causes have not yet been completely identified.

In 2010, based on experimental and epidemiological work, the International Agency for Research on Cancer (IARC) classified work that disturbed the circadian rhythm as being "probably carcinogenic". The circadian rhythm, that regulates the alternation between [wakefulness](#) and sleep, controls numerous biological functions and is altered in people who work at night or who have disrupted working hours. Several hypotheses have been put forward to explain the observed links between night work and breast cancer: exposure to light during the night, that eliminates the nocturnal melatonin surge and its anti-carcinogenic effects, disturbed functioning of the biological [clock genes](#) that control cell proliferation, or [sleep disorders](#) that can weaken the immune system.

So the Inserm researchers examined the effect of night work on the health of women in a major population study carried out in France between 2005 and 2008. The careers of 3000 women were examined, including each period of night work. In total, over 11% of women had worked nights at some time during their career.

The risk of developing breast cancer was 30% higher in women who had worked nights compared to women who had never worked nights. This increased risk was particularly marked in women who had worked nights for over four years, or in women whose working rhythm was less than 3 nights per week, because this led to more frequent disturbances between night and day rhythms.

Finally, the link between night work and [breast cancer](#) seemed to be more marked when we looked at women who had worked at night prior to a first pregnancy. An explanation for this result could be that the mammary cells, incompletely differentiated in women before their first pregnancy, are more vulnerable.

"Our work has corroborated the results of previous studies and poses the problem of taking night work into consideration in public health management, especially since the number of women working atypical hours is on the increase", states Pascal Guénel, the main author of this work.

More information: Night work and breast cancer: a population-based case-control study in France (the CECILE study) , *International Journal of Cancer*, [onlinelibrary.wiley.com/doi/10 ... 2/ijc.27669/abstract](https://onlinelibrary.wiley.com/doi/10.1002/ijc.27669/abstract)

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