

# Night shift might boost women's breast cancer risk: study

May 29 2012, By Steven Reinberg, HealthDay Reporter

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Also, risk differences seen in 'morning' versus 'evening' people.

(HealthDay) -- Women who work the night shift more than twice a week might be increasing their risk for breast cancer, Danish researchers find.

Moreover, the risk appears to be cumulative and highest among women who describe themselves as "morning" people rather than "evening" people, the researchers say.

"About 10 to 20 percent of women in modern societies have [night shift work](#)," said lead researcher Johnni Hansen. "It might therefore be one of the largest occupational problems related to cancer."

Right now, the reasons for these findings are uncertain.

"Night shift work involves exposure to light at night, which decreases the

production of the night [hormone melatonin](#) that seems to protect against certain cancers," said Hansen, of the Institute of [Cancer Epidemiology](#) at the Danish Cancer Society, in Copenhagen.

In addition, light at night might introduce circadian disruption, where the [master clock](#) in the brain becomes desynchronized from local cellular clocks in different body organs, affecting the breast, he said.

"Repeated phase shifting may lead to defects in the regulation of the circadian cell cycle, thus favoring uncontrolled growth," Hansen said.

Also, sleep deprivation after night shift work leads to the suppression of the immune system, which might increase the growth of [cancer cells](#), he added.

This is not the first time this association has been recognized. In 2007 the International Agency for Research on Cancer, part of the [World Health Organization](#), said that working the night shift is "probably carcinogenic to humans," according to background information in the study.

The new study was published in the May 28 online edition of *Occupational and Environmental Medicine*.

To determine the effect of night shift work on the risk for [breast cancer](#), Hansen's team collected data on more than 18,500 women who worked for the Danish Army between 1964 and 1999.

The researchers identified 210 women who had breast cancer and compared them to almost 900 similar women who did not have breast cancer.

All of the women were asked about their working patterns, lifestyles and

other factors such as their use of contraceptives and hormone replacement therapy, and their sunbathing habits.

In addition, women were asked to classify themselves as "morning" or "evening" people.

In all, 141 women with breast cancer responded to the study questionnaires. In addition, 551 women who did not have breast cancer responded.

Among these women, the risk for breast cancer was increased 40 percent if they worked at night, the researchers found.

But for women who worked nights at least three times a week, and for at least six years, the risk was doubled, the findings showed.

Women who worked the night shift but who described themselves as morning people were at even higher risk of breast cancer. They were almost four times more likely to develop breast cancer as those who didn't work nights, according to the researchers.

In comparison, women who considered themselves evening people were twice as likely to develop breast cancer, they added.

Morning-preferring women who did not work at night had a lower overall risk of breast cancer than evening types, Hansen's team found.

"Since night shift work is unavoidable in modern societies, this type of work should be limited in duration and limited to less than three night shifts per week," Hansen said. "In particular, morning types should limit their night work," he added.

While the study found an association between night shift work and

breast cancer, it did not prove a cause-and-effect relationship.

Men who work at night may also be at risk for prostate cancer, Hansen noted. This evidence comes from three small studies, he said.

Dr. Stephanie Bernik, chief of surgical oncology at Lenox Hill Hospital in New York City, said that "it's very hard to single out the causes of breast cancer and whether [women](#) on the night shift have a higher risk."

But there appears to be some truth to this, she added.

"Stress increases the risk of breast cancer and affects the body as a whole, and working at night can throw off your circadian rhythm and cause stress," Bernik said.

"This is another finding that breast cancer is caused by a multitude of different environmental and genetic influences, so this is probably a piece of the puzzle," she added.

An expert on environmental factors that affect cancer, Richard Stevens, from the department of community medicine at the UConn Health Center in Farmington, Conn., said that "the evidence is growing rapidly about light at night and, specifically, [shift work](#) and breast cancer."

"But, this is the first study about the morning/evening preference," he noted.

"If it's true that light at night increases the risk of disease, then there are very practical implications," Stevens said.

If lighting is really an issue in night work, it is known which wavelengths suppress melatonin the most, and lighting could be adjusted to eliminate those wavelengths, he explained.

There are other things people can do to avoid the effects of light at night on health, he added.

"For example, for health in general, if you wake up during the night, stay in the dark; don't turn on the light. If you turn on the lights it will start suppressing melatonin immediately," Stevens said.

"There is a lot more involved than [melatonin](#), but it's a good marker if your circadian rhythm is being changed," he said.

Studies are ongoing on the risk of night work and prostate cancer, Stevens noted.

**More information:** For more about breast cancer, visit the [American Cancer Society](#).

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Citation: Night shift might boost women's breast cancer risk: study (2012, May 29) retrieved 11 July 2024 from <https://medicalxpress.com/news/2012-05-night-shift-boost-women-breast.html>

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