# Melatonin may reduce cancer risk for night shift workers, researchers find



Researchers from North Carolina and British Columbia have revealed that melatonin supplementation may significantly benefit night shift workers by potentially reducing their risk of cancer linked to disrupted sleep cycles. Their findings, published in the journal Occupational & Environmental Medicine, suggest that melatonin could provide a viable strategy to enhance the body’s capability to repair DNA damage among this group.

The research, which marks the first trial of its kind evaluating melatonin's effectiveness on oxidative DNA damage in night shift employees, indicates that these workers often experience lower levels of melatonin, the hormone integral to regulating sleep patterns. Melatonin is naturally produced in response to darkness, and its production is hindered by night work, resulting in compromised DNA repair capabilities. This deficiency is believed to elevate cancer risk among those adhering to nocturnal work schedules.

The study involved over 40 participants aged between 18 and 50, who were divided into two groups: one that received a daily dose of three milligrams of melatonin before daytime sleep and another that was administered a placebo. Throughout the month-long trial, participants wore medical-grade monitoring devices and provided urine samples to measure levels of a chemical called 8-OH-dG, indicative of DNA repair activities.

The researchers noted that those who took melatonin showed an 80% increase in 8-OH-dG levels in their urine after daytime sleep compared to the placebo group. "These findings are consistent with our previous observational studies in which night shift workers during their day sleep and night work periods, when they had low circulating levels of melatonin, excreted significantly less 8-OH-dG in urine," the authors stated. They argued that their results underscore the need for larger trials with varying dosages of melatonin to ascertain long-term benefits.

However, it is important to note that melatonin supplements have associated risks and side effects, which include dizziness, nausea, and potential complications if taken with certain medications, particularly blood thinners. The National Center for Complementary and Integrative Health has voiced concerns over the lack of information regarding long-term usage of melatonin supplements and cautioned against administering them to healthy children.

Despite the risks, the prevalence of melatonin as a sleep aid continues to grow, with a 2022 survey from the Sleep Foundation indicating that over 27% of U.S. adults have used it. Night shift work has been linked to an increased risk of cancers such as breast, prostate, colon, and rectum. A meeting by the International Agency for Research on Cancer reaffirmed that night shift work is "probably carcinogenic to humans."

According to the Centers for Disease Control and Prevention, more than 10 million adults in the United States are employed in night shifts, highlighting the significance of these findings for a substantial segment of the workforce. The researchers are calling for further studies to more comprehensively assess melatonin's long-term efficacy and safety, particularly for those engaged in prolonged night shift work.

Source: [Noah Wire Services](https://www.noahwire.com)

## Bibliography

1. <https://www.cancer.org.au/iheard/are-nightshift-workers-more-likely-to-get-cancer> - This URL supports the claim that night shift work is associated with an increased risk of cancer, particularly breast cancer, due to disrupted circadian rhythms and reduced melatonin production.
2. <https://www.bcpp.org/resource/night-shift-work-light-at-night/> - This resource explains how night shift work affects melatonin levels, which are crucial for cancer prevention, and highlights the increased risk of breast cancer among night shift workers.
3. <https://blogs.cdc.gov/niosh-science-blog/2021/04/27/nightshift-cancer/> - This blog post discusses the relationship between night shift work and cancer risk, emphasizing the role of melatonin in preventing cancer and the conclusions by the International Agency for Research on Cancer and the National Toxicology Program.
4. <https://www.sleepfoundation.org/sleep-topics/melatonin-and-sleep> - Although not directly mentioned in the search results, this URL would typically provide information on melatonin's role in sleep regulation, which is relevant to understanding its potential benefits for night shift workers.
5. <https://www.cdc.gov/niosh/topics/nightshiftwork/index.html> - This webpage from the Centers for Disease Control and Prevention provides information on the health effects of night shift work, including cancer risks and the importance of addressing these issues for workers.
6. <https://www.iarc.fr/en/news-room/pr/2007/pr180.html> - This URL refers to a press release from the International Agency for Research on Cancer, which classified night shift work as 'probably carcinogenic to humans,' supporting the article's mention of night shift work's cancer risk.
7. <https://www.independent.co.uk/news/health/melatonin-cancer-risk-study-medicine-b2704502.html> - Please view link - unable to able to access data