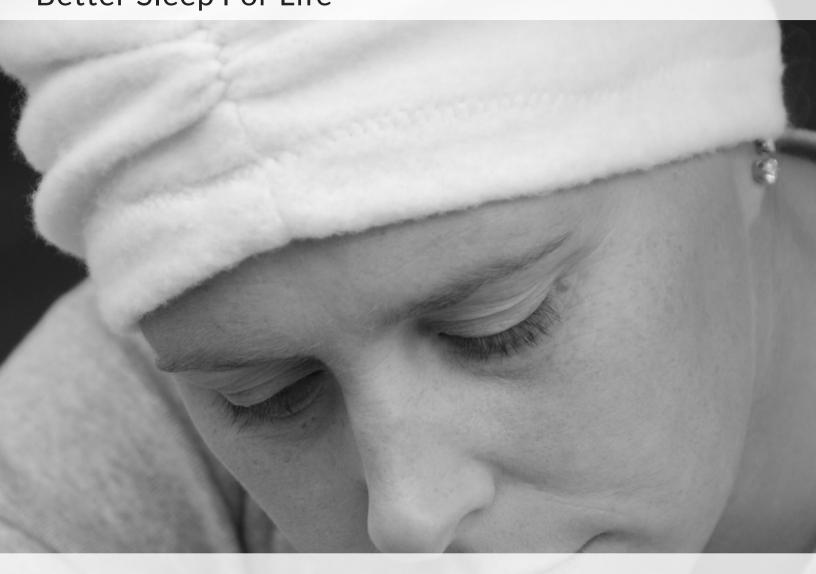
Better Sleep For Life

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### Sleep and Cancer



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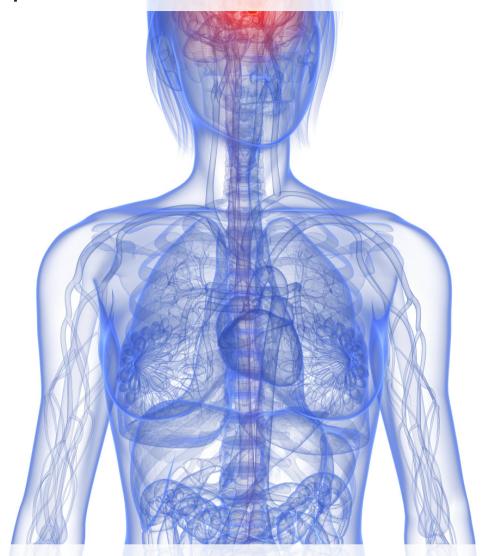


Sleep problems may be a risk factor for developing certain types of cancer. They may also affect the progression of cancer and the effectiveness of treatment.

In addition, cancer can affect sleep. Symptoms of cancer or side effects of treatment may cause sleeping problems, reducing quality of life in people with the disease.

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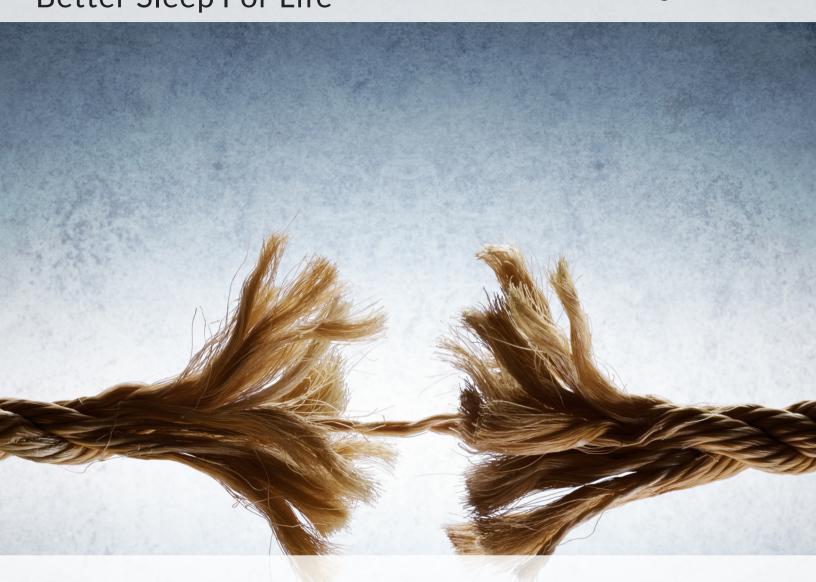
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Cancer can also lead to lasting physical and mental changes that hinder sleep, including in cancer survivors who have long completed treatment.

Some of the systems that may be influenced by sleep in ways that affect cancer risk include the brain, the immune system, the production and regulation of hormones, metabolism and body weight.

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#### HOW SLEEP AFFECTS CANCER RISK

The scientific evidence linking sleep disruption and cancer is now so damning that the World Health Organization has officially classified nighttime shift work as a "probable carcinogen."

Insufficient sleep has been strongly linked to obesity, an established risk factor for many types of cancer.

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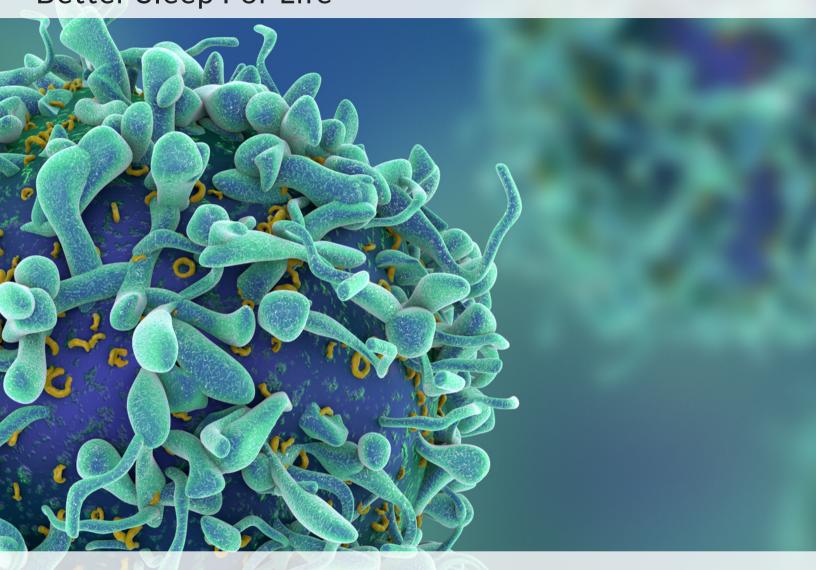
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Lack of sleep is related to immune system issues like persistent inflammation, which is believed to raise cancer risk.

Sleep apnea is believed to generate an environment conducive to cancer.

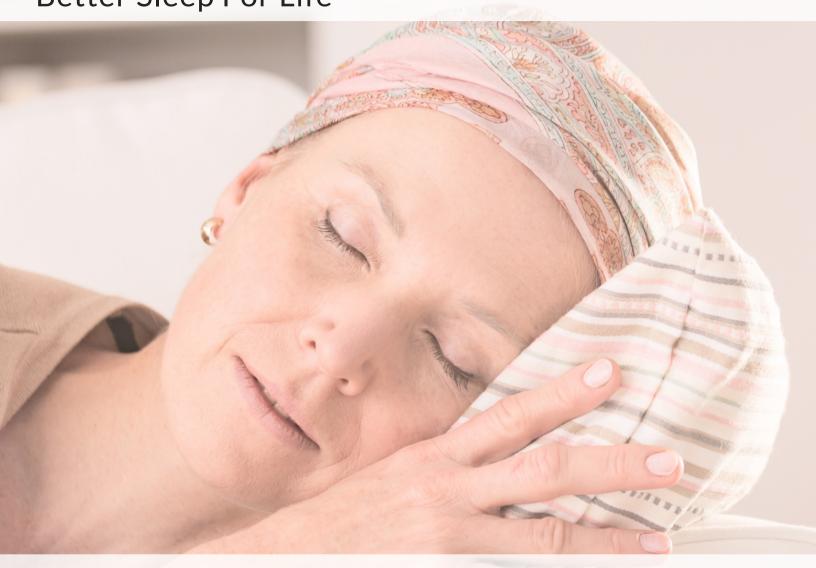
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In animal studies, sleep deprivation has been connected to greater "wear and tear" on cells, potentially leading to the type of DNA damage that can give rise to cancer.

In studies with mice, fragmented sleep triggered types of inflammation that promoted tumour growth and progression.

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An observational study involving over 4,000 women found an association between restless sleep and triplenegative breast cancer, an aggressive form of the disease.

In a smaller study, men who suffered from sleep disruptions had a greater risk of developing prostate cancer with the highest risk among those with the most pronounced sleep interruptions.

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#### **SLEEP AND CANCER PROGRESSION**

Sleep may play a role in how cancer progresses over time. Some of the factors related to cancer risk, such as the impact of sleep on hormones, metabolism, and inflammation, may affect cancer's aggressiveness.

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A study looking at sleep and colorectal cancer showed that people who had short sleep duration before their diagnosis had an increased risk of cancer mortality.

Obstructive sleep apnea is also believed to have a potential role in cancer progression because hypoxia and sleep fragmentation may enable tumours to more easily metastasise to other parts of the body.

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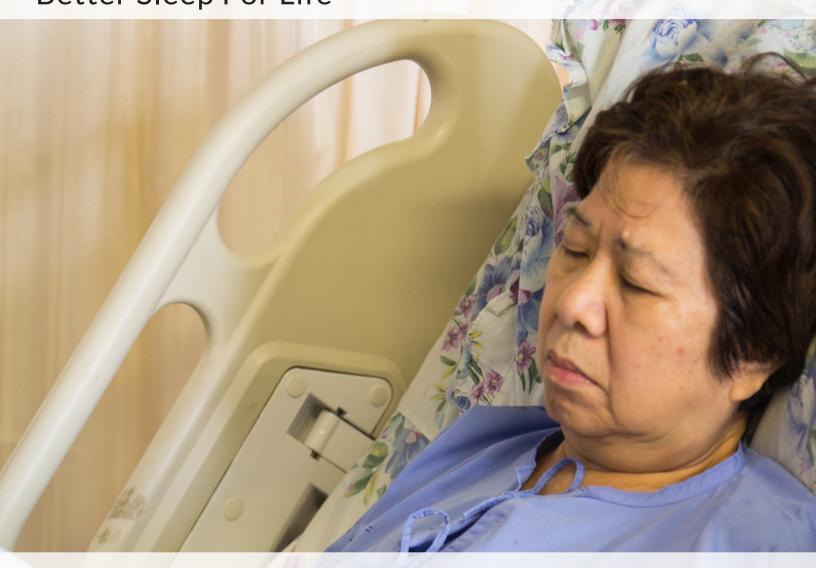


#### HOW CANCER AFFECTS SLEEP

Cancer survivors list sleep as one of the most important issues for their health and it is estimated that half of all people with cancer have sleep problems.

The rate of disrupted sleep appears to be even higher in patients with advanced cancer, reaching up to 72%.

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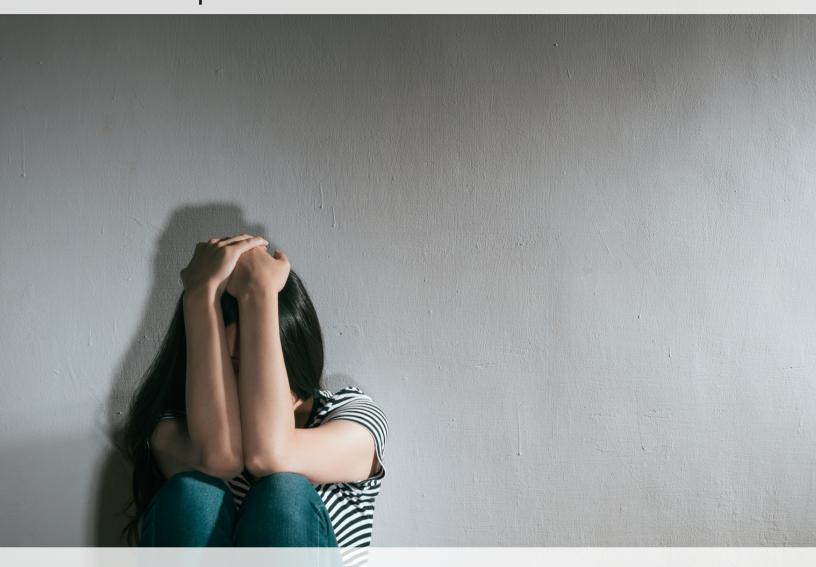
There are numerous potential causes of sleeping problems in people with cancer including:

Pain or discomfort caused by a tumour or by treatment

Gastrointestinal or urinary problems caused by cancer or its treatment

Struggles to sleep during hospital stays

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Stress, anxiety, and depression that can result from having cancer

Infection and fever, which may occur as a result of reduced immune function during chemotherapy

Cough or difficulty breathing

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Side effects from medications, including pain medications, which may cause drowsiness but interfere with quality sleep

Disrupted sleep schedule resulting from daytime fatigue and napping

Symptoms of other sleep disorders induced by cancer or its treatment

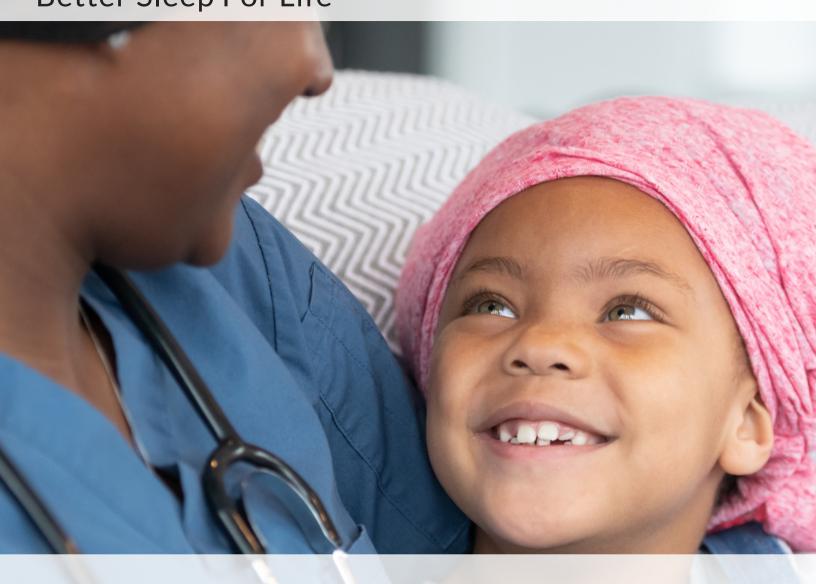
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Caregivers of people with cancer frequently encounter their own sleep challenges. Fragmented sleep from nighttime interruptions to provide care, heightened levels of stress and anxiety, and lack of time to address their own health needs can all play a part in poor sleep among caregivers.

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Lack of sleep can create risks for their own health, worsen depression, and hinder their ability to effectively provide quality care.

In one study, 89% of caregivers of breast cancer patients reported sleeping problems.