

# Sleep Disturbances in Acutely Ill Patients with Cancer



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## KEYWORDS

- Sleep • Cancer • Critical illness • Sleep deprivation • Intensive care • Sleep quality
- Insomnia • Sleep disorders

## KEY POINTS

- Intensive care units (ICUs) provide specialized care to patients at risk for serious complications of cancer or its treatment.
- ICU-related sleep disturbances in conjunction with cancer-related sleep disturbance risk factors pose a significant clinical problem for patients with cancer.
- Routine assessment of sleep disturbances using a variety of tools can provide the basis for new approaches to treatment of sleep during acute illness.
- Effective treatment of sleep disturbances includes managing cancer-related symptoms, and implementing pharmacologic, nonpharmacologic, and environmental interventions.
- Nurses are well positioned to promote sleep health and generate knowledge about sleep disturbance through research.

Sleep, a vital component of human life, provides necessary restorative, protective, and energy-conserving functions. Sleep disturbances and fatigue are the most common symptoms in adults with cancer.<sup>1</sup> New-onset sleep disturbance or deterioration of sleep quality and quantity is a pervasive and disabling problem linked to cancer surgery, chemotherapy, hematopoietic stem cell transplant (HCT), radiation therapy,<sup>2-5</sup> and cancer itself. Difficulty falling asleep (onset insomnia), maintaining sleep, and excessive daytime sleepiness that develop during acute cancer treatment can

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become enduring concerns, persisting long after completion of cancer treatments.<sup>6</sup> Moreover, when patients with cancer develop critical conditions requiring intensive care unit (ICU) admission, sleep is further compromised.

Many patients in medical ICUs have preexisting sleep disorders, particularly older adults,<sup>7</sup> and others show new sleep disturbances and deprivation.<sup>8–10</sup> **Table 1** describes common sleep disorders that may be present in acutely ill patients with cancer. Impaired sleep is linked to increased mortality, slowed recovery, altered immune function, and impaired cognition.<sup>11–13</sup> ICUs provide specialized care to individuals at risk for acute life-threatening complications of cancer or its treatment, particularly those with hematologic cancers (eg, leukemia, lymphoma) and lung cancer.<sup>14</sup> Pulmonary complications requiring ventilation, dialysis for renal failure, sepsis, neurologic disorders, and cardiovascular problems requiring vasopressor support are the most common critical complications of cancer leading to ICU admission.<sup>15,16</sup> Patients undergoing HCT often are transferred to ICUs for acute graft-versus-host disease, alveolar hemorrhage, and veno-occlusive disease of the liver; and nearly one-third require mechanical ventilation.<sup>15,17</sup> Cancer treatment complications and monitoring negatively affect sleep in ICUs. Combined with vulnerability to sleep issues that arise from cancer, ICU-related sleep disturbances pose a significant clinical problem.

Despite the high prevalence of sleep disturbances, research suggests that the communication about sleep in patients with cancer is suboptimal<sup>18</sup> and sleep problems are not regularly assessed or adequately treated throughout the cancer trajectory.<sup>19</sup> However, many sleep problems and fatigue can be managed effectively. Recognition of the frequency and characteristics of cancer-related sleep disturbances can provide the basis of new approaches to supportive care during and after acute illness. This article, therefore, synthesizes current literature about the prevalence, causes, and factors contributing to sleep disturbance in the context of acute cancer care, describes the consequences of poor sleep, and presents appropriate assessment and treatment options.

## PREVALENCE OF CANCER-RELATED SLEEP DISTURBANCE

The prevalence and severity of sleep disturbances in oncology populations is difficult to determine because of patient underreporting, inconsistent evaluation by health care providers, and disparate sleep measures. Estimates suggest that more than one-half of patients with cancer experience some degree of sleep disturbance.<sup>20,21</sup> In comparison, sleep disturbance affects only 10% to 15% of the general population.<sup>22</sup> Of note, cancer-related fatigue (CRF) is highly correlated with poor sleep and is estimated to occur in 50% to 90% of patients with cancer.<sup>23</sup>

Sleep disturbances worsen during hospitalization and intensive treatment when the need for restorative sleep is greatest.<sup>24</sup> For example, insomnia was the most distressing symptom reported by 32% of HCT patients (N = 76) on the day of transplant.<sup>25</sup> In another study, of patients undergoing HCT (N = 44), 32% reported sleep disturbance before hospital admission, 77% during the hospital stay, and 28% after discharge.<sup>26</sup> These participants averaged 337 minutes of total sleep with 36% reporting 300 minutes or less per night.<sup>26</sup> Similarly, Hacker and colleagues<sup>5</sup> reported a mean of only 232 minutes of total sleep as measured by actigraphy in patients during HCT (N = 40). Taken together, these studies suggest that sleep disturbance and deprivation is not a trivial health issue for patients with cancer during hospitalization and during acute phases of the cancer trajectory.

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