

Approach to Disorders of Sleep in Hospitalized Patients



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KEYWORDS

- Sleep disturbance • Hospitalized patients • Sleep disordered breathing
- Hypoxemia • Insomnia • Apnea • PAP therapy • Hypoventilation

HOSPITAL MEDICINE CLINICS CHECKLIST

1. Sleep disturbance is common in hospitalized patients.
2. Insomnia and obstructive sleep apnea are the most common sleep disorders seen in hospitalized patients.
3. Approach to sleep disruption includes:
 - a. Focused history and physical examination.
 - b. Nonpharmacologic therapies to treat insomnia.
 - c. Pharmacologic therapies must be individualized and based on comorbid conditions and age.
4. Sleep disordered breathing may be diagnosed incidentally during hospitalization.
5. Sleep apnea is treated with positive airway pressure.
6. Limited channel sleep studies may be obtained in some facilities and enable expedited treatment of sleep disordered breathing for home transition.
7. Hypoventilation and/or respiratory failure may also be treated with noninvasive positive pressure devices and discharge planning should be involved early in assisting patients for home therapy.

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BACKGROUND

What are the common causes of sleep disruption in hospitalized patients?

Sleep disruption is common in hospitalized patients and multifactorial in cause. Studies of hospitalized patients have shown that sleep time is decreased and fragmented. There is significant reduction in deep sleep and increased lighter stages of sleep and intermittent wakefulness. Hospitalized patients often complain of insomnia with difficulty falling asleep and staying asleep, early awakening, and nonrestorative sleep. There are many contributing factors that impair sleep during hospitalization (**Box 1**).

Patients often have complex medical conditions that put them at higher risk of having sleep disruption and the associated sequelae that can result from sleep deprivation. Pain, anxiety, medications, treatments, and the environment of the hospital all contribute to sleep disruption.

Circadian Misalignment

Another cause, not commonly thought of, is misalignment of the circadian sleep rhythm. Circadian rhythm is the natural endogenous cycle of sleep that governs sleep onset and termination. The suprachiasmatic nucleus is considered the circadian pacemaker and regulates the balance between homeostatic sleep need and intrinsic body clock, which is regulated by light, ambient temperature, cognition and mood, and the hormones cortisol and melatonin.^{1,2} If the external, physiologic, or behavior processes are disrupted, which often occurs in hospitalized patients, then a circadian misalignment can occur and disrupt the individual's sleep. Melatonin use in the hospital can help realign the circadian rhythm because it may directly reset the endogenous circadian pacemaker.³ Melatonin has a small but significant effect on sleep latency (time it takes to fall asleep) with adverse side effects that include headaches, dizziness, nausea, and drowsiness.⁴ Of note: use caution when adding melatonin to a patient who is on warfarin therapy because there is a significant drug-drug interaction causing hypercoagulable state.

Medications

Although medications are a necessary component of patients' treatment, they can intrinsically disrupt sleep or the side effects from the medication may disrupt sleep. Awareness of these factors can allow hospitalists to alter drug therapy appropriately (**Table 1**). It is inevitable that when making medication management decisions the risks are weighed against the benefits. Hospitalists must consider what factors or changes can be made to minimize sleep disturbance in patients who must take medications that predispose them to sleep disruption, including:

Box 1

Common causes of sleep disruption in hospitalized patients

- Pain
- Anxiety
- Medication side effects
- Hospital environment (increased noise levels, unneeded light in evening, staff interruptions)
- Circadian rhythm misalignment
- General medical disorders
- Primary sleep disorders

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