



## KEY POINT SUMMARY

### OBJECTIVES

To review interventional and observational studies related to exogenous, non-pharmacological strategies for improving patient sleep within hospital environments.

## Improving Inpatient Environments to Support Patient Sleep

Dubose, J.R., Hadi, K. 2016 | *International Journal for Quality in Health care*, Volume 5, Issue 28, Pages 540-553

### Key Concepts/Context

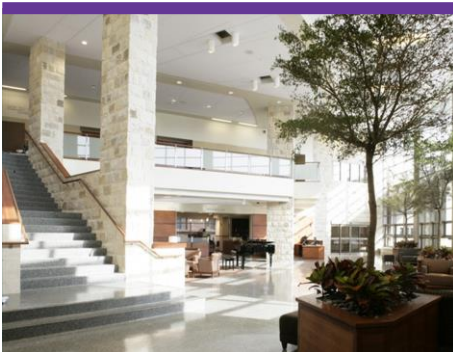
The importance of sleep in the healing process, as well as the dangers of sleep deprivation, have been thoroughly studied within previously published literature. During sleep, the brain filters out non-threatening stimuli so that we can remain unconscious of our environment, yet it also maintains a threshold of sensory stimulation that awakens us in the case of potential threats. Since hospitals are busy environments with high levels of sensory stimuli, vulnerable patient populations may become more easily susceptible to inadequate healing conditions.

### Methods

The authors of this study categorize sleep support into three different categories: reducing external stimuli (Environmental), interrupting the flow of stimuli from the environment to the patient (Intermediate), and reducing the patient's attention towards the stimuli (Internal). A literature review was conducted exploring non-pharmacological sleep improvement practices in situations where sleep disruptions were caused solely by environmental factors (as opposed to pain, ventilators, or sleep-disordered breathing). After 13,113 articles published between 1970 and 2015 were retrieved, only 40 met all of the authors' criteria for close analysis.

### Findings

Each study varied significantly in methods, variables, overall design, sample sizes, and measurement techniques. Most of the studies investigated the effects of several interventions at once, making it difficult for the authors to determine the effectiveness of individual measures. One study found that private patient rooms were associated with healthier sleep patterns, while another study found that lower patient room temperatures during sleep hours resulted in greater sleep efficiency. Several studies found that high levels of noise and light are directly related to poor sleep quality; non-pharmacological interventions for these issues included earplugs



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and eye masks. However, altering the physical environment of the hospital proved the most effective in mitigating these issues.

**Limitations**

This paper is a systematic review; no original data were gathered or incorporated into the findings. A few large databases were excluded from the authors' search, possibly contributing to the relatively small number of relevant studies that were ultimately found and analyzed. The authors note that the diversity of independent and dependent variables within all of the analyzed studies makes it difficult to pinpoint singularly effective interventions for improving sleep in healthcare environments.

**Design Implications**

Analysis of the research reviewed in this study suggests that single-patient rooms with strategically placed windows and doors could help minimize unwanted levels of light and noise, resulting in improved sleep patterns for patients. Giving patients some degree of control over room temperature may improve sleep quality, but this study suggests that lower temperatures are generally more effective at promoting healthier durations of sleep.

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