



**Don't Statement:**

Don't wake the patient for routine care unless the patient's condition or care specifically requires it.

**Statement of Rationale:**

Sleep is a 'periodic reversible state of cognitive and sensory disengagement from the external environment' that is essential for rest, repair, well-being and survival. Normal sleep consists of 4-6 cycles of 90-100 minute periods with cycles of REM and nonREM sleep (Kamdard, Needham and Collop, 2012). Studies of normal subjects show sleep deprivation negatively affects ventilatory, circulatory, immunologic, hormonal and metabolic stability. Sleep deprivation also impacts a person's ability to perform physical activities and affects cognitive function as evidenced by delirium, depression and other psychiatric impairments.

Multiple environmental factors affect a hospitalized person's ability for normal restorative sleep. These include noise, patient care activities including assessment, measuring vital signs, equipment adjustment, medication administration, phlebotomy, radiographs, bathing and lighting levels. Patient-related factors involve pain, response to medication and comorbid conditions.

Among the recommendations to improve a hospitalized person's ability to sleep are reduced noise and light, consolidation of patient care activities, and nonpharmacologic sleep aids, such as eyeshades, ear plugs, music and tailoring patient care interventions to meet patient needs. Other interventions include changing nighttime nursing routines and maintaining day-night cycles that support normal circadian rhythms.

**Background:**

There is a perception among nurses that patient safety requires patient assessment and monitoring at predetermined intervals around the clock. This generally involves activities such as measuring vital signs, repositioning, use of infusion pump alarms that signal completion of infusions and use of pre-set monitoring alarms unrelated to specific patient needs. Prevalent practice tailors patient care to the needs of the nurse and institution — for example, bathing at night, early morning phlebotomy and radiographs, and maintaining environmental lighting at daytime levels to keep the clinical staff awake. Prevalent practice may be efficient, but it fails to meet patient needs and there is no evidence to support a benefit in routine vital sign measurement, repositioning according to a schedule, bathing at night or awakening a stable patient to perform basic nursing care, especially at night.

**Evidence:**

Reference	Key Points
<p>Boyko Y, Ording H, Jennum P. Sleep disturbances in critically ill patients in ICU. <i>Acta Anaesthesiol Scand.</i> 2012;56:950-958.</p>	<p><b>Purpose:</b> Literature review describing sleep disturbances in the ICU and summarizing different aspects of sleep-wake disturbances, causes and methods of handling critically ill patients.</p>
<p>Chiu-Ping S, Hui-Ling L, En-Ting C, et al. A randomized controlled trial of the effects of listening to non-commercial music on quality of nocturnal sleep and relaxation indices on patients in the medical intensive care unit. <i>J Adv Nurs.</i> 2012;69(6):1377-1389.</p>	<p><b>Purpose:</b> Examine the effects of music on subjective and objective quality of sleep and relaxation response including heart rate, blood pressure and respiratory rate.</p> <p><b>Results:</b></p> <ul style="list-style-type: none"> <li>- Significantly lower heart rate after 20 minutes of listening to music</li> <li>- Music group had better subjective quality of sleep, better N2 and N3 sleep and lower heart rate</li> </ul> <p><b>Conclusion:</b></p> <ul style="list-style-type: none"> <li>- Medical ICU patients lack polysomnographic patterns of normal sleep</li> <li>- Listening to sedating music shortened N2 lengthened N3 and decreased heart rate in first 2 hours of sleep</li> </ul>
<p>Kamda BB, King LM, Collop NA, et al. The effect of a quality improvement intervention on perceived sleep quality. <i>Crit Care Med.</i> 2013;41(3):800-809.</p>	<p><b>Purpose:</b> Determine if quality improvement intervention improves sleep.</p> <p><b>Design:</b> pre/post measurement, multistage, 300 MICU patients</p> <p><b>Interventions:</b></p> <ul style="list-style-type: none"> <li>- Baseline assessment of sleep and noise</li> <li>- Staged implementation of interventions</li> </ul> <p><b>Results:</b></p> <ul style="list-style-type: none"> <li>- Significant improvement in perceived nighttime noise</li> <li>- Significant decrease in incidence of delirium</li> </ul>
<p>Konkani A, Oakley B. Noise in hospital intensive care units—a critical review of a critical topic. <i>J Crit Care.</i> 2021;27:522e1-522e9.</p>	<p><b>Purpose:</b> Review studies related to hospital noise in the ICU; understand sources and effects of noise; describe best practices; describe common problems in noise reduction methods.</p> <p><b>Results:</b></p> <ul style="list-style-type: none"> <li>- Sources of noise — staff, building (doors, air conditioners), equipment</li> <li>- None of the studies reported noise levels within those recommended levels by World Health Organization and Environmental Protection Agency</li> </ul>
<p>Pilkington S. Causes and consequences of sleep deprivation in hospitalized patients. <i>Nurs Stand.</i> 2013;27(49):35-42.</p>	<p><b>Purpose:</b> Determine factors that affect quality of sleep experienced by hospitalized patients and the effect of sleep deprivation their health and well-being.</p> <p><b>Results:</b></p> <ul style="list-style-type: none"> <li>- Environmental factors are a source of sleep deprivation</li> <li>- Critically ill patients receive up to 60 interruptions per night</li> <li>- Therapeutic and diagnostic procedures, noise and light continually arouse patients from sleep cycles</li> <li>- Extraneous noises — staff conversation, telephones, televisions — are</li> </ul>

	<p>major sources of environmental stimulation</p> <ul style="list-style-type: none"> <li>– Exposure to bright light affects melatonin level which interferes with circadian rhythm and sleep-wake cycles</li> <li>– Positive correlation between sleep deprivation and hyperalgesia</li> <li>– Anxiety and stress contribute to sleep deprivation</li> <li>– Sleep deprivation: <ul style="list-style-type: none"> <li>- Has biocognitive consequences</li> <li>- Results in altered immune function</li> <li>- Increases secretion of inflammatory markers</li> <li>- Is associated with a higher incidence of patient falls</li> </ul> </li> </ul> <p><b>Recommendations:</b></p> <ul style="list-style-type: none"> <li>– Decrease environmental factors, especially noise and light</li> </ul>
<p>Shu-Yen L, Tsae-Jyy W, Shue FVW, et al. Efficacy of controlling night-time noise and activities to improve patients sleep quality in a surgical intensive care unit, <i>J Clin Nurs</i>. 2011;20:396-407.</p>	<p><b>Purpose:</b> Test the efficacy of sleep guidelines for controlling nighttime noise and improving quality of sleep.</p> <p><b>Two-phase design:</b></p> <ul style="list-style-type: none"> <li>– Baseline data obtained on usual care, sleep quality and noise</li> <li>– Guidelines instituted, data collected</li> </ul> <p><b>Results:</b></p> <ul style="list-style-type: none"> <li>– Use of guidelines improved ratings of intervention group</li> <li>– Reduction of external stimuli promotes sleep</li> </ul>

**References:**

Boyko Y, Ording H, Jennum P. Sleep disturbances in critically ill patients in ICU. *Acta Anaesthesiol Scand*. 2012;56:950-958.

Chiu-Ping S, Hui-Ling L, En-Ting C, et al. A randomized controlled trial of the effects of listening to non-commercial music on quality of nocturnal sleep and relaxation indices on patients in the medical intensive care unit. *J Adv Nurs*. 2012;69(6):1377-1389.

Kamdar BB, Needham DM, Collop NA. Sleep deprivation in critical illness: Its role in physical and psychological recovery. *J Intensive Care Med*. 2012;27(2):97-111.

Kamda BB, King LM, Collop NA, et al. The effect of a quality improvement intervention on perceived sleep quality. *Crit Care Med*. 2013;41(3):800-809.

Konkani A, Oakley B. Noise in hospital intensive care units—a critical review of a critical topic. *J Crit Care*. 2021;27:522e1-522e9.

Pilkington S. Causes and consequences of sleep deprivation in hospitalized patients. *Nurs Stand*. 2013;27(49):35-42.

Shu-Yen L, Tsae-Jyy W, Shue FVW, et al. Efficacy of controlling night-time noise and activities to improve patients sleep quality in a surgical intensive care unit, *J Clin Nurs*. 2011;20:396-407.

Rev 10/14