The University of Arkansas for Medical Sciences
SICU Clinical Practice Management Guideline

SUBJECT: Sleep Protection Guidelines

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APPROVED: 12/2022
UPDATED: New
EFFECTIVE: 12/15/2022

PURPOSE: To provide a framework for promoting a sleep-conducive environment for patients in the Surgical ICU during usual sleep hours (2200 to 0400).

EXCLUSIONS:

This protocol is intended to include all SICU patients (including those on mechanical ventilation and sedation), except patients who are:

- Undergoing active resuscitation (i.e., multiple blood products)
- Substantial vasopressor requirement (norepinephrine > 10 mcg/min or multiple vasopressors besides vasopressin)
- Admitted during the planned protected sleep time
- Undergoing procedures during the planned protected sleep time
- Q1 neuro checks (Acute TBIs without stable head CT)
- Open chest
- SICU attending discretion

BACKGROUND:

Sleep is a vital component of overall health and well-being. In critically ill patients, sleep is often fragmented, if achieved at all. In a study analyzing the polysomnography of ICU patients at a tertiary referral center, the median sleep period was 3 minutes, and the majority of sleep achieved was stage 1 or 2 (non-restorative) sleep (1). Poor sleep in the ICU, in addition to being a significant stressor for our patients, is a risk factor for delirium, which in turn is associated with increased length of stay and mortality. The Society of Critical Care Medicine recommend(s) promoting sleep in adult ICU patients by optimizing patients' environments, using strategies to control light and noise, clustering patient care activities, and decreasing stimuli at night to protect patients' sleep cycles" (2). Given this background, we should strive to promote a sleep-hospitable culture and environment in our ICUs for our patients.

MANAGEMENT ALGORITHM:

For all patients qualifying for the Sleep Protection protocol, the SICU MD should place a communication order stating, "Initiate Nurse-Driven ICU Sleep Protocol." All patients should be eligible for this protocol by default unless included in the above "exclusions". This should ideally be discussed on daily AM rounds. It is the bedside nurse's responsibility to promote this for their assigned patients.

- During the day, the assigned nurse should:

- Discuss with the treatment team on AM rounds the appropriateness of the Sleep Protocol. Any concerns related to sleep from the previous night, as well as the results of the delirium screen, should also be discussed.
- Discuss with the treatment team any vascular or neuro checks that may be spaced out or discontinued, and ensure that the orders reflect that.
- Discuss with the treatment team the pharmacological therapy options for sleep that may be appropriate for the patient and ensure they are ordered.
    - Ensure pain is adequately controlled.
    - Oral Melatonin 3mg at 2000 should be the first-line agent for all patients who can have enteral medications in the ICU. Can increase by 3mg each day as needed to titrate to effect (up to 9mg).
    - Second line agents include:
        - Oral/Tube
            - Trazodone 50mg at 2100. Can increase by 50mg each day as needed (may need doses of 100 to 150 mg to affect sleep significantly). It can precipitate serotonin syndrome if used concurrently with SSRIs.
            - Quetiapine (Seroquel) 25 to 50mg at 2100. Can be increased by 25 mg/day as needed. Monitor for QT prolongation.
        - IV (if can't get enteral medications)
            - Olanzapine (Zyprexa) 5mg at 2100. Can increase by 2.5 mg/day as needed. Monitor for QT prolongation.
- Obtain the communication order to "Initiate Nurse-Driven ICU Sleep Protocol".
- Re-time labs and medication administrations to align outside of protected sleep time (2200 to 0400) as much as possible.
- Ensure that the window blinds are up and the patient is out of bed (if applicable) during the day shift.

- At night, the assigned nurse should:
    - Remind the assigned Respiratory Therapist that the patient has a sleep protocol in place.
    - Retime routine labs outside the 2200-0400 window, if not already done. STAT or TIMED labs will be drawn during that time frame, though.
    - Remind staff, including x-ray, respiratory, and other pertinent personnel, not to enter the patient's room between 2200 and 0400. "Daily" x-rays can be performed in the 0400-0600 window.
    - A 2300 head-to-toe assessment can be performed before protected sleep time.
    - Perform oral care before and after protected sleep time.
    - If the patient has an arterial line, turn off and disconnect the blood pressure cuff during the protected sleep time. Use the arterial line for any needed lab draws.
    - Administer sleep pharmacology medications, if appropriate, and ensure pain is adequately controlled.
    - At 2200:
        - The TV and lights should be turned off, shades drawn, and doors closed.
        - IV and monitor alarms should be turned on low or silenced.

- The patient should be offered a sleep mask and earplugs for use during sleep.
- Hold each other accountable to minimize noise and distractions.
- Cluster care/ nursing interventions, when possible.
- Place the patient on the preferred side for sleep to prevent skin breakdown.

- Post "Staff, do NOT enter, sleep protocol in place" sign on patient's door.

References:

1. Elliott R, McKinley S, Cistulli P, Fien M. Characterisation of sleep in intensive care using 24-hour polysomnography: an observational study. Crit Care. 2013 Mar 18;17(2):R46. doi: 10.1186/cc12565. PMID: 23506782; PMCID: PMC3733429.
2. Barr, Juliana MD, et al. Clinical Practice Guidelines for the Management of Pain, Agitation, and Delirium in Adult Patients in the Intensive Care Unit. Critical Care Medicine: January 2013 - Volume 41 - Issue 1 - p 263-306 doi: 10.1097/CCM.0b013e3182783b72
3. Kamdar BB, Martin JL, Needham DM, Ong MK. Promoting Sleep to Improve Delirium in the ICU. Crit Care Med. 2016 Dec;44(12):2290-2291. doi: 10.1097/CCM.0000000000001982. PMID: 27858818; PMCID: PMC5599108.