

7-22-24 Weekly Clinical Update

“Poor sleep is associated with worse physical function, including gait speed, in older adults. Sleep disturbance can adversely affect neuronal health, as supported by the observation that changes in sleep pattern increase the risk for dementia. Studies in LTC residents have linked sleep disturbance to decreased functional status, less functional recovery with rehabilitation, social disengagement, greater risk of falls, frailty, agitation, and higher mortality.” according to an article published in the National Library of Medicine. (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5957502/>). It also leads to decreased cognitive functioning and increases risks for dementia-related behaviors.

According to the National Institute on Aging (.gov), older adults need 7-9 hours of sleep each night. They say “an ongoing lack of sleep or poor-quality sleep increases the risk of health problems such as cardiovascular disease, high blood pressure, diabetes, depression and obesity.

(<https://www.nia.nih.gov/health/sleep/good-nights-sleep#:~:text=Older%20adults%20need%20about%20the,did%20when%20they%20were%20younger.>)

According to the Sleep Foundation, (<https://www.sleepfoundation.org/stages-of-sleep>) “When thinking about getting the sleep you need, it is normal to focus on how many hours of sleep you get. While sleep duration is undoubtedly important, it is not the only part of the equation.

It is also critical to think about sleep quality and whether the time spent sleeping is actually restorative. Progressing smoothly multiple times through the sleep cycle, composed of four separate sleep stages, is a vital part of getting high-quality rest.

Each sleep stage plays a part in allowing the mind and body to wake up refreshed. Understanding the sleep cycle also helps explain how certain sleep disorders, including insomnia and obstructive sleep apnea, can impact a person’s sleep and health.”



During REM sleep, brain activity picks up, nearing levels seen when a person is awake, but the body experiences atonia, which is temporary paralysis of muscles with two exceptions: the eyes and muscles that control breathing. REM sleep is believed to be essential to cognitive functions like memory, learning and creativity. Under normal circumstances, REM sleep engages about 90 minutes after sleep begins and as the night goes on, REM stages get longer. In total REM stages make up about 15% of sleep in adults. The stages of sleep are important because they allow the brain and body to recuperate and develop. Residents who are frequently awoken during sleep stages may not get enough total sleep to accumulate the needed time in each stage.

The National Library of Medicine (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5957502/>), in article “Sleep and Long-Term Care”, provides two quality tools. The first tool describes factors that contribute of sleep disturbance in long-term care:

Factors that contribute to sleep disturbance in long-term care

Age-related factors

- Changes in sleep architecture
- Advanced sleep phase
- Weakening of circadian entertainment
- Visual impairment

Environmental factors

- Daytime limited exposure to bright light
- Nighttime environmental noise, light, and unpleasant temperature
- Room sharing
- Nocturnal care activities and facility routines

Behavioral factors

- Reduced daytime physical activity
- Reduced social activities and social disengagement
- Excessive daytime napping

Medical and psychiatric factors

- Incontinence and nocturia
- Symptoms such as pain and dyspnea
- Dementia or cognitive impairment
- Depression
- Sleep disorders such as insomnia, obstructive sleep apnea, and restless legs syndrome
- Side effects of medications

Perhaps the most pertinent is the factor under Environmental Factors of “Nocturnal care activities and facility routines.” Every facility should evaluate the Environmental Factors in the facility which could be detracting or negatively impacting residents from getting uninterrupted sleep, because sleep is so important to resident’s quality of life and quality of care.

The second tool describes strategies for management of sleep disturbance in long-term care:

Strategies for management of sleep disturbance in long-term care

Summary and management goals

- Set goals and develop strategies in collaboration with residents, families, and long-term care staff
- Base strategies on etiology, diagnosis, and evidence-based guidelines for sleep disturbances in older adults
- Consider nonpharmacologic interventions first
- Avoid sedative-hypnotic medications

Nonpharmacologic strategies

- Bright light – 2500 Lux or greater for 30 minutes in the morning or all day
- Exercise and social activity – 1 to 3 hours of daily social activity; strength training and walking 3 to 5 days each week
- Multicomponent interventions – reduced time in bed during day, increased sunlight or light exposure, increased physical activity, consistent bedtime routines, efforts to decrease nighttime noise, light, and interruptions for care
- Continuous positive airway pressure and other evidence-based treatments for obstructive sleep apnea

Pharmacologic strategies

- Evidence is needed on risks and benefits

Complementary and alternative treatments

- Dietary and herbal supplements – safety concerns in older adults; when choosing a melatonin supplement, using immediate-release formulations with a maximum of 1 to 2 mg 1 hour before bedtime
- Massage and Acupressure – may be used to enhance sleep; evidence is needed on types and duration

This tool can assist in developing nonpharmacological interventions for sleep hygiene. In order to develop a comprehensive, person-centered care plan related to sleep hygiene, an effective sleep hygiene assessment is necessary.

Components of a comprehensive sleep hygiene assessment could include:

- Specific concerns about sleep patterns
- History of sleep-related disorders
- History of sleep aid medications
- Use of CPAP/BiPAP/Oxygen/other
- Current and past routine prior to bedtime
- Assessment of lack of sleep affecting daytime functioning
- Regular consumption of foods/drinks impacting sleep
- Smoking habits
- Exercise patterns
- Napping patterns
- Meds with potential to affect sleep patterns
- Diagnosis(es) contributing to sleep difficulties
- Environmental factors contributing to sleep difficulties

“The identification and management of sleep disturbance in LTC residents is a vital, but perhaps underappreciated, aspect of offering high-quality care for this already compromised population.”

“Compared with community-dwelling older adults, LTC residents with and without dementia showed significantly lower sleep efficiency, longer awake time, and more sleep fragmentation throughout the night as measured by actigraphy.”