Sleep Disorders in the Elderly

Kathleen Yaremchuk, MD, MSA

KEYWORDS

• Insomnia • Sleep-disordered breathing • Sleep–wake disturbances
• Sleep fragmentation • Advanced sleep phase disorder • REM behavior disorder
• Restless leg syndrome • Periodic limb movements

KEY POINTS

- More than one-half of elderly patients report a sleep complaint—some are physiologic and others are associated with primary and secondary sleep disorders.
- Some of the issues can be improved through patient education and guidance, and others require further testing or referral for accurate diagnosis and treatment.
- It is important to recognize and give advice regarding sleep disorders to improve the quality of life and safety for the elderly and their families.

INTRODUCTION

Sleep complaints are common and reported by more than one-half of elderly patients. Many changes are physiologic, such as an increased time to fall asleep and decreased total sleep time. These changes are associated with the normal aging process. Other conditions such as sleep-disordered breathing (SDB), insomnia, sleep–wake disturbances (advance sleep phase), and movement disorders (restless leg syndrome [RLS] and periodic limb movement) should be evaluated and treated appropriately. These are primary sleep disorders that have shown an increased incidence in the elderly.

Secondary sleep disorders result from comorbid conditions that impact sleep, such as chronic pain disorders, gastroesophageal reflux, frequent urination, or dyspnea owing to congestive heart failure, chronic obstructive pulmonary disease, or asthma.

Some complaints can be improved through patient education and guidance, whereas others require testing or referral for an accurate diagnosis. It is important to recognize and give advice regarding sleep disorders to improve the quality of life and safety for the elderly and their families.

Disclosure Statement: The author has no personal financial relationships with any commercial company in the subject matter or materials discussed in this article.
Department of Otolaryngology Head and Neck Surgery, Henry Ford Hospital, 2799 West Grand Boulevard, Detroit, MI 48202, USA
E-mail address: Kyaremc1@hfhs.org

Clin Geriatr Med 34 (2018) 205–216
https://doi.org/10.1016/j.cger.2018.01.008 **geriatric.theclinics.com**

The evaluation of a patient complaining of issues of any sleep condition begins with a complete history of the patient's complaint. The use of a standardized history is helpful in gathering important information, such as duration of sleep complaints, sleep habits, and any medical conditions that may impact sleep, such as benign prostatic hypertrophy in males resulting in frequent trips to the bathroom owing to nocturia. It is also important to differentiate unrefreshing sleep from fatigue and excessive daytime somnolence. One way to think about the difference is that an individual who sits on the couch and does not want to get up to do the laundry may be fatigued, whereas the individual who falls asleep on the coach is sleepy.

NORMAL PHYSIOLOGIC CHANGES IN SLEEP PATTERNS

When evaluating sleep patterns, several parameters must be considered including the amount of sleep needed and the percentage of time spent in different sleep stages. Significant changes occur in sleep during infancy, childhood, adolescence, adulthood, and in the elderly in terms of sleep onset, sleep efficiency, and quality of sleep. These changes are considered normal and should not be a reason by themselves for concern.

The aging process brings a decrease in sleep duration. Whereas teenagers may require 9 to 10 hours of sleep a night, the elderly should expect to sleep about 7 hours. Although 8 hours of sleep a night is the norm, humans revert to an average sleep time of 7 hours 15 minutes when left in a room without environmental signals regarding light/dark, social cues, or a clock to tell time. As in all normative measurements, some individuals will sleep slightly more and others slightly less. **Fig. 1**[1] shows normal sleep stages during different periods of life.

The quality of sleep changes as well with aging. Sleep efficiency is the actual sleep time divided by time spent in bed. Sleep efficiency decreases as we age, which means that an individual will spend more time in bed but less time sleeping. Interestingly, sleep deprivation in the elderly has less impact on performance than in younger individuals.

Sleep is characterized as N1, N2, N3, and rapid eye movement (REM). N1 and N2 are considered light sleep, a period where an individual is easily awoken by noises or other interruptions. N3 and REM are considered deep sleep or "slow wave" sleep. REM sleep is when dreams occur. Part of the aging process is an increase in light sleep at the expense of deep sleep. Older individuals are more easily aroused from sleep by auditory stimuli.[2] When an arousal during sleep occurs, an individual may complain of difficulty falling back asleep. This pattern can be described as sleep fragmentation and results in lower sleep efficiency. Although it is a normal part of the aging process, it is a change and older patients can find it frustrating. Among men, sleep time decreased an average of 27 minutes per decade from midlife until the age of 80.[3] The changes in sleep patterns are more pronounced in men, but women are more likely to seek treatment and use pharmacologic agents to improve sleep quality.

Often the elderly no longer have a set schedule that requires them to go to sleep or wake up at a certain time. It is easy to overestimate or underestimate the time spent in bed or total sleep time. With complaints of difficulty falling or staying asleep, the patient should be instructed to keep a sleep diary daily for 2 weeks (**Box 1**).[4] If the individual goes to bed at 8 PM and complains of early morning awakening at 4 AM, this should not be a surprise. They are receiving their 8 hours of sleep and should consider a later bed time. The question to ask is what time does the individual want to wake up, then count back 7.5 hours to find the appropriate bed time. To fall asleep usually requires about 15 minutes in bed; greater than 30 minutes borders on abnormal.