

The Importance of Monitoring Sleep Quality as a Critical Wellness Indicator for Seniors

Improved Sleep Quality Mitigates Need for Pain Meds

For several weeks a resident had been requesting over the counter pain relievers from her daughter in an effort to ease her inability to sleep at night.

The daughter counseled her mother that the extra pills may have a negative interaction with other prescribed medications, but to no avail.

The administrator recommended a review of the WellAWARE System reports to see if anything could be detected. Immediately it was clear the resident was going to bed far too early in the evening, leaving her wide-awake by 2 a.m. Armed with that information, the daughter helped encourage mom to adjust her bedtime.

The resident began resting comfortably with no need for over the counter medications to help her sleep.

Having a poor night's sleep is a common experience. Approximately 70 million Americans are impacted by chronic sleep loss or disordersⁱ, more than one-quarter of Americans experience the occasional poor night's sleep, and 10% suffer from chronic insomnia.ⁱⁱ

For seniors the percentages are much higher. The *Journal of the American Geriatrics Society*ⁱⁱⁱ recently followed a large group of senior living residents in a sleep study. They reported that 65% experienced sleep disturbances lessening their ability to perform activities of daily living, increasing their symptoms of depression, and negatively impacting their quality of life. The specific issues these residents had with sleep included waking in the middle of the night or early in the morning, and being unable to fall asleep in less than 30 minutes.

Despite the tendency for seniors to have an increase in sleep disturbances, only one in eight geriatric sleep disorders is diagnosed or even reported.^{iv} Of course, seniors who self-report their sleep issues can help their caregivers and physicians identify underlying health concerns. However, many seniors cannot or will not self-report sleep disruptions, and none are more susceptible than those with dementia.

Seniors tend to go to bed earlier and take longer to fall asleep, but awaken more throughout the night and nap during the day. However, excessive daytime sleepiness is not a normal part of aging.^v "Older people spend more time in bed to get the same amount of sleep they obtained when they were younger; however, the total sleep time, at most, is only slightly decreased," reports Guy E. Brannon, MD, Louisiana State University Health Sciences Center. "Older subjects have been observed to be more easily aroused from sleep by auditory stimuli, suggesting increased sensitivity to environmental stimuli."

Researchers at the University of California at San Diego have identified four major categories for sleep problems that come along with aging:

1. Health Issues. Sleep issues increase with age primarily due to health problems that might include depression, pain from diseases like arthritis or cancer, neurological disorders

such as dementia, and organ system failure like pulmonary or coronary disease.^{vi}

2. Medications. The second reason for poor sleep with age is the potential for poly-pharmacy issues from the variety of medications older adults take to treat medical and psychiatric conditions.
3. Sleep Disorders. Sleep disorders that are more common with age include restless legs syndrome and sleep apnea. Other researchers have identified general insomnia, or trouble falling and staying asleep, as the most common sleep disturbance in older adults.
4. Circadian Rhythm. The biological clock changes with age, causing sleepiness in the early evening and waking earlier in the morning. Although older adults still need about the same amount of sleep as people of a younger age, they tend to sleep more lightly because they spend less time in REM (rapid eye movement) sleep.

Health related issues caused by lack of sleep include memory problems, symptoms of depression, suppressed immunities, accidents and falls, and daytime drowsiness. Validating that seniors are particularly at risk for these issues, the findings of a 2008 study reported in the *Archives of Internal Medicine* concluded that older women who slept less than five hours per night were about 47% more likely to have fallen twice or more. Not only are seniors who don't sleep enough at higher risk of poor health, but sleeping too much indicates the presence of existing health concerns as well.^{vii} The issues resulting from sleep problems can be magnified and potentially life threatening due to the complicating risk factors of the most common cause of dementia, Alzheimer's disease.^{viii}

Sleep habits often change due to the neurological effects of Alzheimer's disease, causing the person to confuse their days and nights, sleep too much, or not sleep enough. Studies of brain waves indicate a decrease in dreaming and non-dreaming states of sleep in persons with Alzheimer's. Caregivers may be the ones who suffer from the most sleeplessness when caring for the Alzheimer's patient since they must be constantly vigilant. Since caregivers quite often are elderly spouses or senior children, they can also be at risk for the complications resulting from poor sleep.

Recent advances in research and design of sleep observation methods has resulted in the first sleep sensor designed to passively and unobtrusively monitor sleep quality and identify slight changes that may indicate health concerns. *Aging Well* reported on the WellAWARE Systems^{ix} sleep monitor, describing the system as having, "the versatility to be a low-cost, long-term monitoring apparatus for environments such as assisted living and skilled nursing facilities, as well as the home. It has the ability to provide objective data to nurses to assist them in making adjustments to their patients' care plans to improve elders' quality of life. It also allows them to detect health conditions early on when the system is used with daytime activity monitoring equipment."^x

Take Inventory to Improve Sleep for Seniors

Seniors and caregivers can take steps to get a better night's sleep and enjoy the best quality of life possible. Following are some recommendations from the researchers:

1. See the Light. Several research studies have concluded that it is possible to offset the natural changes in circadian rhythm and reset the aging biological clock if seniors either get outside into natural sunlight or use light therapy in the late afternoon or evening for at least 20 to 30 minutes each day. During winter months when natural sunlight is not available, full-spectrum white light is the most effective. As light enters the optic nerve into the brain, brain chemicals are triggered that help seniors stay awake longer into the evening.

2. Take Meds at the Best Time of Day. Some medications, like those for blood pressure or antidepressants, may cause drowsiness. Medications that cause drowsiness are best taken before bedtime to help with sleep. Some medications cause insomnia and should be taken early in the day. For example, Aricept or Namenda are prescribed to help slow the progression of cognitive impairment, and both have insomnia as a side effect. Seniors should check with their physician to determine the best time of day to take medications so they don't interfere, and perhaps enhance their sleep.
3. Eat for Sleep. Eating foods rich in tryptophan such as poultry, dairy foods, oats, bananas and honey, shortly before bedtime can cause drowsiness and enhance sleep. Foods high in healthy carbohydrates will also help with sleep, including whole grain cereal, crackers and bread, yogurt and cheese. Avoid spicy and acidic foods, beverages, and diuretics after 4 p.m. Do not drink caffeinated and alcoholic beverages within 6 hours of bedtime.
4. Have a Clean Bill of Health. Sleep disorders, such as restless leg syndrome or sleep apnea, can be treated by a physician. Seniors who are not sleeping well or complaining of symptoms should seek medical attention. Be sure all health concerns that might interfere with sleep are treated, including arthritis pain or depression.
5. Relax. Relaxation techniques can help to ease tension and anxiety. Meditation, acupuncture, acupressure and massage are all techniques that might be considered. To relax, try taking a warm bath before bedtime.
6. Get Moving. Exercise throughout the day is a great way to insure a better night's sleep with less waking throughout the night. The senior's exercise of choice should occur early in the day, preferably before 4pm.
7. Stay on a Sleep Schedule. Keep the same sleeping routine each day. Get up at the same time every morning, even if you sleep poorly, so you'll be sleepy again at bedtime. Avoid "sleeping-in".
8. Check the Sleep Environment. Audit the sleep environment to insure it is quiet with a comfortable temperature and appropriate lighting. Try reading right before bedtime, minimizing exposure to electronics like televisions and computers with bright screens.
9. Wear Socks. A study out of Switzerland reports that wearing socks to bed helps to induce sleep. By keeping the extremities warm, the body's core temperature can drop signaling the body that it's time to sleep.
10. Be Proactive. By utilizing advanced sensor technology like the WellAWARE sleep quality sensor, caregivers can take proactive steps when necessary to help improve quality of sleep, and have a positive impact on the overall quality of life for those in their care.

Monitoring Sleep Quality as a Wellness Indicator

WellAWARE™ Systems has the unique ability to identify subtle changes in sleep quality in addition to other key wellness indicators such as activity levels, bathroom visits and more. This additional information allows caregivers to intervene early, to address potential emergent health conditions, thus improving the quality and efficiency of care delivery. Having this preventive technology in place can offer peace of mind, often saving time and resources, avoiding crisis interventions, and creating more informed interactions with care recipients and their stakeholders. **Ultimately, operators utilizing WellAWARE Systems as a resource offer a more pro-active wellness program that enhances quality of life for those in their care, extending stays in senior living settings, and providing a market differentiator for senior care providers.**

The WellAWARE Systems solution is comprised of proactive hardware, interfaced with a software-reporting tool accessed through the secured website. WellAWARE Systems is a major step forward in **proactive care**, helping seniors enjoy a higher quality of life and avoid serious health complications, while maintaining their dignity and privacy. The WellAWARE Systems solution was developed to enhance quality of life and improve care delivery efficiency a variety of settings – Home Health, Group Homes, Independent Living, Assisted Living, Memory Care, and Skilled Nursing.

WellAWARE Systems is uniquely user friendly for senior care providers. This is due in large part to the organization's management team that has over 250 years of collective senior care experience. The WellAWARE Systems executive team is knowledgeable about the requirements of care providers utilizing the solution as well as the care concerns of the individuals being served.

The solution was also developed by the senior care industry for the industry. Early joint research and development studies were conducted with Volunteers of America and The Evangelical Lutheran Good Samaritan Society, two of the country's largest not-for-profit providers of senior care. After extensive and successful testing, the WellAWARE™ System was commercially launched in 2009.

To learn more about how WellAWARE Systems can enhance quality of sleep and overall wellness, visit <http://www.wellawaresystems.com/>.

WellAWARE Systems
5500 Cox Road, Suite K
Glen Allen, Virginia 23059
804-249-2149 phone
804-249-2150 fax

ⁱ Your Guide to Healthy Sleep (11/2005) http://www.nhlbi.nih.gov/health/public/sleep/healthy_sleep.pdf

ⁱⁱ <http://www.modernmedicine.com/modernmedicine//article/articleDetail.jsp?ts=081810124945&id=669407>, 8.18.10

ⁱⁱⁱ Brannon, Guy, E., MD, Associate Clinical Professor of Psychiatry, Louisiana State University Health Sciences Center.

^{iv} <http://seniorjournal.com/NEWS/Features/3-04-01.htm>

^v <http://emedicine.medscape.com/article/292498-overview>, 8/03/09

^{vi} Sleep and Aging. Reader's Digest <http://www.rd.com/living-healthy/sleep-and-aging/article54591.html>, 8/22/10

^{vii} American Academy of Sleep Medicine (07/20/05). *New Studies in August Issue of the Journal SLEEP Examine Sleep Problems in Older Adults*. Associated Professional Sleep Societies <http://www.sleepeducation.com/Article.aspx?id=64>

^{viii} <http://www.nia.nih.gov/HealthInformation/Publications/sleep.htm>, 8/20/10

^{ix} <http://www.wellawaresystems.com/>

^x Alwan, Majd PhD and Mack, David C. PhD (Sept/Oct 2009) *New Perspectives on Elders' Sleep*. Aging Well Vol. 2 No. 4 P. 18.

<http://www.agingwellmag.com/archive/083109p18.shtml>