

Sleep and Aging: Changing Sleep Patterns

A common misconception about sleep among people as they age is that they require less sleep. This is simply not true; however, as people age, they will tend to experience changes in their sleep patterns.

In particular, sleep will become more fragmented, meaning that older individuals will tend to have greater difficulty sustaining sleep at one time. In addition, people are likely to experience less "deep" sleep, more "light" sleep, and less time spent in the dreaming state (REM sleep) as they age. Frequent napping during the day is also likely to occur, which may result in more time spent in bed but possibly with less sleep being attained. As a result, an increased feeling of frustration associated with sleep can develop.

Other common complaints about sleep among people as they age are:

- Having a harder time falling asleep;
- Waking up too many times throughout the night; and/or
- Waking up too early in the morning.

Advanced Sleep Phase Syndrome:

Is a common sleep disorder among elderly populations. Individuals with this disorder often have trouble staying awake in the evening (typically falling asleep between 6:00 and 8:00 p.m.), and tend to wake in the early morning hours (typically between 2:00 and 4:00 a.m.).

What Causes these Changes in Sleep Patterns?

The most common factors that contribute to changes in sleep as people age include the following:

- **Hormone Levels.** As a person ages, their body does not produce the same amount of two important hormones known to be associated with the sleep/wake cycle. These two hormones, the growth hormone and melatonin, are chemicals within the body that promote good sleep.
- **Environmental and Lifestyle Factors.** These can include financial stress, decreased activity during the day (as compared to pre-retirement), and opportunity to nap during the day (thereby making it more difficult to sustain sleep at night).
- **Medical and Psychiatric Conditions.** The development of health problems, which can occur with aging, has shown to negatively impact sleep. Some examples include: nocturia (getting up to use the bathroom several times throughout the night), arthritis, diabetes, respiratory disease, heart disease, pain, depression, and anxiety, among others. Furthermore, some of the medications used to treat these conditions can also negatively impact on one's quality of sleep.
- **Other Sleep Disorders.** Some sleep disorders appear to occur more frequently in people as they age. This includes sleep disorders such as periodic limb movement disorder, insomnia, and sleep apnea, all of which contribute to sleep difficulties.

What is the Impact of Sleep Difficulties?

The impact of sleep difficulties can have profound personal, social, and economic consequences for those who experience them, and this often leads to a substantial reduction in quality of life. Some examples of these include: impaired mood, deterioration of memory and concentration, decreased energy, increased risk of accidents, increased incidence of bodily pain, and a greater risk of respiratory and heart problems. An important question then, is when should a person seek treatment if they are having difficulty with their sleep? A person should seek help from a health care professional if their sleep difficulties persist despite efforts to counteract them, or if these problems are causing significant distress to their daily functioning or quality of life.

What are the Available Treatments?

The assessment of sleep disorders most common in our aging population requires an in-depth clinical evaluation and, at times, objective testing in a sleep laboratory. Such an evaluation requires the expertise of a health care professional, preferably a sleep specialist, as they have the necessary expertise to assess and treat the various sleep disorders that are experienced by an aging population. If laboratory testing is required, the Nocturnal Polysomnogram (PSG) is typically used. The PSG is a night time study that monitors a person's sleep and physiological cues, such as brain wave activity, muscle and eye movements, as well as heart and breathing rates. This testing is also critical in excluding other sleep disorders that may be contributing to a person's sleep problems.

The type of treatment needed will vary depending on the cause of a person's sleep difficulty. Treatments can also be used in conjunction with each other, as there can be multiple causes of sleep problems. Some examples of these treatments include:

- **Sleep Hygiene.** This involves developing a set of good sleep habits to obtain quality sleep at night (e.g. creating a positive sleep environment, establishing a regular sleep schedule, and having a wind-down period before bed).
- **Relaxation and Behaviour Modification.** Includes interventions designed to reduce stress and increase functioning during the day, thereby increasing quality of sleep. Some examples include: exercise, exposure to outdoor sunlight, as well as reducing caffeine intake, alcohol use, nicotine use and stimulant medications before bedtime.
- **Bright Light Therapy.** This involves the use of therapeutic light to increase a person's alertness, mood, motivation, and sleep quality. It can also be used for people who have *advanced sleep phase syndrome* (i.e. those who fall asleep early in the evening and awake very early in the morning).
- **Medications.** These can be beneficial to help alleviate sleep disturbances caused by situational stress, changes in sleep schedules, as well as some physical or psychological illnesses.
- **Psychotherapy.** Can be beneficial if the underlying cause of a person's sleep difficulty is stress, depression, anxiety, or some other psychological illness.



The Canadian Sleep Institute's 10 Commandments for a better sleep

If getting a better night's sleep is your goal, and underlying medical conditions are not an impediment, you may achieve success by following the Ten Commandments of Sleep Hygiene:

1. Schedule a relaxing period before going to sleep, to separate your body and mind from the day's hassles.
2. Use your bedroom primarily for sex and sleep, and not as an all-purpose activity area.
3. Your bed should be comfortable, large enough, in a quiet, dark room, and at the right temperature.
4. Keep a regular schedule, going to bed and getting up at the same time each day. Don't go to bed until you feel sleepy.
5. Be consistent about taking naps. Take one regularly or not at all.
6. Exercise regularly in the morning or early afternoon, but do not engage in strenuous activity late in the evening. A relaxing, mild physical activity might be helpful close to bedtime.
7. Assess your caffeine intake, and avoid caffeine after 2 p.m. Smoking close to bedtime or at night causes further sleep disruption.
8. Don't use alcohol or drugs, such as sedatives. While they might help you initially fall asleep, they lead to sleep disruption and deprive you of deep sleep (at times, even for years).
9. If you feel hungry in the evening, have a light snack or a glass of milk. Heavy meals close to bedtime can result in discomfort and further sleep disturbance.
10. Above all, do not try too hard. If you can't fall asleep, don't lie in bed anxious and frustrated. Leave your bedroom to read, watch T.V. or do something else to relax, going back to bed only when you feel sleepy again.

- Adam Moscovitch, MD, FRCP (C), ABSM

The Good News:

Sleep specialists are in a position to properly recognize, diagnose, and treat the various sleep disorders that can affect our aging population. Patients who seek appropriate diagnosis by a qualified sleep specialist can manage their condition and greatly improve their overall quality of life. Our specialists at the Canadian Sleep Institute are experienced and well trained in the treatment of these sleep disorders, while at the same time meeting the unique needs of individuals as they age, with a special emphasis on sleep in seniors. If you feel that you could benefit from seeing a sleep specialist, call us for more information or have your family physician refer you to:

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Canadian Sleep Institute

The Canadian Sleep Institute is a leading centre of excellence in the provision of clinical care, diagnostic services, corporate consulting, clinical research, and education in the area of sleep and fatigue disorders. Our full-service, community-based sleep centre serves a patient population from across Western Canada, and is accredited by the College of Physicians and Surgeons of Alberta to assess, diagnose, and treat the full spectrum of over eighty sleep and fatigue disorders.

Our fully qualified team of clinicians, headed by a board-certified sleep physician, is focused on providing comprehensive, coordinated, inter-disciplinary care in the most convenient, accessible, and cost-effective manner available. We feature a state of the art, four-bedroom, overnight sleep diagnostic facility in a comfortable atmosphere and residential hotel-like setting. We also provide a full-service CPAP clinic and follow-up care program for those patients with sleep apnea and related conditions.



Canadian Sleep Institute

Better Health Through Better Sleep

Sleep and Aging

*I am not sleeping
like I used to... why is that?*

Answers to Questions

and information about

Sleep and Aging.

