Understanding Sleep and Sleep Disorders
**SLEEP ACROSS THE LIFESPAN**

**The Importance of Sleep**

On average, individuals spend 26 years of their lives asleep, 7 years trying to fall asleep, and 33 years in bed. Sleep is an essential function for overall health and well-being and aids in the body’s ability to maintain proper brain function and physical health. Poor sleep and sleep disorders are considered a global public health issue, but they are often unrecognized and under-reported and incur high economic burden.

| 70 million Americans suffer from chronic sleep disorders | 80% of sleep disorders go undetected or undiagnosed | $411 billion is lost in productivity due to sleep disorders each year |

Emerging research points to a relationship between poor sleep and morbidity and mortality. Poor sleep has been linked to 7 of the 15 leading causes of death in the United States, including:

- Cardiovascular disease
- Cancer (malignant neoplasms)
- Cerebrovascular diseases (problems with blood flow and vessels in the brain)
- Accidents
- Diabetes
- Sepsis (bacterial blood poisoning)
- Hypertension

Poor sleep is associated with reduced physical activity, obesity, and increased smoking. Individuals who experience poor sleep are also more likely to report chronic health conditions, mood disorders, and neurodegeneration.

**How Much Should You Sleep?**

Sleep duration gradually declines over the lifespan—from more than 14 hours for newborns to 9 hours during adolescence, and as few as 7 hours later in life. The recommended amount of sleep that someone should get in a 24-hour period varies across different stages of life.¹

58% of middle school students and 73% of high school students report sleeping less than the recommended 8 hours per night for adolescents.⁴
Recommended Hours of Sleep

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Recommended Hours of Sleep</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newborn (0-3 months)</td>
<td>14-17 hours</td>
</tr>
<tr>
<td>Infant (4-12 months)</td>
<td>12-16 hours</td>
</tr>
<tr>
<td>Toddler (1-2 years)</td>
<td>11-14 hours</td>
</tr>
<tr>
<td>Preschool (3-5 years)</td>
<td>10-13 hours</td>
</tr>
<tr>
<td>School Age (6-12 years)</td>
<td>9-12 hours</td>
</tr>
<tr>
<td>Teen (13-18 years)</td>
<td>8-10 hours</td>
</tr>
<tr>
<td>Adult (18-64 years)</td>
<td>7-9 hours</td>
</tr>
<tr>
<td>Older Age (65+ years)</td>
<td>7-8 hours</td>
</tr>
</tbody>
</table>

While it is recommended that adults get at least 7 consecutive hours of sleep, people are increasingly subjected to shorter and poorer quality sleep due to factors, such as:
- Shift work
- Long work hours
- Daylight savings time adjustments
- Jetlag due to distance travel
- Living in urban and fast-paced environments
- Excessive screen time

Many individuals report getting less than 7 hours of sleep per night

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Native Hawaiian/Pacific Islander</td>
<td>46%</td>
</tr>
<tr>
<td>African Americans</td>
<td>46%</td>
</tr>
<tr>
<td>American Indian/Alaska Native</td>
<td>40%</td>
</tr>
<tr>
<td>Asian</td>
<td>38%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>35%</td>
</tr>
<tr>
<td>White</td>
<td>33%</td>
</tr>
</tbody>
</table>

15 million individuals in the U.S. work jobs with non-traditional hours. 32% of night shift workers experience excessive daytime sleepiness. Women who work night shifts have a greater risk of developing breast cancer and cardiovascular disease; and are more likely to have irregular menstrual cycles.
Understanding Sleep Patterns

There are four stages of sleep – each of which plays an important role in allowing the brain and body the time and opportunity to rest and develop.

*REM = rapid eye movement

Individuals with a normal sleep pattern will transition through the four stages of sleep 4 to 6 times throughout the night. With each full cycle, the non-REM stages get shorter, and the REM stage gets longer.

*REM = rapid eye movement
SLEEPINESS VS FATIGUE

Although the terms are often used interchangeably, sleepiness and fatigue are two distinct symptoms – each of which has different health implications and could be indicative of different underlying conditions.

Sleepiness

Sleepiness is the desire to fall asleep. Excessive daytime sleepiness (EDS) is characterized by having difficulty staying awake or alert, along with an intense need to sleep during the day. EDS can have a negative impact on relationships, work, cognition, and overall quality of life, and although it is not a disorder, it could be indicative of one. For example, EDS could be indicative of sleep apnea or narcolepsy.

Fatigue

Fatigue is extreme exhaustion, a general lack of energy, and weariness. Fatigue can also indicate signs of a sleep disorder, such as insomnia or sleep apnea, or it could be a result of lifestyle habits, certain medications or treatments, or an underlying health condition (e.g., a thyroid disorder, heart disease, or diabetes).

Unfortunately, sleepiness and fatigue have become normalized and can often be dismissed by women as part a regular part of daily life, rather than a sign of a larger health issue. For example, women are more likely to report sleepiness than men, but are less likely to report that their sleepiness affects their relationships or physical activity.

Do not ignore the signs of persistent sleepiness or fatigue. It is important to listen to your body and consult a health care professional when your energy levels are negatively affecting your day-to-day activities. See the Questions to Ask Your Health Care Provider in the SWHR Narcolepsy Toolkit for guidance on how to talk to your doctor about your sleep concerns.

50% of Americans report feeling sleepy during the day at least 3x per week

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# SLEEP DISORDERS IN WOMEN

Women generally sleep for longer durations than men, but are more likely to report:
- Higher levels of sleepiness
- Increased use of sleep medications
- Lower quality sleep

1/3 of women get less than the recommended number of hours of sleep

Certain chronic pain conditions that can impact sleep, such as migraine, tension headaches, heartburn, arthritis, and fibromyalgia, also occur more frequently in women than men.

Sleep disorders disproportionally and differently affect women, in part, due to natural biological processes, such as menstruation, pregnancy, and menopause.

<table>
<thead>
<tr>
<th>Menstruation</th>
<th>Pregnancy and Postpartum</th>
<th>Menopause</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women who experience premenstrual syndrome (PMS) are 2x more likely to report insomnia-like symptoms. Up to 1/3 of women experience cramps, headaches, and bloating that disrupt their sleep during their menstrual cycle.</td>
<td>Sleep problems, such as restless legs syndrome and obstructive sleep apnea, are common during pregnancy, and especially during the third trimester. During the postpartum period, women can experience sleep disruptions due to the sudden decline in hormones and the unpredictable sleep patterns that come with caring for a newborn.</td>
<td>During menopause, hot flashes and night sweats can make a good night’s sleep nearly impossible for some women. In other cases, trouble sleeping could be the result of underlying conditions that developed during the perimenopausal years, such as insomnia, restless legs syndrome, and obstructive sleep apnea.</td>
</tr>
</tbody>
</table>
Sleep Disorders to Consider

**Insomnia** is a sleep disorder that makes it difficult to fall asleep or stay asleep. Insomnia is the most common sleep disorder in the United States – 1 in 3 adults experience periodic insomnia, and 30 million adults suffer from chronic insomnia. Women, and especially menopausal women who experience disruptive vasomotor symptoms, are up to 40% more likely to have insomnia.\(^4,7\)

**Sleep Apnea** is a disorder in which breathing repeatedly starts and stops during sleep, often due to an obstruction that causes the airway to be partly or completely collapsed during sleep. Twenty-five million adults in the United States have a form of sleep apnea. While men are more likely to have sleep apnea, cases increase significantly for women after age 50.\(^4,9\)

**Restless Legs Syndrome**, also known as Willis Ekbom disease, is an uncomfortable sensation (i.e., itching, prickling) that creates an irresistible urge to move the legs after extended periods of inactivity, such as sitting or sleeping. Restless legs syndrome affects 5-10% of adults, and women are 2 times more likely to have this sleep disorder, with pregnant women and women with multiple children at even higher risk.\(^4\)

**Narcolepsy** is a chronic sleep disorder that is characterized by persistent and excessive daytime sleepiness, an inability to regulate sleep-wake cycles, and in some cases, cataplexy (sudden change of muscle tone, which can be triggered by strong emotions). Although narcolepsy affects men and women equally and similarly, women are diagnosed an average of 12 years later than men after symptom onset\(^10,11\).

**Idiopathic hypersomnia (IH)** is a neurological sleep disorder that results in excessive daytime sleepiness, despite sleeping longer than normal hours (i.e., 10+ hours per day). IH affects 20-50 per 1 million individuals, both men and women alike. Those with IH experience trouble waking up and a prolonged feeling of grogginess, even after a long sleep or nap.\(^12\)

For more information about sleep disorders that affect women, see SWHR’s [Women and Sleep: A Guide for Better Health](#).