

Reference document

# Sleep disorders



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## Introduction

Sleep is a complex process and essential for the body to function properly. Therefore, when someone suffers from a sleep disorder, every aspect of their daily life may be impacted. Sleep disorders should be closely monitored to minimize their negative effects. It is essential to identify the real cause of the problem so that the right treatment can be applied.

## Definition

There are three main theories on the function of sleep, though none of them serve as a satisfactory explanation of the phenomenon in all its complexity. These theories are:

- Sleep allows us to recover from the day's physical and mental exertions, as it serves to restore the body.
- Sleep allows us to conserve energy by, among other things, lowering the body's temperature.
- Sleep is crucial for proper brain development, as it influences a person's ability to consolidate what they have learned and solve problems, as well as their emotional and psychological stability.

Sleep is also influenced by two processes: the homeostatic process and the circadian process.

- The homeostatic process is the reason why sleepiness and the need for sleep increase the longer a person is awake.
- The circadian process is characterized by various bodily reactions, which differ depending on the time of day or night. This daily cycle is approximately 24 hours long and regulates a person's sleep pattern. It affects many physiological functions, such as body temperature, the secretion of certain hormones, heart rate and digestion.

Sleep disturbances thus affect the majority of bodily functions and can have harmful effects on a person's physical and psychological health.

## Myths

There are numerous misconceptions about sleep. Some examples:

- Sleep can be recovered or saved up.  
Because of this myth, people tend to sleep later on weekends or on vacation, disrupting the regularity in their sleep schedule, which the body needs.
- Adults need a minimum of eight hours of sleep per night to be functional.  
In fact, this is just an average, as sleep needs vary from one person to another, from 4 to 10 hours.
- It is impossible to be functional after a bad night's sleep.  
Alertness, memory and concentration may be affected, but it is still possible to perform routine tasks. In some contexts, it may even be good to develop a tolerance for lack of sleep.

## Major determinants

Nearly a third of the population suffers from reduced sleep quality, with women and the elderly being overrepresented. Several things can interfere with sleep quality and thus account for this problem:

- Personal characteristics: your age, physical and psychological condition, circadian rhythm or sleep history can directly impact your sleep stages.
- Environmental factors: location, bedroom brightness, ambient noise and mattress comfort can also play a major role in sleep quality.
- Predisposing factors: anxious, perfectionistic or obsessive tendencies, and certain mental disorders should also be considered when it comes to sleep problems.
- Biological factors: hormones or reactivity to stress can negatively impact sleep.
- An unhealthy lifestyle: regular or abusive use of medication, drugs or other substances, low physical activity, a poor diet, an irregular sleep schedule and long naps during the day are habits that interfere with sleep quality.
- Certain difficult situations: the death of a loved one, a separation or divorce, financial problems or even inadequately treated physical pain or impairments can cause sleep disturbances.

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Beyond all these possible determinants, it is crucial to investigate whether the sleep disorder is primary or secondary to another cause. Poor sleep clearly affects a person's daily life and may hinder their functional abilities. However, if the root of the problem is external or physiological, treatment should directly address the underlying cause, not the sleep problem itself. In the same vein, fatigue upon waking or sleep that is considered non-restorative could be a reaction to change or an unsuitable lifestyle, a warning sign of illness or a symptom of depression. It is thus essential to identify the real cause of the problem. If necessary, a health care professional can help you get a clearer picture of the issue.

## Major sleep disorders

### Insomnia

Insomnia is the most common disorder in workers. Currently, 30% of the general population reports suffering from occasional insomnia and 19% from chronic insomnia (lasting more than three months). Its prevalence is greater in women and the elderly. Sleep efficiency is calculated by comparing the amount of time spent sleeping to the amount of time spent in bed, and should ideally be 85% or more. Sleep quality and quantity is, of course, relative to each person's needs and judgment.

Insomnia is characterized by unsatisfactory sleep quality or quantity with negative repercussions during the day. Sleep is considered difficult to get (difficulty falling asleep), insufficient (early waking or sleep maintenance insomnia) or non-restorative. Difficulties are considered to be present when the time it takes to fall asleep or get back to sleep exceeds 30 minutes. The effects are mainly a feeling of distress, irritability, self-isolation and reduced concentration at work.

### Excessive sleepiness and parasomnias

Excessive sleepiness and parasomnias are defined by a subjective and objective state of reduced physiological arousal, a propensity for sleep or drowsiness. Falling asleep is considered pathological when it happens abnormally fast in inappropriate circumstances. This disorder is rather common: it is estimated to be prevalent in 4–20% of the population, depending on the severity threshold and current studies. It can have numerous impacts, both on a person's individual, cognitive and behavioural functioning and on their professional life.

### Intrinsic sleep disorders

Other disorders may affect the workforce, such as breathing problems during sleep (e.g., sleep apnea), restless legs syndrome, periodic limb movements in sleep and hypersomnia of central origin.

Sleep apnea is the most common breathing disorder. It currently affects 1 out of 20 adults and is characterized by frequent pauses in breathing during sleep, blocking air circulation and causing microarousals. The primary symptoms are severe snoring, excessive sleepiness during the day, non-restorative sleep and a constant feeling of fatigue. Given sleep apnea's strong comorbidity with type 2 diabetes (30%) and depression (50% of patients show depressive symptoms that actually stem from their sleep disorder), one should consult a physician if they believe they have it. Medical tests will determine the diagnosis of one of four types of apnea, and treatment will subsequently allow for better sleep quality.

Restless legs syndrome is a neurological disorder that affects approximately 5–10% of adults. People with restless legs syndrome generally feel restlessness, tingling or sharp pain in their lower limbs in the evening. Such discomfort is enhanced by inactivity, and many find relief by moving around and being active. This need for movement is not conducive to relaxing and falling asleep. Pharmacological and non-pharmacological treatments—as determined by the physician depending on the severity of the disorder—can help alleviate some of its effects and thus lead to more restorative sleep.

## The consequences of sleep deprivation

Many aspects of a person's life are impacted by sleep disorders. Daytime fatigue and increased sleepiness; a higher risk of falling asleep or microsleeping; slower reaction times; reduced alertness, concentration and attention; and a loss of motivation are generally reported. Sleep disorders can also be a cause of absenteeism and presenteeism,\* which are increasingly problematic and costly issues for organizations. Impaired judgment and decision making may also occur, as can a change in the perception of pain. People with sleep disorders tend to assess their pain as being higher than the average of good sleepers. Lack of sleep can also manifest as weight gain, as sleep is essential for the body to function properly.

\* Constant presence of an employee at work, regardless of their health status.

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## Jet lag

Many people have to travel for work. Jet lag generally occurs during flights that cross three or more time zones. It is characterized by a desynchronization of the body's internal clock, i.e., a lack of coordination between one's internal rhythm and that of one's environment.

Jet lag mainly causes a person to fall asleep during the day or wake up in the middle of the night. Sufferers may feel fatigued, lose their appetite or experience dehydration. Digestive problems, nausea and headaches may also occur, as can irritability and mood disturbances.

It is recommended to get a good sleep before take-off and avoid consuming any alcohol. Eating well and drinking more water than usual will also help. In addition, moderate physical exercise can improve sleep quality and make the transition easier. If the trip lasts several days, try to very quickly adjust to the new time zone's rhythms. It may also help to synchronize with that time zone a few days before leaving. Conversely, if the trip is shorter, it is better to keep to your usual rhythm as much as possible.

## Young children at home

Our children's sleep generally concerns us as much as our own. Like with adults, sleep needs differ from one child to the next. However, the general tendency in the first few years of life is 16 hours per day for newborns and a slight decline to 14 hours until the age of one, which is gradually reduced to approximately 10 hours per night until age 10.

It should be noted that keeping a baby awake during the day will not help them sleep longer at night, as daytime naps are essential to healthy child development. In fact, a child who is too tired will have more trouble sleeping. It is recommended that a calm environment be fostered, with a transition period before bedtime. Anything stimulating should be avoided in the bedroom, and do not hesitate to set clear limits, like the number of books read. Importantly, do not brush off your child's bedtime fears, and do comfort them if they have nightmares. If the child snores loudly, often sleepwalks and continues to do so over time, or has persistent night terrors, do not hesitate to consult a physician.

For parents of young children, a strategy for unloading negative emotions and thoughts (journaling, physical activity, etc.) may help, as can making time to unwind during the day (relaxation, meditation, yoga, reading, etc.). If possible, rotate bedtime with your spouse or ask those close to you for help so you can take the breaks you need.

## Tips for better sleep

It is very important to keep a regular sleep schedule, even on weekends. In the long term, regular wake times and bedtimes make sleep more restorative. An evening routine can also help the body get ready for the night and make it easier to fall asleep. Practising relaxation, meditation or breathing techniques and doing pleasurable activities like yoga, reading or colouring can promote sleep. If you have been trying to fall asleep for more than 30 minutes, it is recommended to get up, leave the bedroom and focus on a calm, light, pleasurable activity until you feel sleepy again. Naps can have several advantages if they are used correctly, but they can also throw off your internal clock. If necessary, it is recommended to take a maximum 30-minute nap during the day, ideally before 3:00 p.m.

It is best to avoid heavy or hearty meals in the evening, as well as sugary foods, coffee, chocolate, soft drinks and nicotine. Alcohol use should be avoided in the four to six hours before going to bed. While it may make it easier to fall asleep at first, alcohol actually disrupts the quality of one's sleep. Marijuana has a similar impact as alcohol and should also be avoided before bed. A light snack is encouraged if you are hungry, since sleeping on an empty stomach can cause you to wake up, and nighttime cravings could condition your body to wake up.

Regular physical activity can also have a positive effect on sleep. The effect varies according to a person's general physical condition, the amount of energy exerted and the time of day that the exercise takes place. For best results, experts recommend moderate activity (such as fast walking) between 4:00 p.m. and 6:00 p.m. More intense exercise should be avoided in the evenings, as it can have a stimulating effect. Physical activity can also positively affect our ability to manage stress, which is widely known to disrupt sleep.

A cool, well-ventilated bedroom, a comfortable bed according to your personal preferences, and a dark environment will encourage sleep. It is also recommended to avoid heavy blankets and tight clothing and to try to eliminate noise as much as possible. The ideal place for a television is not in the bedroom, which should be reserved exclusively for sleep and sex. As well, smartphone or tablet use should be avoided for at least an hour before bedtime, since their lights send a message to the brain that it is still daytime.

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## Conclusion

Sleep disorders are part of many peoples' everyday life. They can be caused by many things, including both life events and physical factors. If need be, do not hesitate to ask for help so that you can improve your sleep—and thus your quality of life.

## Resources

The following resources can also be used:

- A sleep clinic (Biron – Sleep Care)
- Canadian Psychological Association
- Fondation Sommeil
- Ordre des psychologues du Québec
- Canadian Sleep Society
- MORIN, Charles, *Relief from Insomnia: Getting the Sleep of Your Dreams* (Doubleday)
- Santé publique France