

Facts about sleep



The Nature of Sleep

Sleep is such an important part of our lives, yet many of us don't pay much attention to it. It is usually not until we have problems with sleep that we notice it and start to try to understand the nature of sleep. As well as humans, other mammals, reptiles and birds all sleep, while fish, amphibians and insects do not (although they may rest). Some animals sleep in many short bursts, while others, like humans, prefer to sleep in one long block.

We all know what sleep looks like - we recognise a sleeping person because they have their eyes closed, will usually be lying down, breathing in a slow rhythm, with relaxed muscles and generally keeping still, although they may rearrange their bodies every so often. Being asleep is being unconscious to most things happening around you, but is different from a coma or passing out because sleeping people can be woken up, by loud noises or bright lights or touch.

Stages of Sleep

Research tells us that there are two types of sleep:

- **REM rapid-eye-movement sleep:** this type of sleep occurs for about 25% of the night, and is characterised by electrical activation of the brain, very relaxed muscles and body becoming immobile, and rapid eye movements as the eyes dart back and forth under closed eyelids. REM sleep provides energy to the brain and body and supports daytime performance. Dreams often occur during REM sleep, although they can occur at any stage.
- **NREM non-rapid-eye-movement sleep:** this type of sleep occurs during the other 75% of the time, and can be further broken down into 4 stages:
 - **Stage 1:** this stage is light sleep, between being awake and falling asleep
 - **Stage 2:** this stage is the onset of sleep, when the person begins to become disengaged from their surroundings. Body temperature drops and breathing and heart rate become regular.
 - **Stages 3 & 4:** These stages are the deepest and most restorative sleep, known as 'delta sleep' - Stage 3 is a transition into Stage 4, or 'true delta.' During these stages, blood pressure drops, breathing becomes slower, muscles are relaxed and receiving more blood supply, tissue growth and repair occurs, and hormones are released (including growth hormone, which is why growing teenagers need to sleep more).



Role and Function of Sleep

Sleep is essential to humans, just like air, water and food. When necessary, people can cope without sleep for periods of time, but the longer we are awake the stronger the urge to sleep becomes.

The exact role and function of sleep has been a topic of debate for researchers, but most agree that sleep serves a restorative purpose, both psychologically and physiologically. It is thought that delta sleep (stages 3 & 4) is most involved with restoring the body and physical energy, while REM sleep is most important for restoring mental function such as memory and concentration.

Sleep is important for general physical health, restoring energy, repairing injuries or illness, growth, psychological well-being and mood, concentration, memory, work performance, and getting along with others.

Effects of Lack of Sleep

People vary in terms of how much sleep they need - while the average sleep duration for adults is 7-8.5 hours per night, some people function well with 4-5 hours and others require 9-10 hours. Whatever your individual needs, lack of sleep or poor sleep quality can have effects including:



- Poor attention, concentration and memory
- Irritability and other mood disturbances
- Impaired judgement and reaction time
- Poor physical coordination (dangerous for driving)

The seriousness of these effects depends on how bad the sleep deprivation is (e.g. less sleep vs. no sleep; one night's poor sleep vs. chronic problems) and the tasks and responsibilities of the day. If you have ongoing problems with sleep, it is important to seek help.

How Well do Good Sleepers Sleep?

Good sleepers usually take less than 30 minutes to fall asleep at the beginning of the night and will wake up once or twice during the night. In other words, it is unrealistic to expect to fall asleep immediately on getting into bed or to never wake up at all during the night. Even the best sleepers in the world don't achieve this! Also, *everybody*, even the best sleepers, will have a night now and then when it takes them a long time to get to sleep. This is often triggered by a stressful event and will usually pass after a night or two. Similarly, everybody will have a night now and then when they find it difficult to get back to sleep after waking in the middle of the night.

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what is insomnia?

What is Insomnia?

Primary insomnia is more than just transient sleep difficulties, it is persistent problems with sleep, lasting for more than one month, and may include:



- Difficulty falling asleep - also known as onset insomnia
- Waking up on and off during the night - also known as middle insomnia
- Waking up very early and not returning to sleep
- Unsatisfactory sleep quality

These are different to other sleep problems, such as excessive daytime sleepiness, effects of shift work and jet-lag, or nightmares and sleepwalking.

Surprisingly, insomnia is the most common psychological health problem - it has been estimated that 15-30% of the adult population suffers from insomnia, with twice as many women as men suffering. Insomnia becomes more common as we get older, but it affects a range of ages. Most of us experience problems with sleep at some point in our lives, generally when under stress, but you should consider seeking help for what we call chronic insomnia. This is when your problems with sleep have lasted for more than one month or if you cannot get a good night's sleep without sleeping pills.

Insomnia is often associated with other psychological disorders such as depression, generalised anxiety disorder, and post-traumatic stress disorder. People may underplay the importance of insomnia by regarding it as just a symptoms of another issue, when in fact it may require treatment in its own right.

Impact of Insomnia

Although insomnia is common, it is certainly not a minor issue. Ongoing sleep problems can impact on your functioning during the daytime as well as night. People who do not sleep well may experience:



- Low mood or easily irritable
- Poor memory & concentration
- Trouble staying alert
- Worry about not sleeping
- Poor work performance
- Conflict in relationships
- Less quality of life

If you are experiencing some of these consequences of poor sleep, then you may need to seek help.

Causes of Insomnia

There is a wide range of factors which may contribute to insomnia. Just some of these factors are:

- Respiratory problems such as sleep apnea
- Restless legs or twitching legs during sleep
- Pain
- Side effects of medications
- Alcohol - leads to more fitful, less refreshing sleep
- Caffeine and nicotine
- Severe anxiety or depression
- Stressful life events
- Habits such as daytime napping
- Dependence on sleeping medication

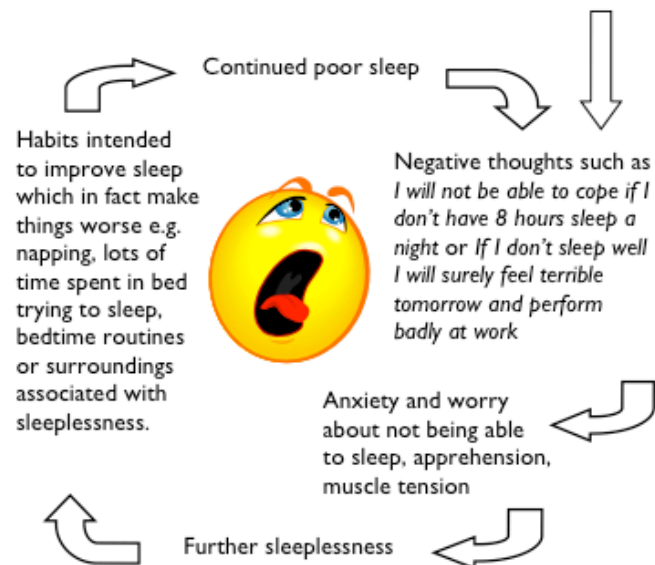


There may be one set of factors associated with the initial causes of insomnia, and quite another that keeps insomnia going and makes into a chronic problem.

The Vicious Cycle of Insomnia

People can become stuck in a vicious cycle of insomnia, developing habits or beliefs which help keep the sleep problems going beyond the original cause. For example:

Initial poor sleep due to stress, pain, or other reason



Management of Insomnia

There are many medications which are used to treat insomnia, yet these are usually only effective in the short-term. For long-term management of sleep problems, you may need to consider strategies such as sleep hygiene, cognitive therapy, and reducing your stress levels.

insomnia and your thinking

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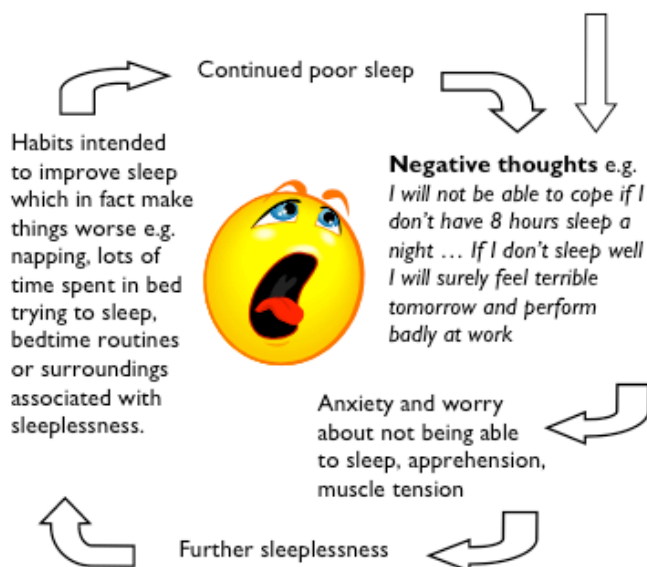
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Insomnia is the most common mental health complaint, affecting up to 30% of adults, and may require specific treatment even when it occurs as part of another disorder (e.g. depression, generalised anxiety disorder, post traumatic stress disorder).

Insomnia and the Role of Thinking

The onset of insomnia may be due to a range of factors such as stress, pain or many other reasons, but it is often quite different factors which keep the problem going. Negative thoughts about sleep can play a very important role in maintaining sleep problems, as shown in 'The Vicious Cycle of Insomnia' below:

Initial poor sleep due to stress, pain, or other reason



This diagram shows that negative thoughts about getting to sleep, quality of sleep, and consequences of poor sleep can actually *increase* the chances of having poor sleep. It is as though these negative thoughts become a self-fulfilling prophecy, and they can get in the way of returning to regular, good sleep habits. These negative thoughts can occur during the day and the night.

Types of Negative Thoughts About Sleep



- 1) **Assuming the worst** about the meaning or cause of sleep problems. For example, someone who thinks "I haven't slept well this past week, it must mean that I have lost the ability to sleep" is likely to feel much more distressed than someone who thinks "I haven't slept well this past week - I might be stressed about something at work or at home, I should address it."
- 2) **Blaming everything on sleep** is another common thinking trap. It is true that poor sleep can affect mood, concentration, memory and work performance, but sleep is not the only cause of problems in these areas. People with insomnia tend to assume that their sleep problems are the cause of *everything* that goes wrong with the day.
- 3) **Unrealistic expectations** about how much sleep is needed can make people feel worse about problems with sleeping. People who sleep poorly tend to hold a very strong belief that everyone requires 8 hours of sleep per night to function well. In fact, people vary greatly in terms of how much sleep they need. Some people cope quite well on 4-5 hours per night, while others need 9-10. Setting strict rules or targets for your sleep duration will increase performance anxiety and interfere with the process of falling asleep.
- 4) **Unhelpful thinking styles** such as catastrophising, black & white thinking, overgeneralisation, and selective attention can also contribute to maintaining sleep problems. For example, people with sleep problems tend to remember the times they slept poorly but forget the instances of good sleep, or will notice every little body sensation when trying to get to sleep. People with insomnia also tend to classify a night's sleep as either "great" or "terrible" without leaving room for "ok" and "good enough."

Challenging Negative Thoughts



You can use the Thought Diary process, described in other information sheets to challenge negative thoughts about sleep. Research has shown that negative thinking is connected to negative emotions and behaviour, and so healthy thinking is a very important part of healthy sleeping. Thought Diaries are a useful way of identifying your negative thoughts about sleep and the feelings and behaviours associated with these thoughts, and then generating more helpful and balanced ways of thinking.



sleep hygiene

What is Sleep Hygiene?

'Sleep hygiene' is the term used to describe good sleep habits. Considerable research has gone into developing a set of guidelines and tips which are designed to enhance good sleeping, and there is much evidence to suggest that these strategies can provide long-term solutions to sleep difficulties.

There are many medications which are used to treat insomnia, but these tend to be only effective in the short-term. Ongoing use of sleeping pills may lead to dependence and interfere with developing good sleep habits independent of medication, thereby prolonging sleep difficulties. Talk to your health professional about what is right for you, but we recommend good sleep hygiene as an important part of treating insomnia, either with other strategies such as medication or cognitive therapy or alone.

Sleep Hygiene Tips

- 1) **Get regular.** One of the best ways to train your body to sleep well is to go to bed and get up at more or less the same time every day, even on weekends and days off! This regular rhythm will make you feel better and will give your body something to work from.
- 2) **Sleep when sleepy.** Only try to sleep when you actually feel tired or sleepy, rather than spending too much time awake in bed.
- 3) **Get up & try again.** If you haven't been able to get to sleep after about 20 minutes or more, get up and do something calming or boring until you feel sleepy, then return to bed and try again. Sit quietly on the couch with the lights off (bright light will tell your brain that it is time to wake up), or read something boring like the phone book. Avoid doing anything that is too stimulating or interesting, as this will wake you up even more.
- 4) **Avoid caffeine & nicotine.** It is best to avoid consuming any caffeine (in coffee, tea, cola drinks, chocolate, and some medications) or nicotine (cigarettes) for at least 4-6 hours before going to bed. These substances act as stimulants and interfere with the ability to fall asleep
- 5) **Avoid alcohol.** It is also best to avoid alcohol for at least 4-6 hours before going to bed. Many people believe that alcohol is relaxing and helps them to get to sleep at first, but it actually interrupts the quality of sleep.
- 6) **Bed is for sleeping.** Try not to use your bed for anything other than sleeping and sex, so that your body comes to associate bed with sleep. If you use bed as a place to watch TV, eat, read, work on your laptop, pay bills, and other things, your body will not learn this connection.



- 7) **No naps.** It is best to avoid taking naps during the day, to make sure that you are tired at bedtime. If you can't make it through the day without a nap, make sure it is for less than an hour and before 3pm.
- 8) **Sleep rituals.** You can develop your own rituals of things to remind your body that it is time to sleep - some people find it useful to do relaxing stretches or breathing exercises for 15 minutes before bed each night, or sit calmly with a cup of caffeine-free tea.
- 9) **Bathtime.** Having a hot bath 1-2 hours before bedtime can be useful, as it will raise your body temperature, causing you to feel sleepy as your body temperature drops again. Research shows that sleepiness is associated with a drop in body temperature.
- 10) **No clock-watching.** Many people who struggle with sleep tend to watch the clock too much. Frequently checking the clock during the night can wake you up (especially if you turn on the light to read the time) and reinforces negative thoughts such as "Oh no, look how late it is, I'll never get to sleep" or "it's so early, I have only slept for 5 hours, this is terrible."
- 11) **Use a sleep diary.** This worksheet can be a useful way of making sure you have the right facts about your sleep, rather than making assumptions. Because a diary involves watching the clock (see point 10) it is a good idea to only use it for two weeks to get an idea of what is going and then perhaps two months down the track to see how you are progressing.
- 12) **Exercise.** Regular exercise is a good idea to help with good sleep, but try not to do strenuous exercise in the 4 hours before bedtime. Morning walks are a great way to start the day feeling refreshed!
- 13) **Eat right.** A healthy, balanced diet will help you to sleep well, but timing is important. Some people find that a very empty stomach at bedtime is distracting, so it can be useful to have a light snack, but a heavy meal soon before bed can also interrupt sleep. Some people recommend a warm glass of milk, which contains tryptophan, which acts as a natural sleep inducer.
- 14) **The right space.** It is very important that your bed and bedroom are quiet and comfortable for sleeping. A cooler room with enough blankets to stay warm is best, and make sure you have curtains or an eyemask to block out early morning light and earplugs if there is noise outside your room.
- 15) **Keep daytime routine the same.** Even if you have a bad night sleep and are tired it is important that you try to keep your daytime activities the same as you had planned. That is, don't avoid activities because you feel tired. This can reinforce the insomnia.

