

Sleep Disorder

What is sleep?

What is good quality sleep?

You know you are having good quality sleep when you wake feeling refreshed, alert and energised. A person with a sleep disorder usually reports sleeping poorly or not enough.

How much sleep do I need?

Most people need about 6 to 8 hours of good quality sleep per day.

What is the purpose of sleep?

Sleep is necessary to sustain good health and well-being. It provides the mind and body with the opportunity to restore balances and repair itself. The immune system works to manufacture the necessary cells to fight off infection and disease, the pituitary gland produces growth hormones that help to repair tissues, and the overall chemical balance in the body is restored. At the same time the mind is working to organise and store memories from the day's activities. Sleep is a dynamic process that involves 5 main stages that are outlined below. Stage 1 to 4 involves non-REM (rapid eye movement) sleep or *Quiet Sleep*. At this time the brain is at its least active. Stage 5 is REM sleep – the time when we tend to dream. The brain cycles through these stages several times during the course of a night. Each cycle lasts between 90 and 120 minutes



5 stages of sleep

Stage 1 This stage involves the transition between sleep and wakefulness. The mind and body relax, breathing becomes more regular, and muscle activity gradually ceases. This stage of sleep is very light and, if awakened, the person may not feel as though they have been asleep at all. Feeling as if you are falling, making jerky movements or hearing indistinct voices during this stage is considered normal and no cause for alarm. Generally a healthy person will only stay a few minutes in this stage of sleep although someone with a sleep disorder may spend much longer in this phase.

Stage 2 At stage 2 the heart rate and blood pressure drop and the person relaxes more deeply. Waking them will be harder. Stage 2 accounts for approximately 50% of all sleep time.

Stage 3 & 4 During stage 3 and 4 sleep is at its deepest. The body is very relaxed, breathing and heart rates are slow and steady. It is difficult to wake someone during these stages and if you do the person will feel groggy and be slow to respond. There is no visible movement in the body. During this stage most of the repair and restorative work in the body takes place.

Stage 5 REM sleep occurs in stage 5. The first episode lasts for about 10 minutes and thereafter each REM episode becomes progressively longer until the final one lasting about 1 hour. The brain is active but the body is effectively immobilised, allowing us to dream without incurring damage from acting out our dreams. During this stage blood flow to the brain increases, heart rate speeds up, and breathing becomes more rapid. REM sleep accounts for approximately 20 to 25% of total sleep time.

What are the signs and symptoms of sleep problems?

- Age more rapidly
- More susceptible to illness
- Increased risk of accidents
- More emotional problems such as depression and anxiety
- Mood swings and irritability
- Concentration problems, impaired judgement, difficulty making decisions

- Reduced ability to deal with stress
- Increased risk of general health concerns such as heart disease, diabetes; increased blood pressure
- Apathy, low energy, fatigue
- Headache
- General feeling of malaise or sickness
- Weight gain

Insomnia: the most common sleep disorder

Insomnia is best thought of as a symptom rather than a disease. It occurs when basic sleep-wake mechanisms go awry. People with insomnia may complain about not being able to fall or stay asleep easily, waking too early in the morning, or excessive tiredness and irritability during the day. It is the most common of the sleep disorders. Almost anyone can suffer from insomnia but certain groups are more likely (women, older people and those suffering from depression). There are various types of insomnia and a range of different things can make it difficult for people to fall asleep or stay asleep. Treatment is best directed at identifying and rectifying the causes of the problem, rather than the insomnia itself.

Jet Lag

Jet lag results when the biological clock has not adjusted to the new local time. Usually proper adjustment takes approximately one day for each hour difference, although this differs between individuals and can be influenced by the direction of travel (adaptation is faster when flying westward rather than eastward). Adaptation can be assisted by:

- Adopting the local routine as soon as possible
- Allow time to rest and adjust on arrival
- Exposure to natural light on arrival (i.e., go for an hours walk in the afternoon local time)
- Avoid alcohol during the flight (it is dehydrating) and drink plenty of water or noncarbonated juices
- Exercise lightly on the plane (e.g., walk the aisles when possible) to overcome fatigue and reduce the effects of cramped and confined conditions
- If you are staying in the new time zone for five days or less, a mild sleep medication may be prescribed for the first night or two if necessary.

Shift Work

Shift workers experience significant disruption to their normal biorhythms as a consequence of having to alter their sleep patterns regularly. As a result, some shift workers report symptoms of sleep disorder. The effects of shift work can be lessened by:

- Increased light while working at night
- Changing the order of the usual work-leisure-sleep pattern to a work-sleep leisure pattern
- Try to follow as many of the strategies listed below as possible to promote good sleep habits. These include relaxation, regular exercise, diet and stress management

10 common causes of sleep problems

1. eating the wrong foods at the wrong time
2. emotional upset (including depression)
3. bedroom environment not conducive to good sleep patterns (too hot, too cold, too noisy)

4. exercising too close to bed time (exercise stimulates your system by boosting your metabolism and the effect can linger for hours afterwards)
5. snoring
6. medications including diet pills, some blood pressure, allergy or asthma medications
7. chronic pain
8. stimulants including caffeine, alcohol and nicotine
9. poor sleep habits
10. anxiety / stress

Quick tips

- Good sleep quality is essential to overall well-being
- When thinking about your sleep patterns you should consider both the sleep and wake function
- Sleep is individual: different for different people
- Daytime activities influence nighttime sleep quality; nighttime sleep quality influences daytime functioning
- Sleep patterns change as we get older
- The human body is adaptable and problems associated with poor sleep quality may only become apparent after some time experiencing sleep deprivation

Common treatments for sleep disorders

Treatments for sleep disorders vary depending on the specific condition identified. The form of therapy chosen also needs to take into account all of the factors that may be influencing the quality and quantity of your sleep on a daily basis. Treatment options include medication, behavioural treatments (such as stress management and relaxation strategies) or a combination of these approaches. It is important that you discuss your concerns regarding your sleep patterns with your treating MO or a psychologist in order to confirm whether you have a sleep disorder and, if so, the type of treatment approach best suited to addressing the problem.

Do you have a sleep problem?

Everyone experiences sleep disturbances occasionally for example due to specific and upsetting incidents (i.e., spouse leaving, parent dying, bills piling up). These types of events can cause a temporary disruption to your general well-being and your good quality sleep in particular.

If sleep problems persist for a month or more you may need to consider whether you have a sleep disorder. If the problems persist after trying the suggestions listed below, start keeping a sleep diary and evaluating your sleep habits. Discuss this information with your MO.

Waking in the middle of the night, waking too early in the morning, not being able to get back to sleep, and waking feeling unrefreshed, can be indicators of a sleep disorder.

But even if the problem is temporary you should evaluate those factors that may be affecting you. Poor quality sleep is a concern no matter its cause or duration.

Epworth Sleepiness Scale

How likely are you to fall asleep in the following situations?

Choose the most appropriate number for each situation:

0 = would never doze

1 = slight chance of dozing

2 = moderate chance of dozing

3 = high chance of dozing

- Sitting and reading
- Watching TV
- Sitting inactive in a public place (e.g., theatre, meeting)
- As a passenger in a car for an hour without a break
- Lying down to rest in the afternoon when circumstances permit
- Sitting and talking to someone
- Sitting quietly after lunch without alcohol
- In a car while stopped for a few minutes in traffic

A score of 10 or above indicates you may be having a problem with daytime sleepiness but below 10 does not necessarily mean that you don't have a problem. Please see your healthcare professional for advice if you snore, have been told that you awake gasping for breath or if you are sleepy during the day.

10 ways to improve your sleep that you can start today!

1. *Manage your stress.* Learn to relax. Effective stress management strategies include imagery, deep breathing, progressive muscular relaxation, and relaxation exercises. It is important to practice and master these exercises before you intend to start using them at bedtime so you do not have to concentrate too hard on what you are doing. These exercises will not take away your worries, but they should help to relax you sufficiently that you can fall asleep and be more refreshed in the morning and be better equipped to cope with your concerns.
2. *Dim the lights.* Sleeping in near or total darkness if possible is recognised as most conducive to good sleep patterns. Nightlights are typically about 15 watts and offer just enough light to be able to see but are not bright enough to affect sleep. Use heavy curtains to block street light illumination.
3. *Set the mood.* Ensure the sleeping environment is comfortable and relaxing. A good quality mattress and pillow with comfortable bedding will go a long way towards helping you get a good night's sleep. Keep the room temperature around 18 degrees Celsius wherever possible. Remove clutter (use screens to hide computer or exercise equipment from sight). Air quality can be significant if you are prone to breathing problems. A commercially available air filter can assist in removing irritants and pollutants from the air and reducing nighttime coughing or breathing difficulties.
4. *Develop a bedtime routine.* Create rituals that help you to wind down from the day's activities and prepare yourself physically and mentally for sleep. Incorporate some activities that are relaxing for you, like soaking in a bath, spending quiet time with the family. Your brain needs at least 30 minutes to wind down enough to begin to be receptive to the idea of sleep. Turn off the TV and stop doing anything (e.g., dishes, folding the washing, paperwork) that stimulates your brain about 30 to 60 minutes before you anticipate going to bed. Reading before bed is fine if you find it relaxing rather than stimulating.
5. *Eat right at the right time.* Eating a large meal close to bed time stimulates the digestive system when it should be "shutting down" for the day. Also, lying down is not the best position for digestion to work effectively. As a rule of thumb try to leave at least 2 hours between your evening meal and going to bed.
6. *Caffeine.* Caffeine tea, coffee, soft drink, diet pills, chocolate, some over-the-counter medications. Consuming 300 milligrams of caffeine (equivalent of 3 cups of strong coffee or 6 cola drinks) during the day causes disruption to your sleep patterns. Also, caffeine sensitivity increases with age.

Suggest you restrict caffeine intake to mainly morning hours or at least 3 or more hours before bedtime. If you decide that you need to reduce your caffeine intake cut back slowly over 2 weeks to give your brain time to adjust.

7. *Nicotine.* Although many people report a relaxation effect first, the stimulation effect follows closely behind. Nicotine also raises blood pressure, speeds up heartbeat, stimulates brain wave activity, and affects breathing. To reduce the chance that nicotine affects your sleep, try to have your last cigarette of the day progressively further from bedtime until your last is 4 to 6 hours before your anticipated bedtime. For further information on ways to avoid a cigarette even when you are desperate www.quitnow.info.au or phone the Quitline 131 848.
8. *Napping.* Some experts suggest napping is like snacking before dinner – you risk spoiling a good meal. But others claim the important thing with napping is the timing. If you nap in the early afternoon, say between 2pm and 4pm when your metabolism has a natural dip, there is less risk of it affecting sleep later that night. The best naps last between 20mins to 1 hour; longer than that and you tend to wake feeling groggy and unrefreshed.
9. *Establish a sleep schedule.* Make sleep a priority and establish a daily schedule that allows sufficient time for you to get adequate sleep. Work out how much sleep you need (for most people this is between 6-8 hours per night of good quality sleep) and ensure you go to bed at the same time every night and wake at the same time every morning. When this is not possible, focus more on maintaining the morning wake time while keeping the evening curfew as often as possible. Set the alarm and get up at the same time each day, regardless of how much sleep you had the night before.
10. *If you cant get to sleep.* Sometimes you may find that you are not able to fall asleep easily. Don't continue to lie there trying hard to get to sleep. If after 15 minutes you still feel fully awake, get up and do something boring (but do not watch TV as this may have the counter effect of stimulating your brain further). When you feel sleepy, go back to bed. Repeat this process as often as necessary throughout the night.

When should you be concerned?

When you have tried all the suggestions listed above with no significant improvement in your sleep quality consider the possibility that you may have a sleep disorder. If sleepiness persists over one month or more start keeping a sleep diary, evaluate your sleep habits and visit your MO.

Keeping a sleep diary

This is a process that allows you to evaluate your sleeping habits and provides a sound basis for your MO to begin the diagnostic process.

You will need to keep the diary for between 2 and 4 weeks. It is a daily record of:

- What time you went to bed and woke up
- What you had to eat and/or drink before bed
- How long it took you to go to sleep
- Any awakenings during the night and whether you were able to quickly go back to sleep
- Caffeine consumption since noon
- Medications you take
- Other factors that may have disturbed your sleep (stress, snoring, hot room and so forth)
- Naps
- Levels of sleepiness
- Personal assessment of the quality of sleep
- Exercise periods during the day

The diary should be completed when you get up in the morning. If you forget, do not fill it in later in the day because your recollection may not be as accurate. Clearly, with some of these items you will need the help of a partner who can verify, for instance, how long it took you to fall asleep. But even if you are not in a position to obtain that information, keeping this kind of record can prove extremely useful as the starting point to assessing your sleep patterns and habits.

Where to go for help with a suspected sleep problem

If you are concerned about the quality and/or quantity of your sleep it is important to talk with either your treating MO or you may seek assistance from a psychologist for assistance with relaxation techniques and behavioural strategies designed to improve the quality of your sleep.

8 signs that your partner has a sleep problem

Sometimes the person with a sleep disorder is not the only one affected! Listed below are 10 signs that might indicate a sleep disorder. These are not the only symptoms that might be evident and it is important that if you are concerned about your partner's sleeping patterns you discuss this with him or her. If they have tried all the suggestions listed here to promote healthy sleep and feel no significant relief from their symptoms it is wise to encourage your partner to discuss the matter further with their treating MO or a psychologist.

1. *Excessive daytime sleepiness.* Sleepiness refers to a desire to lie down and sleep and is different from tiredness which is more about a lack of energy. Fatigue, on the other hand, is feeling abnormally tired early into an activity. These terms are not interchangeable and can be important distinctions when exploring the nature of a sleep disorder, although, of course, it is possible that a person can feel tired, fatigued and sleepy at the same time. Excessive daytime sleepiness (*narcolepsy*) is diagnosed when people fall asleep describe an irresistible need to fall asleep during the day. The symptoms can fluctuate over time and the sleepiness feeling need not persist continuously throughout the day. Treatment options range from adapting their routine to include regular naps throughout the day, to behavioural treatments and/or medications.
2. *snoring really loudly or seems to stop breathing several times during the night.* Snoring on its own (i.e., without periods where breathing seems to stop) is primarily a social problem and experts do not believe it causes ill-health in the short or long-term. The most commonly effective treatment is to lose weight, eliminate alcohol consumption in the three hours immediately prior to going to bed, and ensuring the nasal passages are unobstructed. Other options involve utilising a mouthguard or surgery. Stopping breathing is only considered harmful if it occurs more than five times in one hour. At this stage it is called *obstructive sleep apnoea (OSA)* or *sleep apnoea*. The effect of sleep apnoea is to reduce the amount of oxygen in the blood, which subsequently triggers the body to wake up. Sometimes the person wakes completely, but often the effect is a lightening of their sleep, causing them to become restless and to wake feeling unrefreshed and lethargic. It is important that you talk to your treating MO if you believe you may be suffering from sleep apnoea. It is a condition well-known to medical practitioners and a range of treatment options are available to assist.
3. *sleep walking.* This can also be associated with *sleep talking*. The person is difficult to wake and, once woken, is disoriented and groggy, having no recollection of their actions. Usually, sleep walking is a childhood disorder that tends to desist by adolescence. When sleep walking *starts* in adulthood it is necessary to explore it further. While physical tiredness and sleep deprivation can trigger sleep walking episodes, it may also be associated with a form of epilepsy, and should be discussed with your treating MO
4. *grinding their teeth while asleep.* Teeth grinding is a common problem that may be a persistent complaint or an occasional event, occurring only during periods of stress. It is often diagnosed by a dentist who notices damage to the teeth caused by the grinding action. Treatment is not needed for occasional episodes. However, if the complaint is more frequent dental treatment may be required and strategies designed to reduce stress or anxiety can be useful.
5. *restlessly moving their limbs regularly and repetitively all night.* The cause of *restless limbs* is not known. Sleep starts (feeling of falling or imbalance, sudden jerking movements) are common and appear harmless. If they are causing distress avoiding emotional distress and excess coffee and tea during the day is likely to reduce their frequency. Restless legs and *limb movement* are both relatively common conditions. Restless leg suffers complain of discomfort in the legs which is sometimes associated with a cramping or pins and needles sensation. Limb movement sufferers experience brief jerks of the legs or arms which occur during sleep. The severity of these disorders

ranges from being an inconvenience to quite debilitating. Symptoms may be alleviated by correcting any iron deficiencies identified and avoiding excess caffeine and certain medications. For very severe conditions medication can be useful and it is therefore important to discuss this issue with your treating MO.

6. *more cranky and irritable than usual over a longer time period.* Sleep deprived people tend to be cranky and have short fuses. This can have a significant effect on their relationships with others both at home and at work.
7. *poor judgement and memory lapses more than usual.* Sleep deprivation often affects people's memory and concentration. The individual is not able to respond as quickly or think as clearly as they usually might. This can have a negative affect on the performance both at home and on the job.
8. *recurrent night terrors (more than bad dreams).* Sleep terrors are different from *nightmares*. Sleep terrors come on suddenly. The person may sit up in bed often screaming or vocalising. They might fight if someone tries to comfort them. The person usually settles spontaneously. Sleep terrors are more common with younger children, and onset in adolescence or adulthood may be associated with a psychiatric illness. Treatment is not usually required. Nightmares are frightening dreams that occur during REM sleep and cause anxiety. They can start at any age. Treatment may be needed if they are frequent.

Sleep and Children

We all expect to experience sleep deprivation when caring for a newborn baby. But how long should that go on for? In the first 12 months of life children need to learn to sleep. If your child is 4 or 5 years old and still not sleeping through the night - is that normal? The simple answer is that many children experience sleep disorders and many more have developed poor sleep habits that keep them from sleeping through the night. The end result is the child is fractious and cranky during the day and you as a parent end up feeling exhausted and frazzled. Consistency in parents behaviour at children's bedtime is one of the most important keys to developing good sleep habits in children and there are many excellent resources available to parents as paediatricians are recognising the extent of this problem. Most books on sleep disorders contain a section on children and sleep and a search of the web will produce a multitude of hits, many of which will contain relevant information. One site which, at the time of writing, offers practical and clear guidelines for parents is <http://www.betterhealth.vic.gov.au> for information on sleep and babies, children and adolescents. Naturally, if you have tried several of the strategies recommended in these type of texts and still feel your child is experiencing sleep problems, consult your general practitioner.

Resources for commanders:

Because sleep is so important to overall well-being and effective functioning, commanders may have a particular interest in managing the level of fatigue experienced by defence personnel, particularly during intensive and prolonged operations. Below is a resource developed specifically for the military context providing information and guidelines to commanders for the practical management of fatigue and tiredness in troops. Further information is available from the local mental health team or medical practitioners

