

WHY?

Why is sleep important to health?

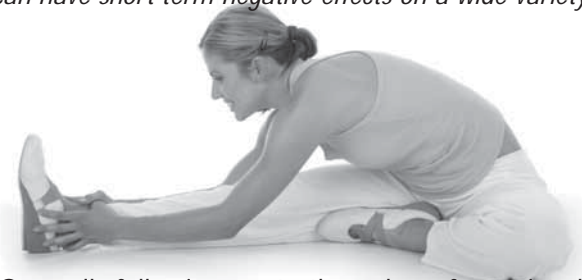
Getting the proper amount of sleep is an important part of good health. Although researchers are still working to discover all of the purposes of sleep, findings (Banks & Dinges, 2007) show a lack of sleep can have short-term negative effects on a wide variety of functions such as:

- Reaction time
- Coordination
- Concentration
- Problem-solving skills

When do these effects take place? Generally, following one to three days of "restricted sleep" (i.e., less than seven hours of sleep a night), you experience impaired daytime mental function (Banks & Dinges, 2007). Continued sleep restriction increases these impacts.

In addition to the effects sleep has on mental capabilities, it also plays an important role in immune system functioning. Poor quality and decreased amounts of sleep are both linked to immunocompetence (an inability of the body to produce a normal immune response to viruses and disease). Specifically, in people who got less sleep, natural killer cells (NKC) were found to be lower. NKCs are an important part of your immune system. Their role is to identify cells that don't belong in your body (i.e., viruses) and kill them, helping us avoid illness. Getting the right amount of sleep can help keep your immune system strong.

Not getting enough sleep over the long term has been linked to increased risk of chronic diseases such as obesity, high blood pressure, diabetes, hypertension, and heart disease.



WHAT?

What are sleep disorders?

A "sleep disorder" is a medical disorder of sleep patterns. Many disorders impact the quantity or quality of sleep enough to interfere with your ability to function during the day and put you at risk for illness and disease over the long term. The following chart has information on common sleep disorders.

Disorder	Signs & Symptoms	Causes	Treatment
Insomnia	Chronic problems falling asleep or staying asleep Usually impacts physical and mental functioning	Stress or anxiety Pain, restless legs syndrome Hormone imbalances, menopause	Behavioral therapy (e.g., sleep hygiene, stress management) Medications (e.g., sedatives)
Sleep Apnea	Pauses in breathing during sleep One or two breaths are usually missed at a time	Inability to move air into and out of the lungs due to the throat closing briefly	Weight loss Use of a mouthpiece Surgery Breathing apparatus
Restless Legs Syndrome	Strong urge to move legs when falling asleep Burning, itching, tingling, painful sensation in legs	Low iron levels Varicose veins Pregnancy Genetics	Iron supplements Stretching your lower back and legs Medication (e.g., central nervous system depressants)

If you're experiencing any of these signs and symptoms, keep track of your sleep behaviours and problems and try to make changes to your daily routines and sleep hygiene habits. If the problem continues for longer than a few weeks, talk to your health care provider.



Source: American Academy of Sleep Medicine. (2009). *Sleep disorders*. Retrieved March 31, 2010 from <http://www.sleepeducation.com/Disorders.aspx>

HOW?

How can sleep hygiene help me get an optimal night of sleep?

First of all, sleep hygiene doesn't mean cleanliness! Sleep hygiene actually refers to a variety of habits and routines you can do before going to bed to help you get a better nights sleep. Sleep hygiene helps to cue the body and brain to start relaxing in order to fall asleep easily. You don't have to have a sleep disorder to benefit from these habits; they are simple things everyone in the family can do to get a better sleep!

Here are some tips you can use if you have trouble sleeping, don't feel rested after a full night's sleep, or want to improve the overall quality of your sleep.

DAY TIME TIPS

1. **Be physically active.** Studies have found that being physically active can increase the amount of sleep you get. The greatest impact was seen in people who did 60 to 90 minutes of exercise. They slept for an additional 11 minutes a night. The most positive effects happened when exercise took place four to eight hours before bedtime (Youngstedt, 2005).
2. **If possible, avoid naps.** Sleeping during the day will limit the amount you are able to sleep at night.
3. **Stick to a schedule.** Try to keep a similar sleep schedule throughout the week. Try to go to bed and wake up around the same time on the weekend to avoid adjusting your body back to your work schedule.
4. **Keep a sleep journal.** To help figure out your optimal amount of sleep, record your hours of sleep and how you feel physically and mentally during the day. Monitor the differences to see how many hours help you function at your best level.
5. **Limit caffeine.** Caffeine is a stimulant which makes you feel more alert by blocking sleep-inducing chemicals in the brain and increasing the adrenaline in your body. If you're having problems sleeping, keep track of your caffeine intake throughout the day and try to keep it as low as possible. Also, avoid caffeine in late afternoon or early evening as it can stay in your system for up to eight hours.

PRE-BED TIPS

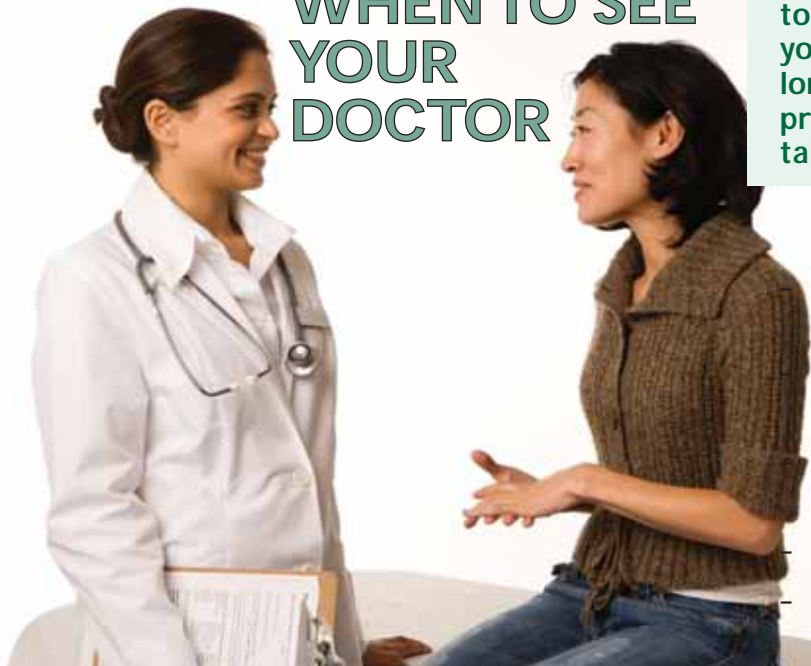
1. **Create a routine to help you relax.** Find something that helps to relax you, and do it before bed. A hot bath, reading a book for fun, listening to music, or relaxation techniques (e.g., deep breathing, meditation, or yoga) can help your mind and body get ready for sleep.
2. **Don't go to bed hungry or full.** If you normally eat at night, try to eat about two hours before bed to avoid feeling too full. Also, don't drink too close to bed time so you won't have to get up in the middle of the night to use the washroom.
3. **Limit alcohol.** While it may make you feel drowsy and help you fall asleep, it disrupts your sleep cycle so you don't get a deep, restful sleep. Alcohol is broken down by your body quickly, resulting in withdrawal, or "rebound" effects disturbing or stopping REM sleep during the second half of the night.

BED TIME TIPS

1. **Control your bedroom.** Make sure your bedroom is a relaxing place. Don't let your bedroom become an extension of your living room or kitchen.
2. **Write it down.** If you have a lot on your mind from the day (e.g., work problems, or to-do lists), write everything down before going to bed. You can focus on the list in the morning when you are rested.
3. **Set the scene.** A cool, dark, and quiet bedroom is ideal to encourage sleep. Remove loud clocks and other sources of noise which might wake you up. If possible, close the windows to block out traffic noise.
4. **Don't force sleep.** If you have been lying in bed, unable to sleep, get up and do something else. Leave your bedroom completely and do something relaxing (e.g., read a book, or listen to relaxing music). Try to avoid activities which will keep you awake, such as watching TV or playing on the computer.



WHEN TO SEE YOUR DOCTOR



When does your sleeping problem require a visit to the doctor? If any of the following happen to you on a regular basis, have been happening for longer than a month, or haven't improved after practicing better sleep hygiene, you should talk to your health care provider.

- You experience excessive daytime drowsiness or fatigue, which impacts your ability to function, even when you get a full night's sleep.
- You awaken on a regular basis and are unable to sleep straight through the night.
- You snore loud enough that it wakes you or other people up.
- You are told by a friend or loved one that your breathing is irregular when you sleep.
- You have chronic nightmares.
- You get tingling or burning sensations in your legs when you lie down.

Make It Happen at your Workplace!



Offer a presentation with an expert on sleep disorders and sleep hygiene to encourage good sleep habits.

Provide resources to raise awareness about the importance of sleep, sleep hygiene tips, sleep disorders, and sleep throughout the lifespan.

Provide a variety of non-caffeinated beverages in workplace vending machines and cafeterias. Offer

decaffeinated coffee and tea as well as water, low fat milk, and 100% fruit juice at meetings.

Find a group of co-workers who live near you and arrange a car pool group. Sharing the drive is a great option, especially at the end of the day when you might be too tired to drive safely.

Create a walking group at work to encourage physical activity throughout the day.

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- American Academy of Sleep Medicine. (2009). *Sleep disorders*. Retrieved March 31, 2010, from <http://www.sleepeducation.com/Disorders.aspx>.
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Spring 2010

SMART STEPS

TO LIVE LONGER

Personal Health Guide



Do you have problems sleeping, or wake up feeling drowsy?

You aren't alone. An estimated 3.3 million Canadians have problems falling asleep or staying asleep throughout the night (Statistics Canada, 2005). Sleep is an important process our body needs in order to function at a high level. Lack of sleep is a serious issue. In fact, it can lead to decreased abilities to concentrate, delayed reaction times, forgetfulness, and poor decision making. However, for some people, getting enough sleep isn't as easy as it seems.

Sleep is a naturally occurring period of inactivity of the body and brain (you don't control any movements or processes during this time). This period repeats itself with the help of an "internal clock", known as the circadian rhythm. Your internal clock can be found deep in the brain, in a structure called the suprachiasmatic nucleus (SCN). The SCN creates the circadian rhythm which controls sleeping patterns. The average circadian clock is actually longer than 24 hours. To help adjust to a 24-hour clock, your body trains itself to recognize external cues, such as light and regular meal times. So, while the natural rhythm is internal, external factors help regulate the process.

Adults typically sleep once in the 24-hour cycle. On average, adults require between seven to nine hours of sleep a day. It's worth noting that not all of those hours are spent in the same type of sleep. In fact, there are five different stages of sleep in a normal sleep cycle (Collop et al., 2008):

STAGE 1 Sleep is very light and you are easily awakened. This makes up about two to five percent of the night.

STAGE 2 A deeper level of sleep is reached, in which your eyes stop moving and brain activity slows. Almost 50% of total sleep is spent in Stage 2.

STAGE 3 AND STAGE 4 The deepest level of sleep is reached and brain activity is extremely slow. During this phase, there is no eye movement or muscle activity. People awakened during deep sleep are very groggy and confused.

STAGE 5 (Rapid Eye Movement - REM) Breathing becomes irregular and quick, heart rate increases, and muscle tone is weakened. REM makes up about 20 – 25% of total sleep time. An entire cycle of sleep takes around 90 – 110 minutes, with four to six cycles happening each night (Collop et al., 2008).

In order to feel well rested and to function at your highest level throughout the day, you need to get as much uninterrupted sleep as possible. Read on for information and tips to help increase the quantity and quality of the sleep you are getting.

DID YOU KNOW?

Staying awake all night isn't the only way to be sleep deprived. Partial sleep deprivation can happen three ways:

1. **Sleep fragmentation** – sleep stages are disrupted, resulting in less time in sleep (can happen in certain sleep disorders such as obstructive sleep apnea).
2. **Selective sleep stage deprivation** – when one specific sleep stage is continually disrupted (i.e., when sleep apnea only interrupts the REM stage).
3. **Sleep restriction or sleep debt** – an overall reduction in sleep quantity (i.e., sleeping only five hours a night on a regular basis).

Websites & Resources

Better Sleep Council Canada
www.bettersleep.ca

American Sleep Association
www.sleepassociation.org

Canadian Sleep Society
www.css.to

Royal Ottawa Health Care Group - Sleep Disorders
www.rohcg.on.ca/programs-and-services/sleep-disorders-e.cfm

Answers from front page
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TEST YOUR KNOWLEDGE

- | | |
|--|------------|
| 1. Being overweight can cause sleep apnea. | TRUE FALSE |
| 2. Sleep hygiene is only important for people who have trouble sleeping. | TRUE FALSE |
| 3. Drinking alcohol before bed is a good way to help you sleep. | TRUE FALSE |
| 4. Waking up often throughout the night is normal. | TRUE FALSE |
| 5. Watching TV in bed is a good idea. | TRUE FALSE |
| 6. Drinking a caffeinated drink before bed won't affect your sleep. | TRUE FALSE |
| 7. If you can't fall asleep, you should get up and leave the bedroom. | TRUE FALSE |

Answers located on back page.

