



reach higher

A SLEEP APNEA HANDBOOK

BREATH E
the lung association



What Is Sleep Apnea?

Sleep apnea refers to pauses in breathing that happen while you sleep. These breathing pauses – called apneas or apnea events – can last for 10 seconds or longer. People with sleep apnea can stop breathing hundreds of times each night. This results in disrupted sleep and low levels of oxygen.

Sleep apnea stops you from having the restful sleep you need to stay healthy. If not treated, sleep apnea can lead to daytime sleepiness and trouble thinking clearly. People with untreated sleep apnea have an increased risk of car or work accidents, cardiovascular disease, high blood pressure or early death. Sleep apnea is a serious, possibly life-threatening condition.

**OSA is the most common
form of sleep apnea.**



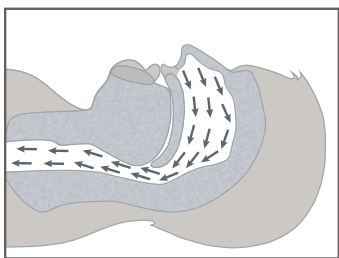
Main Types of Sleep Apnea

1. **Obstructive sleep apnea (OSA)** happens when the tissues at the back of your throat collapse and partly or fully block your upper airways. Even though you are still trying to breathe, there is very little or no air getting into your lungs. *OSA is the most common form of sleep apnea and is the focus of this handbook.*
2. **Central sleep apnea** happens when the brain fails to signal the muscles' need to breathe. It is not as common as obstructive sleep apnea.
3. **Mixed or complex sleep apnea** is a blend of both central and obstructive sleep apneas. Each episode usually begins with no breathing effort (central sleep apnea). The breathing effort then starts, but the airway is blocked (obstructive sleep apnea).

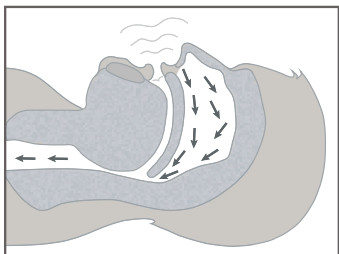
Obstructive Sleep Apnea

Obstructive sleep apnea (OSA) stops you from breathing normally at night. Your airway can partly or completely block during sleep. This can happen because the tongue and soft tissues at the back of the throat relax and fall back and block the airway. Fatty tissue can also contribute to the airway blockage.

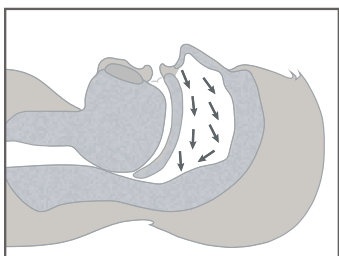
If you have OSA, you probably repeat this cycle while you sleep:



First, you may sleep quietly and breathe normally. The air in your airway flows easily to your lungs.



Then, you begin to snore loudly. This is a sign that your airway is partly blocked. If the blockage worsens this may affect the amount of air that can enter your lungs. This means your oxygen level can drop and your carbon dioxide level can increase.



Next, your airway closes off completely. No air reaches your lungs. Your brain is telling you to breathe as usual, but you cannot because your airway has closed off. After a pause of 10 seconds or more, your brain realizes you haven't been breathing, so it jolts you awake enough for you to take a breath. You take in a big gasp of air and start breathing again.

This cycle can continue through the night: you breathe quietly; you snore; you have a pause in your breathing; you gasp for breath; and you start breathing again. Some people have hundreds of sleep apnea events a night. This means many interruptions of sleep. You cannot get the rest your body needs, when this occurs.

Mild, Moderate or Severe Sleep Apnea?

Sleep specialists categorize sleep apnea by the number of events that occur each hour of sleep:

- Mild sleep apnea – 5 to 15 events per hour
- Moderate sleep apnea – 15 to 30 events per hour
- Severe sleep apnea – more than 30 events per hour

Other factors that determine how sleep apnea is impacting you:

- How sleepy you feel when you are awake
- How low your oxygen level drops
- How long your oxygen level stays below 90%
- Other medical conditions you may have, such as heart disease

Is Obstructive Sleep Apnea Common?

Yes!

- 1 in every 5 adults has at least mild obstructive sleep apnea.
- 1 of every 15 adults has at least moderate sleep apnea.
- Approximately 1 in 7 kids may experience sleep apnea.
- More than 1 in 4 Canadian adults have a high risk of having or developing OSA.



Signs and Symptoms of Sleep Apnea

You may have sleep apnea without knowing it. Sleep apnea develops over many years and may take a while to present itself.

The two main symptoms are:

1. Excessive daytime sleepiness that cannot be explained by other causes
2. Loud snoring with pauses in breathing

Other symptoms or conditions include:

- Waking with a dry mouth
- Morning headache
- Irritability
- Gasping or choking during sleep
- Lack of concentration when awake
- High blood pressure
- Diabetes
- Heart, liver and kidney disease
- Depression
- Impotence



What is Excessive Daytime Sleepiness?

If you fall asleep when watching a movie, talking to someone, or even driving, this would be considered excessive daytime sleepiness. It possibly means you may have sleep apnea. You can determine how sleepy you are by completing an online version of the Epworth Sleepiness Scale.

Risk Factors

Any combination of the following may increase your risk of having OSA:

- Obesity or excess weight
- Large, thick neck
- Being male
- Being older
- Family history of obstructive sleep apnea
- Smoking
- Recessed chin (chin pulled backward to your neck)
- Large tonsils or other anatomical changes in upper airway and nose
- Certain medical conditions

Risks Linked to Untreated Sleep Apnea

- You may develop high blood pressure or type II diabetes
- Your risk of heart attack or stroke increases
- Your memory and concentration can be poor
- You are at much greater risk of causing a motor vehicle accident and work-related injury
- You may develop an irregular heartbeat

Am I at Risk for Sleep Apnea?

The **STOP-BANG** questionnaire is a tool used to help determine if you have or are at risk for OSA. *Remember:* simply being a male or being older than 50 does not mean you have sleep apnea. Answer the following questions to see if you are at risk for sleep apnea.

Snoring?

Do you snore loudly (loud enough to be heard through closed doors or your bed-partner elbows you for snoring at night)?

Tired?

Do you often feel tired, fatigued or sleepy during the daytime (such as falling asleep while driving or talking to someone)?

Observed?

Has anyone observed you stop breathing or choking/gasping during your sleep?

Pressure?

Do you have or are being treated for high blood pressure?

Body mass index more than 35?

Body Mass Written Example:

If your weight is 68 kg and your height is 163 cm (1.63 m)

Calculate: $68/1.63(2) = 25.59$

BMI = 25.59

This is less than 35

Age older than 50?

Neck size large?

For males, is your shirt collar 17 inches/43 cm or larger?

For females, is your shirt collar 16 inches/41 cm or larger?

Gender = Male?

Results

If you said “yes” to 0-2 questions, you are at **Low Risk for OSA**

If you said “yes” to 3-4 questions you are at **Intermediate Risk for OSA**

OR

“Yes”, to 2 or more of 4 STOP questions + male

OR

“Yes” to 2 or more of 4 STOP questions and BMI is greater than 35

OR

“Yes” to 2 or more 4 STOP questions + neck circumference 17 inches / 43 cm in male or 16 inches / 41cm in female

If you said “yes” to 5-8 questions you are at **High Risk for OSA**



Note: STOP-BANG questionnaire by University Health Network (UHN), 2014. Copyright 2012 by UHN. Used with permission.



It is important to get a proper diagnosis if you feel like you may have sleep apnea. Speak with your family doctor about your concerns and ask for a diagnosis.

Polysomnography (PSG)/ Level 1 Testing

The best method of diagnosing sleep apnea and other sleep problems is an overnight test in a sleep lab. This test is called **polysomnography (PSG) or Level 1 Testing**. During this test, you will sleep in the lab, while being monitored. You will be connected to wires that gather data about your sleep stages and cycles, oxygen levels, heart rate, body movements and breathing patterns. A certified sleep physician or sleep doctor (a specialist who is trained in sleep medicine) will explain the results and suggest treatment, if needed.



Home Sleep Apnea Test (HSAT)/ Level 3 Testing

As public awareness of sleep apnea grows, so does the demand to be tested. In some areas, there can be very long wait times for testing at the sleep lab. If your family doctor believes that you may have sleep apnea but you have no other serious illnesses, a HSAT may be used. HSAT, also referred to as a **Level 3 Testing**, can be used at home to assess information about your oxygen levels and breathing patterns. These are portable monitors that record information about your breathing while you are sleeping at home in your own bed. You will be shown how to connect to the machine at home. When completed, the machine will be returned to the clinic. The results should be interpreted by a sleep doctor. If it is discovered that you have sleep apnea, follow-up is needed to decide the best treatment for you.

Most provinces have publicly funded sleep disorder centres that provide no-cost sleep lab and home testing services. Testing for sleep apnea may be offered by private oxygen or sleep apnea companies in certain provinces. Your family doctor may refer you to one of these companies for testing or equipment support and sales. A certified sleep doctor should be involved in the interpretation of any testing completed privately.



Treatment

Communicating Well with Your Health Care Providers

When you are diagnosed with sleep apnea, it can feel overwhelming. You will likely have many questions and the answers may not always be clear at first. It is important to talk to your healthcare provider about your treatment options and get answers to all of your questions.

Build a good relationship with your family and sleep doctors, sleep apnea health professional/educator and CPAP company. They are there to help you manage your sleep apnea, help you adjust to your sleep apnea treatment and follow-up with any questions or concerns you may have. *Note:* The sleep apnea professional/educator may be an employee at the CPAP company.

Build Your Sleep Apnea Team

Learning how to manage sleep apnea is the first step to maintaining your health and regaining quality of life. This is much easier with a team. Consider family, friends and healthcare professionals such as:

- Your sleep doctor
- Your family doctor
- Your sleep apnea health professional/educator
- Your pharmacist

Those who become your informal caregivers (family and friends) will play a very important role in your life. Caregivers will likely help you with managing your sleep apnea. It is important to keep them informed about any changes or needs you might have.

A Word to the Partner or Caregiver

Sleep doctors, family doctors, sleep apnea health professionals, and CPAP company work as a team to help people use their CPAP equipment successfully and properly. Partners, spouses and caregivers play a very important role as well.

Here is how you can help as a partner or caregiver:

- Learn all you can about sleep apnea.
- Learn about the equipment and help your partner with problem solving.
- Encourage your partner to continue with the treatment.
- Reassure your partner that using CPAP does not affect how you feel about him/her.
- Support your partner's efforts to improve their health by, for example, encouraging weight management, healthy eating, and regular exercise.

Questions to Ask When Looking for a CPAP Company

- Is the company accredited and does it follow best medical practices? *Note:* this may not apply to certain provinces.
- What is the cost of testing and what is the waiting time for testing?
- Are the employees licensed health professionals such as respiratory therapists or nurses?
- Do the staff have an attitude of helpfulness?
- Will the staff spend time helping me to get the right mask fit?
- Is there a broad selection of masks and machines to choose from?
- Does the company have a return or exchange policy for masks and CPAP machines? Is there any warranty?
- What is the cleaning policy for equipment, especially testing equipment?
- Do they provide oxygen therapy if it is needed in addition to CPAP?

Other questions you may wish to ask private companies before being tested for sleep apnea:

- Does a certified sleep doctor or a sleep doctor interpret the tests?
- Does the company work closely with local sleep doctors?
- How long will it take to receive my test results?
- Do you assist in the process to apply for a government-funded CPAP machine?
- Do you provide follow-up support and remote monitoring? If so, is there a cost?
- Do you obtain an insurance estimate of coverage from my insurance provider prior to purchase?
- Do you allow trials of different CPAP machines before I decide which one to purchase?
- Are there any other costs that I might incur, where applicable?
- What are your patient care values?

OSA Treatment Equipment

The goal of any treatment for sleep apnea is to prevent airway collapse during sleep.

Continuous Positive Air Pressure (CPAP)

The primary treatments of OSA is a CPAP machine. This pressure is delivered through tubing and a mask to your airway. The mask is held in place by headgear. To receive CPAP treatment, a prescription is needed from a doctor. Some provinces require this to be from a certified sleep doctor or a sleep doctor. Medical suppliers cannot sell CPAP equipment without a prescription. CPAP machines may be funded with a prescription by your provincial health plan or private insurance or both. They may also be purchased directly through private companies with a prescription.

Note: Some provinces do not provide public funding for CPAP machines.



How Does CPAP Work?

The typical fixed pressure CPAP machine delivers a constant flow of air to the airway through tubing and a mask. The stream of air creates pressure. This supports the tissues at the back of the throat so they do not collapse. The amount of pressure applied to the airway by the CPAP machine is prescribed by your sleep doctor, usually after monitoring the effects of treatment during testing at the sleep lab or at home. Once your airway is open, the obstructive apnea events and snoring are prevented from happening.

Remember! CPAP is a treatment, not a cure. You will feel better only as long as you use it.



If you stop using the CPAP machine, your symptoms will return. CPAP use can be difficult, especially if you still feel tired or cannot sleep with a mask on your face. It is important to work with your doctor and equipment supplier to solve any problems you may have.

CPAP equipment has improved over the years. Smaller, quieter machines, heated humidity, pressure relief, and automatic CPAP machines are all newer options. There are even travel options available now. Machines now record information about how the therapy is working and many can transmit this information remotely. Most new machines have a ramp feature that starts with a low pressure and slowly increases up to your prescribed pressure. Some may have settings that decrease pressure when you are breathing out so you do not have to work as hard to breathe against the machine. Each CPAP company may have a different name for this feature. The more well-known are EPR (expiratory pressure relief) or FLEX. These features may help you fall asleep easier or decrease the feelings of breathlessness at night.

New light, smaller, and more portable CPAP machines are available for easier travel. Some are as powerful as full-sized home units. Talk to your CPAP health professional to see if this is an option for you. More information about travelling and sleep apnea can be read in the *Sleep Apnea & Daily Life* section of this handbook.

Automatic Positive Airway Pressure (APAP)

An APAP is a CPAP machine that automatically adjusts the pressure it delivers according to the person's need. A high- and a low-pressure limit are set and the machine varies the pressure between those two points. For example, the pressure required to keep an airway open may be greater when lying on your back. This may be more comfortable for some patients. These machines will also record the pressures used and other variables such as mask leaks. This information can be downloaded or transmitted wirelessly to help the sleep doctor

decide the correct pressure to prescribe. APAPs are not a good fit for all people with sleep apnea. Some heart and neurological diseases or presence of hypoventilation (breathing too slow or shallow) may limit the use of an APAP as a therapy option. Your sleep doctor will help determine which therapy is best.

Bilevel Positive Airway Pressure (BiPAP)

BiPAP machines are positive airway pressure machines that change the level of pressure when you are breathing out. Unlike CPAP, which uses only one pressure level, BiPAP uses two different pressures; one for breathing in and one for breathing out. These are often prescribed to patients with severe sleep apnea or other sleep breathing disorders.

Note! Every year (or more often if suggested by your doctor) you should have your data downloaded to ensure your therapy is working it's best. Try to remember to arrange around the time of your annual doctor's checkup.



Data Downloads from CPAP or BiPAP

Some machines have remote monitoring capabilities or an SD card that can be accessed by your sleep doctor or sleep apnea health professional to see how your mask and machine are working for you.

This information should be downloaded by your sleep apnea health professional within one month after starting or changing therapy. This report is useful to help your sleep apnea health professional recognize issues or concerns regarding your therapy. Private and public sleep apnea health professionals may also offer this service and set you up with remote access for monitoring and therapy adjustments.

Many new digital apps have been developed to help you manage your nightly CPAP or BiPAP information. Manufacturers may have an app to accompany your CPAP machine. The more informed you are about your sleep, the better you will be able to manage your sleep apnea.

Adaptive Servo Ventilation

This device is primarily used for people experiencing central sleep apnea. Similar to a CPAP but it adjusts the pressure levels based on an algorithm. This is a very sophisticated type of device, which is useful in certain types of central sleep apnea. Please do not purchase these units privately (online or via a local vendor) without consulting with your sleep doctor.

Oral Appliances (Dental Appliance)

Your doctor may suggest an oral appliance to treat mild or moderate OSA. The dentist will prescribe an oral appliance made to fit over your teeth. The appliance is worn at night to hold the tongue in place and jaw in a forward position so it doesn't slip back and block your airway. These are available in either a fixed or adjustable type. The adjustable appliance is the preferred choice because it allows for adjustments forward and back, customizing the treatment for you. To get fitted for an appliance, you should see a dentist that has experience in fitting these devices. Your dentist should work with your sleep doctor to choose the model that's right for you.

Remember: Whether you use CPAP or a dental appliance, the treatment will only work if you use it every night.



Points to Consider:

- Do not purchase over-the-counter models. These devices need to be prescribed and manufactured based on your specific needs and only after a consultation with a dentist who has sleep medicine expertise.
- Your sleep doctor and dentist should work together to decide what treatment is best for you and how to monitor its effectiveness.
- There are more than 80 dental appliances available.
- This treatment is **not recommended** for people with **severe obstructive sleep apnea, central or mixed sleep apnea.**

- A follow-up sleep study might be scheduled after you use the appliance. This will show whether the oral appliance is effective in treating your OSA.
- Jaw pain and temporary chewing problems can occur.

Note: If your appliance isn't comfortable, talk to your dentist. It's important that you have an appliance that's comfortable enough to wear every night.

Surgery

If CPAP or other treatments do not work for you, your doctor may suggest surgery to treat your OSA symptoms. Surgery for sleep apnea is not "one size fits all." For surgery to help, the doctor needs to know exactly what part of your airway is getting blocked. An ear, nose and throat (ENT) doctor can examine your nose, mouth and throat to pinpoint the problem.

Surgery has its own risks, and in most cases is not recommended by doctors.

For people with severe sleep apnea, CPAP is still the best choice. Please, keep in mind that no surgery is without risk. Surgery is generally not reversible and in some circumstances, surgery may actually worsen the apnea.

If surgical intervention is considered your ENT doctor should work closely with your sleep doctor as additional testing may be needed. Please discuss your questions about surgical options or new procedures with your sleep doctor.

Lifestyle

Some people with mild sleep apnea can be treated with lifestyle adjustments such as weight loss and avoiding alcohol and sedatives. If you only have episodes of OSA while sleeping on your back, sleep position training may correct the problem. As you get older or if you gain weight, these simple solutions may no longer be effective. See the section *Sleep Apnea and Daily Life* for further benefits of lifestyle changes.



Masks, Humidity and Troubleshooting

CPAP Masks

Your CPAP mask is the most important part of being successful in treating your sleep apnea. A mask should feel comfortable, but it may take some time to get used to wearing any type of mask. Many types of masks are available on the market including nasal masks, nasal pillows/cushions or full-face masks.

Mask Fitting

Picking the right mask is very important. It is a good idea to take your machine with you to the CPAP company for your mask fitting. This will help determine if the mask you choose will seal with your prescribed pressure. It does take time to get used to wearing the mask and become comfortable with it. Having a positive attitude helps, too.



Types of Masks

Nasal Masks

Nasal masks are smaller masks that cover the nose only. This mask is for CPAP users who have no difficulty breathing through their nose with the mouth closed while sleeping.



Nasal Pillows or Cushions

Nasal pillows have two small openings that fit in the nostrils of the nose and have minimal contact with the face.



Full Face Masks

Full-face masks cover both the mouth and nose and are used for those who have difficulty breathing through their nose or sleep with their mouth open.



Hybrid Masks

Hybrid masks also cover both the mouth and nose but are less bulky than a full-face mask.



How to Put on a Mask Properly

- Hold the mask in your hand, grab the headgear and slide it over the back of your head.
- Position the mask based on the style of your mask.
- Attach the headgear to your mask by using the clips or magnets on your headgear.
- Adjust the mask and tighten the straps to avoid air leaking.
- Do not over tighten your mask.



What is a Good Fit?

A good fit depends on the type of mask you are purchasing. Take advice from your sleep apnea health professional on proper fit for you. Your mask should not leak. If you do have a small leak, it should not blow into your eyes. The headgear should not need to be pulled tightly to control leaks as this can cause the mask to leak more. You should not feel any pressure on your face from the mask.

Tips for Mask Fittings

- Do not be in a rush to choose the right mask.
- When testing a mask, lay on your back and each of your sides to see how it feels.
- Try the mask with a CPAP machine turned on.
- Make sure the headgear is easy for you to use.
- Ask about an exchange or trade-in policy in case the mask does not work out.
- If you have dentures, remove these for mask fitting.

Ask Yourself These Questions and Discuss with Your Sleep Apnea Health Professional

- Do I often struggle breathing through my nose during the day?
- Am I claustrophobic?
- Can I handle something inside my nose?
- How do I manage my mask with dentures?

Treating sleep apnea is very important for your overall health. If you have experienced problems getting used to your CPAP equipment, please do not give up. It may take a few weeks, or even months to be comfortable wearing a mask. Be patient. Return to your CPAP company to look for ways to deal with any problems you have. Talk to your sleep doctor about any medical concerns. Do not give up.



Question:

How do I get used to wearing my mask?

Answer:

Take small steps to get used to your mask.

First, ensure the mask fits well. Start wearing your mask and straps when you are awake. Once you are used to the feeling, turn the air pressure on and lay down when you are comfortable. Try this during the daytime and lay down on the couch for an hour.

Then, once you are used to how the mask feels, start using it every time you fall asleep. The more you use the machine, the sooner you will get used to using it.

Humidity

Your lungs need warm, moist air to work properly. Our nose and throat take in the air we breathe and add warmth and moisture. The CPAP machine blows cool, dry air, which can irritate our airway. This can result in a dry or stuffy nose, dry throat, excessive sneezing, nasal drip, runny eyes, sinus headaches and even nosebleeds. Using a heated humidifier and heated tubing with your CPAP will help prevent these problems from happening.

Start with your humidifier at the factory setting. Fill the chamber with water, follow your machines user guide to know what kind of water is should be used. Many older machines require **distilled water** only. If you notice the symptoms mentioned above, turn up your humidity. If you have moisture on your face or your mask becomes damp, decrease your humidity setting. If you are not sure how to change your humidity setting, refer to the user guide from the manufacturer. Our climate changes from season to season and your humidity setting may need to be adjusted. The water chamber **should be emptied every morning and refilled with fresh water every night**.

Most machines now have the technology for heated tubing, which increases humidity, decreases condensation, and allows the machine to adjust automatically so the patient does not need to make seasonal changes to their humidity setting.

Troubleshooting

Your sleep apnea health professional is there to help you with any troubles. Below are some common problems they can help you with.

Mouth Leak

Usually the pressure of the CPAP will cause you to keep your mouth closed. If you do open your mouth at night, you will wake up with a dry mouth. You also may not be getting the most benefit from your treatment.

- Add a chin strap (available at the CPAP store). It may also help to keep your mouth closed.
- A full-face mask also may be a solution.

Mask Leak

- Check that your mask fits well.
- Adjust your headgear. It should be tight enough to make a seal without large leaks or pain. Do not over tighten headgear.
- Consider trimming/shaving facial hair for better seal.
- Avoid using oily creams on the face.
- A small leak is acceptable unless air is blowing into your eyes.
- The mask cushion may be worn out.

Dry Mouth

- Make sure your mask is not leaking. If it is, replace parts or purchase a new machine.
- A humidifier and heated tubing can help with dryness of your mouth.
- You may be mouth breathing, consider a chin strap to keep your mouth closed.
- Ask your pharmacist about artificial saliva or oral lubricant products that can help with your dry mouth.

Dry Eyes

- Your mask might be leaking or is worn out. Adjust and tighten your mask slightly. If this doesn't work, you may need a new mask.

Dry Nose

- A humidifier and heated tubing that can be attached to the CPAP machine will often help with dryness. A heated humidifier will deliver more moisture.
- Placing a room humidifier in your bedroom is not recommended as it may damage the CPAP machine.
- Check that your mask fits well.
- Talk to your pharmacist/doctor about using a nasal spray or rinse.

Nasal Stuffiness

- Nasal stuffiness can happen when you begin CPAP therapy. Try adding a heated humidifier and tubing to your system, if not already included.
- Nasal stuffiness may also be caused by sinusitis, allergies or rhinitis. Contact your doctor to determine the cause and treatment. It is important that your nose is as clear as possible to make wearing your CPAP mask more comfortable.
- Nasal blockages can happen because of polyps or old fractures. Blockages can interfere with CPAP treatment. These problems should be treated by an ENT specialist.
- A full-face mask may be the best mask for you.
- An additional therapy for congestion is to use saline rinses.

Sore or Red Areas

- Any marks should disappear very shortly after removing the mask.
- Sore or red areas on the bridge of the nose are caused by either a poorly fitted mask or by over-tightening the headgear.
- Adjust your headgear until it is just tight enough to make a seal without large leaks. A small air leak that does not blow into your eyes is acceptable.
- Consider trying a different style of mask.

Skin Irritation

- Wash your mask with warm, soapy water and air dry every day.
- Wash your face and dry well before putting the mask on.
- Contact your doctor if a rash develops; a prescription cream may be needed to treat the problem.
- Try a different style of mask.
- People who are allergic to silicone can purchase a mask with memory foam lining.
- Specialized skin treatment products may also be available through your CPAP company.

Removing the Mask at Night

It is normal to sometimes remove the mask in your sleep. Keep in mind that the goal of treatment is to wear it all night.

- You may pull the mask off because of nasal congestion. Try adding a heated humidifier.
- Talk to your sleep specialist if you cannot use your CPAP equipment, he/she may be able to suggest some tips or test for other problems.
- Try to use the mask consistently.





Cleaning and Device Care

Cleaning your CPAP machine, mask and tubing is very important to prevent nose, sinus, throat and chest infections. It should also help your equipment last longer. It is important to clean more often during and after an illness.

Mask

The best information about your specific mask can be found in the information pamphlet that comes with it. The following are general care instructions:

Daily

- Wipe your mask with a warm, damp cloth using mild soap or with specialized CPAP wipes.

Weekly

- Wash mask, headgear and tubing in warm, mild soapy water, using a small amount of mild dish soap or CPAP soap.
- Rinse with clear water and air dry.
- Do not use solutions containing bleach, chlorine, alcohol, moisturizers, scents, essential oils, or antibacterial agents.

Every 6-12 Months

- Replace mask, mask cushion, tubing, and headgear as they become worn.
- Check the equipment's predicted lifespan in the information pamphlet. Bacteria can grow even with regular cleaning.

Humidifier

Daily

- Empty the humidifier chamber and let dry.
- Fill humidifier each night with fresh water (distilled or tap depending on your machine).

Weekly

- Wash your humidifier chamber with mild soapy water. Rinse and let air dry.
- Some humidifier chambers are dishwasher safe. Read your machine's user manual for directions.

Every 6 Months

- Replace humidifier chamber

CPAP Machine

- Keep water from the humidifier away from your machine. Always empty the humidifier before moving your CPAP machine.
- Inspect and replace water chamber as needed.

Every 3 Months

- Change the filter at least every 3 months or sooner if needed. Do not wash and reuse filters unless your machine has a reusable filter. Follow the instructions in your CPAP machine manual or discuss with your sleep apnea health professional.
- Replacement of filters, mask and hose is suggested after an illness, unless there are other specific directions.

Equipment Care

- **Never** clean your equipment in the dishwasher.
- You may rinse the mask, tubing and water chamber in a 1:10 diluted white vinegar/water solution following an illness or vacation.
- If cloudiness is observed in the water chamber, clean in a 1:10 diluted white vinegar/water solution.
- **Do not use** solutions containing bleach, chlorine, alcohol, moisturizers, scents, essential oils or antibacterial agents.

Automated CPAP Cleaning Machines

Automated CPAP cleaning machines may sanitize and kill 99.9% of CPAP germs and bacteria in your mask, hose and reservoir with no disassembly, no water and no harsh or messy chemicals. Some machines sanitize with ozone and others use UV light.

These cleaning machines can be costly and may void warranties on CPAP masks and accessories. Discuss the effectiveness of these devices with your sleep apnea health professional at the CPAP of your company.





Sleep Apnea and Daily Life

There are things that you can control that might help your sleep apnea.

Things You can Control

- Diet and weight
- Exercise
- Medications, i.e., taking regularly
- Alcohol and caffeine use
- Smoking, vaping or other tobacco use
- Acid reflux

Eating Healthy

Some people find it easier to manage their weight once the sleep apnea is treated. You may snack more when you feel tired or sleepy. Ask your doctor to refer you to a registered dietitian to assist you with a healthy, managed weight loss program. Most people need long-term support to maintain a healthy weight.

Your CPAP pressure may need to be changed after a substantial weight loss or gain.

Exercise



Regular exercise has many benefits for those with sleep apnea including:

- Improved endurance
- Improved muscle tone
- More energy
- Feel less tension, depression and anxiety
- Helps with weight control
- Lowered blood pressure
- Improved circulation
- Reduced risk for heart attack or stroke

Small changes can make a difference:

- Walk daily (even short walks are helpful)
- Park a distance from the store and walk across the parking lot
- Join an exercise program
- Go biking with friends
- Check out community programs for activities that interest you

Before making any lifestyle changes or starting a weight loss program, consult your doctor.

Travelling with Your Machine

You should bring your CPAP with you anywhere you plan to sleep.

If you are flying, bring your CPAP machine as carry-on luggage. To make getting through security as smooth as possible, bring your CPAP prescription and a letter from your doctor explaining what your CPAP machine is, and that it's medically necessary for you to use it. Your CPAP humidifier should be emptied prior to travelling.

The letter from the doctor should say:

- That your CPAP equipment is required for a medical condition.
- The model (For example: Airsense 10) and the serial number of all your equipment.

Check about the type of electrical supply in the country where you are travelling to as you may need a converter. You may also want to bring a battery pack and extension cord.

Medications

Anyone you see outside your sleep apnea team (ie. dentist, optometrist, other specialists etc.) should be aware of your sleep apnea diagnosis before you are prescribed any medications or treatments. Many different kinds of medications can make your sleep apnea worse. Please, discuss all your medications with your doctor and pharmacist, including herbal and over-the-counter remedies.

If you will be given sedation for a procedure such as dental work or outpatient clinic tests, please inform all the people looking after you that you have sleep apnea.

A medic alert bracelet speaks for you when you cannot. Sleep apnea is one of the conditions that can be listed on the bracelet.

Alcohol

Alcohol can make sleep apnea worse. Alcohol can increase sleep apnea events, snoring, and oxygen desaturations during sleep, therefore, increasing sleepiness and promoting weight gain.

Caffeine

Caffeine (a stimulant) can cause problems with sleep, especially if taken within four hours of bedtime.

Caffeine is in many items including coffee, tea, soft drinks and chocolate. Try limiting caffeine to the daytime. Decaffeinated drinks are a better option to consume before bed.

Nicotine

Nicotine can cause problems with your sleep cycle. Nicotine is in cigarettes, e-juice and other tobacco or nicotine products. People who smoke have a higher risk of sleep apnea. Smoking causes nasal congestion and irritation, which can interfere with your CPAP therapy.

Consider quitting smoking or vaping. Once you are ready to begin planning for the day you quit, there is help: your doctor, medication, self-help information and helplines. It is never too late to quit smoking or vaping. For more information, visit www.lung.ca.

Acid Reflux (GERD)

Acid reflux, also known as GERD (gastroesophageal reflux disease) or heart burn, often occurs when you have sleep apnea. Sleep apnea along with obesity can cause an increase in abdomen pressure which may contribute to GERD. Stomach medications, weight loss and proper sleep apnea treatment can improve acid reflux symptoms. It is also helpful to not eat before bedtime and stay away from foods that may trigger reflux.

Driving

People with **untreated** sleep apnea are at greater risk of car accidents. The collisions are often severe and result in serious injuries.

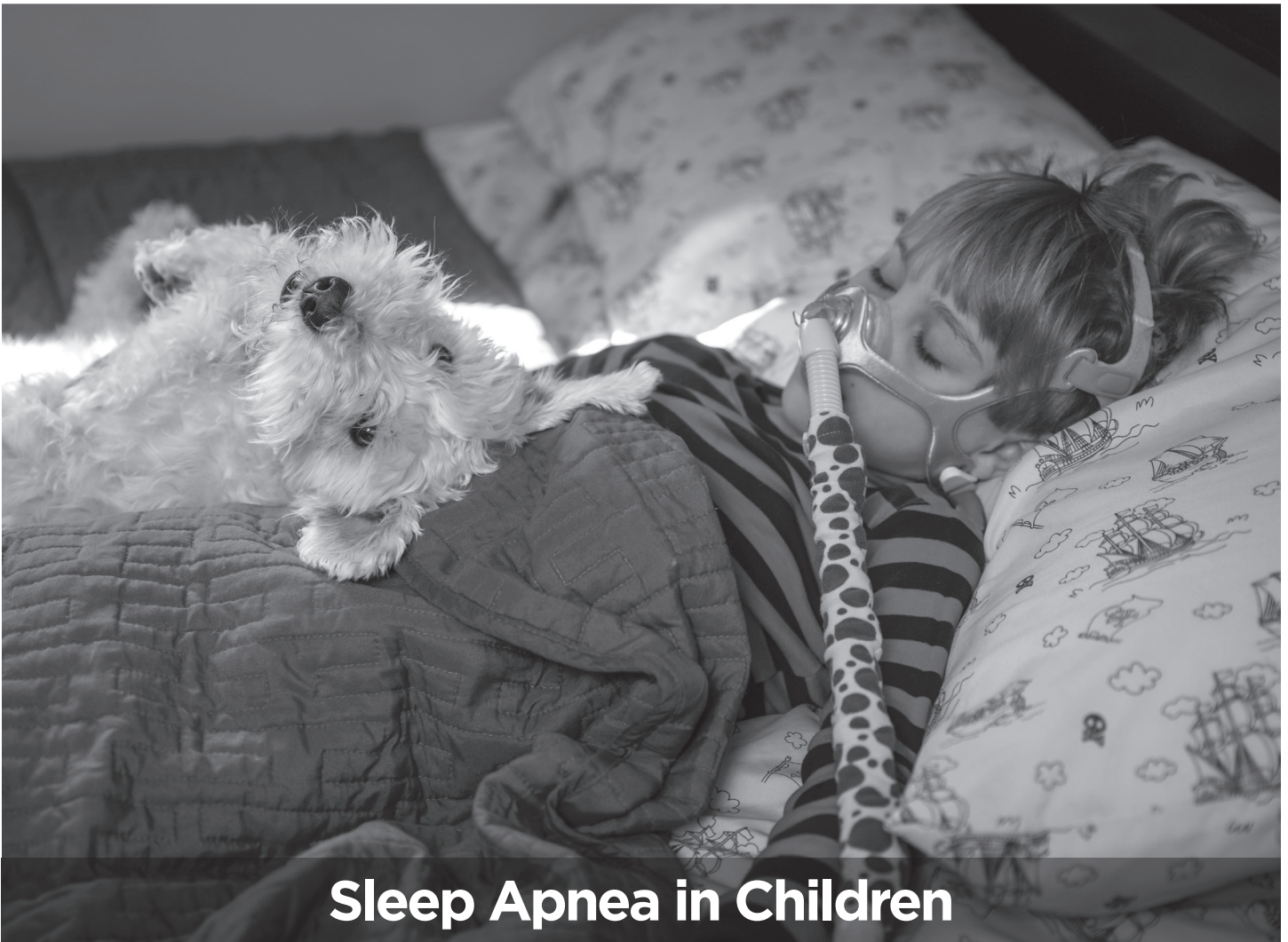
Some Points to Think About

- In some provinces doctors have a duty to report sleepy patients who refuse to use CPAP therapy to their motor vehicle departments.
- Once you begin CPAP therapy, you can safely resume driving in 1-3 weeks. With proper treatment, by that point, your risk of having a crash becomes the same as other drivers.
- You should check with your insurance company or provincial driver's license issuer about medical conditions that need to be reported.
- Be aware that your insurance may be void if you are not using your CPAP and you become involved in a crash because of sleepiness.

Remember! CPAP should be worn all night, every night and every time you are asleep (naps) to be completely effective.

If you're not using your CPAP, you will be a sleepy driver.





Sleep Apnea in Children

Lack of good quality sleep is just as important in children as in adults and the number of children with sleep disordered breathing is surprisingly high. Depending on the child's age, the symptoms can vary. It can cause daytime sleepiness like it does in adults, but it can also cause hyperactivity and inattention leading to behavioural problems.

Children most often experience OSA due to large tonsils and adenoids that block the airway at nighttime when their airway muscles relax. Similar to adults, obesity can be a risk factor that may be related to OSA.

Other factors that may put children at risk for sleep apnea include:

- Uncontrolled asthma or other airway diseases
- Allergic rhinitis or nasal allergies
- Acid reflux or GERD

There are other children with genetic disorders that lead to severe problems in the ability to breathe. These may also cause central sleep apnea.

- Neuromuscular or skeletal disorders
- Retrognathia (small jaw)/Pierre Robin syndrome
- Trisomy 21/Down's syndrome
- Chiari malformation

At Night, Parents Notice Symptoms Like

- Snoring
- Pauses in breathing
- Unusual sleep positions. For example: neck extended with head back or sitting up with mouth open
- Restless sleep
- Night sweats
- Snorting, coughing or choking
- Mouth breathing
- Bed wetting
- Night terrors

During the Day, Parents Notice

- Mouth breathing with trouble breathing through the nose
- Difficulty paying attention in school/learning problems
- Poor performance in school
- Behavioural problems
- Hyperactivity at home or school
- Excessive sleepiness
- Depressed mood
- Morning headaches



If your child is experiencing symptoms of OSA, ask your family doctor or pediatrician for a referral to a pediatric respirologist who specializes in sleep medicine.

Treatment

The most common treatment for OSA in children is the surgical removal of the tonsils and adenoids, which is called an adenotonsillectomy. This is the initial treatment for most children with sleep apnea and is very effective. Nasal steroid sprays may be tried to determine if decreasing the airway swelling will reduce apnea episodes.

Despite these treatments, some children will still need treatment with CPAP therapy, similar to adults. Child-specific masks are available and are similar to adult masks, just smaller. Depending on the illness, other therapies may also be required, and your pediatric respirologist can help you.



FAQ's

Q: Is there a cure for sleep apnea?

At this time there is no cure. People who have lost a large amount of weight may have their symptoms reduced to the point that they no longer need CPAP. A sleep specialist must make that determination.

Q: How long will it take to get used to CPAP?

Some people are able to use their equipment with no problems from the very first night. They wake up feeling much more rested. Others can have trouble getting used to the mask and the pressure. It may take up to 6 weeks to adjust. It is important to keep trying – do not give up.

Q: How do I know if my CPAP is working?

You will feel improvements in your mood and energy and feel more awake during the day. You should have your information downloaded and reviewed at least once a year.

Q: Do I have to use my CPAP every time I sleep?

Yes, in order to prevent apnea episodes and obstruction of your upper airways, you need to wear your CPAP every time you sleep and during naps.

Q: What happens if I stop treatment?

Your sleep apnea symptoms will return. CPAP treatment is effective only when you use it.

Q: Will the CPAP pressure ever need to be changed?

A significant weight loss or weight gain may change the pressure that you need. Check with your doctor about a repeat sleep test or using an auto-titrating machine for a few days to determine the right pressure for you.

Q: I have a cold, should I use my CPAP?

If you can tolerate heat, humidity, and flow of air from your CPAP, you can use your CPAP. Also, you can try to elevate your head or sleep on your side to make it easier to breathe. If you cannot tolerate your CPAP due to nasal congestion and cough it is OK to take a break from your CPAP until you feel better.

Q: Could I lose my driver's license?

If you are diagnosed with sleep apnea, you may have your license restricted until you begin CPAP treatment. Once you begin treatment successfully, you should be fine to drive. If, however, you do not agree to treatment, your license may be taken away. Specific approach varies by province.

Q: I use my CPAP every night, but I'm still sleepy. What else can I do?

There are some people who are still sleepy even though they use their CPAP properly. The first step is to make sure that your equipment is working. You can take the CPAP machine back to the supplier to have it checked. Second step is to speak to your sleep apnea health professional or sleep doctor.

Always talk to your sleep doctor about any sleep problems that you have as there are many reasons for sleepiness that might need investigation.

Q: Do masks and tubing fit all machines universally?

Most unheated tubing will fit all machines. But not all heated tubes do so you will need to purchase the tubing made from machine's manufacturer. Discuss this question with your sleep apnea health professional.

Q: Will my insurance cover the cost of the machine and mask?

Check with your insurance company to see what is covered.

Q: I am getting headaches from using my CPAP, what should I do?

Headaches can happen if your CPAP pressure is too high, please contact your therapist to adjust the pressure. You can also check your mask's headgear and make sure it's not too tight.

Q: Why is my CPAP too noisy?

The new generation of CPAPs only make light noise.. A loud noise from your CPAP could be a sign of a defective machine. Also, make sure the filter that you are using is clean. Check your mask seal and your mask's vents (tiny holes on your mask). If you are hypersensitive to noises you can use ear plugs.

Q: I can hear popping sounds in my tubing?

This issue could happen if you have water accumulated in your tubing due to condensation. Try to decrease the temperature difference in your room by either increasing your room temperature or decreasing your tube temperature if you have a heated tubing. You can wrap your tubing around a blanket to keep the heat inside or purchase a cozy cover.

Q: Why do I still snore on CPAP?

Check your mask fit and make sure you have a proper size mask. If you are a mouth breather, but using a nasal mask you may consider changing your mask to a full-face mask. It could also be due to not having enough pressure. Ask your sleep doctor to adjust your pressure.

CPAP Equipment Checklist

Time passes quickly and routine maintenance of your CPAP equipment can be forgotten. You can use this sheet for information about your mask and machine. Or enter this information onto your smartphone or calendar so you don't forget!

CPAP Unit: Model _____ Serial number _____
Date purchased/received _____
Supplier _____
CPAP pressure _____ cm H₂O _____
Date serviced _____

Clean/replace filter per manufacturer's instructions.
(Suggestion: record date on piece of tape and attach directly on machine).

CPAP Mask: Type and size _____
Date purchased _____
Replaced (recommend every 6 months)

1. _____
2. _____
3. _____
4. _____

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It is thanks to the generous donations from the public that we are able to provide lung health resources.

If you wish to make a donation to support this important service, please visit www.lung.ca.

B R E A T H E

the lung association

This handbook has been developed by The Canadian Lung Association and
The Lung Association – Saskatchewan to provide educational support
for adults with sleep apnea and their families.

www.lung.ca

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