

# Snoring and Sleep Apnea



**Breathing Problems While You Sleep**

# Simply Snoring or Something More?

If you snore, you may know about nightly jabs in the ribs and grumbling from your bed partner, or complaints from neighbors. The noise you make can disrupt their sleep—and your own. It may even be a sign of a more serious problem called **sleep apnea**. Read on to learn more.

## Snoring Is Annoying

Snoring may harm your sleep and the sleep of your bedmate or people in other rooms. This can put a strain on your relationships. Snoring can also be the first sign of sleep apnea, a serious health condition.

## Sleep Apnea Is Serious

If you have sleep apnea, your throat becomes blocked during sleep. You stop breathing for short periods of time. To breathe, you must briefly wake up. The cycle repeats many times throughout the night. Besides snoring, you may:

- Gasp or snort in your sleep.
- Wake up tired after a full night's sleep.
- Wake up with a headache.
- Feel very sleepy or even fall asleep during the day.
- Have problems with memory or concentration.
- Be cranky or short-tempered.

Sleep apnea also makes you more likely to develop certain other health problems, such as high blood pressure, heart attack, heart failure, stroke, or sexual dysfunction.



People with sleep apnea are much more likely to fall asleep during the day, sometimes even while driving.

## A Range of Treatment Options

Your doctor can discuss with you the various treatment options for snoring and sleep apnea. Treatment can help you breathe freely again so you get a good night's sleep.

This booklet is not intended as a substitute for professional medical care. Only your doctor can diagnose and treat a medical problem.

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# Diagnosing the Problem

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To determine the best treatment, your doctor will ask about your sleep problem and examine you. An overnight sleep study may also be suggested. This study helps show whether or not your snoring is due to sleep apnea.

## History

Your doctor may ask about:

- How long you've snored
- Your sleep habits
- How well you sleep and whether you're sleepy during the day
- Your lifestyle and your work
- Medical conditions you have
- Medications you take
- Weight gain over the past few years
- The impact of snoring or other symptoms on your life and the life of anyone who lives with you



Your partner, if you have one, can tell the doctor what happens when you are asleep.

## Physical Exam

Your doctor may check your mouth, throat, and nose. Your weight, blood pressure, heart rate, and neck size may all be recorded. Your doctor may insert a thin, flexible tube through your nose into your throat to check the throat tissues. You may also need lab tests and x-rays.



A physical exam looks for problems that can block the airway.

## Sleep Study

A sleep study (see page 6) gives the best picture of how you breathe when you sleep. Your doctor may ask you to spend a night at a sleep clinic. Or you may be loaned a small monitor to use at home. Either way, breathing, heart rate, oxygen level, and other functions may be measured and recorded. The findings help determine which treatments will best help you.

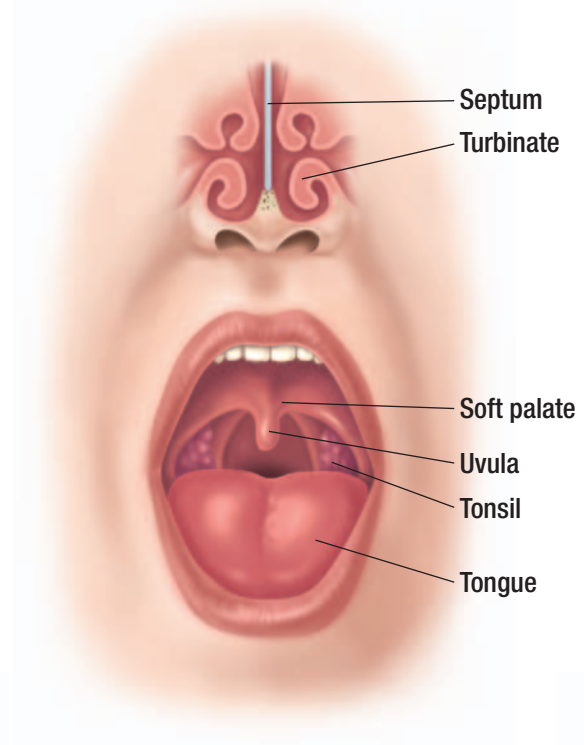
# Breathing During Sleep

When you breathe, air travels through passages in your nose and throat. When these air passages are wide enough to let air flow freely, you breathe normally. But if the passages become narrowed, you may snore. And if they become blocked and you can't breathe, you have sleep apnea.

## Nasal Structures

The **septum** is the wall that divides the left half of the nose from the right half. **Turbinates** are ridges in the nasal passage.

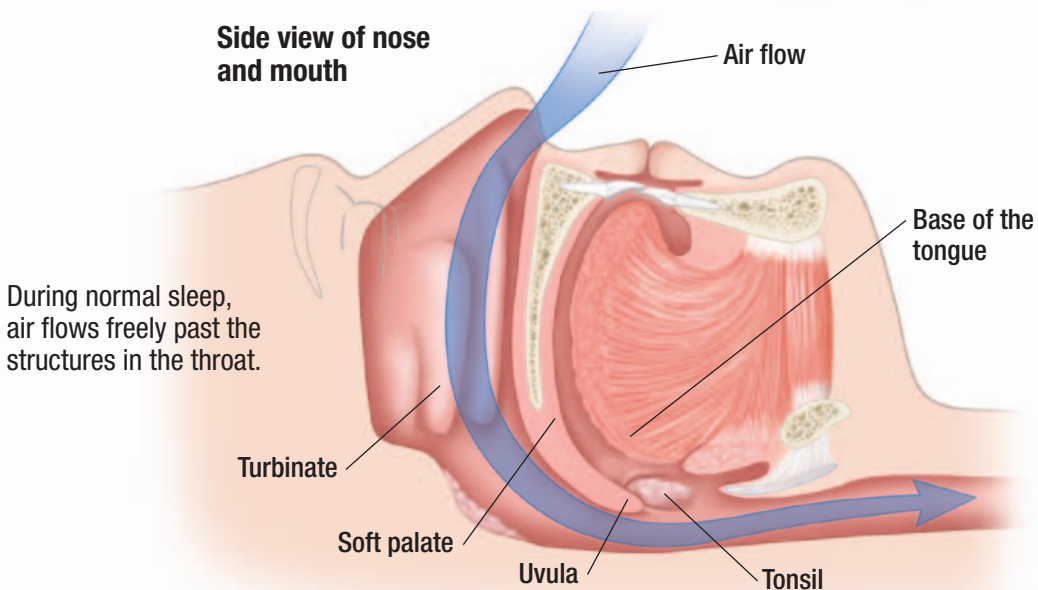
Front view of nose and mouth



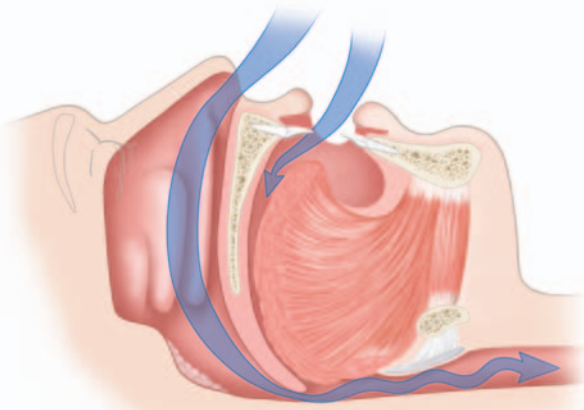
## Throat Structures

Air flows past soft, flexible structures where the mouth meets the throat: the **soft palate, uvula, tonsils, and back of the tongue**. Throat muscles hold those structures in place. While you sleep, the throat muscles relax a bit. But they normally stay tight enough to keep the airway open.

Side view of nose and mouth

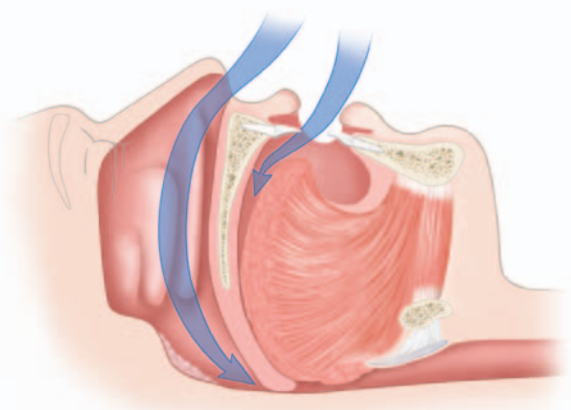






## Snoring

If the structures in your throat are bulky or throat muscles relax too much, the airway may be partly blocked. Air flowing through the throat makes these structures vibrate. That vibration is what causes snoring.

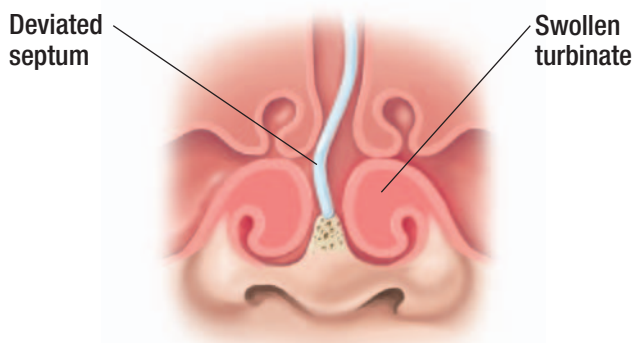


## Sleep Apnea

Blockage in the throat can partially or completely stop air from flowing. If this happens, the brain tells the body to wake up just enough to tighten the muscles and open the airway. This cycle may repeat many times during the night.

## Problems in the Nose and Jaw

Problems in the structure of the nose may obstruct breathing. A crooked (deviated) septum or swollen turbinates can make snoring worse or lead to apnea. Also, a receding jaw may make the tongue sit too far back, so it is more likely to block the airway when you're asleep.



Air may not be able to move freely past a deviated septum or swollen turbinates.

# Monitoring Your Sleep

Your doctor may order a sleep study as part of your evaluation. A sleep study tracks and records body functions while you sleep, either at a sleep clinic or in your own bed at home. The results of the study will help with diagnosing your problem and planning your treatment.

## Overnight in a Sleep Clinic

If you spend a night in a sleep clinic, you will have a private bedroom. A technician will attach many sensors to your body, then go into another room. As you sleep, your heart rate, breathing, oxygen level, and other functions will be tracked. A microphone and video camera will record your breathing sounds and body movements. The technician will keep watch nearby. If you need an air pressure device to help you breathe (see page 10), one will be available.



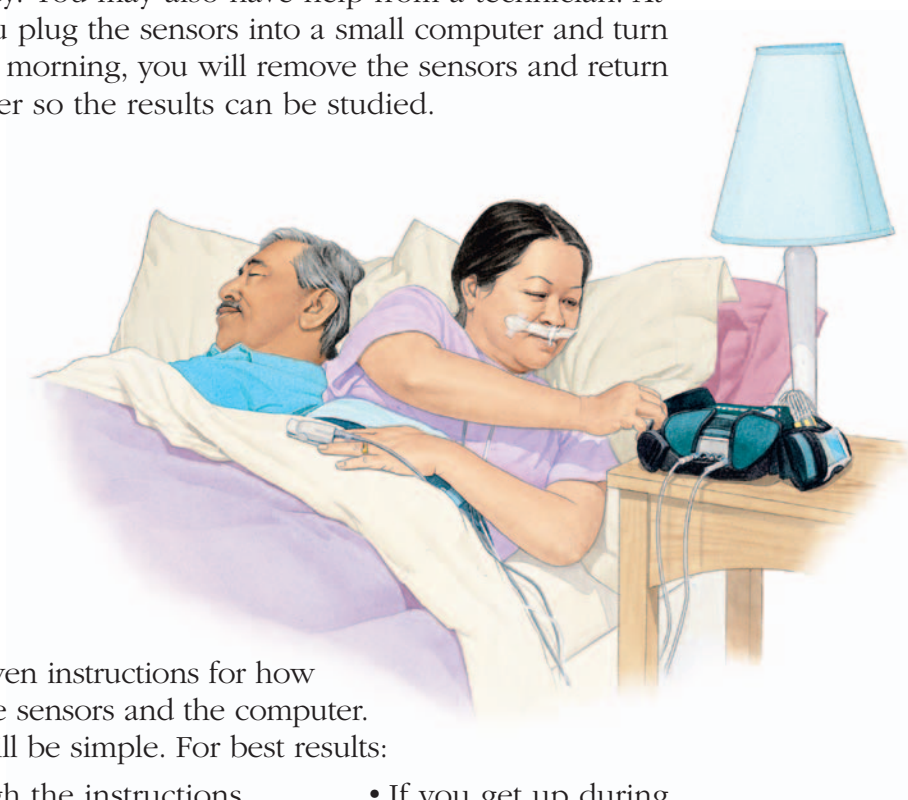
### Tips

Follow the instructions that the sleep clinic gives you to prepare for your sleep study. These may include:

- Bathe and wash your hair before the sleep study. Don't use lotions, oils, or makeup on your skin.
- Stick to your routine. Ask your healthcare provider if you should do anything differently this night.
- Bring your pillow, sleepwear, something to read, and anything else that will help you sleep well.

## In Your Own Bed at Home

A home sleep study may record many of the same things as a sleep clinic study. You will learn how to attach the sensors to your body. You may also have help from a technician. At bedtime you plug the sensors into a small computer and turn it on. In the morning, you will remove the sensors and return the computer so the results can be studied.



### Tips

You'll be given instructions for how to set up the sensors and the computer. Doing so will be simple. For best results:

- Go through the instructions during the day so you'll be ready to use the equipment at bedtime.
- Stick to your normal routine. Ask your healthcare provider if you should do anything differently the night of the study.
- If you get up during the night, reconnect the sensors to the computer or to yourself correctly.
- Get as many hours of sleep as you can.

## Getting the Results

The results of your sleep study need to be scored and interpreted. Once this is done, your doctor will discuss the findings with you. The sleep study results will show whether you have apnea. It can also tell how severe the apnea is. The findings help your doctor know which treatment or treatments may be the right ones for you.

# Changing Some Habits May Help

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Changing a few habits may be all you need to stop snoring and prevent mild sleep apnea. Even if you need further treatment, these changes are a good place to start.



## Four Things You Can Do

The changes below may take some time and effort to become habits. But stick with them. The effort may pay off in better sleep for you and your partner.

### Sleep on Your Side

When you sleep on your back, gravity pulls relaxed throat tissues down, blocking the airway. So sleeping on your side may reduce the blockage. That may mean less snoring and less apnea. To prevent rolling onto your back, try putting tennis balls (or other round objects) into a sock sewn onto the back of your pajamas.

### Lose Weight

Excess weight makes the structures in your throat more bulky and floppy. That makes breathing harder and snoring and apnea worse. Ask your doctor for a weight-loss program. Being more active throughout the day and choosing healthier foods can help you lose weight.

### Avoid Alcohol and Certain Medications

Alcohol or medications such as sedatives, sleeping pills, and some antihistamines relax your throat muscles more than usual. That may cause or worsen blockage, snoring, and apnea. Avoid alcohol 3 to 4 hours before bedtime. Talk to your doctor about medications you take.

### Unblock Your Nose

A blocked-up nose makes snoring and apnea worse. If you have allergies or sinus problems, ask your doctor for help. If you have nasal problems, nasal strips may make breathing easier. Smoking worsens a stuffy nose, so if you smoke, quit.

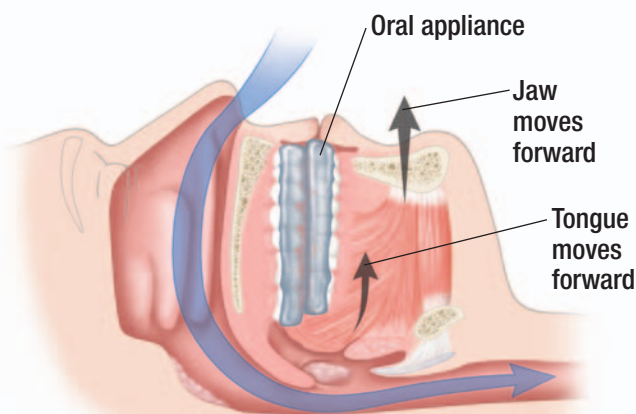


# Oral Appliances

For simple snoring or mild to moderate apnea, a special oral appliance may help. A dental specialist works with your doctor to build and fit an oral appliance just for you. A follow-up sleep study checks how well the device is working for you.

## Moving the Jaw Forward

Most oral appliances move the jaw and tongue forward. That keeps the tongue from blocking the airway. These devices can work well, but they are not for everyone. Work with your healthcare provider to get an oral appliance that fits just right for you. And avoid over-the-counter appliances—they often do not work.



Moving the jaw and tongue forward with an oral appliance can open the airway to reduce sleep apnea.

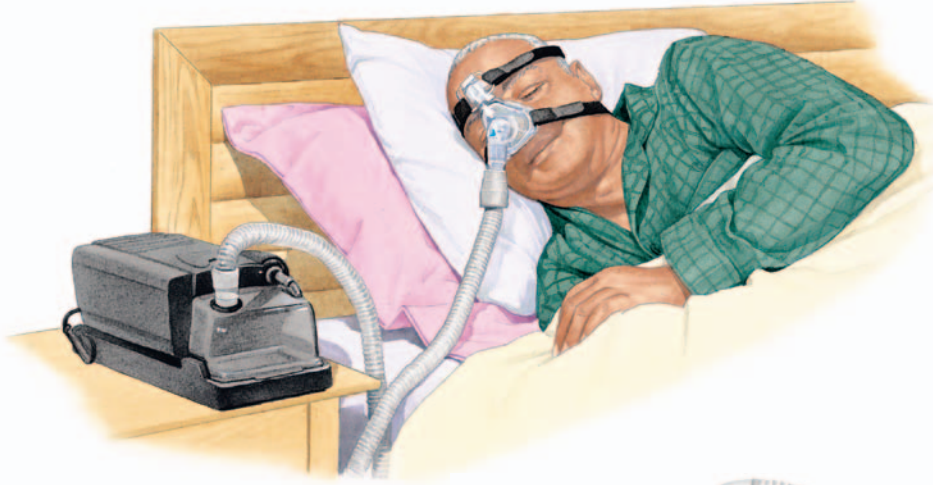
## Tips

To have the most success with your oral appliance, keep these tips in mind:

- It will take some time to get used to wearing an oral appliance. At first it may feel uncomfortable or make your mouth water. If these problems last, tell your healthcare provider.
- Expect several rounds of adjustments to get it to fit and work just right for you.
- Oral appliances don't cure the problems that cause snoring or apnea. So you need to use it all night, every night.
- Follow your healthcare provider's instructions for keeping it clean.
- When your oral appliance is not in your mouth, store it in its case.

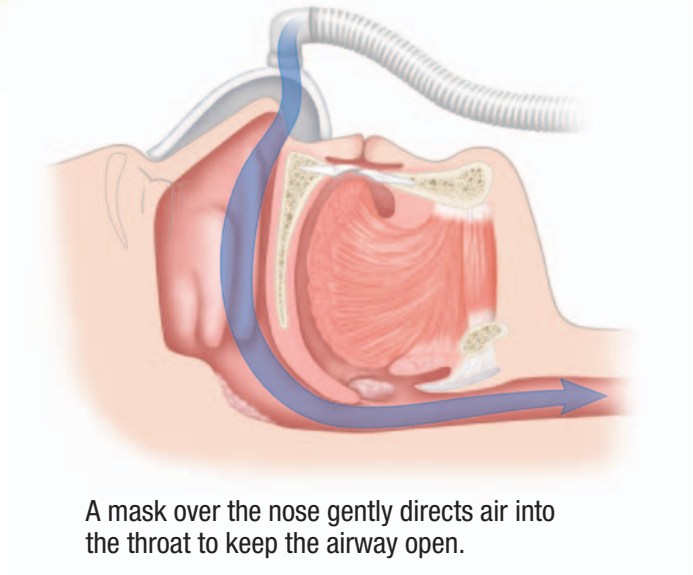
# Air Pressure Treatment

**Continuous positive air pressure (CPAP)** uses gentle air pressure to hold the airway open. CPAP is often the most effective treatment for sleep apnea and severe snoring. It works very well for many people. But keep in mind that it can take several adjustments before the setup is right for you.



## How CPAP Works

A small portable pump beside the bed sends air through a hose, which is held over your nose by a mask. Air is gently pushed through your airway. The air pressure nudges sagging tissues aside. This widens the airway so you can breathe better. CPAP may be combined with other kinds of therapy for sleep apnea.



A mask over the nose gently directs air into the throat to keep the airway open.

## Types of Air Pressure Treatments

There are different types of CPAP. Basic CPAP keeps the pressure constant all night long. A **bilevel** device gives more pressure when you breathe in and less when you breathe out. An **autoCPAP** device automatically adjusts pressure throughout the night in response to changes such as body position, sleep stage, and snoring. Your doctor or CPAP technician will help you decide which type is best for you.

# Getting Used to CPAP

CPAP takes some getting used to. If there’s anything about CPAP you don’t like, chances are there’s a solution. Below are a few examples of common problems and possible solutions.

If this happens...	Try this
Air pressure is uncomfortable	<ul style="list-style-type: none"><li>• Try the device’s ramp feature, which starts at low pressure and slowly raises pressure to your prescribed level.</li><li>• Try a bilevel or autoCPAP device.</li></ul>
Discomfort in your nose	<ul style="list-style-type: none"><li>• Try a saline nasal spray. Ask your healthcare provider about trying an antihistamine, decongestant, or prescription nasal spray.</li><li>• Ask for a prescription warm-air humidifier for your device. Adjust the humidification if you already use it.</li><li>• Try a mask that sends air through the mouth instead of the nose.</li><li>• Keep in mind that even if you do nothing, nasal stuffiness may go away within a month.</li></ul>
Discomfort in your mouth	<ul style="list-style-type: none"><li>• Try a chin strap to keep the mouth closed while you sleep.</li><li>• Try a mask that covers both nose and mouth.</li><li>• Connect a prescription warm-air humidifier to your device. Adjust the humidification.</li></ul>
Discomfort in your eyes, or CPAP works less well than before	<ul style="list-style-type: none"><li>• Adjust your headgear to stop air leaks from around the mask.</li><li>• Replace your mask with one that fits better, is a different size, or fits inside your nostrils.</li></ul>
Mask is uncomfortable	<ul style="list-style-type: none"><li>• Adjust fit and tightness of mask and headgear.</li><li>• Put cushions at pressure points.</li><li>• Try a mask of a different style or size.</li><li>• Ask your provider about nasal pillows.</li><li>• If the mask irritates your skin, try a mask of a different material.</li></ul>
Air pump is too loud	<ul style="list-style-type: none"><li>• Use a longer hose so the device can go on the floor or under the bed.</li><li>• Ask the device supplier for specific advice.</li><li>• Try a different CPAP device. Keep in mind that any device’s sound is quieter and easier to tune out than snoring.</li></ul>

## Get the Adjustments You Need

Any CPAP setup must be tailored to meet your needs and preferences. So expect several adjustments before the setup suits you. Don’t get discouraged—give it some time. Talk about your needs and wants with your healthcare provider or your CPAP technician.

# Surgical Treatment

The goal of most surgeries for breathing problems is to widen the airway. This is done by taking out or shrinking excess tissue where the mouth meets the throat. Some procedures are only for snoring and will not help sleep apnea.

## UPPP

This is the most common procedure for sleep apnea. It trims the soft palate and uvula, and removes the tonsils and other tissue. This surgery is performed in a hospital. Most patients go home within 24 hours. UPPP stands for uvulopalatopharyngoplasty.

### Risks and Complications

Complications are uncommon with this procedure, but can include: bleeding, throat pain, nasal-sounding speech, scarring, liquids sometimes going into nose when swallowing, false feeling that something is in throat.

## Procedures for Snoring

The procedures below help relieve snoring. LAUP may be used in some cases of mild apnea.

## LAUP

The doctor uses a laser or electric current to remove some of the soft palate and part or all of the uvula. This treatment may be done over several sessions in the doctor's office. LAUP stands for laser-assisted uvulopalatoplasty.

### Risks and Complications

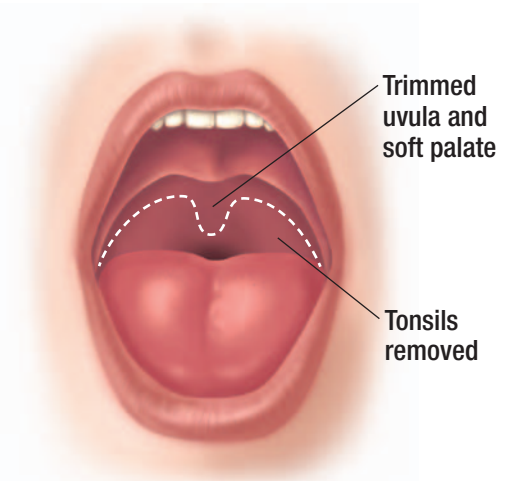
Same as for UPPP, but even less likely to occur.

## RFA

The doctor uses radio waves to reduce the size of the turbinates or uvula, nearby tissue, and sometimes the back of the tongue. RFA stands for radiofrequency ablation.

### Risks and Complications

Mouth ulcer, nerve pain, swelling in airway, pocket of pus (abscess) on tongue.



UPPP trims the uvula and removes other tissue from the back of the mouth.





## Other Procedures

Nasal and jaw surgery may be recommended in some cases. This can help correct nose or jaw problems that contribute to snoring and apnea.

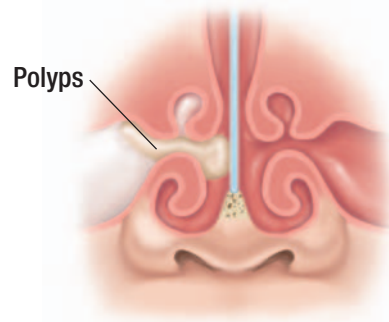


## Nasal Surgery

Problems in the nose can make snoring or sleep apnea worse and make CPAP harder to use. If blockage in your nose is severe, surgery can improve the airflow. It can reduce the size of the turbinates, straighten a deviated septum, and remove any polyps (overgrowths of sinus lining).

### Risks and Complications

Bruising, bleeding, damage to or perforation of septum, dryness in nose.

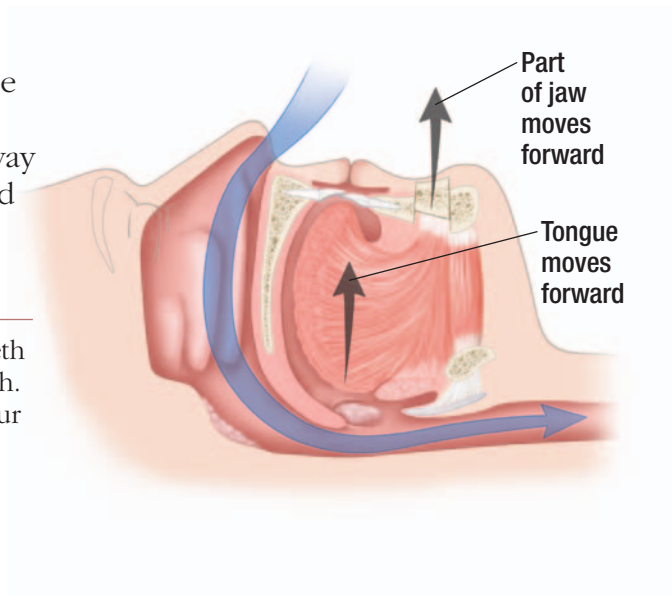


## Jaw Surgery

If your jaw sits too far back, your tongue may also be too far back. That makes the tongue more likely to block the airway when you sleep. Moving the jaw forward moves the tongue forward and widens the airway overall.

### Risks and Complications

Jaw may not heal properly. You may lose teeth or need orthodontic treatment to realign teeth. Feeling in jaw or teeth may be disturbed. Your facial appearance will change.



## More Severe Cases

If your apnea is severe and no other treatment helps, other kinds of surgery may help. Your doctor can tell you about them. Be sure you understand their risks as well as their benefits.

# Your Surgery and Follow-Up

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Some procedures are done in the doctor's office. Others are done in a hospital or surgery center. If you have a hospital procedure, you may stay 1 to 2 nights. Be sure to follow up with your doctor after your procedure.

## Notes About Surgery

Whatever kind of surgery you have for snoring or apnea, keep in mind:

- There's no guarantee that surgery will solve the problem. Surgery may sometimes stop only snoring or apnea, but not both. So you will need a follow-up sleep study to check the effects of your surgery and to help decide what further treatment you might need.
- You may have blockage in more than one place. So you may need more than one procedure.
- Surgery may be combined with other kinds of treatment.
- Any surgery has a chance of complications, including bleeding and infection.

## Recovering from Surgery

After surgery, your nose, throat, or jaw may be sore for a few days to several weeks. Full recovery may take weeks or months. During this time, you may need to eat only soft foods.

## Keep Track of Changes

It's important that you and your partner both keep track of how your sleep and health are different now. What is better? How much better? Is anything worse? Tell your doctor.

## Air Pressure Adjustments

If you use CPAP after surgery, ask your doctor when to start using it. Keep your doctor informed about how well CPAP is working for you. If anything about it is uncomfortable, have it adjusted.



# Notes to the Partner

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Snoring and sleep apnea affect your life, too. And you can help in the treatment of the problem. Be supportive. And encourage your partner both to get treatment and to make adjustments to treatment that are needed.



## Adjusting to Changes

You can help your partner make and stick with the change of habits described on page 8. For instance, support and even join his or her exercise program. If your partner gets CPAP, he or she may feel self-conscious at first. Your support can help. Remind your partner to expect adjustments to CPAP before it feels just right. And consider joining a snoring and sleep apnea support group.

## Go Along to See the Doctor

You can give the doctor the best account of your partner's nighttime breathing and snoring patterns. Try to go along to the doctor's appointments. If you can't go, write notes for your partner to give to the doctor. Describe your partner's snoring and sleep breathing patterns in detail.

## Tips for Sleeping with a Snorer

Until treatment takes care of your partner's snoring:

- Try to go to bed first. It may help if you're already asleep when your partner starts to snore.
- Wear earplugs to bed. A fan or other source of background noise may also help drown out snoring.

# Peaceful Sleep for Both of You

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Work with your doctor to get the most out of your treatment plan. Sleep apnea can lead to serious health problems. Treatment can help prevent those problems. It can also help you and your partner get quiet, restful sleep. That will let you wake up feeling alert, refreshed, and ready to face the day.

## For More Information

### **American Academy of Sleep Medicine**

[www.sleepeducation.com](http://www.sleepeducation.com)

### **American Sleep Apnea Association**

202-293-3650

[www.sleepapnea.org](http://www.sleepapnea.org)

### **National Sleep Foundation**

[www.sleepfoundation.org](http://www.sleepfoundation.org)



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