

# 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, grumbling from your bed partner, or even moving to the couch. Snoring happens when air can't flow freely through your throat. Then the noises you make can disrupt your partner's sleep—or your own. You may have an unsafe condition called **sleep apnea**.

## Snoring Can Be Annoying

We all want a peaceful place to sleep. But snoring can shatter that peace, harming your sleep and the sleep of others. It may stress life with your spouse, family, or roommates. And it may be a sign that you stop breathing at times during the night.



## Sleep Apnea Is Serious

If you have sleep apnea, your throat becomes blocked during sleep. You stop breathing for short periods of time. You may snore loudly, then be very quiet. Or you may gasp or snort in your sleep. You may also:

- Frequently feel drowsy during the day
- Wake up tired, even after a full night's sleep
- Wake up with a headache
- Feel very sleepy or fall asleep at the wrong time (for instance, at work or while driving your car)
- Be cranky or have a short temper
- Have problems with concentration or memory

People with sleep apnea are more likely to have other health problems, such as high blood pressure, heart attack, and stroke.



**Car accidents** can occur when people with sleep apnea fall asleep while driving.

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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## Your Doctor Can Help

Snoring and sleep apnea rarely go away on their own, but they can be treated. Your doctor can evaluate you and suggest treatment to help you breathe and sleep better. Treatment may include changes you can make, a medical device you can use, or surgery. Treating your snoring may give you sound, restful sleep that won't annoy those around you. And if you prevent or control sleep apnea, you'll improve your own life and health.



**Sleeping on your side** may reduce your snoring (see pages 10–11).



**Medical devices** can help open your air passage and improve your nighttime breathing (see page 12).



**Surgery** may help treat your snoring or sleep apnea (see pages 13–15).

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## Notes to Your Partner

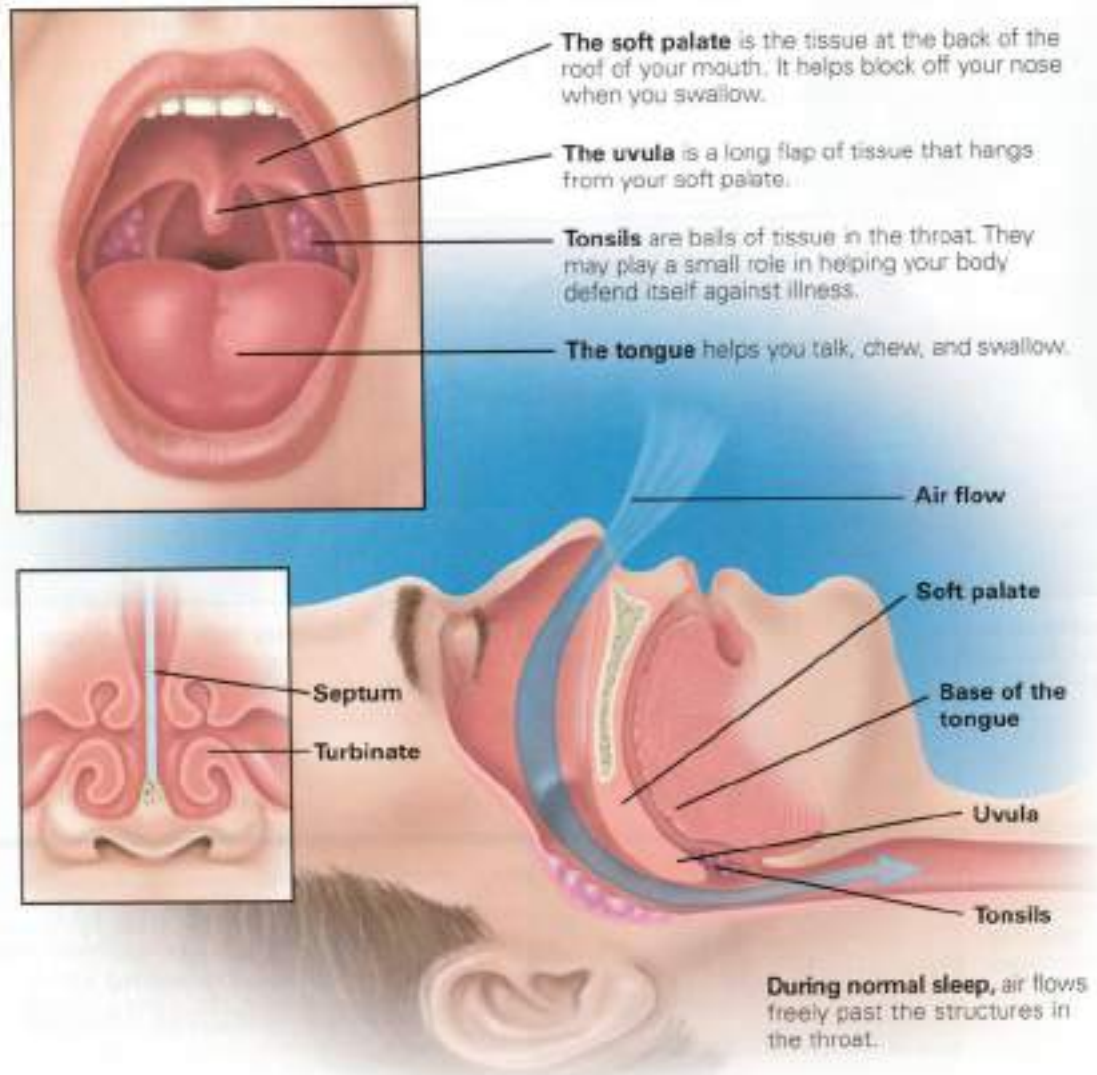
If your partner's snoring often disrupts your sleep, it may be making the rest of your life worse, too. But snoring can be treated, so ask your partner to see his or her doctor. More tips to help make sleeping with a snorer more peaceful are in these "Notes" sections on other pages throughout this book.

# BREATHING DURING SLEEP

Breathing may seem simple. Most of the time, you don't even think about it. But if you've ever had a stuffed-up nose, you know what it's like to breathe through a very narrow passage. This is what happens in your throat when you snore. While you sleep, throat tissue partly blocks your air passage, making it narrow and hard to breathe through. If the entire passage is blocked and you can't breathe at all, you have sleep apnea.

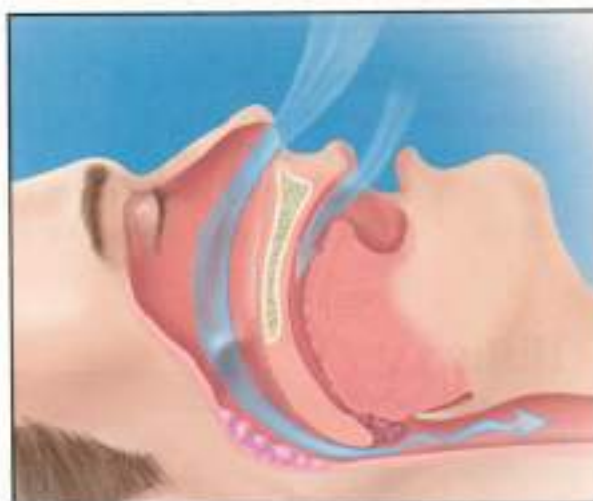
## Breathing Normally

When you breathe in, air passes through your throat on its way to your lungs. The air travels past soft, flexible structures in the throat such as the **soft palate**, **uvula**, **tonsils**, and **tongue**. While awake, muscles around each structure tighten to hold the structure in place so it doesn't block the air passage. During sleep, these muscles relax, but the passage in your throat still stays clear enough for air to flow freely into and out of your lungs.



## Snoring

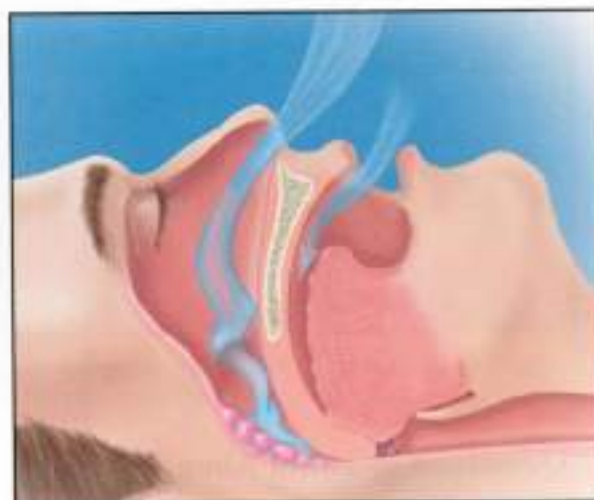
If your throat structures are too large or the muscles relax too much during sleep, the air passage may be partly blocked. As air from the nose or mouth passes around this blockage, throat tissues vibrate and rattle, causing the sound of snoring. This can be so loud that snorers wake others, or even themselves, while sleeping. Snoring gets worse as more of the air passage becomes blocked.



During snoring, air flow is partly blocked.

## Sleep Apnea

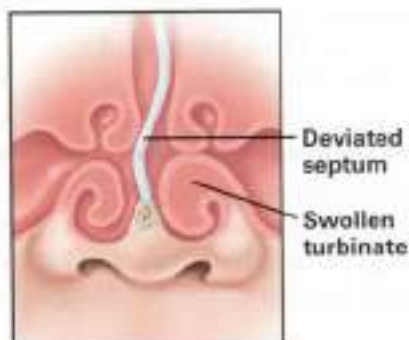
If the structures completely block the throat, air can't flow to the lungs at all. This is called **apnea**. Since the lungs aren't getting fresh air, the brain tells the body to wake up just enough to tighten the muscles and unblock the air passage. With a loud gasp, breathing begins again. This process may be repeated over and over again throughout the night, making your sleep choppy and light. Even though you don't remember waking up often during the night, you feel tired all day.



During sleep apnea, air flow is completely blocked.

## Nose Problems Can Make Things Worse

Problems that make it hard to breathe through your nose can make snoring worse, and may even lead to sleep apnea. If the wall dividing your nose is crooked (**deviated septum**) or if the **turbinates** (bony ridges) in your nasal passages are swollen, air flow through the nose can be blocked. Colds, allergies, and smoking also can swell your nasal tissues, increase stuffiness, and block your nose.



# YOUR EVALUATION

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If snoring disrupts your life or the lives of those around you, a doctor's evaluation may help. During this evaluation, your doctor can find out what might be causing your snoring, whether you have sleep apnea, and whether you need a sleep study. The evaluation may also suggest treatment options that might work for you.

## History

Your medical history can show how aspects of your life may affect your breathing during sleep. You may be asked about your sleeping and waking habits, any health problems you have, and your family's health history. Your partner can help answer the doctor's questions, because you may not be aware of what you do when you are asleep. If you don't have a partner, use a tape recorder for a night or two to record the sounds you make when you sleep.



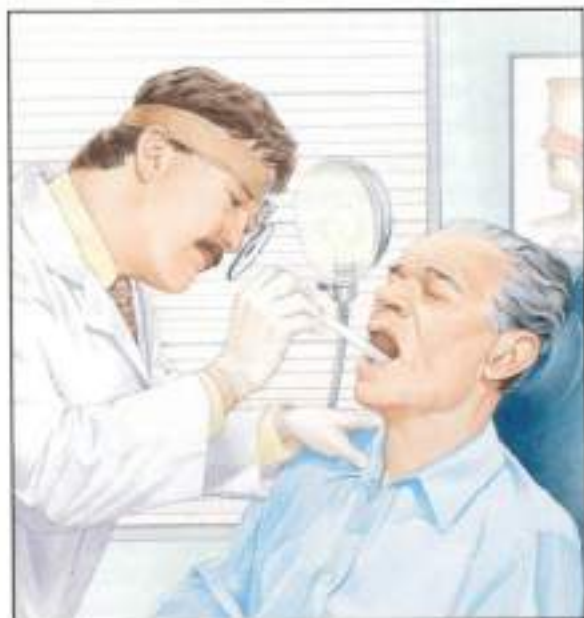
## Questions to Think About

Your doctor might ask you the following questions when taking your history. Try to answer them and, if you can, ask a family member to help.

- How often do you snore?
- How loud is it?
- Does the snoring stop sometimes when you sleep? Does it sound like you've stopped breathing?
- Do you gasp or snort in your sleep?
- Are you a restless sleeper?
- What is your usual sleep position? Does the snoring get better or worse if you change positions?
- Do you drink alcohol in the evenings?
- Do you take antihistamines, sleeping pills, or sedatives? How often?
- How long do you usually sleep? Do you wake up feeling refreshed?
- Are you often tired?
- Do you fall asleep easily? Do you fall asleep when you don't mean to? Have you fallen asleep while driving?
- Can you breathe through your nose?
- Do you smoke?

## Physical Exam

During the physical exam, your doctor looks into your mouth and throat for enlarged or crowded structures or other problems that can interfere with breathing during sleep. Your nose may be checked for signs of allergies or other problems. You may also have lab tests. Your weight, blood pressure, and heart rate may be measured.



**Your doctor** will look for problems in your nose and throat.



**Your weight** is checked, because extra weight can make you more likely to snore.

## What Happens Next?

After your evaluation, you and your doctor can decide on a plan of action. If your doctor thinks you have sleep apnea, he or she may suggest that you have a **sleep study**, where you're monitored for an entire night while you sleep.

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### Notes to Your Partner

You can tell the doctor a lot about your partner's sleep habits. So try to go to the doctor's office for the first evaluation. If you can't go, help your partner prepare by reading the questions on page 6. Think about these questions and help your partner answer them.

# MONITORING YOUR SLEEP

Checking your sleep during a nighttime sleep study is often the only way to find out if you have sleep apnea. A sleep study records how your lungs, heart, and other parts of your body function while you're asleep. It's painless, risk-free, and in most cases takes one full night. It may be done either in a sleep clinic or in your own home.

## Testing in a Sleep Clinic

For a sleep study done in a sleep clinic, you spend a night in a private room inside a sleep center. Sensors check your heart, lungs, brain, muscle movements, air flow from your nose and mouth, and your blood's oxygen level. You're videotaped, and any snoring, talking, or other noises you make while asleep are recorded. A technician watches you on monitors all night and makes sure all the equipment is working. If you have severe sleep apnea during the night, a technician may provide a device called CPAP (see page 12) to try to keep your air passage open and help you breathe.



**During a sleep study,** sensors are taped to your body.

## Tips for Testing in a Sleep Lab

- Before your sleep study, bathe and wash your hair. Don't use conditioners, oils, or makeup.
- Stick to your normal routine. If you usually drink alcohol, exercise, or take medication before bed, ask your doctor whether you should do so the night of your study.
- Bring your toothbrush, sleepwear, pillow, something to read, and anything else that will help you sleep well.



## Testing at Home

A home sleep study shows a lot of what a study in a sleep clinic does. But most home studies don't record movements on video or record brain waves, and a technician is not present. To prepare for home testing, sensors may be attached to your skin in the doctor's office or by a technician in your home. At your normal bedtime, you turn on a small computer that's attached to the sensors. In the morning, you remove the sensors from your body and return the computer to the doctor's office so the results can be studied.

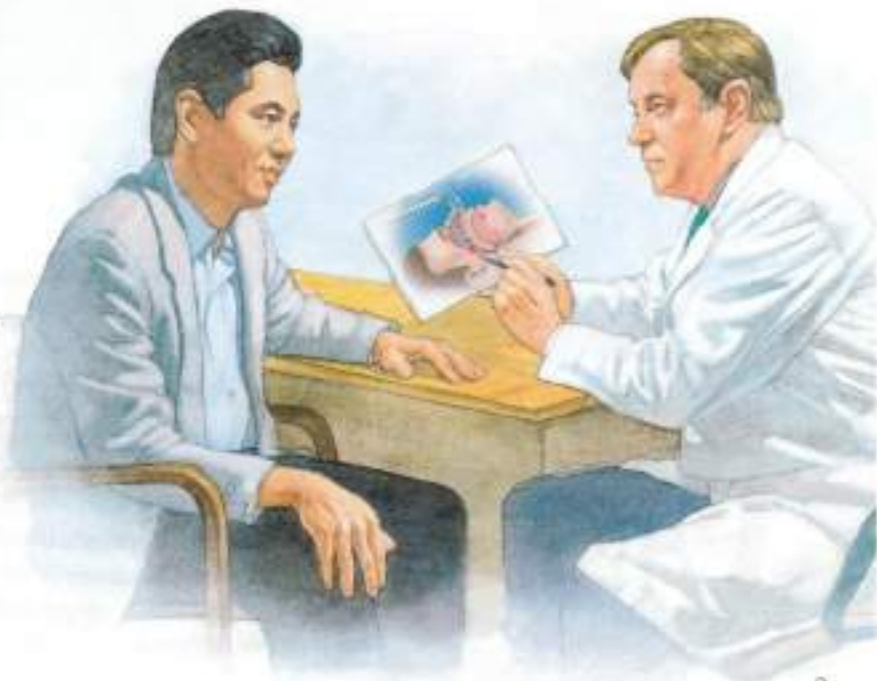


## Tips for Testing at Home

- Stick to your normal routine. If you usually drink alcohol, exercise, or take sleeping pills before bed, ask your doctor whether you should do so the night of your study.
- If you get up during the night, reconnect the sensors to the computer correctly.

## Getting the Results

Your doctor will discuss your sleep study results with you. The study tells your doctor many things about your sleep, including whether your air passage is blocked and whether you have sleep apnea. The sleep study can help your doctor decide how to treat your breathing problems.



## SOME CHANGES YOU CAN MAKE

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Your snoring may get better if you make a few simple changes in your sleeping and waking habits. These changes might be all you need to improve or even cure your snoring or sleep apnea, or they may work best when used along with other types of treatment.

### Sleep on Your Side

Sleeping on your side may keep throat tissue from blocking your air passage. This may improve or even cure snoring or sleep apnea. But it can be hard to stop sleeping on your back. Try sewing a pocket or sock onto the back of a T-shirt or pajama top. Put a few tennis balls or a bag of unshelled nuts into this pocket or sock, then wear the shirt to bed. This will help keep you from rolling onto your back. If this doesn't work, try wearing a backpack full of foam pieces, or put a wedge-shaped pillow behind you.



### Avoid Alcohol and Certain Medications

Alcohol and medications such as sedatives, sleeping pills, and antihistamines make breathing slower and more shallow. They also make your muscles relax, so structures in your throat can block your air passage. These changes can cause or worsen snoring or sleep apnea. If you snore, avoid alcohol. Talk to your doctor if you take medications to help you sleep.

## Lose Weight

Too much weight can make snoring worse. Extra weight puts pressure on your neck tissues and lungs, making breathing harder. For many people, losing weight is a challenge. But doing so may help you to snore less. And getting close to your ideal weight may even cure snoring or sleep apnea. If you're overweight, ask your doctor about a weight-loss program.

## Exercise Regularly

Exercise can help you lose weight, tone your muscles, and make your lungs work better. These changes may help improve your snoring or sleep apnea. So ask your doctor about an exercise program like walking, or something else that you enjoy. And try being more active throughout the day.

## Unblock Your Nose

If something blocks your nose, treating the problem may help improve snoring or sleep apnea. Your doctor can suggest medications for allergies or sinus problems. (Talk with your doctor before using any medication, especially nasal spray.) Nasal strips applied on the bridge of the nose can aid breathing. Surgery can straighten a deviated septum, reduce the size of the turbinates, or remove **polyps** (growths). If you smoke, try to quit because smoking makes a stuffy nose worse.



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### Notes to Your Partner

You can help your partner with some of the tips listed above. For instance, support and join his or her exercise program. Here are some other tips to help you sleep with a snoring partner:

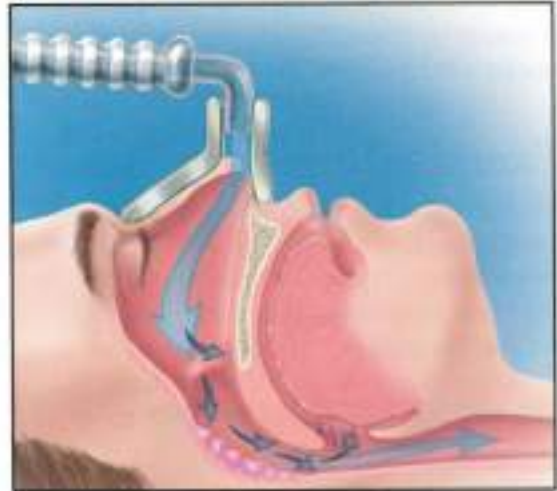
- Try to go to bed first. It may help if you're already asleep when your partner starts to snore.
- Wear earplugs to bed. A fan or other source of background noise may also help drown out snoring.
- Avoid alcohol and sedating medications. They can disrupt your own sleep, making it less refreshing.

# AIR PRESSURE DEVICES

To treat sleep apnea and severe snoring, your doctor may suggest an air pressure device. The most common type of air pressure device is called **continuous positive airway pressure (CPAP)**. Often, adjustments are necessary to make CPAP comfortable. Your doctor can help make CPAP work for you.

## How CPAP Works

A flexible hose connects a small air blower to a soft plastic mask. Each night, you place the mask over your nose and turn on the blower. The blower sends a gentle, steady stream of air through your nose into your throat. This keeps the throat structures from blocking your air passage. During your sleep study, your doctor found out how much air pressure is needed to keep your air passage open. You and your doctor may need to adjust this pressure so CPAP works right for you. The pressure may also need to be changed if you lose or gain weight.



**With CPAP**, a mask over your nose gently directs air into your throat to keep your air passage open.

## Tips for Using CPAP

Here are some tips to help you use CPAP:

- CPAP can't cure snoring or sleep apnea, so use it all night, every night.
- If your mask doesn't fit or feel right, talk to your doctor or the vendor about adjusting it or trying a new one. Custom-made masks are also available.
- A vaporizer or humidifier may help combat any dryness in the nose that CPAP causes. Saline nasal spray may also help.
- CPAP works best if your nose is clear. If you have allergies or other problems that block your nose, get those treated first.
- If CPAP doesn't feel good or work well at first, don't stop using it. Ask your doctor for ways to help make it work for you.

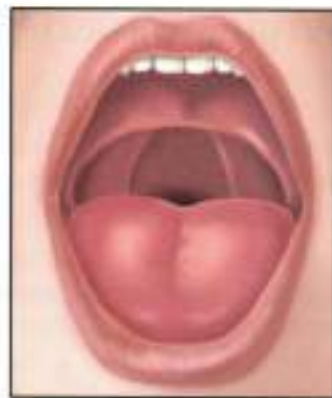


# TYPES OF SURGERY

If other treatments don't stop your snoring or sleep apnea, your doctor may suggest surgery. The procedures to treat snoring and sleep apnea include **UPPP**, **LAUP**, and **RFA**. You and your doctor will choose the procedure that's best for you. In some cases, surgery may reduce snoring, but not stop sleep apnea.

## UPPP

**UPPP (Uvulopalatopharyngoplasty)** is the most common type of surgery for snoring and sleep apnea. It involves removing the uvula, part of the soft palate, and the tonsils. It can stop the throat structures from rattling, which causes snoring.



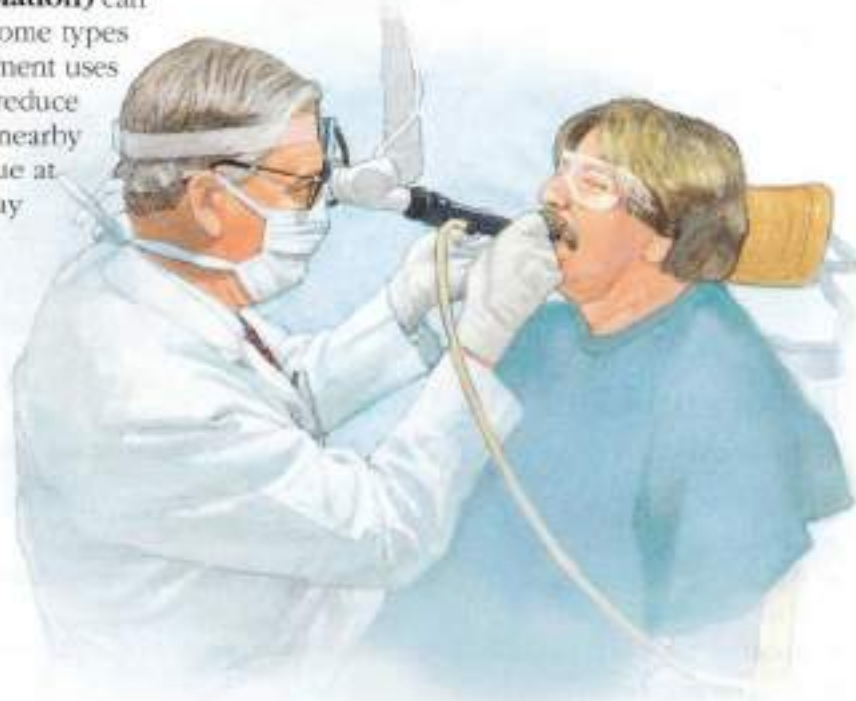
**During these surgeries,** your uvula and other tissue from the back of your mouth may be reduced or removed. With UPPP, your tonsils may also be removed.

## LAUP

Another procedure for treating snoring and mild sleep apnea is **LAUP (laser-assisted uvulopalatoplasty)**. During LAUP, the doctor uses a laser to remove part or all of the uvula and some of the soft palate. A similar procedure can be done using electric current.

## RFA

**RFA (radiofrequency ablation)** can be used for snoring and some types of sleep apnea. This treatment uses radiofrequency energy to reduce the size of the uvula and nearby tissue. In some cases, tissue at the back of the tongue may also be reduced.



# DURING AND AFTER SURGERY

Your surgery may be done in the hospital, where you're either an **inpatient** (staying one or more days in the hospital) or an **outpatient** (going home the same day as the surgery). Or, your surgery may be done in your doctor's office. Be sure to follow your doctor's advice about how to prepare for your surgery.

## Your Surgical Experience

Depending on what tissue will be removed, surgery may occur one or more times several weeks apart. With any surgery, you'll receive **anesthesia** (medication to prevent pain and keep you comfortable).

- With UPPP, the surgery is most often done in the hospital. You receive **general anesthesia** so you sleep during surgery.
- With LAUP or RFA, surgery is done in the doctor's office. You remain awake, but **local anesthesia** keeps you from feeling pain.



If you have UPPP, you will probably stay in the hospital for a day or two after surgery.

## Risks and Complications

Possible risks and complications of UPPP, LAUP, or RFA include the following:

- Bleeding
- Infection
- Failure of surgery to cure sleep apnea, leading to apnea without snoring ("silent apnea")
- Food or liquids flowing into the nasal passages during swallowing
- Tongue numbness
- A temporary or permanent voice change

## Other Surgical Treatments

Other types of surgery are sometimes used to treat snoring or sleep apnea. Your doctor may suggest one or more of the following:

- Nasal surgery can straighten a deviated septum, reduce the size of the turbinates, or remove polyps. This can help air flow through the nose.
- Surgery in the throat may be needed to remove enlarged tonsils or **adenoids** (tonsillar tissue at the back of the nasal passage).
- Jaw surgery can move the jaw and tongue forward to make the air passage larger.
- In some cases of severe sleep apnea, a **tracheostomy** may be needed to make an opening in the neck's breathing tube (**trachea**). This opening bypasses blockages in the throat so air can flow in and out of the lungs during sleep.

## Getting Better After Surgery

After surgery, your nose, throat, or jaw may be sore for a few days to several weeks. Full recovery takes about a month. During this time, you may need to eat only soft foods. Be sure to follow all of your doctor's instructions and keep your appointments with your healthcare team. A second sleep study may be needed to tell whether the surgery reduced your sleep apnea.



# PEACEFUL SLEEP FOR BOTH OF YOU

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Work with your doctor to get the most out of your treatment plan. Treating sleep-related breathing problems can help you and your partner get quiet, restful sleep and let you wake up feeling alert, refreshed, and ready to face the day.



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