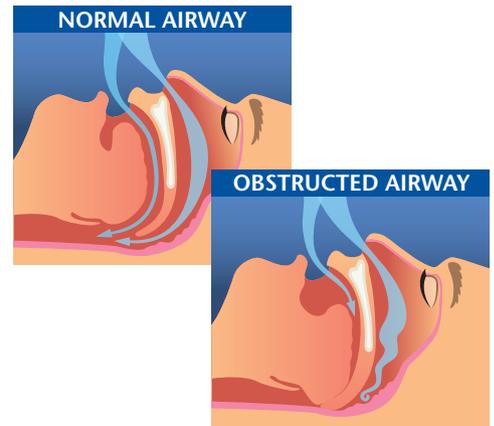


## Obstructive Sleep Apnea In Children

Obstructive sleep apnea (OSA) is a problem that affects your child's breathing during sleep. An obstruction is a blockage of airflow into the lungs. Apnea (Ap-nee-uh) means a pause in breathing for at least 10 seconds. A child (or adult) with obstructive sleep apnea has times during sleep when air cannot flow normally into the lungs.



These pauses in airflow occur off and on during sleep. A child who has frequent apnea spells has a poor quality of sleep. With time, untreated sleep apnea can result in serious health problems. About 10 percent of children snore regularly, but only about 1 to 3 percent of children who snore have sleep apnea. (For information on sleep apnea in adults see the ATS Patient Information Series "What is Obstructive Sleep Apnea in Adults").

### What causes obstructive sleep apnea in children?

Risk factors are things that make it likely that your child might have sleep apnea. A child can have more than one risk factor for sleep apnea. The more risk factors your child has, the greater their chance of having sleep apnea. Risk factors for OSA in children include:

- **Large Tonsils and/or Adenoids:** Large tonsils and/or adenoids can block the airway. This is the most common risk factor for OSA in children. Tonsils and adenoids are lymph nodes. Tonsils are found on each side in the back of your throat. The adenoids are high in the throat, behind the nose, and are not easily seen through the mouth. Both of these can grow into large amounts of tissue, causing blockage in the back of the throat. Medical conditions such as allergies, acid reflux, sickle cell disease, or frequent infection can cause the tonsils or adenoids to grow larger. Many children have large tonsils or adenoids, but not all will have sleep apnea.
- **Obesity:** Children who are very overweight are more likely to have sleep apnea.
- **Problems with muscle tone:** Children can have trouble breathing during sleep because the throat muscles relax and block the airway. This can happen in any child, but especially in conditions such as muscular dystrophy and cerebral palsy.
- **Genetic syndromes:** Children with genetic diseases such as Down syndrome and Prader-Willi syndrome can have OSA.
- **Abnormal Face or Throat:** Children who have an abnormal shape to their face or throat can be at risk for

sleep apnea. For example, a small chin or throat, a large tongue, or a cleft palate (hole in the roof of the mouth) can result in OSA.

- **Problems with Breathing Control:** Some problems in the brain can affect a child's breathing during sleep.
- **Family history:** Sleep apnea can run in families, so a child's risk for OSA may be increased if another family member has sleep apnea.

### How do I know if my child has sleep apnea?

There are many clues that your child may have sleep apnea. During sleep, your child can have:

- Snoring that may or may not be loud. Snoring can come and go through the night, but is heard every night.
- Gasping or choking sounds or noisy breathing that may be worse when your child is on his or her back.
- Breathing pauses. It can look like your child has stopped breathing for a short time, and then breathing starts again, often with a "snort".
- Problems breathing through their nose, so they need to keep their mouth open. This may also occur during the daytime.
- Restless tossing and turning or unusual sleep position.
- Frequent awakenings from sleep.
- Bedwetting, particularly if your child has not usually been wetting the bed at night.

Poor sleep at night can cause difficulties during the day. During the day, children with sleep apnea can have:

- Attention problems or poor performance in school.
- Hyperactivity and other behavior problems.
- Personality changes such as being moody, cranky or irritable.
- Sleepiness—falling asleep in school or napping at unusual times.
- Fatigue or extreme tiredness.
- Headaches, especially in the morning.
- Speaking with a nasal sounding voice.

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## What problems can occur with untreated sleep apnea?

Sleep apnea can affect your child's quality of life. Untreated, sleep apnea can cause serious problems sooner or later. Some children can have their growth affected. Sleep apnea can also worsen other medical conditions. Over time, sleep apnea can cause high blood pressure (hypertension) and lead to a higher risk of heart disease and death.

## How do I find out if my child has obstructive sleep apnea?

To see if your child may have sleep apnea, begin by having your child's health care provider do a history and physical to look for signs and symptoms of OSA. You may want to make a video recording of your child sleeping to show your health care provider. Sleep apnea is usually diagnosed by doing a polysomnogram (a study done in a sleep laboratory at night). During this sleep study, your child's breathing effort, oxygen level, heart rate, electrical activity of the brain, and sleep state are recorded. (For more information, see the ATS Patient Information Series: "Sleep Studies"). Other tests may be done depending on your child's condition and risk factors.

## How is obstructive sleep apnea treated in children?

Many types of treatments can be done to control your child's OSA. Many times, several have to be tried to find the one that works best for your child. Treatments might include:

1. **Weight loss:** If your child is overweight, talk to their health care provider about a safe, effective weight control program.
2. **Sleep position:** Sleep apnea is usually worse when lying on one's back. Have your child sleep on his or her side. A pillow behind your child's back may keep them from rolling onto their back. Using pillows to help your child sleep sitting more upright might also help.
3. **Treatment of nasal allergy:** Allergies can cause swelling and congestion in the nose which can cause or make the OSA worse. Allergies can benefit from medical treatment. Talk to your child's health care provider if you think your child has allergies causing snoring.

If these treatments don't help, surgery or a sleep device may be recommended.

## What type of surgery can be done for sleep apnea?

Many children can benefit from surgery to remove the tonsils and adenoids (called adenotonsillectomy). Symptoms of OSA should improve after surgery. Some children will need to have another sleep study 2-3 months after surgery. A tracheotomy is done in children with severe, life-threatening sleep apnea. In this procedure, a

small hole is made in the windpipe and a tube is inserted into the opening. (For more information, see ATS Patient Information Series: "Use of a Tracheostomy with a Child"). There are other types of surgery that have been tried in the throat or tongue, but these are not usually as successful as the sleep device called nasal CPAP.

## What is nasal CPAP?

Nasal continuous positive airway pressure (CPAP) is the most common and effective treatment for sleep apnea that cannot be corrected by surgery. The CPAP device is a compressor that pushes air into a mask that is worn snugly over the nose during sleep. The pressure pushes the air through the nose and throat to prevent the throat from collapsing during sleep. The goal is that your child will have little or no snoring when wearing CPAP. A similar type of device is called biPAP (short for bilevel positive airway pressure support). This type of device varies the pressure with high pressure when breathing in and a lower pressure when breathing out. The amount of pressure that is given can be tested during a sleep study to see that it controls your child's apnea.

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*For more information contact the following websites:*

### **National Sleep Foundation**

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

### **American Family Physician**

[www.aafp.org/afp/20040301/1159ph.html](http://www.aafp.org/afp/20040301/1159ph.html)

### **American Sleep Apnea Association**

[www.sleepapnea.org/resources/pubs/child.html](http://www.sleepapnea.org/resources/pubs/child.html)

## Rx Action Steps

Talk to your child's health care provider

- ✓ If you notice symptoms of OSA in your child.
- ✓ To see if your child should have a sleep study.
- ✓ To find out what treatment is best for your child.
- ✓ To safely help your child reach a healthy weight.

### **Health Care Provider's Office Telephone:**

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