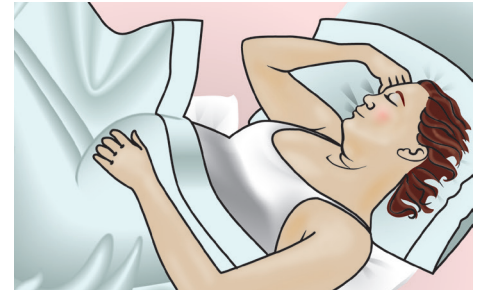


## Sleep-disordered Breathing in Pregnancy

Pregnancy results in many physical and hormonal changes. Sleep can be disturbed by heartburn, leg cramps and strange dreams. Sleep-disordered breathing (SDB) can also occur during pregnancy.



### What is sleep-disordered breathing?

Sleep-disordered breathing (SDB) is the name given to breathing difficulties during sleep ranging from simple snoring to obstructive sleep apnea (OSA). Frequent snoring happens in about half of pregnant women. It is especially common at the end of the second trimester and during the third trimester of pregnancy. Snoring in pregnancy, however, may be a sign of OSA (see ATS Patient Series <http://patients.thoracic.org/information-series/en/resources/obstructive-sleep-apnea.pdf>). OSA is a sleep disorder that occurs when your throat relaxes and your airway partially or completely closes during sleep, restricting the movement of air into your lungs. People with OSA usually have heavy snoring along with breathing pauses for several seconds. Breathing pauses can be followed by gasping or choking. These breathing difficulties can happen along with awakenings from sleep (lasting only seconds or longer). Breathing pauses can also result in lowering of blood oxygen levels, which can be harmful to you and your baby. These episodes can be repeated many times during your sleep, even though you do not usually remember them after waking up.

### What causes sleep-disordered breathing?

A number of things can cause SDB to develop or get worse during pregnancy.

**Obesity** is a body mass index (BMI) of 30 or more. BMI is calculated using your height and weight (<https://www.nhlbi.nih.gov/guidelines/obesity/BMI/bmicalc.htm>). Pregnancy may cause or worsen breathing difficulties during sleep, especially if you were overweight before pregnancy.

**Increased hormones** during pregnancy help support the development of the placenta and your baby. However, they can also cause swelling which results in narrowing of the nasal passages and throat. As a result, pregnant women may have a stuffy or runny nose that may cause breathing problems during sleep even when they don't have a cold or allergies.

**Facial or throat changes** caused by things such as enlarged tonsils, an enlarged tongue, a very small lower jaw and/or a set-back chin, can cause a blocked or narrowed airway during sleep in pregnant women. While such changes may not necessarily cause SDB before pregnancy, when combined with pregnancy-related changes, they may trigger SDB.

**Smoking** can increase your risk for having SDB. Smoking increases inflammation and fluid retention in your throat and under airway.

**Sleep deprivation** can also increase your risk for SDB. Getting too little sleep or having many short awakenings during sleep can cause your throat muscles to become tired and relax too much, resulting in episodes of airway narrowing or blockage during sleep.

### How do I know if I have sleep-disordered breathing?

You may or may not be aware that you have SDB. A partner or family member tends to notice sleep problems first. Some signs and symptoms of SDB are seen more frequently than others. The most frequent ones are:

1. **Snoring** is the most noticeable symptom. Snoring may begin for the first time in any trimester. In pregnant women with SDB, snoring may or may not be loud, but is present on most nights. Not everyone who snores, however, has sleep apnea.
2. **Breathing pauses** for a short time may occur during periods of snoring. These pauses can result in gasping and snorting noises as well as cause frequent awakenings. These pauses may be worse when you sleep on your back.
3. **Excessive sleepiness, fatigue and lack of energy** during the day can happen from SDB. These problems can also be caused by pregnancy or hormonal changes. Other symptoms you may or may not experience are:
  - irritability
  - depression
  - poor concentration with daily activities at work and home
  - dry mouth
  - Sore throat
  - headaches when you wake up
  - coughing, difficulty swallowing, or heartburn (acid reflux) at night (which can be made worse with the weight gain of pregnancy)

### Can sleep-disordered breathing be dangerous?

Your sleep quality can affect a number of hormonal, metabolic, and nervous system functions that are critical to a healthy pregnancy. Sleep disturbances may be harmful to you and your baby's development. SDB can increase your risk for preeclampsia (toxemia in pregnancy), high blood pressure, diabetes, depression, and even car accidents because of constant tiredness.

### How is sleep-disordered breathing diagnosed?

When a woman is evaluated during pregnancy, the focus of care is on the mother and unborn baby. Signs of SDB may therefore not be detected unless you tell your provider that you might have a sleep problem that needs to be evaluated. You then may be referred to a sleep specialist. Ask your sleep partner to keep track of your snoring, including how loud and frequent it is and whether it includes any gasping,

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choking, or other unusual sounds. You may also take a video or audio recording of yourself while you sleep which can be very helpful for the specialist.

In order to diagnose OSA, a sleep study is usually done. This study is either done at a sleep center, where you will be scheduled to sleep overnight, or at your home using a portable monitor (<http://patients.thoracic.org/information-series/en/resources/sleep-studies.pdf>).

### How is sleep-disordered breathing treated during pregnancy?

Because some treatments for sleep problems may harm your baby or make your pregnancy worse, always check with your provider that any medications you are taking are safe. There are things you can do, however, that do not include medications. These include following your OB (obstetric) provider's recommendations about how much weight you should gain during pregnancy, not smoking or drinking alcohol, and avoiding second hand smoke exposure (see ATS Patient Series <http://patients.thoracic.org/wp-content/uploads/2014/02/ATS-Patient-Ed-Smoking-and-Pregnancy.pdf>). Other things you can do to improve your sleep at night are:

- Avoid caffeine. Remember that in addition to coffee, tea, soda and many energy drinks contain caffeine.
- Avoid heavy or spicy meals 2-3 hours before bedtime.
- Take a short (<30 minute) nap early in the day (naps later in the day can make sleeping at night difficult).
- Control nasal congestion with nasal saline washes (such as with a Neti pot), nasal dilators, or breathing strips. Discuss any issues with severe nasal congestion with your OB provider.
- Avoid sleeping on your back. Some people will keep from rolling onto their back by sewing a tennis ball into a pocket on the back of their pajama top. Others use a body pillow to prop themselves to the side. Sleeping on your left side may improve blood flow to your unborn baby and to your body.
- To avoid bending too much at the waist, elevate the entire head of your bed about 5 inches. Do not use pillows to lift your head.

There is no medication that prevents or treats SDB. There are medications to treat sleepiness from OSA, but these are not recommended during pregnancy. If you are on medication to treat sleepiness, you should discuss with your provider whether to stop this medication during your pregnancy and during breastfeeding.

There are several medical devices that are used to treat OSA. The most common and effective treatment is **continuous positive airway pressure (CPAP)**. CPAP uses pressurized air to keep the upper airway open during sleep. The CPAP machine blows the air through a hose to a mask that usually covers just your nose. The goal is to eliminate snoring and breathing pauses when wearing CPAP. In some cases, you can notice a benefit after a single night of CPAP usage.

Another option is a **dental device**, called an oral appliance ([http://patients.thoracic.org/information-series/en/resources/Oral\\_Appliances\\_for\\_Sleep\\_Apnea.pdf](http://patients.thoracic.org/information-series/en/resources/Oral_Appliances_for_Sleep_Apnea.pdf)). This is worn in your mouth during sleep (like an athletic mouth guard), to keep your airway open. Oral appliances are most likely to

be effective for persons who have mild to moderate OSA. This treatment may cause side effects, including soreness, saliva build-up, nausea, and over time, permanent changes in position of the teeth and jaw. It is very important to have one fitted by a dentist who specializes in sleep medicine. It can take weeks to months to be fitted for and get used to using an oral appliance. Thus, this form of therapy may not be the best one for a pregnant woman with SDB.

**Oxygen therapy** may be recommended if you have a low blood oxygen level due to SDB and you are unable to use CPAP. Oxygen therapy provides you with extra oxygen at night (<http://patients.thoracic.org/information-series/en/resources/oxygen-therapy.pdf>). A normal oxygen level is necessary for your baby to develop and your body to function well. Oxygen is often delivered through a nasal cannula (two small tubes that sit in both your nostrils). In some severe cases, your doctor may prescribe the combination of CPAP and oxygen therapy which could be more helpful than using one of them alone.

If you have sleep apnea, you should continue treatment after your baby is delivered. Untreated sleep apnea causes sleepiness and other symptoms that may interfere with your being able to care for your newborn.

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## Rx Action Steps

- ✓ If you have any sleep problems, discuss these with your health care provider
- ✓ Ask your partner if you snore and have breathing pauses while you are sleeping
- ✓ Relieve nasal congestion at night
- ✓ If you have SDB symptoms, avoid sleeping on your back
- ✓ Avoid caffeine, heavy or spicy meals 2-3 hours before bedtime

**Doctor's Office Telephone:**

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For more information, visit the following websites:

**American Academy of Sleep Medicine:**

<http://yoursleep.aasmnet.org/Hygiene.aspx>

**U.S. National Library of Medicine:**

<http://www.nlm.nih.gov/medlineplus/ency/patientinstructions/000559.htm>

**National Sleep Foundation:**

<http://www.sleepfoundation.org/article/sleep-topics/pregnancy-and-sleep>