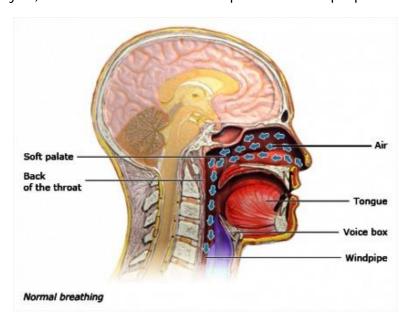
## **Obstructive sleep apnea**

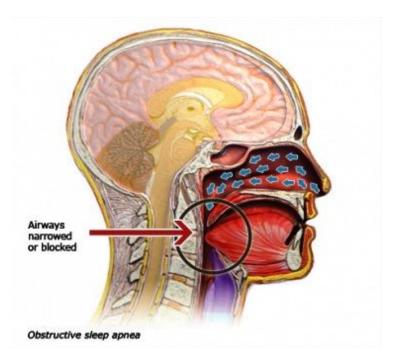
People who have obstructive sleep apnea often snore heavily and have longer breathing pauses while they sleep. Snoring on its own is harmless. But in combination with breathing problems, sleepers wake up frequently and get less restful sleep. Then they feel worn out and tired during the day. Here you can get a brief overview of the causes, effects and treatment options.

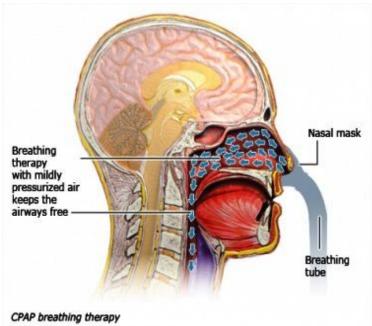
#### Causes

Sleep apnea is caused by the muscles in the upper airways relaxing. This makes the airway in the back of the throat narrower or even blocks them completely, so that loud snoring sounds result when breathing in and out. People with sleep apnea not only snore, they also have shallow breathing and regular pauses in breathing that last longer than 10 seconds. Some people have these breathing problems mostly when sleeping on their back.

Being overweight can make obstructive sleep apnea worse, as can excessive consumption of alcohol. In these cases the throat muscles relax even more. Enlarged tonsils, constricted nasal breathing and other anatomical features (like a small lower jaw) can also favor the development of sleep apnea.







#### **Effects**

Breathing pauses result in the body not getting enough oxygen at night and sleep no longer being restful. During the day people who have sleep apnea are tired, irritable, and often have difficulty concentrating. They feel that it has a major effect on their quality of life. Many of them easily slip into involuntary microsleep –

even while they are doing things that require a high level of concentration, like driving a car. Sleep apnea can affect not only your own wellbeing, but that of your partner as well: His or her sleep is disturbed mainly by loud snoring. The breathing pauses may also cause your partner to worry about you.

The breathing pauses interrupt sleep, cause the heart to begin to beat faster, and lead to increased blood pressure. If these brief wake-up reactions (also called arousals) occur repeatedly, they can prevent you from entering restful deep sleep. Over the long term, severe sleep apnea also increases risk of heart attack, stroke or heart rhythm disorders.

Nighttime breathing pauses are not always a reason to worry. They are unlikely to have implications for your health, it they are only brief, only occur now and then, or only in connection with certain events like heavier consumption of alcohol and there are no long-term symptoms such as troublesome fatigue. Snoring without any breathing difficulties is not a cause for concern, either.

#### Self-help

There are different ways to positively influence sleep. These may not relieve sleep apnea, but may improve quality of sleep itself. Examples include avoiding alcohol or large meals in the evening and making sure the place where you sleep is quiet and dark. If you are very overweight, losing weight may help you to relieve your sleep apnea. Many people who have sleep apnea also try to use different things to avoid sleeping on their back, or they sleep with their upper body slightly elevated. Other people use aids such as nasal strips, support pillows or sprays. Most of these products have not been studied scientifically, even when advertisements for them often suggest otherwise.

### Treatment options

The most effective treatment for severe sleep apnea is called CPAP therapy. CPAP stands for "continuous positive airway pressure". Air is taken from the immediate surroundings and pumped into your airways with mild pressure during the night. A

breathing mask is worn during this time that is connected to a machine responsible for continuously supplying this air. The mild pressure prevents the throat muscles from collapsing on themselves so that the upper airways are kept free. Someone who uses this machine will have either very few breathing pauses, or none at all. This can noticeably reduce symptoms, for example decreasing tiredness during the day. Common adverse effects of this treatment are a dry throat and an irritated, and sometimes congested, nose.

There are many different options for people who have difficulties using their CPAP machine to get support. When these people are also given intensive support during treatment, they end up using the machines longer during the night and are less likely to end treatment early.

Some people who have sleep apnea wear a mandibular (lower jaw) splint at night. It keeps the lower jaw pressed forward and prevents the tongue from moving backward and blocking the airways. This can help improve breathing during the night and leave the sleeper feeling better rested during the day.

There are also different types of surgical procedures for treating sleep apnea. Most of them aim at freeing up the airways by tightening or removing tissue – for example, tissue on the palate or the nasal cavities. The benefits of these procedures are not clear, however. But if enlarged tonsils are causing sleep apnea, it may help to have them surgically removed.

CREDIT: National Institute of Health



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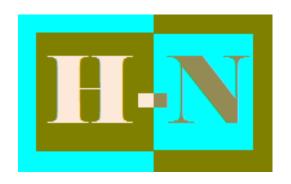
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