



## What Causes Sleep Apnea?

When you're awake, throat muscles help keep your airway stiff and open so air can flow into your lungs. When you sleep, these muscles are more relaxed. Normally, the relaxed throat muscles don't prevent your airway from staying open to allow air into your lungs.

But if you have obstructive sleep apnea, your airway can be blocked or narrowed during sleep because:

- Your throat muscles and tongue relax more than normal.
- Your tongue and tonsils (tissue masses in the back of your mouth) are large compared to the opening into your windpipe.
- You're overweight. The extra soft fat tissue can thicken the wall of the windpipe. This causes the inside opening to narrow, which makes it harder to keep open.
- The shape of your head and neck (bony structure) may cause a smaller airway size in the mouth and throat area.
- The aging process limits your brain signals' ability to keep your throat muscles stiff during sleep. This makes it more likely that the airway will narrow or collapse.

Not enough air flows into your lungs if your airway is fully or partly blocked during sleep. This can cause loud snoring and a drop in your blood oxygen level. If the oxygen drops to a dangerous level, it triggers your brain to disturb your sleep. This helps tighten the upper airway muscles and open your windpipe. Normal breaths then start again, often with a loud snort or choking sound.

The frequent drops in oxygen level and reduced sleep quality trigger the release of stress hormones. These compounds raise your heart rate and increase your risk of high blood pressure, heart attack, stroke, and arrhythmias (irregular heartbeats). The hormones also raise the risk of, or worsen, heart failure.

Untreated sleep apnea also can lead to changes in how your body uses energy. These changes increase your risk of obesity and diabetes.

**Source-DeVilbiss Healthcare**