



Currently over an estimated 55 million Americans have some degree of snoring or sleep apnea. Scientists project that the number will grow to one in five Americans that will be affected by 2020.

# Practice Opportunities

ONE OF THE LEADING REASONS OF POOR SLEEP IS SLEEP DISORDERED BREATHING

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## For Mild to Moderate Obstructive Sleep Apnea

The American Academy of Sleep Medicine (AASM) recommends oral appliances as a primary or first line of treatment for mild to moderate obstructive sleep apnea (OSA). Patients should always be offered a choice of an oral appliance or Continuous Positive Airway Pressure (CPAP) if they have mild to moderate OSA.

“Oral appliances are appropriate for use in patients with primary snoring who do not respond to or are not appropriate candidates for treatment with behavioral measures such as weight loss or sleep-position change.”

“Oral appliances (OAs) are indicated for use in patients with mild to moderate OSA who prefer OAs to CPAP, or who do not respond to CPAP, are not appropriate candidates for CPAP, or who fail treatment attempts with CPAP or treatment with behavioral measures such as weight loss or sleep position change.”<sup>1</sup>

## For Severe Obstructive Sleep Apnea

The American Academy of Sleep Medicine recommends Continuous Positive Airway Pressure (CPAP) for the treatment of moderate to severe sleep apnea. If patients have tried and failed CPAP, they should be offered other options – including the TAP®.

## AASM Recommendations for Treatment

The American Academy of Sleep Medicine is a professional organization of clinicians involved with the diagnosis and treatment of sleep disorders. The AASM Standards of Practice Committee has made the following treatment recommendations for those who suffer from obstructive sleep apnea. These recommendations are based on literature review, expert opinion, and consensus.



The options available to patients who want to solve their sleep disordered breathing problems range from simple lifestyle changes to invasive medical procedures.

# Treatment Options

STUDIES HAVE SHOWN THAT PATIENTS PREFER ORAL APPLIANCES 20:1 OVER CPAP.

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## Lifestyle Changes

There are several factors that can be contributing to your snoring and sleep apnea: being overweight, smoking, drinking alcohol or using muscle relaxants or sleeping pills. All of these things can affect the airway or the brain's control of the airway muscles during sleep. Lifestyle changes are effective ways of reducing symptoms of sleep apnea. Here are some tips that may help reduce apnea severity:

- Lose weight – If you are overweight, this is the most important action you can take to cure your sleep apnea.
- Avoid alcohol – Alcohol causes frequent nighttime awakenings, and makes the upper airway breathing muscles relax.
- Quit smoking – Cigarette smoking worsens swelling in the upper airway, making apnea (and snoring) worse.

## The TAP Oral Appliance

The patient-preferred solution for snoring and sleep apnea is the TAP, the Thornton Adjustable Positioner (TAP®). The TAP is a simple device, similar to teeth whitening trays that a patient wears when sleeping. It holds your lower jaw forward during the night keeping your airway open.

## Constant Positive Airway Pressure

Continuous Positive Airway Pressure, or CPAP treatment, requires the patient to wear a mask over the nose during sleep. The mask is connected to a small air pressure generator. When the mask is worn, the air pressure inside the throat is increased. The air pressure is adjusted so that it is strong enough to prevent the throat from collapsing during sleep. The CPAP prevents airway closure while it is worn, but apnea episodes will return when CPAP is stopped or if it is used improperly.

## Surgery

Surgery is the most invasive option for sleep apnea. Only one surgery is currently endorsed by the American Academy of Sleep Medicine; the Uvulopalatopharyngoplasty (UPPP). Surgical procedures may not be helpful in every patient, and their long term effectiveness is unproven. The UPPP has a short-term success rate of about 50% in unselected cases.



Sleep disordered breathing (SDB) is defined as sleep disturbances produced by abnormal breathing patterns. Snoring and sleep apnea are two of the most common sleep disorders.

# Sleep Disordered Breathing

OBSTRUCTIVE SLEEP APNEA CAN BE FATAL.

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## Snoring

Snoring is defined as “breathing during sleep with hoarse or harsh sounds as caused by the vibrating of the soft palate.” When you inhale during sleep, your soft palate or uvula may vibrate against the back of the throat or the base of your tongue, producing the vibration noise we refer to as snoring. The vibration is caused by the fluttering of loose tissue as you breathe, making inhalation more difficult. If you snore, it is a clear sign that your breathing passage is partially blocked, resulting in abnormal breathing.

Depending on the amount of air passing through the breathing passage and the speed at which the throat is vibrating, snoring may be extremely loud, soft as a whisper, or somewhere in between. Unfortunately, snoring can be a marker of sleep apnea, a risk factor for vascular complications such as hypertension.

Snoring can cause:

- Headaches
- Difficulty in concentration
- Fatigue
- Reduced work performance

The effects of snoring can also annoy the bed partner, whose sleep quality may also take a toll due to their mate’s snoring.

## Sleep Apnea

Obstructive sleep apnea (OSA) is a disorder in which breathing is briefly and repeatedly interrupted during sleep. The word “apnea” literally means “without breath.” Apnea is defined as a cessation of breath that lasts at least ten seconds. Obstructive apneas occur when the muscles in the back of the throat are not able to keep the throat open, despite efforts to breathe. This causes blockages in the airway and breathing interruptions, or apneas.

Obstructive apneas can result in fragmented sleep and lowered levels of oxygen in the blood. Although the connection between sleep apnea and heart disease is not entirely clear, we know that people with cardiovascular problems such as high blood pressure, heart attack, congestive heart failure, cardiac arrhythmia and stroke have a high prevalence of sleep apnea. This is why taking a patient’s blood pressure every office visit can help screen for OSA. The combination of sleep disturbance and oxygen starvation can result in multiple problems, such as:

- Heart disease
- Depression
- Hypertension
- Automobile accidents
- Stroke
- Sexual dysfunction
- Learning and memory difficulties

Visit the National Sleep Foundation at [www.sleepfoundation.org](http://www.sleepfoundation.org)



Most patients experience relief the very first night they wear their TAP. Nine in ten patients wear the device all night, every night – making the TAP a highly effective solution for both snoring and sleep apnea.

## How the TAP® Works

THE TAP IS THE KEY TO A SNORE-FREE, RESTFUL NIGHT OF SLEEP.

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The Thornton Adjustable Positioner (TAP) is a custom-made adjustable appliance that is worn while sleeping. The trays of the appliance snap over the upper and lower teeth and hook together. The design is based on the same principle as cardiopulmonary resuscitation, CPR.

The airway must be opened to allow air to pass through the throat. The TAP holds the lower jaw in a forward position so that it does not shift or fall open during the night. This prevents the airway from collapsing. The more the jaw is pulled forward, the more the airway will open.

The TAP is the only mandibular advancement device that can be adjusted easily while in the mouth. This feature allows patients to be in control of their treatment. The unique design also allows the patient to fine-tune the treatment position at home to achieve maximum results.

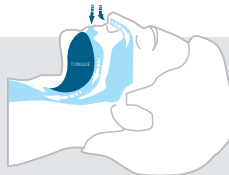
### Features

- Patient-friendly
- Easy to fit
- Precise control of advancement
- Freedom for lateral movement
- Allows lips to close
- Infinitely adjustable
- Interchangeable hooks
- More room for tongue
- Over 30 peer reviewed studies

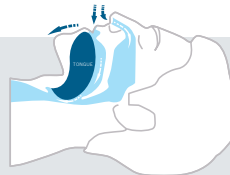
### The TAP can help prevent conditions linked to sleep apnea:

- Chronic daytime sleepiness
- High blood pressure
- Heart attack
- Stroke
- Heartburn, reflux
- Morning headaches
- Depression

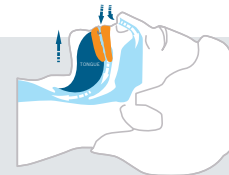
### The TAP opens obstructed airways



**Figure 1**  
Normal jaw position, airway open



**Figure 2**  
Relaxed jaw position, tongue and throat tissue collapse, restricting breathing



**Figure 3**  
TAP maintains a forward jaw position and an *open* airway