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## TREATMENT OPTIONS FOR ADULTS WITH SNORING

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Snoring is a sound produced by the vibration of the soft tissues of the upper airway during sleep as muscles relax and air has to flow through a narrowed throat. Studies estimate that 45 percent of men and 30 percent of women snore on a regular basis. It can affect not only the snorer's sleep, but also the sleep of a spouse, partner, or other family members nearby. In fact, snoring causes many couples to sleep in separate rooms, and often places a strain on marriages and relationships. Recent evidence suggests that severe, chronic snoring may even cause thickening of the carotid arteries and potentially increase the risk of stroke.

Snoring may also be a sign of a more serious health condition known as obstructive sleep apnea (OSA), characterized by a repetitive complete or partial obstruction of breathing that can occur hundreds of times throughout the night. Most patients who snore should receive a comprehensive sleep evaluation by a trained physician, that often includes sleep testing performed in the home or at a sleep laboratory.

### **WHAT ARE THE TREATMENT OPTIONS?**

#### ***Palatal Procedures***

*Palatal Implants*—A pillar procedure involves surgically placing rigid fiber implants or suspension sutures into the roof of the mouth (the soft palate). This is performed under local anesthesia in the office. The implants, in conjunction with the body's scarring response, help to stiffen the palate and lessen vibration and flutter that causes snoring. Barbed suspension sutures may also be used to shorten or lift the palate. Potential benefits of this method include mild discomfort and fast recovery. Complications are rare but include implant or suture extrusion, or infection, that may require removal and replacement. Pillar® implants have a relatively high cost, and additional palatal modification procedures may be needed, such as shortening the uvula or a long palate.

*Injection Snoreplasty*—In this method, also done under local anesthesia in the office, a chemical is injected into the soft palate. The subsequent inflammation and scar tissue stiffen the palate, decreasing vibration and snoring. The most commonly used agent is sodium tetradecyl sulfate, which has also been used to treat varicose veins. Injection snoreplasty has a lower cost than other methods, but is associated with more pain and recovery time. Some patients may also require additional injection treatments to achieve optimal results.

*Radiofrequency*—Radiofrequency treatment, also an office-based procedure performed under local anesthesia, uses heat to stiffen portions of the soft palate. Multiple treatment sessions may be required to achieve the desired results. Discomfort and recovery are generally less than injection snoreplasty, but more than palatal implants. Cost of radiofrequency also usually falls in between the other two options.

#### ***Tonsillectomy/Adenoidectomy***

Enlarged tonsils and adenoids are a common cause of snoring and sleep disruption in children. The tonsils are clusters of lymphoid tissue in the back of the throat or tongue, while the adenoids are a similar mound of tissue in the back of the nose. Although less enlarged in adults, some adults can receive excellent resolution of snoring through removal of tonsils and/or adenoids.

As opposed to the office-based palatal procedures listed above, tonsillectomy/adenoidectomy is an outpatient surgery performed in the operating room under general anesthesia. Most patients require a recovery time at home of approximately one week but may continue to experience a sore throat for two weeks. The most common complication is bleeding, often occurring over a week after the surgery. Serious bleeding is rare.

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## **Nasal Surgery**

Increased nasal congestion has been shown to cause or contribute to snoring, and may also prevent treatment using other methods. Allergies, smoking, and/or structural narrowing can contribute to nasal obstruction. Medical treatment options, such as a nasal steroid spray or other allergy management options, may be helpful in some patients.

Structural problems, such as a deviated septum or a narrow or collapsible side wall (nasal valve), often benefit from surgical treatment. A procedure known as “inferior turbinate reduction” using radiofrequency or a micro-debrider, can often be performed in the office setting under local anesthesia.

The nasal valve can also be treated in the office setting for some patients, using implants, suspension sutures, or radiofrequency techniques. Septoplasty and more complex nasal procedures are usually performed in the operating room under general anesthesia.

## **Over-the-counter Remedies**

Some at-home, over-the-counter remedies you can try to help alleviate snoring include:

- Nasal dilator strips, worn externally across the bridge of the nose and sides of the nostrils, as well as nasal inserts that stabilize or expand the nasal valve can help. Wearing a chin strap to keep the mouth closed during sleep could also be of benefit.
- Nasal resistance valves, such as Theravent® or Provent™, can treat snoring by causing some resistance to breathing *out* the nose, creating pressure in and behind the nose. They are often not well tolerated, however, and are single-use, requiring a new valve to be applied nightly.
- For those who snore predominantly while sleeping

on their back, positioning “bumper” devices—air- or foam-filled belts, vests, or shirts—can help. Electronic necklaces or belt devices that vibrate gently while the person turns to sleep on their back are also available. Head-of-bed elevation could possibly reduce snoring as well.

- Oral appliances can be obtained over-the-counter and self-fitted, or professionally fitted by an ENT (ear, nose, and throat) specialist, or otolaryngologist, or a dentist. While often effective, they are not always comfortable and may change your bite.

Finally, various throat sprays and over-the-counter pills have *not* been shown to be effective for snoring.

## **WHAT LIFESTYLE MODIFICATIONS SHOULD I CONSIDER?**

You can make certain lifestyle changes on your own that may help reduce your snoring, including:

- Smoking may promote snoring as it causes swelling and irritation of the breathing passages, and should be avoided.
- Alcohol lowers the tone of the throat muscles, making snoring more frequent and may even cause sleep apnea to occur. Avoiding alcohol close to bedtime and limiting the amount you consume is important.
- Muscle relaxants and sedatives can also worsen snoring.
- Losing five to 10 percent of your body weight may also help reduce snoring.

## **WHAT QUESTIONS SHOULD I ASK MY DOCTOR?**

Careful procedure selection tailored to your individual needs is critical to successfully managing snoring. Talk to your ENT specialist for a complete evaluation, and to

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learn what treatment may be best for you. You may want to consider these questions during your visit:

1. Do I need a sleep study?
2. What procedures would I be a good candidate for?
3. What non-invasive options are appropriate for me?
4. What if I choose to do nothing right now?