Snoring & Obstructive Sleep Apnea Overview

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Introduction

If you’ve ever spoken to someone who snores, they joke about it. “I’m ok, I can’t hear it!” is a phrase we hear all the time. In many cultures, snoring is humorous, and snoring noises are often used in film and animation to indicate that someone is sleeping… the irony being that the snorer might be only getting poor quality sleep, and indeed, snoring can be a symptom of something more serious.

In this Snorer.com Guide, we’ll give you an overview of snoring and sleep apnea, to help you make the decision on whether ‘snoring’ is something you should address… because it might not be just snoring.
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Snoring isn’t YOUR problem - right?

When people joke about snoring, it's because it's not the actual snorer's problem... it's the problem of the people who hear the snoring.

Actually, it could be everyone's problem - only perhaps you don't know it yet. As you become more of an advanced snorer with age and weight gain, your snoring may develop into obstructive sleep apnea (OSA) and then your 'snoring' will disturb your own sleep more and more. As the years go by, you will start to feel like you are suffering from a cross between a hangover and jetlag. All the time. In fact, you will probably have forgotten what it felt like to be truly alert... and that's an issue, as it contributes to not recognising you might have a problem!

"That's not me", I hear you say, "Anyway, why should I care?" Well, apart from the obvious i.e. less earache/bruised ribs (and remaining in the same bed as your partner) you might like to stop snoring so that should you fall asleep on public transport / flying or at work etc. you won't have the accusatory looks on waking... Or you might like to go camping, take a short break or stay over at friends without ridicule. These are perhaps some of the social (or avoiding anti-social) reasons, your rather tired partner will no doubt have already told you about.

So back to you, snoring IS potentially doing YOU harm. First off, the vibration in your throat from the floppy tissue waving in the breeze as you breathe (that's what makes the noise) vibrates the arteries in your throat. While the jury is out on this one, it is thought to harden the artery walls, which isn't so great.

So what is ‘sleep apnea'? It's made up of apneic episodes. A sleep apneic episode is a silent period between snores. This is when you can't breathe. That's a scary thought! Your chest and stomach continue...
to move up and down but no air gets in to your lungs. You are in effect suffocating. Your partner may have noticed one of these ‘episodes’ and nudged you to wake up and breathe... but then they go to sleep or leave the bedroom, whilst you keep doing this all night...

The worst bit is that you are going to feel absolutely exhausted. Tired as you have never experienced before. This is because your sleep is poor quality and inadequate. It is fragmented. You are effectively just dozing all night, in short bursts, between the silent periods when you are not breathing.

In the day, you will be irritable and most likely unpleasant to know, as you crave rest. You may lose your sex drive and your daytime sleepiness, known as ‘hypersomnolence’ makes you a significant road traffic accident risk. This daytime sleepiness is the chief symptom of what Doctors call ‘Obstructive Sleep Apnea Syndrome’. 

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What are the benefits of treatment?

The benefits of treatment include:

- Better life expectancy
- Improved quality of life
- Greatly reduced risk of having a heart attack or a stroke
- Improve your blood glucose levels
- Avoid falling asleep while driving
- Wake up more refreshed in the morning – and without a headache
- Be more sharp and ‘on the ball’
- Be less irritable and combat depressive feelings
- Lose weight more easily
- Have more fun and enjoyment in life
- Have interest in and enjoy a better sex life

Hopefully, from the above list you can see that snoring, for both a snorer and their partner is more than an annoyance. Not sleeping well, for whatever reason, can seriously affect your health and even your life expectancy.

Sleep is essential for the body and brain to repair and renew itself. Chronic lack of sleep can contribute to a range of medical conditions, including:

- Obesity
- Diabetes (type 2)
- High blood pressure
- Heart disease
- Depression and anxiety
When a sleeping problem becomes more serious

Sometimes there are significant health issues that prevent people from sleeping well.

Sleep Related Breathing Disorders (SRBD) – these disorders are one of the most common problems that affect people's sleep. One in five adults have some form of SDB. It can range in severity from simple, but disruptive snoring to sleep apnea where you have stopped breathing.

- **Snoring** – the most common form of SRBD – the airway becomes restricted, causing the soft tissue to vibrate, making the snoring noise.
- **Obstructive Sleep Apnea (OSA)** – where the airway closes so you stop breathing. Periods of no breathing may last for 10 seconds or longer and occur several hundred times a night.
- **Central Sleep Apnea (CSA)** – a less common form of sleep apnea which occurs when the brain fails to send the right signals to body to regulate sleeping.

There are a range of treatments that can effectively help people with SDB (and their partners) achieve a good night's sleep. Snorer.com’s mission is to provide the information on how-to-choose, in an easy to read format in our Guides.
What happens when you sleep?

As you sleep the muscles that control the upper airway relax. If the muscles relax too much, the airway becomes narrowed, limiting the airflow as you breathe. This may lead to:

- Vibration – which produces the snoring noise
- Collapse – where breathing stops altogether, called obstructive sleep apnea (OSA)
The warning signs of Obstructive Sleep Apnea (OSA)

There are a number of warning signs that may indicate if you are suffering from OSA.

During the night:

- Snoring followed by a period of silence and then perhaps a loud snort or gasp as you resume breathing
- Waking up at night with a sore throat
- Frequent need to get up and use the toilet

During the day:

- Waking up feeling unrefreshed or with a headache or sore throat
- Feeling excessively sleepy during the day
- Decreased energy and motivation
- Difficulty in concentrating
- Irritability
Risk factors

There are certain factors that may mean you are at greater risk from OSA:

- Being male
- Being overweight
- Being a heavy snorer
- A family history or snoring and sleep apnea
- Drinking alcohol in the evening
- Smoking
- Silent pauses in-between snores could be a sign of Obstructive Sleep Apnea (OSA).

It might not be ‘just’ snoring...

Read on to find out why it’s bad...

The effect of (OSA) on your body

When you are asleep, if your airway becomes blocked you may stop breathing. If it occurs for 10 seconds or longer, it is considered an ‘apneic event’. It can happen frequently – sometimes hundreds of times a night.

Stress on your body

If you stop breathing this places a stress on your brain and your heart as they both struggle to work with the lack of oxygen.
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Disrupted Sleep

Your brain wakes you up in order to start breathing again and so your sleep is disrupted over and over again.

Impact on your health

Stress on your brain and heart, coupled with disrupted sleep have serious effects on your health. Left untreated, they are a contributing risk factor in high blood pressure, heart disease, stroke, diabetes, and depression.

- More than 35% of people with sleep apnea suffer from high blood pressure, increasing their risk of heart disease.\(^4\)
- 83% of people who continue to suffer from high blood pressure despite taking three or more drugs, also have sleep apnea.\(^5\)
- Almost 70% of people who’ve had a stroke have sleep apnea.\(^6\)
- A person with sleep apnea is seven times more likely to have a car accident.\(^7\)

Effect on partners

It is not just people with OSA or a snoring problem whose health can be affected. Partners, whose own rest is continually disturbed, may also suffer the effects of chronic interrupted sleep.

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\(^7\) HORSTMANN et al. (2000) Sleep related accidents in sleep apnea patients. Sleep.
I think I might have sleep apnea...

If you are concerned that you may have sleep apnea, visit your Doctor/Primary Care Physician. They may then refer you to a Sleep Laboratory for tests. A sleep laboratory is run by a Respiratory Physician/Pulmonologist or perhaps a Neurologist. In both cases, they are often supported by specialist staff known as Registered Polysomnographic Technologists (RPSGT).

The sleep laboratory will then determine if a ‘home sleep test’ is required or ask you to come in overnight for a polysomnogram (PSG). To explain ‘somnogram’ means sleep test and ‘poly’ means lots - in that lots of readings are taken at the same time as you sleep!

But, if you are worried about the impact of a medical diagnosis of sleep apnea upon your licence (perhaps for work) then we suggest you consider the **Snorer.com ASAP Anonymous Sleep Apnea Process℠**.

How are snoring and sleep apnea treated?

Some causes of snoring are the result of lifestyle habits. By altering these habits, you may be able to minimise your snoring. Try these ideas below as a start:

- Always try to sleep on your side, instead of your back.
- Avoid alcohol in the evening.
- If you smoke - stop. The smoke inflames the soft tissue of your throat and makes the airway narrower.
- Attempt to keep your body in alignment. This should be done by raising the head of the bed itself or by making sure that your pillow is at the correct height.

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- Try to maintain a healthy diet and weight. Aim to eat five servings of fruits and vegetables in your daily diet.
- Prepare meals in a healthy way, for example baking or grilling foods instead of frying. This will not only reduce the amount of fat in your throat tissues, but will also help improve your general health.
- Talk to your doctor about your ideal target weight, and it may be appropriate to consult your Doctor before taking part in any exercise.
- Regular exercise will improve muscle tone and in turn may reduce your incidence of snoring. If you are starting out from no exercise, consult your Doctor before taking part in any exercise. They may suggest beginning with a 10-minute period of light exercise and gradually build from there. When you are ready, it is recommended that you exercise at least three to four times a week. Try to work up to 20–30 minutes a session.

‘Mouthpieces’ - Dental Devices

If your doctor considers a ‘mouthpiece’ could be an effective treatment option for you then we suggest you read the Snorer.com Guide: “How to choose a ‘Mouthpiece’.”

Buying an anti-snoring mouthpiece that you can fit yourself sounds simple and straightforward. However, as with most simple things, it is a little more complicated than it at first appears. There are serious problems with self-diagnosis and self-treatment. The lay person may appreciate that he/she snores but may be totally unaware of a potentially serious underlying medical condition which may be the primary cause of the snoring. Therefore, without correct assessment, diagnosis and treatment, the patient may be doing himself/herself more
harm than good, in perhaps ‘treating’ the symptom of snoring, and missing a more serious disorder.

There is much more about ‘Mouthpieces’ for snoring and sleep apnea in the Snorer.com Guide: “How to choose a ‘Mouthpiece’.

Medicines

If you have allergies that cause nasal congestion, try an oral or spray decongestant available from your chemist. If your nasal congestion doesn’t clear up in a few days, see your doctor as you may need stronger medication, or other measures to clear your nasal passages.

If your nasal congestion is caused by a structural problem in the nose such as a deviated septum, there are surgical techniques that can correct it.

Positive Airway Pressure (PAP) therapy

If your doctor diagnoses sleep apnea and none of the simple remedies are successful, he/she may recommend using positive airway pressure therapy (PAP). This involves wearing a mask over your face while you sleep, to force air through your nose (and sometimes mouth as well). This prevents the airway from closing when you breathe in.
There are several manufacturers of PAP and is considered the best solution for severe sleep apnea. However, some people find wearing a mask in bed every night difficult to tolerate. Overcoming the difficulties using PAP are a focus for the competing companies and features such as improved mask design, warming and humidifying the air, raising the air pressure from a low level as you fall asleep and varying the air pressure as you breathe in and out are all fairly recent advances.

Figure 1: How air pressure ‘splints’ open a narrowing airway

**LEFT:** The impact of a narrowing airway on the air you breathe. The air has to travel faster as the airway narrows. If the airway narrows sufficiently to reduce airflow, it is a hypopnea. If it collapses on itself, it causes an apnea.

**RIGHT:** How increased air pressure holds (or splints) open the airway.

There is much more about PAP in the Snorer.com Guide: “How to choose... Positive Airway Pressure (PAP therapy).”

**Surgery**

While making lifestyle changes should be the first step in treating your snoring, these measures are not always effective. If that is the case, you might have heard of a form of surgery called laser-assisted
uvulopalatoplasty (LAUP). This relatively new procedure assumes that the snoring noise is created by the soft palate (occasionally the back wall of the throat). A small probe is inserted into the area to be reduced and for want of a better word the tissue is 'microwaved' this reduces the bulk and stiffens the tissue.

Radiofrequency ablation – sometimes known as Somnoplasty® reduces the size and amount of soft tissue in localised areas. It may have a short term effect on snoring - however repeated operations are generally necessary and individuals may be reluctant to undergo a second (of perhaps many more) operation after experiencing the first.

In general, this surgery does not have serious side effects and you can continue your regular activities immediately after the procedure. In some cases, surgery can raise or lower the pitch of the voice. Before you decide on surgery, talk it over with your doctor. Surgical options for sleep apnea are not recommended - apnea responds better to PAP.

However, if your sleep apnea is caused by a jaw deformity, an operation to correct the deformity (Osteotomy) may be performed. This is successful in most people. If no cause can be found for your sleep apnea and it is not considered to be life-threatening, a procedure called uvulopalatopharyngoplasty (UVPPP) can be performed, where a surgeon trims the uvula and the scarring tightens throat tissues while you are under a general anaesthetic. This procedure is very dependent on patient selection and has only a 30-50% success rate. It may also negatively affect your ability to use PAP therapy at a later date. If your sleep apnea is caused by large tonsils and/or adenoids, these can be removed in a simple operation called a tonsillecctomy or adenoidectomy.
There is much more about surgical options for snoring and sleep apnea in the **Snorer.com Surgical Guide**.

**What is the outcome of snoring and sleep apnea?**

Snoring is an annoyance for most people, but for those who snore habitually, it can cause serious social and marital discord. Sometimes it can be remedied by lifestyle changes and/or surgery however a mouthpiece in certain circumstances be considered a safe non-surgical option which may be considered as a **first step**. Sleep apnea is a more serious condition that can cause chronic illness and has been linked to earlier death when linked with other conditions such as heart disease, but several effective treatment options are available.

**What next?**

You might like to read the other **Snorer.com Guides**:

- Partner’s Guide
- How to choose... a mouthpiece to stop snoring
- How to choose... Positive Airway Pressure (PAP) therapy
- Things to consider... when considering surgery for snoring & sleep apnea

Want to find out if you have sleep apnea, but worried about the impact on your medical records? We suggest you consider the **Snorer.com ASAP Anonymous Sleep Apnea Process℠**.
Appendix

Acronym glossary

- LAUP  = Laser-assisted uvulopalatoplasty
- MAS   = Mandibular Advancement Splint
- MRD   = Mandibular Repositioning Device
- OSA   = Obstructive Sleep Apnea
- PAP   = Positive Airway Pressure
- SDB   = Sleep-Disordered Breathing
- SRBD  = Sleep Related Breathing Disorders
- UPPP  = Uvulopalatopharyngoplasty

References

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Support groups

**United Kingdom**

- Sleep Apnoea Trust Association: [http://www.sleep-matters.org](http://www.sleep-matters.org)
- Scottish Association for Sleep Apnoea (SASA): [http://www.scottishsleepapnoea.co.uk](http://www.scottishsleepapnoea.co.uk)
- Irish Sleep Apnoea Trust: [http://www.isat.ie/](http://www.isat.ie/)

**United States**

- American Sleep Apnea Association: [http://www.sleep-apnea.org](http://www.sleep-apnea.org)

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Snorer.com gives you control

Control over how & when:

- Confidential access to independent information on snoring and sleep apnea.
- How-to-Choose Guides without commercial bias.

Control over who knows:

- Anonymous, confidential access to sleep apnea assessment.

Control over what:

- You control if/when to communicate your results to your employer, the Government, your family etc.

Independent in this context means from a company not trying to sell you an anti-snoring device, CPAP or assessment service.

**Snorer.com does not** provide products or services other than information on how to choose and how to get checked out for sleep apnea anonymously.
Author

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Adrian Zacher has a wide ranging experience in medical devices for both conscious and unconscious respiratory medicine. He is a recognised pioneer, inventor, author, expert and serial entrepreneur.

Adrian pioneered the first commercial dental sleep medicine laboratory in Europe; ZSA Ltd. During the 11 years of successfully running ZSA, he invented a sleep device that could be adjusted to suit the individual needs of the wearer, winning an award for the device. He went on to co-found the British Society of Dental Sleep Medicine (BSDSM) and instigated and assembled the sleep medicine team which ultimately developed the Pre-Treatment Screening Protocol, which forms the benchmark for obstructive sleep apnoea screening in the UK. He continues to provide specialist dental sleep medicine knowledge to interested parties as part of the BSDSM’s CPD programme.

Adrian successfully completed his MBA in Oxford. After which, he was headhunted to lead international business development for a leading sleep business, working as subject matter expert on oral appliances and dental sleep medicine. He left in February 2012.

Adrian is often asked for advice and insight in the field of sleep medicine, recently co-authoring a chapter in Carranza’s Clinical Periodontology Expert Consult, and has completed the 2013 update.

Whilst taking time off as a new parent (truly appreciating the need for good quality sleep!) he started work on Snorer.com Ltd.

Adrian remains a member of the British Society of Dental Sleep Medicine and is a member of the British Sleep Society.
Important (but a bit boring) information...

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