

## Continuous Positive Airway Pressure (CPAP)

The most effective treatment for OSA is a Continuous Positive Airway Pressure (CPAP) machine. This is a small, quiet, pump beside the bed which continuously delivers slightly pressurised air through a hose to a mask worn during sleeping hours. The mask can take several forms –

- Nasal cushions (over the nose only)
- Nasal pillows (inside the nostrils), and
- Full Face (over the nose and mouth)

The principle is the same in each case. Air is pumped continuously through the nose (or nose and mouth) at a pressure sufficient to keep the airways open. Breathing is then able to return to normal, with few apnoeas during sleep. The way the patient sleeps decides which mask type is most appropriate for them.

There is also variety in the CPAP machine –

- CPAP - pressure fixed at an appropriate level
- APAP – pressure varies as the patient needs it
- BiPAP – where the incoming and outgoing pressures are different for patient comfort

The combination of mask and machine types give the best patient experience, and the best chance of treatment success.

## RESPONSE TO TREATMENT

The response after using CPAP for the first few times for many patients is dramatic, with greatly improved sleep and disappearance of day-time sleepiness. It's therefore important that the patient is supported by the clinic in the initial stage, to ensure mask fit and cleaning practices. Although these devices are slightly cumbersome to wear, and it takes some people a few nights to get used to breathing out against the flow of air produced by the CPAP, the benefits far outweigh these slight disadvantages. The majority of people will find their lives much improved, and their families will thank them for it.

## The Sleep Apnoea Trust website is:

[www.sleep-apnoea-trust.org](http://www.sleep-apnoea-trust.org)

This is where you will find the most comprehensive, current and medically verified information available in the UK, relevant to the UK National Health Service.

## SLEEP APNOEA TRUST ASSOCIATION

*THE PATIENT'S VOICE*

*We work to improve the lives of Sleep Apnoea Patients, their partners and their families*

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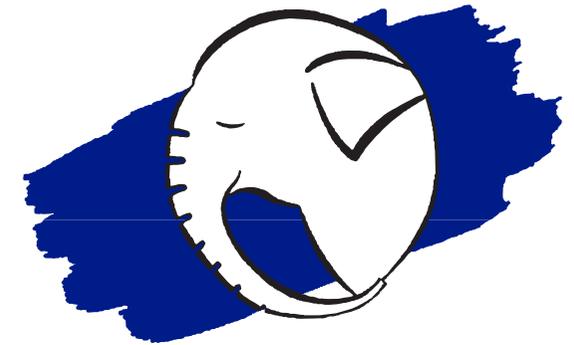
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# SNORING AND OBSTRUCTIVE SLEEP APNOEA

## THE FACTS

## SNORING

Snoring and the disturbance it causes can be a nuisance. It is very common and is usually not caused by anything serious; however it can sometimes indicate that there are problems with airway blockages during sleep – a condition called obstructive sleep apnoea (OSA).

Snoring is caused by your tongue, mouth, throat or the airways in your nose vibrating as you breathe. It happens because these parts of your body relax and narrow when you are asleep. Snoring is more likely if you are overweight, if you smoke, after drinking alcohol, or if you sleep on your back. Losing weight or sleeping on your side can often help reduce snoring.

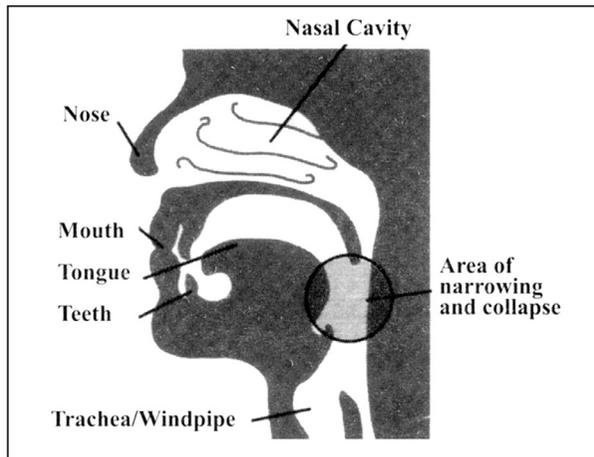
However, snoring is sometimes caused by OSA.

## OBSTRUCTIVE SLEEP APNOEA (OSA)

Obstructive sleep apnoea (OSA) is a relatively common condition where the muscles and soft tissues in the throat relax and collapse sufficiently to cause a total blockage of the airway. This blockage is called an apnoea when the airflow is blocked for 10 seconds or more.

People with OSA experience repeated airway blockages throughout the night. During each episode the effort to breathe in against the blocked airway triggers the brain to pull the patient out of deep sleep sufficient to reopen the airway and allow breathing to restart.

Sleep is therefore repeatedly disturbed, which can cause sleepiness and memory impairment. The sleep disruption or oxygen dipping may lead to high blood pressure, which could theoretically increase the chance of a stroke or heart attack.



## WHO GETS OSA?

It was previously thought that the type of person most at risk of OSA was an overweight middle-aged man with a large neck, usually taking a size 17-inch collar or more. However, it is increasingly the case that many younger and non-obese males are being diagnosed with sleep apnoea, as are females, and children, some quite young. In children with enlarged tonsils, OSA is a common reason for recommending that a young child has a tonsillectomy. If a child has OSA the symptoms of sleep deprivation can be similar to other childhood conditions such as ADHD (Attention Deficit Hyperactive Disorder). OSA, and heavy snoring severe enough to interfere with sleep quality, is more common than was previously realised. Latest estimates suggest that up to 4 million adults in the UK have OSA.

## SYMPTOMS OF OSA

Symptoms of OSA, which are often first apparent to a partner or family member, can include:

- Loud snoring
- Noisy & laboured breathing
- Repeated short periods where breathing is interrupted by gasping or snorting

Because sleep can be so disrupted by the body having to wake up briefly to reverse the upper airway obstruction, sufferers can experience excessive sleepiness during waking hours. This can interfere with many activities. Sufferers can fall asleep while talking or eating. Their work performance can be adversely affected, sometimes to the point of putting their job at risk. Sleepiness whilst driving can of course lead to road traffic accidents; OSA sufferers are up to 10 times more likely to have car accidents.

Snoring will usually have been present for many years and have gone well beyond a joke within the family. There are many other symptoms, as one might expect in someone who is seriously sleep deprived (memory impairment, irritability and loss of interest in relationships for example), but the symptoms of snoring, laboured and interrupted breathing, and excessive sleepiness are the best pointers to the diagnosis.

## DIAGNOSIS OF OSA

The presence of significant OSA may be strongly suspected from the symptoms. Often the individual's partner has read an article about OSA and recognises that this must be what their partner has. Once OSA is suspected, then a GP needs to refer the patient for a sleep study to confirm the diagnosis. A variety of measurements can be made during a sleep

study without discomfort. Oxygen levels in the blood can be continuously measured from a clip on the finger, and breathing can be monitored by probes at the entrance to the nose, and/or by electrodes on the chest and tummy. Sleep quality itself can be evaluated from cardiovascular markers (this is the commonest and most important way of evaluating sleep quality). Video recordings with sound are often used so that the doctor can actually see how badly the breathing is obstructed and the sleep disturbed and also to look for other causes of sleep disruption. Sleep studies can be carried out at home or in hospital.

## TREATMENT FOR SNORING AND OSA

If snoring is the major problem, and OSA is minimal, simple approaches can help.

### Simple things

- Advise your partner to use wax ear plugs rather than foam ones; they work much better if the partner is prepared to wear them. They are the only ones that reduce the low frequencies of snoring.
- Weight loss to reduce the neck size is nearly always helpful but difficult to achieve
- Reduce alcohol after 6 pm
- Stop smoking
- Keep the nose as clear as possible; this may need hay fever type medication such as Beconase.
- Elevate the head of the bed slightly so that one is sleeping propped up, by putting pillows under the mattress; then one pillow on the mattress to reduce any kink to the neck

This elevation of the head and shoulders seems to reduce nasal congestion and reduce the gravity effects that tend to narrow the airway.

### Dental Devices

A dental device, known as a Mandibular Advancement Device (MAD), can be used at night and can greatly reduce snoring; for some people this is effective at controlling mild sleep apnoea. The best devices are custom-made and expensive, and can be obtained from suitably-qualified dentists. As a first trial, an off-the-shelf MAD at a more affordable price can allow the patient to see if it can be tolerated, and many models are available. These can be purchased directly from the internet as a trial, though they may be less effective.

### Correction by Surgery

Evidence for surgery is poor, and as yet it is hard to predict who will benefit.