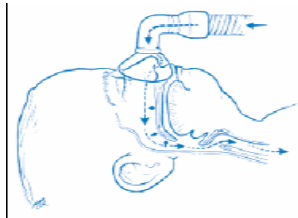


SLEEP APNOEA

air gently blowing through the nose, holding open the throat. The response is usually dramatic, with greatly improved sleep and the disappearance of daytime sleepiness.



CPAP: A nasal mask connected to a blower unit provides continuous pressure which holds open the upper airway and allows regular and normal breathing during sleep

The CPAP system should improve your nights sleep, leaving you feeling refreshed and alert during the day. It is safe and can be immediately effective. It can help to treat high blood pressure and is likely to reduce the risk of suffering a stroke or heart attack.

Side Effects

At first the use of a CPAP mask produces an unusual sensation when breathing out. It feels as if there is too much pressure stopping breathing. This sensation soon wears off. During the first week, nasal stuffiness and sneezing may occur, especially in colder weather. It often improves with warming the bedroom at night or using a humidifier with the CPAP machine. Sometimes the mask can make the bridge of your nose sore. It is important not to pull the headgear straps too tight. A special adhesive dressing can help protect your nose.

Sometimes a different mask can help. Occasionally an air leak from the nasal mask can irritate the eyes and air leak through the mouth can cause a dry mouth. A chin strap may be needed to overcome this problem.

Using your machine

It is important to use your machine every night. There can be a clock on your CPAP machine which works when the mask is on your face. Your hours of use can then be calculated.

Caring for your machine

The headgear can be washed in warm soapy water, rinsed and left to dry. This should be done at least once every two weeks. The nasal mask should be washed in the same way, using a soft brush if necessary. The CPAP unit should be disconnected from the mains electricity and a damp cloth can be used to clean the outside only.

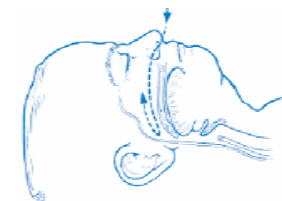


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What is sleep apnoea?

In the past, snoring and the disturbance it caused were generally regarded as a joke, about which little could be done. However, we now know snoring can indicate problems with breathing at night, which can be harmful to the snorer. During sleep all the body's muscles become relaxed. When the muscles behind the tongue, which help hold open the throat, relax, this leads to partial collapse and narrowing in this area. In normal people this increases the resistance of airflow when breathing in, but is usually not significant. When the narrowing is more than normal, the airway behind the tongue collapses much more, initially causing snoring and then, when the collapse is complete, *apnoea*, which means 'without breath'.



OSA: during sleep the airway narrows and obstructs breathing

Fortunately, the body is able to sense this increased obstruction to breathing and the sufferer wakes momentarily, in order to resume breathing. It is

deemed *normal to have 30 apnoeic episodes per night*; more than that is considered abnormal, with the obstruction and waking becoming a continuous cycle that can happen hundreds of times a night.

What causes sleep apnoea?

There are several causes, the most common being obstructive apnoea, accounting for 90% of cases. Anything that makes the throat narrower to start with (eg enlarged tonsils or a set-back lower jaw) enables the throat to close off more and block the airway. A partially blocked nose generates lower pressures in the throat on inhalation, which tends to suck the walls of the throat together. Probably the most important factor is being overweight, with a big neck. Extra fat in the neck squashes the throat from outside. Other contributory causes are: evening alcohol (increases relaxation of airway muscles), smoking, hypothyroidism and menopause. The prevalence of sleep apnoea is about double in men than in women of the same age and weight, affecting 1-2% of middle-aged men (around one in 50).

Symptoms of sleep apnoea

Because sleep can be so disrupted, sufferers experience severe daytime sleepiness. Initially this occurs only during potentially boring activities such as reading, watching television or driving on motorways. However, when the sleepiness gets worse it begins to interfere with most activities, with patients falling asleep talking or eating. Poor work performance, even

accidents can lose the sufferer his job and, of course, sleepiness whilst driving can be fatal (sleep apnoea sufferers are about seven times more likely to have car accidents). Other symptoms that can occur as a result of chronic sleep deprivation include depression, irritability, sexual dysfunction, and learning and memory difficulties.

OSA can be life-threatening. It is a risk factor for high blood pressure, heart attack, heart failure, and stroke. All these conditions occur more frequently in people with OSA.

Diagnosis of sleep apnoea

The presence of significant sleep apnoea may be strongly suspected from the history:

- Daytime sleepiness (not tiredness)
- Spouse noticed apnoeic episodes
- Patient experiencing waking with choking
- Regularly waking unrefreshed in the morning
- Neck circumference over 44.5cm (hence usually, but not always, overweight)
- Small pharynx noticed on visual inspection by doctor

Sleep Study

Once sleep apnoea is suspected, a sleep study is done to confirm the diagnosis. A variety of signals can be measured during sleep. Oxygen levels in the blood can be continuously measured from a clip on the finger, and breathing monitored from belts

around the chest and tummy. Sleep quality itself can be estimated from electrodes on the head, or from the number of body movements made during sleep. Video recordings will show how badly the breathing is obstructed and the sleep disturbed. This usually involves a night in hospital, but research is underway to develop reliable tests that can be done in the patient's own home.

Treatment

When sleep apnoea (and snoring) are not severe, simple approaches can help. Losing weight, avoiding alcohol after 6pm, keeping the nose clear, and sleeping on one's side or semi-propped up can all help. There are now simple dental devices, some of which are like sports-type gum shields, which when worn at night can greatly reduce snoring. When snoring is very objectionable, an operation on the back of the throat may help, but this is a last resort and should only be done when a sleep study has shown snoring alone with very little, or no, sleep apnoea.

The only really effective treatment currently used for bad sleep apnoea is nasal continuous positive airway pressure (nasal CPAP). Because the throat is collapsing, it can be held open by slightly pressurised air. To deliver this air, a mask is worn during sleep just over the nose and connected to a quiet little pump beside the bed. Breathing is then able to return to normal during sleep, with the