



Sleep apnoea

This factsheet has been written to help you understand more about sleep apnoea, what it is, what causes it, what the signs and symptoms are, how it can be diagnosed and what can be done about it.

What is it?

"Apnoea" literally means briefly stopping breathing. Obstructive sleep apnoea syndrome (or OSAS) describes a condition when there are frequent pauses in breathing during sleep. OSAS is quite a common disorder and affects around 4% of the population.

What is the cause?

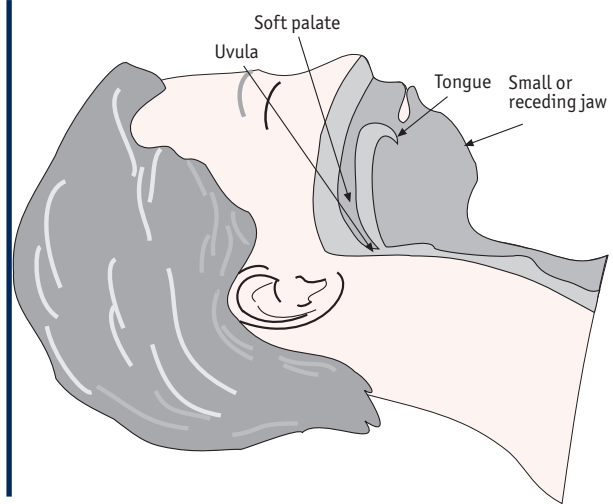
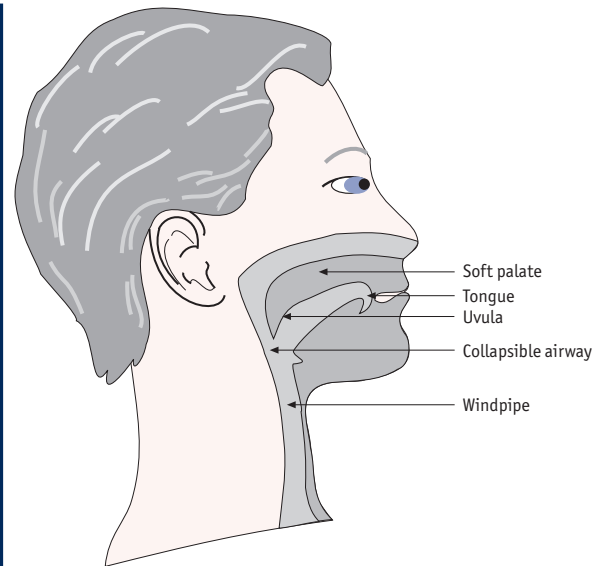
Sleep apnoeas are caused when the muscles in your soft palate, uvula (extension of the soft palate which hangs from the roof of the mouth down towards your tongue), tongue and tonsils relax during sleep, narrowing your airways so much that they close. This stops your breathing for a few seconds, cutting off the oxygen supply to your body and halting the removal of carbon dioxide. Because of this, your brain briefly wakes you up, re-opens your airways and re-starts your breathing. This occurs many times in a night in people with OSAS and makes proper sleep impossible.

What are the signs and symptoms?

Many people experience apnoeas during sleep. However, for a positive diagnosis of OSAS, a number of daytime and night-time symptoms should be present.

In the daytime, the main symptom is excessive daytime sleepiness (EDS). Other symptoms that you may experience during the day are related to disturbed sleep and EDS, and include tiredness, slight loss of memory, difficulty in concentrating, impaired performance at work or school, headaches and/or feeling sick in the morning, heartburn and feeling depressed.

During the night, snoring is common in OSAS patients, because it is also caused by narrowing of your airways. Your partner or friends may have witnessed a pause in your breathing on occasion and told you about it. You may also wake up some times feeling as though you are choking or gasping. Many patients with OSAS have insomnia. This may not show itself as a problem getting to sleep, but may be caused by sleep being regularly disturbed. Other night-time symptoms include wetting the bed, sweating and reduced libido or impotence.



How can it be diagnosed?

Polysomnography (a method of recording body measurements during sleep) is used to diagnose OSAS. This is usually carried out in a sleep laboratory, and provides full details on factors such as length and quality of sleep, breathing, position of the body and heart rate.

As there is often a long waiting list for the sleep laboratory, there are other ways to diagnose OSAS, including pulse oximetry, which measures the amount of oxygen in the blood at any time. Recordings can be taken over night and can be carried out at home. These recordings can be done simply and via non-invasive methods (e.g. a sensor worn on your index finger)

What can be done about it?

OSAS is not a life-threatening condition in itself, but it can affect your heart, as it has to work harder when the body is deprived of oxygen. This can result in serious problems such as heart failure.

OSAS can clearly have a great impact on the quality of your life, but it is easily managed and there are a number of self-care actions that you can take, as well as a number of treatments that may be suggested to you by your doctor.

Self-care actions

Weight loss has definite benefits for OSAS and can result in the improvement or disappearance of sleep-related breathing problems. Weight loss can be achieved by making changes to the diet and by doing regular exercise.

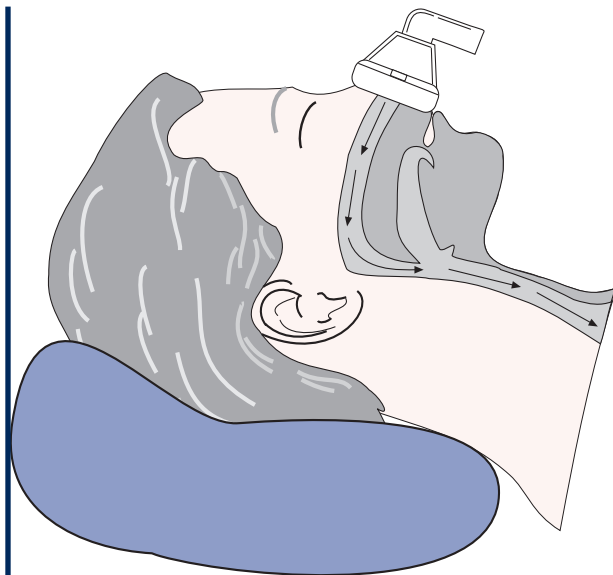
Snoring is often more pronounced when people sleep on their back. Similarly, OSAS patients experience more apnoeas in this position. Patients should try to sleep on their side or in alternative positions.

OSAS patients should reduce their intake of alcohol or cut it out completely, especially before bedtime.

Medical treatment

Your doctor may advise treatment overnight while you are sleeping. Treatment can be delivered by means of continuous positive airway pressure (CPAP), which forces air into the airways so that they do not close. This treatment will need to be continued for many months or even years, and some people may find sleeping with a mask on quite difficult. However, it is a very effective form of treatment for most patients.

Oral appliances can be used in the treatment of



The picture shows an example of a patient at night on nasal CPAP.

OSAS to help enlarge the airways, and they are custom made to fit your mouth. This treatment is not as effective as CPAP, but usually easier to tolerate. However, side-effects of treatment may include excessive salivation and some discomfort after removal of the device in the morning.

Surgery can be recommended if lifestyle changes and other treatments are not effective for OSAS. Surgery may also be recommended to move the jaw forward and enlarge the airways in cases where the jaw is deformed. Uvulopalatopharyngoplasty (or UPPP) is an operation to remove part of the soft palate and the tonsils, which enlarges the airways and reduces the chance of closure. This procedure is carried out under general anaesthetic and is only 30-50% effective. If the procedure is not successful, it may reduce the ability to use CPAP later on.

OSAS is a common disorder that can have major effects on your health and quality of life. However, the disease is easily treated and most patients will experience a dramatic improvement in their quality of life.

For additional information and links go to www.european-lung-foundation.org

This material was based on information from the article: McNicholas WT. Sleep apnoea syndrome. *Breathe* 2005; 1: 217-227.

OSAS and road traffic accidents

If you suffer from OSAS and are not being treated, then there is an increased probability of having a road traffic accident due to sleepiness at the wheel. Therefore, OSAS patients are advised not to drive and several EU countries have introduced strict regulations. Patients who are successfully treated for OSAS no longer pose an accident risk.



The ELF is the public voice of the European Respiratory Society (ERS), a non-profit-making medical organisation with more than 7,000 members in more than 100 countries. The ELF is dedicated to lung health throughout Europe, and draws together the leading European medical experts to provide patient information and raise public awareness about respiratory disease.