



Obstructive Sleep Apnoea Hypopnoea Syndrome (OSAHS)

What is it?

Obstructive sleep apnoea and hypopnoea (OSA, OSAH) are commonly occurring breathing events during normal sleep. However, if these events happen too often they cause severe daytime sleepiness and this is known as obstructive sleep apnoea hypopnoea syndrome (OSAHS). It is a common but under-diagnosed condition which affects night time breathing. It is about as common as asthma or diabetes.

OSAHS occurs due to repeated obstruction of the throat (between the lungs and mouth), causing either a complete blockage called an 'apnoea' (absence of flow) or a partial blockage called a 'hypopnoea' (reduction in flow).

Fortunately, the body is able to sense an apnoea/hypopnoea but this leads to you waking to a lighter stage of sleep, where you take a few deep breaths before falling back into deeper sleep. This may happen hundreds of times a night without you being aware of it.

As a result, the sleep can become disrupted and you can spend very little time in the deep, 'refreshing' stages of sleep.

What are the main symptoms?

- Excessive sleepiness during the day (EDS)
- Loud snoring
- Witnessed apnoeas/irregular breathing (often noticed by the bed partner)
- Poor concentration
- Poor memory
- Frequent night time urination
- Morning headaches

EDS can also be caused by simply not sleeping for long enough, in fact this is the commonest cause of this symptom.

Are some people more likely to get to than others?

The risk factors for OSA include;

- **Obesity** – overweight people have a greater risk of OSAHS. Usually, the heavier the person is, the worse the OSAHS although you can have OSAHS without being overweight. **Most doctors recommend exercise and a healthy diet for people with OSAHS to reduce weight and improve the condition**
- **Neck size** – a collar size greater than 16 inches
- **Anatomy** – small upper airway, large tongue, recessed chin
- **Snoring** – snoring means a person is more likely to develop OSAHS particularly if they become overweight
- **Age** – people over 40 years old are more likely to have OSAHS
- **Gender** – OSAHS is more common in men than in women

How do you know if someone has OSAHS?

Most people with moderate to severe OSAHS can be diagnosed using a pulse oximeter, which is worn overnight whilst asleep in your own home. It is a small machine attached to a band worn around the wrist. A detector attached to the machine will be fixed to a finger. Through this detector, the machine will measure the oxygen levels in the blood and your heart rate. If OSAHS is present, lots of drops or dips in the oxygen levels will be seen, along with increases in your heart rate. This shows the airway has become closed repeatedly and oxygen therefore cannot be passed from the air and through the lungs into your blood, where it is measured by the oximeter. The more dips seen in your oxygen levels per hour, the more severe the OSAHS is. In some cases more detailed tests using extra sensors may be necessary to diagnose OSAHS, especially in mild cases. This involves wearing a small Holter device during sleep which measures breathing effort using two bands (one round the stomach and one round the chest) and wearing small nasal prongs to measure nasal breathing.

Can OSAHS be treated?

Yes it can with a very successful treatment called continuous positive airway pressure (CPAP). This mask is attached to the CPAP machine via a tube. The machine blows air through this tube via the mask to keep the airway open, allowing normal breathing during sleep and preventing dips in oxygen. This helps deep refreshing sleep to occur therefore relieving the daytime tiredness or sleepiness seen in those with OSAHS. CPAP is the recommended treatment for the condition.

Important information about your CPAP mask.

Do not cover or block the small air holes or safety valve on your mask. These openings allow you to breathe out and keep you safe if the machine stops working or the power goes off.

Are there any other types of treatment?

There are other options for treatment including:

- **Weight loss:** Loss of excessive weight can improve the severity of OSAHS, even to a point where treatment (such as CPAP) may no longer be needed. Weight loss is always encouraged in overweight patients with OSAHS
- **Surgery:** This involves removal of a large portion of the soft tissue at the back of the throat. It is highly invasive and represents the biggest risk to the patient. Unfortunately there is a poor success rate for OSAHS and snoring
- **Mandibular Advancement Device (MAD):** This is a device that fixes inside the mouth and holds the lower jaw in a forward position. It is less invasive than surgery but can cause aching of the jaw in the morning. There is moderate success rate for OSAHS

What are the benefits of CPAP treatment?

By using your CPAP system regularly, you will get the restful sleep you need. For patients with severe

symptoms it can be a life-changing treatment.

To gain the full benefit from CPAP, it must be used every night of the week for the duration you are asleep.

Regular use should result in some or all of the following:

- Beneficial effects on cardiovascular health. Untreated OSAHS can lead to high blood pressure, heart attack and stroke
- Less daytime sleepiness
- Fewer awakenings at night (e.g. for the bathroom)
- Relief from morning headaches
- Improved memory
- Improved concentration
- More alertness
- More motivation
- Better work performance
- Less snoring
- Your bed partner should also benefit from a good night's sleep!

Will I have to buy my own machine?

You will not need to pay. The Sleep Unit will apply for funding from your GP to cover the cost of your treatment.

Are there any side effects or risks to the treatment?

As with any treatment, side effects can occur. However, the side effects associated with CPAP are rarely severe and easily resolved. The most common reason people do not use CPAP is poor comfort.

Common side effects and issues:

Mask seal problems

A small leak from the bottom of the mask is common and will not affect the performance of the CPAP device. However, a large leak or a leak into the eyes can be problematic. You can try tightening the headgear straps slightly at home, but bear in mind this can cause further problems. It is preferable to contact the Lung Function and Sleep department where experts can adjust the mask for you or even try a different style. There are many types of mask and it can sometimes take a number of attempts to find the most comfortable and effective mask.

Soreness on the nasal bridge

Soreness on the bridge of the nose is an indication that the mask is too tight at the top or a poor fit. The mask will either need refitting or replacing as the soreness can become worse over time. Contact the Lung Function and Sleep department immediately for advice – do not wait until your next appointment.

Throat dryness

A dry mouth is very common when using CPAP, particularly with a mask that covers the mouth. Usually a glass of water by the bed can be enough to resolve this however, humidification devices are available in severe cases.

Nasal problems

It is common to suffer from nasal stuffiness, sneezing and/or a running nose when you first start treatment. This should settle on its own. If it doesn't settle after a week, contact your GP and ask for a prescription for a nasal spray such as Flixonase, Beconase, or Nasonex. If you have a cold and your nose becomes blocked, you may not be able to use your CPAP machine for a night or two.

Driving with sleep apnoea

Driving when excessively sleepy (for whatever reason) is extremely dangerous, both to yourself and others

around you, and is considered so by law. In tests of simulated driving, OSAHS patients had worse driving performances than drivers over the alcohol limit.

If you are currently being tested for sleep apnoea, or waiting for treatment with CPAP, we advise that you avoid driving if sleepy but wait until you are reviewed in the sleep clinic by a specialist before informing the Driver and Vehicle Licensing Agency (DVLA).

The DVLA are rightly concerned with OSAHS patients who are sleepy while driving. If you have a diagnosis of OSAHS and experience excessive daytime sleepiness that is sufficient to affect your concentration and ability to drive safely, you are required by law to declare this to the DVLA. Failure to do so is a criminal offence and is punishable by a fine of up to £1,000

The contact details are below:

Drivers' Medical Enquiries

DVLA

Swansea

SA99 1TU

Telephone: 0300 790 6806

Monday to Friday, 8am to 7pm

Saturdays, 8am to 2pm

Website: <https://www.gov.uk/contact-the-dvla/y/driving-and-medical-issues>

You should also inform your motor insurance company that you have obstructive sleep apnoea as failure to disclose this information could make your policy invalid.

Patients whose OSA and sleepiness is well controlled with regular CPAP use, are legally able to drive. Therefore it is essential that the Lung Function & Sleep Department document your CPAP usage on a regular basis, particularly if you drive for a living (e.g. HGV Driver, Bus Driver etc).

Can I still go on holiday with CPAP?

It is always advisable to take your CPAP on holiday with you. Without it, the symptoms (e.g. sleepiness) can return fairly quickly, which could, amongst other things, affect your ability to drive.

All modern CPAP machines are capable of being used in countries with 110V power supply or with different mains frequencies, providing you to take an adaptor plug with you (readily available in electronics shops).

Travelling by air

The CPAP device is a medical piece of equipment and should be carried as hand luggage and NOT placed in the hold of the aircraft (as this can damage the machine). It is best to contact the airline you are travelling with to see what their policy is about medical equipment and hand baggage allowances as they do differ.

Some people have occasionally reported problems at Customs or Check-In when taking a CPAP machine abroad. Therefore, the Lung Function and Sleep department can provide you with a covering letter signed by your consultant. Please request this well in advance of your journey.

Outdoor holidays

When holidaying in a location with limited or no power supply (e.g. caravan, camping), arrangements must be made to ensure the CPAP device can be sufficiently powered.

You can purchase an adaptor lead to run the CPAP device from your car or caravan's cigarette lighter socket. Alternatively, they can be run from an independent 12V car battery or any suitable battery pack

(again with the specific adaptor lead). The Lung Function and Sleep department would be able to advise you about this.

Equipment maintenance

You will be shown how to change the air filter in your machine at your CPAP trial appointment which is the only machine maintenance required.

The machines are extremely reliable although if you feel that a fault has occurred or an unfamiliar message is displayed on the screen (e.g. "motor life exceeded") please contact the department for advice.

How do I clean the CPAP System?

There are a number of cleaning procedures that should be followed to ensure your equipment is kept in good order.

Daily:

It is important to wipe the mask around every 1-2 days with a damp cloth or even an antiseptic or baby wipe. Ensure the wipes do not contain alcohol or Lanolin, as these substances can rot the rubber of the mask. The more you look after your mask the longer it will last.

When the CPAP device is not in use, keep it stored in a safe place.

Weekly:

Mask

The mask will most likely need a better clean every week or two. To do this, separate mask from all attachments and wash it gently in warm, soapy water using a mild detergent e.g. washing-up liquid. Rinse with clean warm water and allow to **air dry** before using. **Do not dry near a source of direct heat.**

It is best to do this in the morning so the mask has time to dry before you need it again at night.

If you remove the headgear when cleaning, it is a good idea to mark a line on the headgear straps with permanent marker, so you know where to re-attach them after cleaning.

Tube

The same procedure can be used to clean the tube. Shake off all excess water after rinsing and hang the tubing vertically to allow the water to drain and dry completely.

CPAP machine

Disconnect from power supply before cleaning. **DO NOT** immerse the machine in water!

Wipe the machine with a clean, damp cloth and then dry with a soft cloth. Wait until machine is completely dry before reconnecting power supply.

Additional information

Sleep Apnoea Trust

Provides advice for patients with OSA; Helpline:

Address: PO Box 60, Chinnor, OX39 4XE

United Kingdom

Email: Info@sleep-apnoea-trust.org

Website: <https://sleep-apnoea-trust.org>

Association for Respiratory Technology & Physiology

Patient Information Sleep Disorders

Website: https://www.artp.org.uk/patient_information

Asthma + Lung UK

Website: <https://www.asthmaandlung.org.uk/conditions/obstructive-sleep-apnoea-osa>

NHS

Website: <https://www.nhs.uk/conditions/sleep-apnoea/>

Useful contacts

ResMed (UK) Ltd

Website: www.resmed.co.uk/contact/~component_2

Lung Function and Sleep

Address: Queen Elizabeth Hospital Birmingham
Mindelsohn Way, Edgbaston, Birmingham B15 2GW
Telephone: 0121 371 3870. Open Monday-Friday, 09:00-17:00
Email: CPAPenquiries@uhb.nhs.uk

Please use the space below to write down any questions you may have and bring this with you to your next appointment.

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