



CPAP Treatment for Obstructive Sleep Apnoea Hypopnoea Syndrome (OSAHS)

What is it?

Obstructive apnoeas (where breathing stops for a few moments) and hypopnoeas (where breathing effort reduces) can occur 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 that 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 can sense an apnoea/hypopnoea, which leads you to waking to a lighter stage of sleep, where you take a few deep breaths before falling back into deeper sleep. This may happen many 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** – if you are a man with a neck size of 17 inches or more or a woman with a neck size of 16 inches or more you are a higher risk of OSA
- **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 are used to diagnose OSAHS, especially in mild cases. This involves wearing a small 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 using a very successful treatment called continuous positive airway pressure (CPAP). This consists of a 'blowing' machine and a close-fitting face mask worn over the nose or the nose and mouth. 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.

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
- **Intra oral device (IOD):** 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.

Important information about your CPAP mask

Your mask has a built-in exhalation port (holes) to expel the air from the lungs out of the mask. You may feel this if you put your hand in front of your mask when you are wearing it. When you breathe out, you exhale carbon dioxide, which must be removed so that you do not rebreathe it. You must NEVER block or tamper with these holes or cover any part of the front of your mask or the 'elbow' of the mask. Thorough washing of the mask is essential to prevent the holes from becoming blocked with dirt.

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. Firstly, ensure the mask is clean; if the cushion is dirty, it will not maintain a seal. 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. If you are struggling, contact the Lung Function and Sleep department and the team will provide further advice and may be able to offer an alternative 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 that attach to your CPAP machine 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. In tests of simulated driving, OSAHS patients had worse driving performances than drivers over the alcohol limit.

If you have been diagnosed with OSAHS, it is required by law that you contact the Driver and Vehicle Licensing Agency (DVLA) and inform them of your condition, as it may affect your fitness to drive. 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 Group

DVLA

Swansea

SA99 1DL

Telephone: 0300 790 6806

(Monday – Friday, 08:00 – 17:30 & Saturday, 08:00 – 13:00)

Website: www.dvla.gov.uk

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.

However, patients whose OSA and sleepiness is well controlled with regular CPAP use, are legally able to drive. Therefore, it is essential that the Sleep Unit 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 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 a member of the lung function and sleep team. 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). If you require further advice, the Lung Function team may direct you to the manufacturer of the CPAP device or the Sleep Apnoea Trust for further information.

Equipment servicing

Your CPAP machine does not require servicing unless it is more than 5 years old or if you experience a fault when using the device. If you experience a fault when using CPAP, please contact the department. Furthermore, please ensure that at least once per month you:

- Thoroughly check the electrical lead of your CPAP machine for damage or wear. If the lead is damaged, do not use the machine and contact the department for advice
- Thoroughly check the connection where the lead plugs in to your machine. If it is worn or loose, do not use the machine and contact the department for advice
- Check the filter in the machine. If it is excessively dusty, remove it and either brush it gently to remove the dust or replace it as instructed. A filter will normally last between 6 months with normal use. You should be provided with spare filters each year; please contact the department if you have run out of these

If you wish to have your machine serviced each year, please contact the department for further advice.

Contacting the department

If you are experiencing issues with your CPAP therapy or require advice, the Lung Function and Sleep team at Good Hope Hospital can be contacted by:

Telephone: 0121 424 7229 or 0121 424 9020 (Monday to Friday, 09:00–17:00, with answer phone available for out of hours)

Email: GoodHope.Sleep@uhb.nhs.uk

How do I clean the CPAP System?

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

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.

Daily:

It is important to wipe the mask around every 1–2 days with a damp cloth. If cleaning fluid is used, manufacturers advise to clean the soft cushion part of the mask with a mild washing up detergent that does not contain moisturiser. 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 washing up detergent. 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!

Humidifier

If you have a humidifier (not all patients need one of these), you should clean this regularly

Daily:

Empty excess water from the humidifier chamber and clean the inside of the humidifier with warm water and a mild detergent.

Rinse the humidifier thoroughly and leave it to dry (out of direct sunlight).

Prior to use, refill the humidifier (but not above the max fill line) using water that has been boiled (to sterilize) and left to cool. Do not put hot water into the humidifier chamber, you must leave it to cool first.

Additional information

Sleep Apnoea Trust

Provides advice for patients with OSA.

Helpline: 0845 606 0685

Address: 12a Bakers Piece
Kingston Blount
Oxon, OX39 4SW

Website: www.sleep-apnoea-trust.org

The Sleep Apnoea Trust also provide information about Medical Alert Cards for OSA.

Association for Respiratory Technology & Physiology

Website: www.artp.org.uk

British Lung Foundation

Website: www.blf.org.uk/support-for-you/osa

NHS Direct

Website: www.nhsdirect.nhs.uk

Lung Function and Sleep

Good Hope Hospital, Rectory Road, Sutton Coldfield, B75 7RR

Telephone: 0121 424 7229

Accessibility

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