

# CPAP (continuous positive airway pressure)

**This leaflet provides further information about continuous positive airway pressure (CPAP) treatment, now that you have your CPAP equipment. Please keep it in a safe place as you may need to refer to it in the future.**

## Important numbers

For any queries regarding your CPAP treatment, and for replacement parts and machine faults, call: **Sleep Physiology - 0118 322 7954**

Please only leave messages on this number regarding consumables or for any advice you may require – this number is not for appointments, any machine issues please make an appointment via the clinical admin team (CAT11).

For appointments, ring the Clinical Admin Team (CAT 11) on 0118 322 6676 or email: [rbb-tr.CAT11@nhs.net](mailto:rbb-tr.CAT11@nhs.net)

How to use CPAP machine YouTube <https://youtu.be/LbLQTLNMxRw> or scan the QR code:



## Snoring and obstructive sleep apnoea

Nasal continuous positive airway pressure (CPAP, pronounced 'seepap') is used to treat the symptoms of obstructive sleep apnoea.

- **In obstructive sleep apnoea**, the upper part of the air passage, behind the tongue, narrows and collapses during sleep causing an interruption to breathing (apnoea). During the time that the air passage is closed, attempts to breathe are made but no air can pass to the lungs and therefore as the oxygen in the blood is used up by the body, the levels of oxygen in the blood fall. Eventually, the body detects these problems and the sufferer wakes up slightly, not usually enough to remember it, but just enough to open the air passage so that breathing can start again.

In severe cases, only a few breaths are taken before the sufferer drifts back into deeper sleep and the air passage collapses once again. The cycle of events can repeat itself many times during the night and although the apnoeas are not dangerous in themselves, each brief awakening required to re-open the air passage disrupts the normal sleep pattern. The end result is sleepiness during the day. Other symptoms that may occur in obstructive sleep apnoea are the need to pass urine frequently during the night and impotence. Both of these are usually resolved once treatment has been established.

- **Snoring** occurs when the air passage is narrowed and the air flowing through the narrowed air passage causes it to vibrate. Sucking air in through the narrowed air passage requires more effort and it is believed that this increased effort required to breathe causes repeated disturbances to sleep. If there is a lot of snoring throughout the night there can be a lot of sleep disruption and, as a consequence, there may be daytime sleepiness.

- You may have a problem with severe snoring and no obstructive sleep apnoea, or you may have a combination of both, with periods of obstructive sleep apnoea (for instance when you sleep on your back) and periods of snoring, or, you may have obstructive sleep apnoea throughout the whole of the night. Snoring is a milder form of airway narrowing and severe obstructive sleep apnoea is simply the other end of the spectrum. The severity of the problem will affect the amount of sleep disturbance there is and this in turn will affect the amount of daytime sleepiness that you may experience.

### **Nasal continuous positive airway pressure**

Since in both snoring and obstructive sleep apnoea, the interruptions to sleep are caused by either narrowing or complete collapse of the air passage, the treatment is designed to stop the air passage from narrowing during sleep. CPAP treatment increases the pressure in the air passage literally holding it open and this prevents any narrowing or collapse. Once the air passage is held open, breathing is completely normal and there are no interruptions to sleep. This treatment is therefore not a one night cure for the problem but will control the condition as long as the system is used.

### **Obstructive sleep apnoea (OSA)**

- Upper air passage collapses during sleep.
- Sufferer struggles to breathe.
- Brain woken briefly and breathing restarts.
- Cycle of events can happen as many as 400 times a night.
- Sleep is disturbed which may lead to **daytime** sleepiness.

### **Snoring**

- Throat narrows and vibrates causing noise of snoring.
- Sleep is disturbed because of the considerable effort required to breathe through the partially blocked throat.
- Disturbed sleep may lead to **daytime** sleepiness (though less common than in OSA).

### **CPAP**

- Stops airway narrowing/ collapsing by increasing pressure of air being breathed.
- This holds throat open when the CPAP is being used.
- Breathing becomes normal and sleep is undisturbed.

### **Parts of the CPAP system**

- **The CPAP machine:** The CPAP machine consists of a pump which sucks air in from the room, through a dust filter and blows it out under pressure. A number of different manufacturers make CPAP machines, and although they vary in size, shape, weight, and the number of additional features that they contain, their principle feature is to produce an air pressure to hold the airway open.

- **The CPAP mask:** The standard CPAP mask fits over either the nose or the mouth; if a nasal mask is required you have to be able to breathe through your nose and the mask sits comfortably over the nose. If a mouth breather you will require a full face mask that covers both the mouth and nose. A full face mask should rest against the bridge of the nose, just below the eyebrow level and the bottom of the mask should rest against the upper lip. Mask design varies between manufacturers but they share a number of common features. There is a flexible cushion which rests against the face (some masks have a second, very thin membrane in addition to this), a hard plastic shell with attachment points for the head straps, an inlet tube which the CPAP tubing (bringing the air from the machine) attaches to, and an outlet port (or ports) which allows the air which you breathe out to escape. The outlet ports may be in the mask itself, or in the inlet tube, or may consist of a separate tube or valve connected between the mask and tubing. A small amount of tenderness on the bridge of the nose is not uncommon in the early days. If it persists or is severe, you should contact the unit.

### **Fitting the CPAP system**

The easiest way of getting the mask on is to hold it in place over the nose with one hand and slide the straps over the head with the other hand. You can get used to feeling for and adjusting the straps at the front and sides. Adjust the head straps so that the mask fits snugly against the face. In general, it is best to get the head straps well down at the back of the neck so that the lower strap passes below the ears and adjust evenly on both sides. Once the blower is switched on, increase the tension on the straps gently if necessary to ensure that the mask fits without air leaking around it. You will probably need to readjust the straps again once you are lying down. If the mask is leaking, adjust by holding it firmly and pulling it well clear of the nose to let the cushion spring back into shape then let the mask re-settle on the face again.

It is best to experiment to find the best position for the blower and tubing to suit your preferred sleeping position and the restrictions of your bedroom. Many CPAP users find it best to place the blower towards the top of the bed so that the tubing can run from above and behind the head as this makes turning to either side easier.

### **What to try when using CPAP at home**

Don't forget to keep your mouth closed and breathe in and out through your nose when using the CPAP with the nasal mask, either with full face mask. It is normal to feel some resistance to breathing out, this is because you are having to breathe out against the incoming air. Your body will have no difficulty in doing this when you are asleep, but it can take a while to get used to this feeling. If you do open your mouth, the air will escape (i.e. it will travel up your nose and then come out of your mouth with the nasal masks), and this can make you feel as though you cannot get your breath. This, of course, makes it quite difficult to speak when using CPAP.

If you have been prescribed some nasal sprays, continue to use these regularly for at least the first two weeks on CPAP. If you are not having any nasal problems after this period then you can stop taking the sprays.

If you wake in the night and feel uncomfortable with the pressure of the machine, switch it off and take the mask off for a few minutes. Make sure that your nose has not become congested, clear the nose and use some nasal spray if you have one. Then put the mask back on, get it adjusted and comfortable before switching the machine on and remember to keep your mouth

closed and breath away slowly in and out through your nose. It may help to take a really deep breath in and then out through your nose. Some people who have been deprived of sleep for a long time find that they sleep really deeply on the first night as the body catches up with lost sleep. Occasionally, the body catches up with its lost dreaming sleep as well and people experience vivid dreams for a few nights when using the system. This does not continue once the body has adjusted to having a normal night's sleep once more.

Don't worry if you are not able to use the CPAP all night, especially at first. Even 3-4 hours with the CPAP is likely to improve the quality of your sleep.

When you wake in the morning, you may feel more refreshed than normal but some people take a few nights to feel any effects of the CPAP treatment.

### **The CPAP system consists of:**

- A pump to produce the pressurised air.
- A flexible length of tubing to carry the air to you.
- A close fitting mask worn over the nose with ports or a device to allow the exhaled air to escape.
- Head straps to hold mask on.

### **Using the CPAP system**

- Fit mask with CPAP turned off.
- Adjust head straps for a snug fit.
- Check and readjust head-straps when lying down.
- Position CPAP machine towards head of bed so that tubing comes from behind.
- Switch CPAP machine on and **breathe only through your nose** if you have a nasal mask or either through mouth or nose for a full face mask.
- Continue to use nasal sprays if prescribed.

### **The initial period**

This can be a difficult time when, in addition to coping with the CPAP equipment yourself, you may also have to cope with the reactions of your partner or other family members to the CPAP. You are encouraged to telephone one of the Sleep Unit Nurses if you are experiencing any problems (see also the following section on common problems and solutions).

You will have an appointment to return for review in approx. 6 to 8 weeks in some cases you may be offered 'AirView' which is a remote monitoring system. **Please remember to bring your machine and equipment with you to this appointment.**

At this appointment we will discuss how the treatment is going and address any problems you may be having.

By giving consent, you agree to your data being transmitted, processed and used in AirView. If however, you want to withdraw this consent, you can do so at any time without stating the reasons. To do that, simply contact the Respiratory Medicine Department in writing.

## Driving and obstructive sleep apnoea

You may be aware that the DVLA have regulations about driving and obstructive sleep apnoea. These regulations apply to people who suffer from daytime sleepiness as a result of their sleep apnoea and are diagnosed with '*Sleep Apnoea Syndrome*'.

Your consultant would have advised you on what course of action you need to take.

We are all responsible for our alertness while driving and it is the responsibility of each individual to ensure that they are not putting themselves or others at risk by driving when sleepy. Therefore, it is our advice to all our patients that they should not drive if sleepy **from any cause**.

If you think that you are suffering from excessive daytime sleepiness that could impair your driving, or have any concerns about the DVLA regulations, please call us.

## Some common CPAP problems and solutions

- **Claustrophobia:** It is not uncommon to take a while to get used to wearing the mask at night. Some people find that they are unable to keep the mask on all night and some people take it off in their sleep without being aware of it. If you are having problems wearing the mask, check first that you have it adjusted correctly with no leaks. Remember, if wearing a nasal mask only to **breathe through your nose all the time, keeping your mouth closed**. Often, a feeling of panic due to air rushing out of the mouth so remember to keep it closed all the time and try taking a few deep breaths in and out through your nose. *Do not worry if you are not able to keep the mask on for the whole night*. Even a few hours of good sleep with the mask on may be adequate to control your sleepiness and as you adapt to the system you will probably be able to wear it for longer periods.
- **Soreness on the nasal bridge:** If you find that the bridge of your nose is becoming reddened, try wearing the mask with the straps a little looser. It is not uncommon for this to happen in the early days but you should contact us if the skin becomes very inflamed and sore, or if loosening the straps causes too much air to leak from the mask.
- **Unable to get mask to seal:** Remember to adjust the mask with the blower turned off. First lift it clear of your face and then let it settle again to ensure that the mask cushion has not become distorted. Try adjusting the head straps; they may need to be slightly tighter. A small leak from the mask will not affect the pressure since the machine is designed to compensate. However, if the leak is into the eyes causing them to become red and to water then you should contact the unit.
- **Sneezing:** Occasionally, the CPAP treatment causes irritation to the nasal lining which results in sneezing and nasal streaming (rather like hay-fever). This may settle down on its own but if it does not then you can purchase Beconase spray from the pharmacist or ask your GP to prescribe other nasal sprays that cannot be brought from over the counter, the nasal spray helps to reduce the inflammation of the nasal lining and dry up the nose these are the best treatments. If you have already been prescribed nasal sprays continue to use these night and morning and the problem should ease. There are no problems with using Nasonex and Rinatec regularly if you need to and you should be able to get a repeat prescription from your GP.
- **Nasal congestion:** If your nose becomes blocked and congested during the night then it will be difficult to use the system. Once again, use the nasal sprays regularly to try and keep the nose really clear. If you have a cold, you may not be able to use the system for a night or

two. This will not do you any harm although you will not sleep as well. A few doses of a nasal decongestant that you can buy from the chemist (such as Otrivine) may help to clear your nose so that you can use the CPAP, but such decongestants **must not be used on a long term basis** (i.e. more than 5 nights) since they will end up by making the problem worse.

- **Machine noise:** If either you or your partner find the CPAP machine too noisy, then it can be safely put in a cupboard or box as long as there is a small amount of room around it for the air to circulate. If you wish to move the machine further away from you, then we can provide a second length of tubing and a connector so that this is possible. Ear plugs may be helpful and you can buy these from most chemists.
- **Mouth leak:** Once you are asleep, and as long as your nose remains clear, you will keep your mouth closed naturally. Very occasionally, people have problems with their mouth falling open during sleep and the air escape can cause the mouth to become very dry. You may be able to resolve this yourself by altering your sleeping position or the number and position of your pillows. If this does not solve the problem, it may be necessary to use an extra strap under the chin to hold the lower jaw up. The Sleep Unit will be able to advise on this problem and provide a chin support. A simple method is to use a towelling headband (available at most sports shops) around the head and under the chin. A large size Tubigrip bandage under the chin and over the top of the head will also work.
- **Coldness and drying of the nose and throat:** If this occurs, it may be helpful to keep the bedroom a little warmer and try and increase the humidity in the room with a tray of water above a radiator. It may also help to run the CPAP tubing under the bedclothes (a second length can be provided if necessary) so that it stays warm.

**If these measures do not help, or you would like more advice then please contact us.**

## **If you are admitted to hospital**

If you are admitted to hospital it is important that you tell the staff that you suffer from sleep apnoea and are being treated with CPAP. Please take your machine with you to continue using whilst in hospital and also continue to use it once discharged home again.

## **Routine care and maintenance**

- **Equipment cleaning:** It is best to wipe the mask around every day with a warm damp cloth. Wash the mask once a week in a warm soap solution using either simple soap, or any other non-perfumed soap, wiping the headwear with the same solution to prevent saturating headwear as it needs to be dry for the night. This is best done in the morning so that they will be dry for the next night. The headgear can be put in the washing machine on a gentle wash. The CPAP equipment should be cleaned at least once a week. Most CPAP machines have a dust filter that can be removed and washed or replaced. Please contact the department for replacements as needed. See the following two pages for full cleaning instructions...
- **Machine faults:** If your machine stops working, or you think that it is faulty in any way, please telephone us.
- **Replacement items (mask, headgear, etc):** If any parts of the breathing circuit need replacing, please call us. Replacement items are sent out by second-class post which leaves the hospital by 4pm, so please telephone early in the day if possible.

If you would like to collect the items yourself or see one of the Sleep Unit Nurses, **please telephone to arrange an appointment**. Unfortunately, we do not operate a 'drop-in' service due to the very large numbers of people using CPAP.

The CPAP equipment is expensive to replace, £130.00 for a mask + headgear and £500 per machine, so please take care of all your equipment and store it safely during the day.

Please note, that we can only deal with machine faults or requests for replacement items Monday to Friday. If you have problems with your machine or equipment over a weekend or Bank Holiday, please wait until the Sleep Unit is open again on the next working day. A night or two without your CPAP will not do you any harm.

## Follow up care

In between your appointments, you can contact us by telephone if you need help or advice. We keep a record of the equipment that you have so replacements can be sent by post if necessary.

## Travelling

If you are travelling abroad, the Sleep Unit can give you a letter to show the customs or security officials, should they ask you about your machine. You will also need to buy a travel adapter suitable for the country you are to visit.

**The CPAP machine should always be carried as hand luggage in an aircraft and must not be stowed in the hold.**

## Cleaning your CPAP

<b>MASK:</b>	<p><b>Daily</b> (Each mask should last 6-12 months)</p> <ul style="list-style-type: none"> <li>• Clean your mask cushion and headgear to remove any oils.</li> <li>• Gently rub with soap and warm, drinking-quality water.</li> <li>• Avoid using stronger cleaning products (washing up liquid) as they may damage the mask or leave harmful residue.</li> <li>• If using wipes; avoid perfumed wipes and baby wipes.</li> <li>• Leave to dry on a towel, keep away from direct sunlight.</li> </ul>
<b>UNIT:</b>	<p><b>Daily</b></p> <ul style="list-style-type: none"> <li>• Gently wipe clean.</li> </ul>
<b>TUBING:</b>	<p><b>Weekly</b> (Tubing should be replaced every 2 years)</p> <ul style="list-style-type: none"> <li>• Rinse inside and outside of tubing with mild soap and warm drinking-quality water.</li> <li>• Avoid using stronger cleaning products (washing up liquid) as they may damage the mask or leave harmful residue.</li> <li>• Rinse thoroughly with warm water.</li> <li>• Leave to dry on flat surface; avoiding direct sunlight.</li> </ul>

## Cleaning your CPAP (continued)

<p><b>FILTER:</b></p>	<p><b>Weekly</b> (Filters should be replaced every 3 months)</p>  <ul style="list-style-type: none"> <li>• Rinse with warm water to remove any dust leave to dry before returning to machine.</li> </ul>
<p><b>HUMIDIFIER:</b></p>	<p><b>Daily</b></p> <ul style="list-style-type: none"> <li>• Rinse with water.</li> <li>• Leave to dry on towel, away from direct sunlight.</li> <li>• Check for discolouration and that humidifier is clean and free of cracks.</li> </ul> <p><b>Weekly:</b> (Humidifier chambers should be replaced every 6-12 months)</p> <ul style="list-style-type: none"> <li>• Once a week; soak the humidifier tub in a solution of 1-part white vinegar and 1-part water for 15-20 minutes.</li> <li>• Rinse with water.</li> <li>• Leave to dry on towel; away from direct sunlight.</li> </ul>

To find out more about our Trust visit [www.royalberkshire.nhs.uk](http://www.royalberkshire.nhs.uk)

**Please ask if you need this information in another language or format.**

Sleep Unit, Respiratory Medicine, November 2022

Next review due: November 2024