



Northumbria Healthcare
NHS Foundation Trust

Sleep Apnoea and CPAP treatment

Issued by Lung Function Department

What is sleep apnoea?

People with Obstructive Sleep Apnoea (OSA) experience repetitive episodes of complete, or partial obstruction of the upper airway during sleep, preventing air from entering the lungs until the obstruction is overcome. These periods of obstruction of the airway (apnoeas), only become clinically significant if they last for more than 10 seconds each time, and occur more than 10 times every hour.

The lower airways (windpipe and airways leading into each lung), are held open by cartilage, the upper airway is fleshy and relies on muscle tone to keep it clear. When you are awake you have sufficient muscle tone to keep the upper airway open, however muscle tone is reduced when you fall asleep.

Various things can increase the risk of the upper airway collapsing during sleep:

- Obesity
- Narrowed airway (recessed lower jaw, large tongue or tonsils)
- Reduced muscle tone (due to drugs, including sleeping tablets and antidepressants, or alcohol)
- Blocked/partially blocked nose, making it harder to draw air into the chest.

When the airway collapses your body makes ever increasing efforts to overcome the obstruction until it succeeds, typically with a loud snort. These efforts tend to waken you partially or completely. You are usually unaware of these awakenings as they tend to be very brief. In people with OSA these episodes occur many times throughout the night, preventing them from getting enough deep restful sleep. As a consequence they tend to feel very sleepy during the day, which affects all aspects of daily life. Untreated severe sleep apnoea is associated with high blood pressure, type II diabetes, increased risk of cardiovascular events and stroke.

How do I know I have sleep apnoea?

People with sleep apnoea may complain of excessive daytime sleepiness often with irritability or restlessness, but it is normally the bed partner, family or friends, who notice the symptoms first.

Sufferers may experience some of the following:

- Loud heavy snoring, often interrupted by pauses and gasps.
- Excessive daytime sleepiness, e.g. falling asleep at work, whilst driving, during conversation or when watching TV. (This should not be confused with excessive tiredness with which we all suffer from time to time).
- Not refreshed after sleep.
- Irritability, short temper.
- Morning headaches.
- Forgetfulness.
- Changes in mood or behaviour.
- Anxiety or depression.
- Decreased interest in sex.
- Passing water overnight.

Remember, not everyone who has these symptoms will necessarily have sleep apnoea. There are many causes of disturbed sleep, and all people may experience some of these symptoms from time to time. People with sleep apnoea suffer some or all of these symptoms most of the time.

To determine whether you are suffering from sleep apnoea you must first undergo a 'sleep study'. This will usually involve taking a piece of equipment home to set up and wear overnight, which will record your breathing and oxygen levels during sleep.

You will be shown how to set it up when you attend the lung function department.

The recordings that are made are:

- chest and abdomen movements
- nose airflow and snore
- pulse oximetry - heart rate and blood oxygen level monitoring
- body position.

Treating sleep apnoea

Life-style changes, including weight loss and avoiding alcohol, are important but usually do not completely control OSA except if the condition is mild or the weight loss marked.

If the sleep study confirms you suffer from sleep apnoea you will usually be given a trial of Continuous Positive Airway Pressure (CPAP) therapy. This is the “gold standard” treatment for OSA.

A CPAP machine is a pump which blows air through tubing, connected to a mask that you wear over your nose or your nose and mouth. The air is blown at just enough pressure to splint your upper airway open, preventing it from collapsing during sleep. This is similar to inflating a bicycle tyre; when the tyre is flat you can easily pinch the side walls together, but this becomes very difficult once the tyre is inflated.

Benefits of CPAP

Once the airway is prevented from collapsing by CPAP you will achieve deep restful sleep. Your symptoms, including snoring and excessive sleepiness, should be controlled. Most patients tolerate CPAP and the response is often dramatic. In others it can take some time to get used to wearing the mask, however it is usually well worth the effort.

Care and maintenance of CPAP and mask

Every day: Mask cushions need to be wiped to remove sweat and grease which can accumulate and affect the seal. We would recommend a non-moisturising soap, washing up liquid is ideal (baby wipes and skin cleansing wipes are not recommended).

Every week: The complete mask needs to be thoroughly cleaned, the headgear needs to be washed, check your mask information leaflet. The tubing also needs to be rinsed and hung to dry. Wipe the CPAP unit with a clean damp cloth.

Every 3-6 months: Check the dust filter, clean or change if necessary, refer to the CPAP manual or check with the physiologist if you are not sure.

Every year: We will service your CPAP when you attend the sleep clinic for review, and replace mask parts as necessary.

If you use a humidifier:

Every day: chambers must be emptied and refilled, filtered water is recommended if you have a water filter jug or use pre-boiled cool water. Please refer to your humidifier manual for cleaning instructions.

Travelling

Please contact the department if you are travelling abroad, we can issue you with a letter for travel.

Warnings:

If there is visible damage or wear to the mains cable return immediately for replacement.

Never move the CPAP with the humidifier chamber in situ, water can cause serious damage to the CPAP unit.

Alternatives to CPAP

If you cannot tolerate CPAP therapy you may wish to try wearing a “mandibular advance device/splint”. This is a gum shield that holds the lower jaw forward, reducing the risk of the airway collapsing. These devices are best fitted by a dentist with relevant experience and are more appropriate in mild to moderate OSA.

Some patients only suffer from OSA when they sleep on their back. Patients can train themselves to avoid sleeping on their back, which may avoid the need for CPAP therapy.

Common strategies include:

1. Using 'training golf balls' stitched to a vest to make it uncomfortable to roll onto your back.
2. Using sleep position training belts or vibrating sensors which we can advise you about if necessary.

Risks

Up to one fifth of accidents on motorways and other monotonous roads and 10% of all accidents are caused by excessive sleepiness.

If you feel sleepy for any reason, or if your ability to concentrate is impaired, you must not drive.

If you are diagnosed with OSA and start CPAP, or alternative treatment, you will be able to drive once symptoms of undue sleepiness and poor concentration are controlled.

Most patients require CPAP; regular use of your mask system is important to maintain control of symptoms and to enable safe driving.

Driving with OSA

<https://www.gov.uk/obstructive-sleep-apnoea-and-driving>
It is every driver's responsibility to refer to and follow this guidance, please contact us if any further advice is required.

Sleep hygiene

Sleep hygiene is a variety of different practices that are necessary to have normal, quality night-time sleep and full daytime alertness.

What are some examples of good sleep hygiene?

The most important sleep hygiene measure is to maintain a regular sleep and wake pattern seven days a week. It is also important to spend an appropriate amount of time in bed, not too little, or too excessive. This may vary by individual; for example, if someone has a problem with daytime sleepiness, they should spend a minimum of 8 hours in bed, if they have difficulty sleeping at night, they should limit themselves to 7 hours in bed in order to keep the sleep pattern consolidated. In addition, good sleep hygiene practices include:

- Avoid napping during the day; it can disturb the normal pattern of sleep and wakefulness.
- Avoid stimulants such as caffeine (tea, coffee and chocolate), nicotine, and alcohol too close to bedtime. While alcohol is well known to speed the onset of sleep, it disrupts sleep in the second half as the body begins to metabolize the alcohol, causing arousal.
- Exercise can promote good sleep. Vigorous exercise should be taken in the morning or late afternoon. A relaxing exercise, like yoga, can be done before bed to help initiate a restful night's sleep.

- Food can be disruptive right before sleep; stay away from large meals and spicy food close to bedtime.
- Ensure adequate exposure to natural light. This is particularly important for older people who may not venture outside as frequently as children and adults. Light exposure helps maintain a healthy sleep-wake cycle.
- Establish a regular relaxing bedtime routine. Try to avoid emotionally upsetting conversations and activities before trying to go to sleep. Don't dwell on, or bring your problems to bed.
- Associate your bed with sleep. It's not a good idea to use your bed to watch TV, listen to the radio, or read.
- Make sure that the sleep environment is pleasant and relaxing. The bed should be comfortable, the room should not be too hot or cold, or too bright.

Why is it important to practice good sleep hygiene?

Sleep hygiene is important for everyone. A good sleep hygiene routine promotes healthy sleep and daytime alertness. Good sleep hygiene practices can prevent the development of sleep problems and disorders.

Contacts

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Wansbeck Hospital
Woodhorn Lane
Ashington, Northumberland NE63 9JJ

Email: LungFunctionDepartment@northumbria-healthcare.nhs.uk

The Lung Function Departments are open Monday to Friday
9.00am to 5.00pm.

In the event of problems occurring outside of normal working hours (Monday to Friday 9.00am-5.00pm), most patients will be able to manage for 1 or 2 nights without CPAP treatment, with no detriment to their health.

Please remember you must not drive if you are excessively tired. You will be seen at the earliest convenience when the department re-opens.

***Always phone before attending as staff will not be available every day.**

CPAP ‘out of hours’ service – for emergencies only

An “out of hours” service is available for emergencies only when the Lung Function department is closed.

Patients who have very severe Obstructive Sleep Apnoea (OSA), obesity hypoventilation, or a combination of lung disease and OSA, who feel they cannot manage without CPAP are the only patients who should use this service.

If you feel that you fit the criteria stated and that you need to seek emergency help regarding your CPAP; phone the switchboard on 03 44 811 8111 and ask for the ‘on call electronics engineer.’

You will then be speaking to an electronics engineer about the problem. If things cannot be fixed over the telephone, and the engineer thinks they need to see the equipment you will be asked to attend your nearest urgent care centre (Hexham, North Tyneside or Wansbeck).

The engineer will meet you there approximately 1 hour later, **please take your CPAP and mask with you.**

The engineer will be able to fix CPAP (compressor unit) problems in the event of a failure and, in the event of mask problems, be able to provide a basic hospital mask for short term use only.

You will then need to make an appointment to attend the Lung Function Department where usual service will resume.

Sleep apnoea websites

British Lung Foundation www.lunguk.org

Sleep Apnoea Trust www.sleep-apnoea-trust.org

British Snoring & Sleep Apnoea Association:
www.britishsnoring.co.uk

British Sleep Society www.sleeping.org.uk

DVLA www.dvla.gov.uk

Health and Safety Executive www.hse.gov.uk

Obstructive Sleep Apnoea Online www.osaonline.com

Alternative Formats

If you would like a copy of this information in large print, another language, audio tape or other format please call the Contact Centre on **03 44 811 8118**

Other sources of information

NHS 111

NHS Choices

www.nhs.uk/pages/homepage.aspx

NICE (National Institute for Health and Clinical Excellence)

www.nice.org.uk

Patient Advice and Liaison Service (PALS)

Freephone: **0800 032 0202**

Text: 01670 511098

Email: northoftynepals@nhct.nhs.uk

Northumbria Healthcare NHS Foundation Trust

General Enquiries **03 44 811 8111**

www.northumbria.nhs.uk

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