Patient Information

University Hospitals Coventry and Warwickshire NHS Trust

Respiratory Physiology

Sleep apnoea

Causes of sleep apnoea

The most common cause of sleep-disordered breathing is **obstructive sleep apnoea (OSA).** This happens when the muscles at the back of your throat relax too much during sleep. These muscles support your tongue, tonsils, and soft palate (the soft part of the roof of your mouth that helps with speech).

Once these muscles relax, your airway can narrow or become completely blocked. This reduces your oxygen supply, causing your brain to briefly wake you so your airways can reopen and you can breathe normally again.

We need different stages of sleep, including deep sleep, to feel fully refreshed. If you have fewer episodes of these stages, you may feel more tired during the day and experience other symptoms.

Symptoms of obstructive sleep apnoea OSA

People with **OSA** may experience some or all the following symptoms:

- snoring or snorting
- pauses in breathing during sleep (witnessed apnoeas)
- unrefreshing sleep
- morning headaches
- unexplained excessive sleepiness, tiredness or fatigue
- waking up during the night to urinate (nocturia)

- choking or gasping during sleep
- difficulty staying asleep (sleep fragmentation or insomnia)
- problems with memory or concentration (cognitive dysfunction)

If you experience 2 or more of these symptoms, you may have OSA.

Who is at higher risk?

OSA is more common in people with certain conditions, including:

- being overweight or obesity (this can include when pregnant)
- type 2 diabetes
- Down's Syndrome
- heart rhythm problems, especially atrial fibrillation
- chronic heart failure
- A large neck size (over 17 inches or 43 cm)
- A small or recessed jaw (retrognathia)
- large tonsils

If your doctor suspects that you have OSA, they will refer you to the hospital's Sleep Disordered Breathing service for diagnostic tests.

Diagnostic tests

Limited sleep studies

A limited sleep study is a common test used to investigate obstructive sleep apnoea (OSA). It involves:

- a **finger probe** (pulse oximetry) to measure your oxygen levels and pulse rate
- **belts** around your chest and abdominal to monitor breathing movements
- a **nasal flow sensor** to measure airflow from your nose.

This test is usually carried out at home and helps assess your breathing patterns during sleep. The next morning, you will return the machine to the hospital, where a trained physiologist will download and analyse the data.

Overnight oximetry

This is a simple screening test, which is usually done at home. You will be given a simple to use machine to wear while you are asleep. This machine measures:

- oxygen levels in your blood
- heart rate throughout the night

The next morning, you will return the machine to the hospital, where a trained physiologist will download and analyse the data. This test is often used as a secondary test to check if your treatment is maintaining stable oxygen levels overnight.

Completing the tests

You will be given a device to wear overnight to monitor your breathing while you sleep. You will also receive a questionnaire to assess how well you slept.

Please return the equipment by 10 am the next morning. If you are unable to return it on time, please call the Respiratory Physiology department on **024 7696 6734.**

Results

If the tests shows sleep-disordered breathing, you will be given an appointment to discuss the results and start a trial of continuous positive airways pressure (CPAP) treatment.

If the tests do not show a need for treatment, the results will be documented in a letter, which will be sent to both you and the doctor who referred you for the investigation.

How can you improve your OSA?

Here are some things that can help:

- lose weight if you are overweight
- do not drink alcohol for 4 to 6 hours before going to bed

- do not use sedative drugs
- stop smoking if you are a smoker
- try sleeping on your side or in a semi-propped position, particularly if you have been diagnosed with positional sleep disordered breathing/OSA.

OSA - driving and operating machinery

If you are a driver and have been diagnosed with obstructive sleep apnoea (OSA), you may have a legal requirement to tell the DVLA (Driver and Vehicle Licensing Agency) about your condition. Please refer to the DVLA patient information leaflet INF159 - Tiredness can kill, which is available from the DVLA either online or by telephone request.

The DVLA recommends that **all drivers** who experience daytime tiredness should stop driving until their condition has been diagnosed and treated. Once your daytime tiredness is resolved and if CPAP treatment is prescribed, you must demonstrate good compliance before being allowed to restart driving. This guidance applies to both **Class 1** (car/motorbike/van) and **Class 2** (HGV/PSV) licence holders.

It is very rare for a patient with obstructive sleep apnoea (OSA) who uses regular treatment to have their licence revoked by the DVLA. Further advice on DVLA regulations will be given when you start treatment.

If you experience daytime sleepiness, do not operate heavy machinery, as this could be dangerous.

For more information, please contact the DVLA:

Tel: 0300 790 6806

Website: www.direct.gov.uk/drivingandmedicalconditions

Useful Information

For more information on sleep apnoea, please contact:

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

Department contact details:

Telephone: 024 769 66734

Email: GMBsleep@uhcw.nhs.uk

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