

## Respiratory Physiology

### Sleep apnoea

#### What causes sleep apnoea?

The most common cause of sleep disordered breathing is **obstructive sleep apnoea (OSA)**, which is caused by the muscles in the back of your throat relaxing during sleep. These muscles support your tongue, tonsils, and soft palate (a muscle at the throat used in speech).

Once the muscle relaxes, the airway in your throat can narrow or become totally blocked. This interrupts the oxygen supply to the body which triggers your brain to pull you out of deep sleep so that your airways can reopen and you breathe normally again.

As you need a certain amount of deep sleep for you to feel fully refreshed, having limited episodes of deep sleep will make you feel tired the next day.

#### What are the symptoms of OSA?

Sufferers may experience all or some of the following symptoms:

- daytime tiredness
- loud snoring often broken with episodes of breath holding (apnoeas) and gasping of breath.
- morning headaches
- increased frequency of going to the toilet at night
- bad temper
- anxiety or depression
- forgetfulness or loss of concentration



### **How do I know I have OSA?**

If you suffer from two or more of the above, you may be suffering from OSA.

Risk factors include:

- obesity
- male (It is more common in men)
- aged 40 years or older
- taking medication or alcohol that has a sedative effect for example, sleeping pills or tranquilisers
- having a large neck (bigger than 17 inch or 43 cm)
- having a narrow, set back jaw or large tonsils

**If your doctor suspects that you may have OSA, you will be referred to the hospital's Sleep Disordered Breathing Service for diagnostic tests.**

### **Diagnostic tests**

#### **Overnight oximetry**

This is a simple screening test which is usually performed at home. You will be given a simple to use machine to take home and wear while you are asleep. This machine will measure the level of oxygen in your blood and your heart rate. You will return the machine to the hospital the next morning where the information can be downloaded on to a computer and analysed by a trained physiologist.

#### **Limited sleep studies**

If the overnight oximetry shows a negative or inconclusive result, you may be asked to perform a limited sleep study. A limited sleep study includes the finger probe of the pulse oximetry plus a belt to measure your chest movement (to check if you hold your breath) and an airflow sensor to check the airflow from your nose.

## Patient Information

### Performing tests

You will be issued with a piece of equipment to wear to monitor your breathing overnight. You will also be given a questionnaire to assess how well you slept.

You will be expected to return the equipment by 12pm the next day. If circumstances arise and you cannot return the equipment, please call the Respiratory Physiology Department on **024 7696 6729**.

### Results

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

If the tests are normal, then the results will be sent back to your consultant.

### How can I help myself?

Things that can make a difference include:

- losing weight if you are overweight
- not drinking alcohol for 4 to 6 hours before going to bed
- not using sedative drugs
- stopping smoking if you are a smoker
- sleeping on your side or in a semi-propped position

### 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 notify the DVLA (Driver and Vehicle Licensing Agency) of your condition.

The DVLA recommend that ALL drivers experiencing daytime tiredness to stop driving until they have had their condition diagnosed and treated. Once the daytime tiredness has been resolved, you will be allowed to resume driving. This guidance applies to both Class 1 (car/motorbike/van) and Class 2 (HGV/PSV) licence holders.

## Patient Information

It is very rare that a patient with obstructive sleep apnoea using regular treatment has their licence revoked by the DVLA. Further advice on DVLA regulations will be given when you commence treatment.

Also, if you do have daytime sleepiness, you should not operate heavy machinery as this could be dangerous

For more information contact the DVLA Tel: 0300 790 6806  
[www.direct.gov.uk/drivingandmedicalconditions](http://www.direct.gov.uk/drivingandmedicalconditions)

## Useful Information

For further information on Sleep apnoea contact:

**Sleep Apnoea Trust** [www.sleep-apnoea-trust.org](http://www.sleep-apnoea-trust.org)

The Trust has access to interpreting and translation services. If you need this information in another language or format, please contact 024 7696 6729 and we will do our best to meet your needs.

The Trust operates a smoke free policy.

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### Document History

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