

Sleep Apnoea and Cardiomyopathy

The link between sleep apnoea and cardiomyopathy

- Sleep apnoea is a condition where a person's breathing is briefly interrupted during sleep.
- There are three main types of sleep apnoea, with different causes.
- Sleep apnoea can be caused by, or be a risk factor for, some heart conditions.

What is sleep apnoea?

Sleep apnoea is a respiratory condition where a person's breathing is affected during sleep, causing periods of paused (stopped) breathing. These episodes, where breathing stops, usually last at least 10 seconds each time, but can happen throughout sleep, hundreds of times. It is therefore a serious condition and can have a big impact on quality of life as well as health.

What are the symptoms of sleep apnoea?

The person themselves may not be aware of their breathing being affected during sleep. However, this is often identified by a sleeping partner, or if they experience symptoms in the daytime.

Typical symptoms during sleep include:

- repeatedly waking up abruptly;
- breathing stops during sleep, and starts again, often with a gasp;
- snoring (this is more common in OSA than CSA – see descriptions on pages 2 and 3).

This can be very distressing for a sleeping partner to witness.

The person may be aware of the impact of their sleep being disturbed, which can include:

- feeling unrefreshed on waking (feeling like you've not had a good night's sleep);
- feeling very tired during the day;
- feeling drowsy;
- having low mood and being irritable;
- waking up with a headache;
- finding it hard to concentrate; and
- frequently falling asleep during waking hours (sometimes called 'excessive daytime sleepiness').

The condition can also contribute to problems with relationships due to partners having constantly disturbed sleep

How is sleep apnoea diagnosed?

If you have suspected sleep apnoea, a number of tests may help to diagnose it. To find out more, visit <https://sleep-apnoea-trust.org/>

What is the impact of sleep apnoea?

Sleep apnoea causes interrupted sleep, which may cause tiredness and excessive sleepiness during the daytime, which can have a profound effect on the person's quality of life. It also causes fluctuating oxygen levels during sleep, which can increase the risk of developing other health conditions in people with no underlying conditions, or worsen conditions in people who already have them (see page 3).

Types of sleep apnoea

There are different types of sleep apnoea. Here we look at two types – obstructive sleep apnoea and central sleep apnoea – which can have implications for people with heart conditions.

Obstructive sleep apnoea (OSA)

This is the most common type of sleep apnoea, and is called 'obstructive' because it's caused by an obstruction in the throat (airway) that prevents the person from breathing.

Risk factors for OSA include:

- gender – more men than women have OSA, although it is not clear why;
- age – OSA is more common in people 40 years or older;
- lifestyle – smoking, and drinking before going to sleep, can both affect OSA;
- being overweight and having a large neck size (often said a collar size of greater than 17 inches) – this can affect the amount of tissue in the neck area which puts pressure on the throat muscles, and also can cause breathing difficulties;



- genetics – a tendency to have OSA may be genetic and run in some families;
- taking sedatives – medication that can cause sedation (such as sleeping pills);
- the menopause – changes during this time might affect the throat muscles so that they relax more than usual; and
- structure of the neck or nose - such as narrowed airways, large tonsils or tongue, or experiencing nasal congestion can affect OSA.

How is OSA treated?

OSA is usually treatable, and there are a number of options to consider. These may need to be used on an ongoing basis (if they treat the symptoms but do not change the cause of the condition). To find out more, visit <https://www.asthmaandlung.org.uk/conditions/obstructive-sleep-apnoea-osa/treatment-osa>

OSA and driving

Excessive sleepiness means that you have difficulty concentrating and have found yourself falling asleep - for example while at work, watching television or when driving.

You must tell DVLA if you have:

- Confirmed moderate or severe obstructive sleep apnoea syndrome(OSAS), with excessive sleepiness
- Any other sleep condition that has caused excessive sleepiness for at least 3 months- including suspected or mild OSAS
- You must not drive until you are free from excessive sleepiness or until your symptoms are under control and you are strictly following any necessary treatment.

For more information about OSAS and driving visit <https://www.gov.uk/excessive-sleepiness-and-driving>

Central sleep apnoea

Central sleep apnoea (CSA) is less common than OSA. Here the person appears to not make any effort to breathe and so no oxygen enters the body. This is sometimes referred to as 'lack of respiratory effort'.

There are many possible causes of CSA, including:

- a problem with the part of the brain that controls breathing, which means that the brain stops

sending the signals that instruct the muscles of the body to breathe. This is sometimes referred to as 'reduced drive to breathe'; and

- a weakness in the muscles that control breathing.

How is CSA treated?

How CSA is treated depends on the cause of the condition, there are a number of options to consider.

Complex sleep apnoea (or mixed sleep apnoea)

Complex sleep apnoea is a rarer type of sleep apnoea that is a combination of OSA and CSA. It occurs in some people with OSA when they start treatment of their OSA with a CPAP machine. During this treatment they develop symptoms of CSA despite their CPAP machine treating their obstruction.

Sleep apnoea and cardiomyopathy

Having an existing heart condition can be a risk factor for developing sleep apnoea. And sleep apnoea can also be a risk factor for heart conditions, worsening conditions in those who already have them, as well as increasing the risk of developing heart conditions in those without.

Sleep apnoea is a significant risk factor for high blood pressure and cardiovascular disease (conditions of the heart and blood vessels) including strokes and a heart attack. It can also cause arrhythmias (abnormal heart rhythms) such as atrial fibrillation. In people with existing heart condition, the repeated fluctuating oxygen levels can increase the risk of arrhythmias.

Sleep apnoea can cause cardiovascular problems for the following reasons.

- The effort of trying to breathe in OSA can cause additional pressure on the heart to pump, which affects how well it works.
- The repeated sudden drops in oxygen levels that occur due to sleep apnoea can trigger an increase in blood pressure and heart rate (sometimes called the 'fight or flight response').
- Fluctuating in oxygen levels throughout the night, which can lead to the development of plaques in the blood vessels which can contribute to causing heart attacks or strokes.



Further reading about sleep apnoea

NHS Choices

www.nhs.uk/conditions/obstructive-sleep-apnoea

The Sleep Apnoea Trust

www.sleep-apnoea-trust.org The British Lung
Foundation www.blf.org.uk

Asthma and Lung UK

<https://www.asthmaandlung.org.uk/conditions/obstructive-sleep-apnoea-osa/cpap-machines-osa>

We are here for you

At Cardiomyopathy UK we offer help and support for you and your family. You can call our helpline to talk to our support nurses on 0800 018 1024. We can put you in contact with other people through our support groups, support volunteers and social media. Contact us for more about our services, or look online - www.cardiomyopathy.org.

Send your feedback to contact@cardiomyopathy.org

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