

CENTRAL SLEEP APNEA

WHAT IS CENTRAL SLEEP APNEA?

An apnea is a temporary cessation of breathing. When measured in a complex sleep study (polysomnography) there are rules by which abnormal breathing events are classified. These use airflow and breathing effort as measured by movement of the chest and abdomen.

When there is no airflow but there is effort to breathe, the apnea is called "Obstructive". When there is no airflow and no respiratory effort the apnea is called "Central". Mixed apneas start with no effort but effort develops during the course of the apnea.

When the majority of the abnormal breathing events are of the central pattern, the patient is said to have central sleep apnea. About 2-3% of patients with sleep disordered breathing have central sleep apnea (CSA).

As with obstructive sleep apnea (OSA) there are repeated interruptions to breathing during sleep that result in daytime sleepiness. Insomnia or difficulty sleeping may also be reported as well as breathlessness. Loud snoring is not such a common feature in CSA as it is in OSA.

CAUSES OF CSA

1. The brain may be slow to recognise or not respond to changes in oxygen and carbon dioxide levels when breathing decreases. This can occur in patients with longstanding obstructive sleep apnea due to dulling of the breathing reflexes. Heart failure may also cause central sleep apnea by causing a pattern of "over-breathing" followed by "under-breathing" or apnea due to slow circulation disturbing the normal reflex pathways. Other causes in this pattern of CSA include some medications (particularly narcotics) or strokes affecting the breathing centres in the midbrain.

2. Weakness of the diaphragm such as in



neuromuscular disorders (e.g. polio) or excessive stiffness and deformity of the chest wall may cause inadequate breathing (also called hypoventilation). In addition to symptoms of disturbed sleep, there may be symptoms of carbon dioxide retention, such as morning headache or confusion.

ASSESSMENT OF CSA

This requires a thorough evaluation of all possible causes and a sleep study.

WHAT CAN BE DONE?

1. Medications that can cause CSA (e.g. narcotics) may need to be reduced or stopped if possible. You may be able to try out medications that aim to stimulate your breathing.
2. Nasal CPAP may be effective.
3. Home ventilation may prove very successful, particularly in the neuromuscular weakness/chest wall conditions that cause hypoventilation (i.e. respiratory depression).
4. If you have heart failure, CSA should be treated with medication, sometimes in conjunction with oxygen therapy at night. You may also be able to try out a new type of auto-ventilator specifically designed to treat CSA due to heart failure if other treatments have not worked.
5. A diaphragm pacemaker is occasionally recommended (and has been used to treat spinal cord injury patients or congenital hypoventilation syndrome).

CONTACT INFO



www.sleepoz.org.au



admin@sleepoz.org.au



Sleep Disorders Australia

PO Box 5278 Algester Qld 4115

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ABOUT US

Sleep Disorders Australia (SDA) is a voluntary not-for-profit organisation that provides information and support to people affected by sleep disorders throughout Australia. SDA advocates the needs of people with sleep disorders by raising awareness of sleep disorders and their impact on our lives. We also offer support and education with regards to preventing and treating sleep disorders.

We would be delighted if you joined us. Membership is open to sufferers, family members, medical professionals, and the general public. You can join via our website or email our membership officer for more information.

If you would like to support us financially, you can donate via our website or send a cheque to our address.

DISCLAIMER: Information in this fact sheet is general in nature. It is not a substitute for professional medical advice. Discuss with your doctor if you are concerned about your sleep or other medical conditions.

