

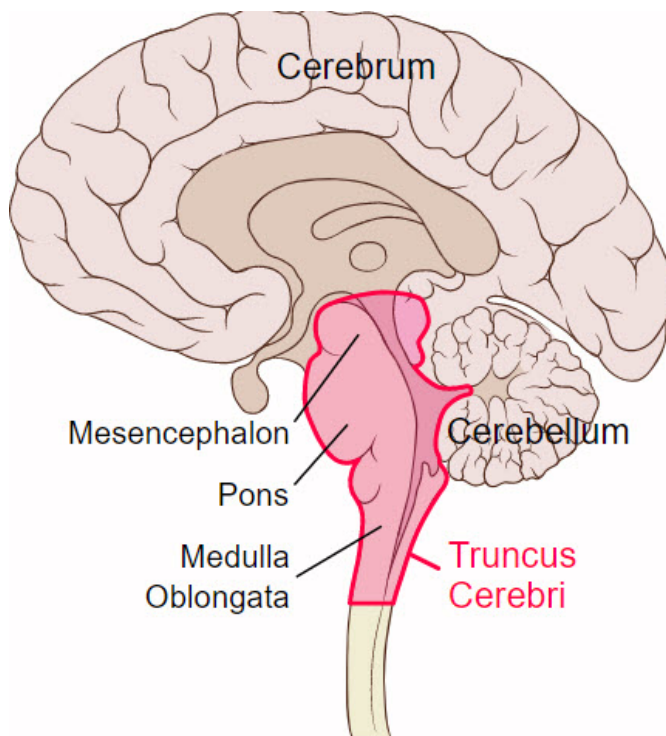


Central Apnea

What is Central Apnea?

Nerves from the area of the brain called the **brainstem** control breathing. Any damage to the brainstem or the spinal cord from things such as trauma, brain tumors and brain bleeds can cause breathing to be too shallow or stop all together. This is called **central apnea**. There are also genetic conditions (something you were born with) which effect the part of the nervous system that control breathing.

The brainstem is highlighted in pink in the image below. The brainstem is also called the truncus cerebri. The mesencephalon, pons, and medulla oblongata are parts of the brainstem.



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What are the symptoms of central apnea?

- The child does not breath on their own. This can occur during the night only or during the day and night
- High carbon dioxide levels
- Low oxygen levels
- The child is tired all the time and sleeps more than normal for their age

How is central apnea diagnosed?

- Sleep study
- Carbon dioxide levels
- Brain CT: Computed tomography, called CT or CAT scanning, is an x-ray system that uses a computer to take detailed images of the body.
- Brain MRI: Magnetic Resonance Imaging. This test is more commonly known as “MRI” or just “MR”. This test uses a strong magnet in order to create pictures.

How is central apnea treated?

- The treatment depends on when the central apnea occurs. If the central apnea occurs **only at night** treatments include:
 - Ventilator support- most often with a mask, however in very young children a tracheostomy maybe needed
 - Oxygen-for mild central sleep apnea at night
- If the apnea occurs **both day and night** a tracheostomy and ventilator support is likely the best treatment.
- For certain types of central apnea that need **daytime support**, phrenic nerve pacers (devices that send electrical impulses to muscles in the chest) may be used to allow the child to be off the ventilator during the day.

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Edited by: Karelyn Munro BA

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