CN X

CN X is also known as the vagus nerve. it is a motor, sensory and visceral nerve with several functions such as heart rate regulation, respiratory drive regulation, palate elevation, swallowing and talking. It is clinically assessed by checking for the ability to swallow, elevate the palate and maintain a midline uvula.



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Vagus Nerve
Vegas-sign
There are 4 major nuclei for the vagus nerve: the motor fibres originate in the nucleus ambiguous in the medulla; the special sensory (taste) fibers originate in the solitary nucleus; the parasympathetic output to the viscera originates from the dorsal nucleus of the vagus nerve; and somatic sensory fibers originate from the spinal trigeminal nucleus. The vagus nerve exits the skull through the jugular foramen.

Sensory
Sensor
CN X monitors aortic arch chemoreceptors and baroreceptors and it is responsible for taste from the epiglottic region.

Aortic Arch Chemoreceptors and Baroreceptors
A-Orca Key-receptor and Barrel-receptor
CN X helps regulate respiratory drive via aortic chemoreceptors and heart rate via aortic baroreceptors (only responds to increased blood pressure not decreased). Heart rate is also controlled since the vagus supplies parasympathetic innervation of the heart through innervation of the sinoatrial node.

Taste from Epiglottic Region
Epiglottis Taste-sensor
A pharyngeal branch of CN X is responsible for taste from the epiglottic region.

Motor
Motor
Clinical testing of the vagus nerve is via assessment of motor functions such as swallowing, palate elevation, and maintenance of a midline uvula.

Swallowing
Swallow
CN X is responsible for swallowing along with CN IX.

Palate Elevation
Palette Elevator
A pharyngeal branch of CN X supplies the muscles of the palate.

Talking
Walkie-talkie
The recurrent laryngeal nerve, a branch of CN X, is responsible for muscle movements in the mouth that allow for speech.

Coughing
Coughing-coffee
If a patient cannot cough it suggests damage to laryngeal function.

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Midline Uvula

Uvula with Midline

The vagus nerve maintains a midline uvula. If there is damage, the uvula deviates away from the side of the lesion.

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