

## "Accessory Nerve (Cranial Nerve XI)"

- Type: Motor nerve
- Formation: Union of a cranial and spinal root

### "Cranial Root"

- Origin: Axons of nerve cells in the nucleus ambiguus
- Nucleus Input: Receives corticonuclear fibers from both cerebral hemispheres

#### » Efferent Fiber Pathway:

- Emerge from the anterior surface of the medulla oblongata, between the olive and the inferior cerebellar peduncle

#### » Cranial Root Course

##### > Path in Skull:

- Runs laterally in the posterior cranial fossa, joins the spinal root, and exits the skull through the jugular foramen

> Separation and Distribution:

- Separates from the spinal root
- Joins the vagus nerve, distributing through the pharyngeal and recurrent laryngeal branches
- Supplies muscles of the soft palate, pharynx, and larynx

### "Spinal Root"

- Origin: Axons from the spinal nucleus in the anterior gray column of the spinal cord (upper five cervical segments)
- Nucleus Input: Likely receives corticospinal fibers from both cerebral hemispheres

### » Spinal Root Course

> Emergence:

- Fibers exit the spinal cord between the anterior and posterior nerve roots of the cervical spinal nerves



### > Path in Skull:

- Ascends into the skull via the foramen magnum, joins cranial root, exits through the jugular foramen

### > Separation and Muscular Supply:

- Separates from cranial root, descends laterally, and supplies:
- Sternocleidomastoid (SCM) Muscle: Enters the deep surface of SCM and innervates it
- Trapezius Muscle: Crosses the posterior triangle of the neck, supplies trapezius beneath its surface

### » Functional Role

- Role in movement control
- Soft palate, pharynx, larynx
- Sternocleidomastoid and trapezius muscles in the neck