

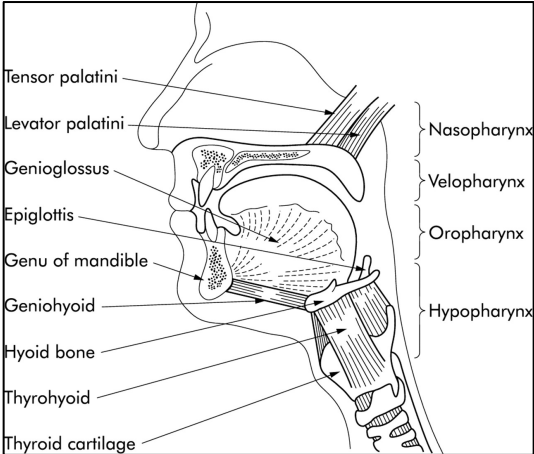
# Airway Anatomy & Innervation

**Anesthetic Pearls:** Anesthetic Implications of Airway Anatomy and Innervation

**Upper Airway Innervation**

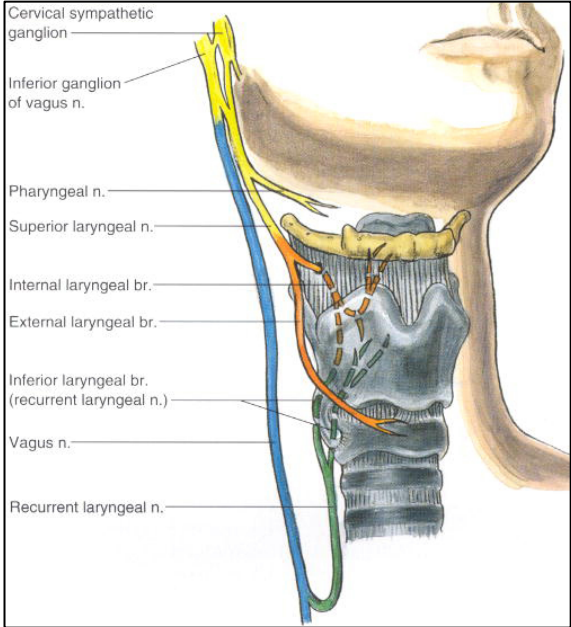
Sensory - 4 main areas (simplified)

1. Nose – branches of the Trigeminal nerve (CN-5)
2. Oropharynx & Tongue – Glossopharyngeal branches (CN-9)
3. Epiglottis to top of chords – Superior Laryngeal nerve (both divisions) (CN-10)
4. Below chords – Recurrent Laryngeal nerve (CN-10)



**Three Main Nerves of the Upper Airway**

<u>Nerve</u>	<u>Sensory</u>	<u>Motor</u>
<b>1. Superior Laryngeal -Internal Division</b>	Epiglottis to top of vocal chords	None
<b>2. Superior Laryngeal -External Division</b>	None	<b>Cricothyroid</b> muscle (adduction of chords)
<b>3. Recurrent Laryngeal</b>	Tissue below vocal chords	All intrinsic muscles of the larynx ( <b>except</b> Cricothyroid)



The external division of the Superior Laryngeal Nerve is important because it innervates the only tensor of the vocal cords (if unopposed bilaterally may lead to complete airway obstruction).

**Local Anesthesia for the Upper Airway**

1. Nose – Hurrricane / Lidocaine spray or topical Cocaine (Trigeminal n.)
2. Oropharynx & Tongue – Hurrricane spray or viscous Lidocaine gargle (Glossopharyngeal n.)
3. Epiglottis to top of chords – Lidocaine injection at tip of greater cornu of hyoid bone (blocks both divisions of the Superior Laryngeal n.)
4. Below chords – transtracheal injection of Lidocaine or nebulized Lidocaine spray (Recurrent Laryngeal n.)