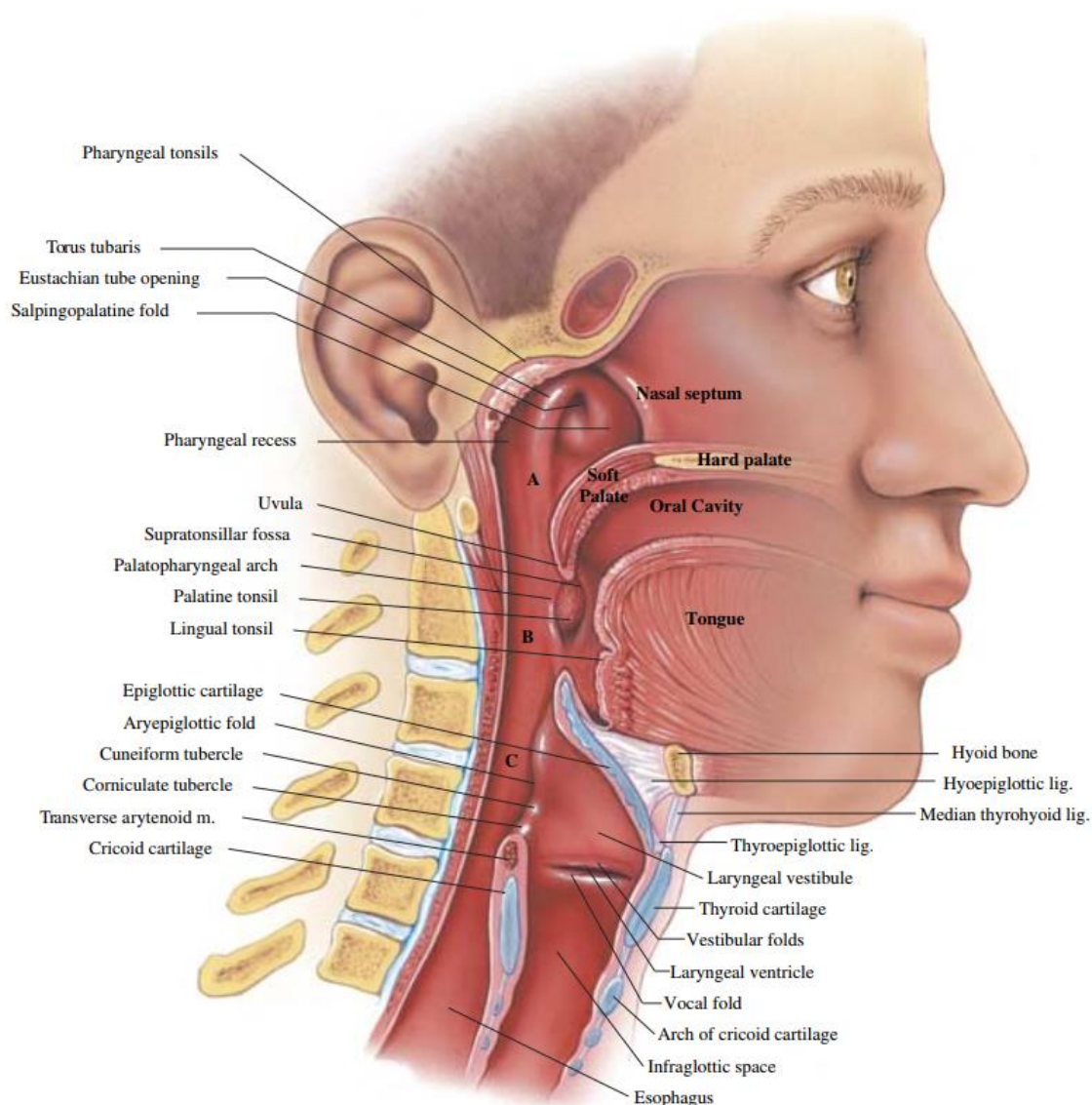


## Laryngeal Anatomy

The larynx is composed of:

- 2 unpaired cartilages (thyroid cartilage, cricoid cartilage)
- 3 paired cartilages (arytenoids, cuneiform, and corniculate cartilages)

The arytenoid cartilages are attached to the true vocal folds, which is made up of squamous epithelium, 3 layers of subepithelial lamina propria, and the thyroarytenoid muscle. Within the lamina propria, extracellular matrices filled with collagen and elastin lend the vocal fold its vibratory properties. The anterior two-third of the vocal folds, known as the membranous portion, predominately functions in vibration, whereas the posterior cartilaginous portion coordinates the glottic aperture during respiration. With the lungs as the power supply for air movement, phonation occurs from the vibration of the vocal folds as they approximate each other, and this process is orchestrated by paired movements of intrinsic laryngeal muscle<sup>1</sup>.

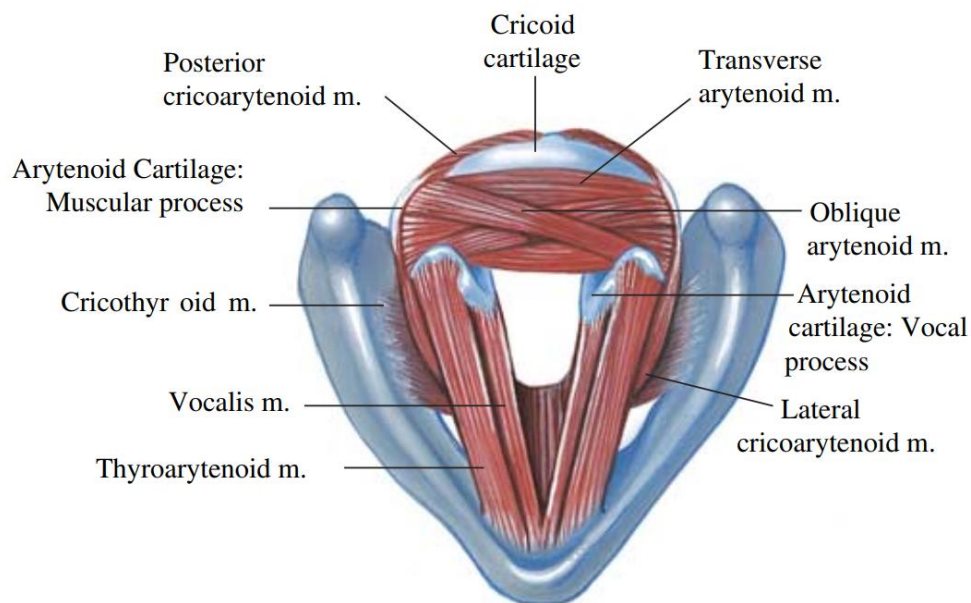


The intrinsic laryngeal muscles are responsible for synchronized adduction, abduction, and tension of the vocal folds.

The muscles critical to phonation are the thyroarytenoid, posterior cricoarytenoid, lateral cricoarytenoid, interarytenoid, and the cricothyroid muscles.

- The only abductor of the vocal folds is the posterior cricoarytenoid muscle
- The other muscles work in concert to adduct and tense the folds

These muscles are innervated by the recurrent laryngeal nerves, except for the cricothyroid muscle which is innervated by the external branch of the superior laryngeal nerves.



From: Chen DW, Ongkasuwan J. Spasmodic Dysphonia. *Int Ophthalmol Clin* 2018; 58: 77–87.