

- FUNCTIONS OF THE LARYNX -

❖ Respiratory airway:

- The larynx has a rigid cartilaginous framework that prevents its collapse on inspiration.
- In quiet respiration, the glottis is about 8mm and in forced respiration it is 16mm in diameter.

❖ Airway Protection:

- It is the most important function of the larynx to protect the lower airway against inhalation during the second stage of swallowing or on laryngeal irritation.
- It is a reflex function and entirely involuntary. The following occur:
 - Reflex closure of the larynx by: (fig 11)
 - 3 tire closure of the larynx by adduction of the vocal folds, vestibular bands and aryepiglottic folds
 - Mechanical factors: elevation and forward rotation of the larynx (by contraction of the longitudinal muscles of the pharynx) with backward tilt of the epiglottis to close the laryngeal inlet; and the base of the tongue overhangs the laryngeal inlet
 - Reflex apnoea
 - Relaxation of the cricopharyngeal sphincter
 - Reflex cough: Deep inspiration followed by deep expiration against closed glottis → ↑ intra-thoracic and intra-abdominal pressure, followed by opening of the glottis → clearance of any FB in the respiratory tract, if the previous protection fails

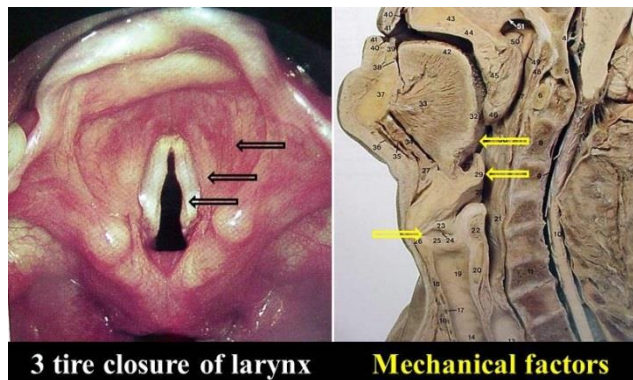


Fig (11) Airway protection of the larynx

❖ Voice production (phonation): By vibration of the adducted and tensed vocal folds.

❖ Chest fixation (effort closure): Inspiration followed by closure of the glottis to ↑ the intra-thoracic and intra-abdominal pressure with chest fixation during climbing, carrying heavy objects, straining in micturition, defecation and labor.