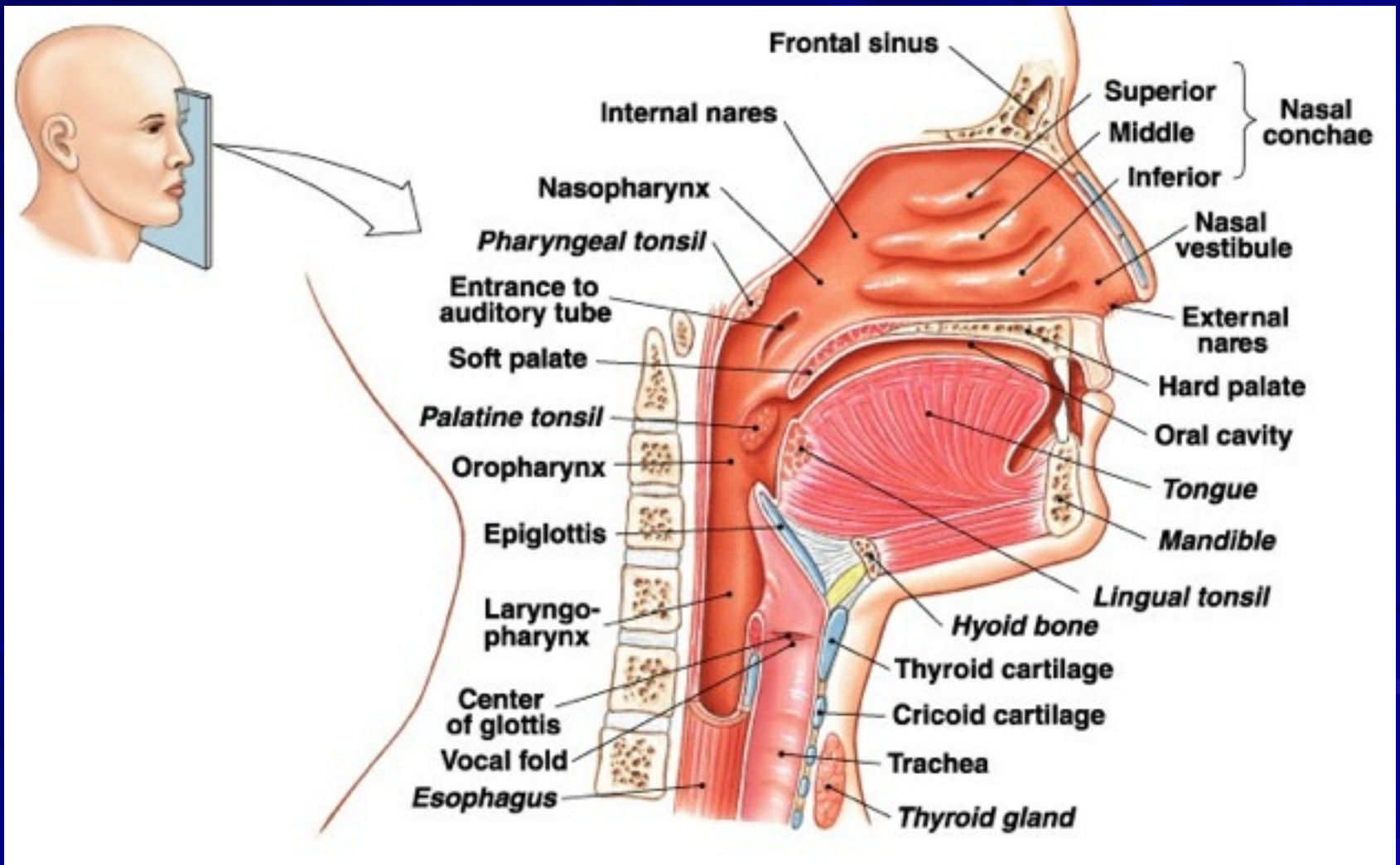
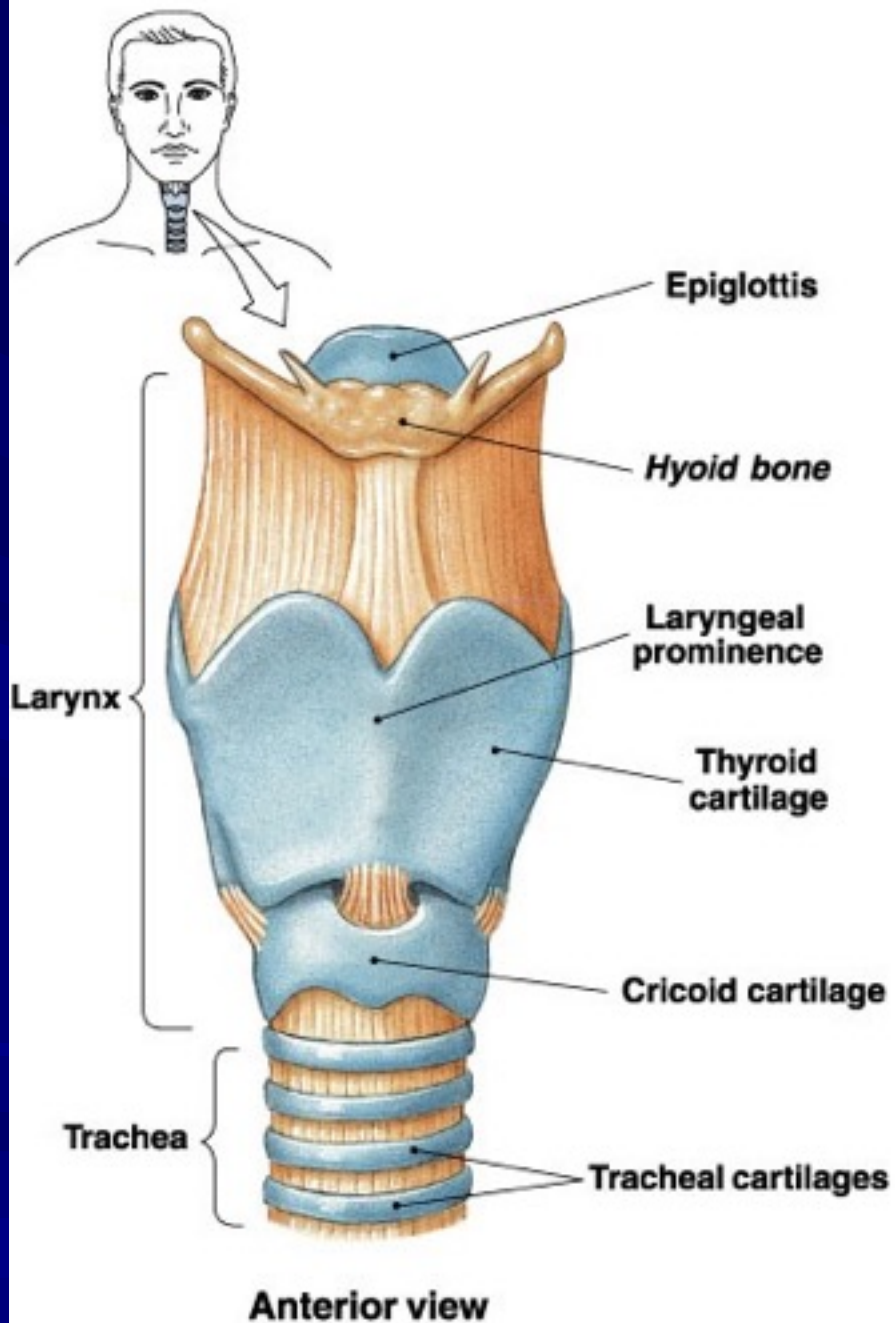


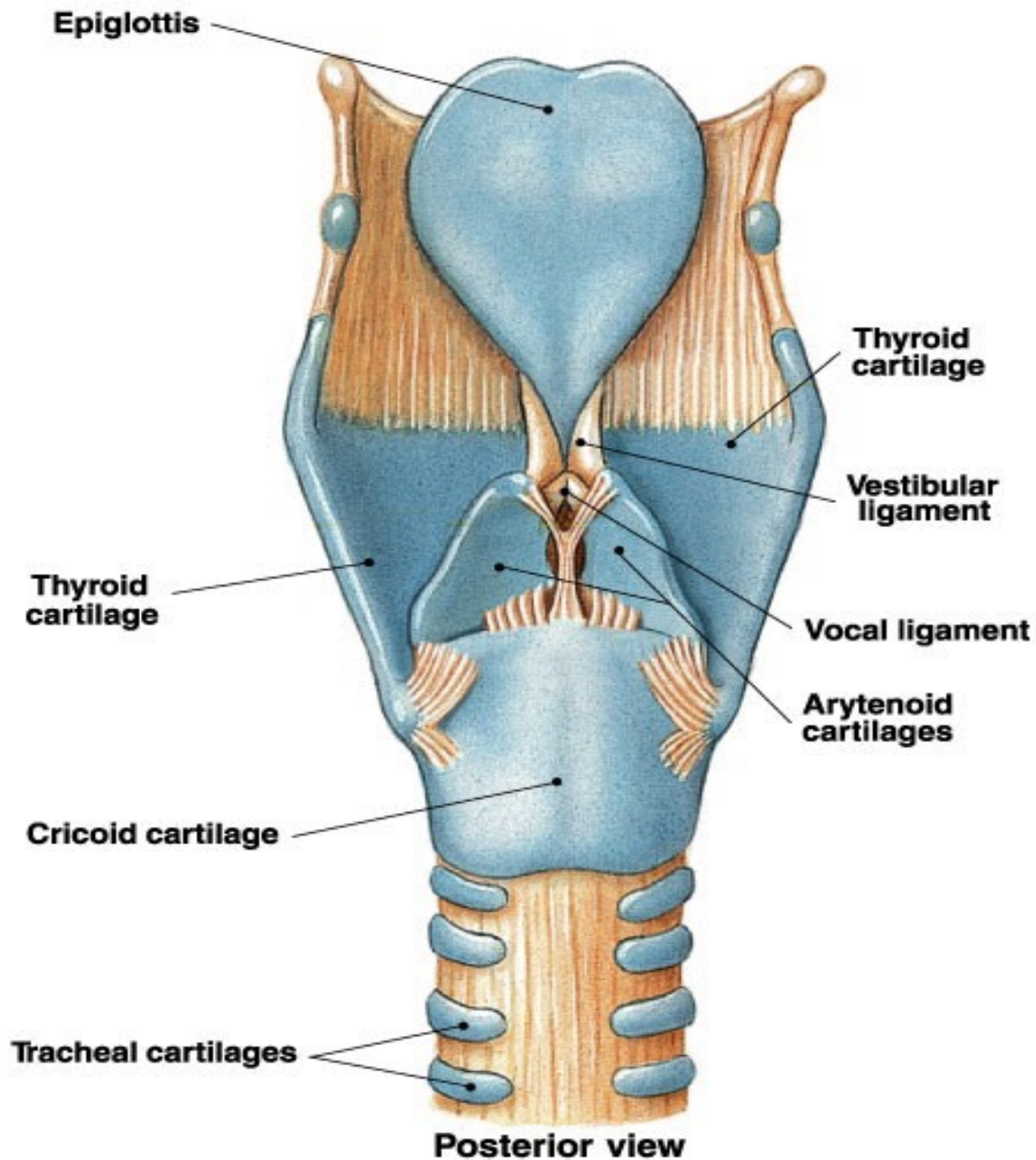
# Laryngeal physiology

M. Din

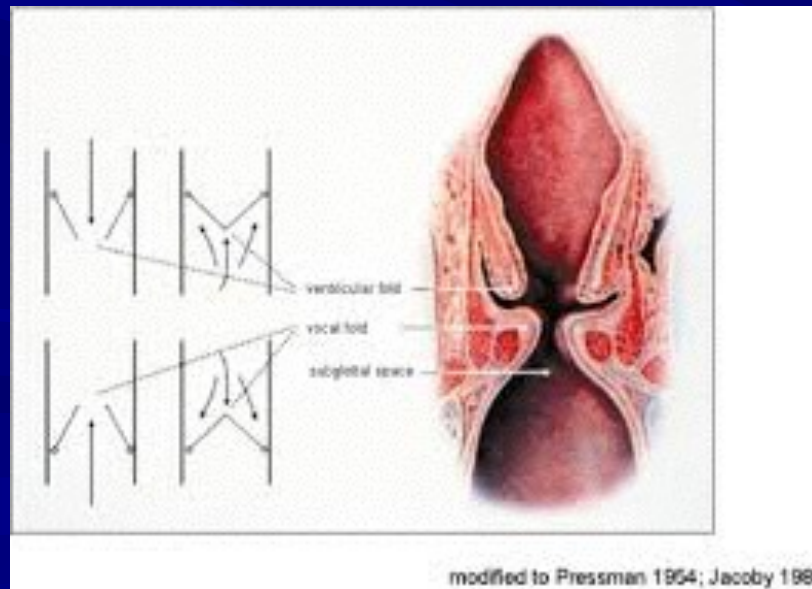
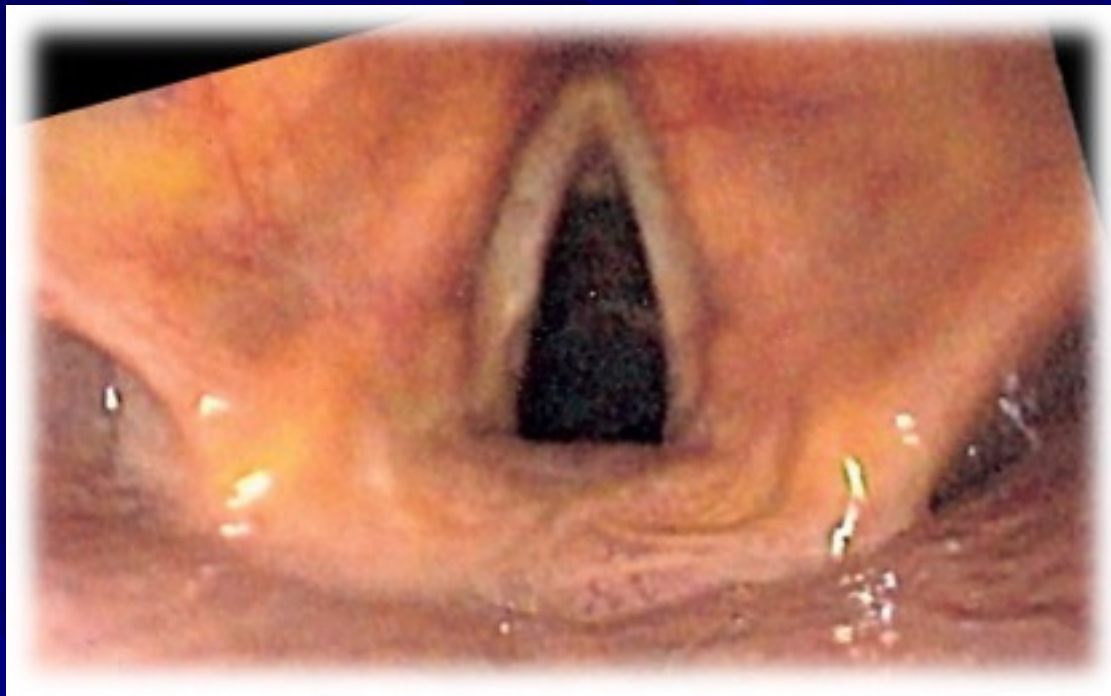
# Nasal Cavity and Pharynx









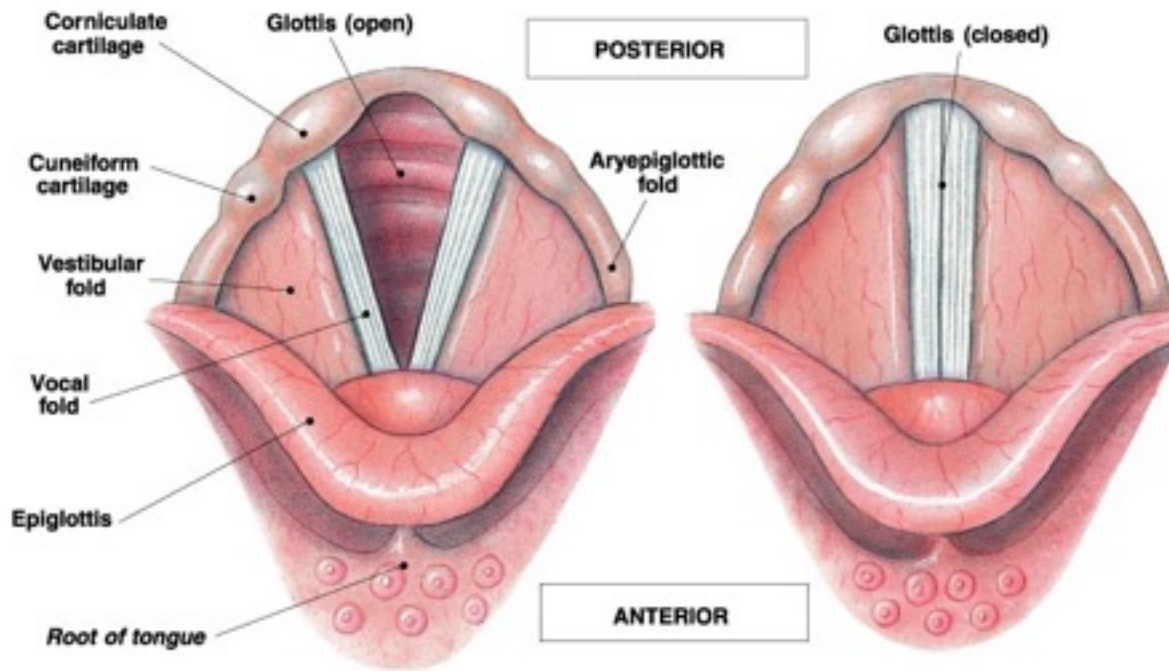


modified to Pressman 1954; Jacoby 1987

# Action of the larynx

- Abduction
- Adduction
- Closure
  - Vocal, vestibular, ary-epiglottic folds
- Change in tension
- Change in size of rima glottidis

# Glottis



# Functions of the larynx

- Respiratory
- Protective
- Effort
- Phonation



# Respiratory

- Conduction

- In inspiration

  - Abduction

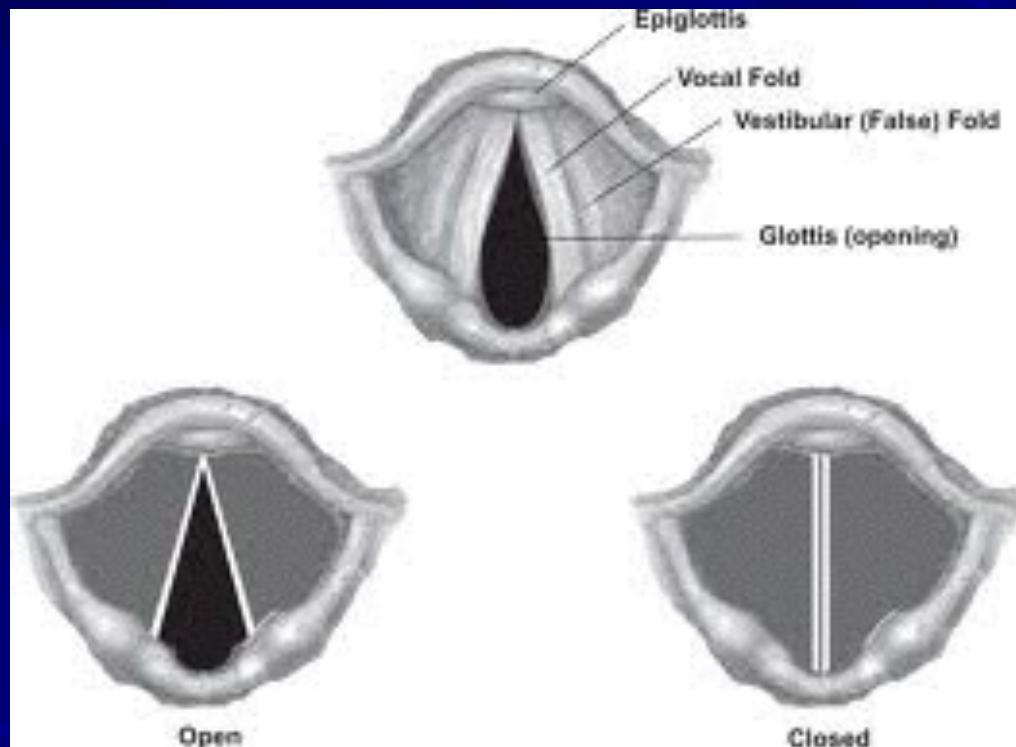
    - Active due to laryngeal muscle activity

    - Passive, due to pulling down of trachea

- In expiration

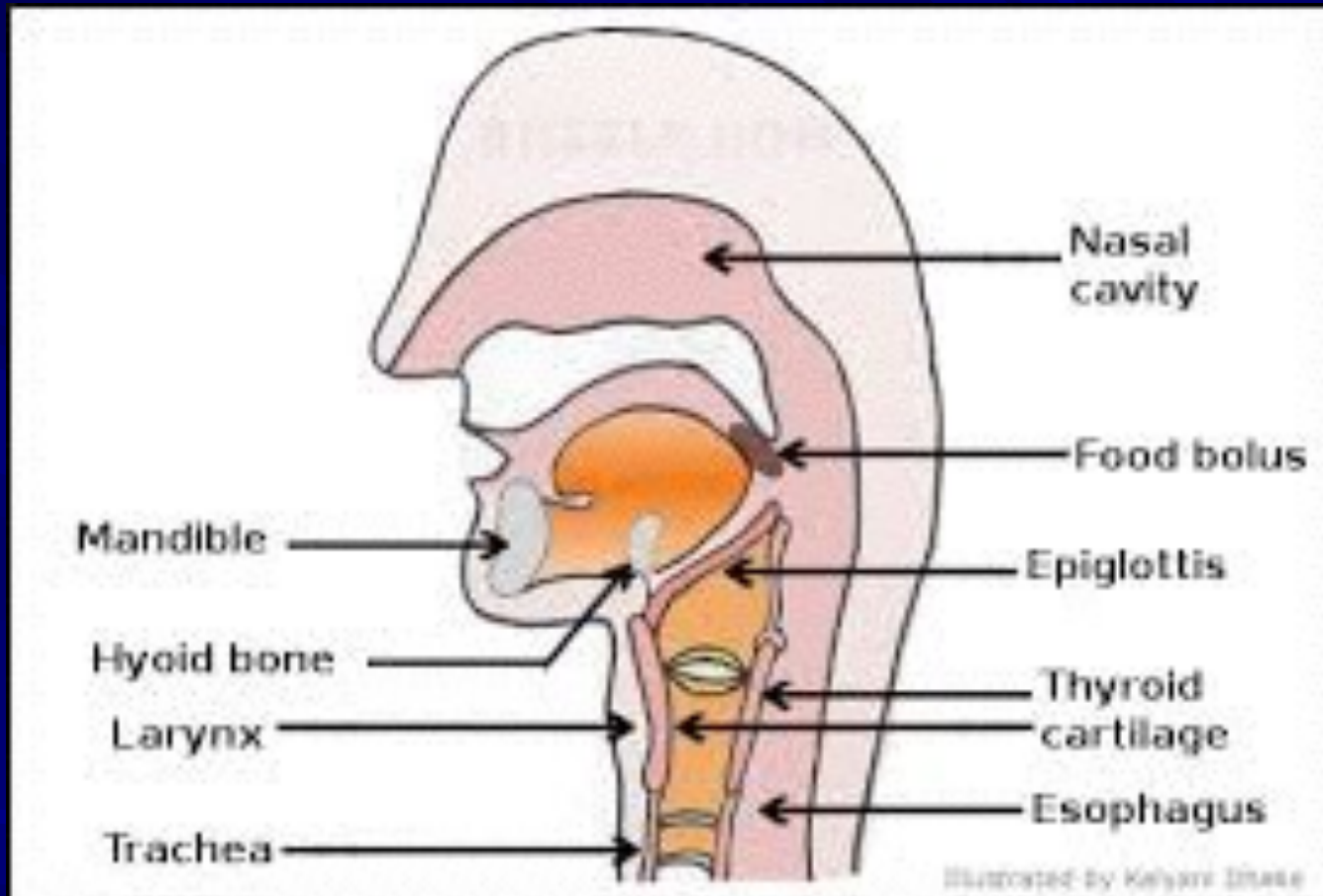
  - Vc springs back

    - Slight increase in resp resistance



# Protective function I

- Sphincteric action:
  - During swallowing
    - Larynx elevated
    - All folds close
  - Any noxious stimulation



# Protective function II

## Reflexes

- Cough
- Laryngospasm
- Hiccough
- Yawn



# Effort

## ■ Expulsive

- Fluid, flatus, faeces or foetus

## ■ Propulsive

- Cough

- Stimulation, compression phase, sudden expiration

## ■ Supportive

- Shoulder girdle stabilization with physical effort
- If prolonged – reduced venous return

# Phonation I

Note phonation and language

Requirements:

- Air flow
- Vibrator/Resonator
- Articulator

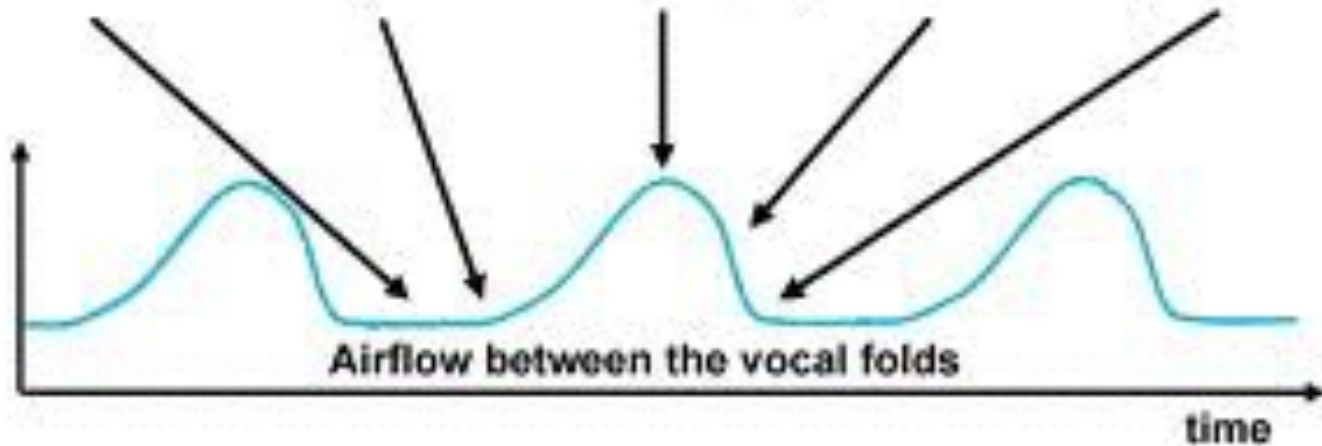
# Phonation II

– Air flow

■ Variable rate, pressure

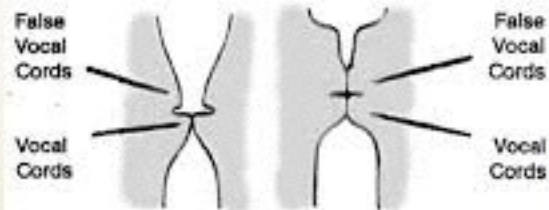


Vibration pattern of vocal folds (coronal section)



CROSS-SECTION OF THE LARYNX

(From Fink & Demarest, 1976)



PHONATION

EFFORT CLOSURE

# Phonation III

## – Resonator

- Variable length, tension and vibrating mass
- ? Skull bone vibration



# Phonation IV

## ■ Articulator- alteration of basic sound

- Vowel sounds- overall shape aeiou
- Pharynx- A AH
- Palate- K Q
- Tongue- T, R, L, D
- Teeth- S Z
- Lips- B, P, V, W
- Nose- N, M

Other factors:

Saliva,  
Training









































































