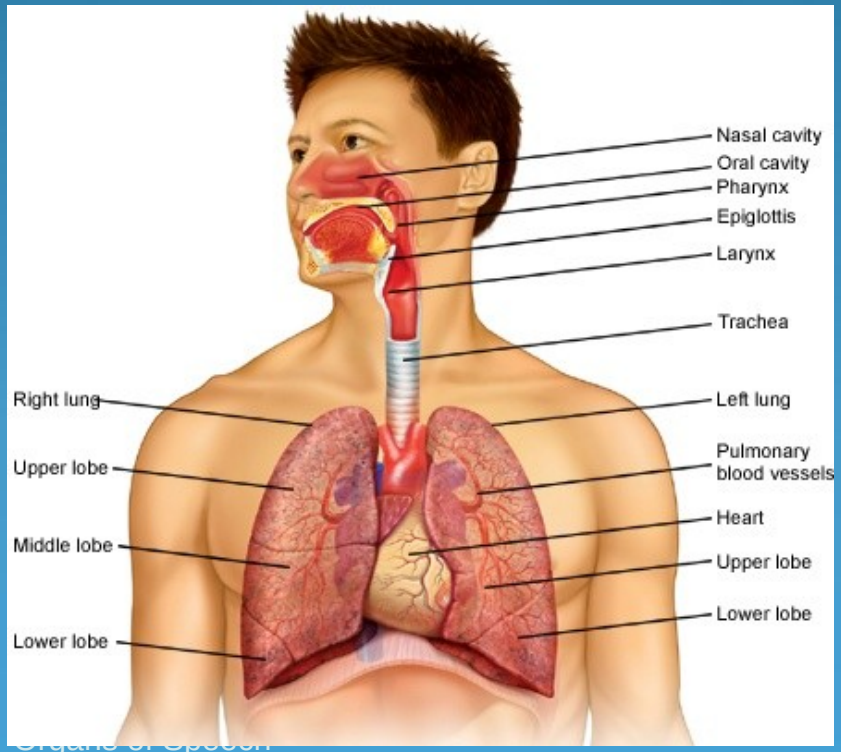
Organs Of Speech



Description

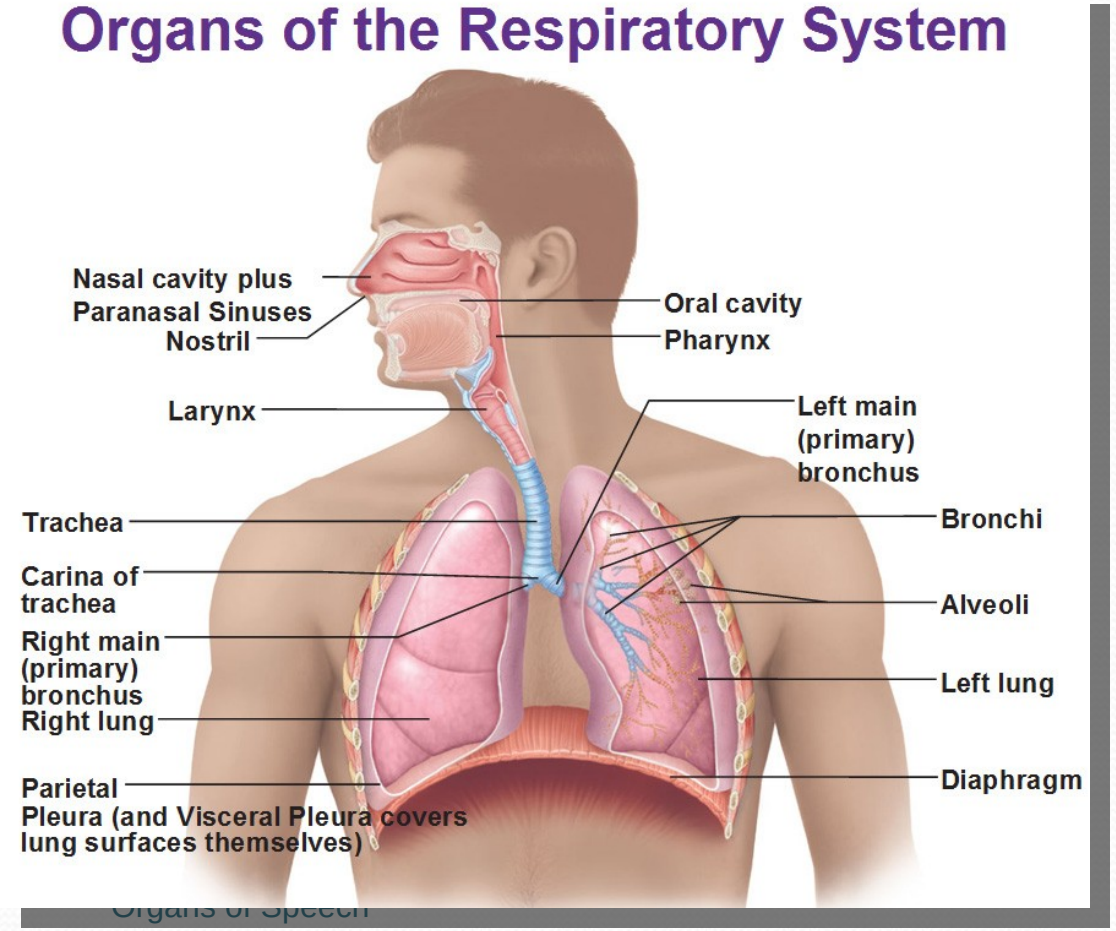
-Organs of speech are described under three systems:

1. Respiratory System
2. The Phonatory System
3. The Articulatory System

Organs of Respiratory System

1.The Lungs

2.The Muscles of the Chest & 3. The Windpip



The Lungs

– Perform the action of breathing or

(Exhalation – Inhalation)

– The lungs provide the source of energy for our vocal activity by this airstream.

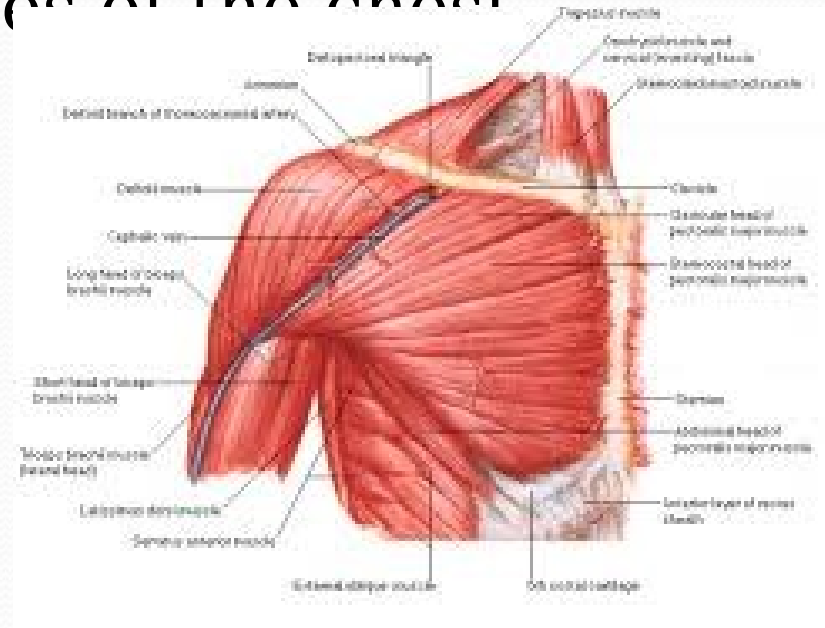
– The airstream mechanism is called pulmonic egressive airstream.

- Pulmonic means lungs.

- Egressive airstream means that the airstream goes out of the lungs.

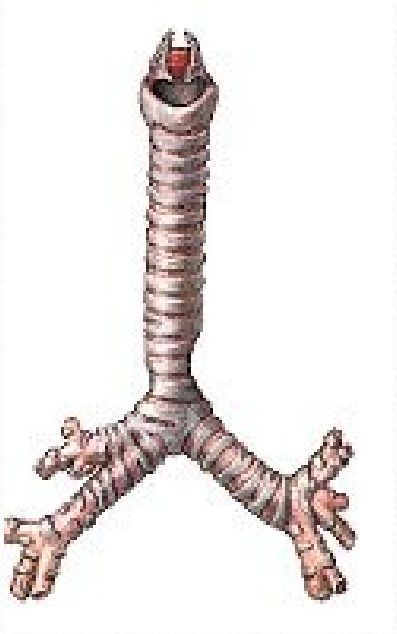
The Muscles of the Chest

The lungs perform respiration under the function of the muscles of the chest



The Windpipe (Trachea)

The air passes through the windpipe.

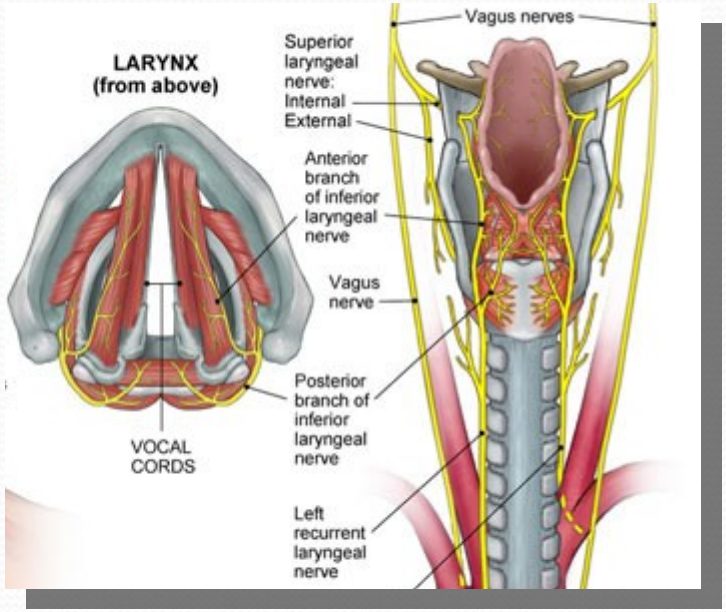


The Phonatory System

Before the airstream goes out of the mouth , it undergoes several modifications:

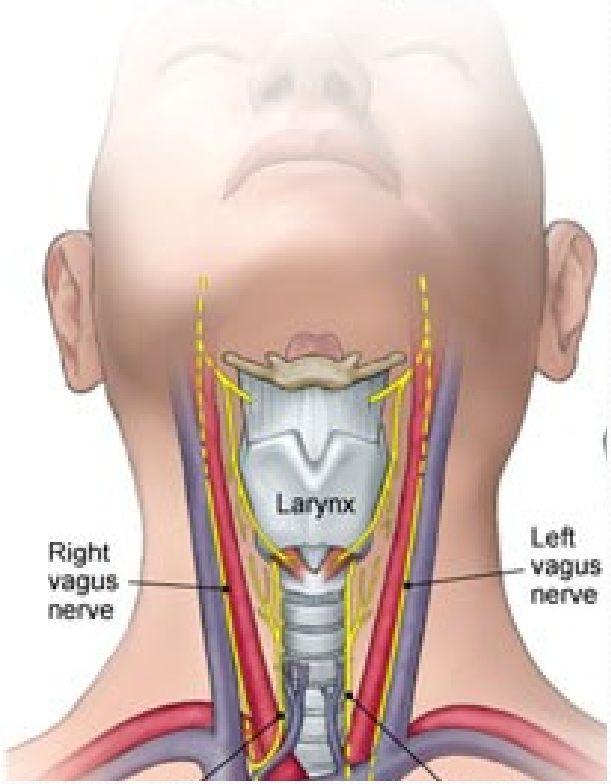
1- The Larynx

2- The Vocal Cords



The Larynx

It’s a bony box-like structure in the front part of the throat and the upper part of trachea. It’s known as “Adam’s Apple” too.

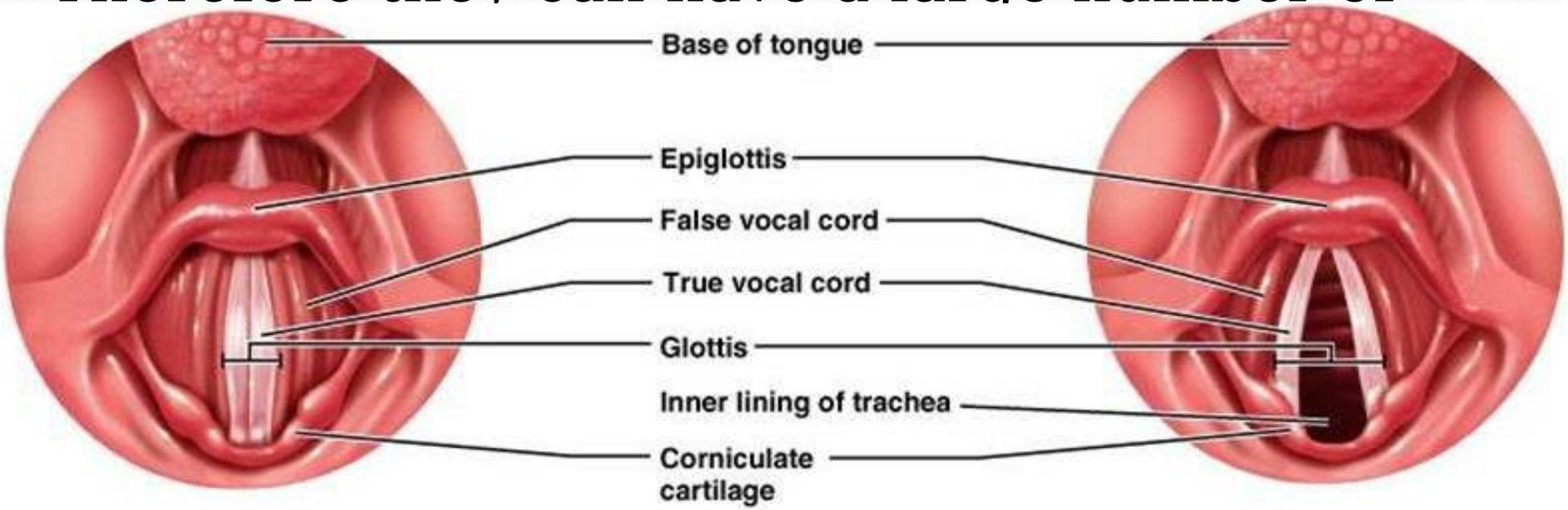


The Vocal Cords

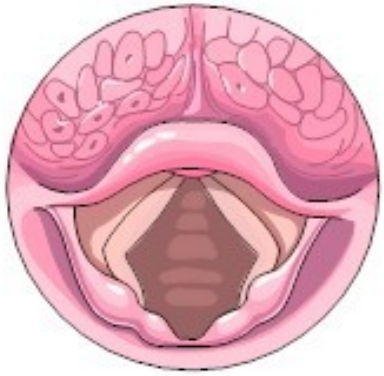
-Vocal cords are a pair of lip-like structure inside the Larynx.

-These cords are placed horizontally from front to the back , joined at the front and separated at the back.

-Therefore they can have a large number of



Important positions of Vocal Cords



1- Vocal Cords Drawn Wide Apart

- This is **The Normal Position** of vocal c
- during breathing.
- The air stream can pass freely without setting the vocal cords into Vibration and produces **Voiceless Sounds**.

E. g.- **C**at- **f**at- **ch**at – **t**op- **sh**eet- **s**eat

- A wide opening is between the vocal cords is called **Glottis**.

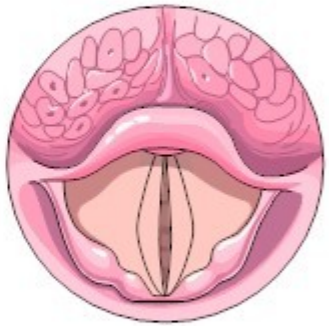
Contd.

2- Vocal Cords Held Loosely Together

- The airstream set the vocal cords into vibration and we hear a " HHHUUUMMM " sound .
- The sounds that set the vocal cords into Vibration are **voiced sounds**.

E.g.- **All vowels**- **r**ed- **m**en-**d**ead-**b**ed-**l**et-**n**est-**th**en-**j**ump-**z**oo-**y**ellow- **w**ell

Contd.



3- Vocal Cords Held Tightly Together:

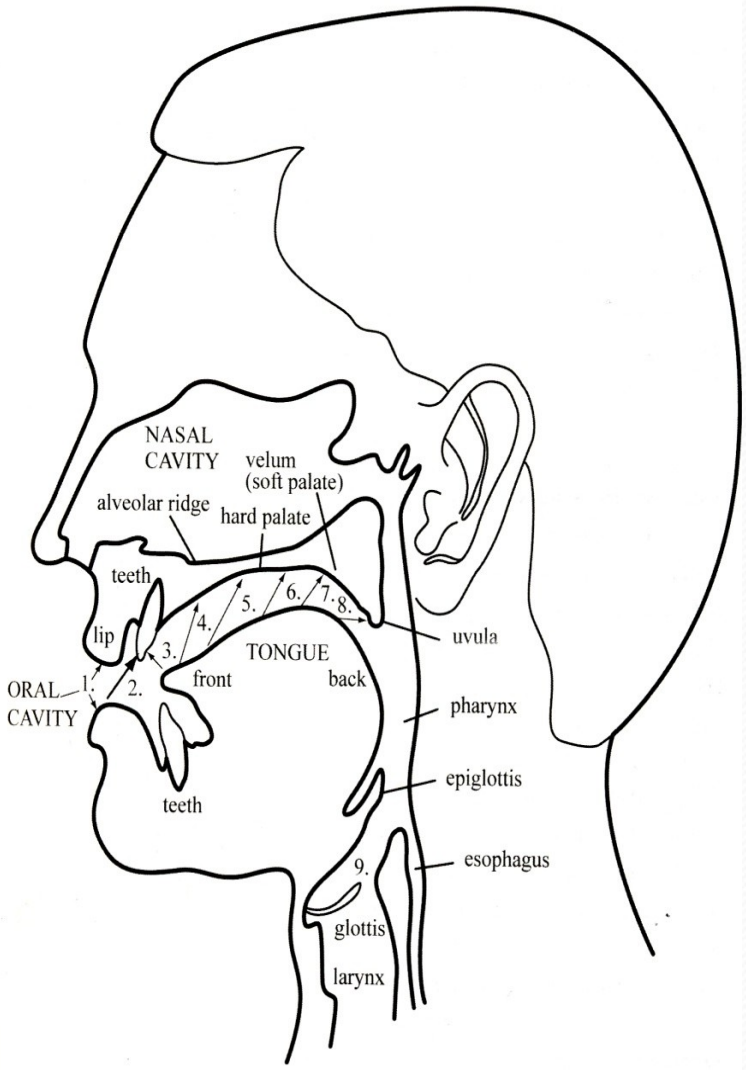
- Glottis is closed and no air can escape through it.
- Vocal cords are closed and the airstream is stopped completely for a short period of time . suddenly the vocal cords drawn apart and produce explosive sound that is called **glottal stop** like a mid cough.

E.g.-li**p**, shu**t**, sick

The Articulatory System

- After Larynx, the airstream pass through other 9 organs of speech that lie above the larynx.

1 – The Lips **2- The Te**
3- The Alveolar ridge **4-The hard**
5- The Soft Palate **6- The Uv**
7- The tongue **8- The Ph**
9- The glottis



- These Organs of speech make **the articulatory system** together.

Active and Passive Articulators

- **Active articulators** are those organs of speech that move from their position of rest to articulate against other organs of speech that do not or can not move which are called **passive articulators**.

E.g.- In producing **t, d, n, s** the tip and blade of the tongue move from their position to the Alveolar ridge. So, the tip and blade of the tongue are active articulators and the alveolar ridge is the passive one.

- The active articulators are mostly located in the lower jaw and the passive articulators are mostly in the upper jaw.

The Lips

The upper and lower lips have important role in producing certain speech sounds especially in producing vowels .

Movements:

1- Closing the lips and then releasing the closure abruptly ,e.g.- **p**ut , **b**oot

2- closing the lips and making nasal consonant, e.g.- **m**en

3- protrude and rounded, e. g .-b**oo**t

4- spread, e.g.- b**ea**ds

5- neutral – not spread not rounded, e.g.- **a**bout

The Teeth

Certain consonants are produced with the help of the teeth.

Movements:

-Putting the tongue in between the front teeth which are called **interdental fricatives**. E.g.- **th**ink, **th**at

- Pressing the lower lip with the upper front teeth which are called **labiodental fricatives**. E.g.- **f**an, **v**an

The Alveolar Ridge

It’s located just behind the upper front teeth and consonantal sounds like **t, d, n, l, s, z** are produced here.

Movements:

- Tongue tip or blade touches the alveolar ridge. E.g.- l, n
- making a complete closure by the tip of the tongue and the alveolar ridge, followed by a sudden release of the closure . E.g.- t, d
- Narrowing the passage of the air at the alveolar ridge and forcing the air out through this passage
- E.g.- s, z

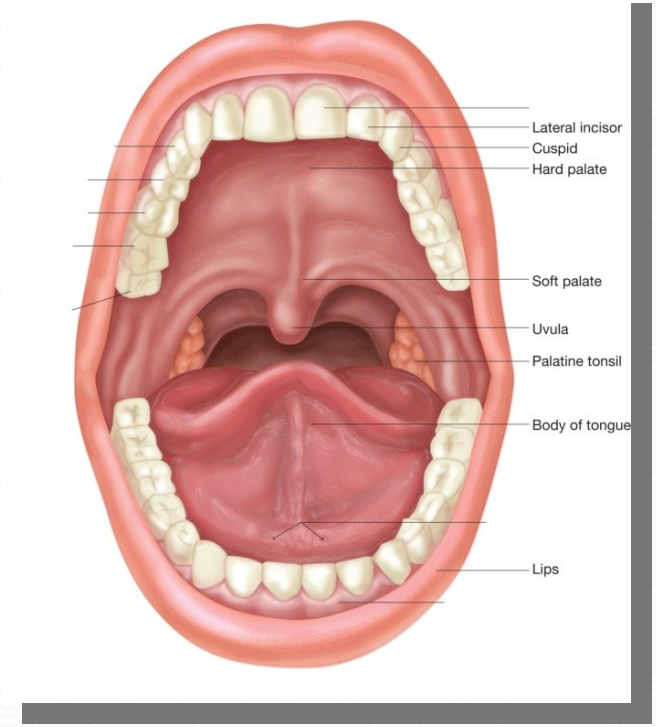
The Hard Palate

The hard bony surface of the roof of the mouth, immediately after alveolar ridge. It's not moveable.

Movement:

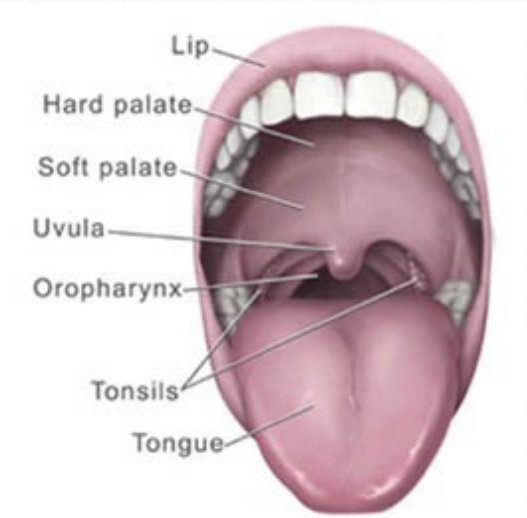
The front part of the tongue moves toward the hard palate.

E.g.- **y**es



The Soft Palate or Velum

The soft and moveable part of the roof of the mouth, immediately after the hard palate.



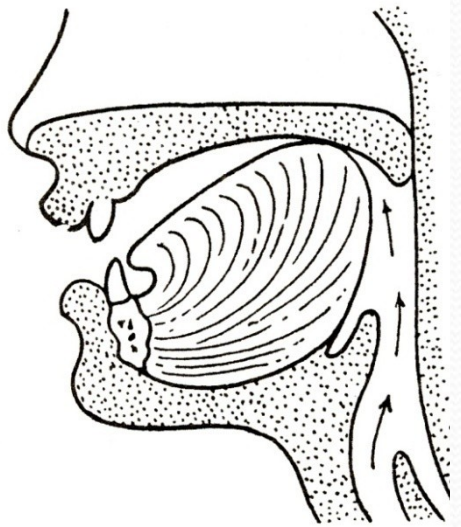
Movements:

- Velum dropped down and the back of the tongue makes a closure with velum which is called **V**

E.g.- **k**ing

Velum raises itself and make a closure with th wall of the pharynx which is called **velic clos**

E.g.-**g**o



Velar and Velic Closures.

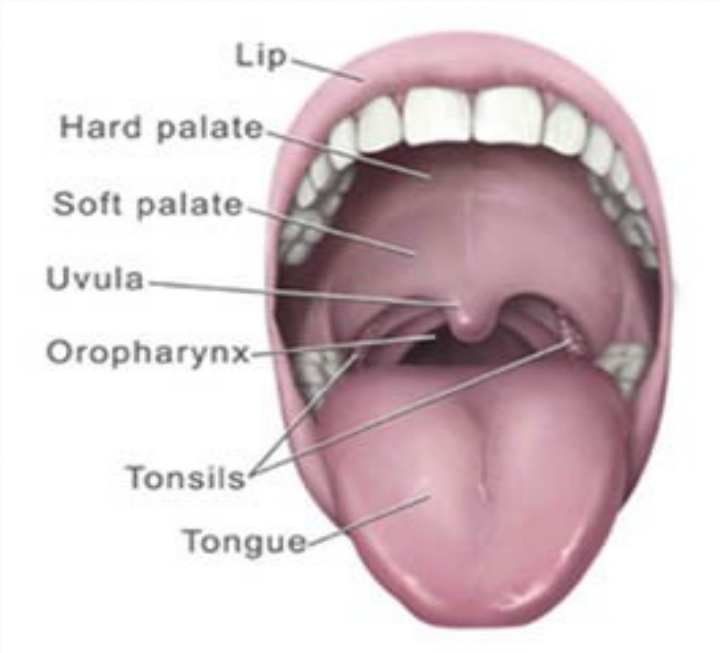
The Uvula

It’s a small fleshy pendent structure at the very end of the soft palate.

Movement:

The back of the tongue articulates with uvula and produce **q**- sound in Persian words E.g.-

قورې - قند



The tongue

-It’s the most important single organ of speech.

- In many languages the word TONGUE means Language too.

-It’s flexible and can makes a large number of gestures to produce speech sounds.

- It has different parts:

1- tip 2- blade 3– front 4– center

5– back 6-dorsom 7– apex 8- rims

Different parts of the tongue

1- The Tip: When the tongue is the state of the rest , it's the part that is laying behind the lower front teeth.

2- The Blade: It 's laying the opposite side of the alveolar ridge.

3- The Front: It faces the hard palate.

4- The Back: It's on the opposite side of the soft palate.

5- The Center: Here the back and the front part of the tongue meet each other. Half of it faces in hard palate and half of it faces in soft palate.

6- The Dorsum: It's the whole upper part of the tongue.

7- The Apex: It's the tip, blade ridge of the tongue.

8- The Rims: They are the edges of the tongue.

Movements Of The Tongue

Any parts of the tongue can move and produce speech sounds

- The tip and the blade make a contact with the alveolar ridge:

E.g.- **t**en, **d**o, **n**oo**n**

- The front of the tongue may be raised toward the hard palate:

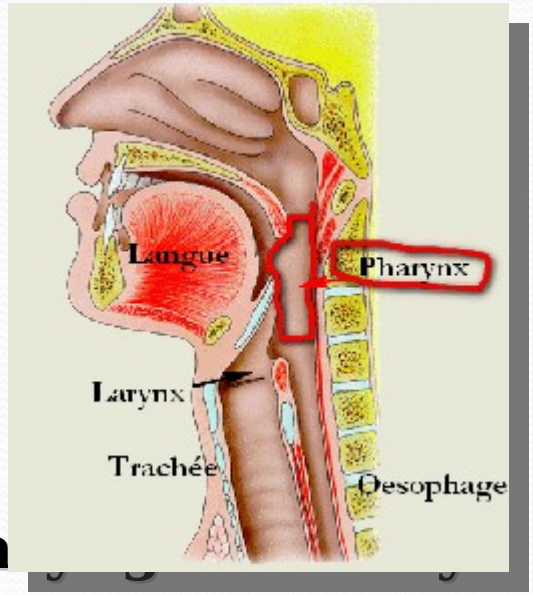
E.g.-**y**et, **u**nit, s**ea**

- The back of the tongue makes a contact with the soft palate:

E.g.- **K**ill, **g**irl

8- The Pharynx

It’s like a tube just above the Larynx and before Uvula. It’s top is divided in **2** parts: One part goes to oral cavity and another goes to nasal cavity.



Movements:

The cavity of Pharynx which is called **Pha** can be modified by:

1- the contraction and expansion of the muscles of the pharynx.

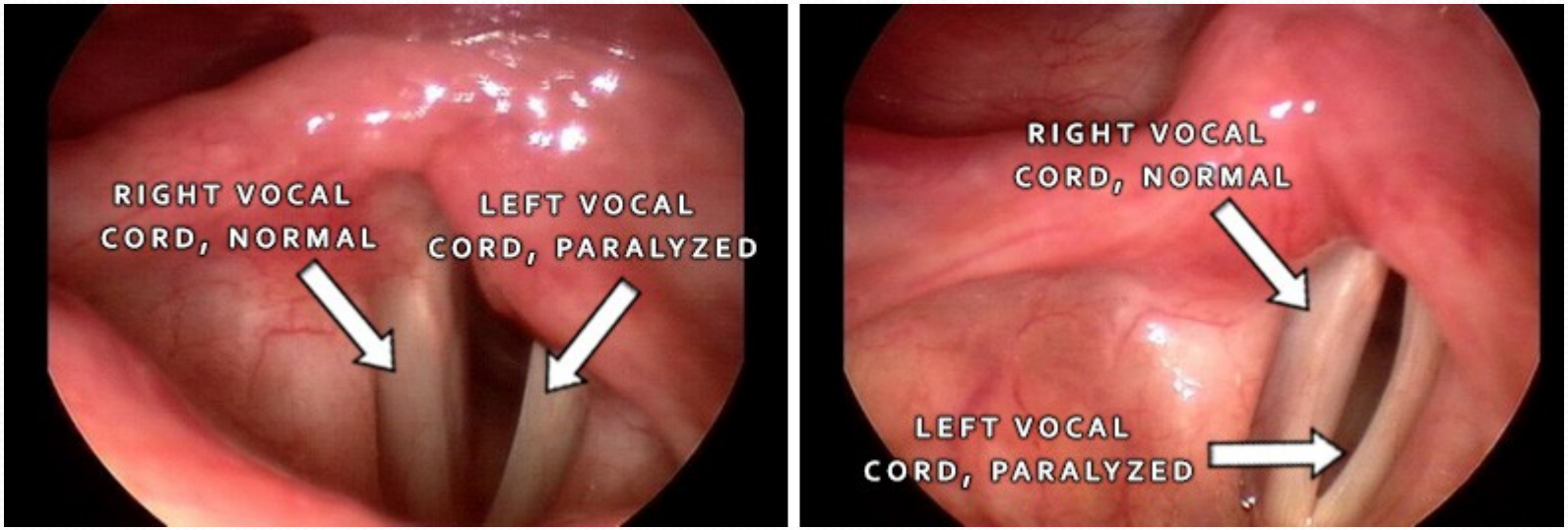
2- The movement of the back of the tongue.

3- The position of the soft palate.

4- Raising or lowering of the larynx.

The Glottis

It’s the space between the Vocal Cords.



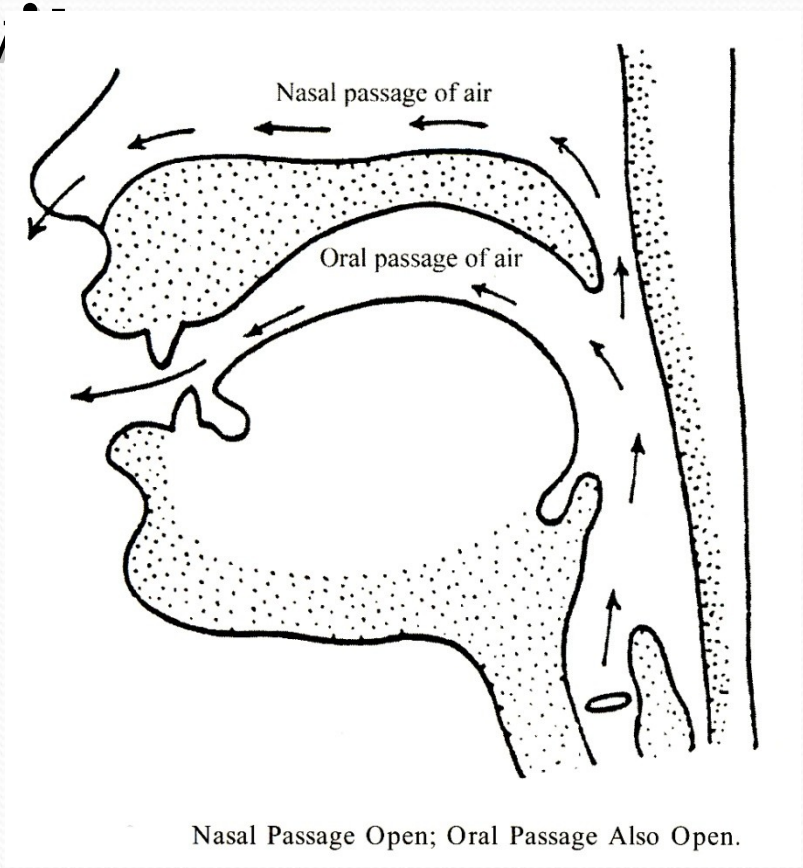
Movement:

With a rapid closing the opening of the glottis, the air stream traps behind it then with a sudden release of the air makes glottal stop sounds.

E.g.-ma**tt**er, bu**tt**er

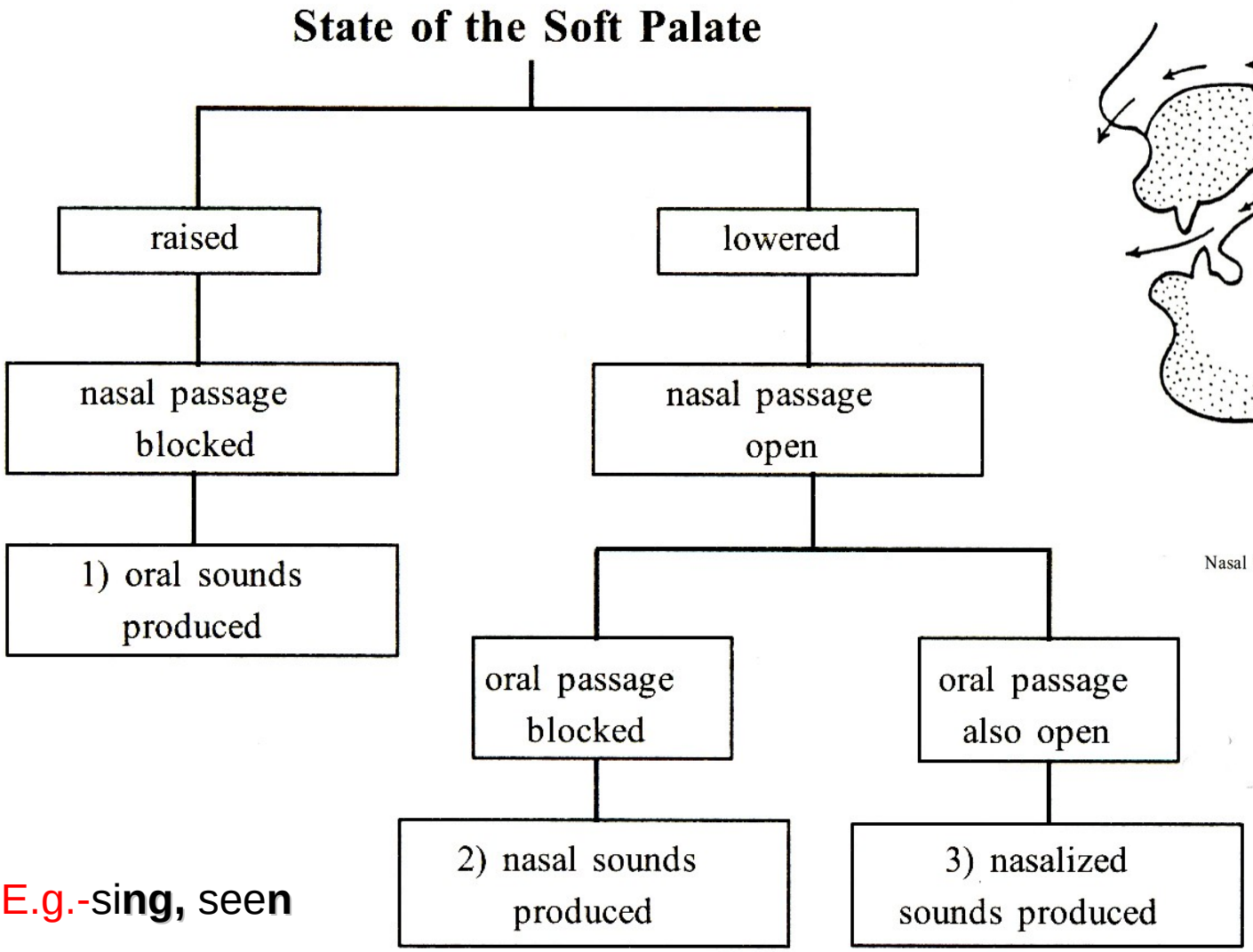
Oral and Nasal Cavities

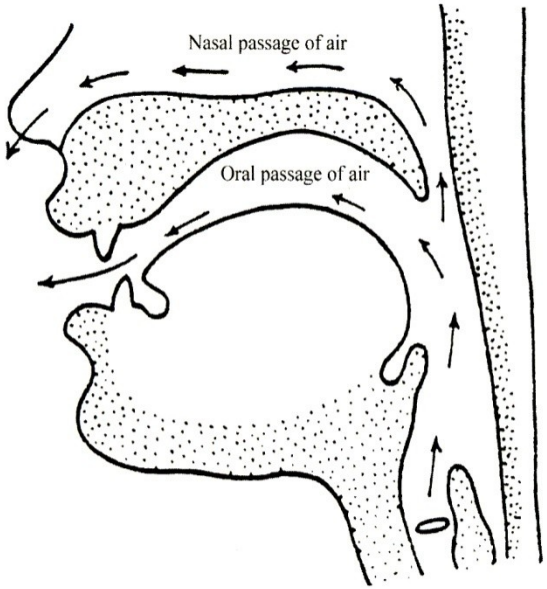
The air is pushed by the lungs and travels through the mouth which is called **oral cavity** or through the nose which is called **nasal cav**



Nasal Passage Open; Oral Passage Also Open.

State Of The Soft Palate





Nasal Passage Open; Oral Passage Also Open.

E.g.-si**ng,** see**n**

E.g.-**bee**n