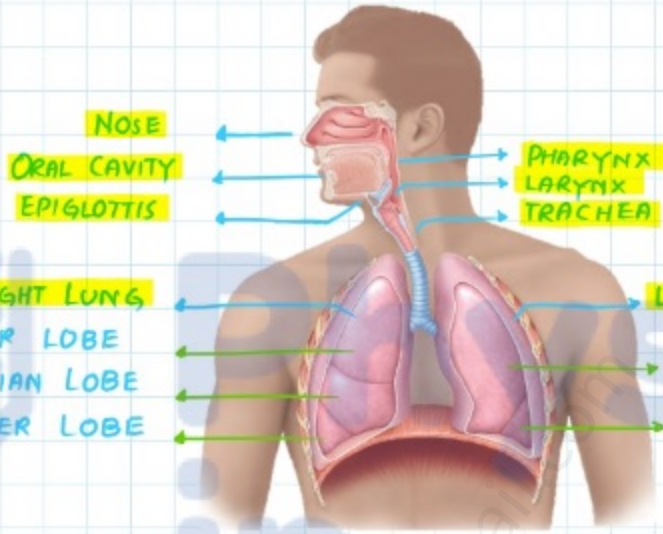
MESODERM → **Human Respiratory System** → RESPIRATION

Upper Respiratory Tract

- NOSE
- PHARYNX
- LARYNX

Lower Respiratory Tract

- TRACHEA
- BRONCHI
- LUNGS



Upper Respiratory Tract

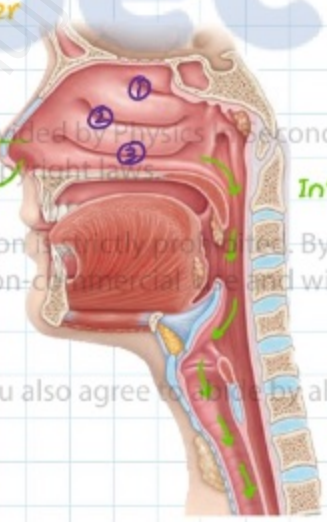
Nose → Only visible part
Resonance chamber

- Nasal septum separates / divides vestibule

Nasal Vestibule
NOSTRILS
Internal Nostrils / Nares

→ Each Nasal cavity divides into 3 Air-passageways.

1. Superior turbinate
2. Median turbinate
3. Inferior turbinate



- BONE (Ethmoid)
- CARTILAGE (Hyaline Cartilage)
- FIBRO-FATTY TISSUES
(Play supportive role)

→ NASAL HAIRS (Filteration)
→ MUCOUS MEMBRANE
→ CILIATED EPITHELIUM

SNEEZING:
Protective mechanism against irritant.

Functions of Nose

- Filteration of Air
- Production of mucus
- Moisten , Warm

Pharynx → THROAT
→ Common Air Passage way

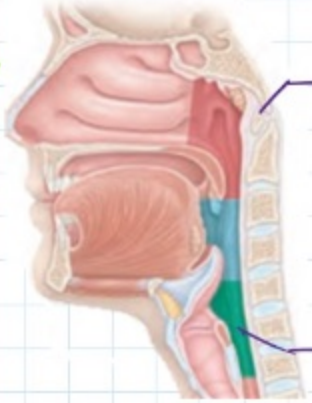
The course videos and lecture notes provided by Physics in Seconds are for educational and informational purposes only and protected by local copyright laws.
Unauthorised reproduction or distribution is strictly prohibited. By accessing and using these materials, you agree to use them solely for personal, non-commercial purposes and will not hold the copyright holder liable for any misuse.
By accessing and using the materials, you also agree to abide by all local copyright laws.

Pharynx → THROAT

→ Common Air Passage way for Nasal cavities, Oral cavity trachea, Esophagus.

Oro-Pharynx → median

→ Involved in Swallowing/ Deglutition



Naso-Pharynx

- Just below Skull

→ Respiratory function

→ Channelizing the air to lower part.

Laryngeo-Pharynx

- Inferior Part
- 6th Cervical vertebra

→ Hyoid Bone ⟷ Cricoid Cartilage

→ Dual (Respiration + Digestion)

- Food – Swallowing
- Air – Conduction
- Voice – Production

Opening in Pharynx → (7)

- (2) internal Nostrils + Oral cavity (1)
- (1) Trachea + Esophagus (1)
- (2) Eustachian tubes

Larynx → Sound box / Voice box

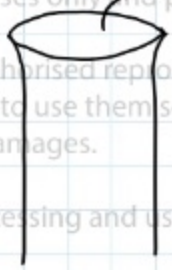
↳ Passageway for Air b/w the Pharynx above and trachea below.

- INHALATION → No SOUND
- EXHALATION → SOUND PRODUCE

The course videos and lecture notes provided by Physics In Seconds are for educational and informational purposes only and protected by local copyright laws.

Unauthorised reproduction or distribution is strictly prohibited. By accessing and using these materials, you agree to use them solely for personal, non-commercial use and will not hold the copyright holder liable for any damages.

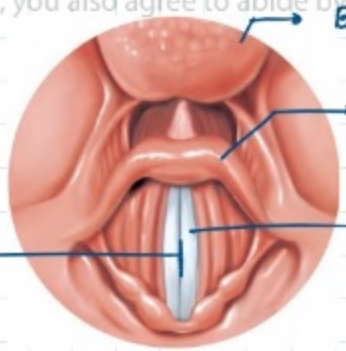
By accessing and using the materials, you also agree to abide by all local copyright laws.



Air → **Vocal Cords** → Vibration (Produces Sound)

Male Sex Hormone Testosterone → Vocal Cords (Sound Heavy)

Glottis



Epiglottis → Produce No Sound

False vocal cords

Functions of Larynx

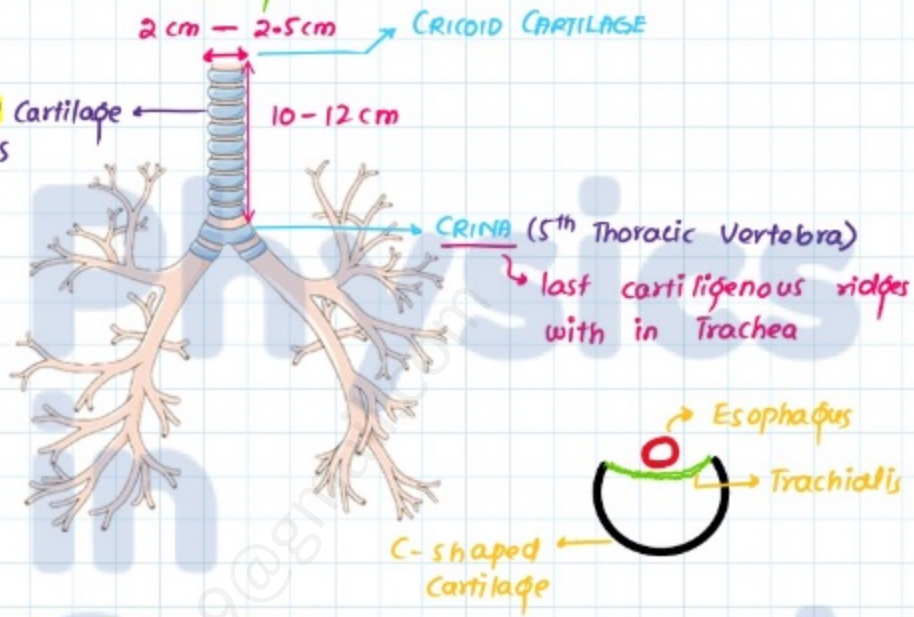
→ Air Passage Way

Functions of Larynx

- → Air Passage Way
- → Prevent Food from entery in Lower Respiratory Tract.
- → Voice Production (vocal cords)

Trachea → Wind Pipe / Air Pipe

↳ Ventral / Anterior to Esophagus

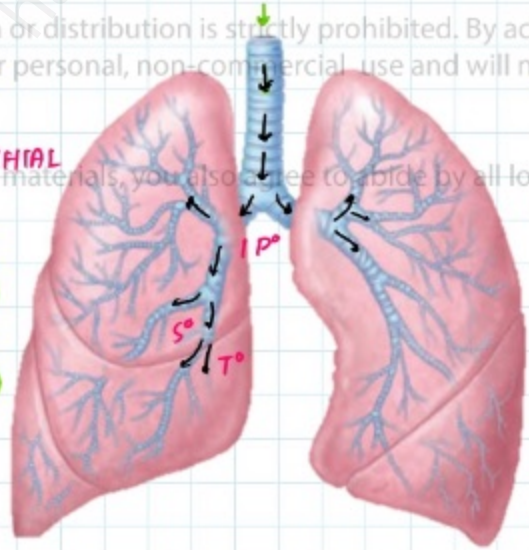


- Hyaline Cartilage
- → Trachea is lined with ciliated mucous epithelium.
- ↳ last cartiligenous ridges with in Trachea

Functions of Trachea

- → Air Passage way
- → Channelize Air
- → Moistoning incoming Air
- → Filteration of Air
- → Coughing (Protective Mechanism)

Bronchial Tree → Air Passage way → Branches → Re-branches (23 X)



- RIGHT BRONCHI
- LEFT BRONCHI

- PARTS OF BRONCHIAL TREE
1. CONDUCTING ZONE (Air Way Passage)
2. RESPIRATORY ZONE (Gaseous Exchange)
   ALVEOLI (mainly)

BRONCHI
- P°- BRONCHI
- S°- BRONCHI
- T°- BRONCHI
- Q°- BRONCHI

BRONCHIOLES
- → Terminal Bronchioles
- → Respiratory Bronchioles

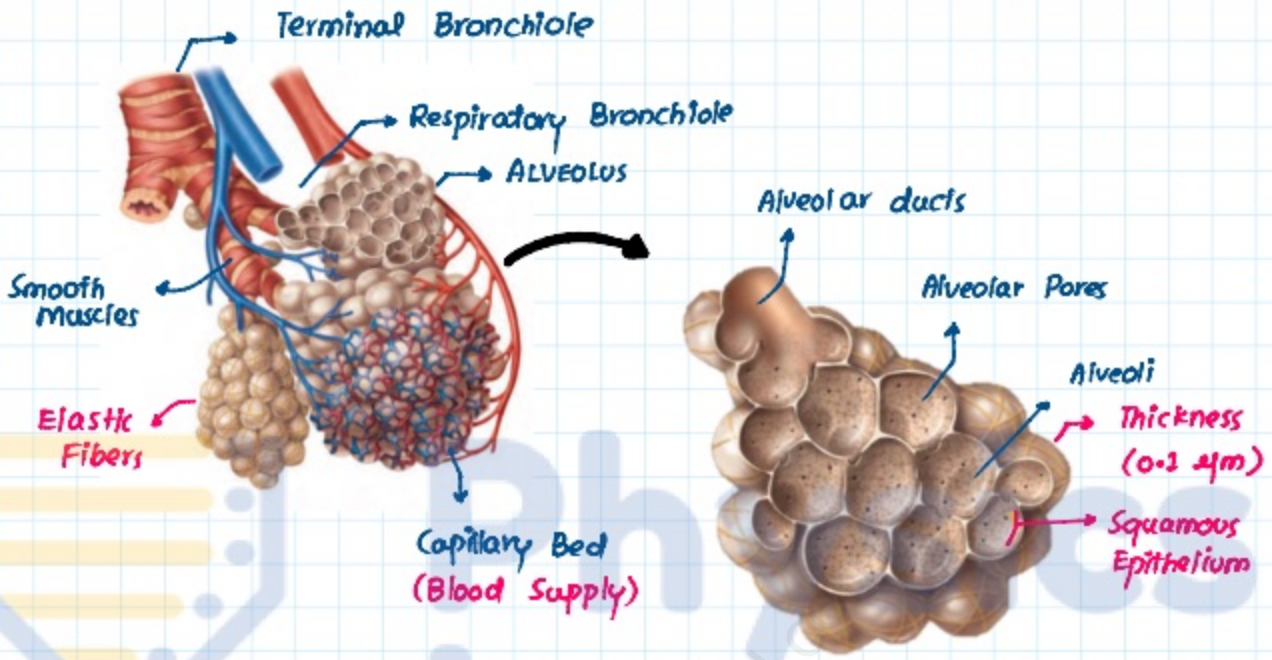
ALVEOLAR DUCT
ALVEOLAR SAC (Functional unit)
- → ALVEOLI

C-shaped
Irregular
Absent
1mm
Ciliated Cuboidal Epithelium

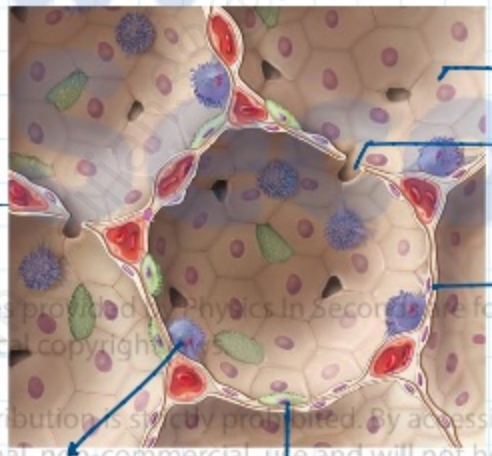
Terminal Bronchiole

The course videos and lecture notes provided by Physics In Seconds are for educational and informational purposes only and protected by local copyright laws.
Unauthorised reproduction or distribution is strictly prohibited. By accessing and using these materials, you agree to use them solely for personal, non-commercial use and will not hold the copyright holder liable for any damages.
By accessing and using the materials, you also agree to abide by all local copyright laws.

ALVEOLAR SAC (Functional unit)
→ ALVEOLI



Alveoli → Structural unit
↓
KPK (Functional unit)



→ O_2 supply & CO_2 recipient

- Responsible for gaseous exchange

Removal of cell debris & pathogens.

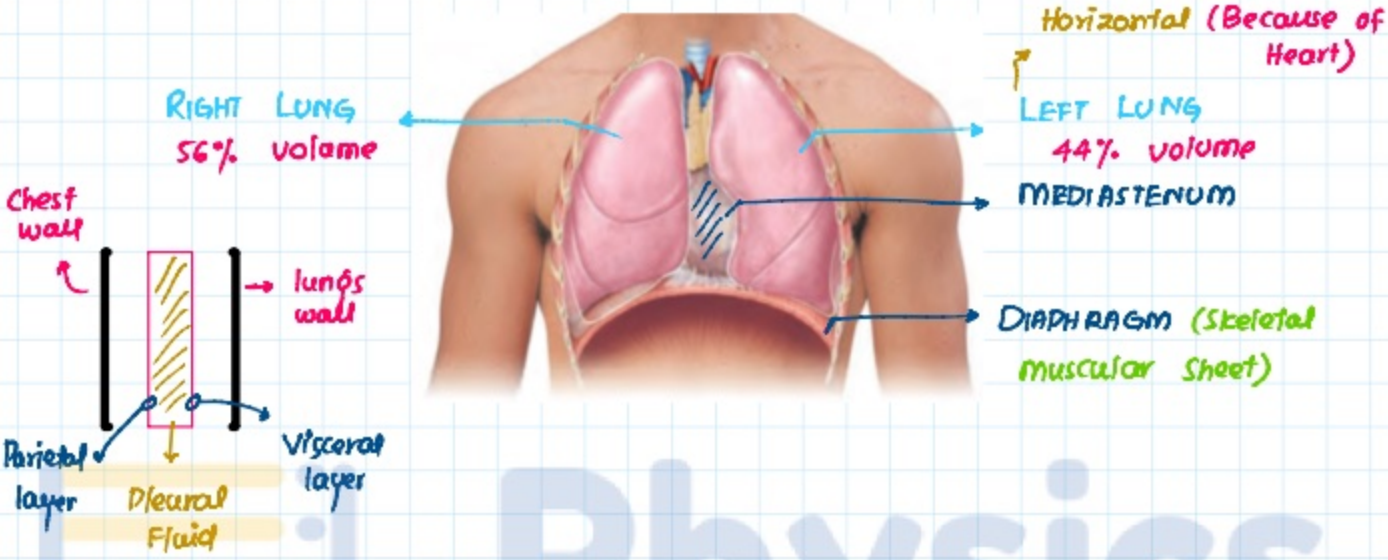
- Surfactant production
  → Absence of Surfactant (Respiratory Distress Syndrome)
  - Phospholipoprotein Mixture
  - Anti-microbial Activity
  - Component of Innate Immunity

The course videos and lecture notes provided by Physics in Seconds are for educational and informational purposes only and are protected by local copyright laws.
Unauthorised reproduction or distribution is strictly prohibited. By accessing and using these materials, you agree to use them solely for personal, non-commercial use and will not hold the copyright holder liable for any damages.
By accessing and using these materials, you agree to abide by applicable copyright laws.

Lungs → Spongy in Nature

- LOCATION → Thoracic / Chest Cavity

Horizontal (Because of



Physics in Seconds

hammadjan39@gmail.com

The course videos and lecture notes provided by Physics In Seconds are for educational and informational purposes only and protected by local copyright laws.

Unauthorised reproduction or distribution is strictly prohibited. By accessing and using these materials, you agree to use them solely for personal, non-commercial use and will not hold the copyright holder liable for any damages.

By accessing and using the materials, you also agree to abide by all local copyright laws.