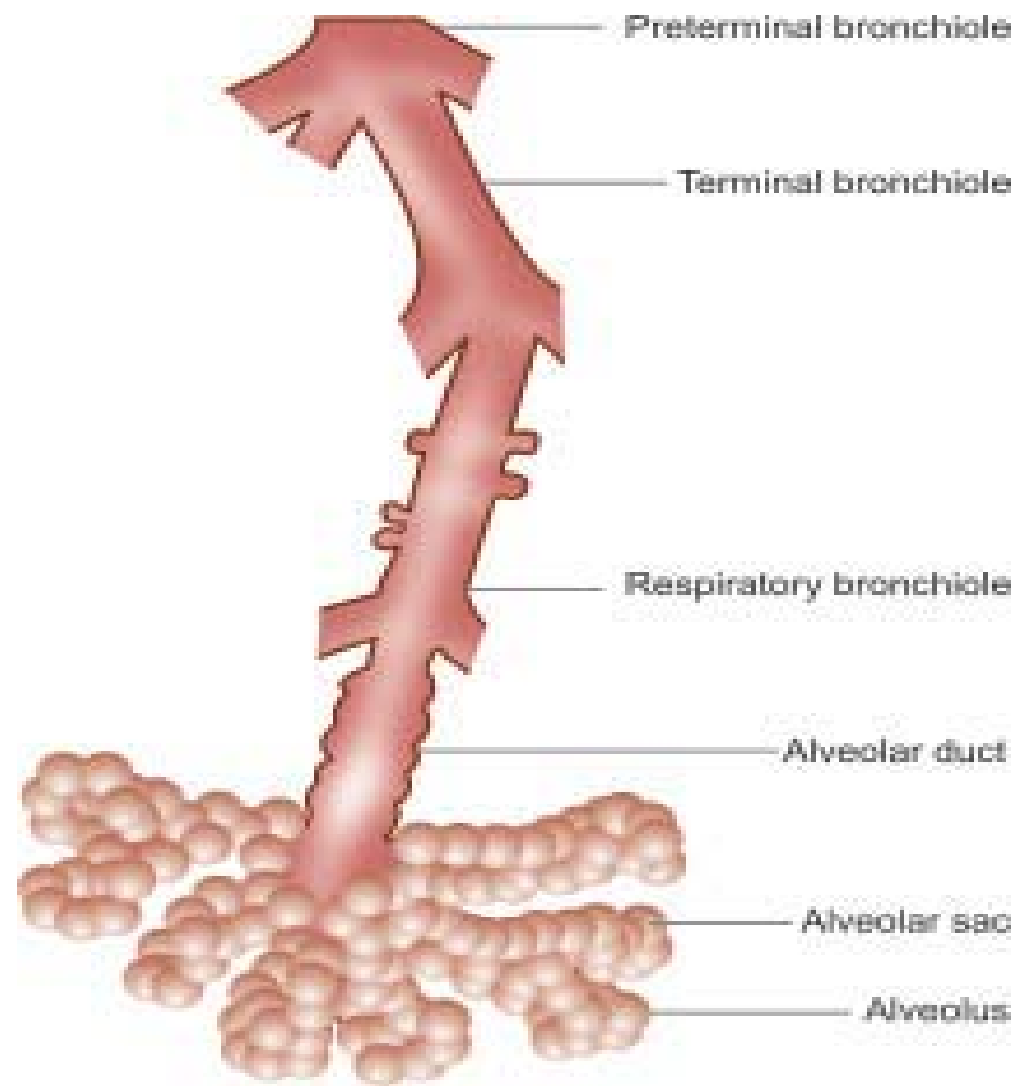


LUNGS (NORMAL STRUCTURE)

- *Adult right lung weight: 375 to 550gm (450 gm)*
- *Lobes: 3 (upper, middle, lower)*

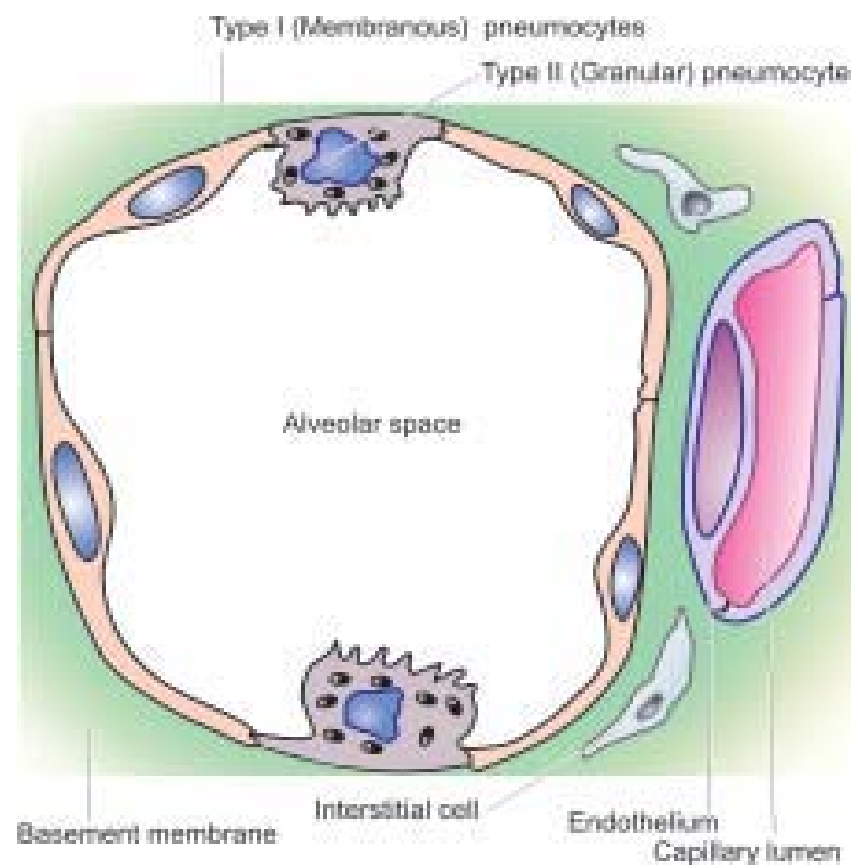
- *Adult left lung weight: 325 to 450 gm (400 gm)*
- *Lobes: 2 (upper, lower), middle-Lingula*

- *Tracheal bifurcation to small bronchi: 8 divisions*
- *Small bronchi to terminal bronchiole: 3-4 divisions*
- *Distal to terminal bronchiole: Acinus*



Histology Lung

- Bronchi up to bronchiole: Lined by pseudostratified ciliated columnar epithelium, mucus cells, neuroendocrine cells
- Bronchioles: Single layer of PSCE, no mucus cells, have non ciliated clara cells



Atelectasis and collapse

- **Atelectasis:** Incomplete expansion of lung/part
(Still born/new born – premature)
Causes: Cerebral birth injury, CNS malformation,
Intrauterine hypoxia
- **Collapse:** Reduction in lung size (Previously expanded)
children and adult i.e.
Compression-pleural effusion, pneumothorax,
hemothorax, tumors)
Obstruction-mucus plug in asthma, foreign body,
bronchial tumors, ch bronchitis, bronchiectasis
Contraction-localised fibrosis

Bronchiolitis, bronchiolitis obliterans

- Inflammatory conditions of small airways: Pediatric and elderly persons
- Aetiology: Viral infection (Adeno virus & RSV), bacterial, fungal, toxic gases, aspiration of gastric contents
- M/E: Bronchioles lumen narrowed by fibrous plugs, bronchiolar wall show lymphocytes, plasma cells. Interstitial pneumonitis & fibrosis

Pulmonary Hypertension

- Normal blood pressure in pulmonary vein: 3-8 mmHg
- PH: systolic blood pressure > 30mmHg
- 1. Primary
- 2. Secondary

- **Primary PH:** Young females 20-40 yrs/ children < 5 yrs

Aetiopathogenesis:

- *Neurohumoral
- *Thromboemboli/amniotic fluid emboli in pregnancy
- *Collagen vascular disease
- *Pulmonary veno-occlusive disease
- *Ingestion of bush tea, oral contraceptive, appetite depressants
- *Familial

- **Secondary PH:** due to lesion in heart/lungs. More common, can occur at any age

Aetiopathogenesis:

*Passive pulmonary HT: Mitral stenosis, Ch LVF

*Hyperkinetic PH: PDA, ASD/VSD

*Vaso-occlusive PH: 3 sub types

Obstructive: Multiple emboli/thrombi, sickle cell disease, schistosomiasis

Obliterative: Ch emphysema, Ch bronchitis, bronchiectasis, PTb, Pneumoconiasis

Vasoconstrictive: High altitude, P obesity, Polio, Kyphoscoliosis

- **Morphologic changes:** Similar in primary & secondary PH
- Arterioles & Small pulmonary arteries: Medial hypertrophy, Thickening & reduplication of elastic lamina, intracapillary tuft of capillary formation
- Medium sized pulmonary arteries: Medial hypertrophy, concentric intimal thickening, adventitial fibrosis, Thickening & reduplication of elastic lamina
- Large pulmonary arteries: Atheromatous deposits

