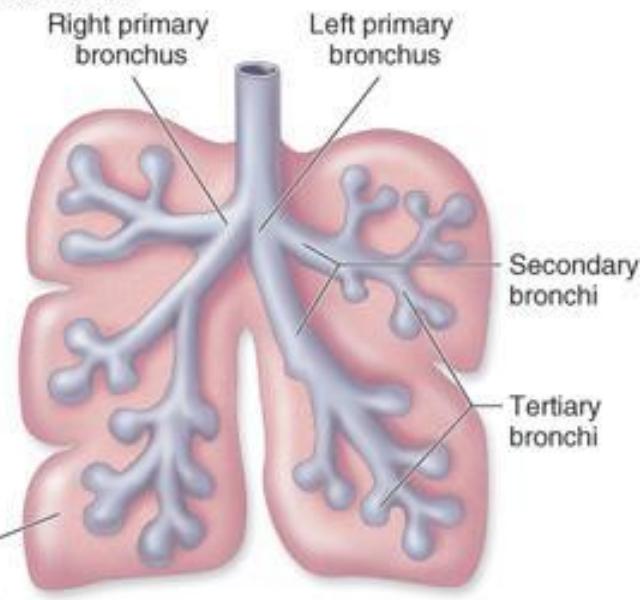
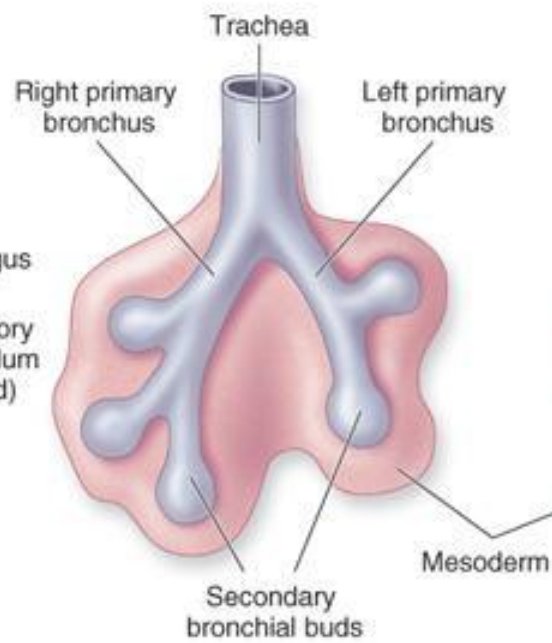
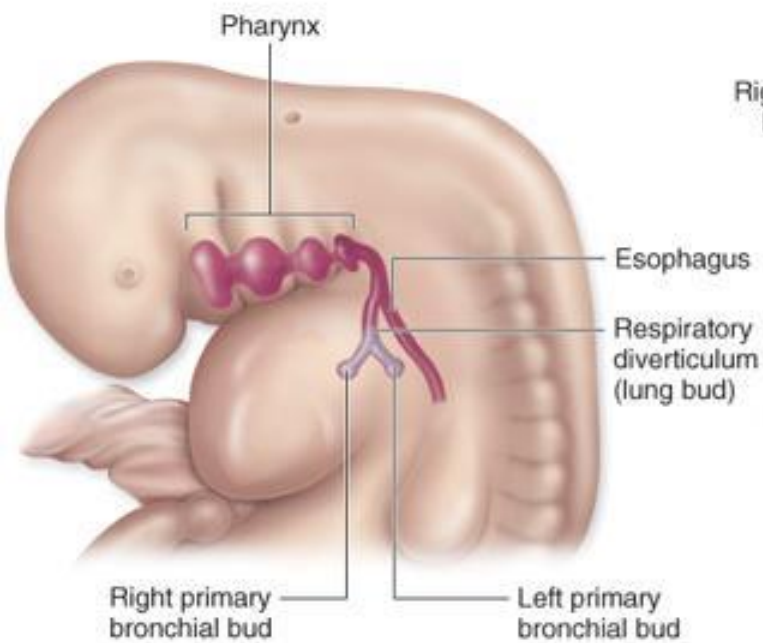


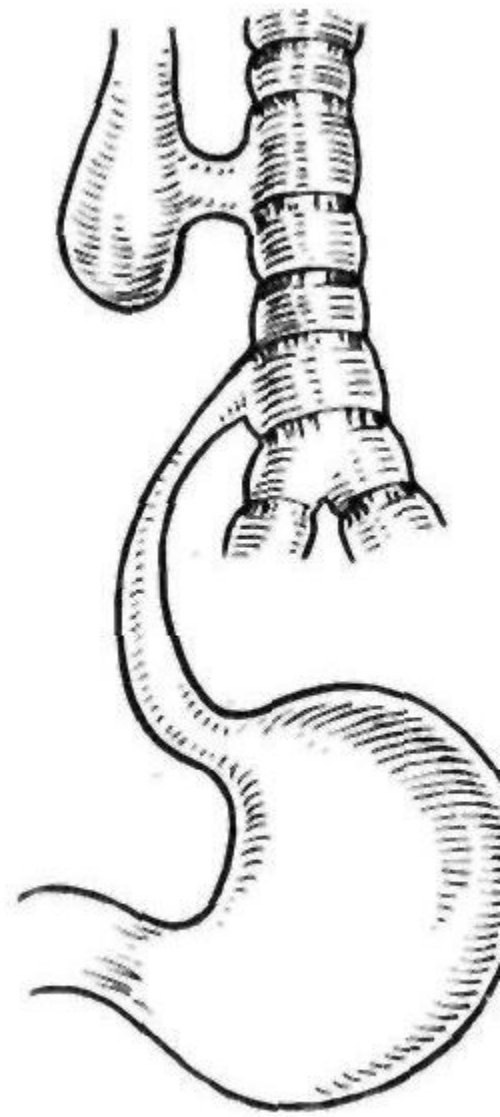
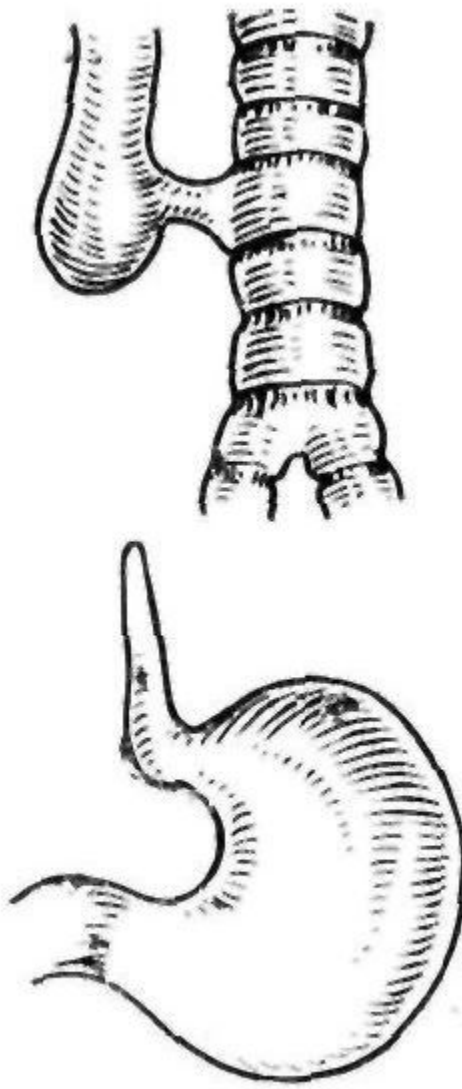
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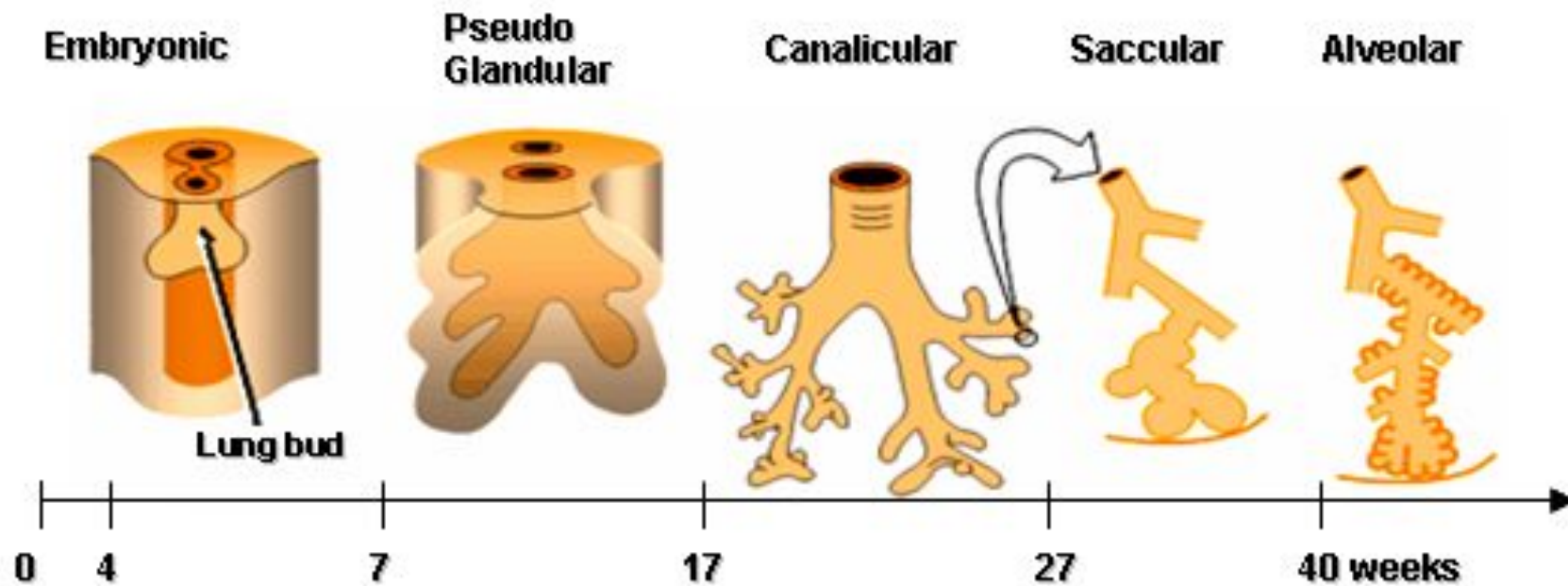


(a) Week 4: Respiratory diverticulum and primary bronchial buds form

(b) Week 5: Secondary bronchial buds form

(c) Week 6: Tertiary bronchi form

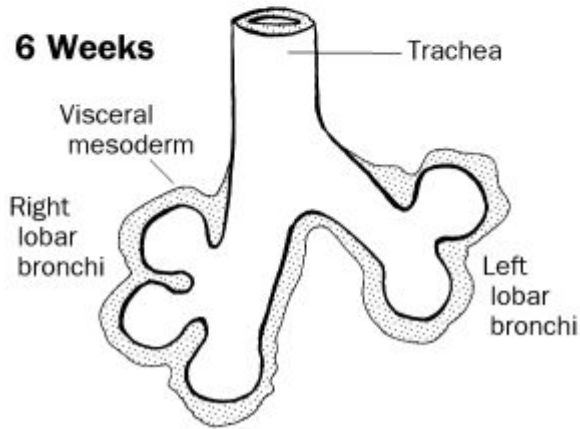
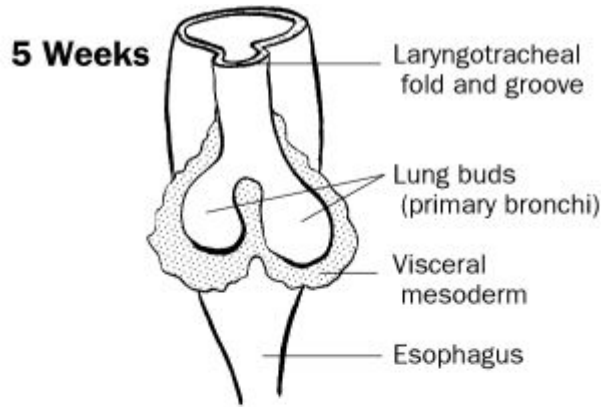




The stages of pulmonary development

| | | | | | |
|----------------|--------------|---|--|---|--|
| Органы дыхания | | | | | |
| | 1. Жабры рыб | 2. Жабры <i>головастика и мешковидные легкие амфибий</i> | 3. Ячеистые <i>легкие рептилий мешками птиц</i> | 4. Губчатые <i>легкие с воздушными</i> | 5. Губчатые <i>легкие млекопитающих</i> |

Table 14 - Stages of Lung Development



| Time period | Stage | Notes |
|-----------------|-----------------|---|
| Weeks 5 – 17 | Pseudoglandular | Developing lungs resemble an exocrine gland. Respiration is not possible. Fetuses born during this period cannot survive. |
| Weeks 16 – 25 | Canalicular | Terminal bronchioles divide and primitive alveolar sacs (terminal sacs) develop. Some respiration may be possible towards the end of this stage. Fetuses born towards the end of this period (weeks 22-25) can survive if given intensive care but often die anyway. |
| Week 24 – birth | Terminal sac | Many more alveoli develop, and the epithelium lining the terminal sacs become thin enough to allow respiration. Type I and Type II pneumocytes develop. Type II pneumocytes begin producing pulmonary surfactant , which counteracts surface tension and facilitates expansion of the terminal sacs at birth. Fetuses born after 24 weeks may survive , and those born after 32 weeks have a good chance of survival. |
| Birth – year 8 | Alveolar | Respiratory bronchioles, terminals, alveolar ducts continue to increase in number |

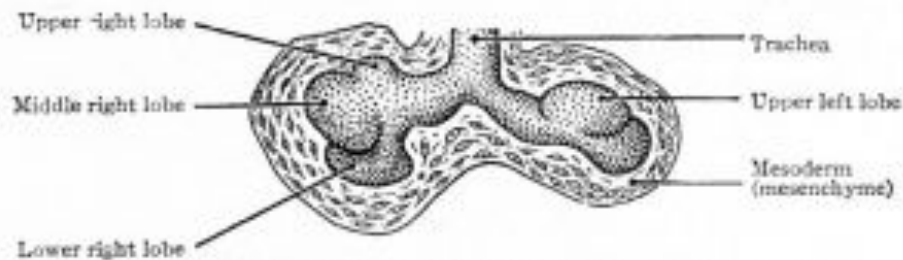


FIG. 287.—Anlage of lungs of a human embryo of 4.3 mm. *His.*

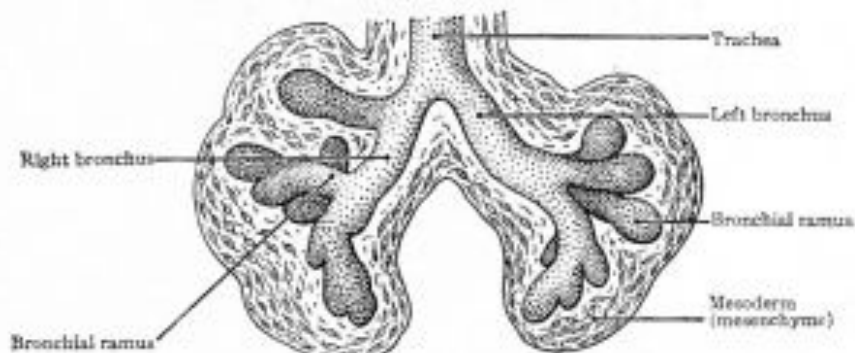


FIG. 288.—Anlage of lungs of a human embryo of 8.5 mm. *His.*

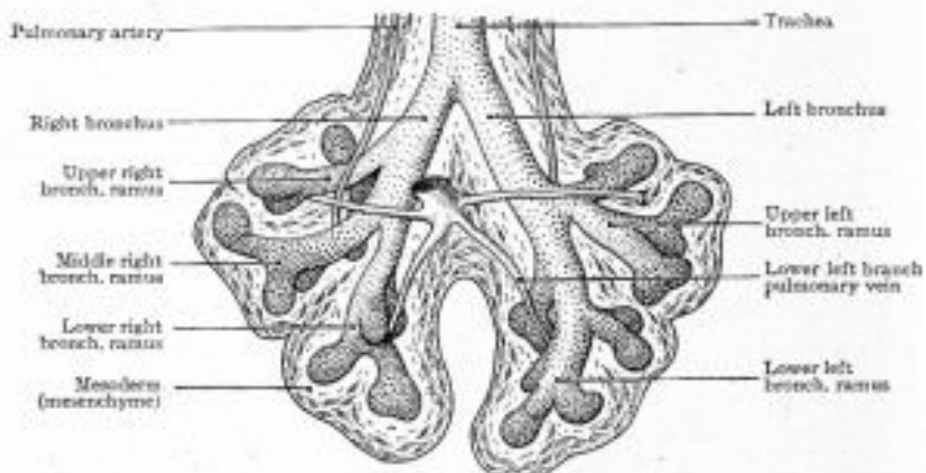
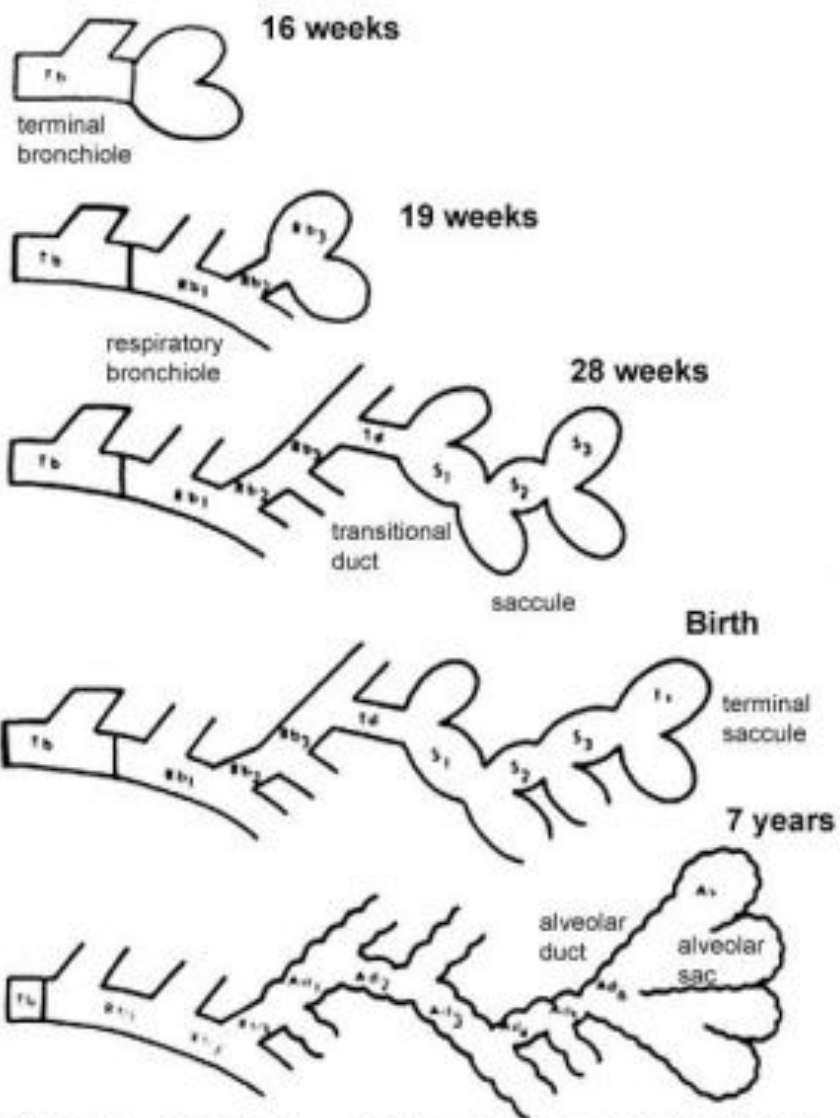


FIG. 289.—Anlage of lungs of a human embryo of 10.5 mm. *His.*



Modified from Dilly SA. *Thorax*. 1984 Oct;39(10):733-42. PMID: 6495241