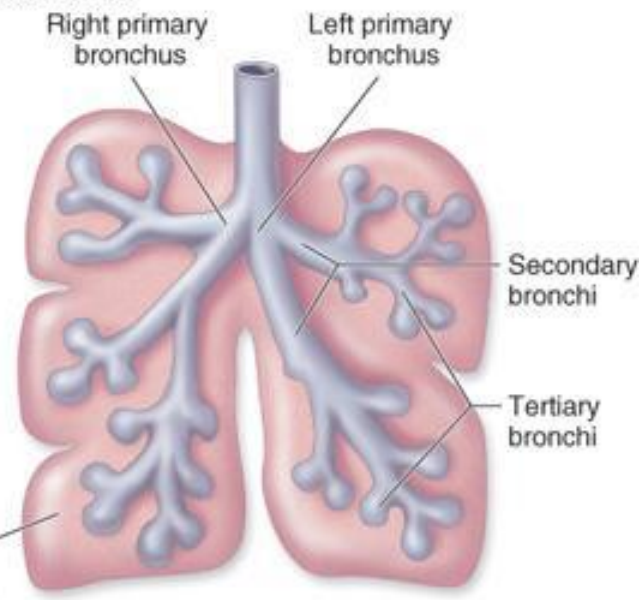
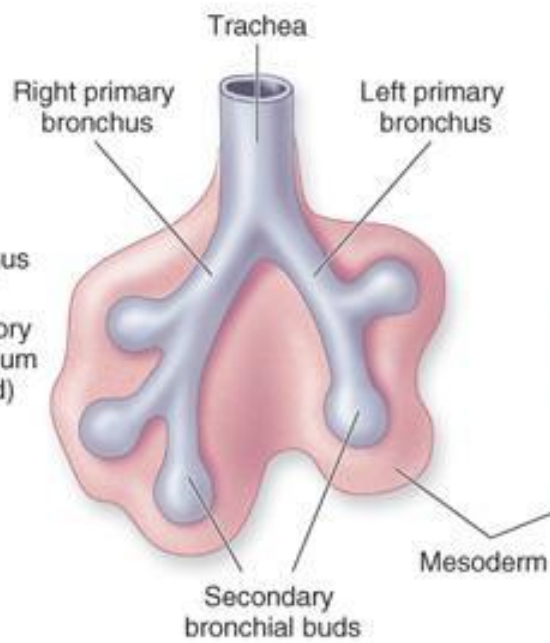
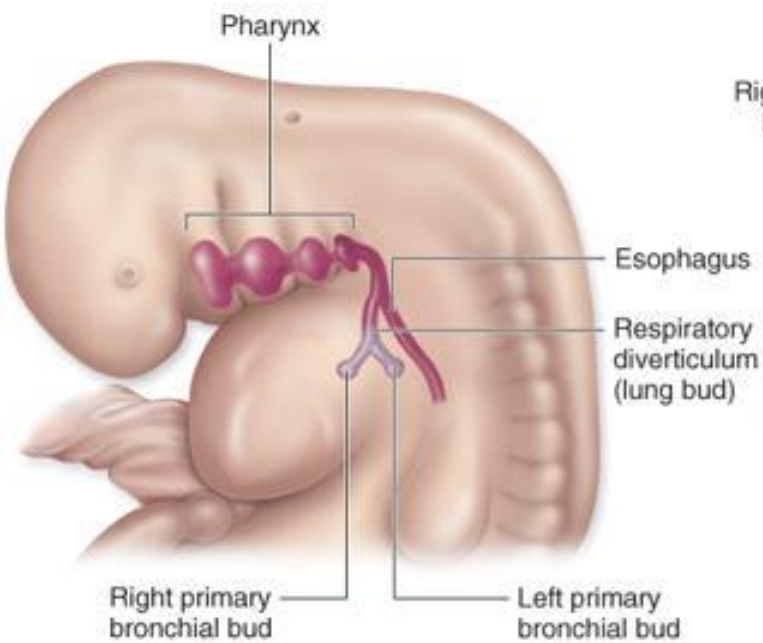


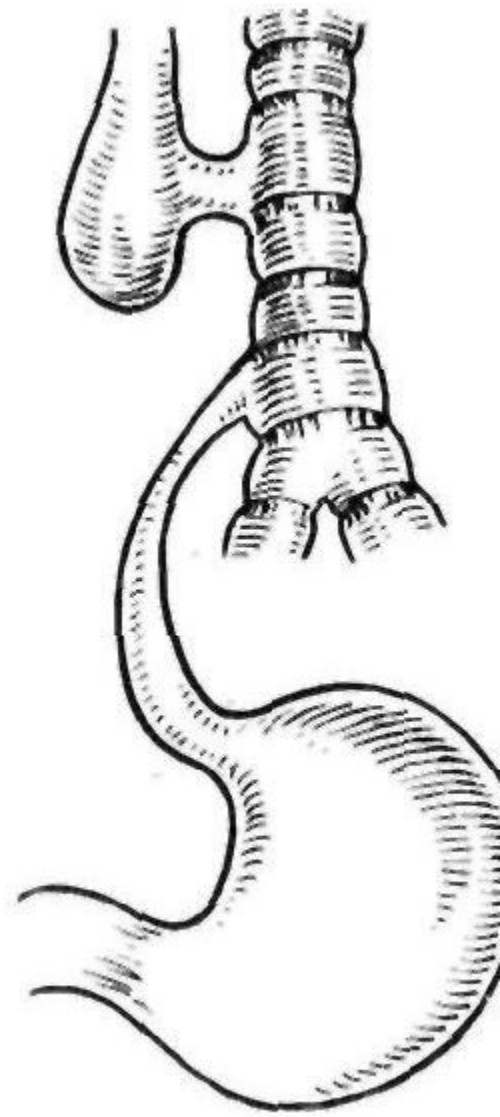
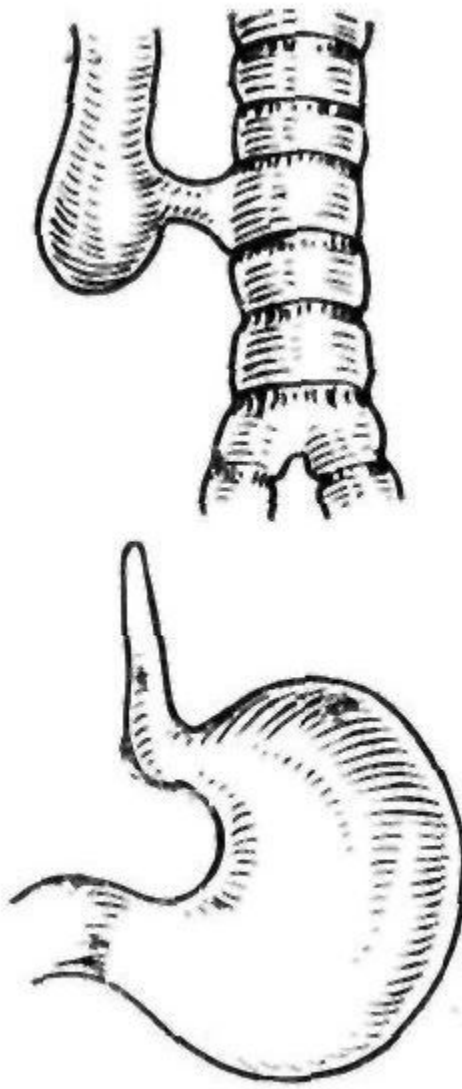
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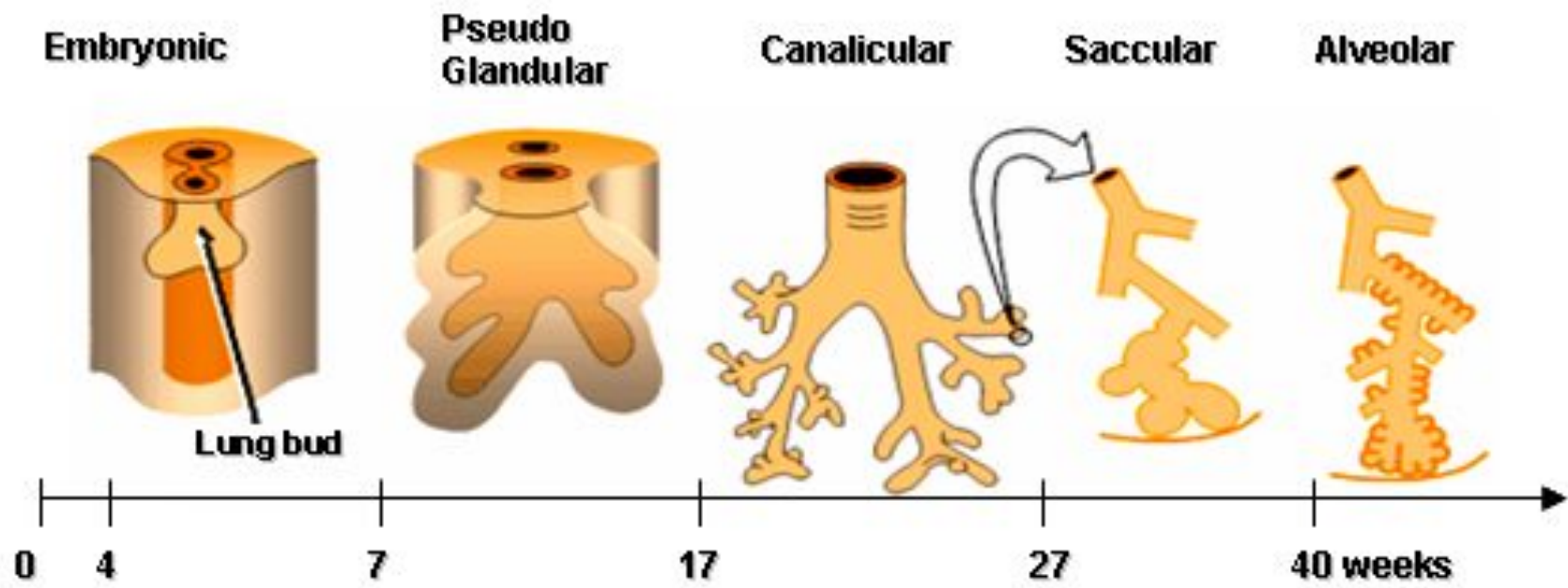


(a) Week 4: Respiratory diverticulum and primary bronchial buds form

(b) Week 5: Secondary bronchial buds form

(c) Week 6: Tertiary bronchi form

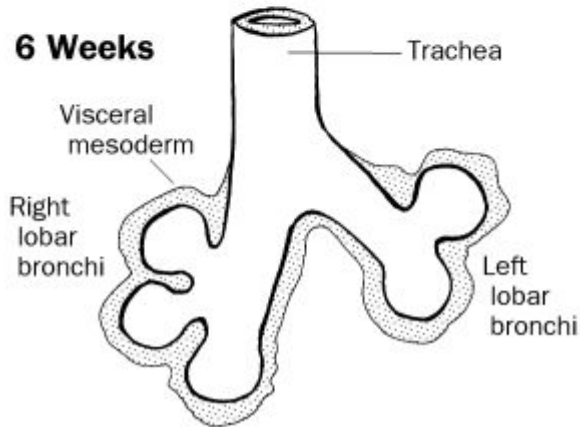
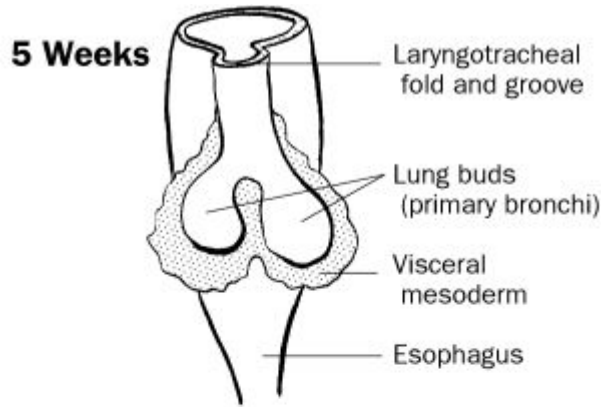




The stages of pulmonary development

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

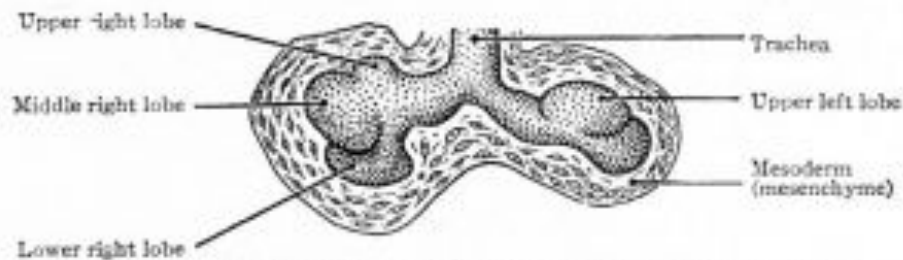


FIG. 287.—Anlage of lungs of a human embryo of 4.3 mm. *His.*

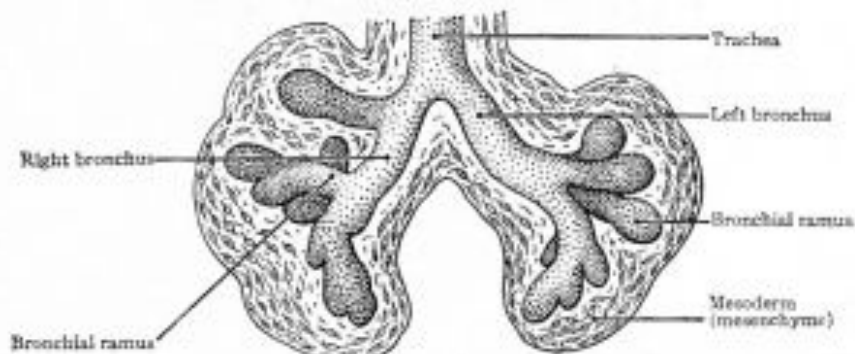


FIG. 288.—Anlage of lungs of a human embryo of 8.5 mm. *His.*

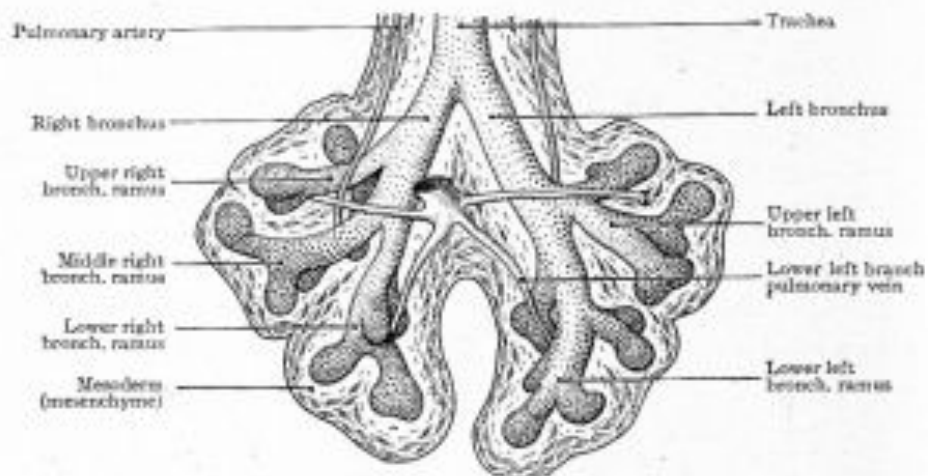
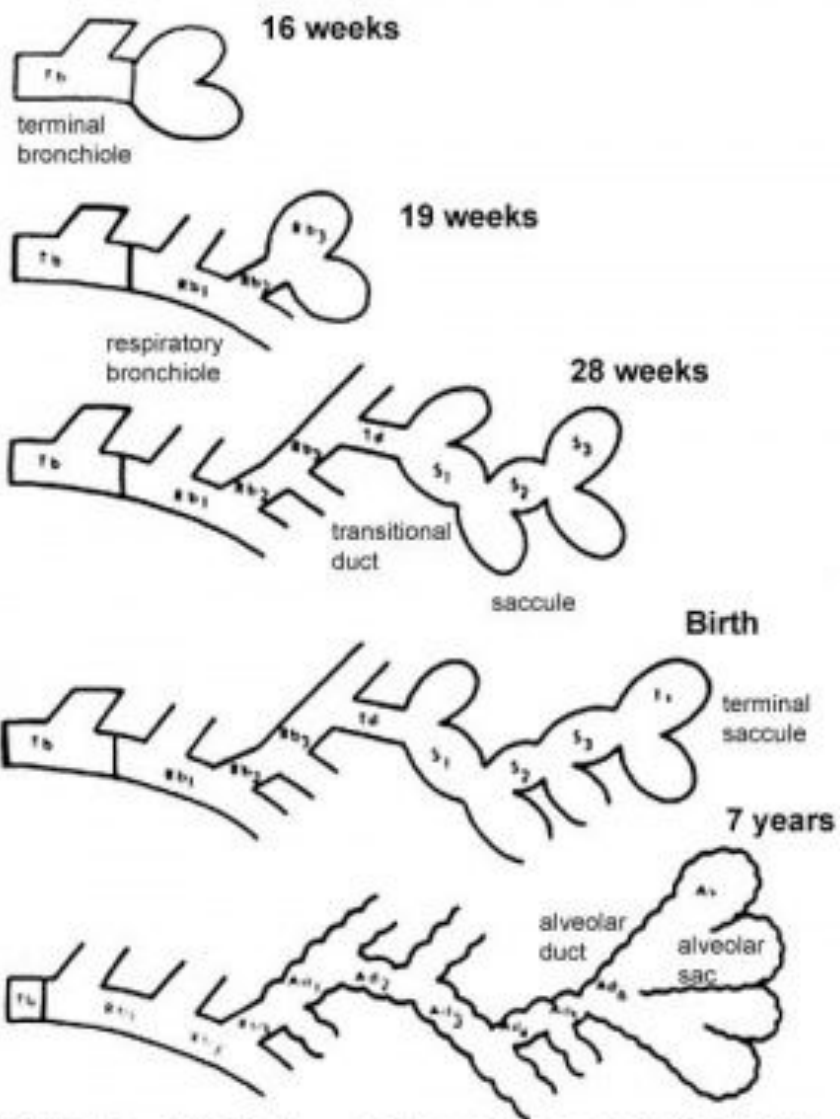


FIG. 289.—Anlage of lungs of a human embryo of 10.5 mm. *His.*



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