

LABORATORY EXERCISE 50 RESPIRATORY ORGANS

Figure Labels

FIG. 50.1

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|-----------------------------|------------------|
| 1. Nostril (external naris) | 7. Frontal sinus |
| 2. Oral cavity | 8. Nasal cavity |
| 3. Epiglottis | 9. Pharynx |
| 4. Larynx | 10. Trachea |
| 5. Bronchus (right primary) | 11. Left lung |
| 6. Right lung | |

FIG. 50.2

- | | |
|---------------------------------------|---------------------------|
| 1. Frontal sinus | 8. Superior nasal concha |
| 2. Nostril (external naris) | 9. Middle nasal concha |
| 3. Auditory (eustachian) tube opening | 10. Inferior nasal concha |
| 4. Uvula | 11. Sphenoidal sinus |
| 5. Palatine tonsil | 12. Nasopharynx |
| 6. Epiglottis | 13. Oropharynx |
| 7. Trachea | 14. Laryngopharynx |

FIG. 50.3

- | | |
|--------------------------------------|--------------------------------------|
| 1. Epiglottis (epiglottic cartilage) | 4. Epiglottis (epiglottic cartilage) |
| 2. Thyroid cartilage | 5. Thyroid cartilage |
| 3. Cricoid cartilage | 6. Cricoid cartilage |

FIG. 50.4

- | | |
|---------------|---------------------------------------|
| 1. Epiglottis | 3. False vocal cord (vestibular fold) |
| 2. Glottis | 4. True vocal cord (vocal fold) |

Laboratory Report Answers

PART A

- | | | | |
|------|------|------|-------|
| 1. h | 4. a | 7. j | 10. c |
| 2. b | 5. e | 8. f | |
| 3. i | 6. d | 9. g | |

PART B

(sketches)

PART C

- | | |
|---|--|
| 1. The sticky mucus is secreted into the upper and lower respiratory tract, which will trap particles of dust and microorganisms. | 3. If the smooth muscle of the bronchial tree relaxes, the air passages dilate, which allows a greater volume of air movement. |
| 2. The cilia create a current of mucus toward the pharynx. The mucus contains entrapped particles that are usually swallowed. | |



Critical Thinking Application Answer

The simple squamous epithelial cells allow for rapid diffusion of oxygen and carbon dioxide between the blood and the alveolar air.

LABORATORY EXERCISE 51

CAT DISSECTION: RESPIRATORY SYSTEM

Laboratory Report Answers

1. The auditory tube allows air to pass between the cavity of the middle ear and the outside environment. As a result, air pressure normally remains equal on both sides of the eardrum.
2. The glottis is the opening at the superior (anterior in cats) end of the larynx. The epiglottis is a flaplike structure that shunts food and liquid away from the glottis during swallowing.
3. The tracheal rings are incomplete as they are in the human.
4. The structure of the primary bronchi and the trachea are similar.
5. The cat has three main lobes in each lung (anterior, middle, and posterior). The posterior lobe on the right side has an accessory lobe associated with it, making a total of four lobes on the right lung. The human has three lobes in the right lung and two in the left.
6. The diaphragm is attached to the lower rim of the thorax and to a central tendon.
7. The heart, esophagus, trachea, and thymus gland are found in the mediastinum. These are the same major structures found in the human mediastinum.