

LABORATORY EXERCISE 52

ORGANS OF THE RESPIRATORY SYSTEM

Figure Labels

FIG. 52.1

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

FIG. 52.2

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

FIG. 52.3

- | | |
|--------------------------------------|--------------------------|
| 1. Epiglottis (epiglottic cartilage) | 5. Corniculate cartilage |
| 2. Thyroid cartilage | 6. Arytenoid cartilage |
| 3. Cricoid cartilage | 7. Thyroid cartilage |
| 4. Epiglottis (epiglottic cartilage) | 8. Cricoid cartilage |

FIG. 52.4

- | | |
|---------------|---------------------|
| 1. Epiglottis | 3. False vocal cord |
| 2. Glottis | 4. True vocal cord |

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 53

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 lobes in each lung. (The third lobe on the right has a fold of mediastinum that is sometimes called a fourth lobe.) 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.