ACTIVITY

# 11

# RESPIRATORY AND DIGESTIVE SYSTEMS

## OBJECTIVES

- ❒ **How to get ready:** Read CHAPTERS 25 AND 26, MCKINLEY ET AL., *HUMAN ANATOMY*, 5E. All text references are for this textbook.
- ❒ Identify structures listed in the gross anatomy of the respiratory system on models and cadavers.
- ❒ Histology: Examine and sketch a slide or photo of lung tissue and identify indicated structures.
- ❒ Identify structures listed in the gross anatomy of the digestive system on models and cadavers. **YOU MUST BRING GLOVES FOR THIS ACTIVITY.**
- ❒ Identify structures from various digestive system histology slides and models.
- ❒ **Before next class:** Preview Urinary and Reproductive terms lists from SLCC Anatomy Laboratory website or your printed laboratory manual and your textbook.

# Activity 11

## RESPIRATORY SYSTEM

TABLE 11-1. **Upper respiratory tract:** Includes the nose, nasal cavity, paranasal sinuses, and pharynx and associated structures.

| STRUCTURE | TEXT REFERENCES AND NOTES |
|---|---|
| **NASAL CAVITY** | **DESCRIBED: P. 744**<br>**FIG. 25.2** |
| ▫ nostril | |
| ▫ vestibule | |
| ▫ superior nasal concha (pl., *conchae*) and superior meatus | |
| ▫ middle nasal concha and middle meatus | |
| ▫ inferior nasal concha and inferior meatus | |
| **PARANASAL SINUSES** | **DESCRIBED: P. 744**<br>**FIG. 7.3, 25.2, 25.3** |
| ▫ sphenoidal sinus | |
| ▫ ethmoidal sinuses | |
| ▫ frontal sinus | |
| ▫ maxillary sinuses | |
| **PHARYNX** (common space used by respiratory and digestive systems) | **DESCRIBED: PP. 744, 746**<br>**FIG. 25.1, 25.2** |
| ▫ nasopharynx | |
| ▫ opening of auditory tube | |
| ▫ hard palate<br>▫ soft palate (divides nasopharynx and oropharynx) | |
| ▫ oropharynx | |
| ▫ hyoid bone (divides oropharynx and laryngopharynx) | |
| ▫ laryngopharynx | |

TABLE 11-2. **Lower respiratory tract:** Conducting airways—larynx through bronchioles. TABLE 25.2

| STRUCTURE | TEXT REFERENCES AND NOTES |
|---|---|
| **LARYNX** | |
| ▫ epiglottis | **DESCRIBED: P. 748**<br>**FIG. 25.2, 25.4, FIG. 25.5** |
| ▫ rima glottidis | |
| ▫ glottis | |
| ▫ thyroid cartilage and laryngeal prominence | |
| ▫ corniculate cartilage | |
| ▫ cricoid cartilage | |
| ▫ arytenoid cartilages (covered by muscles) | |
| ▫ vestibular ligaments/folds (false vocal cords) | |
| ▫ vocal ligaments/folds (true vocal cords) | |
| NOTE: thyroid gland (part of the endocrine system) | |
| **Trachea** | **DESCRIBED: P. 751**<br>**FIG. 25.6** |
| ▫ tracheal cartilages | |
| **Bronchial Tree** | **DESCRIBED: PP. 752–753**<br>**FIG. 25.7** |
| ▫ main (*or* primary) bronchus (pl., *bronchi*) | |
| ▫ lobar (*or* secondary) bronchus (2 to left, 3 to right lung) | |
| ▫ segmental (*or* tertiary) bronchus (lead to respiratory bronchioles and alveoli) | |

TABLE 11-3. **Alveoli and the respiratory membrane:** Obtain a histology slide or photo of bronchioles and alveoli and identify the following structures.

| STRUCTURE | TEXT REFERENCES AND SKETCH |
|---|---|
| ▫ respiratory bronchioles | **DESCRIBED: P. 754**<br>**FIG. 25.8B, 25.9** |
| ▫ alveolar ducts | |
| ▫ alveolar sacs | |
| ▫ alveoli (sing., *alveolus*) | |
| ▫ pulmonary capillaries | |

TABLE 11-4. Lungs and associated structures

| STRUCTURE | TEXT REFERENCES AND NOTES |
|---|---|
| ▫ visceral pleura | **DESCRIBED: P. 756**<br>**FIG. 25.10** |
| ▫ pleural cavity | |
| ▫ parietal pleura | |
| **LUNGS** | **DESCRIBED: PP. 756–757**<br>**FIG. 25.11** |
| ▫ right lung (3 lobes) | |
| ▫ superior lobe | |
| ▫ horizontal fissure | |
| ▫ middle lobe | |
| ▫ oblique fissure | |
| ▫ inferior lobe | |
| ▫ hilum | |
| ▫ pulmonary arteries and veins | |
| ▫ main (*or* primary) bronchus (pl., *bronchi*) | |
| ▫ left lung (2 lobes) | |
| ▫ superior lobe | |
| ▫ cardiac notch | |
| ▫ oblique fissure | |
| ▫ inferior lobe | |
| ▫ hilum | |
| ▫ pulmonary arteries and veins | |
| ▫ main (*or* primary) bronchus (pl., *bronchi*) | |
| ▫ diaphragm | **DESCRIBED: PP. 341, 761**<br>**FIG. 11.13, 25.10, 25.1** |

## DIGESTIVE SYSTEM

**TABLE 11-5.** Oral cavity, salivary glands, and associated structures

| STRUCTURE | TEXT REFERENCES AND NOTES |
|---|---|
| **ORAL CAVITY** | **DESCRIBED: PP. 775–776**<br>**FIG. 26.3, TABLE 26.3** |
| ▫ upper and lower lips | |
| ▫ superior labial frenulum | |
| ▫ inferior labial frenulum | |
| ▫ vestibule | |
| ▫ teeth | |
| ▫ gingivae | |
| ▫ hard and soft palates | |
| ▫ uvula | |
| ▫ tongue | |
| ▫ lingual frenulum | |
| ▫ palatine tonsils | |
| ▫ lingual tonsils | |
| ▫ pharyngeal tonsils | |
| **SALIVARY GLANDS** | **DESCRIBED: PP. 776, 778**<br>**FIG. 26.1, 26.4** |
| ▫ parotid salivary glands | |
| ▫ parotid duct and orifice | |
| ▫ sublingual salivary glands | |
| ▫ sublingual ducts and orifices | |
| ▫ submandibular salivary glands | |
| ▫ submandibular duct and orifice | |

**TABLE 11-6.** Esophagus through stomach

| STRUCTURE | TEXT REFERENCES AND NOTES |
|---|---|
| ▫ **esophagus** | **DESCRIBED: PP. 785–786**<br>**FIG. 26.10** |
| ▫ inferior esophageal (*or* cardiac) sphincter | |
| ▫ **stomach** | **DESCRIBED: P. 787**<br>**FIG. 26.12** |
| ▫ cardia | |
| ▫ fundus | |
| ▫ greater curvature | |
| ▫ lesser curvature | |
| ▫ pylorus | |
| ▫ pyloric sphincter | |
| ▫ gastric folds (*or* rugae) | |
| ▫ body | |
| ▫ greater omentum | **DESCRIBED: P. 781**<br>**FIG. 26.7, 26.8** |
| ▫ lesser omentum | |

**TABLE 11-7.** Small intestine, large intestine, rectum, and anus

| STRUCTURE | TEXT REFERENCES AND NOTES |
|---|---|
| ▫ **SMALL INTESTINE** | **DESCRIBED: P. 791**<br>**FIG. 26.7, 26.14, 26.15, 26.20** |
| ▫ duodenum | |
| ▫ hepatopancreatic ampulla | |
| ▫ major duodenal papilla (opening to main pancreatic duct) | |
| ▫ circular folds (*or* plicae circulares) | |
| ▫ jejunum | |
| ▫ circular folds | |
| ▫ ileum | |
| ▫ circular folds (plicae circulares) | |
| ▫ mesentery proper (*or* intestinal mesentery) | **DESCRIBED: P. 781**<br>**FIG. 26.7, 26.8** |

**TABLE 11-7.** Small intestine, large intestine, rectum, and anus

| STRUCTURE | TEXT REFERENCES AND NOTES |
|---|---|
| ▫ **LARGE INTESTINE** (includes cecum and colon) | **DESCRIBED: PP. 793–794**<br>**FIG. 26.16** |
| ▫ cecum (inferior to ileocecal valve) | |
| ▫ vermiform appendix | |
| ▫ ileocecal valve (*or* sphincter) | |
| ▫ colon (superior to ileocecal valve) | |
| ▫ ascending colon and right colic flexure | |
| ▫ transverse colon and left colic flexure | |
| ▫ descending colon and sigmoid flexure | |
| ▫ sigmoid colon | |
| ▫ teniae coli | **DESCRIBED: P. 796**<br>**FIG. 26.16** |
| ▫ haustrum (pl., *haustra*) | |
| ▫ **RECTUM AND ANUS** | **DESCRIBED: PP. 794–795**<br>**FIG. 26.16B** |

**TABLE 11-8.** Accessory digestive structures and biliary system

| STRUCTURE | TEXT REFERENCES |
|---|---|
| ▫ liver | **DESCRIBED: PP. 797–798**<br>**FIG. 26.18** |
| ▫ right, left, caudate, and quadrate lobes | |
| ▫ falciform ligament (separates right and left lobes) | |
| ▫ round ligament of the liver (*or* ligamentum teres) | |
| ▫ porta hepatis | |
| ▫ common hepatic duct | |
| ▫ hepatic portal vein | |
| ▫ hepatic artery proper | |
| ▫ gallbladder | **DESCRIBED: PP. 798–803**<br>**FIG. 26.18, 26.20, 26.21** |
| ▫ cystic duct | |
| ▫ common bile duct | |
| ▫ pancreas | |
| ▫ main pancreatic duct | |
| ▫ accessory pancreatic duct | |

## HISTOLOGY OF THE DIGESTIVE SYSTEM

TABLE 11-9. **Histology of the GI tract:** Identify the following structures and layers on a histology slide or photo *and a model* of a cross section of the GI tract.

| STRUCTURE | TEXT REFERENCES AND SKETCH |
|---|---|
| Identify the following structures on GI tract cross section slides **and on in-class model** | |
| ▫ **lumen** | PP. 782–783 FIG. 26.9 |
| ▫ **mucosa** | |
| ▫ **submucosa** | |
| ▫ **muscularis** | |
| ▫ **adventitia/serosa** | |