

# Netter's Histology Flash Cards – Section 2 – List Updated Edition

<https://www.memrise.com/course/1579361/>

<b>Section 2</b>	<b>Systems (149 cards)</b>
<b>8</b>	<b>Cardiovascular System (11 cards)</b>
<b>Plate 8-1</b>	<b>Atrium</b>
8-1.1	Right atrium
8-1.2	Interventricular septum (myocardium)
8-1.3	Left ventricle (myocardium)
8-1.4	Epicardium
8-1.5	Myocardium
8-1.6	Endocardium
<b>Plate 8-2</b>	<b>Heart Wall and Pericardium</b>
8-2.1	Right atrium
8-2.2	Aorta
8-2.3	Left ventricle
8-2.4	Epicardium (Visceral pericardium)
8-2.5	Coronary blood vessels: arteriole and venule
8-2.6	Nerve fibers
8-2.7	Cardiac muscle
<b>Plate 8-3</b>	<b>Aorta</b>
8-3.1	Left pulmonary artery
8-3.2	Left inferior pulmonary vein
8-3.3	Tunica intima
8-3.4	Tunica media
8-3.5	Tunica adventitia
<b>Plate 8-4</b>	<b>Coronary Artery</b>
8-4.1	Circumflex branch of left coronary artery
8-4.2	Right coronary artery
8-4.3	Tunica media
8-4.4	Tunica adventitia
8-4.5	Adipocyte (adipose tissue)
8-4.6	Collagen
8-4.7	External elastic lamina
8-4.8	Internal elastic lamina
<b>Plate 8-5</b>	<b>Arteriole</b>
8-5.1	Tunica adventitia
8-5.2	Endothelium
8-5.3	Contractile filaments in smooth muscle cell
8-5.4	Intercellular (tight) junction
8-5.5	Collagen
8-5.6	Dense bodies
8-5.7	Basal lamina
8-5.8	Nucleus of smooth muscle cell
<b>Plate 8-6</b>	<b>Arteriole and Venule</b>
8-6.1	Lumen of arteriole
8-6.2	Lumen of venule
8-6.3	Endothelial cell of arteriole
8-6.4	Fibroblast processes
8-6.5	Endothelial cell nucleus
8-6.6	Smooth muscle cell nucleus
8-6.7	Collagen
<b>Plate 8-7</b>	<b>Small Vein</b>
8-7.1	Tunica media
8-7.2	Endothelium
8-7.3	Tunica adventitia
8-7.4	Leaflet of a venous valve
<b>Plate 8-8</b>	<b>Endothelium</b>

8-8.1	Erythrocyte
8-8.2	Golgi Complex
8-8.3	Rough endoplasmic reticulum
8-8.4	Mitochondrion
8-8.5	Vesicle
8-8.6	Nucleus
8-8.7	Fibroblast process
<b>Plate 8-9</b>	<b>Tight Capillary</b>
8-9.1	Nucleus of pericyte
8-9.2	Erythrocyte
8-9.3	Endothelial cell
8-9.4	Intercellular (tight) junction
8-9.5	Basal lamina
<b>Plate 8-10</b>	<b>Fenestrated Capillary</b>
8-10.1	Endothelium
8-10.2	Secretory granule (dense granule)
8-10.3	Basal lamina
8-10.4	Fenestrae
<b>Plate 8-11</b>	<b>Lymphatic Vessel</b>
8-11.1	Lymphatic channel
8-11.2	Arteriole
8-11.3	Venule
8-11.4	Lymphatic capillary
<b>9</b>	<b>Lymphoid System (10 cards)</b>
<b>Plate 9-1</b>	<b>Lymphoid Tissue</b>
9-1.1	Intestinal epithelium
9-1.2	Lamina propria
9-1.3	Gut-associated lymphatic tissue (GALT)
9-1.4	Blood vessel
9-1.5	Alveolus of lung
9-1.6	Bronchiolar associated lymphatic tissue (BALT)
9-1.7	Bronchiolar epithelium
<b>Plate 9-2</b>	<b>Lymphatic Vesse</b>
9-2.1	Lymphatic vessel
9-2.2	Nerve fascicle
9-2.3	Connective tissue
9-2.4	Arteriole
9-2.5	Venule
<b>Plate 9-3</b>	<b>Lymph Node</b>
9-3.1	Parotid Gland
9-3.2	Lymphatic vessel
9-3.3	Internal jugular vein
9-3.4	Cortex
9-3.5	Medulla
9-3.6	Trabecula
9-3.7	Capsule
<b>Plate 9-4</b>	<b>Lymph Node</b>
9-4.1	Medulla
9-4.2	Paracortex
9-4.3	Efferent lymphatic
9-4.4	Subcapsular sinus
9-4.5	Trabecula
9-4.6	Germinal center
9-4.7	Capsule
9-4.8	Lymphoid nodule in cortex
9-4.9	Afferent lymphatics
<b>Plate 9-5</b>	<b>High Endothelial Venule</b>
9-5.1	Lymphocyte
9-5.2	Plasma cell
9-5.3	High endothelial cell

9-5.4	Lymphocytes in wall of venule
9-5.5	Erythrocyte
<b>Plate 9-6</b>	<b>Tonsil</b>
9-6.1	Palatine tonsil
9-6.2	Tonsillar crypt
9-6.3	Lymphoid nodules
9-6.4	Surface epithelium
9-6.5	Mucous gland
9-6.6	Connective tissue
<b>Plate 9-7</b>	<b>Thymus</b>
9-7.1	Capsule
9-7.2	Hassal's corpuscles
9-7.3	Lymphocytes
9-7.4	Capillaries
9-7.5	Epithelial reticular cell
<b>Plate 9-8</b>	<b>Spleen</b>
9-8.1	Capsule
9-8.2	Hilum
9-8.3	Red pulp
9-8.4	White pulp
9-8.5	Splenic artery
<b>Plate 9-9</b>	<b>White Pulp</b>
9-9.1	Venous sinus
9-9.2	Capsule
9-9.3	Trabecular artery
9-9.4	Trabecular vein
9-9.5	Secondary lymphoid nodule
9-9.6	Germinal center
9-9.7	Red pulp
9-9.8	Periarteriolar lymphatic sheath
9-9.9	Central arteriole
<b>Plate 9-10</b>	<b>Red Pulp</b>
9-10.1	Venous sinuses
9-10.2	Splenic cords
9-10.3	Reticular fibers
9-10.4	Lymphocytes
9-10.5	Reticular cell
<b>10</b>	<b>Endocrine System (12 cards)</b>
<b>Plate 10-1</b>	<b>Pituitary</b>
10-1.1	Nasal septum
10-1.2	Sphenoid sinus
10-1.3	Hypothalamus
10-1.4	Brain stem (pons)
10-1.5	Posterior lobe
10-1.6	Intermediate lobe
10-1.7	Anterior lobe
10-1.8	Tuberalis
10-1.9	Infundibular stalk
<b>Plate 10-2</b>	<b>Intermediate Lobe</b>
10-2.1	Infundibular stalk
10-2.2	Colloid-filled cysts (Rathke's cysts)
10-2.3	Posterior lobe
10-2.4	Intermediate lobe
10-2.5	Anterior lobe
<b>Plate 10-3</b>	<b>Anterior Pituitary</b>
10-3.1	Superior hypophyseal artery
10-3.2	Hypophyseal portal vein
10-3.3	Posterior lobe
10-3.4	Basophil
10-3.5	Chromophobe

10-3.6	Acidophil
10-3.7	Sinusoidal capillary
<b>Plate 10-4</b>	<b>Posterior Pituitary</b>
10-4.1	Paraventricular nucleus
10-4.2	Supraoptic nucleus
10-4.3	Anterior lobe
10-4.4	Pituicyte
10-4.5	Herring body
10-4.6	Sinusoidal capillary
10-4.7	Axon bundles of hypothalamo-hypophyseal tract
<b>Plate 10-5</b>	<b>Thyroid</b>
10-5.1	Thyroid cartilage
10-5.2	Isthmus of thyroid gland
10-5.3	Stroma
10-5.4	Parafollicular (C) cell
10-5.5	Colloid in thyroid follicle
10-5.6	Follicular cell
<b>Plate 10-6</b>	<b>Parathyroid</b>
10-6.1	Right lobe of thyroid gland
10-6.2	Trabecula
10-6.3	Blood vessels
10-6.4	Fat cells (adipocytes)
10-6.5	Oxyphil
10-6.6	Chief cell
<b>Plate 10-7</b>	<b>Adrenal</b>
10-7.1	Vascular channels in medulla
10-7.2	Capsule
10-7.3	Zona fasciculata
10-7.4	Medulla
10-7.5	Zona reticularis
<b>Plate 10-8</b>	<b>Adrenal</b>
10-8.1	Suprarenal artery
10-8.2	Capsule
10-8.3	Zona glomerulosa
10-8.4	Zona fasciculata
10-8.5	Zona reticularis
10-8.6	Medulla
10-8.7	Central vein of medulla
<b>Plate 10-9</b>	<b>Spongiocyte</b>
10-9.1	Sinusoidal capillary
10-9.2	Lipid droplets
10-9.3	Endothelium (fenestrated)
10-9.4	Nucleolus of spongiocyte
10-9.5	Spongiocyte of zona reticularis
<b>Plate 10-10</b>	<b>Pancreas</b>
10-10.1	Pancreas (head)
10-10.2	Pancreas (tail)
10-10.3	Serous acinar cells of exocrine pancreas
10-10.4	Islet of Langerhans
10-10.5	Beta cells
10-10.6	Alpha cells
<b>Plate 10-11</b>	<b>Islet of Langerhans</b>
10-11.1	Capillary
10-11.2	Mitochondria
10-11.3	Rough endoplasmic reticulum
10-11.4	Erythrocyte
10-11.5	Endothelium (fenestrated)
10-11.6	Euchromatin of nucleus
10-11.7	Secretory vesicles
10-11.8	Serous acinar cell of exocrine pancreas

<b>Plate 10-12</b>	<b>Pineal</b>
10-12.1	Stroma
10-12.2	Corpora aranacea (brain sand)
10-12.3	Pinealocytes
10-12.4	Glial cells
10-12.5	Sinusoidal capillary
<b>11</b>	<b>Integumentary System (12 cards)</b>
<b>Plate 11-1</b>	<b>Thin Skin</b>
11-1.1	Duct of eccrine sweat gland
11-1.2	Stratified squamous epithelium (epidermis)
11-1.3	Sebaceous gland
11-1.4	Arrector pili muscle
11-1.5	Hair bulb
11-1.6	Cutaneous nerve
<b>Plate 11-2</b>	<b>Thick Skin</b>
11-2.1	Epidermis (stratified squamous keratinized epithelium)
11-2.2	Stratum basale of epidermis
11-2.3	Keratin (stratum corneum)
11-2.4	Meissner's corpuscle
11-2.5	Stratum granulosum of epidermis
11-2.6	Keratinocytes in stratum spinosum
<b>Plate 11-3</b>	<b>Epidermis</b>
11-3.1	Stratum corneum (keratin)
11-3.2	Melanocyte
11-3.3	Stratum granulosum
11-3.4	Langerhans cell
11-3.5	Keratinocytes in stratum spinosum
11-3.6	Stratum basale (germinativum)
<b>Plate 11-4</b>	<b>Keratinocytes</b>
11-4.1	Nucleus of keratinocyte
11-4.2	Desmosome
11-4.3	Central core region
11-4.4	Plaque
11-4.5	Tonofilaments [intermediate (keratin) filaments]
<b>Plate 11-5</b>	<b>Melanocytes</b>
11-5.1	Melanocyte, neural crest ectoderm
11-5.2	Keratinocyte, surface ectoderm
11-5.3	Dermis, mesoderm
<b>Plate 11-6</b>	<b>Langerhans Cells</b>
11-6.1	Cytoplasm of Langerhans cell
11-6.2	Keratinocyte
11-6.3	Nucleus (euchromatin) of Langerhans cell
11-6.4	Birbeck granule
11-6.5	Monocytes
<b>Plate 11-7</b>	<b>Vasculature of the Dermis</b>
11-7.1	Superficial (subpapillary) plexus
11-7.2	Deep (cutaneous) plexus
11-7.3	Musculocutaneous artery
11-7.4	Lumen of venule
11-7.5	Cells of glomus body
11-7.6	Dense irregular connective tissue of dermis
<b>Plate 11-8</b>	<b>Eccrine Sweat Gland</b>
11-8.1	Lumen of secretory acinus of sweat gland
11-8.2	Secretory cell
11-8.3	Duct of sweat gland
11-8.4	Clear cell
11-8.5	Myoepithelial cell
11-8.6	Dark cell
<b>Plate 11-9</b>	<b>Pilosebaceous Unit</b>
11-9.1	External root sheath

11-9.2	Hair follicle
11-9.3	Dermal papilla
11-9.4	Hair bulb
11-9.5	Arrector pili muscle
11-9.6	Sebaceous gland
11-9.7	Hair shaft
<b>Plate 11-10</b>	<b>Hair and Its Follicle</b>
11-10.1	External root sheath
11-10.2	Internal root sheath
11-10.3	Hair cuticle
11-10.4	Medulla
11-10.5	Cortex
11-10.6	Huxley layer
11-10.7	Henle layer
<b>Plate 11-11</b>	<b>Sebaceous Gland</b>
11-11.1	Peripheral cell of sebaceous gland
11-11.2	Nucleus of sebaceous gland cell
11-11.3	Lipid droplet
11-11.4	Nerve fascicle
11-11.5	Arrector pili muscle
<b>Plate 11-12</b>	<b>Nails</b>
11-12.1	Nail matrix
11-12.2	Lunula
11-12.3	Hyponychium (nail bed)
11-12.4	Bone (distal phalanx)
11-12.5	Nail plate
<b>12</b>	<b>Upper Digestive System (11 cards)</b>
<b>Plate 12-1</b>	<b>Lip</b>
12-1.1	Outer (cutaneous) part of lip
12-1.2	Oral mucosa
12-1.3	Skeletal muscle (orbicularis oris)
12-1.4	Lumen of blood vessel
12-1.5	Lamina propria (loose connective tissue)
12-1.6	Stratified squamous keratinized epithelium
<b>Plate 12-2</b>	<b>Gingiva</b>
12-2.1	Oral mucosa of cheek
12-2.2	Vermilion border of the lip
12-2.3	Gingiva (or gum)
12-2.4	Keratin
12-2.5	Stratified squamous keratinized epithelium
12-2.6	Lamina propria
12-2.7	Capillary
<b>Plate 12-3</b>	<b>Tongue</b>
12-3.1	Circumvallate papilla
12-3.2	Filiform papilla
12-3.3	Fungiform papilla
12-3.4	Serous gland of von Ebner
12-3.5	Taste bud
12-3.6	Lamina propria of circumvallate papilla
<b>Plate 12-4</b>	<b>Palate</b>
12-4.1	Soft palate
12-4.2	Hard palate
12-4.3	Palatine glands
12-4.4	Myoepithelial cell at the base of a mucous acinus
12-4.5	Lumen of mucous acinus of palatine gland
12-4.6	Columnar epithelial cell of duct of palatine gland
<b>Plate 12-5</b>	<b>Teeth</b>
12-5.1	Dentin and dentinal tubules
12-5.2	Enamel
12-5.3	Crown of tooth

12-5.4	Dental pulp containing vessels and nerves
12-5.5	Bone
12-5.6	Dentinal tubule
12-5.7	Dentin matrix
12-5.8	Process of odontoblast
<b>Plate 12-6</b>	<b>Salivary Glands</b>
12-6.1	Parotid gland
12-6.2	Parotid (Stensen's) duct
12-6.3	Sublingual gland
12-6.4	Submandibular gland
12-6.5	Stroma (loose connective tissue)
12-6.6	Intralobular duct
12-6.7	Lobule of a mixed (seromucous) salivary gland
<b>Plate 12-7</b>	<b>Striated Ducts</b>
12-7.1	Fibroblast in stroma
12-7.2	Basal striations
12-7.3	Lumen of striated duct
12-7.4	Mitochondrion
12-7.5	Infoldings of basal plasma membrane
12-7.6	Basal lamina
<b>Plate 12-8</b>	<b>Esophagus</b>
12-8.1	Submucosa
12-8.2	Circular muscle
12-8.3	Stratified squamous nonkeratinized epithelium
12-8.4	Lumen of esophagus
12-8.5	Connective tissue papilla
12-8.6	Muscularis mucosae
12-8.7	Submucosa
<b>Plate 12-9</b>	<b>Esophagus</b>
12-9.1	Circular smooth muscle layer
12-9.2	Skeletal muscle (transverse section)
12-9.3	Smooth muscle (longitudinal section)
12-9.4	Loose connective tissue
12-9.5	Auerbach (myenteric) plexus
<b>Plate 12-10</b>	<b>Esophago-Gastric Junction</b>
12-10.1	Diaphragm
12-10.2	Muscularis externa (lower esophageal sphincter)
12-10.3	Z line (gastroesophageal junction)
12-10.4	Gastric surface (simple columnar) epithelium
12-10.5	Cardiac gland
12-10.6	Stratified squamous nonkeratinized epithelium of esophagus
<b>Plate 12-11</b>	<b>Enteric Nervous System</b>
12-11.1	Longitudinal (outer) layer of smooth muscle
12-11.2	Auerbach (myenteric) plexus
12-11.3	Meissner (submucosal) plexus
12-11.4	Nerve fibers of myenteric plexus
12-11.5	Ganglion cells of myenteric plexus
12-11.6	Smooth muscle
<b>13</b>	<b>Lower Digestive System (13 cards)</b>
<b>Plate 13-1</b>	<b>Stomach</b>
13-1.1	Surface mucous cell
13-1.2	Cardiac (mucus-secreting) gland
13-1.3	Gastric pit
13-1.4	Muscularis mucosae
13-1.5	Parietal cell
13-1.6	Rugae
<b>Plate 13-2</b>	<b>Stomach</b>
13-2.1	Submucosa
13-2.2	Lumen of stomach
13-2.3	Gastric mucosa

13-2.4	Parietal cell
13-2.5	Gastric chief cells
13-2.6	Gastric pit
<b>Plate 13-3</b>	<b>Parietal Cells</b>
13-3.1	Parietal cell
13-3.2	Gastric chief cell
13-3.3	Lumen of gastric gland
13-3.4	Microvilli of parietal cell
13-3.5	Canaliculi
13-3.6	Mitochondria
<b>Plate 13-4</b>	<b>Chief Cells</b>
13-4.1	Gastric chief cell
13-4.2	Nucleus (euchromatin) of gastric chief cell
13-4.3	Zymogen granules
13-4.4	Microvilli
13-4.5	Lumen of gastric gland
13-4.6	Parietal cell
13-4.7	Lumen of gastric gland
<b>Plate 13-5</b>	<b>Enteroendocrine Cells</b>
13-5.1	Lamina propria
13-5.2	Basal part of enteroendocrine cell
13-5.3	Lumen of digestive tract
13-5.4	Mitochondrion
13-5.5	Nucleus (euchromatin) of enteroendocrine cell
13-5.6	Secretory vesicles
<b>Plate 13-6</b>	<b>Duodenum</b>
13-6.1	Pyloric orifice
13-6.2	Mucosal surface
13-6.3	Brunner's (submucosal) gland
13-6.4	Muscularis mucosae
13-6.5	Intestinal villi
13-6.6	Crypt of Lieberkuhn (intestinal gland)
13-6.7	Head of pancreas
<b>Plate 13-7</b>	<b>Jejunum</b>
13-7.1	Intestinal villus
13-7.2	Intestinal crypts (of Lieberkuhn)
13-7.3	Goblet cell
13-7.4	Erythrocytes in lumen of capillary
13-7.5	Lamina propria
13-7.6	Lumen of lacteal
13-7.7	Submucosa
<b>Plate 13-8</b>	<b>Gastroduodenal Junction</b>
13-8.1	Pyloric sphincter (smooth muscle)
13-8.2	First part of duodenum
13-8.3	Pylorus of stomach
13-8.4	Lymphoid nodule with germinal center
13-8.5	Nucleus of enterocyte
13-8.6	Striated border (microvilli) of enterocyte
13-8.7	Goblet cell
<b>Plate 13-9</b>	<b>Enterocytes</b>
13-9.1	Microvillus
13-9.2	Interdigitation of lateral borders of enterocytes
13-9.3	Rough endoplasmic reticulum (RER)
13-9.4	Smooth endoplasmic reticulum (SER)
13-9.5	Striated border (microvilli)
13-9.6	Mitochondrion
13-9.7	Absorption
<b>Plate 13-10</b>	<b>Goblet Cells</b>
13-10.1	Striated border of enterocyte
13-10.2	Basement membrane



13-10.3	Mucin granules
13-10.4	Nucleus (euchromatin) of enterocyte
13-10.5	Nucleolus of goblet cell
13-10.6	Nucleus of goblet cell
<b>Plate 13-11</b>	<b>Paneth Cells</b>
13-11.1	Lamina propria
13-11.2	Lumen of intestinal crypt
13-11.3	Paneth cells
13-11.4	Muscularis mucosae
13-11.5	Secretory vesicle (granule)
13-11.6	Microvilli projecting into lumen of intestinal crypt
13-11.7	Nucleus (euchromatin) of Paneth cell
<b>Plate 13-12</b>	<b>Appendix</b>
13-12.1	Mesoappendix
13-12.2	Lumen of appendix
13-12.3	Lymphoid nodule
13-12.4	Germinal center of lymphoid nodule
13-12.5	Intestinal crypt
13-12.6	Adipose tissue in submucosa
13-12.7	Muscularis mucosae
<b>Plate 13-13</b>	<b>Rectoanal Junction</b>
13-13.1	Superior hemorrhoidal venous plexus
13-13.2	Mucosal surface of rectum
13-13.3	Pectinate line
13-13.4	Lumen of rectum
13-13.5	Goblet cells in rectal crypt
13-13.6	Stratified squamous epithelium of anal canal
13-13.7	Lymphoid nodule
<b>14</b>	<b>Liver, Gallbladder, and Exocrine Pancreas (12 cards)</b>
<b>Plate 14-1</b>	<b>Liver</b>
14-1.1	Caudate lobe
14-1.2	Common bile duct
14-1.3	Quadrangle lobe
14-1.4	Gallbladder
14-1.5	Glisson capsule (dense irregular connective tissue)
14-1.6	Hepatic parenchyma
<b>Plate 14-2</b>	<b>Hepatic Lobule</b>
14-2.1	Portal tract
14-2.2	Central vein
14-2.3	Hepatic sinusoid
14-2.4	Hepatic parenchyma
14-2.5	Branch of portal vein
<b>Plate 14-3</b>	<b>Portal Tract and Central Vein</b>
14-3.1	Bile ductule
14-3.2	Lumen of portal vein (venule)
14-3.3	Lumen of hepatic artery (arteriole)
14-3.4	Lumen of central vein
14-3.5	Erythrocytes in hepatic sinusoid
<b>Plate 14-4</b>	<b>Liver Acinus</b>
14-4.1	Central vein
14-4.2	Portal vein
14-4.3	Liver acinus
14-4.4	Classic hepatic lobule
<b>Plate 14-5</b>	<b>Hepatocyte</b>
14-5.1	Lumen of hepatic sinusoid
14-5.2	Perisinusoidal space of Dissé
14-5.3	Bile canaliculus
14-5.4	Nucleus of hepatocyte
14-5.5	Rough endoplasmic reticulum
14-5.6	Smooth endoplasmic reticulum

<b>Plate 14-6</b>	<b>Hepatocyte</b>
14-6.1	Hepatic sinusoid
14-6.2	Nucleus of hepatocyte
14-6.3	Mitochondria
14-6.4	Nucleolus
14-6.5	Golgi complex
14-6.6	Rough endoplasmic reticulum
<b>Plate 14-7</b>	<b>Hepatic Sinusoid</b>
14-7.1	Lumen of hepatic sinusoid
14-7.2	Nucleus of hepatocyte
14-7.3	Kupffer cell
14-7.4	Erythrocyte
14-7.5	Endothelial cell of hepatic sinusoid
14-7.6	Mitochondria of hepatocyte
<b>Plate 14-8</b>	<b>Biliary Duct System</b>
14-8.1	Simple columnar epithelium of bile duct
14-8.2	Dense irregular connective tissue (stroma)
14-8.3	Lumen of bile duct
14-8.4	Lumen of capillary
14-8.5	Nucleus (euchromatin) of simple cuboidal epithelial duct cell
14-8.6	Basement membrane
<b>Plate 14-9</b>	<b>Gallbladder</b>
14-9.1	Cystic duct
14-9.2	Common bile duct
14-9.3	Body (corpus) of gallbladder
14-9.4	Mucosal fold
14-9.5	Muscularis (smooth muscle)
14-9.6	Cholecystokinin
<b>Plate 14-10</b>	<b>Gallbladder Epithelium</b>
14-10.1	Lamina propria
14-10.2	Gallbladder lumen
14-10.3	Simple columnar epithelium
14-10.4	Mucous gland
14-10.5	Nucleus (euchromatin) of gallbladder epithelial cell
14-10.6	Connective tissue (lamina propria)
14-10.7	Microvilli on apical cell surface
<b>Plate 14-11</b>	<b>Pancreas</b>
14-11.1	Tail of the pancreas
14-11.2	Principal pancreatic duct (Wirsung)
14-11.3	Common bile duct
14-11.4	Lumen of intralobular duct
14-11.5	Centroacinar cell
14-11.6	Pancreatic acinus
<b>Plate 14-12</b>	<b>Pancreatic Acinus</b>
14-12.1	Pancreatic acinar cell
14-12.2	Centroacinar cell
14-12.3	Lumen of pancreatic acinus
14-12.4	Secretory vesicle of pancreatic acinar cell
14-12.5	Rough endoplasmic reticulum
14-12.6	Mitochondrion
<b>15</b>	<b>Respiratory System (12 cards)</b>
<b>Plate 15-1</b>	<b>Respiratory Mucosa</b>
15-1.1	Respiratory (pseudostratified) epithelium
15-1.2	Basal cell
15-1.3	Goblet cell
15-1.4	Basement membrane
15-1.5	Lamina propria
15-1.6	Capillaries
<b>Plate 15-2</b>	<b>Epiglottis</b>
15-2.1	Seromucous gland

15-2.2	Elastic cartilage
15-2.3	Blood vessels
15-2.4	Loose connective tissue (lamina propria)
15-2.5	Stratified squamous nonkeratinized epithelium
<b>Plate 15-3</b>	<b>Larynx and Vocal Cord</b>
15-3.1	Vocalis (skeletal) muscle
15-3.2	Laryngeal ventricle
15-3.3	False (or ventricular) folds
15-3.4	Seromucous gland
15-3.5	True vocal folds (or cords)
15-3.6	Stratified squamous nonkeratinized epithelium
<b>Plate 15-4</b>	<b>Trachea</b>
15-4.1	Adventitia
15-4.2	Hyaline (tracheal) cartilage
15-4.3	Respiratory (pseudostratified) epithelium
15-4.4	Loose connective tissue (lamina propria)
15-4.5	Perichondrium
15-4.6	Seromucous gland
<b>Plate 15-5</b>	<b>Tracheal Epithelium</b>
15-5.1	Mucus
15-5.2	Basement membrane
15-5.3	Cilia
15-5.4	Goblet cell
15-5.5	Ciliated cell
15-5.6	Basal cell
15-5.7	Seromucous gland
<b>Plate 15-6</b>	<b>Respiratory Cilia</b>
15-6.1	Airway lumen
15-6.2	Cross section of cilium
15-6.3	Longitudinal section of cilium
15-6.4	Microtubules
15-6.5	Basal body
15-6.6	Microvilli
15-6.7	Mitochondria
<b>Plate 15-7</b>	<b>Bronchus</b>
15-7.1	Respiratory (pseudostratified) epithelium
15-7.2	Smooth muscle
15-7.3	Hyaline cartilage plate surrounded by perichondrium
15-7.4	Submucosal (seromucous) gland
15-7.5	Lamina propria (loose connective tissue)
<b>Plate 15-8</b>	<b>Bronchiole</b>
15-8.1	Smooth muscle
15-8.2	Lumen of bronchiole
15-8.3	Pulmonary alveoli
15-8.4	Foregut endoderm
<b>Plate 15-9</b>	<b>Clara Cells</b>
15-9.1	Secretory vesicles in apical cytoplasm
15-9.2	Nucleus of Clara cell
15-9.3	Cytoplasm of ciliated cell
15-9.4	Smooth endoplasmic reticulum
<b>Plate 15-10</b>	<b>Pulmonary Alveoli</b>
15-10.1	Alveolar dust cell
15-10.2	Type II pneumocyte
15-10.3	Pulmonary capillary
15-10.4	Lumen of pulmonary alveolus
15-10.5	Fibroblast in interalveolar septum
15-10.6	Type I pneumocyte
<b>Plate 15-11</b>	<b>Blood-Air Barrier</b>
15-11.1	Capillary endothelial cell
15-11.2	Type I pneumocyte

15-11.3	Erythrocyte in pulmonary capillary
15-11.4	Fused basal laminae
15-11.5	Alveolar lumen
<b>Plate 15-12</b>	<b>Type II Pneumocyte</b>
15-12.1	Plasma membrane
15-12.2	Surfactant
15-12.3	Multilamellar body
15-12.4	Nucleus (euchromatin) of type II pneumocyte
15-12.5	Mitochondrion
15-12.6	Erythrocyte in pulmonary capillary
<b>16</b>	<b>Urinary System (10 cards)</b>
<b>Plate 16-1</b>	<b>Kidney</b>
16-1.1	Cortex
16-1.2	Medulla (pyramid)
16-1.3	Fibrous capsule
16-1.4	Ureter
16-1.5	Renal tubules
16-1.6	Renal corpuscles
<b>Plate 16-2</b>	<b>Uriniferous Tubule</b>
16-2.1	Renal corpuscle
16-2.2	Proximal convoluted tubule
16-2.3	Loop of Henle
16-2.4	Collecting duct
16-2.5	Renal cortex
16-2.6	Renal medulla
<b>Plate 16-3</b>	<b>Renal Corpuscle</b>
16-3.1	Visceral layer of Bowman's capsule (podocytes)
16-3.2	Afferent arteriole
16-3.3	Distal tubule
16-3.4	Efferent arteriole
16-3.5	Proximal tubule
16-3.6	Parietal layer of Bowman's capsule
<b>Plate 16-4</b>	<b>Renal Corpuscle and Podocytes</b>
16-4.1	Attenuated glomerular endothelial cell with fenestrae
16-4.2	Nucleus of mesangial cell
16-4.3	Podocytes
16-4.4	Pedicels of podocytes
16-4.5	Primary process of podocyte
16-4.6	Basement membrane
<b>Plate 16-5</b>	<b>Renal Filtration Barrier</b>
16-5.1	Glomerular capillary
16-5.2	Nucleus of podocyte
16-5.3	Fenestrae of capillary endothelial cell
16-5.4	Basement membrane
16-5.5	Primary process of podocyte
16-5.6	Pedicels of podocyte
16-5.7	Slit membrane
<b>Plate 16-6</b>	<b>Proximal Tubule</b>
16-6.1	Distal tubule
16-6.2	Proximal tubule
16-6.3	Nucleus (euchromatin) of proximal tubule cell
16-6.4	Mitochondrion
16-6.5	Vesicle in apical cytoplasm
16-6.6	Microvilli (brush border)
16-6.7	Bowman's (urinary) space
<b>Plate 16-7</b>	<b>Collecting Duct</b>
16-7.1	Erythrocytes in vasa recta
16-7.2	Collecting tubule (duct)
16-7.3	Loop of Henle
16-7.4	Basement membrane

16-7.5	Nucleus of light (principal) cell
16-7.6	Mitochondrion in dark (intercalated) cell
<b>Plate 16-8</b>	<b>Ureter</b>
16-8.1	Inner longitudinal smooth muscle
16-8.2	Adventitia
16-8.3	Outer circular smooth muscle
16-8.4	Transitional epithelium (urothelium)
16-8.5	Lamina propria (loose connective tissue)
16-8.6	Lumen of ureter
<b>Plate 16-9</b>	<b>Urinary Bladder</b>
16-9.1	Muscularis externa (smooth muscle)
16-9.2	Lamina propria
16-9.3	Transitional epithelium (urothelium) in empty bladder
16-9.4	Transitional epithelium (urothelium) in distended bladder
16-9.5	Surface cell of transitional epithelium (urothelium)
16-9.6	Lamina propria (loose connective tissue)
<b>Plate 16-10</b>	<b>Urethra</b>
16-10.1	Outer circular muscle layer
16-10.2	Mucosa
16-10.3	Lamina propria with vascular plexus
16-10.4	Inner longitudinal muscle layer
16-10.5	Stratified columnar epithelium
16-10.6	Vascular plexus in lamina propria
16-10.7	Lumen of penile urethra
<b>17</b>	<b>Male Reproductive System (10 cards)</b>
<b>Plate 17-1</b>	<b>Male Reproductive System</b>
17-1.1	Vas (ductus) deferens
17-1.2	Seminal vesicle
17-1.3	Epididymis
17-1.4	Corpus cavernosum of penis
17-1.5	Tunica albuginea of testis
17-1.6	Seminiferous tubules
<b>Plate 17-2</b>	<b>Testis and Seminiferous Tubule</b>
17-2.1	Leydig cell
17-2.2	Capsule of seminiferous tubule
17-2.3	Sertoli cells
17-2.4	Spermatogonia
17-2.5	Nucleus of elongate spermatid
17-2.6	Cytoplasm of Sertoli cell
<b>Plate 17-3</b>	<b>Spermatozoa</b>
17-3.1	Lumen of seminiferous tubule
17-3.2	Tails of spermatozoa
17-3.3	Middle piece of spermatozoon
17-3.4	Acrosome
17-3.5	Axoneme (9 + 2 microtubules)
17-3.6	Mitochondrial sheath
<b>Plate 17-4</b>	<b>Seminiferous Epithelium</b>
17-4.1	Spermatocyte (primary)
17-4.2	Sertoli cell nucleus
17-4.3	Spermatid
17-4.4	Dividing spermatogonium
17-4.5	Myoid cell
<b>Plate 17-5</b>	<b>Epididymis</b>
17-5.1	Tunica albuginea of testis
17-5.2	Rete testis in mediastinum testis
17-5.3	Epididymis (tail)
17-5.4	Vas (ductus) deferens
17-5.5	Pseudostratified epithelium of epididymis
17-5.6	Spermatozoa in lumen of duct of epididymis
<b>Plate 17-6</b>	<b>Vas (ductus) Deferens</b>

17-6.1	Adventitia of the vas (ductus) deferens
17-6.2	Muscularis
17-6.3	Mucosa (epithelium and lamina propria)
17-6.4	Pseudostratified epithelium
17-6.5	Lumen of vas (ductus) deferens
17-6.6	Smooth muscle
<b>Plate 17-7</b>	<b>Prostate</b>
17-7.1	Prostate (peripheral zone)
17-7.2	Vas deferens
17-7.3	Urinary bladder
17-7.4	Seminal vesicle
17-7.5	Secretory alveolus of prostate
17-7.6	Prostatic concretion
<b>Plate 17-8</b>	<b>Prostatic Epithelium</b>
17-8.1	Lumen of secretory alveolus
17-8.2	Pseudostratified epithelium
17-8.3	Smooth muscle
17-8.4	Nucleus (euchromatin) of columnar epithelial cell
17-8.5	Nucleus (euchromatin) of basal cell
17-8.6	Secretory vesicle
17-8.7	Rough endoplasmic reticulum
<b>Plate 17-9</b>	<b>Seminal Vesicle</b>
17-9.1	Smooth muscle
17-9.2	Mucosal fold
17-9.3	Flocculent material in lumen of seminal vesicle
17-9.4	Columnar epithelial cell
17-9.5	Lamina propria
<b>Plate 17-10</b>	<b>Urethra and Penis</b>
17-10.1	Prostatic urethra
17-10.2	Bulbourethral (Cowper's) gland
17-10.3	Corpus cavernosum of penis
17-10.4	Transitional epithelium (urothelium) in prostatic urethra
17-10.5	Corpus spongiosum
17-10.6	Stratified squamous epithelium in fossa navicularis
<b>18</b>	<b>Female Reproductive System (12 cards)</b>
<b>Plate 18-1</b>	<b>Female Reproductive System</b>
18-1.1	Uterine tube (Fallopian tube or oviduct)
18-1.2	Body of uterus
18-1.3	Cervix of uterus
18-1.4	Vagina
18-1.5	Medulla of ovary
18-1.6	Mature (Graafian) ovarian follicle
<b>Plate 18-2</b>	<b>Ovaries</b>
18-2.1	Ovarian surface (germinal) epithelium
18-2.2	Blood vessels entering and leaving hilus of ovary
18-2.3	Developing (secondary) ovarian follicle
18-2.4	Follicular lumen (antrum)
18-2.5	Cumulus oophorus (granulosa cells) of Graafian follicle
18-2.6	Oocyte cytoplasm
<b>Plate 18-3</b>	<b>Ovarian Follicles</b>
18-3.1	Granulosa cells
18-3.2	Nucleus of oocyte
18-3.3	Zona pellucida
18-3.4	Cytoplasm of oocyte
18-3.5	Nucleus (heterochromatin) of granulosa cell
<b>Plate 18-4</b>	<b>Corpus Luteum</b>
18-4.1	Theca lutein cell
18-4.2	Granulosa lutein cell
18-4.3	Blood-filled and fibrin-containing clot
18-4.4	Mitochondrion in granulosa lutein cell

18-4.5	Lipid droplets
18-4.6	Golgi complex
<b>Plate 18-5</b>	<b>Uterine (fallopian) Tubes</b>
18-5.1	Fimbria of uterine tube
18-5.2	Ampulla of uterine (Fallopian) tube or oviduct
18-5.3	Lumen of uterus
18-5.4	Mucosal fold of uterine tube
18-5.5	Simple columnar epithelium (peg cells and ciliated cells)
18-5.6	Smooth muscle
<b>Plate 18-6</b>	<b>Uterus</b>
18-6.1	Corpus luteum of ovary
18-6.2	Fundus of uterus
18-6.3	Myometrium of body (or corpus) of uterus
18-6.4	Endometrium of uterus
18-6.5	Blood vessels in stratum vasculare of myometrium
18-6.6	Perimetrium
<b>Plate 18-7</b>	<b>Endometrium</b>
18-7.1	Endometrium - early follicular (proliferative) phase
18-7.2	Endometrium - late follicular (proliferative) phase
18-7.3	Surface (lining) epithelium of endometrium
18-7.4	Uterine gland
18-7.5	Mitotic figure in epithelium of uterine gland
18-7.6	Lamina propria or stroma
<b>Plate 18-8</b>	<b>Uterine Cervix</b>
18-8.1	Nabothian cyst
18-8.2	External os
18-8.3	Transformation zone
18-8.4	Simple columnar epithelium of endocervix
18-8.5	Lamina propria
18-8.6	Stratified squamous nonkeratinized epithelium of exocervix
<b>Plate 18-9</b>	<b>External Genitalia and Vagina</b>
18-9.1	Glans clitoris
18-9.2	Labium minus
18-9.3	Vaginal orifice (or lumen)
18-9.4	Stratified squamous nonkeratinized epithelium
18-9.5	Connective tissue papilla
18-9.6	Lamina propria
<b>Plate 18-10</b>	<b>Placenta</b>
18-10.1	Placental villus
18-10.2	Cotyledons of placenta
18-10.3	Intervillous space (containing maternal blood)
18-10.4	Syncytiotrophoblast
18-10.5	Fetal capillary
18-10.6	Hofbauer cell (macrophage)
<b>Plate 18-11</b>	<b>Umbilical Cord</b>
18-11.1	Umbilical cord
18-11.2	Full-term placenta (fetal aspect)
18-11.3	Amniotic epithelium
18-11.4	Umbilical artery
18-11.5	Wharton's jelly (mucous connective tissue)
18-11.6	Umbilical vein
<b>Plate 18-12</b>	<b>Mammary Gland</b>
18-12.1	Areola of nipple
18-12.2	Duct (parenchyma) of mammary gland at puberty
18-12.3	Stroma (dense irregular connective tissue) at maturity
18-12.4	Lumen of lactiferous duct
18-12.5	Eosinophilic precipitate (milk components)
18-12.6	Stratified cuboidal epithelium
<b>19</b>	<b>Eye and Adnexa (11 cards)</b>
<b>Plate 19-1</b>	<b>Eyeball</b>

19-1.1	Iris
19-1.2	Lens
19-1.3	Fovea centralis of macula lutea of retina
19-1.4	Retinal pigment epithelium
19-1.5	Ganglion cells of retina
19-1.6	Sclera (dense fibrous connective tissue)
<b>Plate 19-2</b>	<b>Cornea</b>
19-2.1	Substantia propria (stroma) of cornea
19-2.2	Anterior chamber (filled with aqueous humor)
19-2.3	Stratified squamous nonkeratinized epithelium
19-2.4	Bowman's membrane
19-2.5	Collagen of corneal stroma
19-2.6	Fibroblasts
<b>Plate 19-3</b>	<b>Iris</b>
19-3.1	Dilator pupillae muscle
19-3.2	Ciliary muscle
19-3.3	Anterior chamber (filled with aqueous humor)
19-3.4	Stroma of iris
19-3.5	Constrictor pupillae muscle
19-3.6	Cuboidal epithelium (double layer and pigmented)
<b>Plate 19-4</b>	<b>Lens</b>
19-4.1	Lens
19-4.2	Ciliary process
19-4.3	Lens fiber
19-4.4	Simple cuboidal (lens) epithelium
19-4.5	Lens capsule
19-4.6	Zonular fiber
<b>Plate 19-5</b>	<b>Ciliary Body</b>
19-5.1	Ciliary muscle
19-5.2	Ciliary processes
19-5.3	Posterior chamber (filled with aqueous humor)
19-5.4	Zonular fibers
19-5.5	Ciliary epithelium (inner, nonpigmented layer)
19-5.6	Ciliary epithelium (outer, pigmented layer)
<b>Plate 19-6</b>	<b>Canal of Schlemm and Aqueous Humor</b>
19-6.1	Ciliary muscle
19-6.2	Stroma (substantia propria) of cornea
19-6.3	Angle of anterior chamber (filled with aqueous humor)
19-6.4	Stroma of iris
19-6.5	Canal of Schlemm
19-6.6	Trabecular meshwork
<b>Plate 19-7</b>	<b>Retina</b>
19-7.1	Retinal pigment epithelial cell
19-7.2	Inner segment of cone
19-7.3	Amacrine cell (supporting glial cell)
19-7.4	Outer nuclear layer (of rods and cones)
19-7.5	Outer plexiform layer
19-7.6	Ganglion cell
19-7.7	Retinal pigment epithelial cell
<b>Plate 19-8</b>	<b>Photoreceptors</b>
19-8.1	Apical process of retinal pigment epithelial cell
19-8.2	Outer segment of rod
19-8.3	Synaptic ending
19-8.4	Membranous disc in outer segment
19-8.5	Cilium
19-8.6	Inner segment of rod
<b>Plate 19-9</b>	<b>Retinal Pigment Epithelium</b>
19-9.1	Retinal pigment epithelial cell
19-9.2	External limiting membrane
19-9.3	Residual body (tertiary lysosome)



19-9.4	Smooth endoplasmic reticulum
19-9.5	Melanin granules
19-9.6	Photoreceptor outer segment
<b>Plate 19-10</b>	<b>Eyelid</b>
19-10.1	Stratified squamous keratinized epithelium of thin skin
19-10.2	Orbicularis oculi muscle
19-10.3	Tarsal plate
19-10.4	Meibomian sebaceous gland
19-10.5	Goblet cells
19-10.6	Stratified columnar epithelium of palpebral conjunctiva
<b>Plate 19-11</b>	<b>Lacrimal Gland</b>
19-11.1	Orbital part of lacrimal gland
19-11.2	Palpebral part of lacrimal gland
19-11.3	Nasolacrimal duct
19-11.4	Excretory ducts
19-11.5	Secretory acinus lined by simple cuboidal epithelium
19-11.6	Stroma
<b>20</b>	<b>Special Senses (13 cards)</b>
<b>Plate 20-1</b>	<b>Ear</b>
20-1.1	External acoustic meatus
20-1.2	Incus
20-1.3	Semicircular ducts, ampullae, utricle, and saccule
20-1.4	Cochlear duct (scala media)
20-1.5	Pharyngotympanic (auditory or Eustachian) tube
20-1.6	Helicotrema of cochlea
<b>Plate 20-2</b>	<b>External Acoustic Meatus</b>
20-2.1	External acoustic meatus
20-2.2	Pars tensa of tympanic membrane (eardrum)
20-2.3	Elastic cartilage
20-2.4	Ceruminous gland
20-2.5	Sebaceous gland
20-2.6	Stratified squamous keratinized epithelium
<b>Plate 20-3</b>	<b>Middle Ear and Auditory Tube</b>
20-3.1	Tympanic membrane (eardrum)
20-3.2	Head of Malleus
20-3.3	Tensor tympani muscle
20-3.4	Pseudostratified ciliated columnar epithelium with goblet cells
20-3.5	Seromucous gland
20-3.6	Elastic cartilage
<b>Plate 20-4</b>	<b>Cochlea</b>
20-4.1	Cochlear nerve (part of cranial nerve VIII)
20-4.2	Cochlear duct (scala media)
20-4.3	Stapes and round window
20-4.4	Scala vestibuli (filled with perilymph)
20-4.5	Stria vascularis
20-4.6	Spiral ganglion
<b>Plate 20-5</b>	<b>Organ of Corti</b>
20-5.1	Outer hair cell
20-5.2	Tectorial membrane
20-5.3	Inner hair cell
20-5.4	Efferent and afferent nerve fibers
20-5.5	Stereocilia
20-5.6	Supporting cell processes
20-5.7	Nerve terminal
<b>Plate 20-6</b>	<b>Vestibular Receptors</b>
20-6.1	Semicircular canal
20-6.2	Vestibular ganglion
20-6.3	Saccule
20-6.4	Otoconia in otolithic membrane
20-6.5	Sensory epithelium of crista ampullaris

20-6.6	Sensory epithelium of macula
20-6.7	Endolymph
<b>Plate 20-7</b>	<b>Olfactory Mucosa</b>
20-7.1	Nasal septum
20-7.2	Olfactory bulb
20-7.3	Olfactory epithelium in superior concha of nasal cavity
20-7.4	Nerve fascicles (unmyelinated)
20-7.5	Bowman's gland
20-7.6	Basal cells of olfactory epithelium
<b>Plate 20-8</b>	<b>Taste Buds</b>
20-8.1	Circumvallate papilla
20-8.2	Lateral trench-like groove of circumvallate papilla
20-8.3	Duct of serous (von Ebner's) gland
20-8.4	Stratified squamous epithelium of oral mucosa
20-8.5	Cells of taste bud
20-8.6	Basement membrane
<b>Plate 20-9</b>	<b>Merkel Cells</b>
20-9.1	Epidermis of skin
20-9.2	Merkel cell
20-9.3	Nucleus of Merkel cell
20-9.4	Afferent nerve terminal
20-9.5	Dense core vesicles
20-9.6	Nucleus (euchromatin) of keratinocyte
<b>Plate 20-10</b>	<b>Cutaneous Receptors</b>
20-10.1	Free nerve ending in epidermis
20-10.2	Dermal papilla in skin
20-10.3	Stratified squamous epithelium of epidermis
20-10.4	Capsular lamellae of Meissner's corpuscle
20-10.5	Unmyelinated sensory nerve fiber in Pacinian corpuscle
20-10.6	Concentric capsular lamellae of Pacinian corpuscle
<b>Plate 20-11</b>	<b>Carotid Body and Carotid Sinus</b>
20-11.1	Sinusoidal capillary
20-11.2	Afferent nerve terminal synapsing on glomus cell
20-11.3	External carotid artery
20-11.4	Carotid sinus
20-11.5	Mitochondria in afferent nerve terminal
20-11.6	Nucleus (euchromatin) of glomus cell
<b>Plate 20-12</b>	<b>Muscle Spindles</b>
20-12.1	Capsule of muscle spindle
20-12.2	Intrafusal muscle fibers
20-12.3	Periaxial space
20-12.4	Nerve
20-12.5	Nuclear bag fibers
20-12.6	Extrafusal muscle fiber
<b>Plate 20-13</b>	<b>Muscle and Joint Receptors</b>
20-13.1	Equatorial region of muscle spindle
20-13.2	Extrafusal muscle fibers
20-13.3	Tendon
20-13.4	Capsule of Golgi tendon organ
20-13.5	Sensory nerve terminal
20-13.6	Collagen fibers