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Body Organization and Anatomical Nomenclature

I. Classification and Characteristics of Humans

☞ *Concept:* Humans are biological organisms belonging to the phylum Chordata within the kingdom Animalia and to the family Hominidae within the class Mammalia and the order Primates.

A. Multiple Choice Questions

- ___ 1. Humans are a species belonging to
(a) the phylum Chordata. (c) the kingdom Animalia.
(b) the family Hominidae. (d) all of the above.
- ___ 2. The name *Homo sapiens* translates from Latin to mean
(a) man the intelligent. (c) the same brain (referring to primates).
(b) large brain. (d) none of the above.
- ___ 3. Which of the following is *not* a characteristic of chordates?
(a) dorsal hollow nerve cord
(b) notochord
(c) distinct head, thorax, and abdomen
(d) pharyngeal pouches
- ___ 4. A portion of the notochord persists in the adult human being as
(a) the spinal cord. (c) the vertebrae of the spinal column.
(b) the nucleus pulposus. (d) none of the above.

B. True–False Questions

- ___ 1. Remnants of the pharyngeal pouches persist in the adult human as the auditory canals.
- ___ 2. Mammals are characterized by a muscular diaphragm, a four-chambered heart, and a right aortic arch.
- ___ 3. Humans are characterized by a well-developed brain, an opposable thumb, and stereoscopic vision.
- ___ 4. The taxonomic terms *vertebrate* and *chordate* are used in reference to the same animals.

II. Body Organization

☞ *Concept:* Structural and functional levels of organization characterize the human body, and each of its parts contributes to the total organism.

A. Multiple Choice Questions

- _____ 1. The vital metabolic functions of life are carried out at
(a) the organ level. (c) the system level.
(b) the cellular level. (d) the tissue level.
- _____ 2. Which of the following is defined as an aggregation of similar cells that perform a specific function?
(a) organ (c) tissue
(b) cell (d) system
- _____ 3. Which of the following sequences goes from simple to complex?
(a) cell, tissue, system, organ, organism
(b) tissue, organ, system, cell, organism
(c) cell, tissue, organ, system, organism
(d) tissue, cell, system, organ, organism

B. True–False Questions

- _____ 1. An organelle is a small organ composed of a few specific cells.
- _____ 2. An organ is an aggregation of similar cells.
- _____ 3. The systemic approach to the study of anatomy is primarily concerned with the systematic study of separate regions of the body.

III. Anatomical Terminology

☞ *Concept:* In order to understand the science of anatomy, students must master its descriptive terminology.

A. Multiple Choice Questions

- _____ 1. The term *cochlea* means
(a) snail shell. (c) shield.
(b) grape. (d) crab.
- _____ 2. The term *orchiectomy* refers to the removal of
(a) the testes. (c) the vagina.
(b) the uterus. (d) none of the above.

B. Completion Questions

1. Most anatomical terms have Greek or _____ derivations.
2. The front part of a scientific word is its prefix and the end part is its _____.

IV. Planes of Reference and Descriptive Terminology

☞ *Concept:* All of the descriptive planes of reference and terms of direction used in anatomy are standardized because of their reference to the body in anatomical position.

A. Multiple Choice Questions

- ___ 1. A plane of reference that divides the body into anterior (front) and posterior (back) portions is called
(a) a horizontal plane. (c) a longitudinal plane.
(b) a sagittal plane. (d) a coronal plane.
- ___ 2. Which of the following is *not* descriptive of the anatomical position?
(a) arms to the sides with the palms directed backward
(b) feet parallel to one another and flat on the floor
(c) eyes directed forward
(d) erect body posture
- ___ 3. Regarding directional terms that describe the positions of body structures, which statement is *incorrect*?
(a) The umbilicus (“belly button”) is inferior to the sternal region.
(b) The wrist is proximal to the elbow.
(c) The skin is superficial to the muscles.
(d) The foot is distal to the thigh.
- ___ 4. The term for listening to the sounds coming from various organs as they function is
(a) audition. (c) percussion.
(b) palpation. (d) auscultation.

B. Completion Questions

1. A _____ plane passes lengthwise through the midplane of the body, dividing it into right and left halves.
2. The value of the computerized tomographic x-ray (CT) scan is that an image is displayed along a _____ plane.
3. Feeling specific areas of the body with firm pressure to detect surface landmarks, lumps, tender spots, or pulsations is called _____.

C. Matching Questions

Match the diagnostic clinical procedure with its definition.

- | | |
|-----------------------------|-----------------------------------------------------|
| ___ 1. palpation | (a) detecting resonating vibrations |
| ___ 2. percussion | (b) determining the condition of the nervous system |
| ___ 3. auscultation | (c) listening to the sounds of organs |
| ___ 4. reflex-response test | (d) feeling internal structures using firm pressure |
| ___ 5. observation | (e) inspecting surface features visually |

V. Body Regions

 *Concept:* The human body is divided into regions and specific local areas that can be identified on the surface. Each region contains internal organs, the locations of which are anatomically and clinically important.

A. Multiple Choice Questions

- ___ 1. Which of the following regions is *not* located in the thorax?
(a) axillary region (c) sternal region
(b) perineum (d) lateral pectoral region
- ___ 2. The external sex organs (genitalia) are located within which region?
(a) gluteal region (c) perineal region
(b) sacral region (d) inguinal region
- ___ 3. Which of the following word pairs is *incorrect*?
(a) cervix/head (c) axilla/armpit
(b) mental/chin (d) auricle/ear
- ___ 4. Abdominal surgery of the urinary bladder would likely be performed in
(a) the hypochondriac region.
(b) the hypogastric region.
(c) the epigastric region.
(d) the inguinal region.
- ___ 5. An ideal site for the withdrawal of venous blood is on the front surface of the elbow, referred to as
(a) the cubital fossa. (c) the axilla.
(b) the omos region. (d) the popliteal region.

B. True–False Questions

- ___ 1. The head is divisible into cranial and facial regions.
- ___ 2. The thorax refers only to the anterior and lateral chest regions.
- ___ 3. A surgeon about to remove an inflamed appendix knows that it is located in the right hypochondriac region.
- ___ 4. In learning the regions and structures of the upper extremity, it is important to remember that *omos* means “shoulder,” *brachium* means “arm,” *antebrachium* means “forearm,” and *manus* means “hand.”
- ___ 5. The external sex organs and the anus are located in the perineum in both males and females.

VI. Body Cavities and Membranes

 *Concept:* For functional and protective purposes, the viscera are compartmentalized and supported in specific body cavities by connective and epithelial membranes.

A. Multiple Choice Questions

- ___ 1. The anterior cavity is composed of all of the following body cavities *except*
- (a) the thoracic cavity. (c) the spinal cavity.
(b) the abdominal cavity. (d) the pelvic cavity.
- ___ 2. Pleurae are serous membranes of
- (a) the abdominal cavity. (c) the heart.
(b) the lungs. (d) the visceral organs.
- ___ 3. Which of the following is a definition for the term *parietal*?
- (a) toward the main mass of the body (c) toward the surface of the body
(b) relative to the body walls (d) toward the side of the body
- ___ 4. Serous membranes do *not*
- (a) transport nutrients. (d) secrete lubricant.
(b) support viscera. (e) separate viscera.
(c) line body cavities.
- ___ 5. Pericardial membranes surround
- (a) the heart. (d) the kidneys.
(b) the lungs. (e) the abdominal wall.
(c) the thoracic wall.

B. True–False Questions

- ___ 1. The brain and spinal cord are contained within the posterior body cavity.
- ___ 2. The diaphragm is lined by both a parietal pleura and a parietal peritoneum.
- ___ 3. The visceral peritoneum lines the abdominal visceral organs and the abdominal wall.
- ___ 4. Pleurae, mesenteries, and peritoneal membranes are types of mucous membranes.
- ___ 5. All of the abdominal organs are covered by visceral peritoneum.

VII. Chapter Review

A. Completion Questions

1. Our scientific name, _____, means “man the intelligent.”
2. Humans belong to the phylum _____ because a notochord, a dorsal hollow nerve cord, and pharyngeal pouches are expressed during development.
3. _____ are the fundamental structural and functional components of life.
4. The outer layer of the skin is considered a _____ because it consists of aggregations of similar cells that perform specific functions.

5. A body _____ is composed of a number of organs that function together.
6. The functional relationships of the various organs within a body system are best understood in a _____ approach to studying anatomy.
7. The armpit is technically called the _____.
8. With respect to body position, the brachium of the upper extremity corresponds to the _____ of the lower extremity.
9. The sole of the foot is referred to as the _____ surface.
10. The trunk, or torso, of the body is frequently divided into the _____ and the _____.
11. In the _____, the body is erect, the feet are parallel, the eyes are directed forward, and the arms are to the sides with the palms directed forward.
12. _____ membranes line the thoracic and abdominopelvic cavities and cover visceral organs.