The Language of Anatomy

Surface Anatomy

1. Match each of the following descriptions with a key equivalent, and record the key letter or term in front of the description.

Key:

a. buccal  c. cephalic  e. patellar
b. calcaneal  d. digital  f. scapular

1. cheek 4. anterior aspect of knee
2. pertaining to the fingers 5. heel of foot
3. shoulder blade region 6. pertaining to the head

2. Indicate the following body areas on the accompanying diagram by placing the correct key letter at the end of each line.

Key:

a. abdominal  b. antecubital  c. axillary  d. brachial  e. cervical  f. crural  g. femoral  h. fibular  i. gluteal  j. inguinal  k. lumbar  l. occipital  m. oral  n. popliteal  o. pubic  p. sural  q. thoracic  r. umbilical

3. Classify each of the terms in the key of question 2 above into one of the large body regions indicated below. Insert the appropriate key letters on the answer blanks.

b, c, d, f, g, h, n, p 1. appendicular  a, e, i, j, k, l, m, o, q, r 2. axial

Body Orientation, Direction, Planes, and Sections

4. Describe completely the standard human anatomical position.  

Standing erect, feet together, head and toes pointed forward, arms hanging at sides with palms forward.
5. Define *section*. *A cut along an imaginary plane through the body wall or organ.*

6. Several incomplete statements are listed below. Correctly complete each statement by choosing the appropriate anatomical term from the key. Record the key letters and/or terms on the correspondingly numbered blanks below.

   **Key:**
   a. anterior  d. inferior  g. posterior  j. superior  
   b. distal  e. lateral  h. proximal  k. transverse  
   c. frontal  f. medial  i. sagittal

   In the anatomical position, the face and palms are on the _1_ body surface; the buttocks and shoulder blades are on the _2_ body surface; and the top of the head is the most _3_ part of the body. The ears are _4_ and _5_ to the shoulders and _6_ to the nose. The heart is _7_ to the vertebral column (spine) and _8_ to the lungs. The elbow is _9_ to the fingers but _10_ to the shoulder. The abdominopelvic cavity is _11_ to the thoracic cavity and _12_ to the spinal cavity. In humans, the dorsal surface can also be called the _13_ surface; however, in quadruped animals, the dorsal surface is the _14_ surface.

   If an incision cuts the heart into right and left parts, the section is a _15_ section; but if the heart is cut so that superior and inferior portions result, the section is a _16_ section. You are told to cut a dissection animal along two planes so that both kidneys are observable in each section. The two sections that will always meet this requirement are the _17_ and _18_ sections. A section that demonstrates the continuity between the spinal and cranial cavities is a _19_ section.

   1. a; anterior  
   2. g; posterior  
   3. j; superior  
   4. f; medial  
   5. j; superior  
   6. e; lateral  
   7. a; anterior  
   8. f; medial  
   9. h; proximal  
   10. b; distal  
   11. d; inferior  
   12. a; anterior  
   13. g; posterior  
   14. j; superior  
   15. i; sagittal  
   16. k; transverse  
   17. c; frontal  
   18. k; transverse  
   19. i; sagittal

7. Correctly identify each of the body planes by inserting the appropriate term for each on the answer line below the drawing.
8. Draw a kidney as it appears when sectioned in each of the three different planes.

9. Correctly identify each of the nine areas of the abdominal surface by inserting the appropriate term for each of the letters indicated in the drawing.
   a. epigastric region
   b. right hypochondriac region
   c. left hypochondriac region
   d. umbilical region
   e. right lumbar region
   f. left lumbar region
   g. hypogastric (pubic) region
   h. right iliac region
   i. left iliac region

Body Cavities

10. Which body cavity would have to be opened for the following types of surgery or procedures? (Insert letter of key choice in same-numbered blank. More than one choice may apply.)
   
   Key:  
   a. abdominopelvic  c. dorsal  e. thoracic  
   b. cranial  d. spinal  f. ventral

   e, f  1. surgery to remove a cancerous lung lobe  a, f  4. appendectomy
   a, f  2. removal of the uterus, or womb  a, f  5. stomach ulcer operation
   b, c  3. removal of a brain tumor  d, c  6. delivery of pre-operative “saddle” anesthesia
11. Name the muscle that subdivides the ventral body cavity. \textit{diaphragm}

12. Which organ system would not be represented in any of the body cavities? \textit{Skeletal, muscular, integumentary}

13. What are the bony landmarks of the abdominopelvic cavity? \textit{Dorsally, the vertebral column; laterally and anteriorly, the pelvis}

14. Which body cavity affords the least protection to its internal structures? \textit{Abdominal}

15. What is the function of the serous membranes of the body? \textit{The serous membranes produce a lubricating fluid (serous fluid) that reduces friction as organs slide across one another or against the cavity walls during their functioning.}

16. Using the key choices, identify the small body cavities described below.

\textbf{Key:} \\
\textbf{a.} middle ear cavity \quad \textbf{b.} nasal cavity \quad \textbf{c.} oral cavity \quad \textbf{d.} orbital cavity \quad \textbf{e.} synovial cavity

\begin{enumerate}
\item \textbf{d; orbital cavity} \quad 1. holds the eyes in an anterior-facing position
\item \textbf{a; middle ear cavity} \quad 2. houses three tiny bones involved in hearing
\item \textbf{b; nasal cavity} \quad 3. contained within the nose
\item \textbf{c; oral cavity} \quad 4. contains the tongue
\item \textbf{e; synovial cavity} \quad 5. lines a joint cavity
\end{enumerate}

17. On the incomplete flowchart provided below:

- Fill in the cavity names as appropriate to boxes 3–8.
- Then, using either the name of the cavity or the box numbers, identify the descriptions in the list that follows.

\begin{itemize}
\item contained within the skull and vertebral column
\item houses female reproductive organs
\item the most protective body cavity
\item its name means belly
\item contains the heart
\item contains the small intestine
\item bounded by the ribs
\item its walls are muscular
\end{itemize}