Biomedical Terminology

Directional Terms, Anatomical Planes, Regions, and Quadrants
Anatomic Position and Directional Combining Forms

- All directional terminology is based on anatomic position
  - A reference position - standing with arms to the side and palms facing forward and feet placed side by side
  - Note: -ior, al – pertaining to, -ad - toward

- Combining Forms of Directional Terms
  - Anter/o – front
  - Caud/o – tail (downward)
  - Cephal/o- head (upward)
  - Dist/o – away (from the point of attachment of a body part)

- Combining Forms of Directional Terms (cont.)
  - Dors/o – back
  - Infer/o – below
  - Later/o – side
  - Medi/o – middle
  - Poster/o – back, behind
  - Proxim/o – near (the point of attachment of a body part)
  - Super/o – above
  - Ventr/o – belly (front)
Directional Terms

- **Anterior (ant)**
  - Pertaining to the front
- **Posterior**
  - Pertaining to the back
- **Ventral**
  - Pertaining to the belly (front)
- **Dorsal**
  - Pertaining to the back
- **Note:** dorsal and ventral are often used when discussing structures
- **Anterioposterior (AP)**
  - Pertaining to the front and to the back
- **Posterioanterior (PA)**
  - Pertaining to the back and the front
Directional Terms

• Superior (sup)
  • Pertaining to above

• Inferior (inf)
  • Pertaining to below

• Cranial
  • Pertaining to the head

• Cephalic
  • Pertaining to the head

• Caudad
  • Toward the tail (downward)

• Caudal
  • Pertaining to the tail (downward)
Directional Terms

• Medial (med)
  • Pertaining to the middle

• Lateral (lat)
  • Pertaining to the side

• Unilateral
  • Pertaining to one side

• Bilateral
  • Pertaining to two sides

• Contralateral
  • Pertaining to the opposite side

• Ipsilateral
  • Pertaining to the same side
Directional Terms

• Superficial
  • At, near, or relatively close to the body surface

• Deep
  • Farther from the body surface
Directional Terms

- Some directional terms are based on the relationship to the axial and appendicular skeleton
- Axial and Appendicular Skeleton
  - Axial Skeleton includes
    - The skull (cranial and facial bones)
    - Bones associated with the cranium
    - The vertebral column
    - The thoracic cage
  - Appendicular Skeleton includes
    - Girdles (pectoral and pelvic)
    - Extremities (upper and lower)
Directional Terms

• Proximal
  • Pertaining to near (to the point of attachment of a body part)

• Distal
  • Pertaining to away (from the point of attachment of a body part)
Anatomic Planes

• **Frontal or Coronal**
  - A plane that separates the body or structure into anterior and posterior sections

• **Sagittal**
  - A plane separating the body or a structure into left and right sections
  - A midsagittal plane separates into equal left and right halves

• **Transverse or Horizontal**
  - A plane that separates the body or structure into superior and inferior sections

• **Oblique**
  - A plane that separates the body or structure and is not one of those listed above
Abdominopelvic Regions
Divisions of the abdominopelvic cavity into 9 artificial division for note taking and communication

• Umbilical region
  • Around the navel (umbilicus)

• Epigastric region
  • Directly above the umbilical region

• Hypogastric region
  • Directly below the umbilical region

• Hypochondriac region
  • To the right and left of the epigastric region

• Lumbar region
  • To the right and left of the umbilical region

• Iliac region
  • To the right and left of the hypogastric region
Abdominopelvic Quadrants
Divisions of the abdominopelvic cavity into 4 artificial division for note taking and communication

• Right upper quadrant (RUQ)
  • Refers to the area encompassing the right lobe of the liver*, the gallbladder*, part of the pancreas, portions of the small and large intestines, the right kidney

• Left upper quadrant (LUQ)
  • Refers to the area encompassing the left lobe of the liver, the stomach, the spleen, part of the pancreas, portions of the small and large intestines, the left kidney
Abdominopelvic Quadrants
Divisions of the abdominopelvic cavity into 4 artificial division for note taking and communication

- **Right lower quadrant (RLQ)**
  - Refers to the area encompassing portions of the small and large intestines, the appendix*, the right ureter, and the right ovary and uterine tube in women and right spermatic duct in men

- **Left lower quadrant (LLQ)**
  - Refers to the area encompassing portions of the small and large intestines*, the left ureter, and the left ovary and uterine tube in women and the left spermatic duct in men
Visceral Pain Patterns

• * On the previous slides, these are key structures that may indicate pathology with pain in a particular quadrant.

• While pain in a particular quadrant is should be considered, it is important to know that visceral pathology can refer pain to areas away from their location.

• Note: These referral zones are not part of this class.
Terms specific for various body regions – Not on Test