**Anatomical/ Directional Terms**

- **Distal** - ______ from trunk
- **Proximal** - ______ to trunk
- **Lateral** - ______ from midline
- **Medial** - ______ to midline
- **Anterior** - front side (aka ventral)
- **Posterior** - back side (aka dorsal)
- **Superior** - ______ to head (aka cranial)
- **Inferior** - ______ from head (aka caudal)
- **Superficial** - ______ to surface
- **Deep** - ______ from surface
- **Plantar** - ______ of foot
- **Dorsal** - ______ of foot

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**PLANES**

PLANE -- a two-dimensional surface defined by ___ **points**
not on the same line (i.e. not colinear)

Motion occurs “in a plane”
Leg Swing during gait (walking/running)

Even though leg has considerable thickness - only consider the joint centers and the lines connecting them; so “thin” segments define the leg which swings “IN THE PLANE”

AXES

AXIS -- a line passing through a plane

MOTION OCCURS “ABOUT AN AXIS”
Leg Swing during gait (walking/running)

AXIS PASSES THROUGH JOINT CENTER

Motion occurs “IN A PLANE”

Motion occurs “ABOUT AN AXIS”
Body Planes

- **Sagittal** -- vertical plane that divides the body into ________ and ________ parts
- **Frontal** -- vertical plane that divides the body into ________ and ________ parts
- **Transverse** -- horizontal planes that divides the body into ________ and ________ parts

Cardinal or “Mid” Planes

- **DEFINITION** -- if a plane passes through the body such that it divides it into equal mass halves
- **INTERSECTION** -- the point at which the mid-sagittal, mid-frontal, and mid-transverse planes intersect is the CENTER OF MASS
Body Planes & Axes

Sagittal Plane = Medial-Lateral Axis (ML)

Frontal Plane = Anterior-Posterior Axis (AP)

Transverse Plane = Longitudinal Axis
Frontal Plane Movements

Transverse Plane Movements

FIGURE 1-16 Movements in the transverse plane. Transverse plane movements are usually rotations occurring about a longitudinal axis running through a joint, the center of gravity, or an external contact point.
Sagittal Plane Joint Movements

**Flexion** = ______ angle between 2 segs

**Extension** = ______ angle between 2 segs

**Dorsiflexion** = point toes ___ (towards shin)

**Plantar Flexion** = point toes ______
Frontal Plane Joint Mvmts

**abduction** = move _____ from midline

**adduction** = move _____ midline

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Frontal Plane Joint Mvmts

**elevation** = move shoulder girdle

__________

**depression** = move shoulder girdle

__________
Frontal Plane Joint Movements

**Inversion** = lift ______ border of foot

**Eversion** = lift ______ border of foot

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Frontal Plane Joint Movements

**Radial Deviation** = move toward ______ styloid

**Ulnar Deviation** = move toward ______ styloid
**Frontal Plane Joint Movements**

L/R lateral bending = bend trunk to L/R

**Transverse Plane Joint Movements**

medial rotation =
  anterior surface rotates ________
  (also called inward or internal rotation)

lateral rotation =
  anterior surface rotates ________
  (also called ______ or ________ rotation)
Transverse Plane Joint Mvmts

**Supination** = rotate thumb laterally (or palm up)

**Pronation** = rotate thumb medially (or palm down)

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Transverse Plane Joint Mvmts

**Horizontal Adduction** = move towards midline in transverse plane (horizontal extension)

**Horizontal Abduction** = move away from midline in transverse plane (horizontal flexion)
Circumduction =
Flexion
+ Abduction
+ Adduction
+ Extension