

# Anatomical/ Directional Terms

**Distal** - \_\_\_\_\_ from trunk  
**Proximal** - \_\_\_\_\_ to trunk

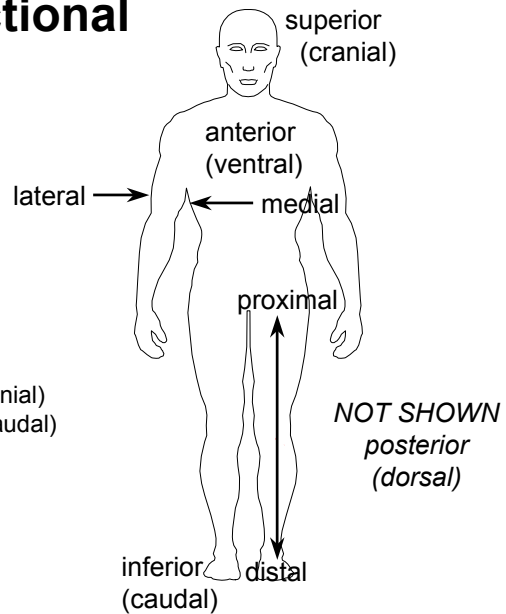
**Lateral** - \_\_\_\_\_ from midline  
**Medial** - \_\_\_\_\_ to midline

**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

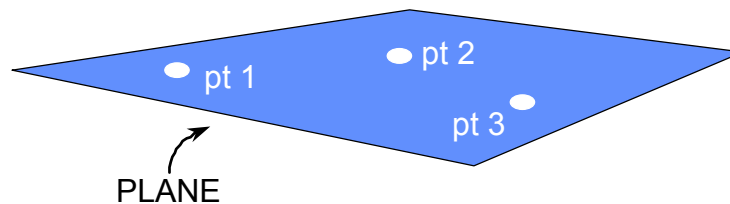
**Plantar** - \_\_\_\_\_ of foot  
**Dorsal** - \_\_\_\_\_ of foot



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# PLANES

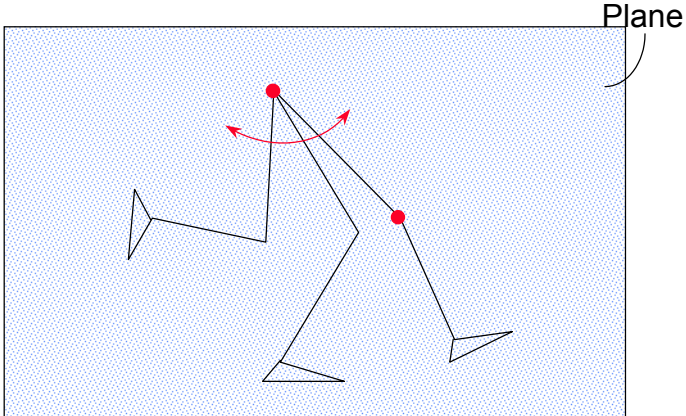
PLANE -- a two-dimensional surface defined by     points not on the same line (i.e. not colinear)



MOTION OCCURS "IN A PLANE"

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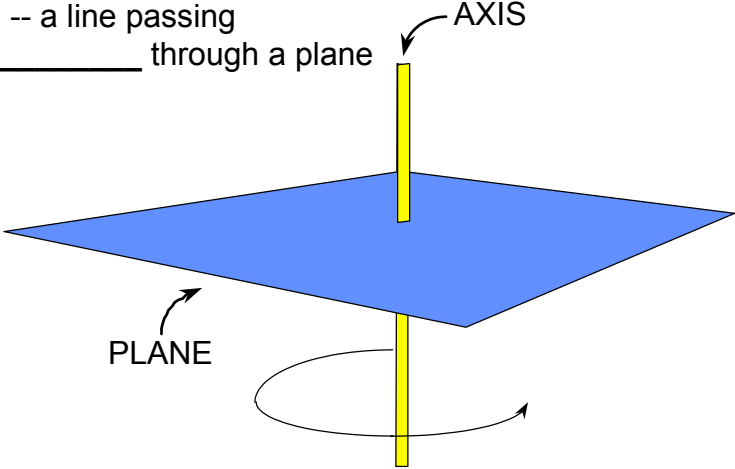
Leg Swing during gait (walking/running)



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"

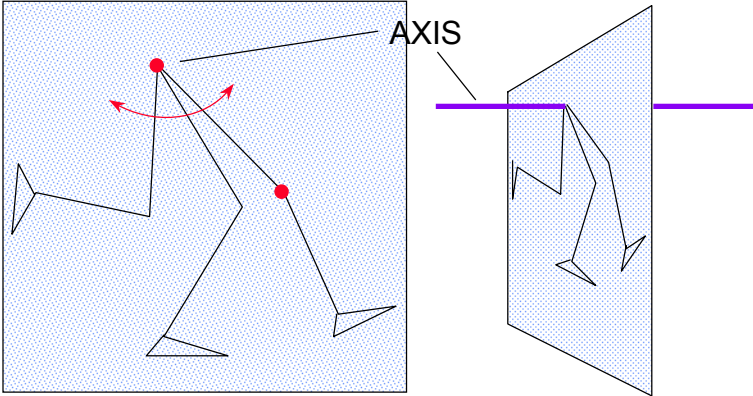
AXES

AXIS -- a line passing through a plane



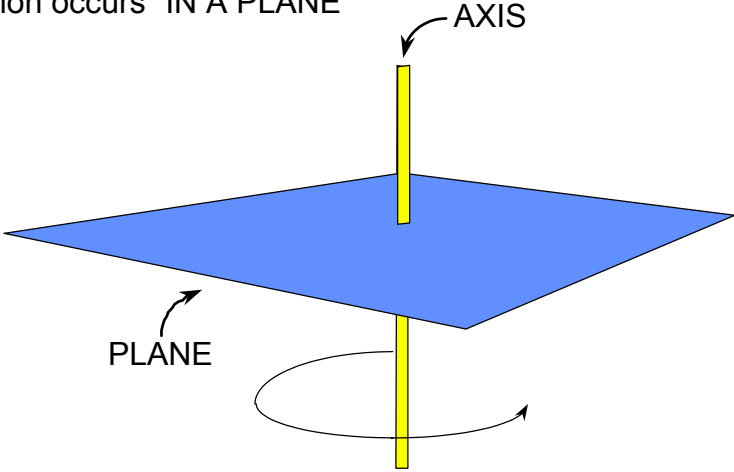
MOTION OCCURS "ABOUT AN AXIS"

Leg Swing during gait (walking/running)



AXIS PASSES THROUGH JOINT CENTER

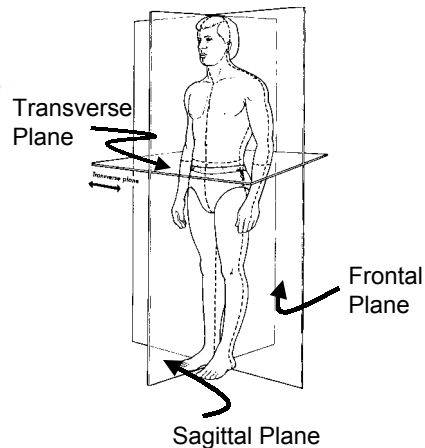
Motion occurs "IN A PLANE"



Motion occurs "ABOUT AN AXIS"

# Body Planes

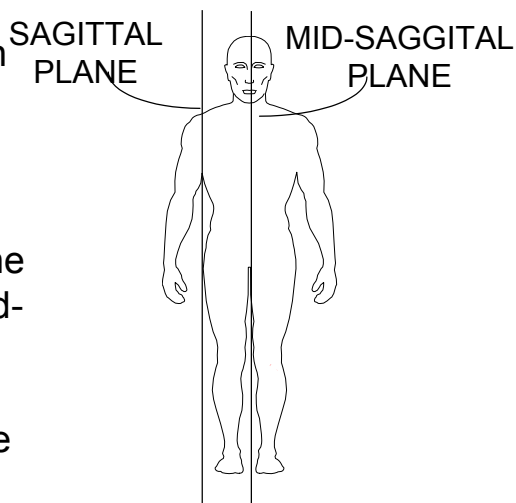
- **Sagittal** -- vertical plane that divides the body into \_\_\_\_\_ and \_\_\_\_\_ parts
- **Frontal** -- vertical plane that divides the body into \_\_\_\_\_ and \_\_\_\_\_ parts
- **Transverse** -- horizontal planes that divides the body into \_\_\_\_\_ and \_\_\_\_\_ parts



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# 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**



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# Body Planes & Axes

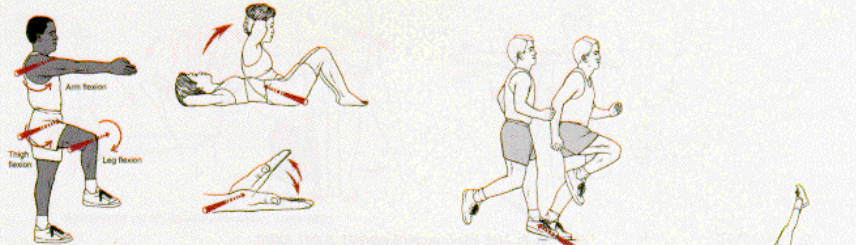
Sagittal Plane = Medial-Lateral Axis (ML)

Frontal Plane = Anterior-Posterior Axis (AP)

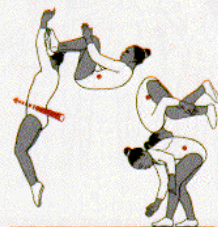
Transverse Plane = Longitudinal Axis

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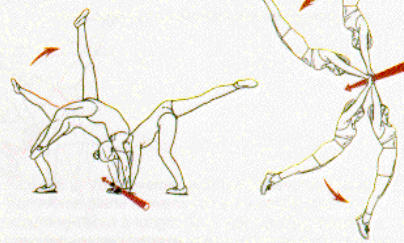
# Sagittal Plane Movements



SAGITTAL PLANE MOVEMENTS ABOUT AXIS JOINTS



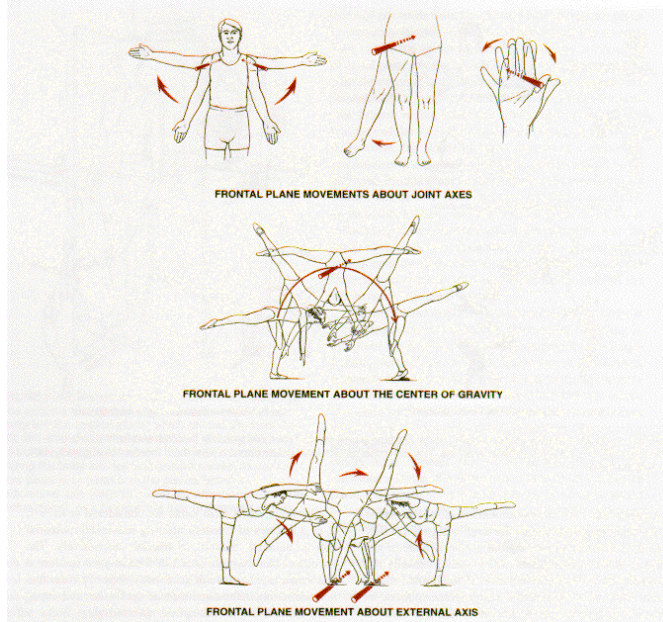
SAGITTAL PLANE MOVEMENTS ABOUT THE CENTER OF GRAVITY



SAGITTAL PLANE MOVEMENTS ABOUT AN EXTERNAL AXIS

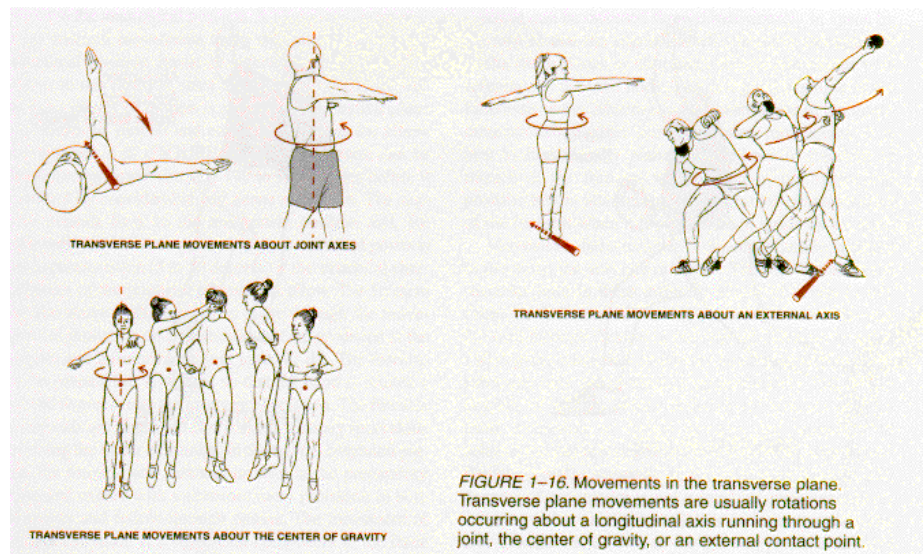
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# Frontal Plane Movements



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# Transverse Plane Movements



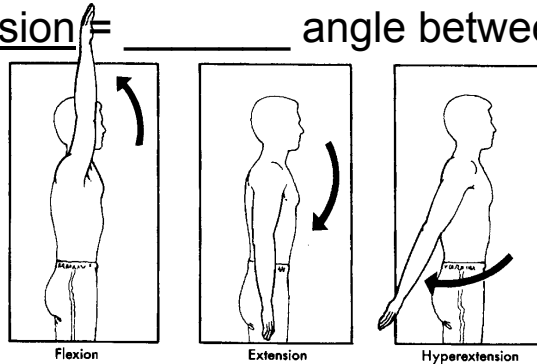
**FIGURE 1-16.** Movements in the transverse plane  
Transverse plane movements are usually rotations occurring about a longitudinal axis running through a joint, the center of gravity, or an external contact point.

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## Sagittal Plane Joint Mvmts

flexion = \_\_\_\_\_ angle between 2 segs

extension = \_\_\_\_\_ angle between 2 segs

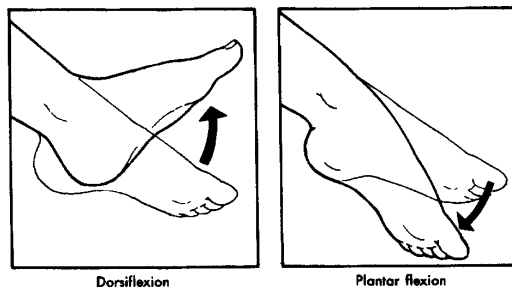


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## Sagittal Plane Joint Mvmts

dorsiflexion = point toes \_\_\_\_ (towards shin)

plantar flexion = point toes \_\_\_\_\_

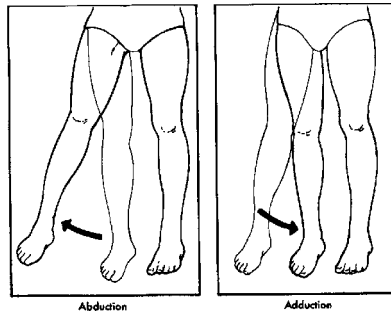


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## Frontal Plane Joint Mvmts

abduction = move \_\_\_\_\_ from midline

adduction = move \_\_\_\_\_ midline

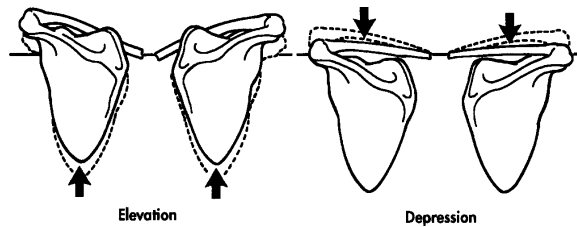


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## Frontal Plane Joint Mvmts

elevation = move shoulder girdle  
\_\_\_\_\_

depression = move shoulder girdle  
\_\_\_\_\_



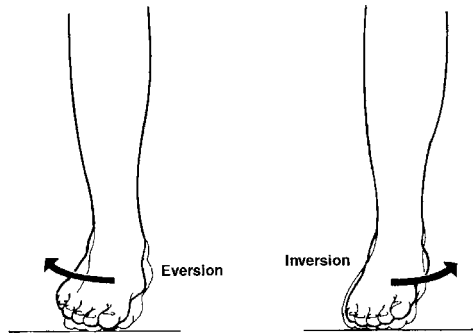
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## Frontal Plane Joint Mvmts

inversion = lift \_\_\_\_\_ border of foot

eversion = lift \_\_\_\_\_ border of foot

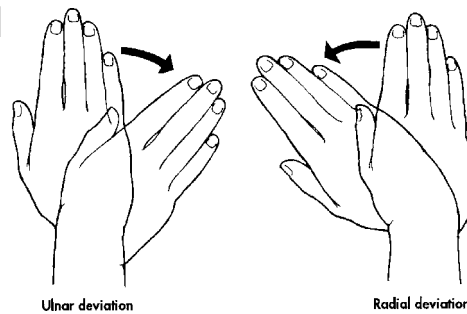


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## Frontal Plane Joint Mvmts

radial deviation = move toward \_\_\_\_\_  
styloid

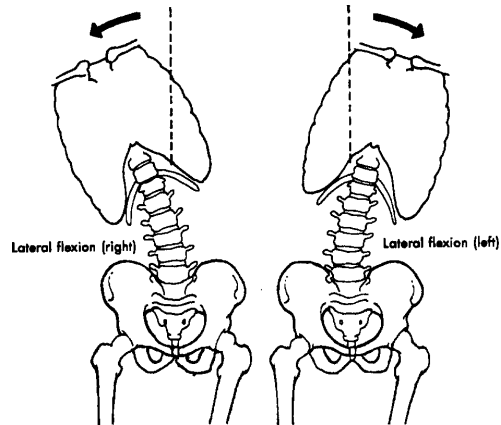
ulnar deviation = move toward \_\_\_\_\_  
styloid



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## Frontal Plane Joint Mvmts

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

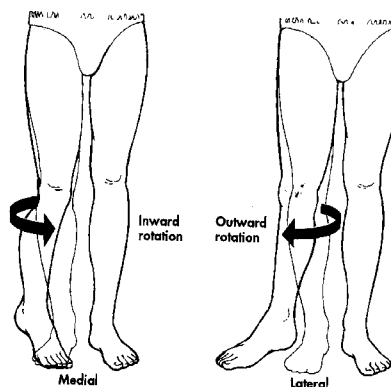


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## Transverse Plane Joint Mvmts

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

lateral rotation =  
anterior surface  
rotates \_\_\_\_\_  
(also called \_\_\_\_\_ or  
\_\_\_\_\_ rotation)

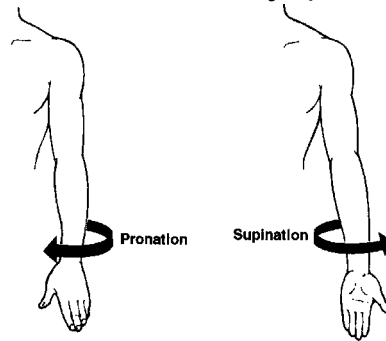


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## Transverse Plane Joint Mvmts

supination = rotate thumb laterally (or palm up)

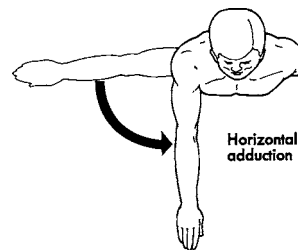
pronation = rotate thumb medially (or palm down)



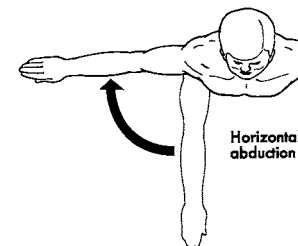
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## Transverse Plane Joint Mvmts

horizontal adduction = move towards midline in transverse plane (horizontal extension)



horizontal abduction = move away from midline in transverse plane (horizontal flexion)



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Circumduction =  
Flexion  
+ Abduction  
+ Adduction  
+ Extension

