Terminology

Objectives

- Identify the terminology as it relates to feet to properly communicate with referring physicians when necessary.
- Discuss the relationship between the anatomical structure of the foot and footwear.
- Describe the biomechanics during ambulation and how it relates to selecting footwear.

It is important to learn the terminology as it relates to feet to properly communicate with referring physicians when necessary and to identify the relationship between the anatomical structure of the foot and footwear.

Terminology

The *dorsum*, or *dorsal* surface, refers to the top of the foot

Terminology

The *plantar* aspect is the underside or bottom surface of the foot; the weight-bearing surface.

Terminology

Medial refers to the inside edge of the foot - the side with the great toe and tibia.

Terminology

Lateral refers to the outer edge of the foot - smallest toe and fibula side.

Terminology

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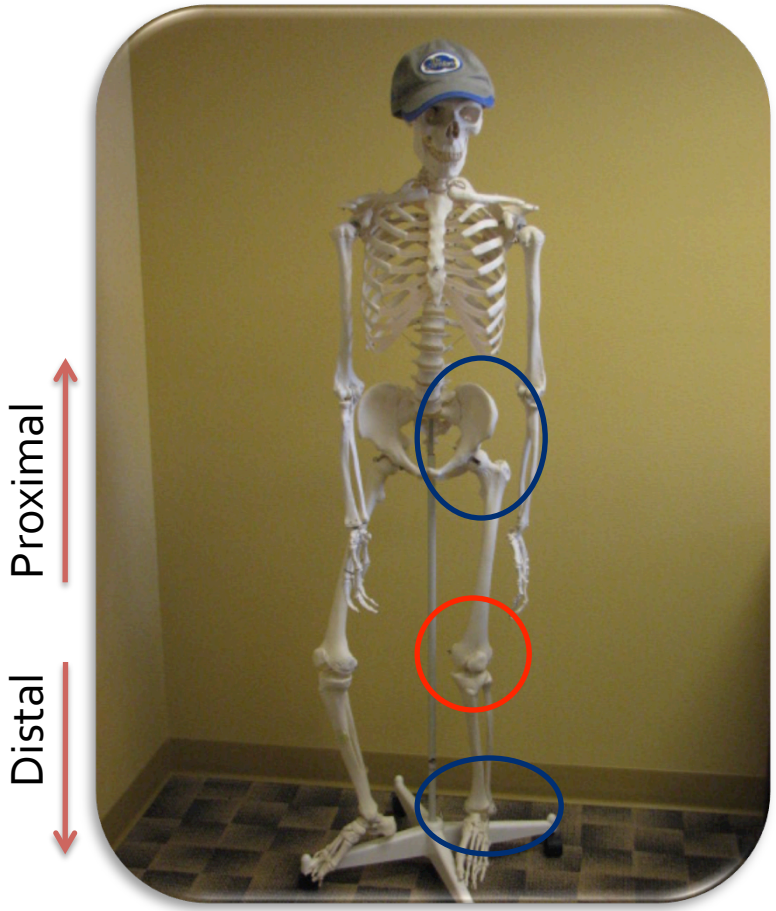
The terms *Proximal* and *Distal* are used to clarify a location point or the point of attachment.

Proximal-closer to the trunk or body

Distal-furthest from point of reference



Example:
The knee is distal to the hip and proximal to the foot.

Terminology

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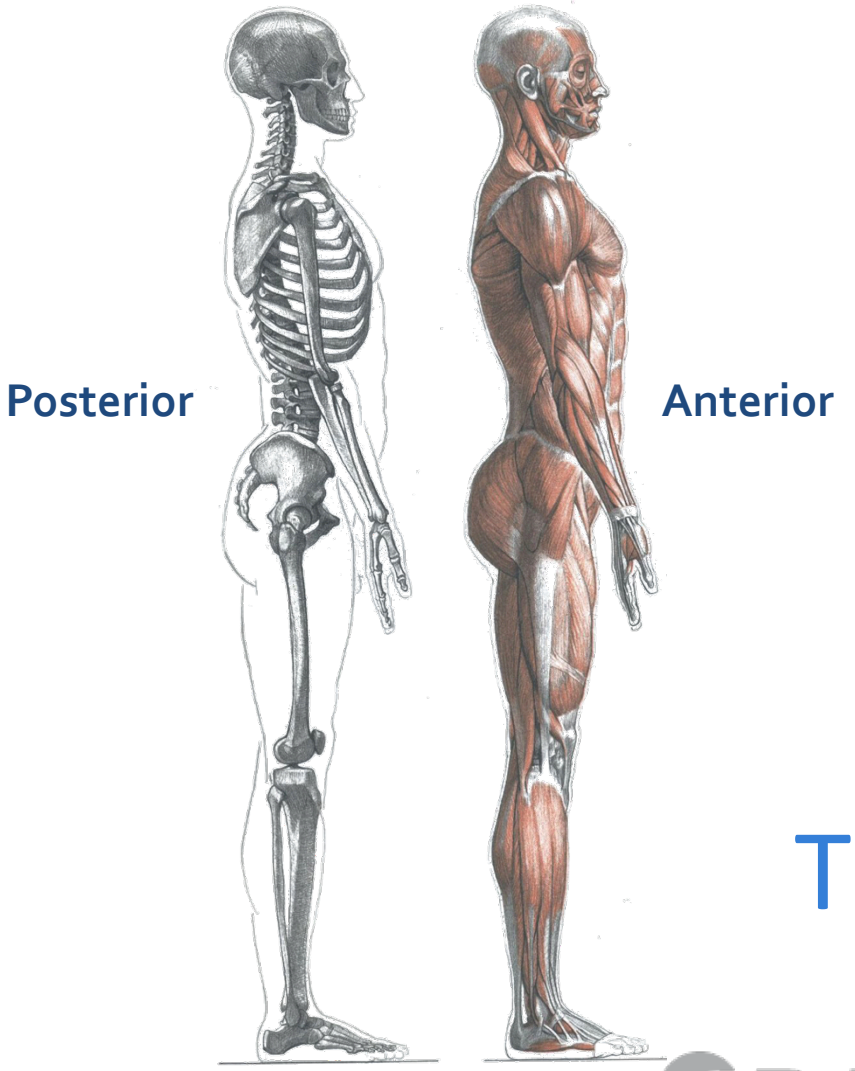
Anterior refers to the front of the body

Posterior refers to the rear or back of the body.

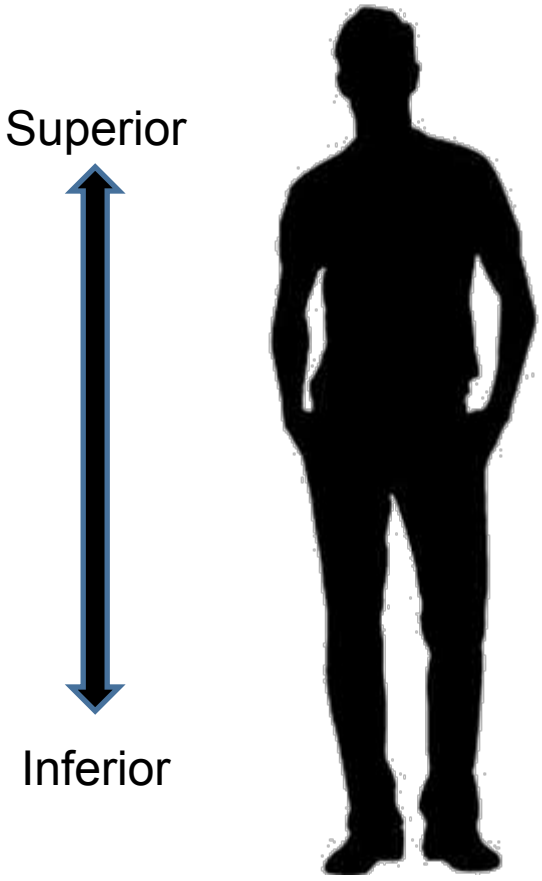


Example: The chest is on the anterior portion of the body and the back is on the posterior portion of the body.

Terminology

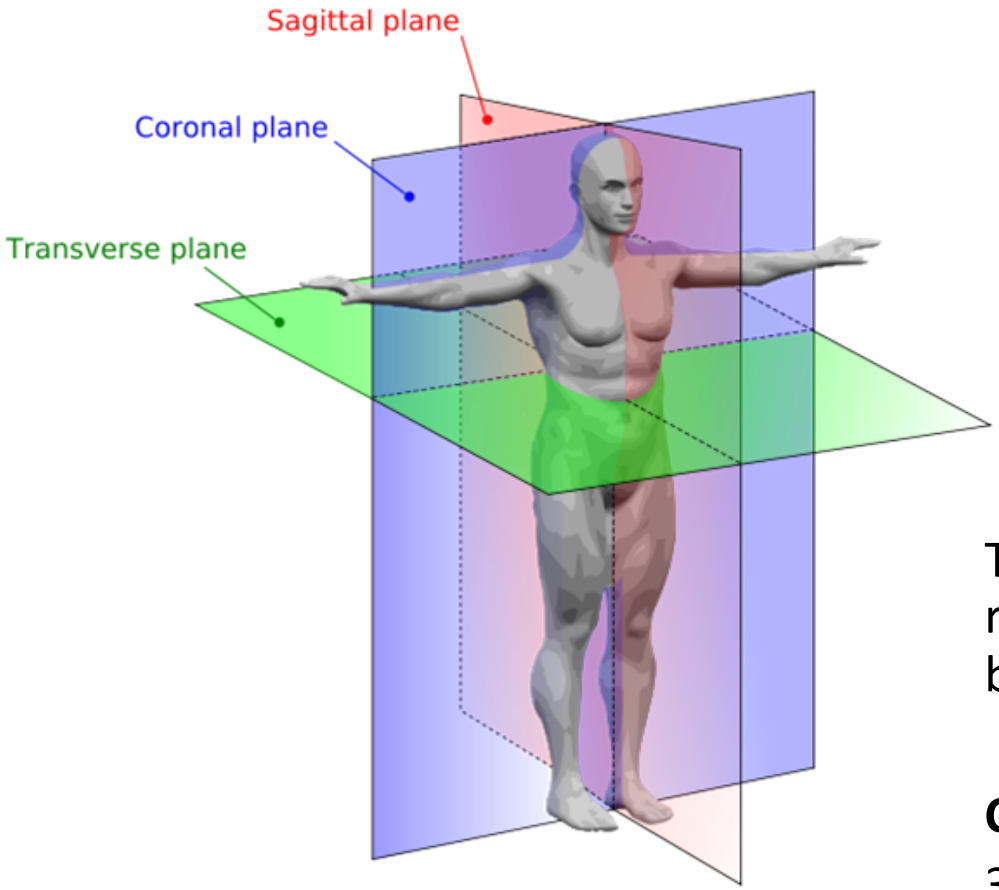
Superior means closer to the head or upper part of a structure.

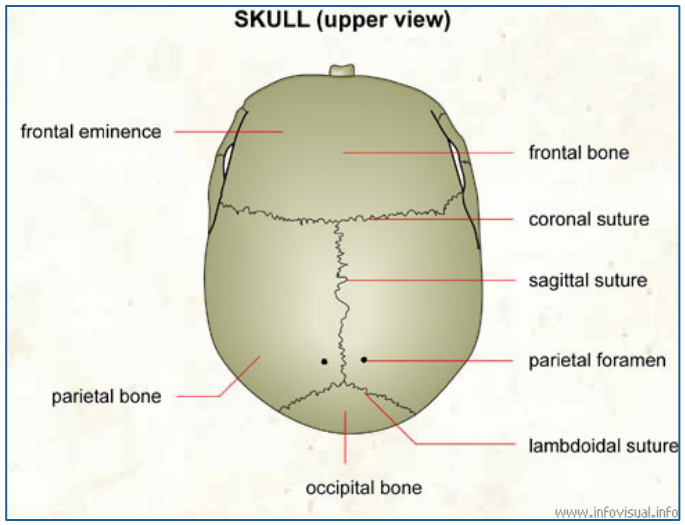
Inferior means farther from the head or toward the lower part of a structure.



Usually used as a reference point for the location of a wound: e.g.. “The ulcer is inferior to the navicular.”

Terminology





The **anatomical position** is the point of reference for all movements of the body.

Cardinal Planes:

3 basic planes of motion

Divides the body with 3 imaginary lines

Sagittal, Frontal/Coronal and Transverse

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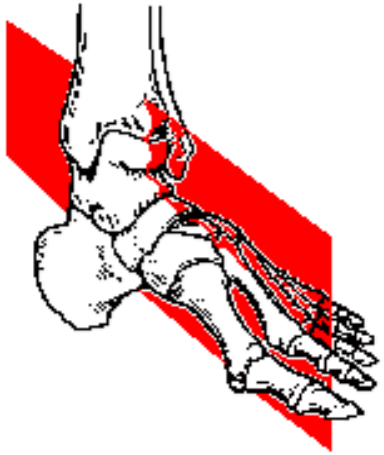
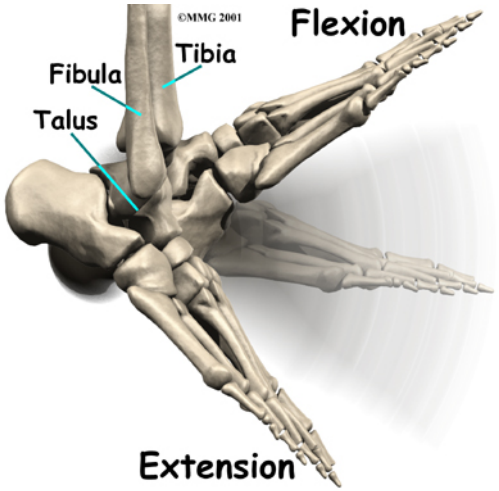
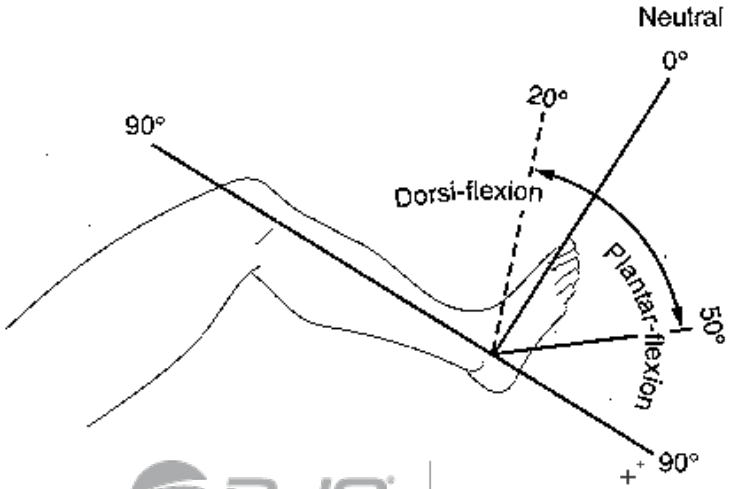
Sagittal Plane:

Splits the foot into left and right half. Dorsiflexion (upward) and plantarflexion (downward).

Approximate normal dorsiflexion is 20°/plantarflexion is 45°







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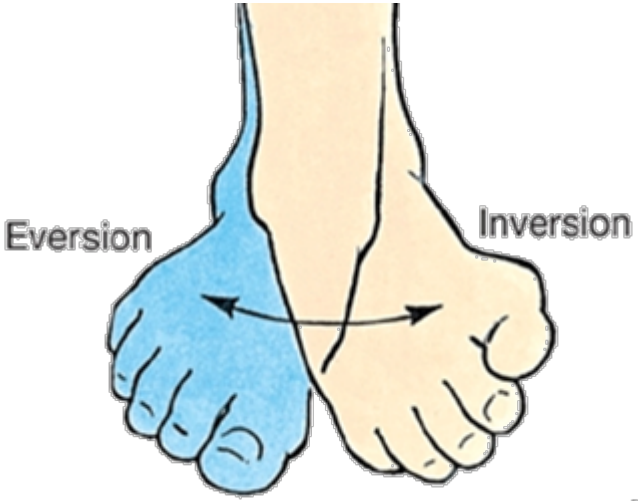
Frontal (Coronal) Plane:

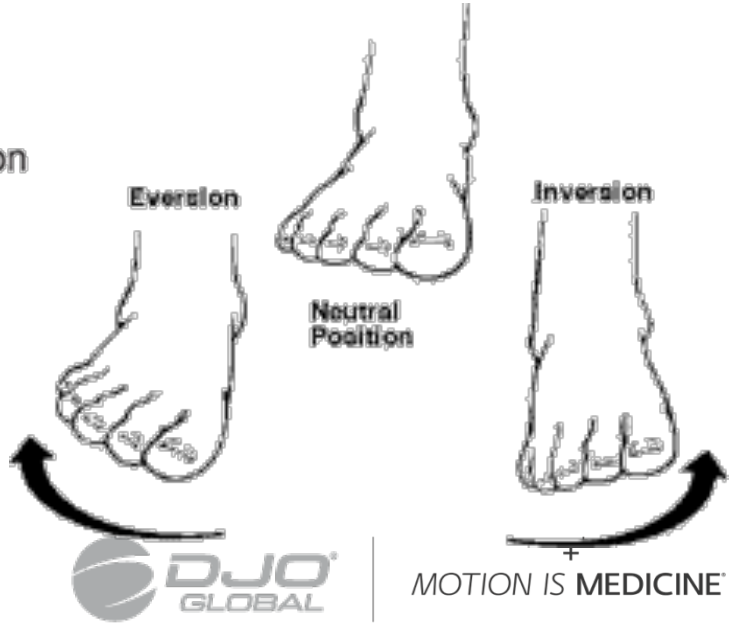
Divides the body into anterior and posterior.

Inversion: Turning the plantar surface of the foot toward the body.

Eversion: Turning the plantar surface of the foot away from the body.

Varus/Valgus



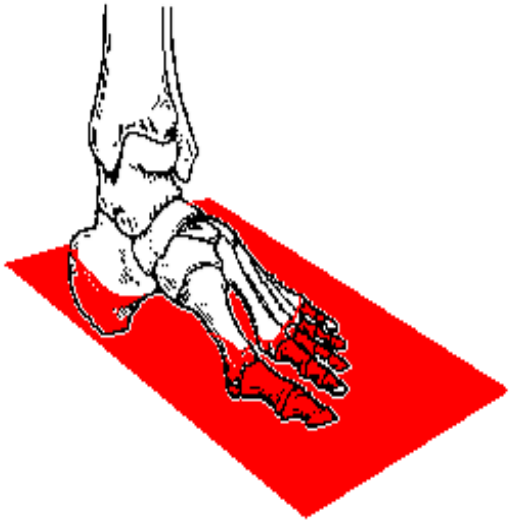


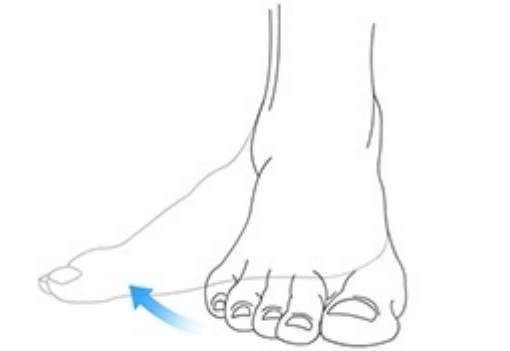
Transverse Plane:

Divides the body into upper and lower section.

Abduction: Rotation of the foot away from the midline.

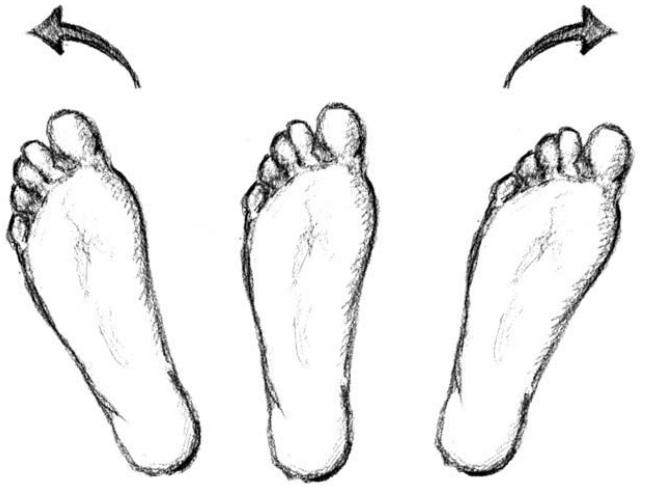
Adduction: Rotation of the foot towards the midline.





Foot abduction

Foot adduction



Valgus is the term for a deformity of a bone or bones of the leg or foot.
Valgus of the foot is where part of the foot or the whole foot is **everted**.
Valgus is a structural deformity while eversion is an anatomical position.


Heel *Valgus*/Eversion


Hallux abducto-*valgus*

Terminology

Varus is the term for a deformity of bone or bones of the leg or foot.
Varus of the foot is where part of the foot or the whole foot is **inverted**.
Varus is a structural deformity while inversion is an anatomical position.

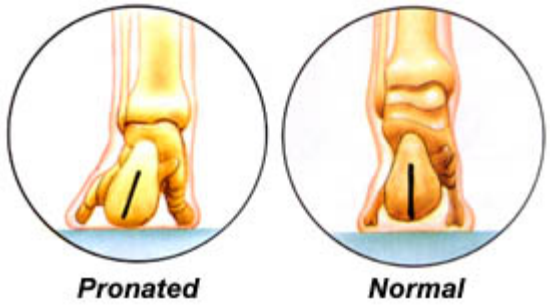
Hallux Varus

Heel Varus

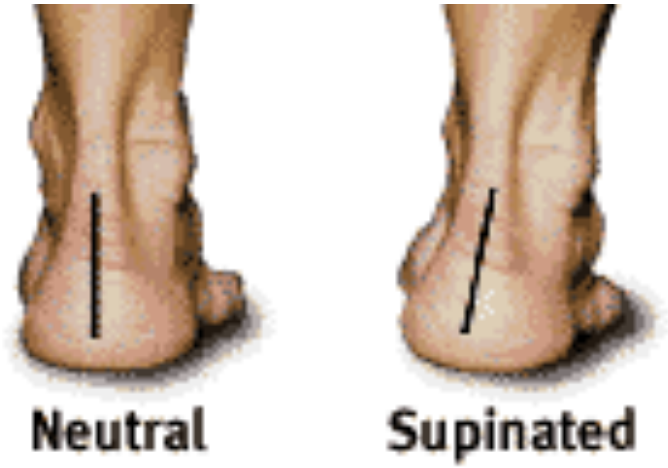
Terminology

Pronation is a tri-planar motion consisting of:

Dorsiflexion in the Sagittal Plane
Eversion in the Frontal Plane
Abduction in the Transverse Plane



Terminology



Supination is a tri-planar motion consisting of:

Plantar Flexion in the Sagittal Plane
Inversion in the Frontal Plane
Adduction in the Transverse Plane

Terminology

3 arches of a foot:

1). Medial Longitudinal
2.) Lateral Longitudinal
3.) Transverse

Medial Longitudinal

Lateral Longitudinal

Transverse Arch

Terminology

Three types of medial longitudinal arches:

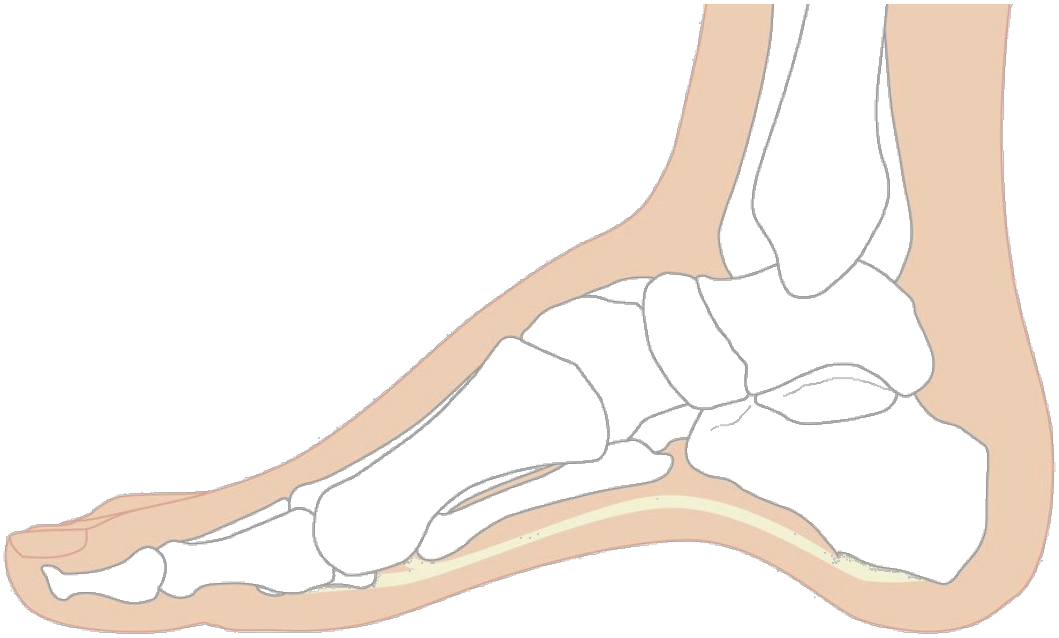
1. **Pes Rectus**—a foot with a normal arch; allows for shock absorbency

Terminology

2. **Pes Planus**—flatfoot; a condition in which the arch has not developed normally and is flat.

Terminology

3. **Pes Cavus**—a foot with a high arch which does not flatten with weight bearing; weight is generally distributed to the lateral side of the foot.



Terminology

Instep-portion of the foot, or shoe upper, over the midfoot

Waist-measurement located between the ball and instep

Ball-width of the foot (or sole) near the metatarsal heads

Terminology

Gait Cycle

Fig. 1 *The 3 Periods of the Stance Phase of a Footstep*

Contact (Heel Strike) *Mid Stance* *Propulsive (Toe Off)*

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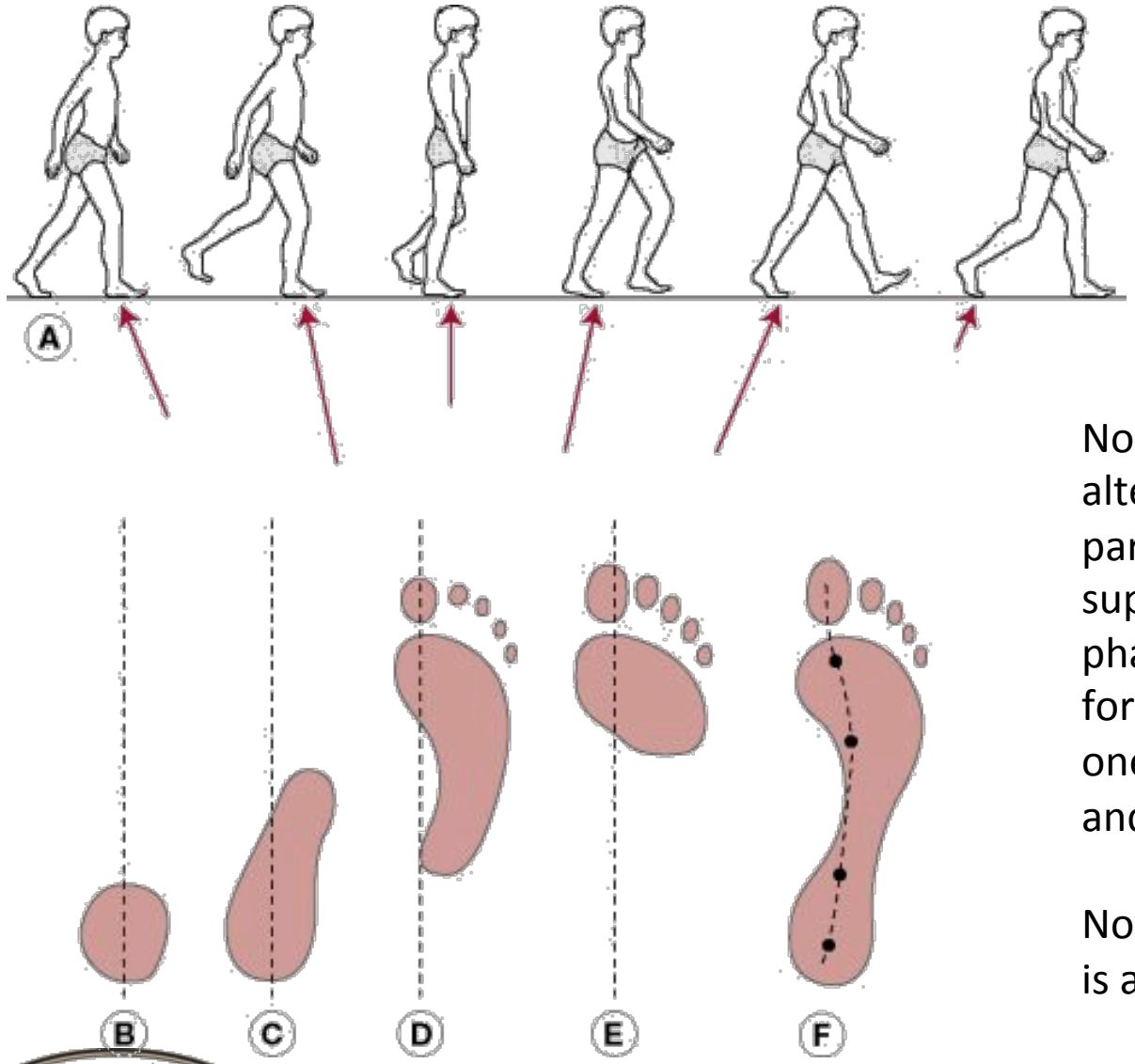

Normal walking is made up of alternating stance phase (all or part of foot contacts the support surface) and swing phase (when the limb swings forward between the end of one episode of ground contact and start of next)

Note: First 10% of stance phase is a period of double support.

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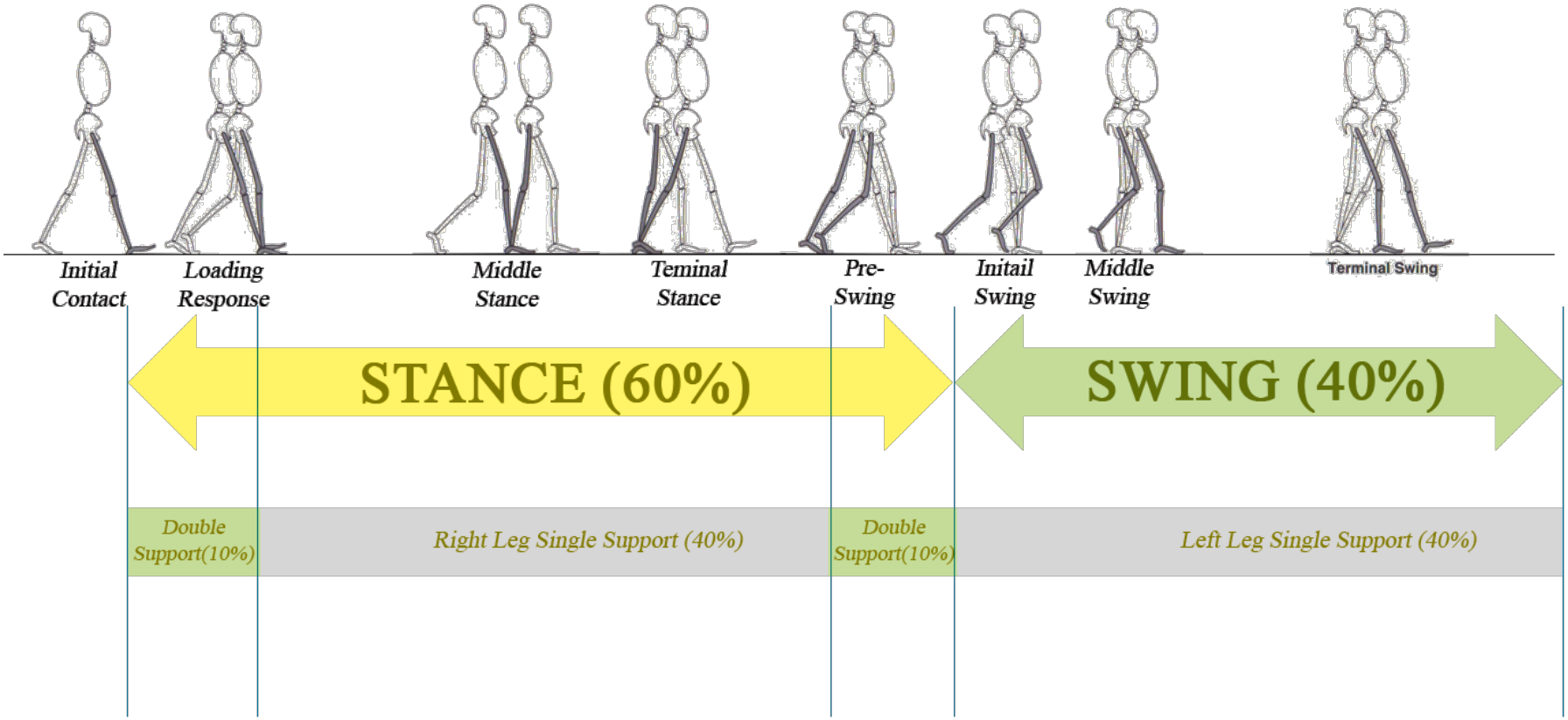

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Helpful Terms

- Unilateral—Affecting either the right side of the body or the left only.
- Bilateral—Affecting both the right and left sides of the body.
- Contralateral – Unaffected side
- Gait—walk
- Ambulation—to walk or move about
- ALSO SEE TERMS FROM QUICK TERMINOLOGY GUIDE

THANK YOU!

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