



7a A&P: Introduction to the Human Body - Body Compass



7a A&P:

Introduction to the Human Body - Body Compass Class Outline

5 minutes	Attendance, Breath of Arrival, and Reminders
10 minutes	7a Review Questions
15 minutes	Lecture: AOIs of the Hamstrings
30 minutes	Lecture
60 minutes	Total

7a A&P:

Introduction to the Human Body - Body Compass Class Reminders

Assignments:

- 7a Review Questions (A: 119-130) **Due before class starts!**

Quizzes and Exams:

- 8a Quiz (A-73, classes 1b, 2a, 2b, 3a, 3b, 4a, 5a, 6a, and 7a)
- 8b Kinesiology Quiz (A-73, gluteals, hamstrings gastrocnemius and soleus)
- 10a Exam (A-73, classes 1b, 2a, 2b, 3a, 3b, 4a, 5a, 6a, and 7a)

Preparation for upcoming classes:

- 8a Quiz
 - Trail Guide: gastrocnemius and soleus
- 8b Kinesiology: AOIs - Posterior Lower Body
 - Packet F: 31-34



Classroom Rules

Punctuality - everybody's time is precious

- Be ready to learn at the start of class; we'll have you out of here on time
- Tardiness: arriving late, returning late after breaks, leaving during class, leaving early

The following are not allowed:

- Bare feet
- Side talking
- Lying down
- Inappropriate clothing
- Food or drink except water
- Phones that are visible in the classroom, bathrooms, or internship

You will receive one verbal warning, then you'll have to leave the room.

Classroom Rules

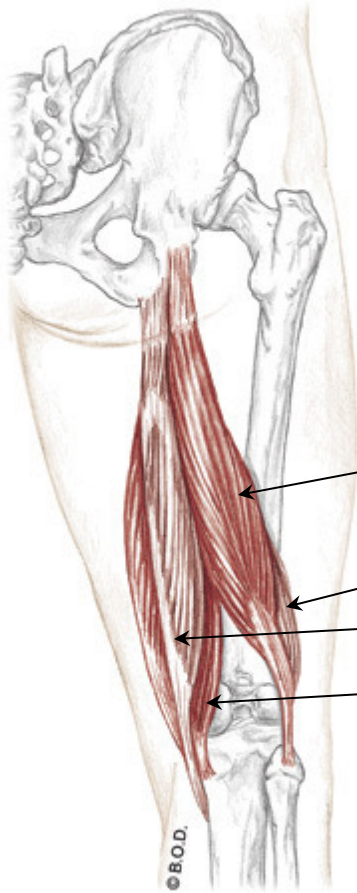
Cell Phones – Turn it off!



And put it away!

Hamstrings

Trail Guide, Page 311



Posterior View

The hamstrings are located along the posterior thigh. Compared to the quadriceps, they are not as massive.

Biceps femoris is the lateral hamstring that has two heads: the long head and the short head.

Semitendinosus and semimembranosus are the medial hamstrings.

When do you use your hamstrings?

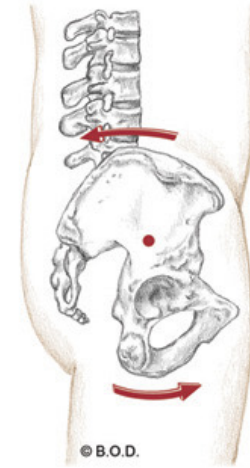
Actions of the Hamstrings



Flexion of the
tibiofemoral joint



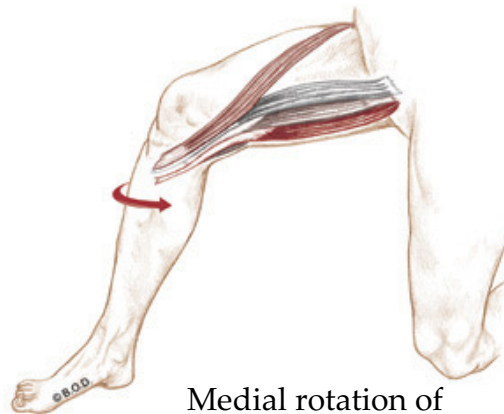
Lateral rotation of
the flexed
tibiofemoral joint



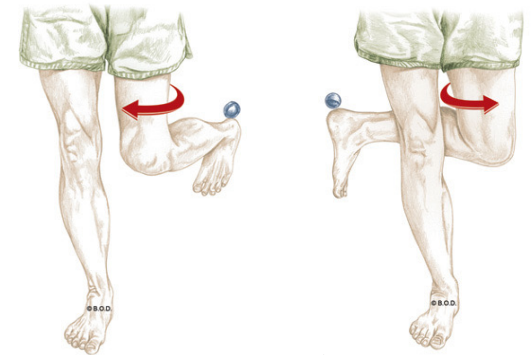
Posterior pelvic tilt



Extension of the
coxal joint



Medial rotation of
the flexed
tibiofemoral joint



Assists with
medial and lateral
rotation of the coxal
joint

Biceps femoris, page 312

A Flex the knee (tibiofemoral joint)

Laterally rotate the flexed knee (T/F joint)

Long head:

Extend the hip (coxal joint)

Assist to laterally rotate the hip (coxal joint)

Tilt the pelvis posteriorly

O *Long head:* Ischial tuberosity

Short head: Lateral lip of linea aspera

I Head of the fibula



Posterior View



Biceps femoris, page 312

A **Flex** the knee (tibiofemoral joint)

Laterally rotate the flexed knee (T/F joint)

Long head:

Extend the hip (coxal joint)

Assist to **laterally rotate** the hip (coxal joint)

Tilt the pelvis posteriorly

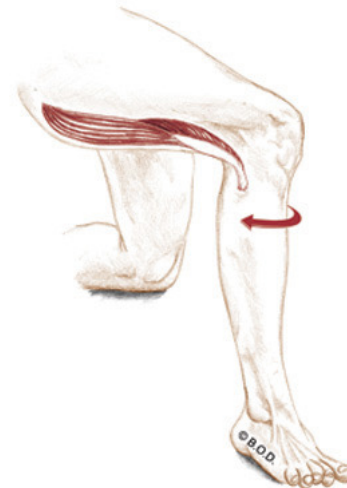
O *Long head:* Ischial tuberosity

Short head: Lateral lip of linea aspera

I Head of the fibula



Posterior View



Biceps femoris, page 312

- A** **Flex** the knee (tibiofemoral joint)
- Laterally rotate** the flexed knee (T/F joint)

Long head:

Extend the hip (coxal joint)

Assist to **laterally rotate** the hip (coxal joint)

Tilt the pelvis posteriorly

- O** *Long head:* Ischial tuberosity

Short head: Lateral lip of linea aspera

- I** Head of the fibula



Posterior View



Biceps femoris, page 312

- A** **Flex** the knee (tibiofemoral joint)
- Laterally rotate** the flexed knee (T/F joint)

Long head:

Extend the hip (coxal joint)

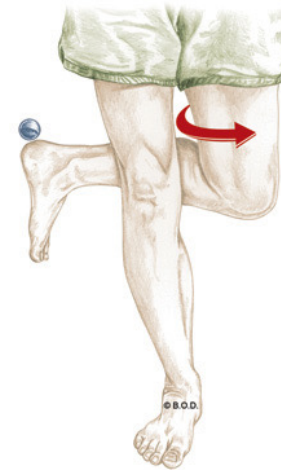
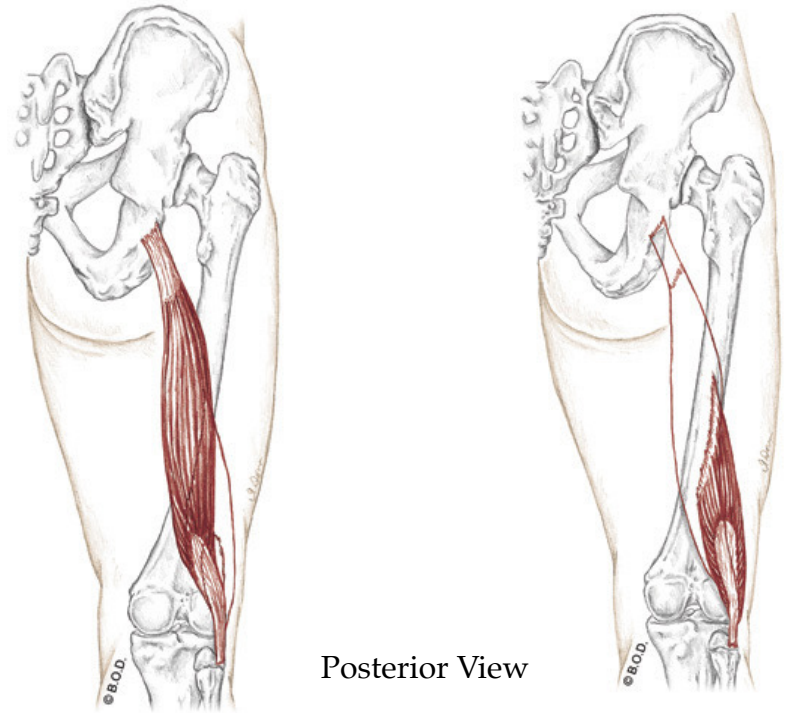
Assist to **laterally rotate** the hip (coxal joint)

Tilt the pelvis posteriorly

- O** *Long head:* Ischial tuberosity

Short head: Lateral lip of linea aspera

- I** Head of the fibula



Biceps femoris, page 312

- A** **Flex** the knee (tibiofemoral joint)
Laterally rotate the flexed knee (T/F joint)

Long head:

- Extend** the hip (coxal joint)
- Assist to **laterally rotate** the hip (coxal joint)

Tilt the pelvis posteriorly

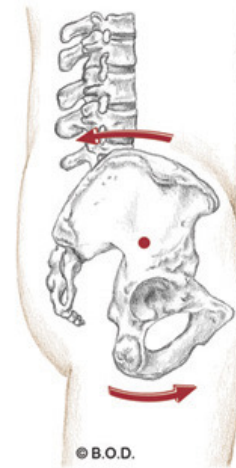
- O** *Long head:* Ischial tuberosity

Short head: Lateral lip of linea aspera

- I** Head of the fibula



Posterior View



Biceps femoris, page 312

A **Flex** the knee (tibiofemoral joint)

Laterally rotate the flexed knee (T/F joint)

Long head:

Extend the hip (coxal joint)

Assist to **laterally rotate** the hip (coxal joint)

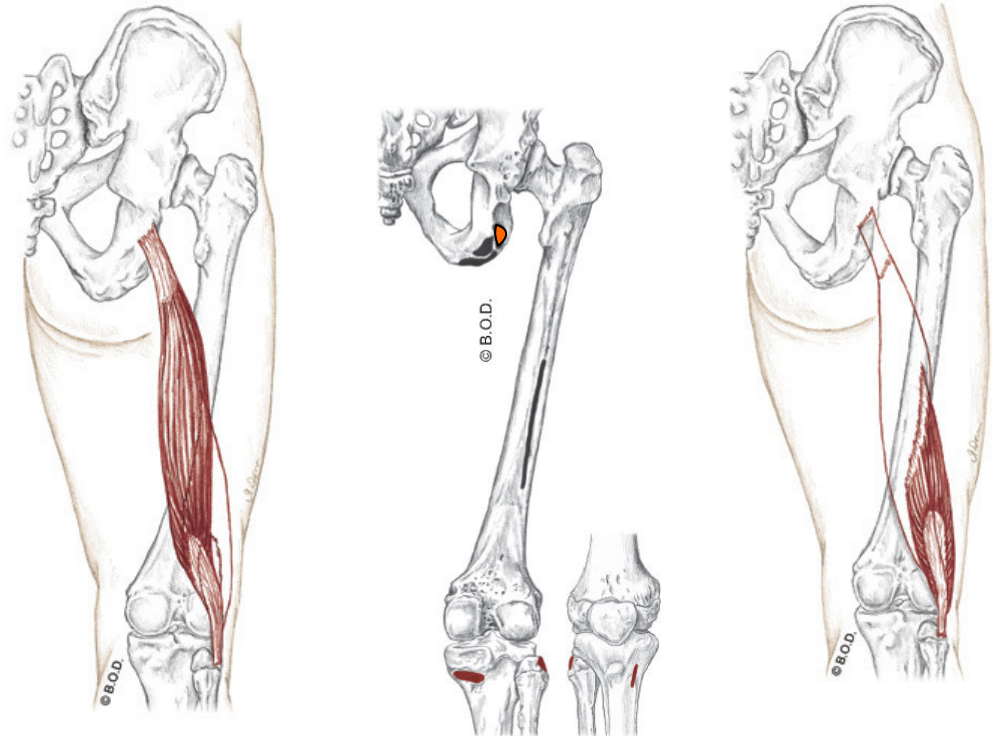
Tilt the pelvis posteriorly

O **Long head:** Ischial tuberosity

Short head: Lateral lip of linea aspera

I Head of the fibula

Posterior View



Biceps femoris, page 312

A **Flex** the knee (tibiofemoral joint)

Laterally rotate the flexed knee (T/F joint)

Long head:

Extend the hip (coxal joint)

Assist to **laterally rotate** the hip (coxal joint)

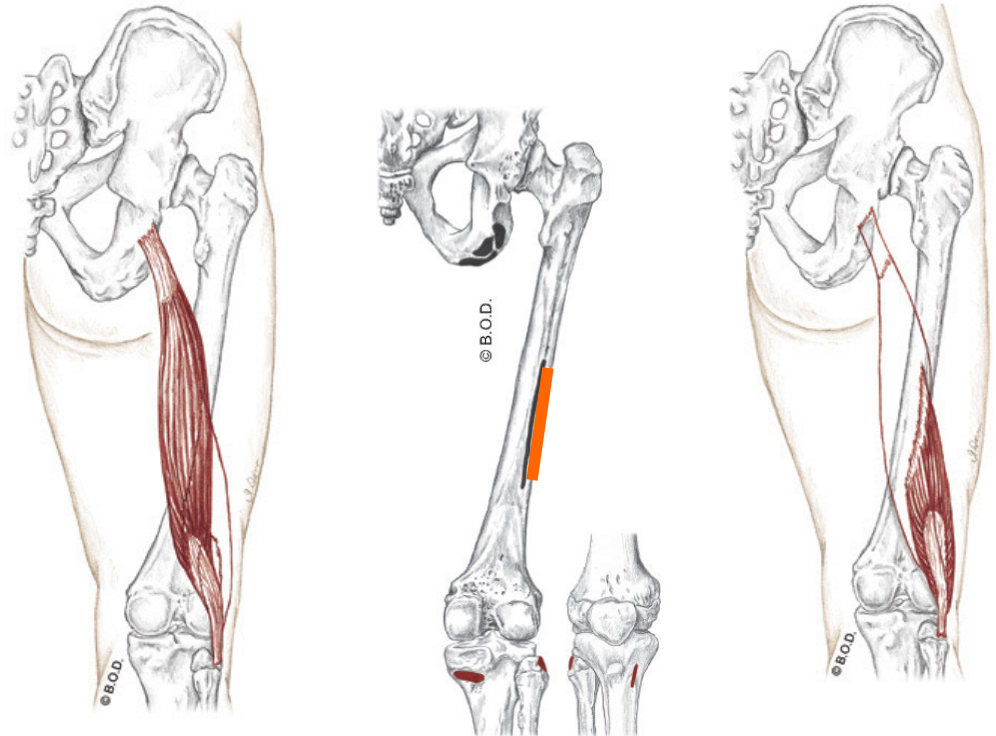
Tilt the pelvis posteriorly

O *Long head:* Ischial tuberosity

Short head: Lateral lip of linea aspera

I Head of the fibula

Posterior View



Biceps femoris, page 312

A **Flex** the knee (tibiofemoral joint)

Laterally rotate the flexed knee (T/F joint)

Long head:

Extend the hip (coxal joint)

Assist to **laterally rotate** the hip (coxal joint)

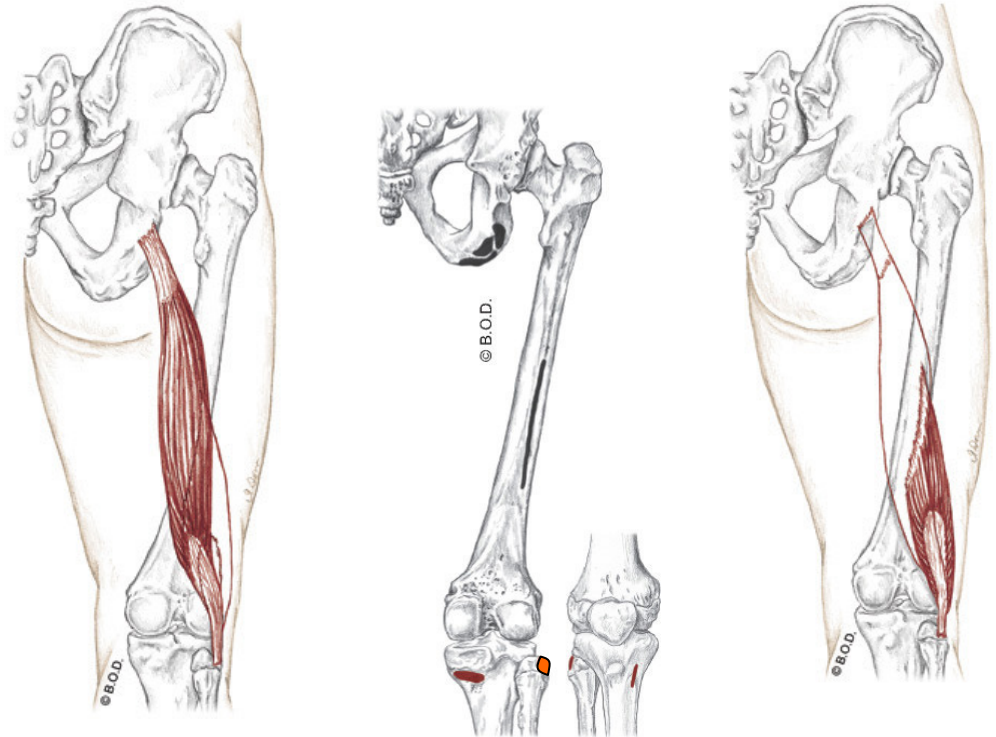
Tilt the pelvis posteriorly

O *Long head:* Ischial tuberosity

Short head: Lateral lip of linea aspera

I Head of the fibula

Posterior View



Semitendinosus, page 312

A Flex the knee (tibiofemoral joint)

Medially rotate the flexed knee (T/F joint)

Extend the hip (coxal joint)

Assist to medially rotate the hip (coxal joint)

Tilt the pelvis posteriorly

O Ischial tuberosity

I Proximal, medial shaft of the tibia at pes anserinus tendon



Posterior View



Semitendinosus, page 312

A **Flex** the knee (tibiofemoral joint)

Medially rotate the flexed knee (T/F joint)

Extend the hip (coxal joint)

Assist to **medially rotate** the hip (coxal joint)

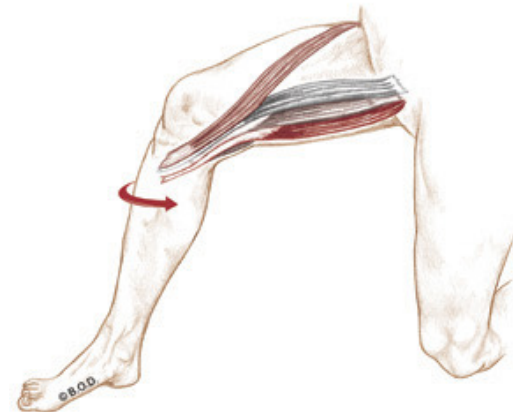
Tilt the pelvis posteriorly

O Ischial tuberosity

I Proximal, medial shaft of the tibia at pes
anserinus tendon



Posterior View



Semitendinosus, page 312

A **Flex** the knee (tibiofemoral joint)
Medially rotate the flexed knee (T/F joint)

Extend the hip (coxal joint)

Assist to **medially rotate** the hip (coxal joint)

Tilt the pelvis posteriorly

O Ischial tuberosity

I Proximal, medial shaft of the tibia at pes
anserinus tendon



Posterior View



Semitendinosus, page 312

A **Flex** the knee (tibiofemoral joint)
Medially rotate the flexed knee (T/F joint)

Extend the hip (coxal joint)

Assist to **medially rotate** the hip (coxal joint)

Tilt the pelvis posteriorly

O Ischial tuberosity

I Proximal, medial shaft of the tibia at pes
anserinus tendon



Posterior View



Semitendinosus, page 312

A **Flex** the knee (tibiofemoral joint)
Medially rotate the flexed knee (T/F joint)

Extend the hip (coxal joint)

Assist to **medially rotate** the hip (coxal joint)

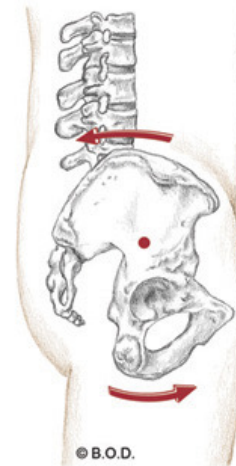
Tilt the pelvis posteriorly

O Ischial tuberosity

I Proximal, medial shaft of the tibia at pes
anserinus tendon



Posterior View



Semitendinosus, page 312

A Flex the knee (tibiofemoral joint)

Medially rotate the flexed knee (T/F joint)

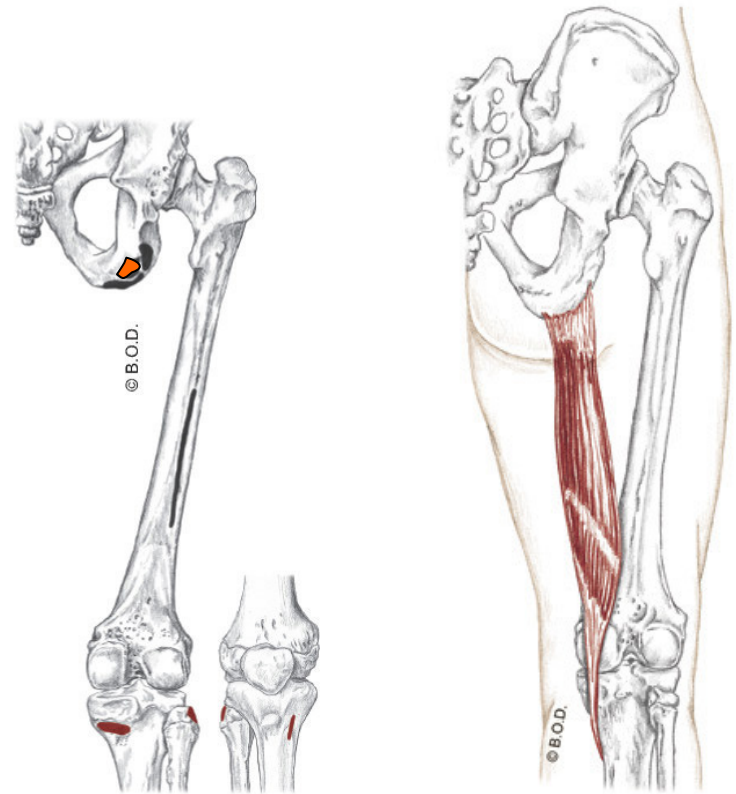
Extend the hip (coxal joint)

Assist to medially rotate the hip (coxal joint)

Tilt the pelvis posteriorly

O Ischial tuberosity

I Proximal, medial shaft of the tibia at pes anserinus tendon



Posterior View

Semitendinosus, page 312

A **Flex** the knee (tibiofemoral joint)
Medially rotate the flexed knee (T/F joint)

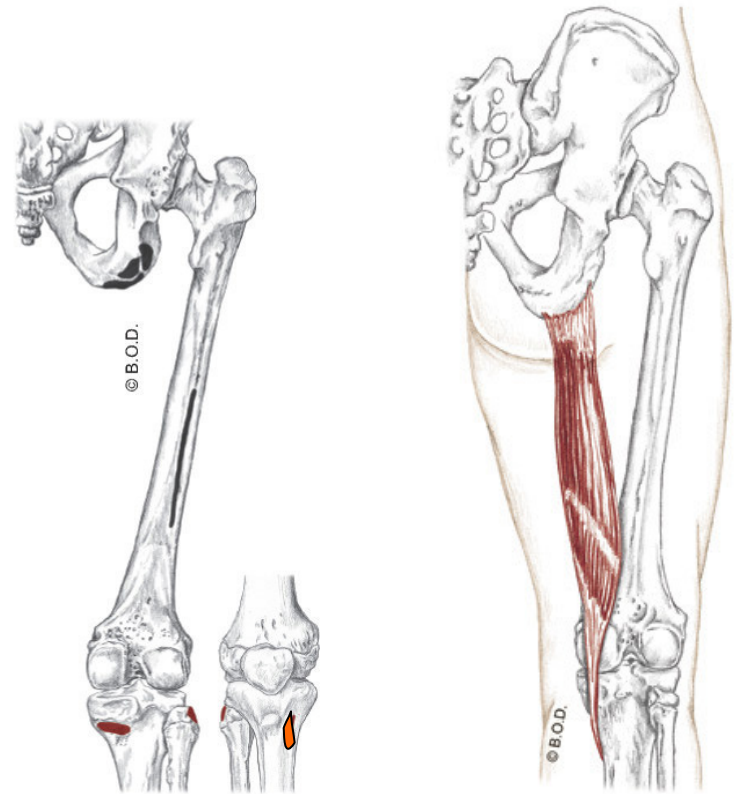
Extend the hip (coxal joint)

Assist to **medially rotate** the hip (coxal joint)

Tilt the pelvis posteriorly

O Ischial tuberosity

I Proximal, medial shaft of the tibia at pes anserinus tendon



Posterior View

Semimembranosus, page 312

A Flex the knee (tibiofemoral joint)

Medially rotate the flexed knee (T/F joint)

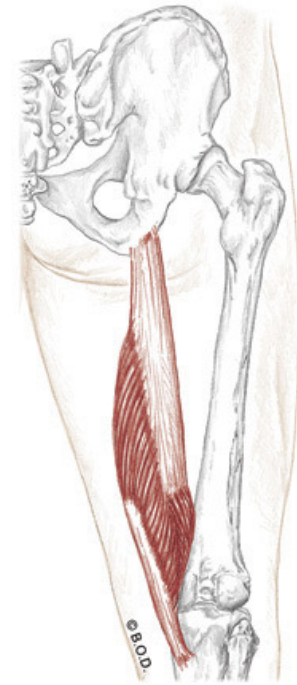
Extend the hip (coxal joint)

Assist to medially rotate the hip (coxal joint)

Tilt the pelvis posteriorly

O Ischial tuberosity

I Posterior aspect of medial condyle of tibia



Posterior View



Semimembranosus, page 312

A **Flex** the knee (tibiofemoral joint)

Medially rotate the flexed knee (T/F joint)

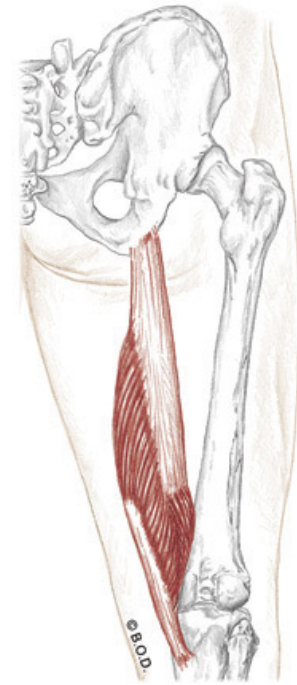
Extend the hip (coxal joint)

Assist to **medially rotate** the hip (coxal joint)

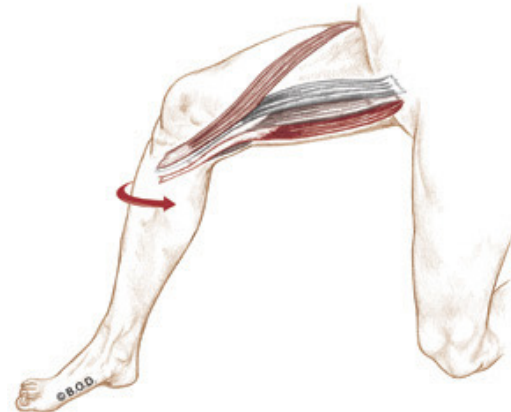
Tilt the pelvis posteriorly

O Ischial tuberosity

I Posterior aspect of medial condyle of tibia



Posterior View



Semimembranosus, page 312

A **Flex** the knee (tibiofemoral joint)
Medially rotate the flexed knee (T/F joint)

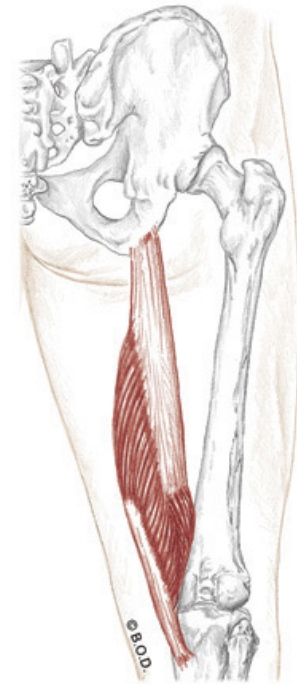
Extend the hip (coxal joint)

Assist to **medially rotate** the hip (coxal joint)

Tilt the pelvis posteriorly

O Ischial tuberosity

I Posterior aspect of medial condyle of tibia



Posterior View



Semimembranosus, page 312

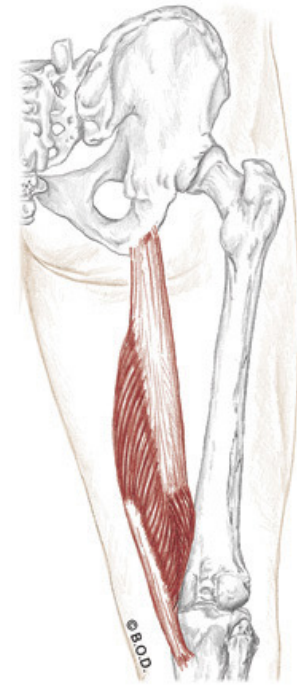
- A** Flex the knee (tibiofemoral joint)
- Medially rotate the flexed knee (T/F joint)
- Extend the hip (coxal joint)

Assist to medially rotate the hip (coxal joint)

Tilt the pelvis posteriorly

- O** Ischial tuberosity

- I** Posterior aspect of medial condyle of tibia



Posterior View



Semimembranosus, page 312

A **Flex** the knee (tibiofemoral joint)
Medially rotate the flexed knee (T/F joint)

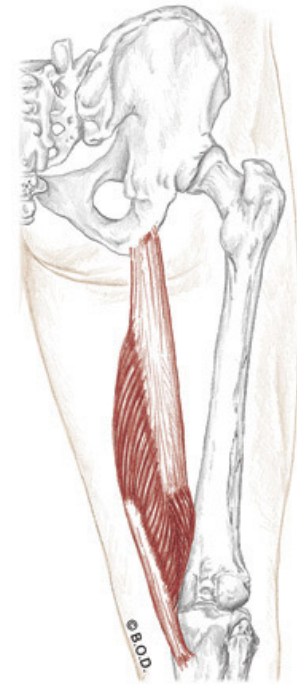
Extend the hip (coxal joint)

Assist to **medially rotate** the hip (coxal joint)

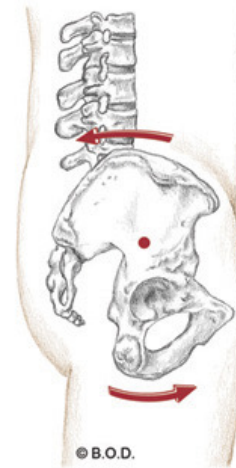
Tilt the pelvis posteriorly

O Ischial tuberosity

I Posterior aspect of medial condyle of tibia



Posterior View



Semimembranosus, page 312

A **Flex** the knee (tibiofemoral joint)

Medially rotate the flexed knee (T/F joint)

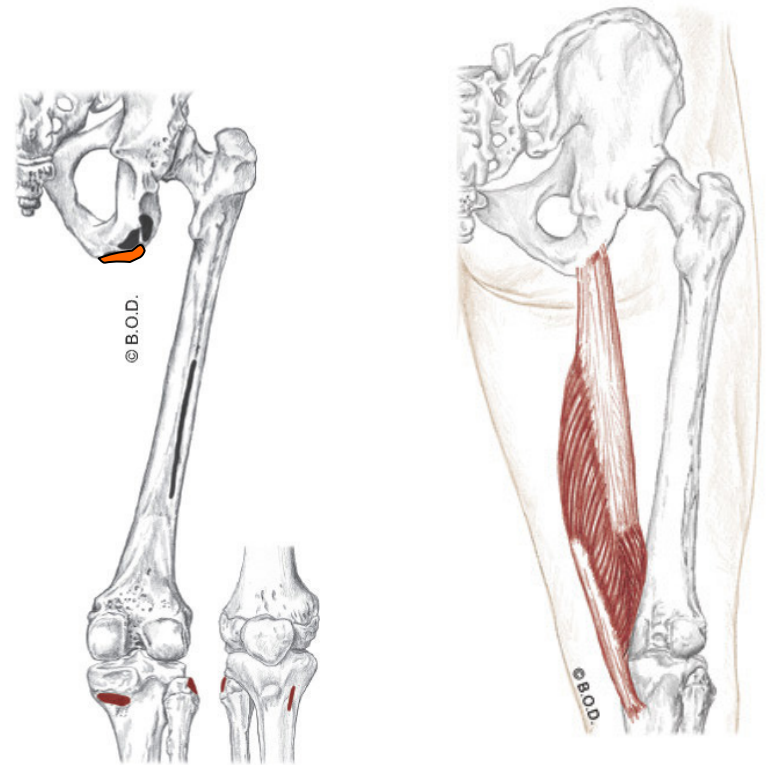
Extend the hip (coxal joint)

Assist to **medially rotate** the hip (coxal joint)

Tilt the pelvis posteriorly

O Ischial tuberosity

I Posterior aspect of medial condyle of tibia



Posterior View

Semimembranosus, page 312

A **Flex** the knee (tibiofemoral joint)
Medially rotate the flexed knee (T/F joint)

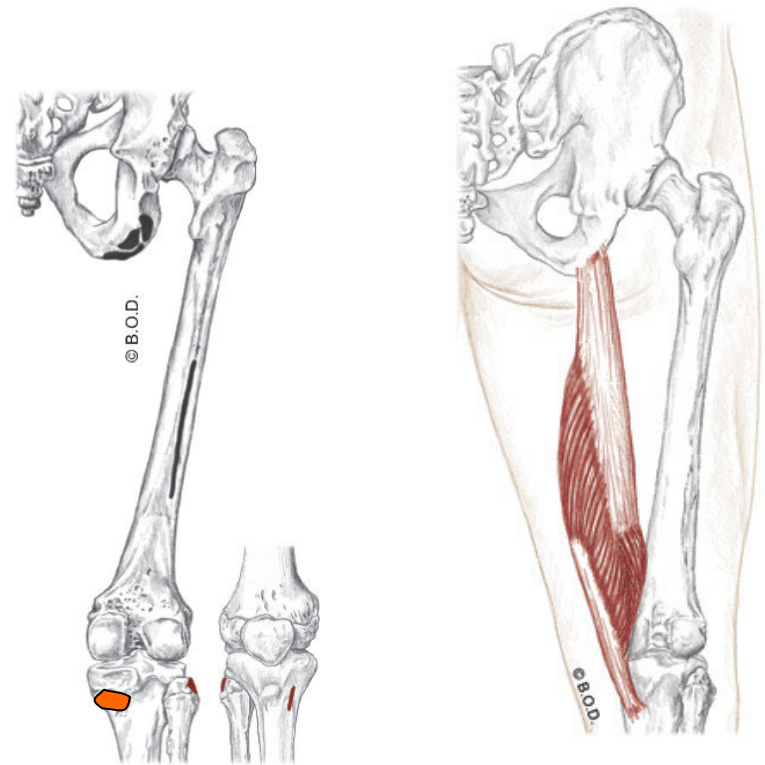
Extend the hip (coxal joint)

Assist to **medially rotate** the hip (coxal joint)

Tilt the pelvis posteriorly

O Ischial tuberosity

I Posterior aspect of medial condyle of tibia



Posterior View



7a A&P:

Introduction to the Human Body - Body Compass E-11

Homeostasis

Homeostasis Constancy of the body's internal environment. It represents a relatively stable condition within a very limited range.



Example: when we get too cold our muscles spasm (shivering) to warm us.

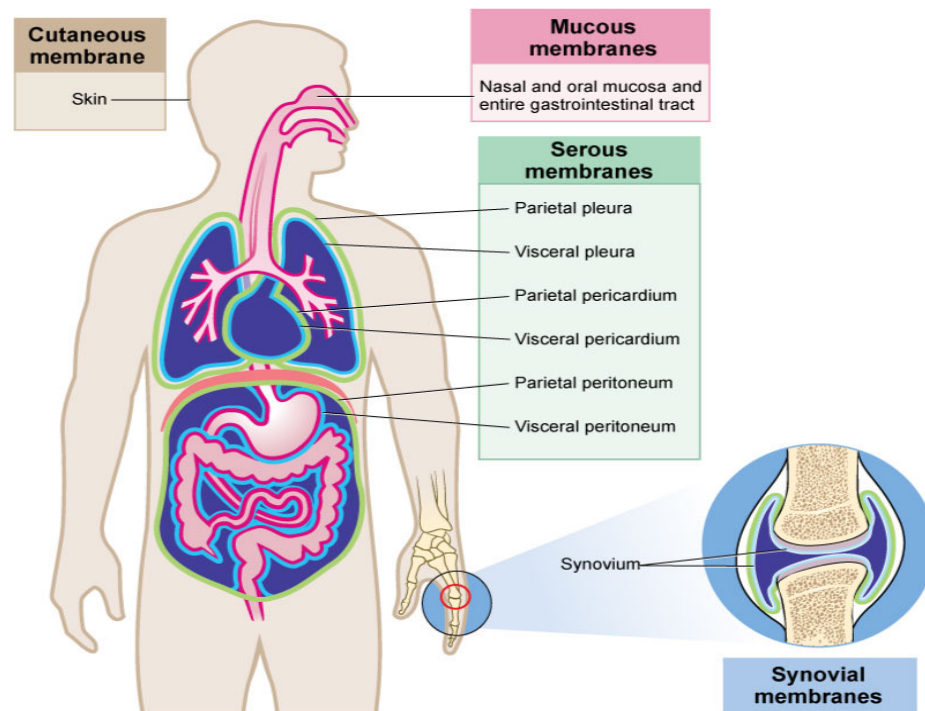


Membranes

Membrane Soft pliable sheets of tissue that cover the body, line tubes or body cavities, cover organs, and separate one part of a cavity from another.

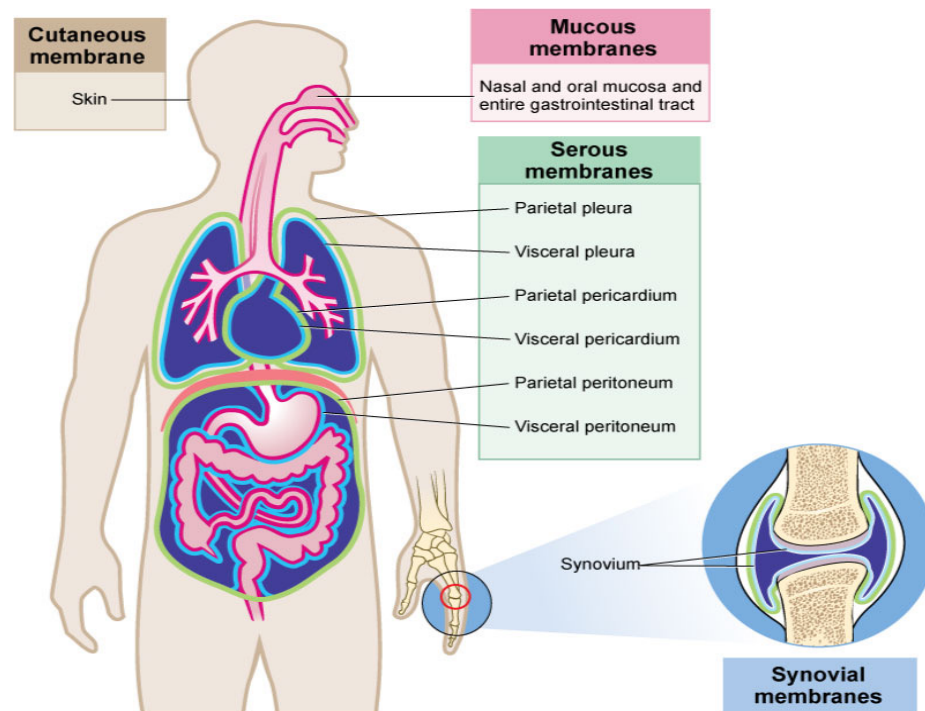
Membranes

Cutaneous membrane (AKA: skin) Epithelial membrane that covers the entire surface of the body.



Membranes

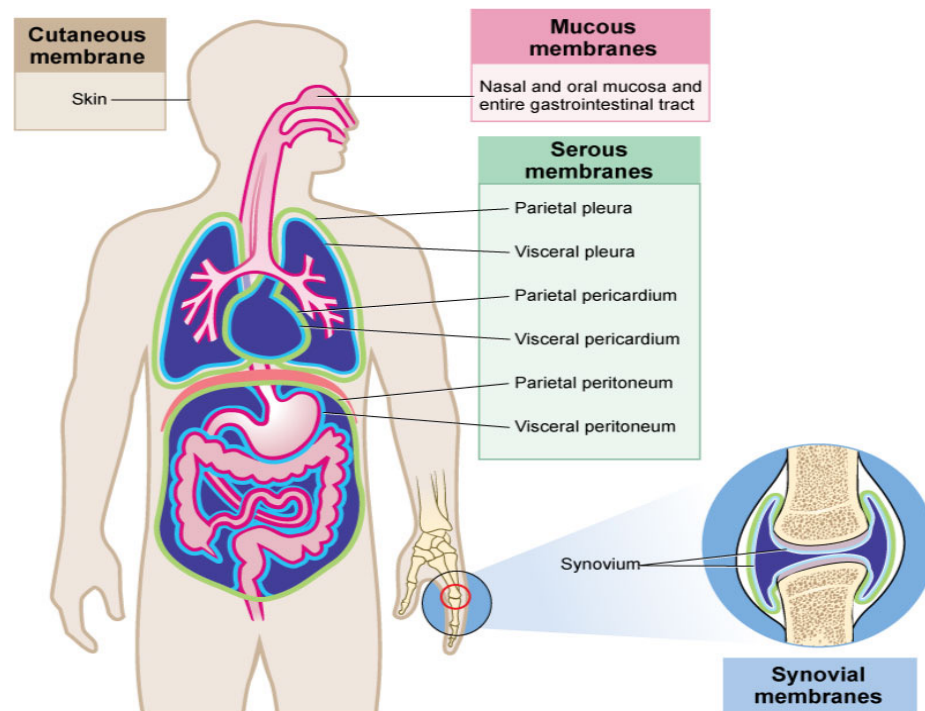
Mucous membrane (AKA: mucosa) Epithelial membrane that lines openings to the outside of the body. Example: nasal membrane.



Membranes

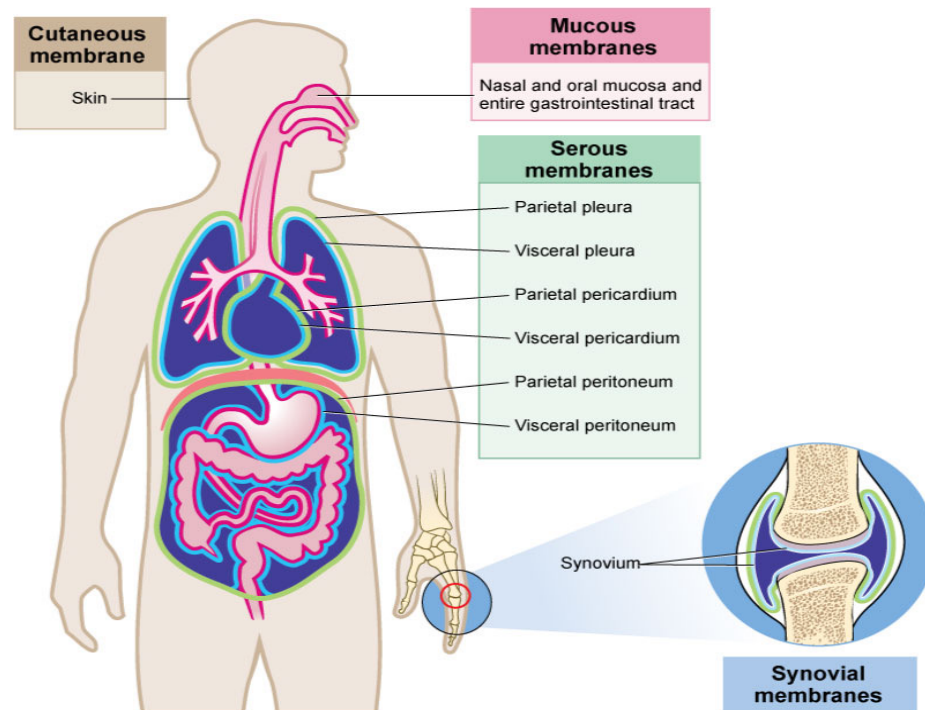
Serous membrane Epithelial membrane that lines closed body cavities that do not open to the outside of the body.

Example: pericardium.



Membranes

Synovial membrane Connective tissue membrane that lines cavities of freely moving joints.



Cutaneous membrane

Skin

Mucous membranes

Nasal and oral mucosa and entire gastrointestinal tract

Serous membranes

Parietal pleura

Visceral pleura

Parietal pericardium

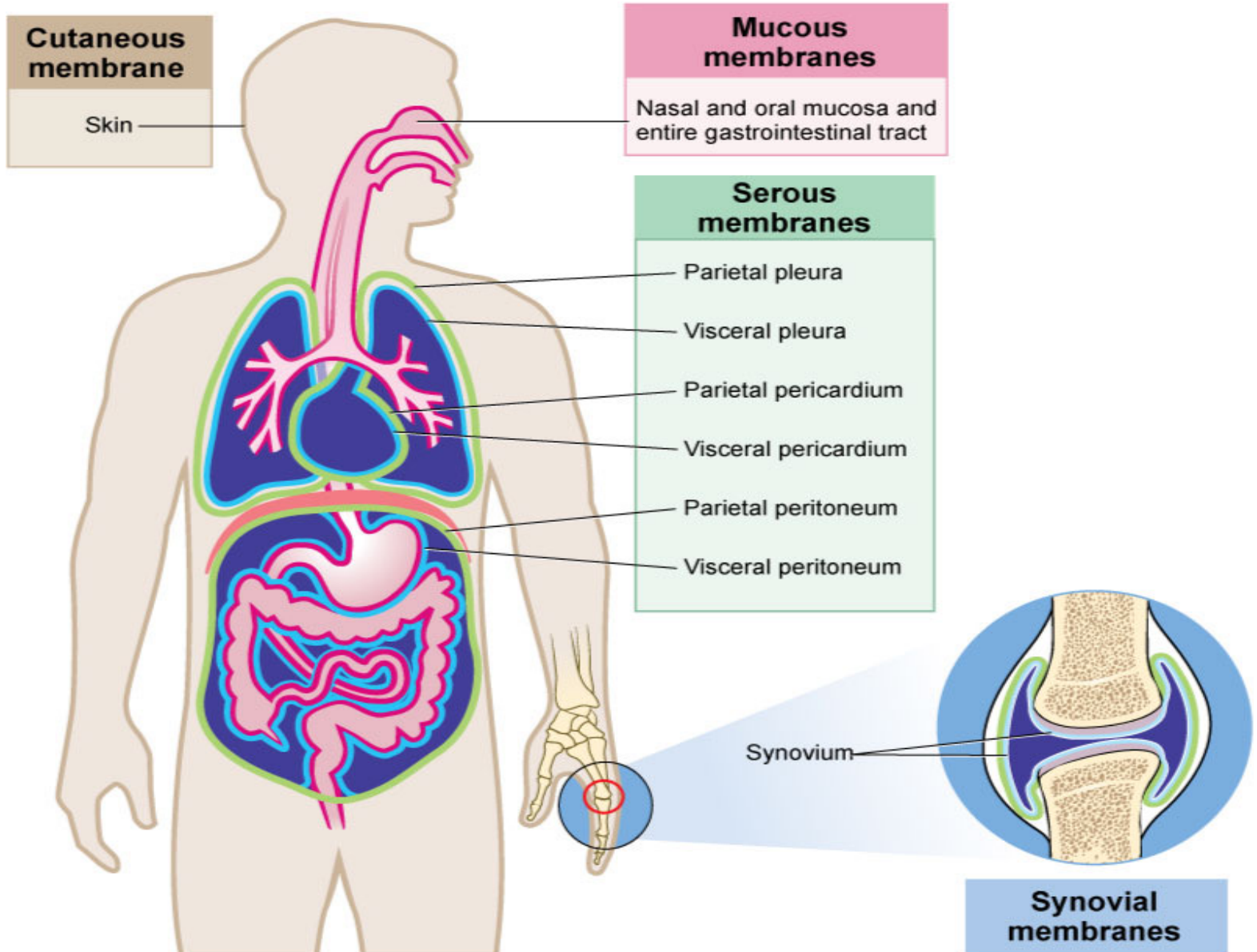
Visceral pericardium

Parietal peritoneum

Visceral peritoneum

Synovium

Synovial membranes





Fill in the Blanks

1. _____ membrane = covers the external body surface.
2. _____ membrane = lines openings to the outside of the body
3. _____ membrane = lines body cavities.
4. _____ membrane = freely moving joints.



Fill in the Blanks

1. Cutaneous membrane = covers the external body surface.
2. Mucous membrane = lines openings to the outside of the body
3. Serous membrane = lines body cavities.
4. Synovial membrane = freely moving joints.

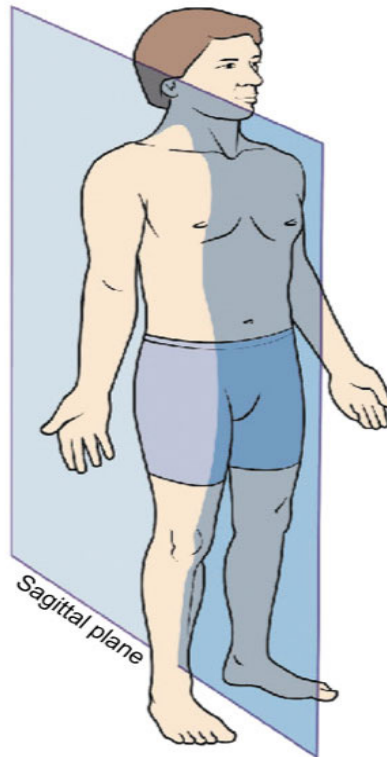
Anatomic Position

Anatomic position Standard body position used in Western medicine. The body is upright and facing forward, arms at the sides, palms facing forward, thumbs to the side, feet are about hip distance apart, with toes pointing forward.



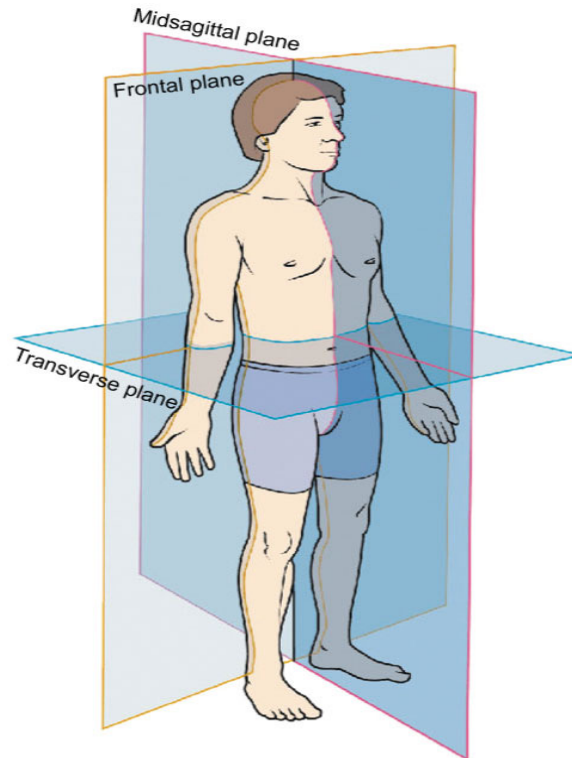
Planes of References

Plane A flat surface determined by three points in space such as height, depth, and width.



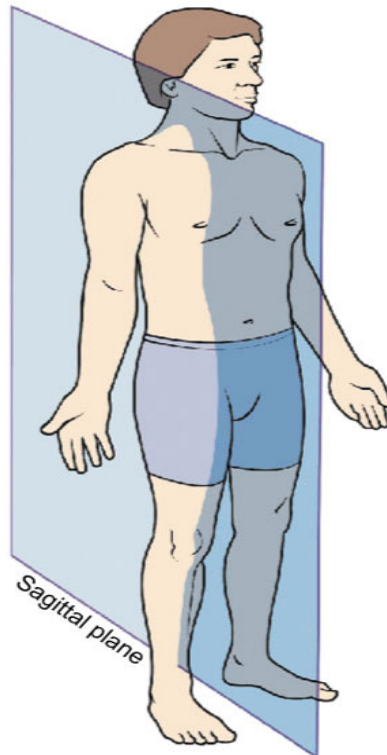
Planes of References

Midsagittal (AKA: median plane) Plane that runs longitudinally or vertically down the body, anterior to posterior, dividing the body into equal right , and left sections.



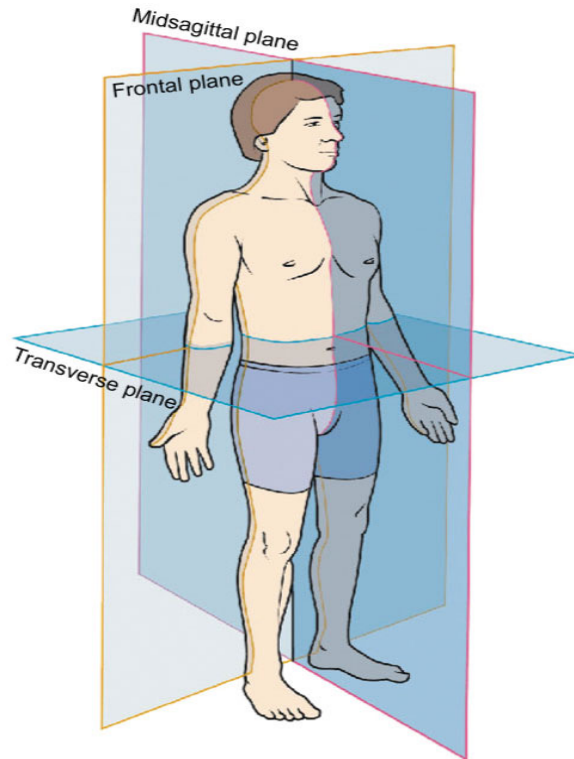
Planes of References

Sagittal plane Plane that passes through the body parallel to the midsagittal plane.



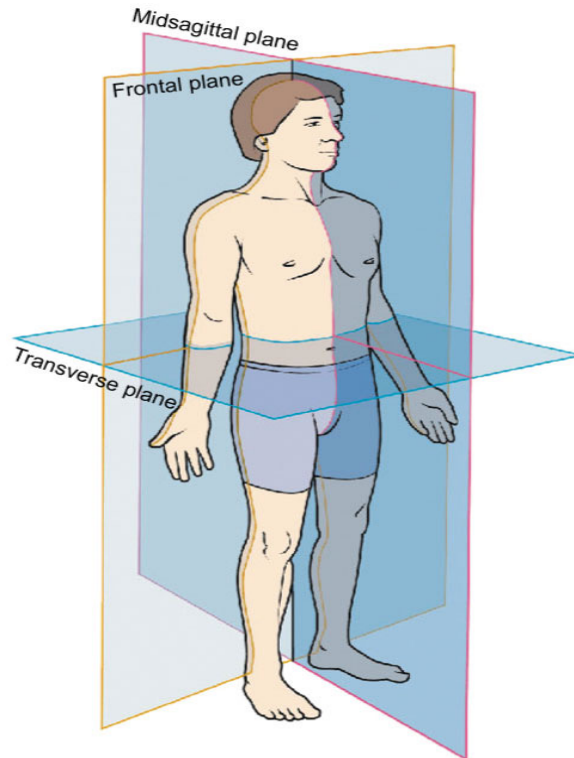
Planes of References

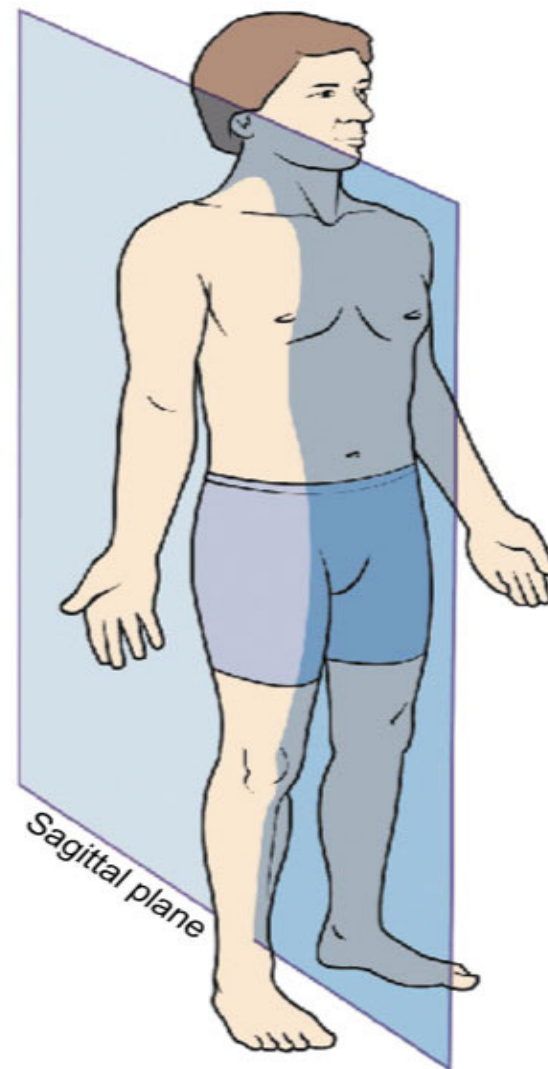
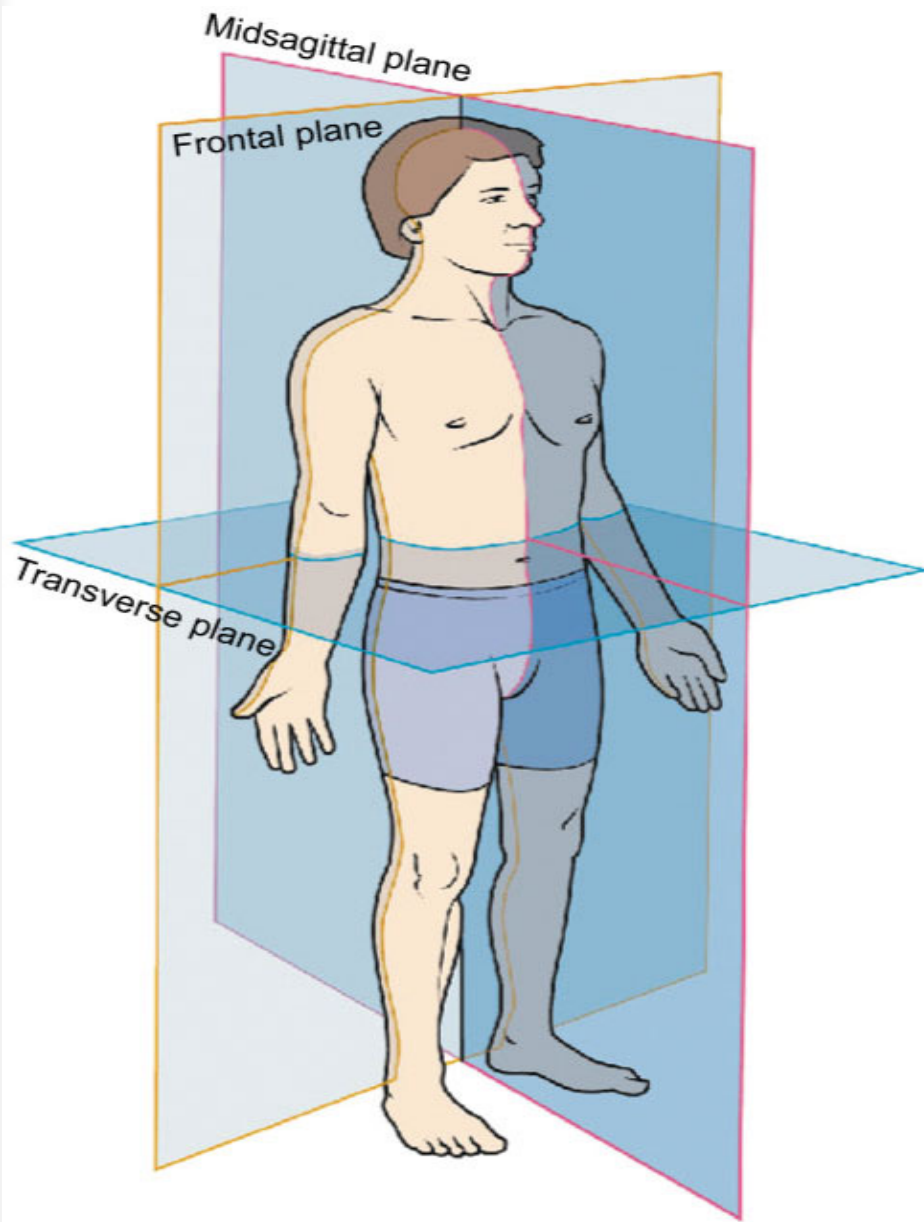
Frontal (AKA: coronal plane) Plane that passes through the body side to side, creating anterior and posterior sections.



Planes of References

Transverse (AKA: horizontal plane) Plane that passes through the body to create superior and inferior sections.

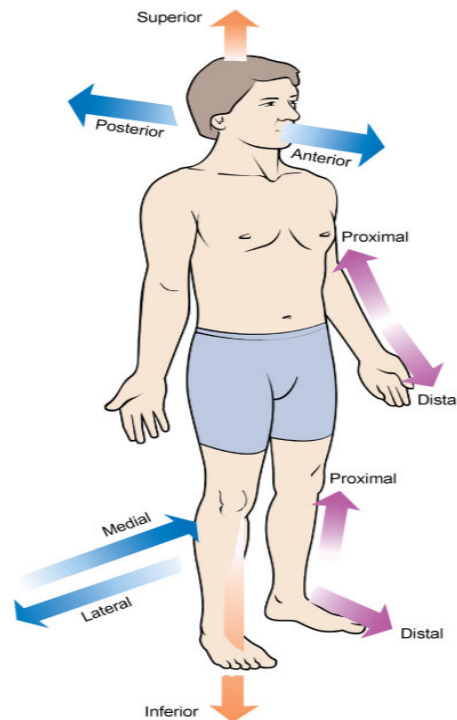




Directional Terms

Superior (AKA: cranial or cephalic) Situated above or toward the head end.

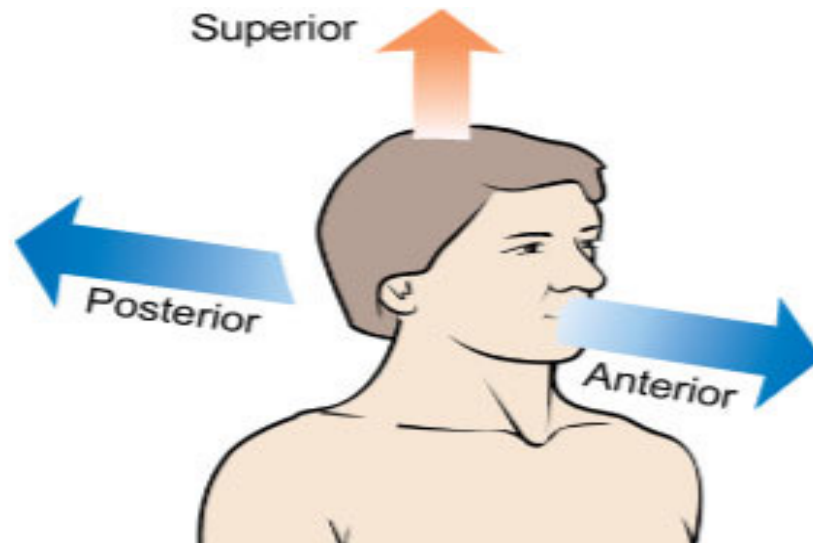
Inferior (AKA: caudal) Situated below or towards the tail end.



Directional Terms

Anterior (AKA: ventral) Pertaining to the front side of a structure.

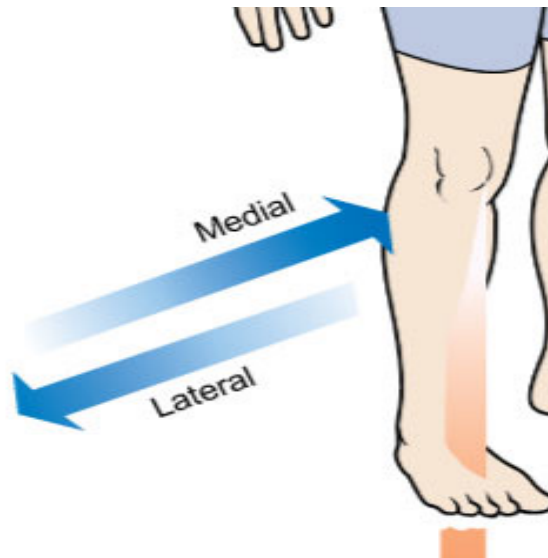
Posterior (AKA: dorsal) Pertaining to the back of a structure.



Directional Terms

Medial Oriented toward or near the midline of the body.

Lateral Oriented farther away from the midline of the body.





Directional Terms

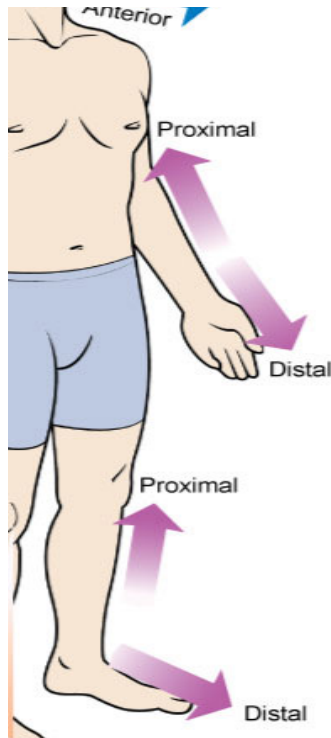
Ipsilateral (AKA: homolateral) Related to the same side of the body.

Contralateral Related to opposite sides of the body.

Directional Terms

Proximal Nearer to the point of reference. Extremities only.

Distal Farther from the point of reference. Extremities only.





Directional Terms

Deep (AKA: central) Pertaining to or situated at the center of the body.

Superficial (AKA: peripheral) Pertaining to the outside surface, periphery, or surrounding the external area of a structure.



Response Moment



7a A&P: Introduction to the Human Body - Body Compass