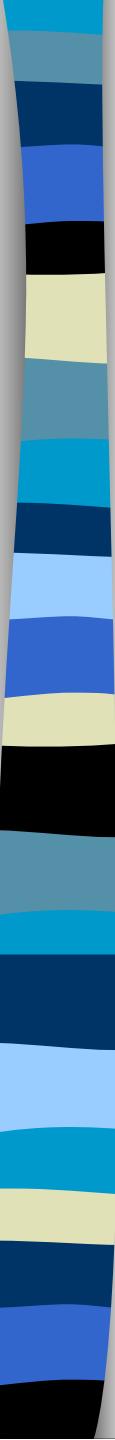




# 7a A&P: Introduction to the Human Body - Body Compass



# 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)
- 9a 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
  - gluteals, hamstrings gastrocnemius and soleus
  - 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

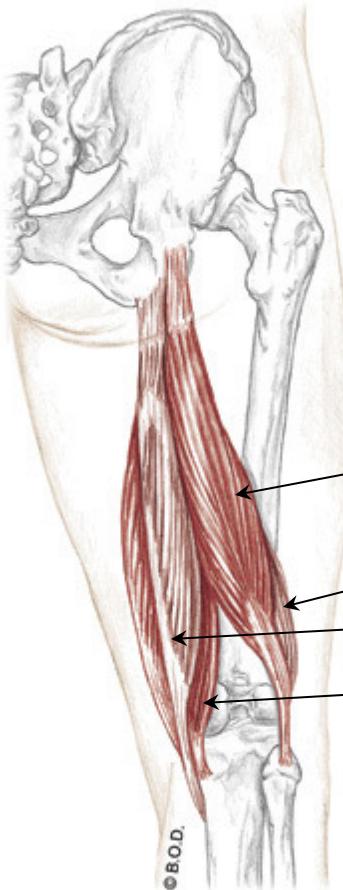
## Cell Phones – Turn it off!



And put it away!

# Hamstrings

## Trail Guide, Page 311



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.

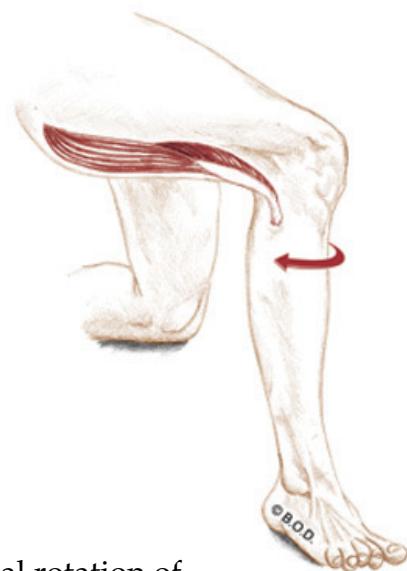
When do you use your hamstrings?

Posterior View

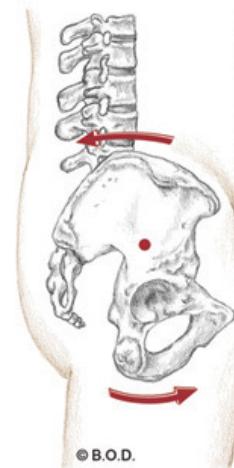
# Actions of the Hamstrings



Flexion of the tibiofemoral joint



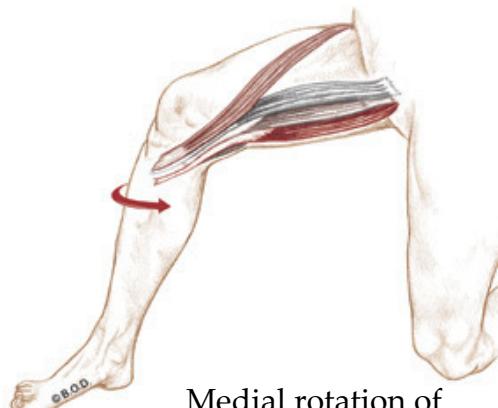
Lateral rotation of the flexed tibiofemoral joint



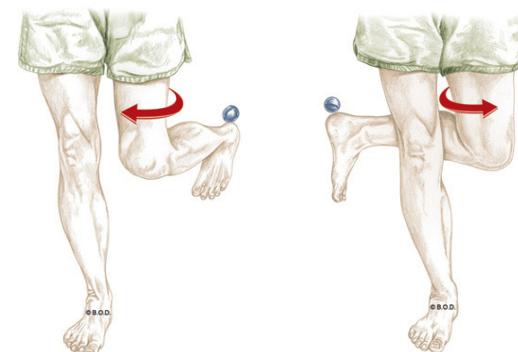
Posterior pelvic tilt



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



Posterior View



**O** Long head: Ischial tuberosity

Short head: Lateral lip of linea aspera

**I** Head of the fibula



# Biceps femoris, page 312

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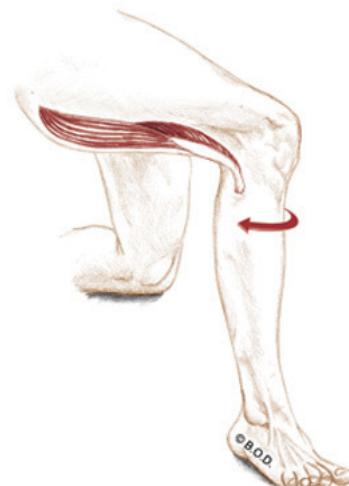
Posterior View



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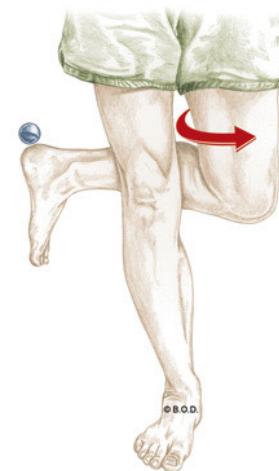
Posterior View



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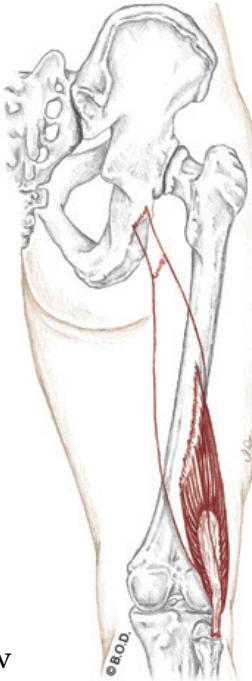
Extend the hip (coxal joint)

Assist to laterally rotate the hip (coxal joint)

**Tilt the pelvis posteriorly**



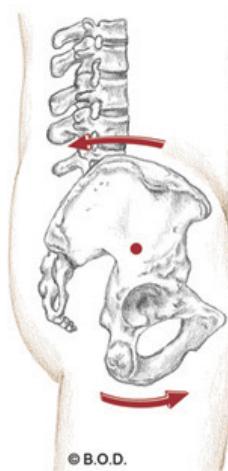
Posterior View



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Posterior View

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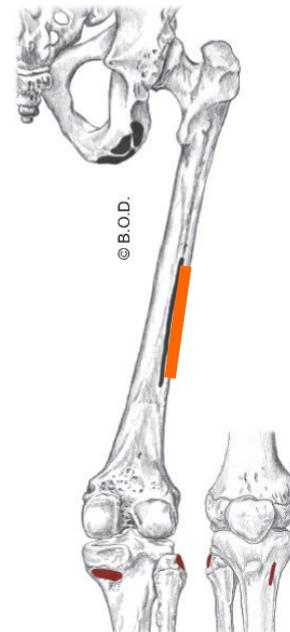
Long head:

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Assist to laterally rotate the hip (coxal joint)

Posterior View

Tilt the pelvis posteriorly



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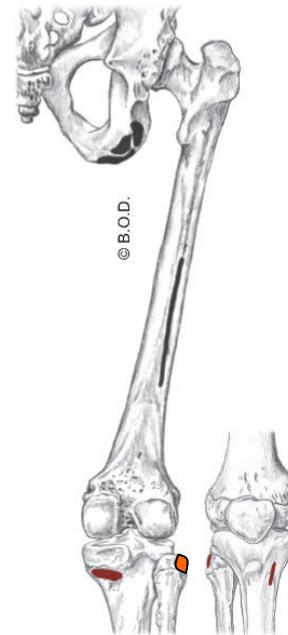
Posterior View

Tilt the pelvis posteriorly

**O** Long head: Ischial tuberosity

Short head: Lateral lip of linea aspera

**I** Head of the fibula



# Semitendinosus, page 312

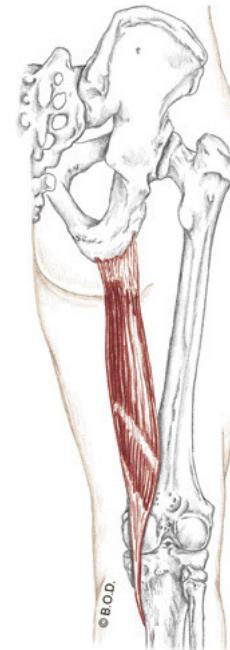
**A** Flex the knee (tibiofemoral joint)

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



Posterior View

**O** Ischial tuberosity

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



# 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)

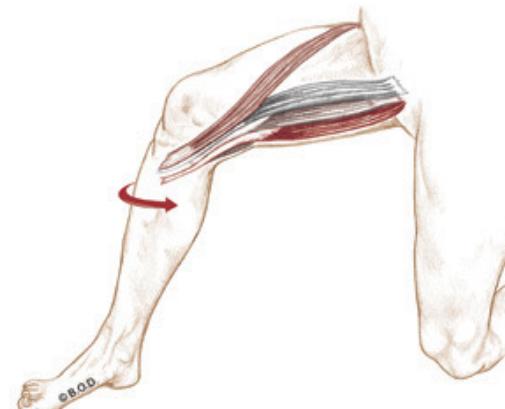
Tilt the pelvis posteriorly



Posterior View

**O** Ischial tuberosity

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



# Semitendinosus, page 312

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Assist to medially rotate the hip (coxal joint)

Tilt the pelvis posteriorly



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Posterior View



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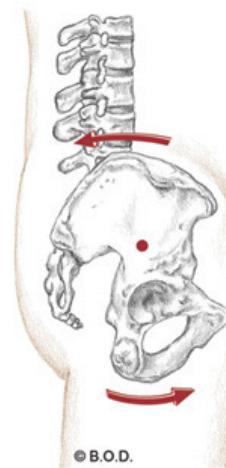
Tilt the pelvis posteriorly



Posterior View

**O** Ischial tuberosity

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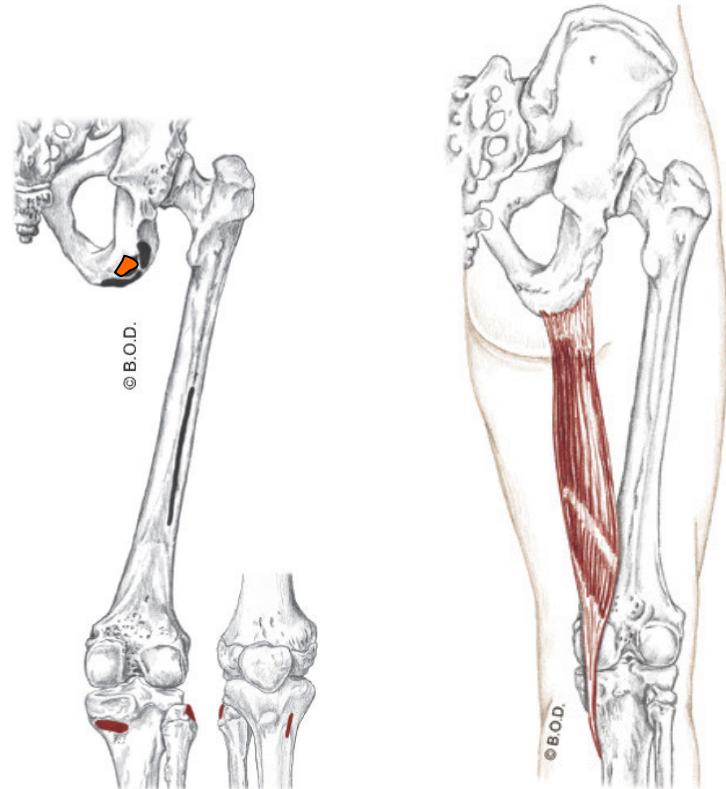
Extend the hip (coxal joint)

Assist to medially rotate the hip (coxal joint)

Tilt the pelvis posteriorly

**O** Ischial tuberosity

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Posterior View

# Semitendinosus, page 312

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Medially rotate the flexed knee (T/F joint)

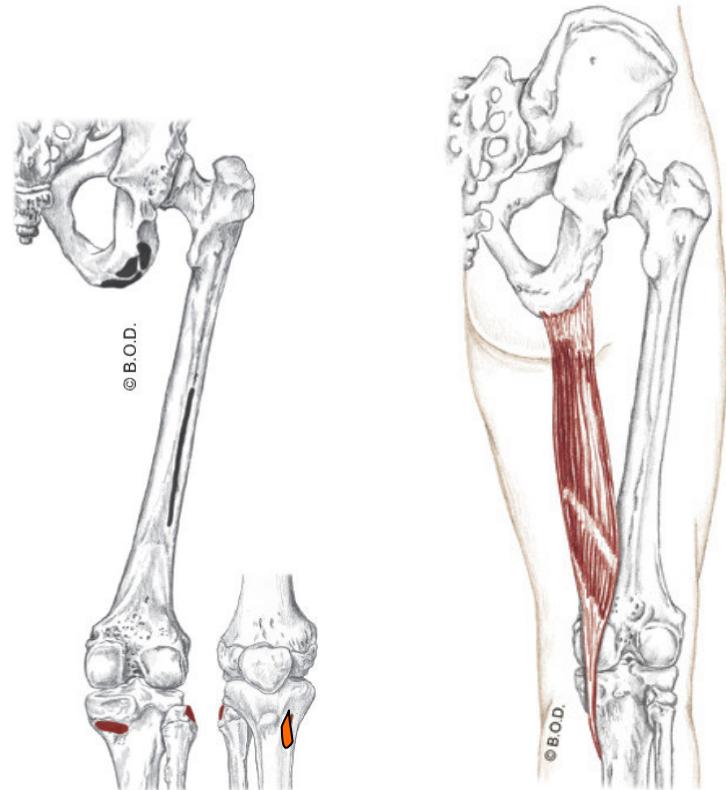
Extend the hip (coxal joint)

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)

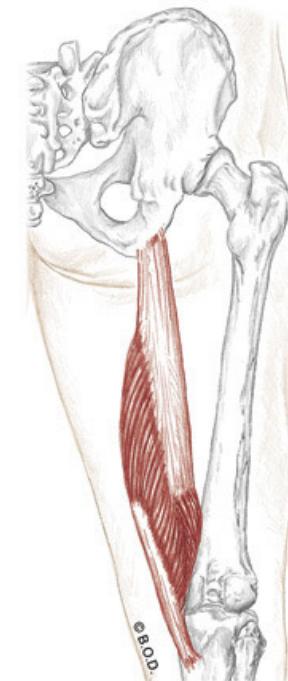
Medially rotate the flexed knee (T/F joint)

Extend the hip (coxal joint)

Assist to medially rotate the hip (coxal joint)

Tilt the pelvis posteriorly

**O** Ischial tuberosity



Posterior View

**I** Posterior aspect of medial condyle of tibia



# Semimembranosus, page 312

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

Medially rotate the flexed knee (T/F joint)

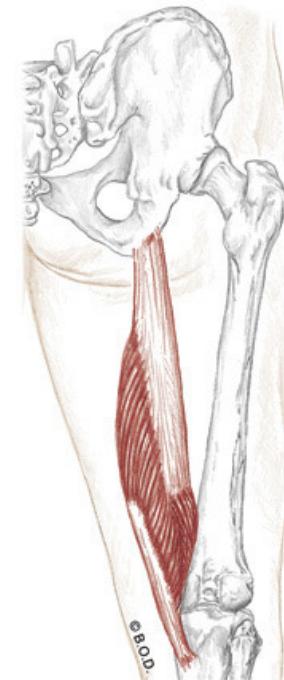
Extend the hip (coxal joint)

Assist to medially rotate the hip (coxal joint)

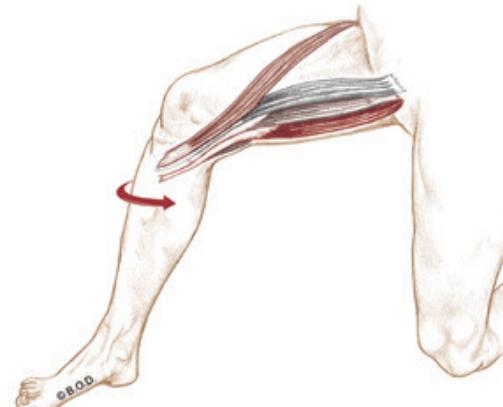
Tilt the pelvis posteriorly

**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)

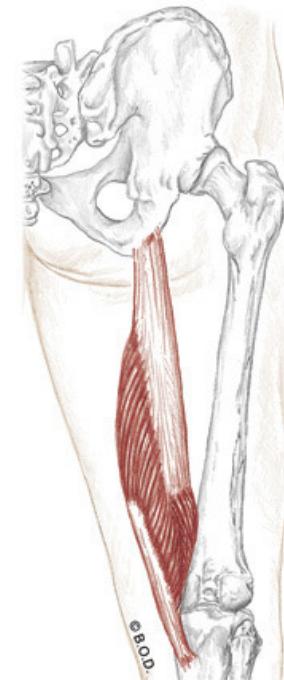
Extend the hip (coxal joint)

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Posterior View



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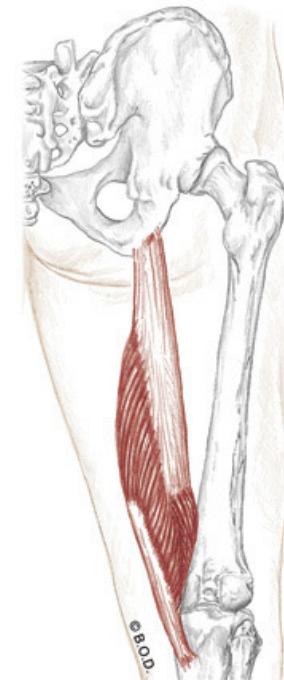
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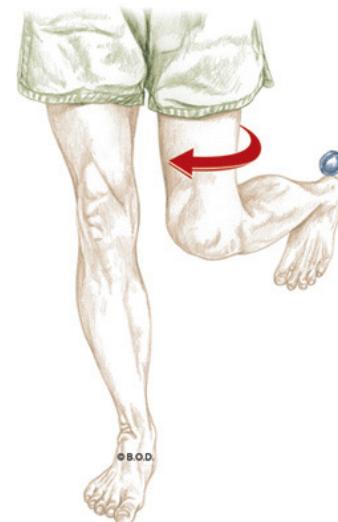
Tilt the pelvis posteriorly

**O** Ischial tuberosity

**I** Posterior aspect of medial condyle of tibia



Posterior View



# Semimembranosus, page 312

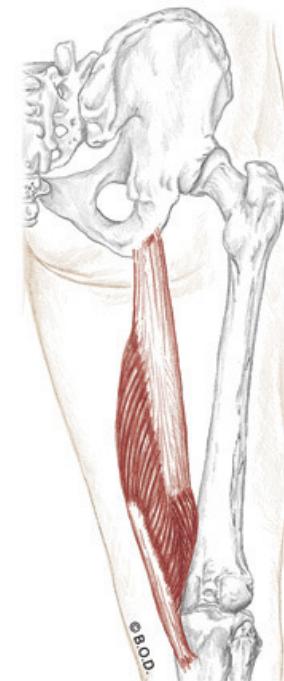
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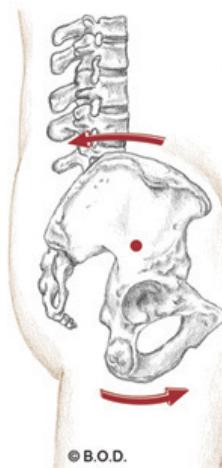
Tilt the pelvis posteriorly



Posterior View

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**I** Posterior aspect of medial condyle of tibia



# Semimembranosus, page 312

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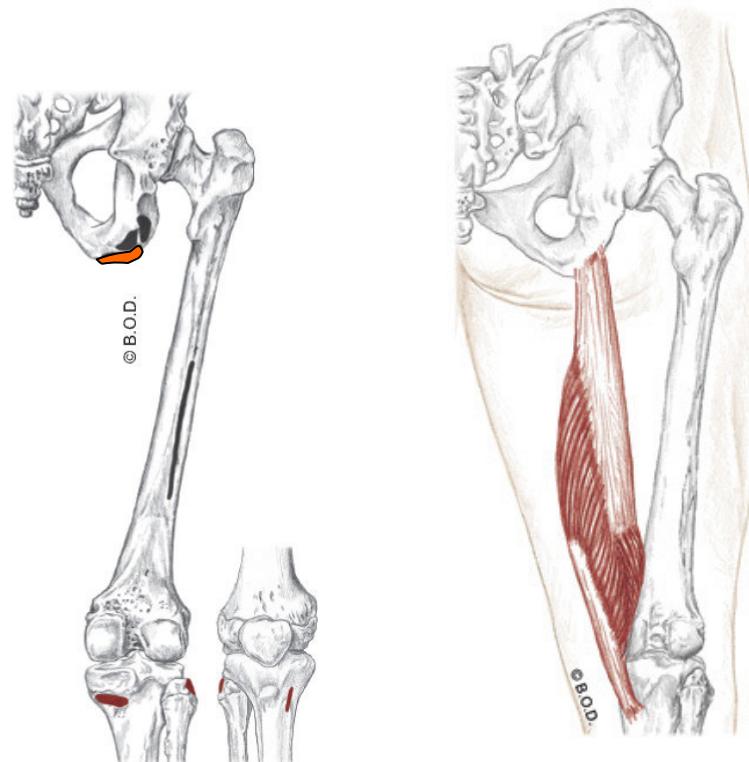
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Posterior View

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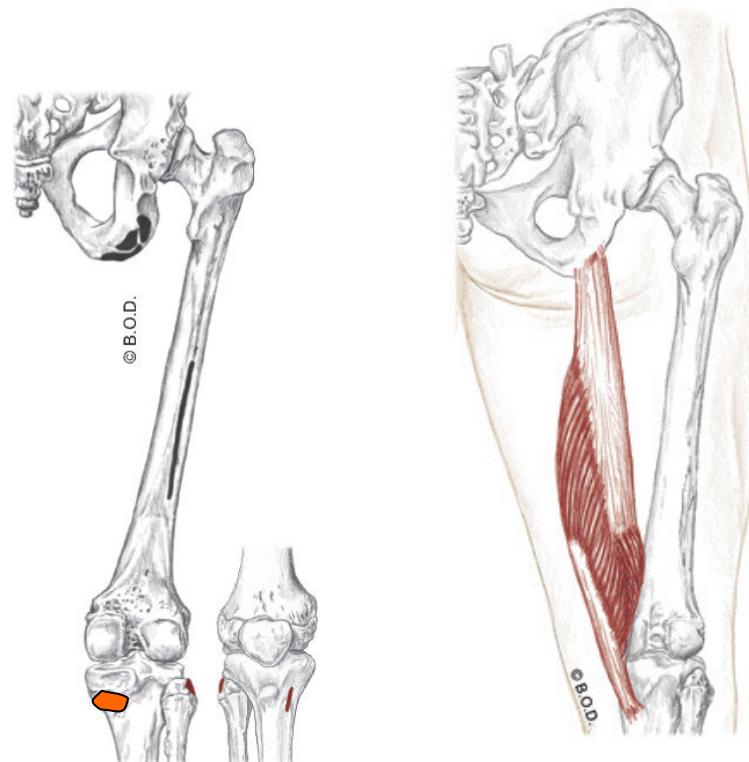
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Tilt the pelvis posteriorly

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Posterior View



# 7a A&P:

## Introduction to the Human Body

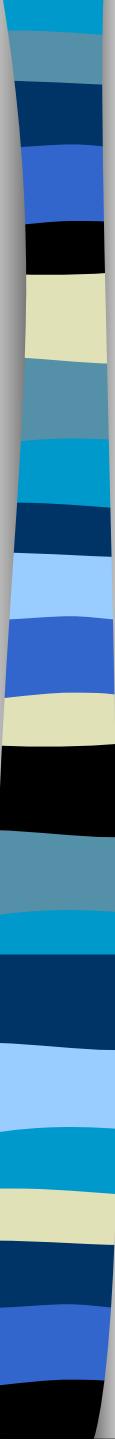
### E-11

# 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.

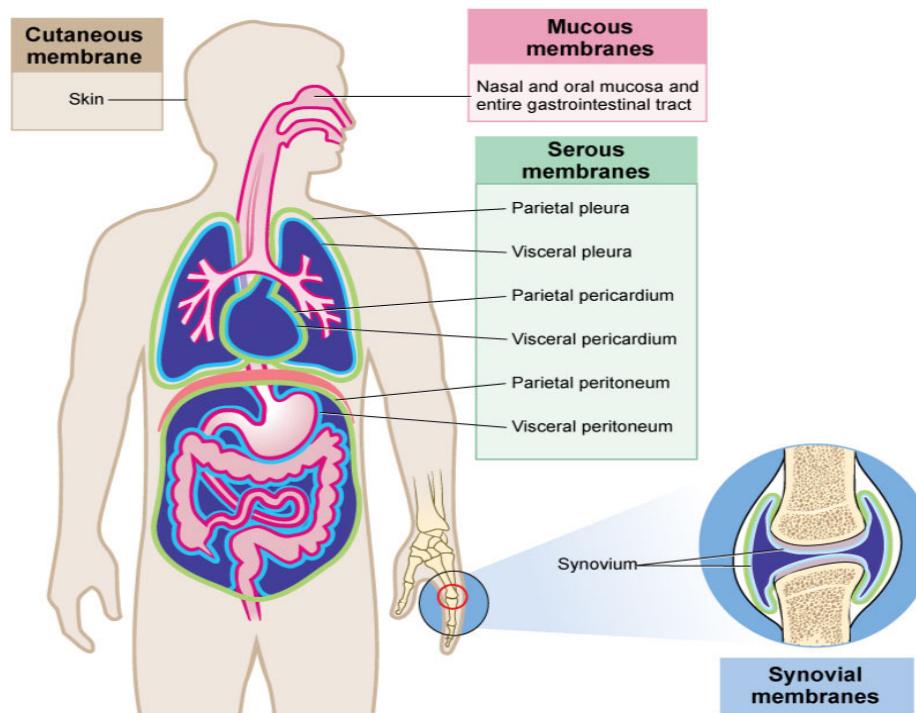


# Membranes

**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.

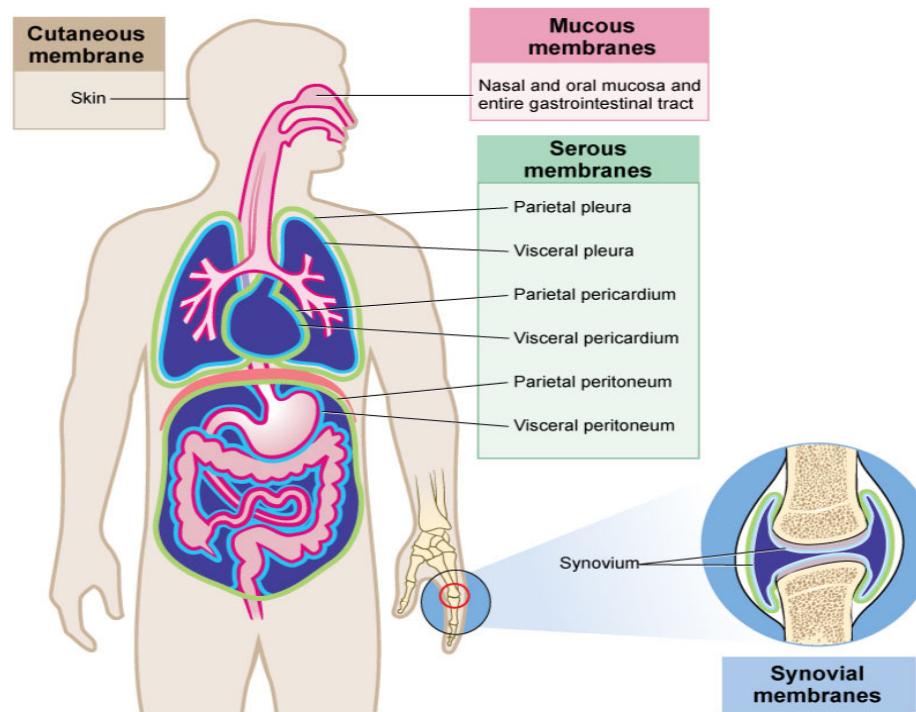
# Membranes

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



# Membranes

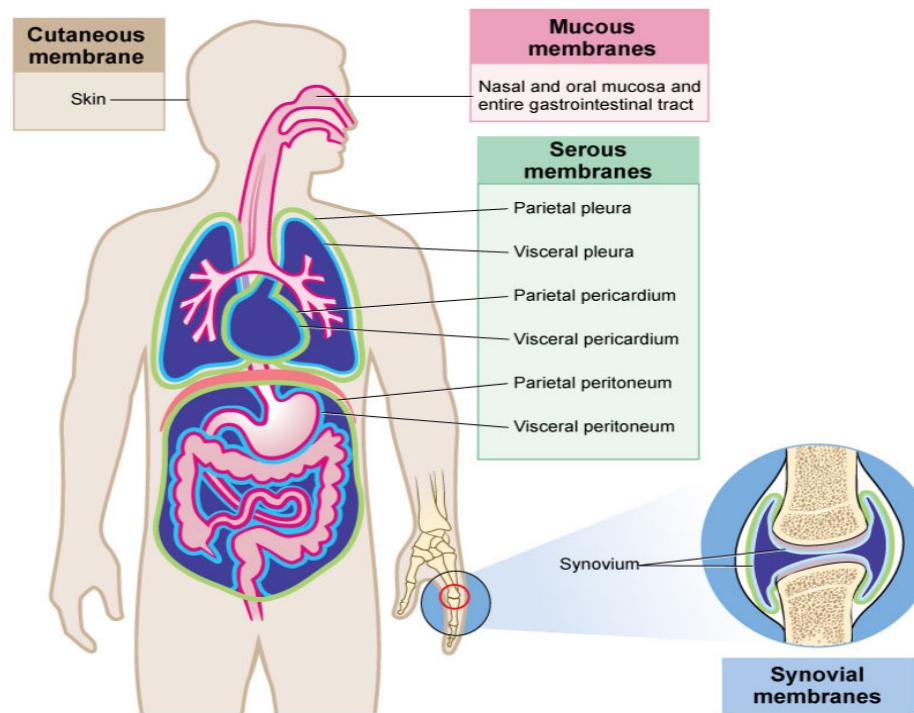
**Mucous membrane (AKA: mucosa)** Epithelial membrane that lines openings to the outside of the body. Example: nasal membrane.



# Membranes

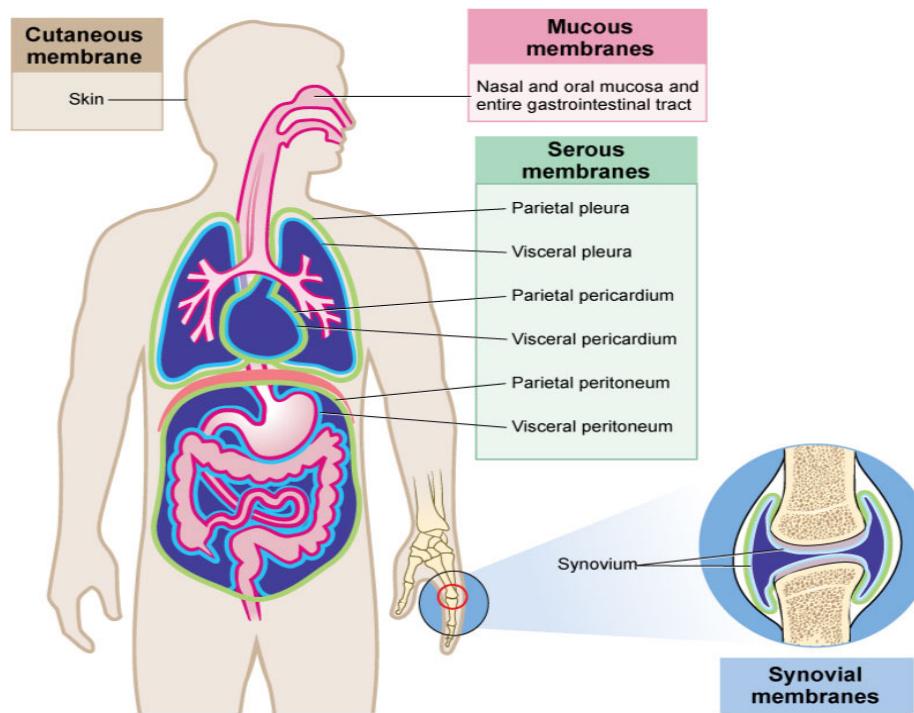
**Serous membrane** Epithelial membrane that lines closed body cavities that do not open to the outside of the body.

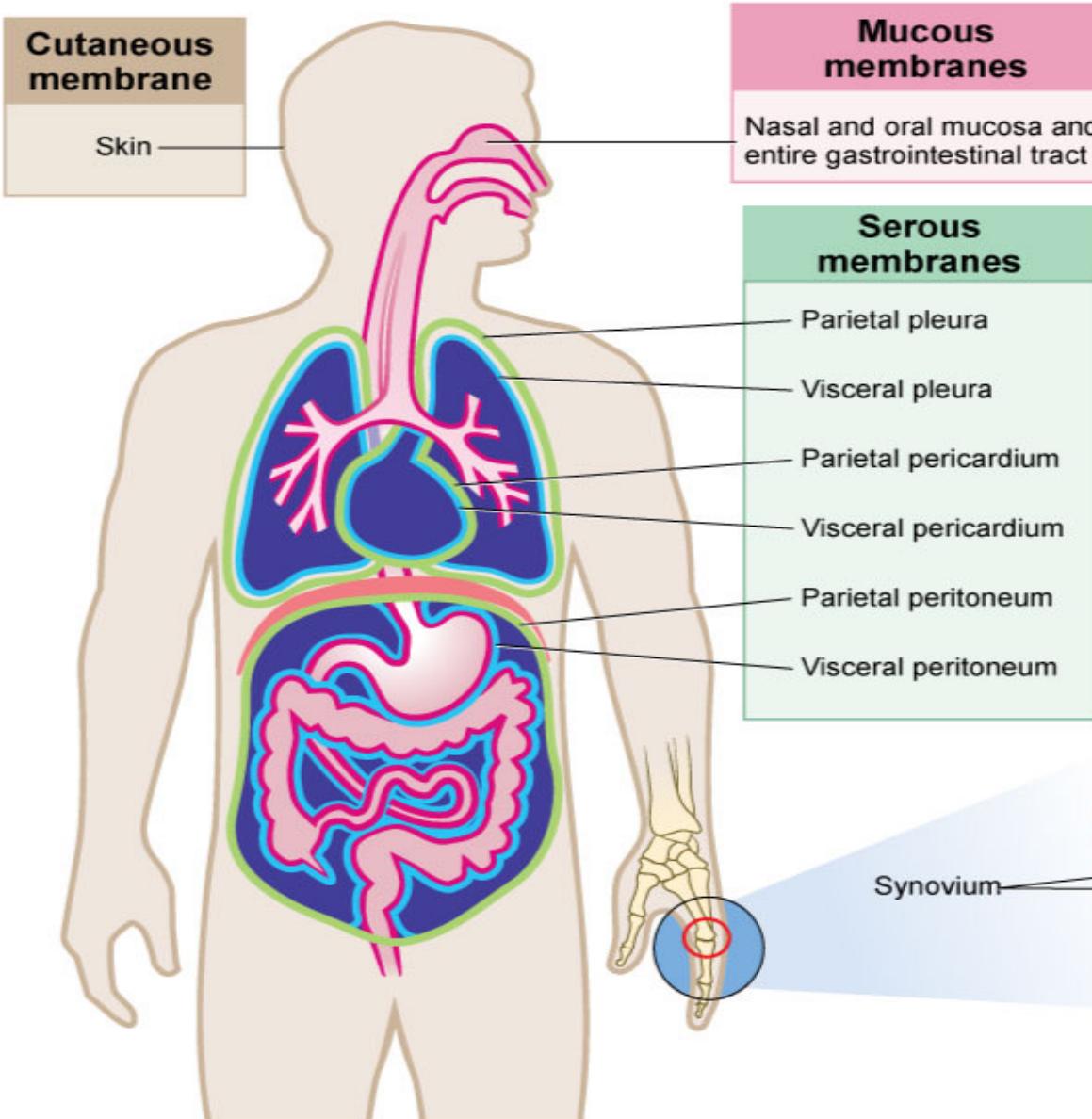
Example: pericardium.



# Membranes

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





## 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.



# 7a A&P: Introduction to the Human Body