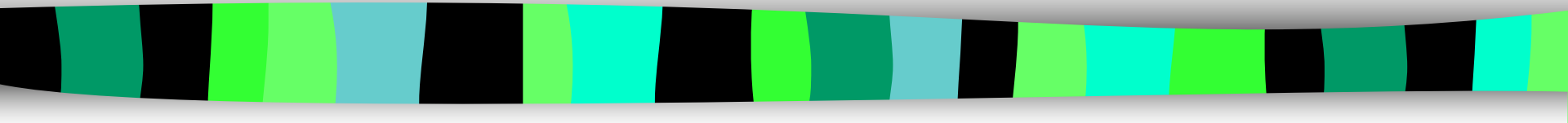


# 91a Kinesiology: Palpation Anterior and Posterior Legs





# 91a Kinesiology: Palpation Anterior and Posterior Legs Class Outline

5 minutes	Attendance, Breath of Arrival, and Reminders
<u>55 minutes</u>	<u>Palpation skills</u>
60 minutes	Total



# 91a Kinesiology: Palpation Anterior and Posterior Legs Class Outline

## ■ **Assessments:**

- 96b Deep Massage Touch Assessment  
Packet A:81-82; 89-90

## ■ **Quizzes:**

- 94a Kinesiology Quiz
  - See syllabus for list of muscles to review
  - 75 questions in 60 minutes

## ■ **Preparation for upcoming classes:**

- 91b Deep Massage: Technique Demo and Practice – Anterior and Posterior Legs
  - Lauterstein: Chapters 9 and 11.
- 92a Deep Massage: Working at Interface & The Seven Dimensions of Touch
  - Lauterstein: Chapters 6, 8, 10, 12, 14, 16, and 18.
  - Lauterstein: Pages 13-23.
- 92b Deep Massage: Technique Review and Practice – Posterior
  - Lauterstein: Chapters 7, 9, and 11.
  - Lauterstein: Pages 140-142 and 166-171.



# 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.*



## 91a Kinesiology: Palpation Anterior and Posterior Legs



# Palpation

## Set Up by the Students

- Students form groups of 3.
- Each group sets up a table and gets 1 face cradle, 1 bolster, and 2 chairs.
- Receivers must remain clothed.
- There will be no need of sheets except for a face cradle cover.

## Demo and Practice

- All of the students come to a central table to watch a brief demonstration of how to palpate one of the focus muscles:
  - List and identify the bony landmarks, especially origins and insertions.
  - List and identify the muscle bellies and tendons.
  - List and explain the actions.
  - Demo how to palpate the muscle while simultaneously offer resistance to the action, “Contract, relax. Contract, relax.”
  - The students go back to their table to practice the palpation.
  - 2 students palpate the third student collaboratively.
  - The instructor and assistant circulate to offer guidance and touch comparisons:
- This process repeats for each muscle that will be palpated.
- Once all the focus muscles have been palpated on the first student, repeat the process so that each student will palpate twice and be palpated once.



# Study and Palpation

**Use the remaining time for study and palpation of the following muscles:**

- Gluteals
- Hamstrings
- Triceps surae
- Quads
- TFL
- Adductors
- Tibialis anterior
- Fibularis longus/brevis

# Gluteals

## Trail Guide, Page 315

The three gluteal muscles are located in the buttock region, deep to surrounding adipose tissue.

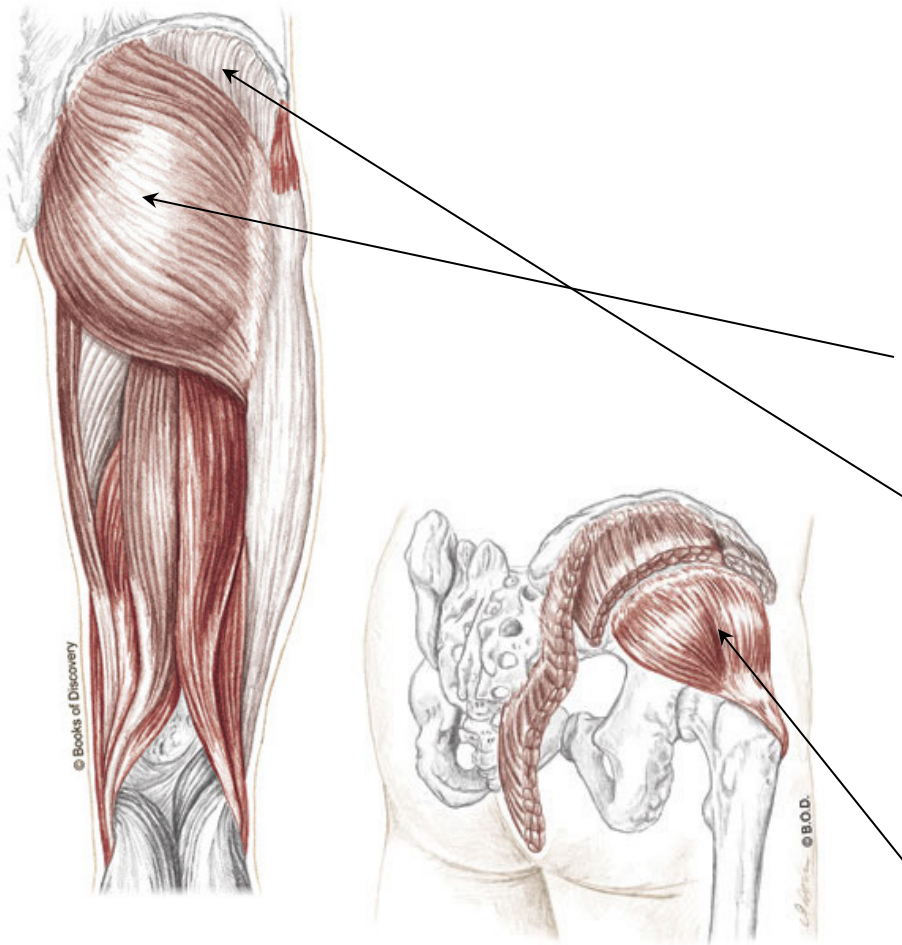
Adipose = fat

The large, superficial **gluteus maximus** is the most posterior of the group.

**Gluteus medius** is located on the lateral side of the hip and is also superficial. It is often thought of as “the deltoid of the coxal joint”.

Coxal joint = hip!

The **gluteus minimus** lies deep to the gluteus medius. Its dense fibers can be felt beneath gluteus medius.



Posterior View

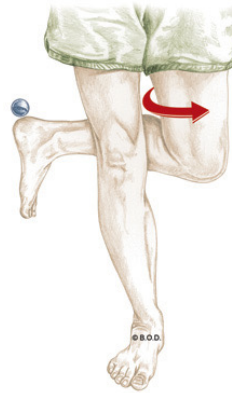
When do you use your gluteals?



# Actions of the gluteals



Extension  
of the coxal joint



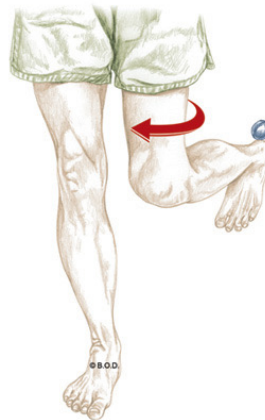
Lateral rotation  
of the coxal joint



Abduction  
of the coxal joint



Flexion  
of the coxal joint



Medial rotation  
of the coxal joint



Adduction  
of the coxal joint

# Gluteus maximus, page 315

A

*All fibers:*

**Extend** the hip (coxal joint)

**Laterally rotate** the hip (coxal joint)

**Abduct** the hip (coxal joint)

*Lower fibers:*

**Adduct** the hip (coxal joint)

O

Coccyx

Edge of sacrum

Posterior iliac crest

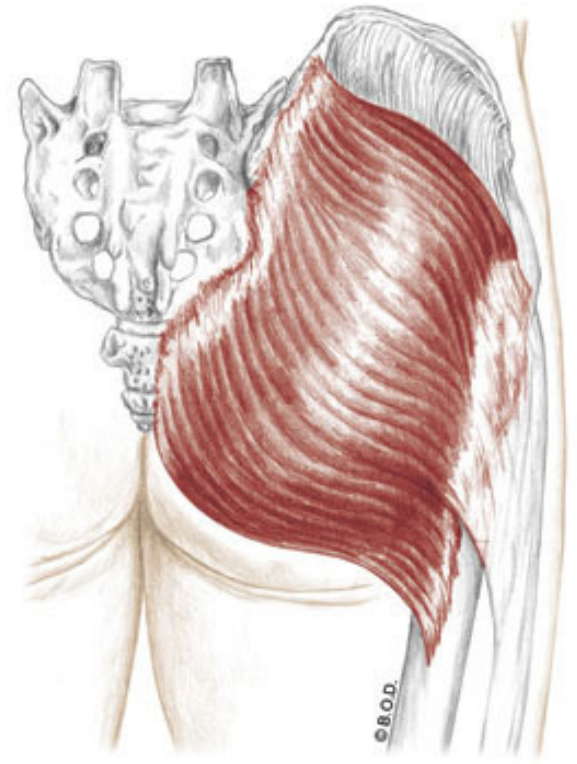
Sacrospinous ligament

Sacrospinous ligament

I

Iliotibial tract (upper fibers)

Gluteal tuberosity (lower fibers)



Posterior View



# Gluteus maximus, page 315

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*All fibers:*

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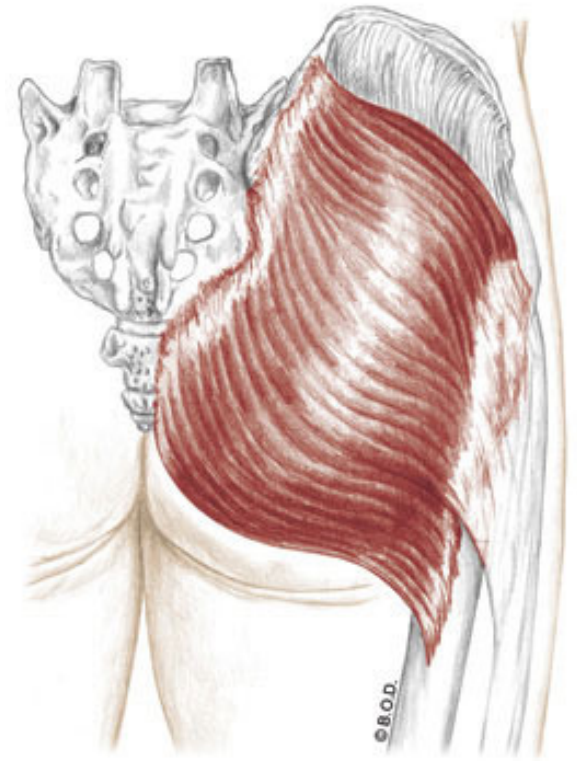
Sacrospinous ligament

Sacrospinous ligament

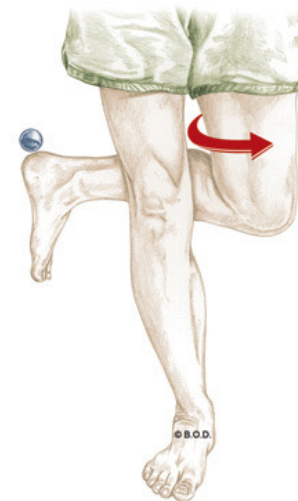
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Gluteal tuberosity (lower fibers)



Posterior View



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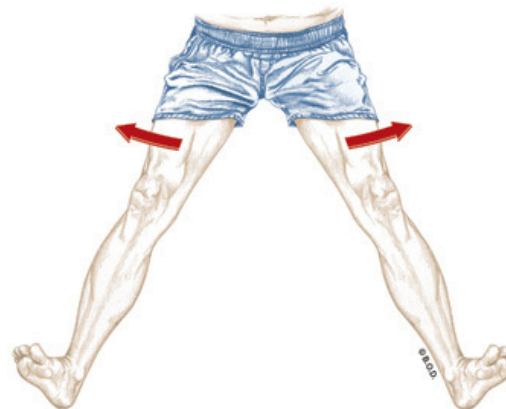
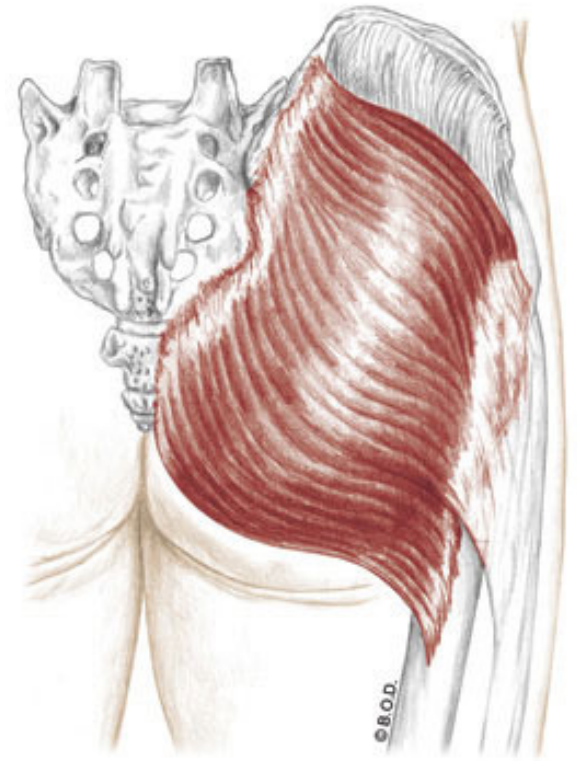
Sacrospinous ligament

Sacrospinous ligament

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Iliotibial tract (upper fibers)

Gluteal tuberosity (lower fibers)



Abduction

Posterior View



Adduction

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Coccyx

Edge of sacrum

Posterior iliac crest

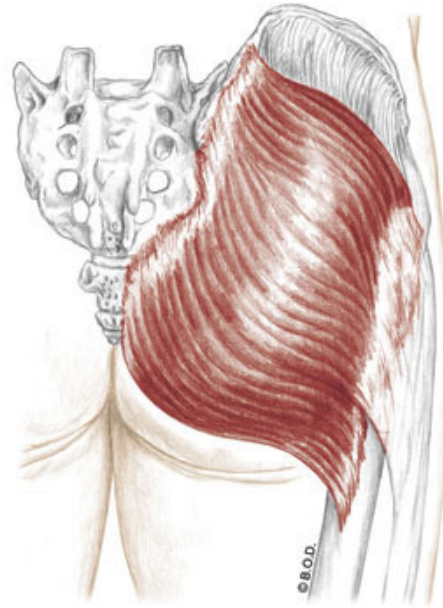
Sacrospinous ligament

Sacrospinous ligament

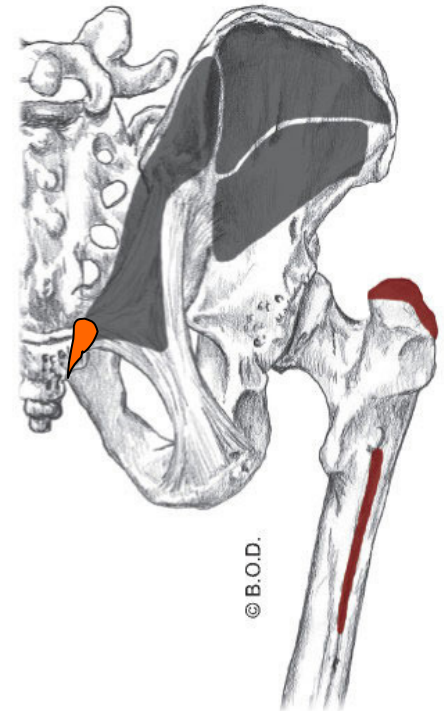
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Iliotibial tract (upper fibers)

Gluteal tuberosity (lower fibers)



Posterior View





# Gluteus maximus, page 315

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Coccyx

Edge of sacrum

Posterior iliac crest

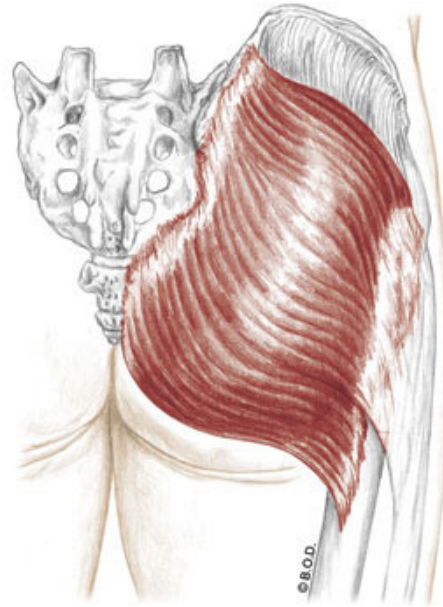
Sacrotuberous ligament

Sacroiliac ligament

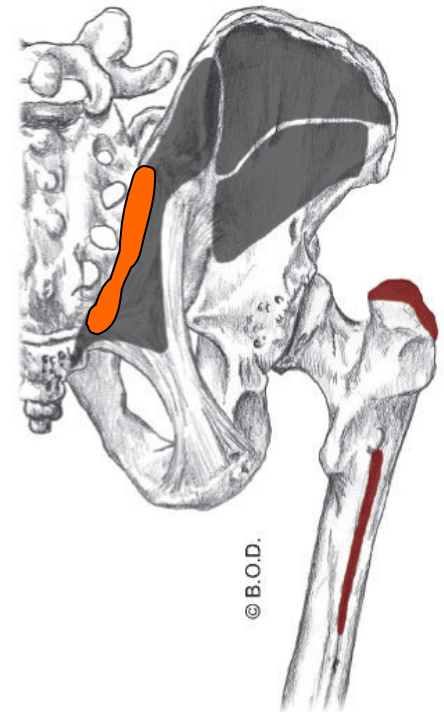
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Iliotibial tract (upper fibers)

Gluteal tuberosity (lower fibers)



Posterior View



# Gluteus maximus, page 315

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Coccyx

Edge of sacrum

Posterior iliac crest

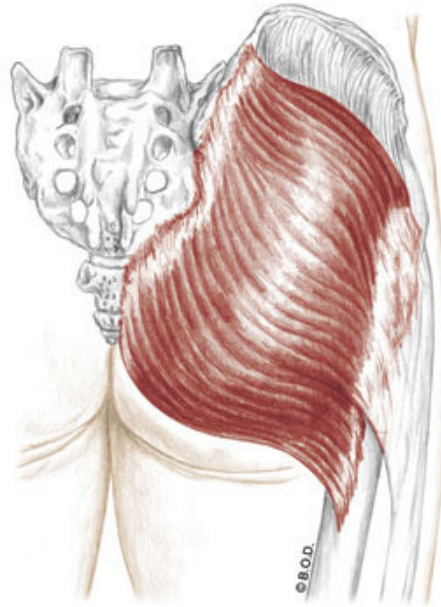
Sacrotuberous ligament

Sacroiliac ligament

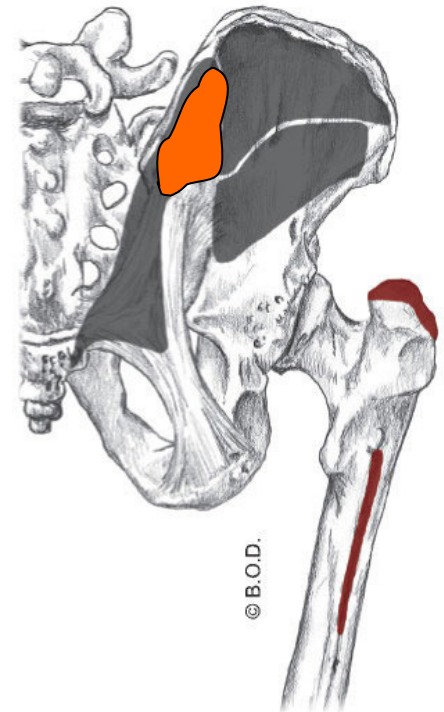
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Iliotibial tract (upper fibers)

Gluteal tuberosity (lower fibers)



Posterior View



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Edge of sacrum

Posterior iliac crest

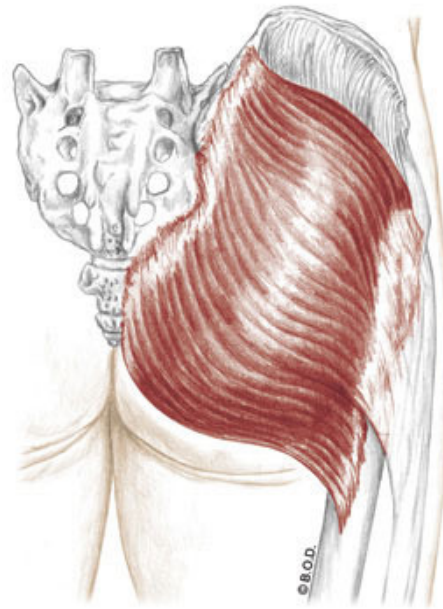
Sacrospinous ligament

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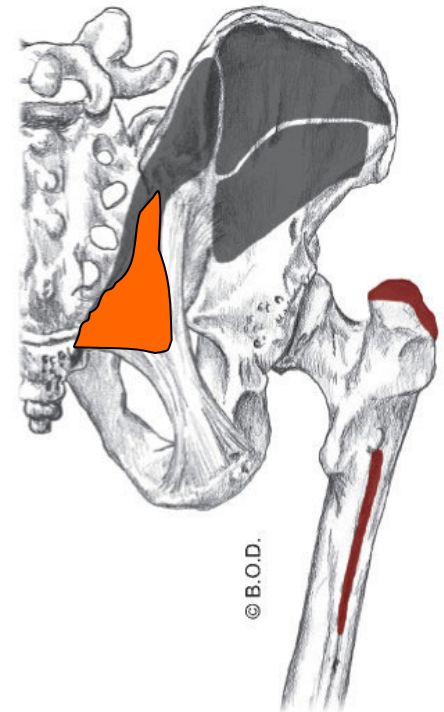
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Iliotibial tract (upper fibers)

Gluteal tuberosity (lower fibers)



Posterior View





# Gluteus maximus, page 315

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Edge of sacrum

Posterior iliac crest

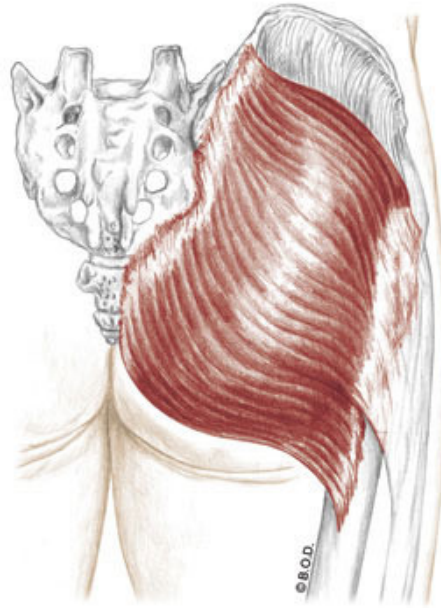
Sacrospinous ligament

Sacrospinous ligament

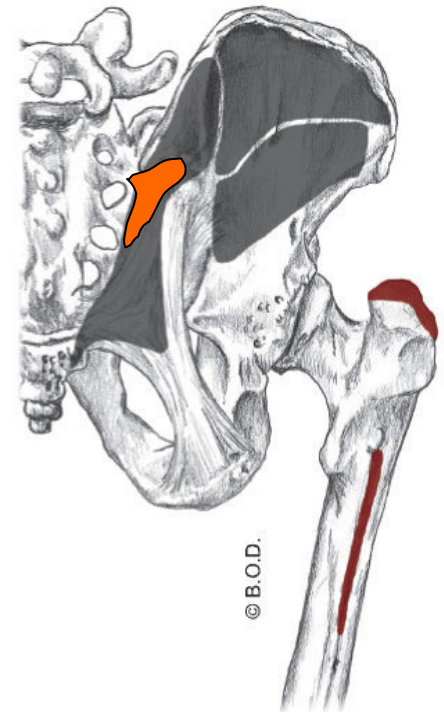
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Iliotibial tract (upper fibers)

Gluteal tuberosity (lower fibers)



Posterior View



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*Lower fibers:*

**Adduct** the hip (coxal joint)

**O**

Coccyx

Edge of sacrum

Posterior iliac crest

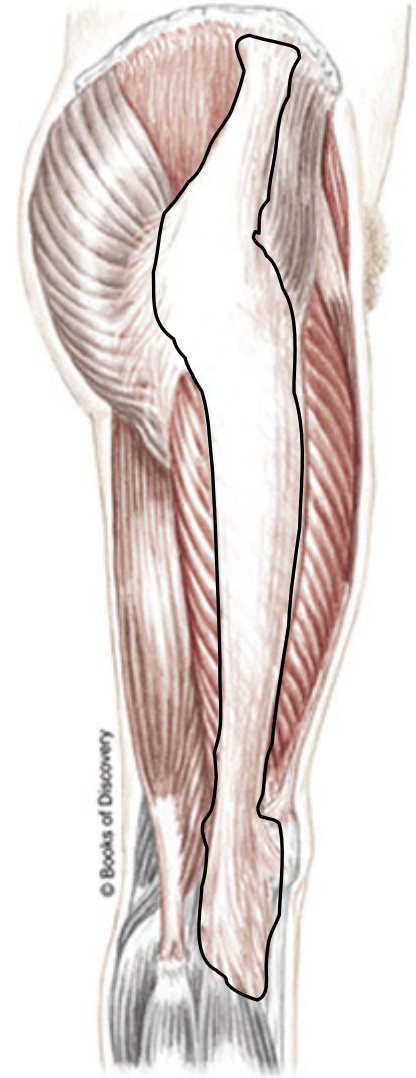
Sacrospinous ligament

Sacrospinous ligament

**I**

Iliotibial tract (upper fibers)

Gluteal tuberosity (lower fibers)



Posterior View

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Coccyx

Edge of sacrum

Posterior iliac crest

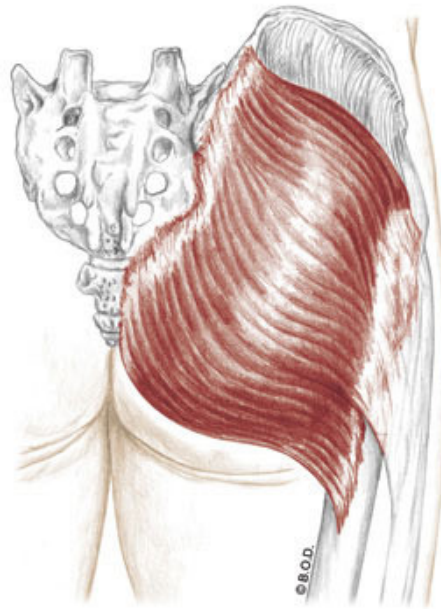
Sacrospinous ligament

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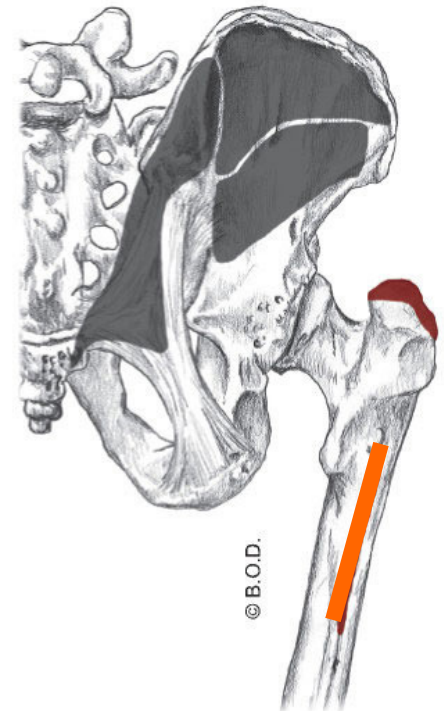
I

Iliotibial tract (upper fibers)

Gluteal tuberosity (lower fibers)



Posterior View



# Gluteus medius, page 315

**A** All fibers:

**Abduct** the hip (coxal joint)

*Anterior fibers:*

**Flex** the hip (coxal joint)

**Medially rotate** the hip (coxal joint)

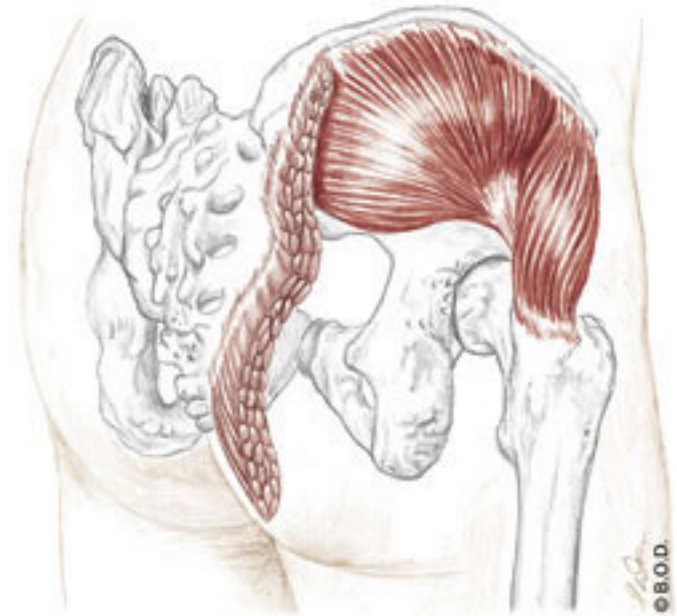
*Posterior fibers:*

**Extend** the hip (coxal joint)

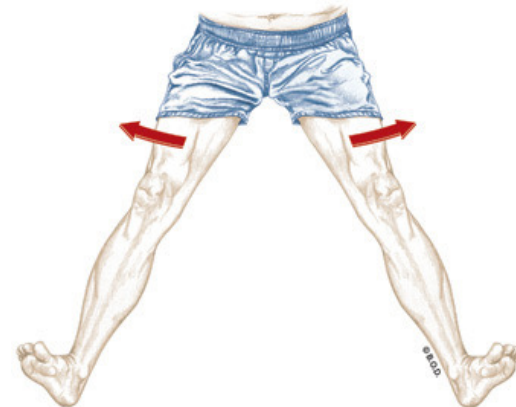
**Laterally rotate** the hip (coxal joint)

**O** Gluteal surface of ilium, between posterior and anterior gluteal lines, just below the iliac crest

**I** Lateral aspect of greater trochanter



Posterior View



# Gluteus medius, page 315

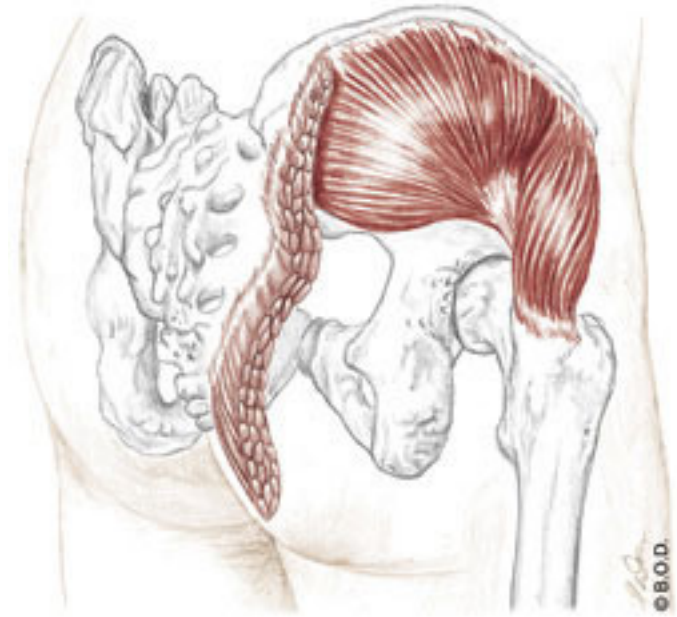
**A** All fibers:  
**Abduct** the hip (coxal joint)

Anterior fibers:  
**Flex** the hip (coxal joint)  
**Medially rotate** the hip (coxal joint)

Posterior fibers:  
**Extend** the hip (coxal joint)  
**Laterally rotate** the hip (coxal joint)

**O** Gluteal surface of ilium, between posterior and anterior gluteal lines, just below the iliac crest

**I** Lateral aspect of greater trochanter



Posterior View





# Gluteus medius, page 315

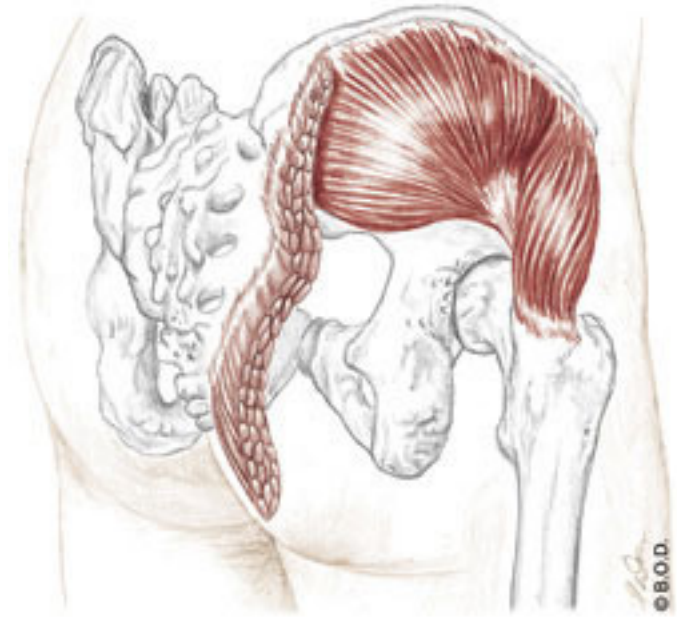
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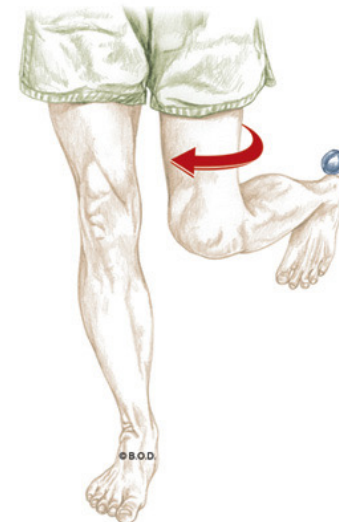
Posterior fibers:  
**Extend** the hip (coxal joint)  
**Laterally rotate** the hip (coxal joint)

**O** Gluteal surface of ilium, between posterior and anterior gluteal lines, just below the iliac crest

**I** Lateral aspect of greater trochanter

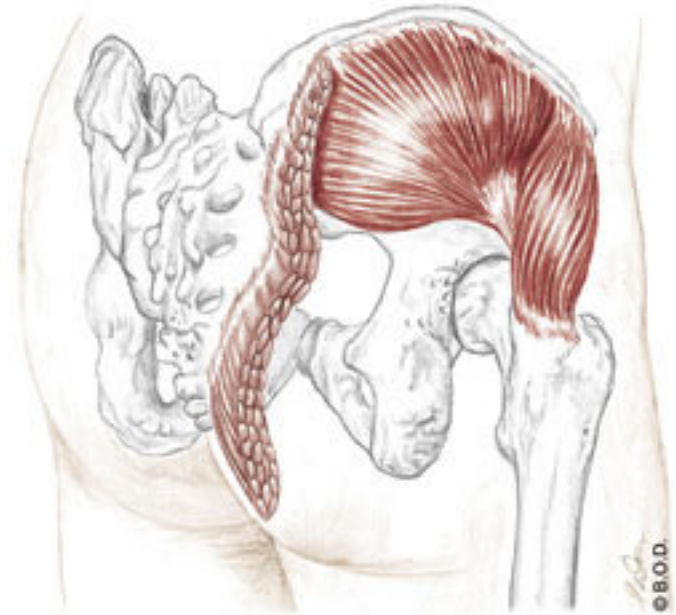


Posterior View



# Gluteus medius, page 315

- A** *All fibers:*  
**Abduct** the hip (coxal joint)
- Anterior fibers:*  
**Flex** the hip (coxal joint)  
**Medially rotate** the hip (coxal joint)
- Posterior fibers:*  
**Extend** the hip (coxal joint)  
**Laterally rotate** the hip (coxal joint)
- O** Gluteal surface of ilium, between posterior and anterior gluteal lines, just below the iliac crest
- I** Lateral aspect of greater trochanter



Posterior View



# Gluteus medius, page 315

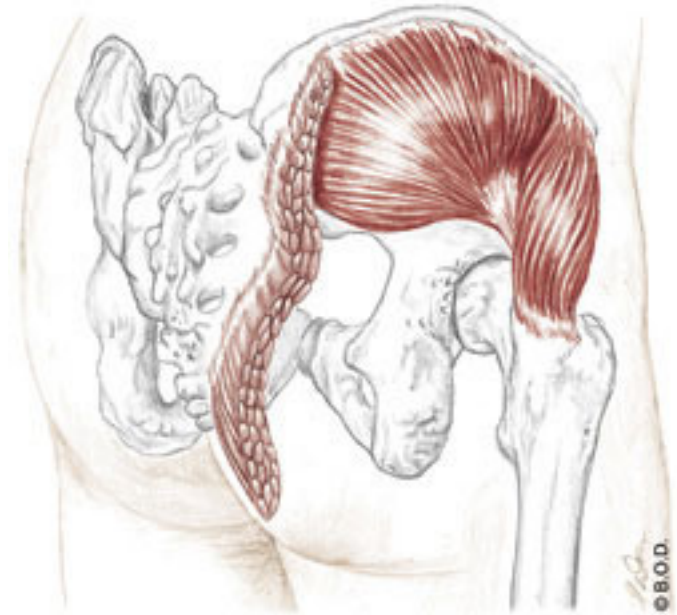
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**Flex** the hip (coxal joint)  
**Medially rotate** the hip (coxal joint)

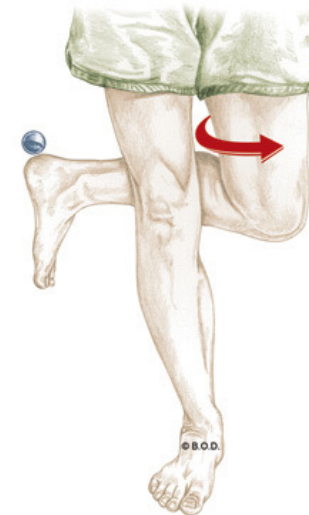
Posterior fibers:  
**Extend** the hip (coxal joint)  
**Laterally rotate** the hip (coxal joint)

**O** Gluteal surface of ilium, between posterior and anterior gluteal lines, just below the iliac crest

**I** Lateral aspect of greater trochanter



Posterior View





# Gluteus medius, page 315

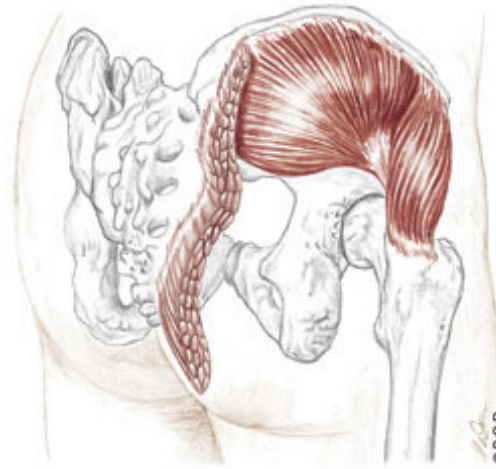
**A** All fibers:  
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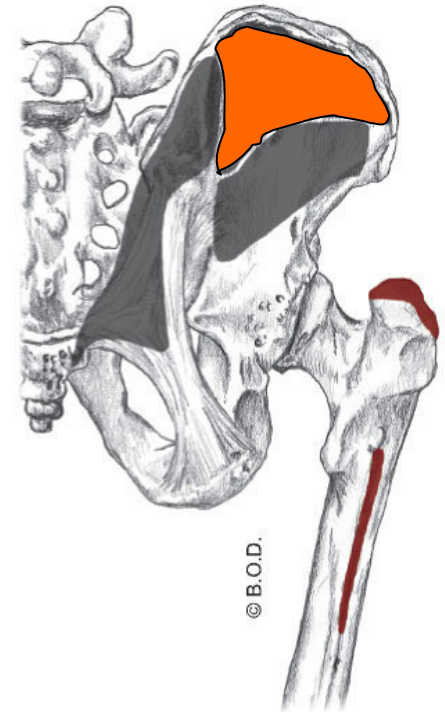
Posterior fibers:  
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**I** Lateral aspect of greater trochanter



Posterior View



# Gluteus medius, page 315

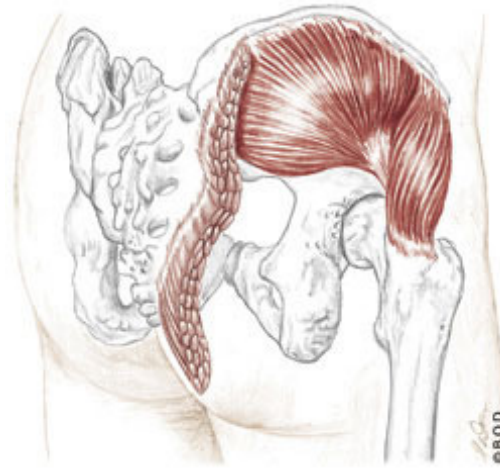
**A** All fibers:  
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**Flex** the hip (coxal joint)  
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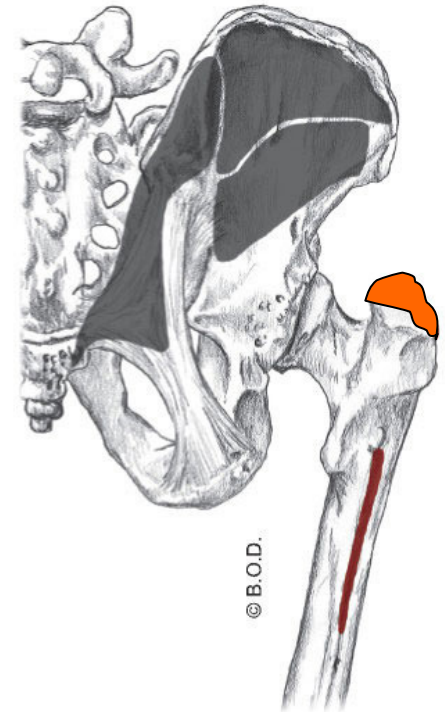
Posterior fibers:  
**Extend** the hip (coxal joint)  
**Laterally rotate** the hip (coxal joint)

**O** Gluteal surface of ilium, between posterior and anterior gluteal lines, just below the iliac crest

**I** Lateral aspect of greater trochanter



Posterior View



# Gluteus minimus, page 316

A

Abduct the hip (coxal joint)

Medially rotate the hip (coxal joint)

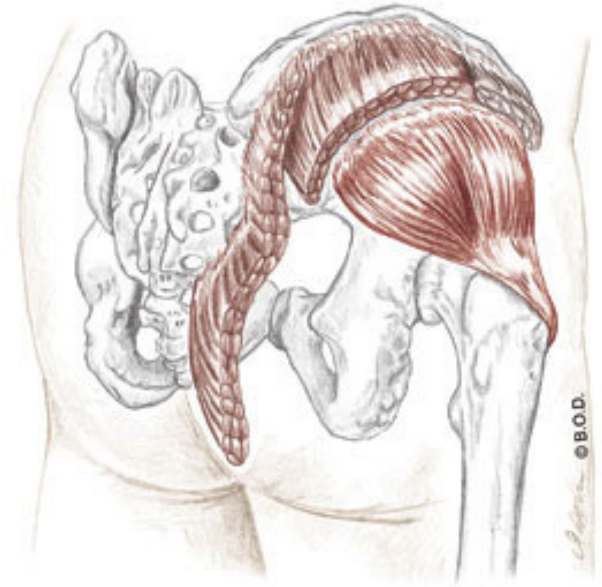
Flex the hip (coxal joint)

O

Gluteal surface of the ilium between the anterior and inferior gluteal lines

I

Anterior aspect of greater trochanter



Posterior View



# Gluteus minimus, page 316

**A** **Abduct** the hip (coxal joint)

**Medially rotate** the hip (coxal joint)

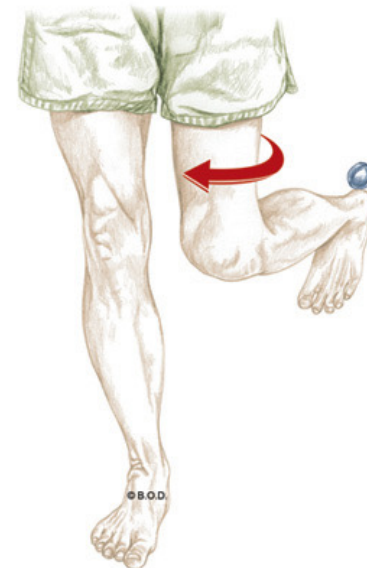
**Flex** the hip (coxal joint)

**O** Gluteal surface of the ilium between the anterior and inferior gluteal lines

**I** Anterior aspect of greater trochanter



Posterior View



# Gluteus minimus, page 316

- A** **Abduct** the hip (coxal joint)
- Medially rotate** the hip (coxal joint)
- Flex** the hip (coxal joint)

- O** Gluteal surface of the ilium between the anterior and inferior gluteal lines
- I** Anterior aspect of greater trochanter



Posterior View



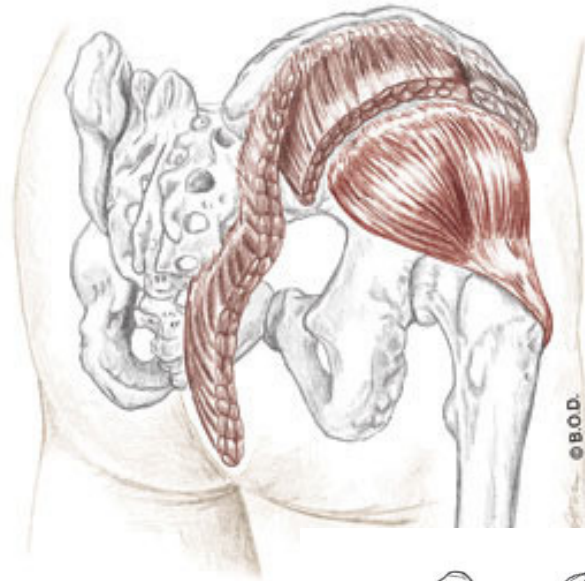


# Gluteus minimus, page 316

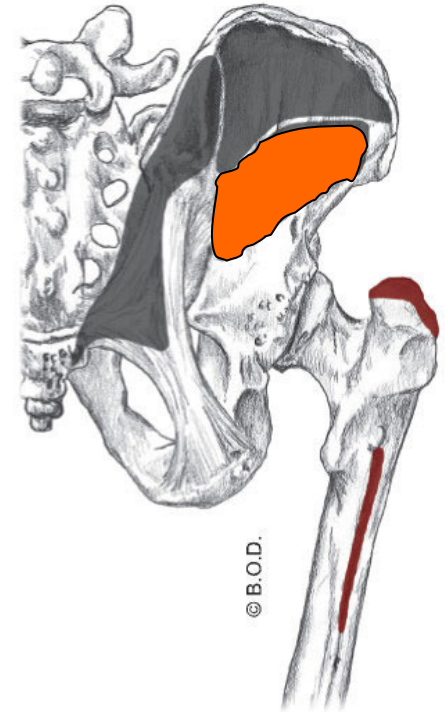
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Posterior View

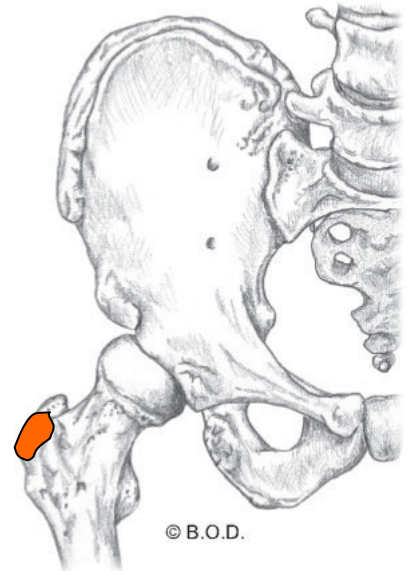


# Gluteus minimus, page 316

- A** **Abduct** the hip (coxal joint)
- Medially rotate** the hip (coxal joint)
- Flex** the hip (coxal joint)
- O** Gluteal surface of the ilium between the anterior and inferior gluteal lines
- I** Anterior aspect of greater trochanter

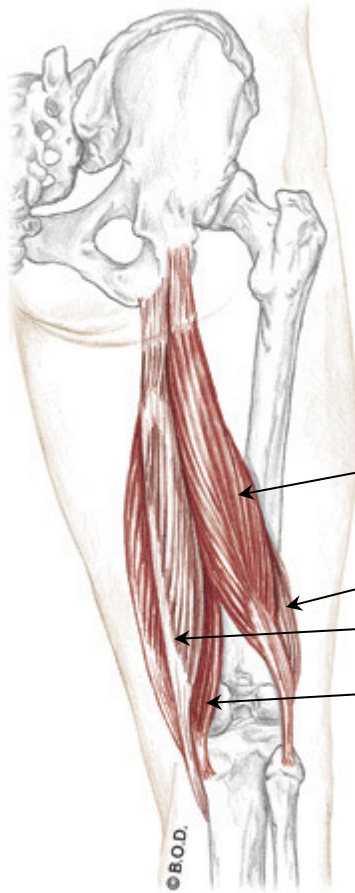


Posterior View



# 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?



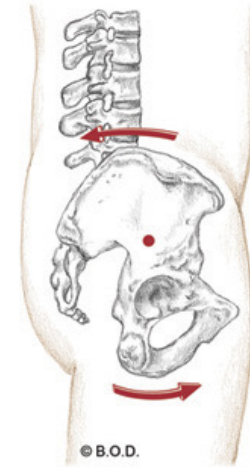
# Actions of the Hamstrings



Flexion of the  
tibiofemoral joint



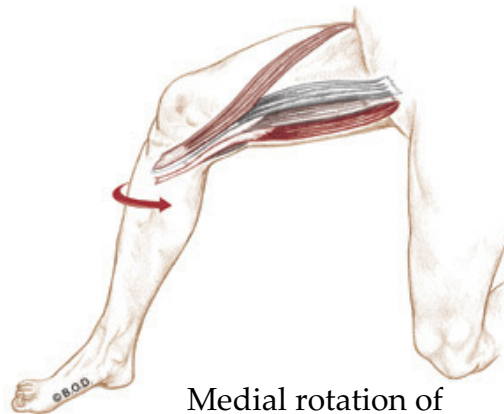
Lateral rotation of  
the flexed  
tibiofemoral joint



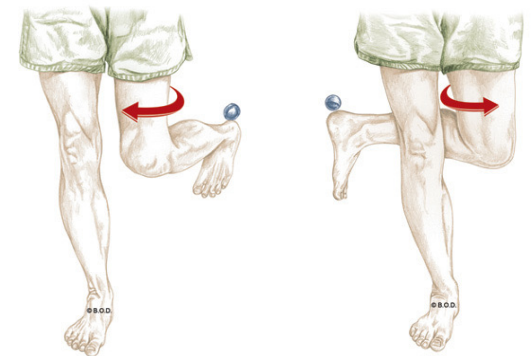
Posterior pelvic tilt



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)

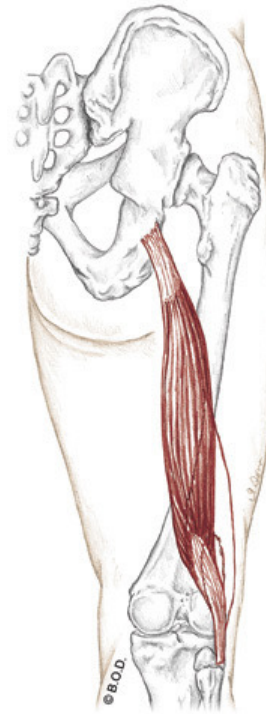
Assist to laterally rotate the hip (coxal joint)

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

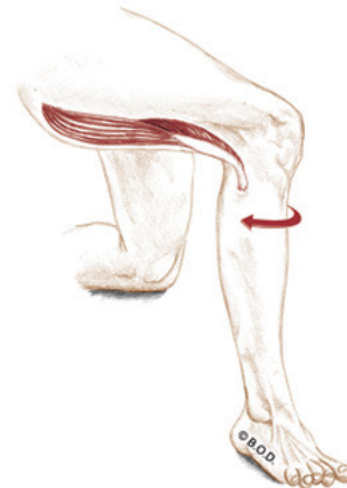
**O** *Long head:* Ischial tuberosity

*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)

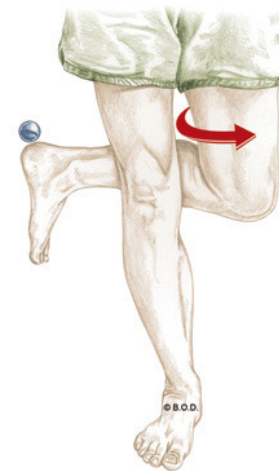
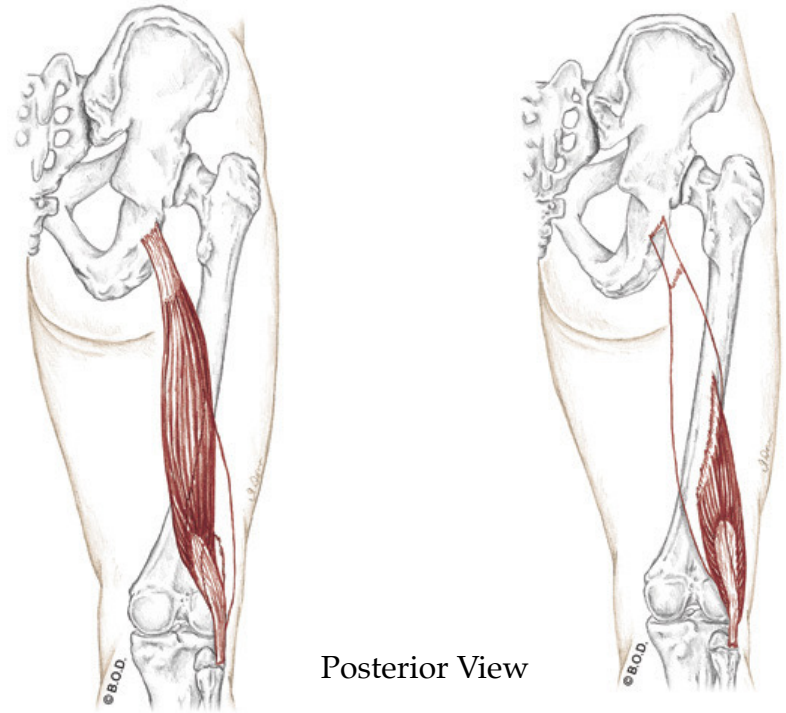
Assist to **laterally rotate** the hip (coxal joint)

**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

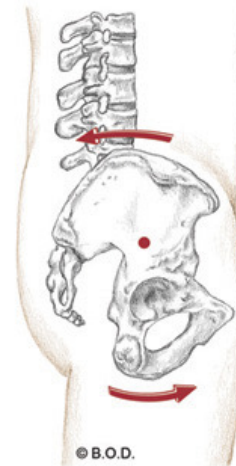
- O** *Long head:* Ischial tuberosity

*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)

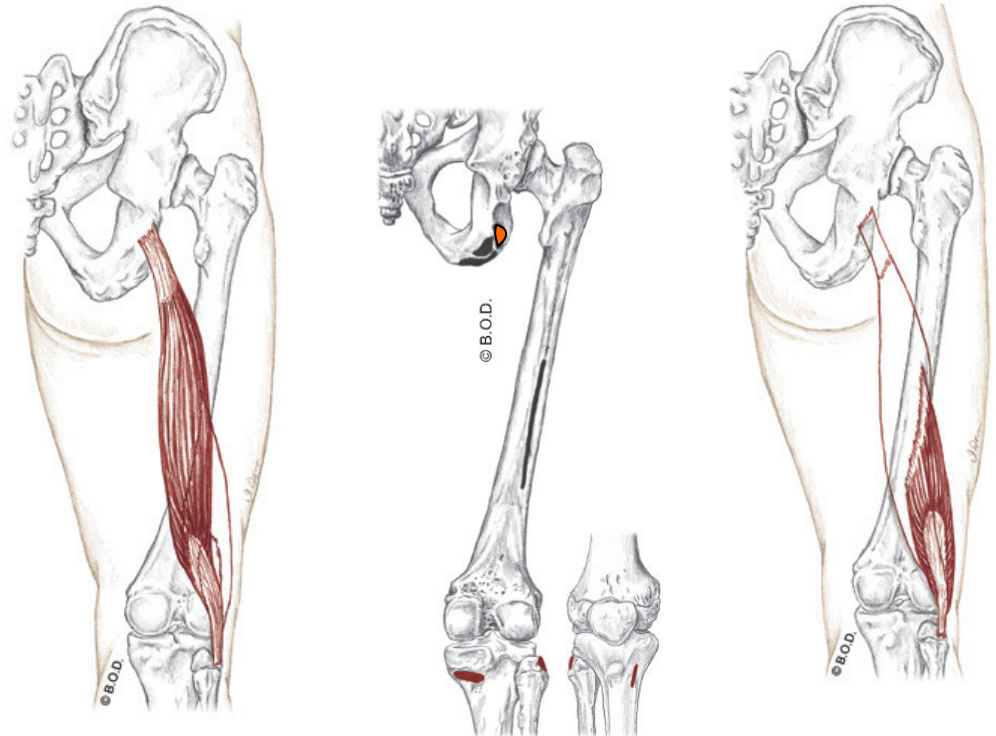
**Tilt** the pelvis posteriorly

**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)

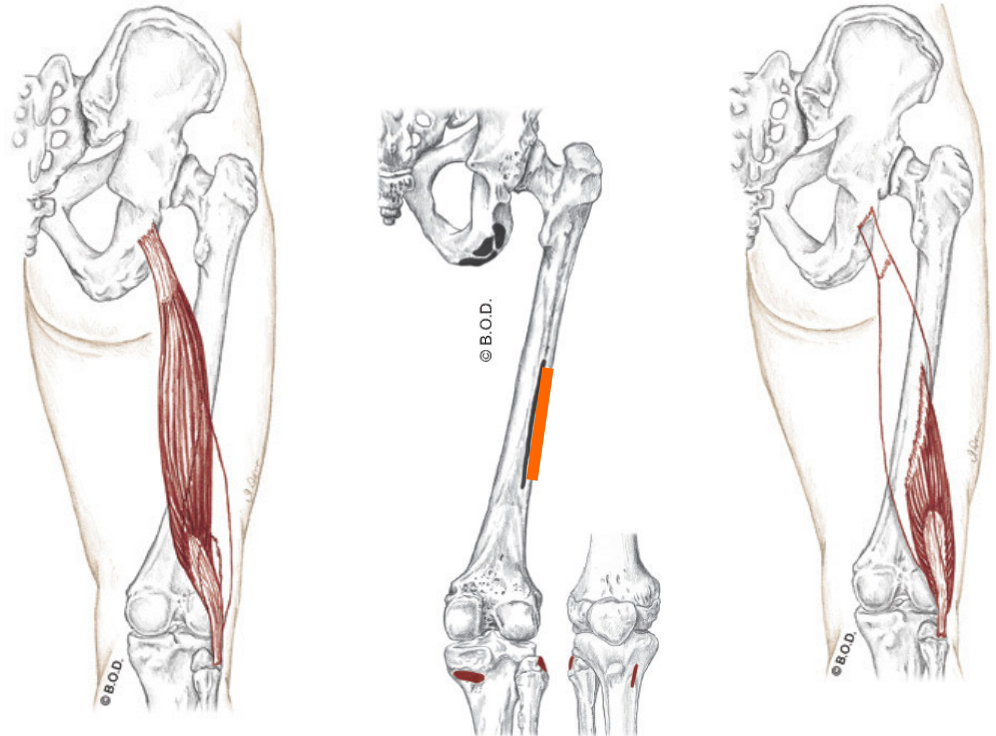
**Tilt** the pelvis posteriorly

**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)

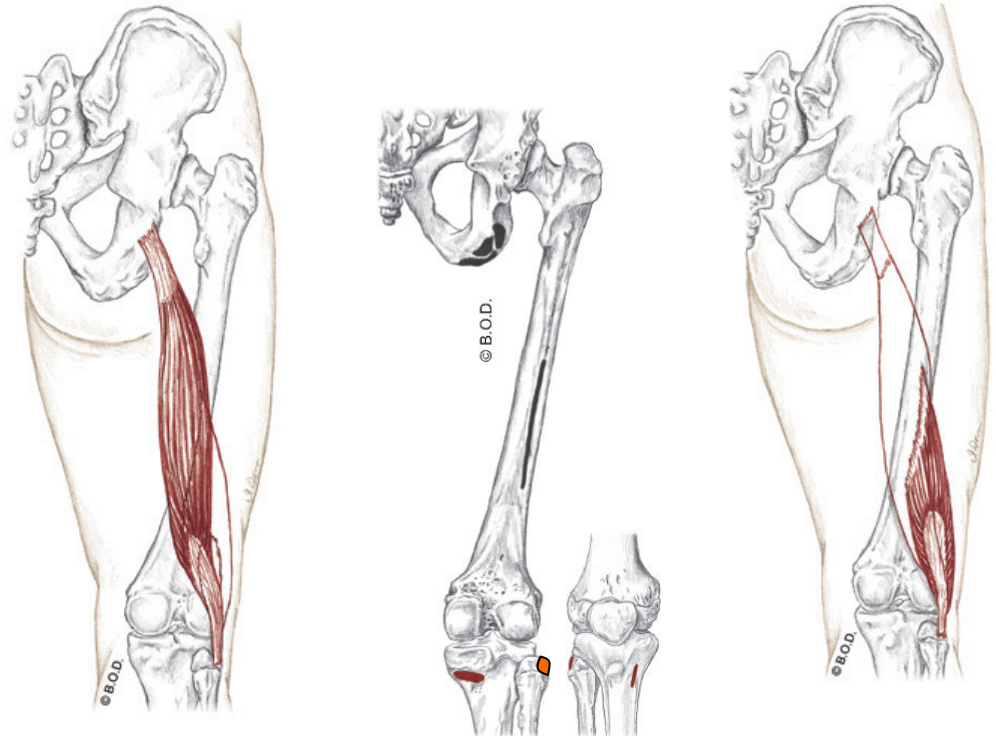
**Tilt** the pelvis posteriorly

**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)

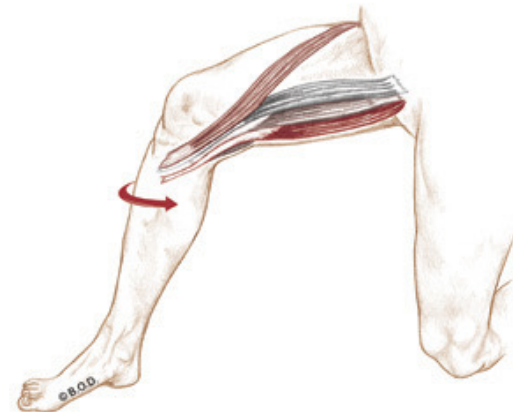
**Tilt** the pelvis posteriorly

**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)

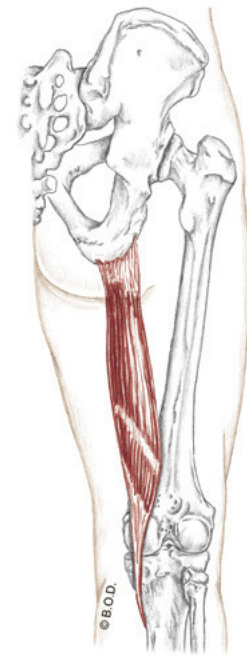
**Extend** the hip (coxal joint)

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)

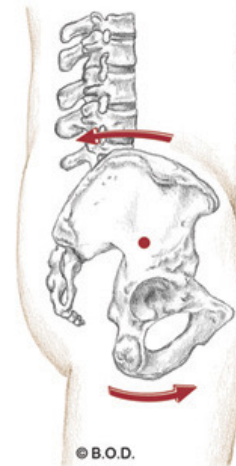
**Tilt** the pelvis posteriorly

**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)

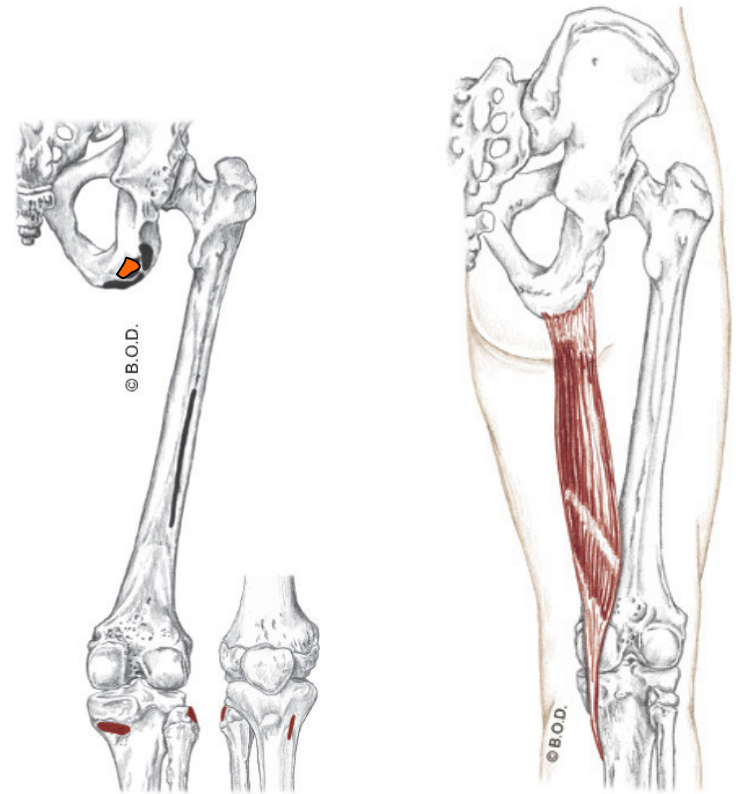
Extend the hip (coxal joint)

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)

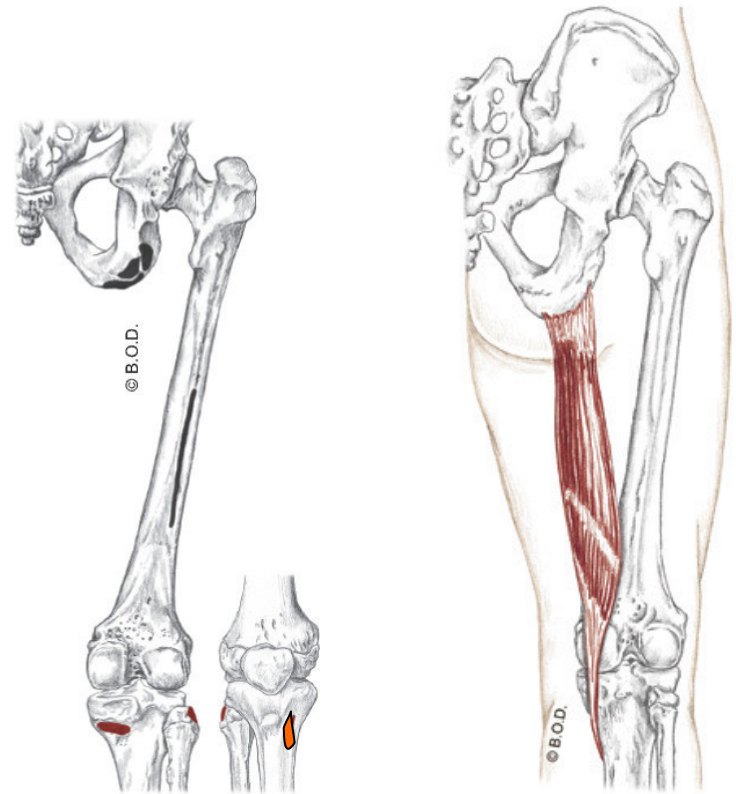
**Extend** the hip (coxal joint)

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)

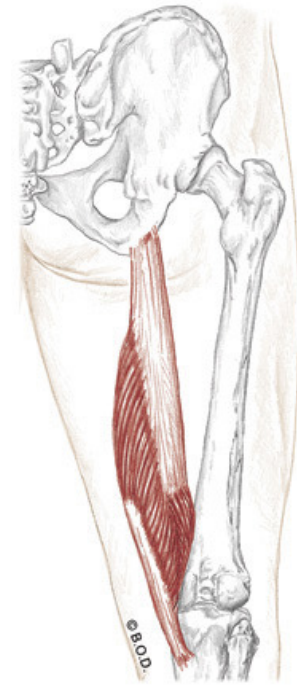
Extend the hip (coxal joint)

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)

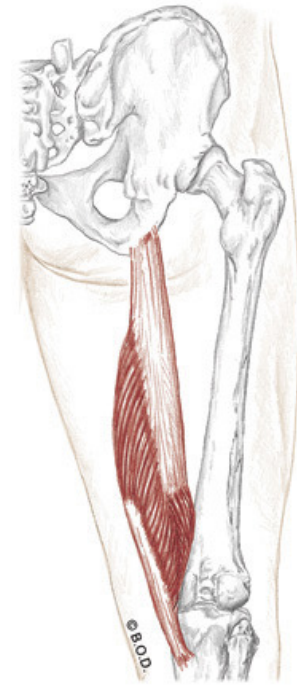
**Extend** the hip (coxal joint)

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

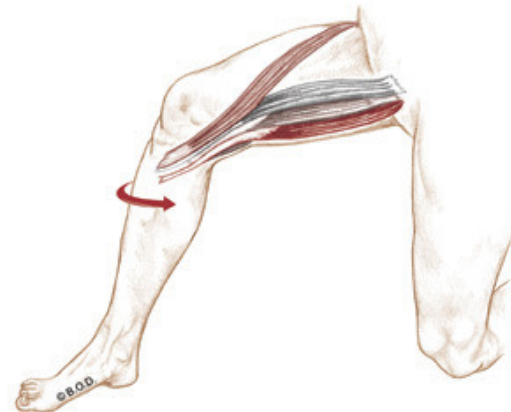
**Tilt** the pelvis posteriorly

**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)

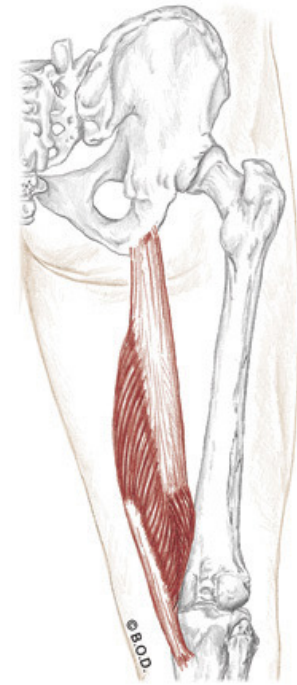
**Extend** the hip (coxal joint)

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

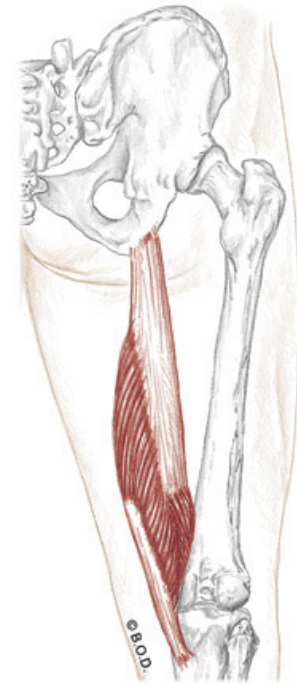
- A** **Flex** the knee (tibiofemoral joint)
- Medially rotate** the flexed knee (T/F joint)
- Extend** the hip (coxal joint)

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)

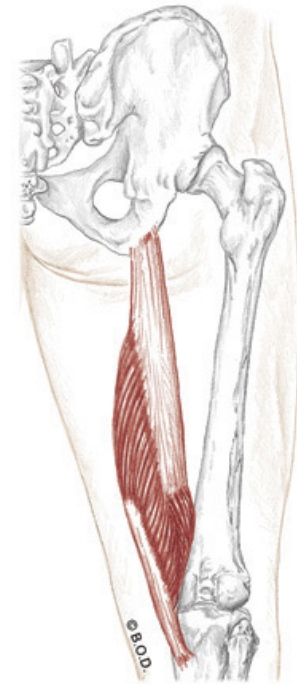
**Extend** the hip (coxal joint)

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

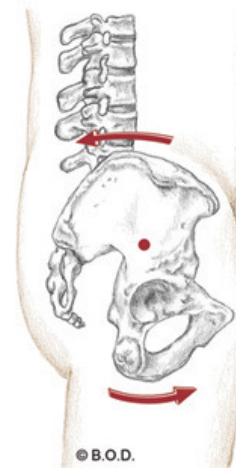
**Tilt** the pelvis posteriorly

**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)

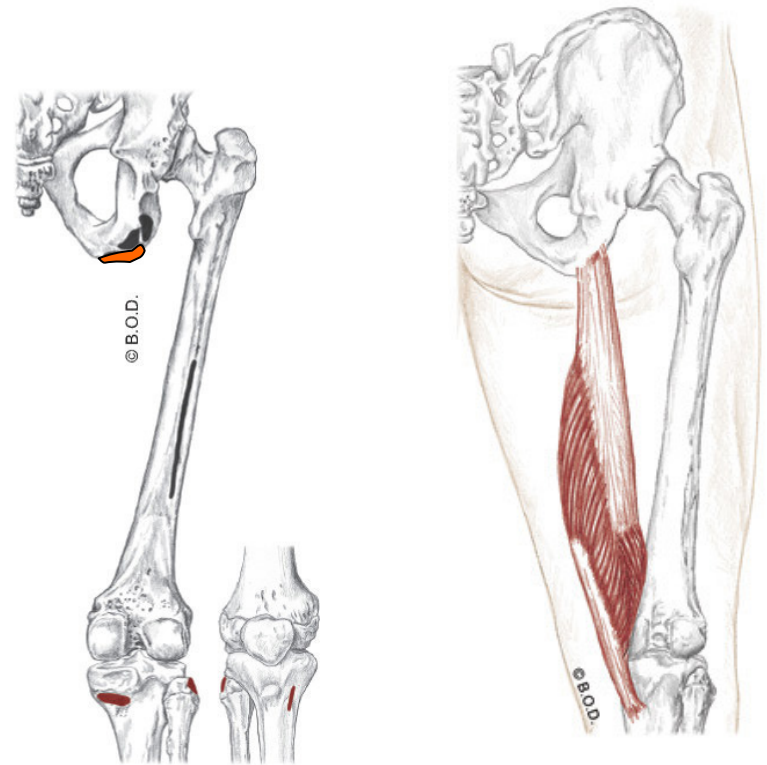
Extend the hip (coxal joint)

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)

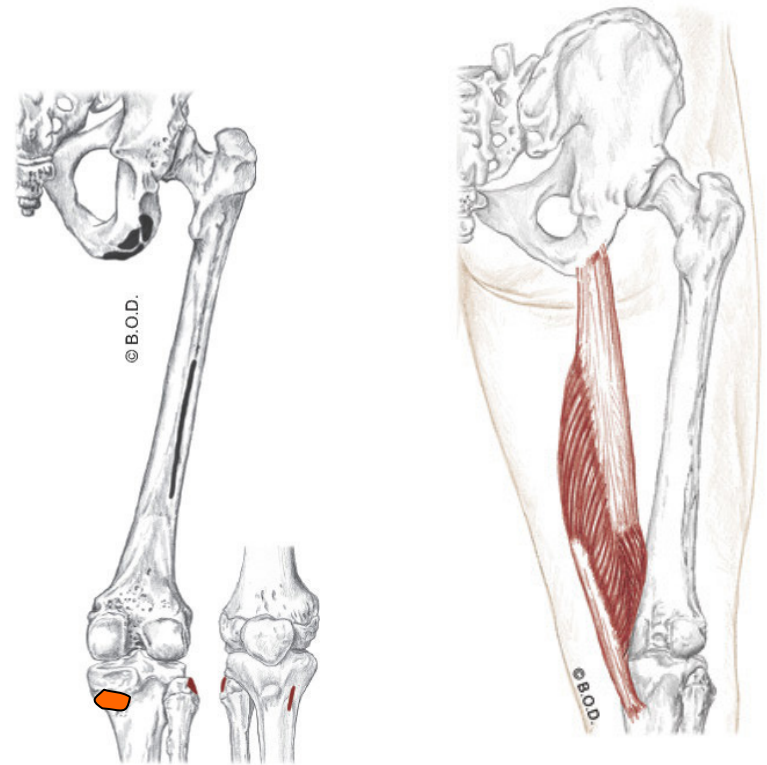
**Extend** the hip (coxal joint)

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

**Tilt** the pelvis posteriorly

**O** Ischial tuberosity

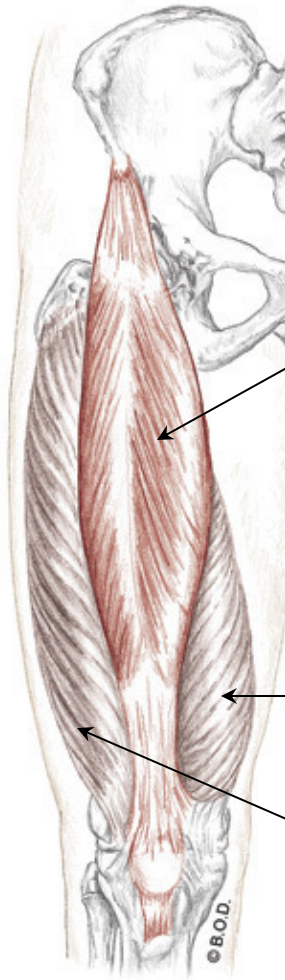
**I** Posterior aspect of medial condyle of tibia



Posterior View

# Quadriceps Femoris

## Trail Guide, Page 306



Anterior View

The **quads** primarily extend the tibiofemoral joint.

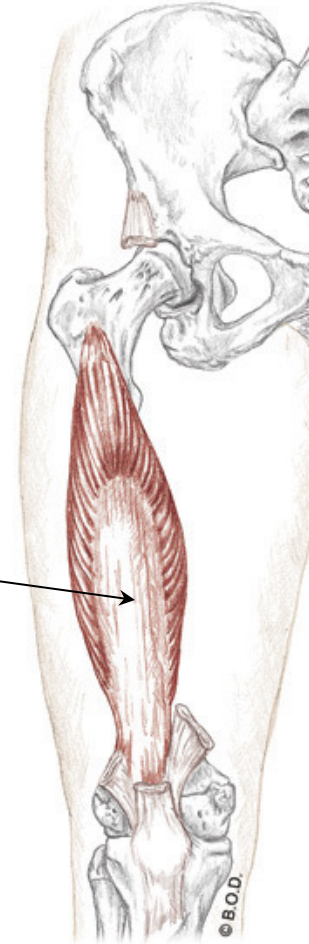
**Rectus femoris** is cylindrical, superficial, and the only quadricep muscle that also crosses the hip joint.

**Vastus intermedius** is deep to the rectus femoris.

**Vastus medialis** forms a teardrop shape at the distal portion of the medial thigh.

**Vastus lateralis** is the sole muscle of the lateral thigh.

When do you use the quads?



Anterior View

# Actions of quadriceps femoris



Knee extension



Hip flexion

# Quadriceps Femoris, page 306

**A** All:  
**Extend** the knee (tibiofemoral joint)

*Rectus femoris:*

**Flex** the hip (coxal joint)

**O** *Rectus femoris:*  
Anterior inferior iliac spine (AIIS)

*Vastus medialis:*

Medial lip of linea aspera

*Vastus lateralis:*

Lateral lip of linea aspera

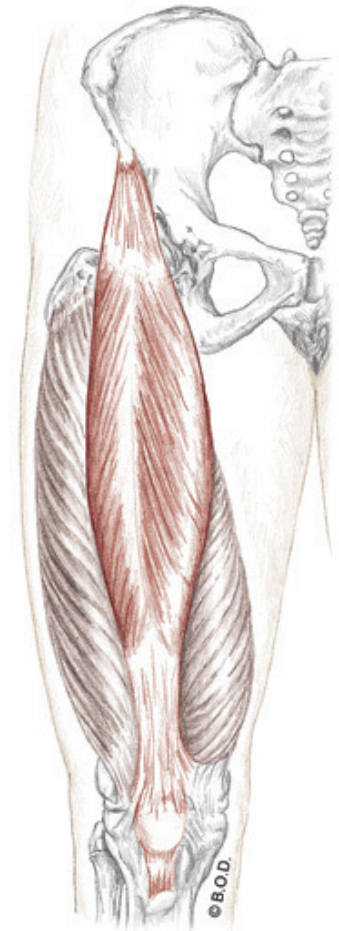
Gluteal tuberosity

Greater trochanter

*Vastus intermedius:*

Anterior and lateral shaft of the femur

**I** Tibial tuberosity  
(via the patella and patellar ligament)



Anterior View



# Quadriceps Femoris, page 306

**A** All:  
**Extend** the knee (tibiofemoral joint)

*Rectus femoris:*

**Flex** the hip (coxal joint)

**O** *Rectus femoris:*  
Anterior inferior iliac spine (AIIS)

*Vastus medialis:*

Medial lip of linea aspera

*Vastus lateralis:*

Lateral lip of linea aspera

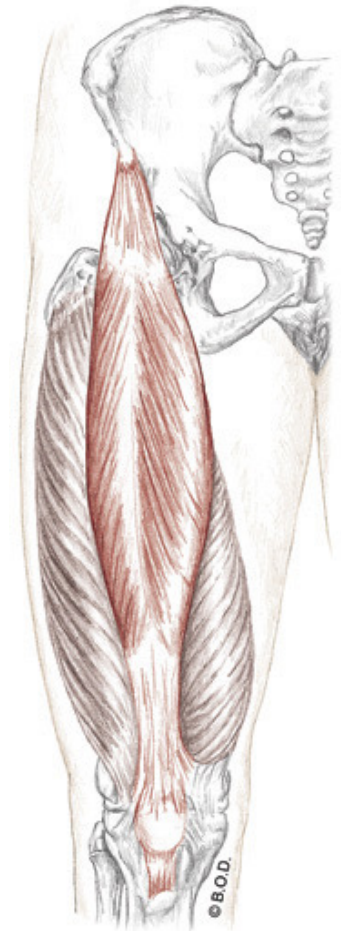
Gluteal tuberosity

Greater trochanter

*Vastus intermedius:*

Anterior and lateral shaft of the femur

**I** Tibial tuberosity  
(via the patella and patellar ligament)



Anterior View

# Quadriceps Femoris, page 306

**A** All:  
**Extend** the knee (tibiofemoral joint)

*Rectus femoris:*  
**Flex** the hip (coxal joint)

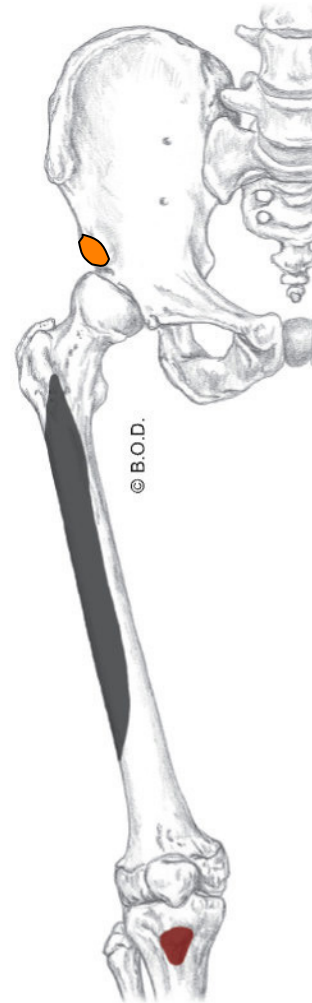
**O** *Rectus femoris:*  
Anterior inferior iliac spine (AIIS)

*Vastus medialis:*  
Medial lip of linea aspera

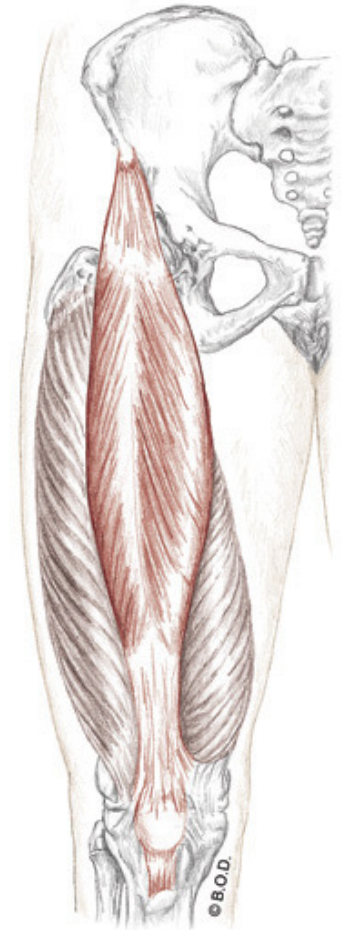
*Vastus lateralis:*  
Lateral lip of linea aspera  
Gluteal tuberosity  
Greater trochanter

*Vastus intermedius:*  
Anterior and lateral shaft of the femur

**I** Tibial tuberosity  
(via the patella and patellar ligament)



Anterior View



Anterior View

# Quadriceps Femoris, page 306

**A** All:  
**Extend** the knee (tibiofemoral joint)

*Rectus femoris:*  
**Flex** the hip (coxal joint)

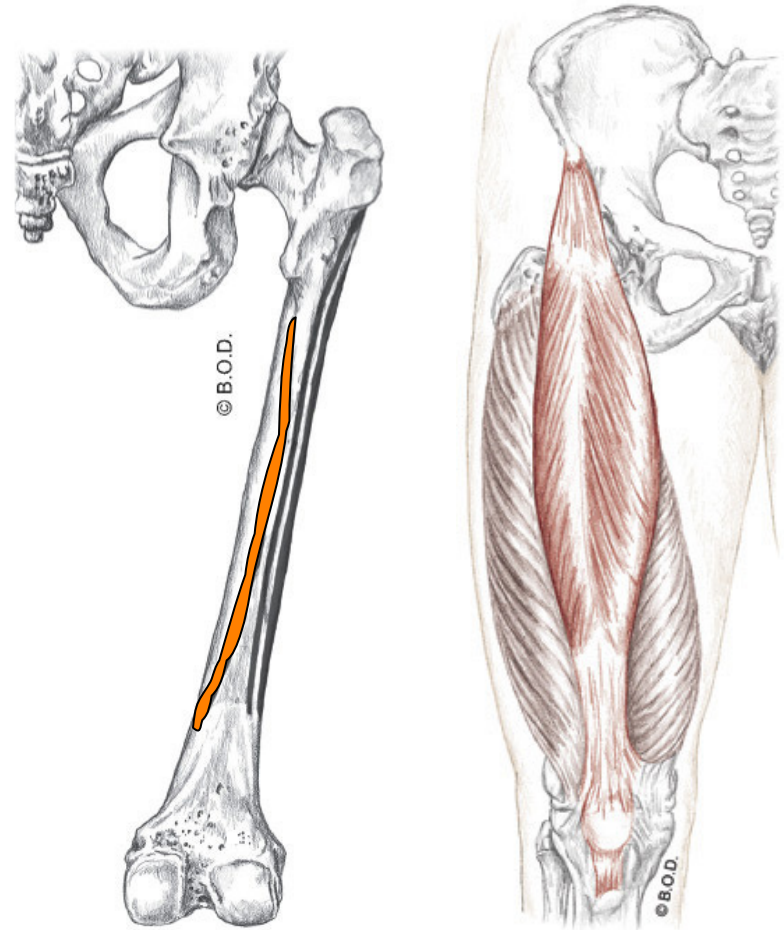
**O** *Rectus femoris:*  
Anterior inferior iliac spine (AIIS)

*Vastus medialis:*  
Medial lip of linea aspera

*Vastus lateralis:*  
Lateral lip of linea aspera  
Gluteal tuberosity  
Greater trochanter

*Vastus intermedius:*  
Anterior and lateral shaft of the femur

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(via the patella and patellar ligament)



Posterior View

Anterior View

# Quadriceps Femoris, page 306

**A** All:  
**Extend** the knee (tibiofemoral joint)

*Rectus femoris:*  
**Flex** the hip (coxal joint)

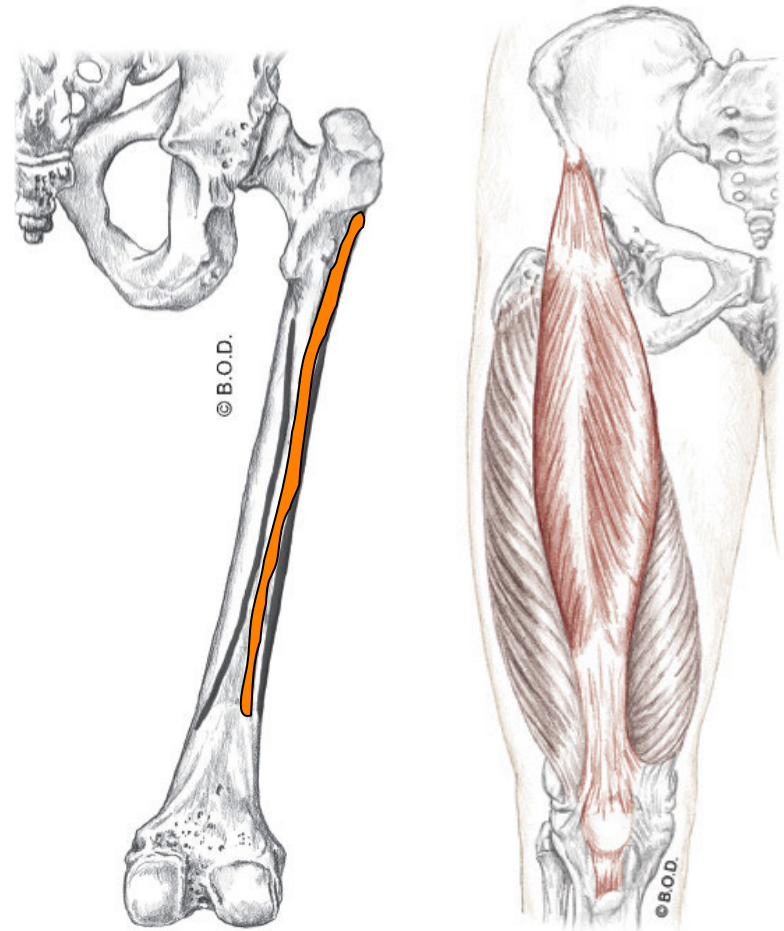
**O** *Rectus femoris:*  
Anterior inferior iliac spine (AIIS)

*Vastus medialis:*  
Medial lip of linea aspera

*Vastus lateralis:*  
Lateral lip of linea aspera  
Gluteal tuberosity  
Greater trochanter

*Vastus intermedius:*  
Anterior and lateral shaft of the femur

**I** Tibial tuberosity  
(via the patella and patellar ligament)



Posterior View

Anterior View

# Quadriceps Femoris, page 306

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**Extend** the knee (tibiofemoral joint)

*Rectus femoris:*  
**Flex** the hip (coxal joint)

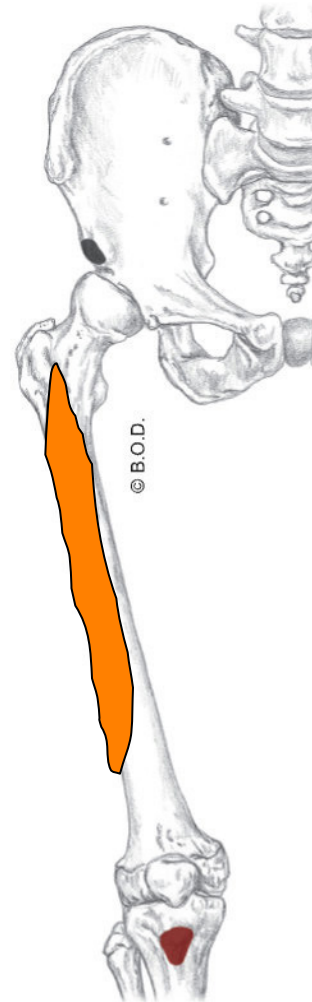
**O** *Rectus femoris:*  
Anterior inferior iliac spine (AIIS)

*Vastus medialis:*  
Medial lip of linea aspera

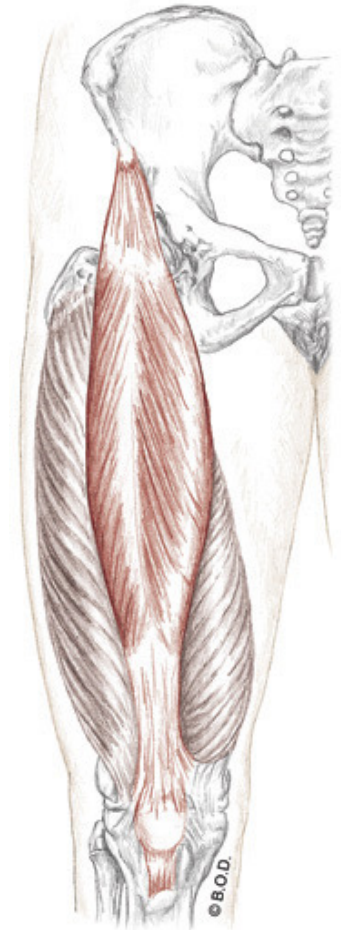
*Vastus lateralis:*  
Lateral lip of linea aspera  
Gluteal tuberosity  
Greater trochanter

*Vastus intermedius:*  
Anterior and lateral shaft of the femur

**I** Tibial tuberosity  
(via the patella and patellar ligament)



Anterior View



Anterior View



# Quadriceps Femoris, page 306

**A** All:  
**Extend** the knee (tibiofemoral joint)

*Rectus femoris:*  
**Flex** the hip (coxal joint)

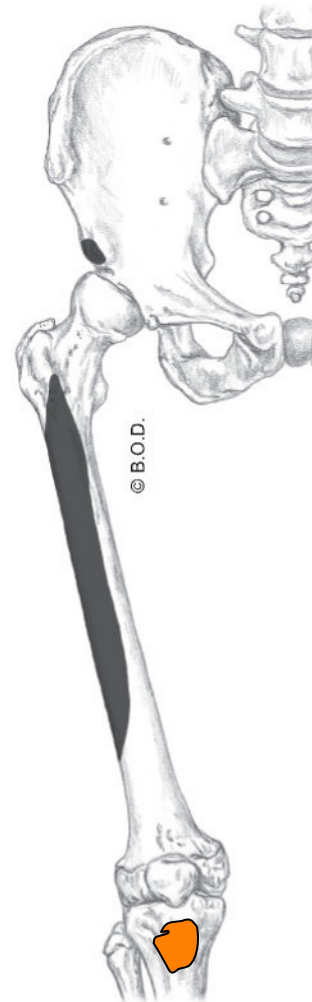
**O** *Rectus femoris:*  
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Medial lip of linea aspera

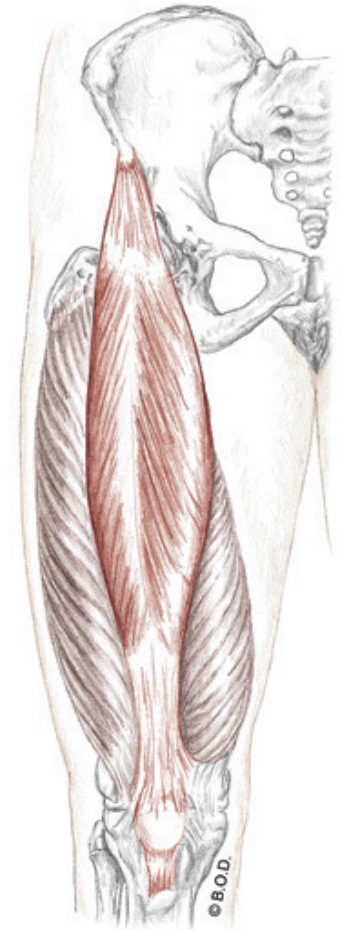
*Vastus lateralis:*  
Lateral lip of linea aspera  
Gluteal tuberosity  
Greater trochanter

*Vastus intermedius:*  
Anterior and lateral shaft of the femur

**I** Tibial tuberosity  
(via the patella and patellar ligament)



Anterior View

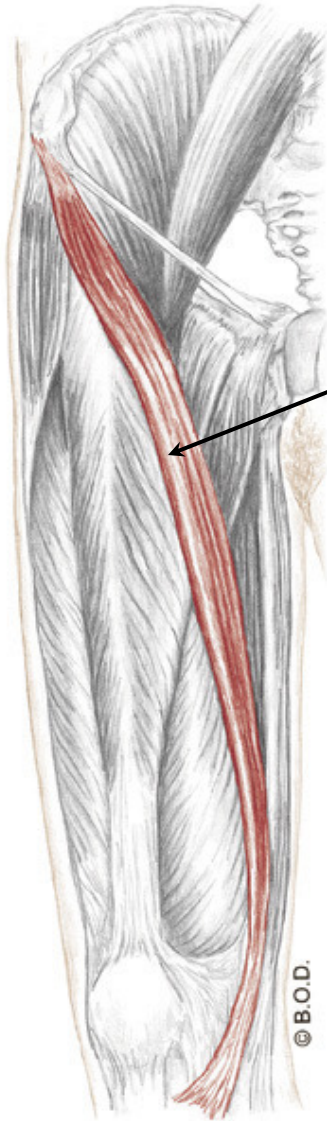


Anterior View



# Sartorius

## Trail Guide, Page 326



**Sartorius** is the longest muscle in the body.

It travels from the ASIS to the medial knee.

The slender belly of sartorius is entirely superficial, but it is still difficult to palpate.

*Sartor* means *tailor* in Latin.

This refers to the ability of sartorius to bring the thigh and leg into the position a tailor would use when sewing.

Anteromedial View

**A** Flex the hip (coxal joint)

Laterally rotate the hip (coxal joint)

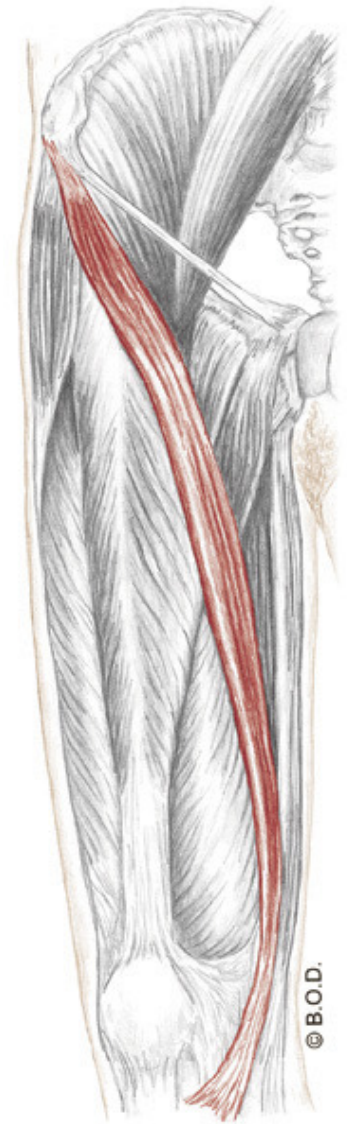
Abduct the hip (coxal joint)

Flex the knee (tibiofemoral joint)

Medially rotate the knee (tibiofemoral joint)

**O** Anterior superior iliac spine (ASIS)

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



Anteromedial View

**A** Flex the hip (coxal joint)

Laterally rotate the hip (coxal joint)

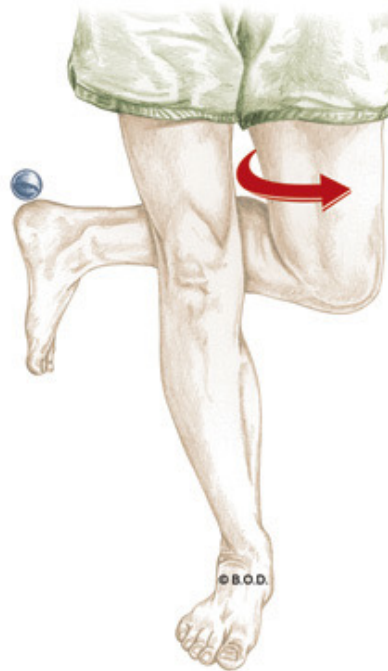
Abduct the hip (coxal joint)

Flex the knee (tibiofemoral joint)

Medially rotate the knee (tibiofemoral joint)

**O** Anterior superior iliac spine (ASIS)

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



Anteromedial View

**A** Flex the hip (coxal joint)

Laterally rotate the hip (coxal joint)

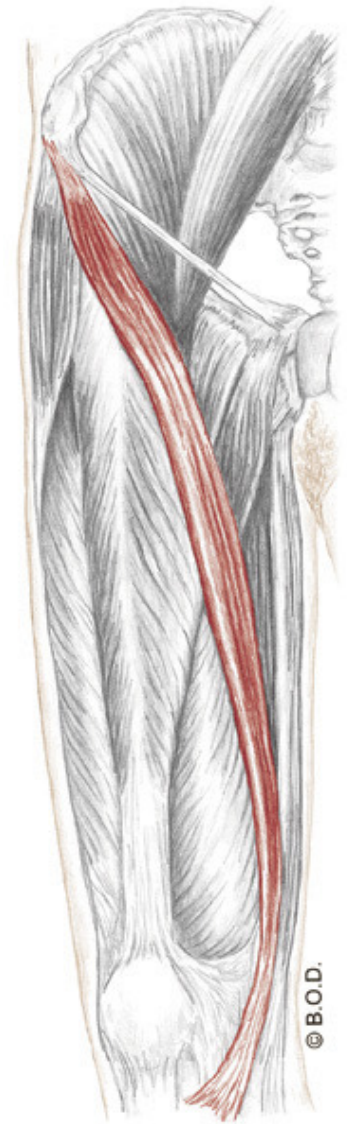
Abduct the hip (coxal joint)

Flex the knee (tibiofemoral joint)

Medially rotate the knee (tibiofemoral joint)

**O** Anterior superior iliac spine (ASIS)

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



Anteromedial View

**A** Flex the hip (coxal joint)

Laterally rotate the hip (coxal joint)

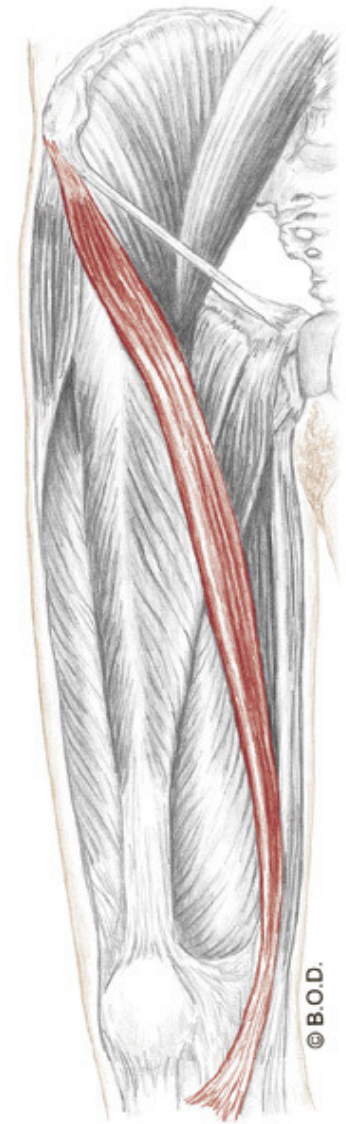
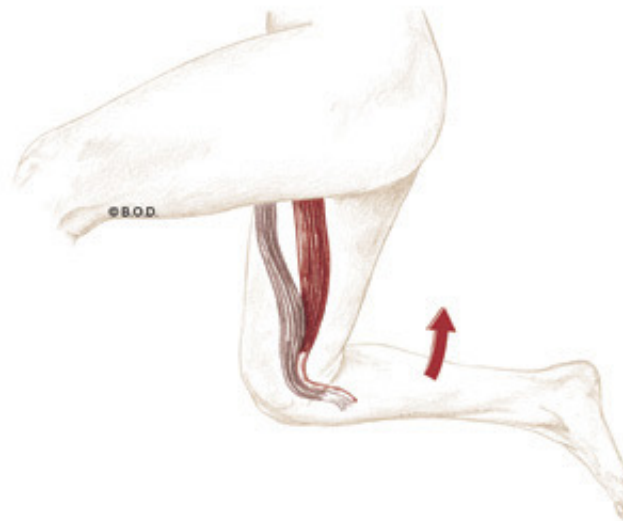
Abduct the hip (coxal joint)

Flex the knee (tibiofemoral joint)

Medially rotate the knee (tibiofemoral joint)

**O** Anterior superior iliac spine (ASIS)

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



Anteromedial View



**A** Flex the hip (coxal joint)

Laterally rotate the hip (coxal joint)

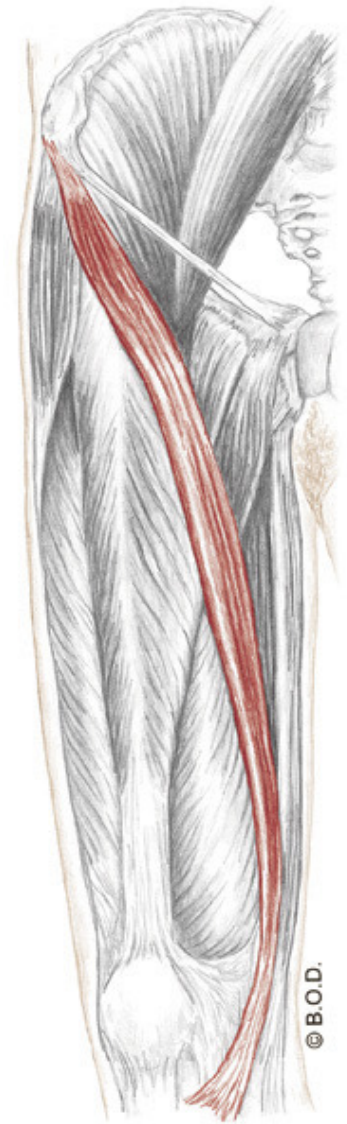
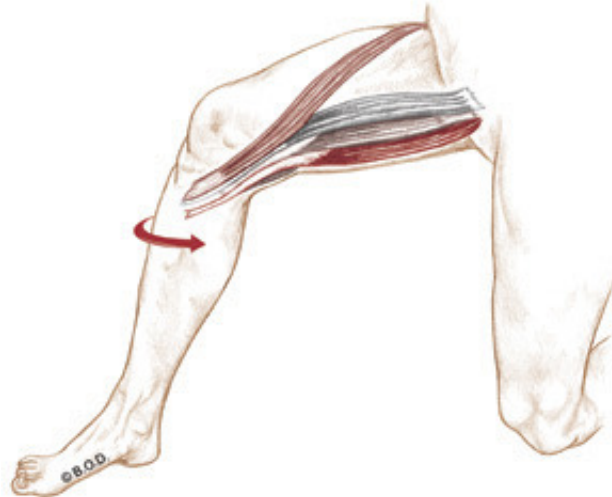
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Flex the knee (tibiofemoral joint)

Medially rotate the knee (tibiofemoral joint)

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



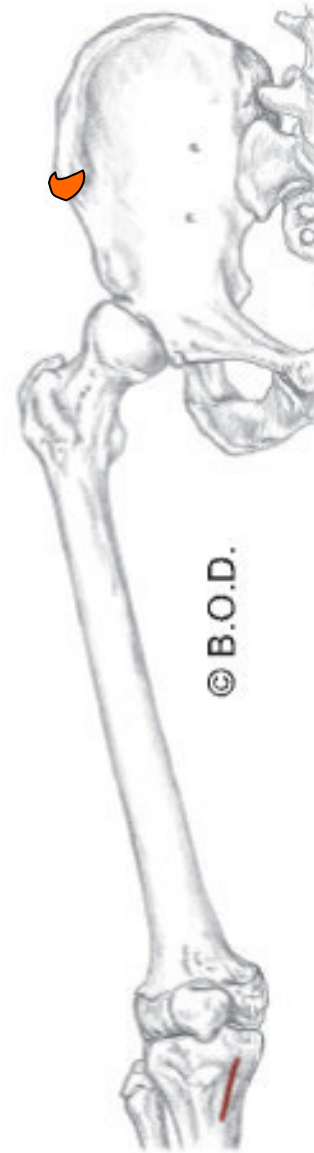
Anteromedial View



- A** Flex the hip (coxal joint)
- Laterally rotate the hip (coxal joint)
- Abduct the hip (coxal joint)
- Flex the knee (tibiofemoral joint)
- Medially rotate the knee (tibiofemoral joint)

**O** Anterior superior iliac spine (ASIS)

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

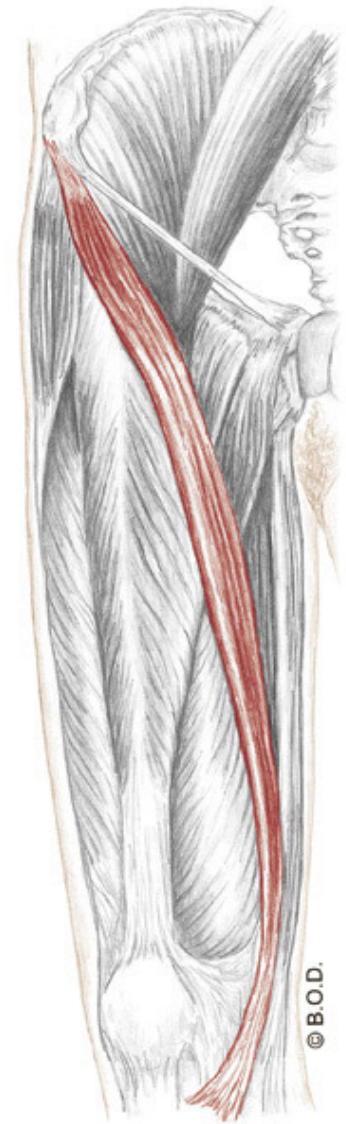
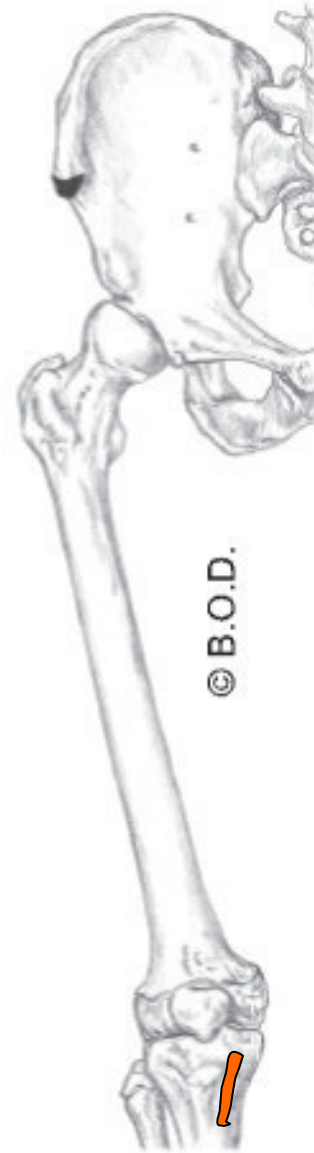


Anteromedial View

- A** Flex the hip (coxal joint)
- Laterally rotate the hip (coxal joint)
- Abduct the hip (coxal joint)
- Flex the knee (tibiofemoral joint)
- Medially rotate the knee (tibiofemoral joint)

**O** Anterior superior iliac spine (ASIS)

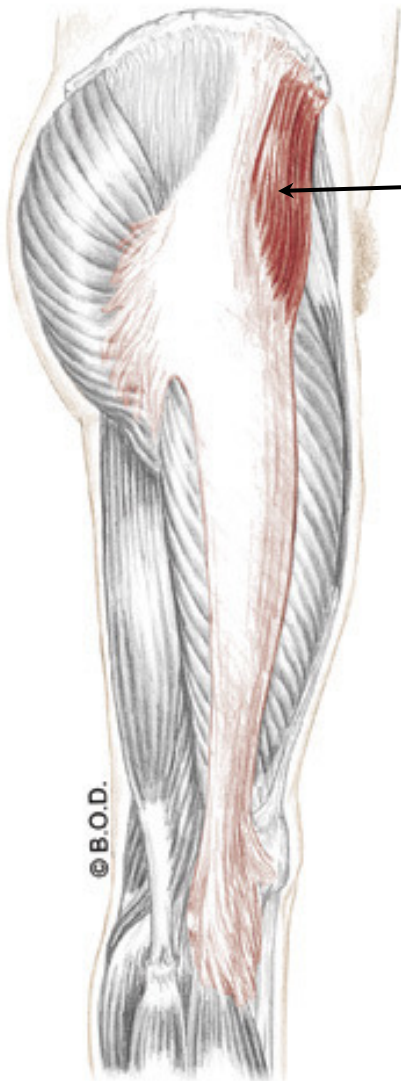
**I** Proximal, medial shaft of the tibia  
at pes anserinus tendon



Anteromedial View

# Tensor Fasciae Latae

Trail Guide, Page 324



**Tensor fasciae latae** is a small, superficial muscle.

Approximately 3 fingers wide, the TFL is located on the lateral side of the upper thigh.

*Tensor* means *something that stretches*.

*Fasciae* means *band or bandage*.

*Latae* means *broad*.

“Broad band that stretches or adds tension”

Lateral View

# Tensor Fasciae Latae, page 324

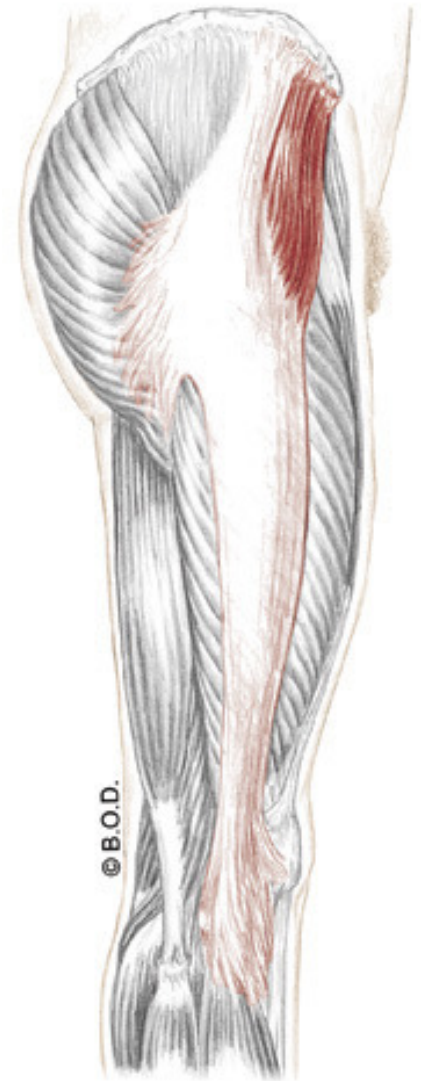
**A** Flex the hip (coxal joint)

Medially rotate the hip (coxal joint)

Abduct the hip (coxal joint)

**O** Iliac crest, posterior to the ASIS

**I** Iliotibial tract



Lateral View

# Tensor Fasciae Latae, page 324

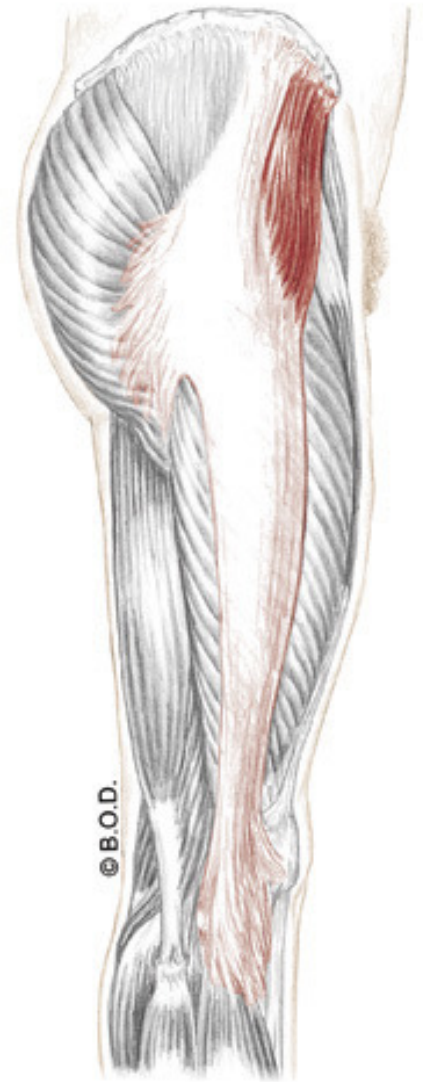
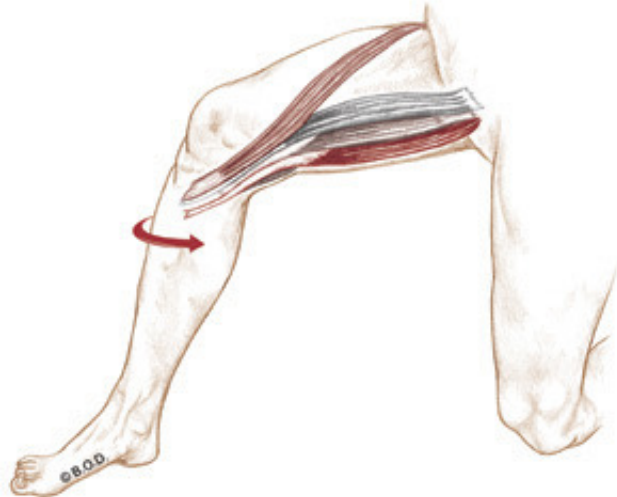
**A** Flex the hip (coxal joint)

Medially rotate the hip (coxal joint)

Abduct the hip (coxal joint)

**O** Iliac crest, posterior to the ASIS

**I** Iliotibial tract



Lateral View



# Tensor Fasciae Latae, page 324

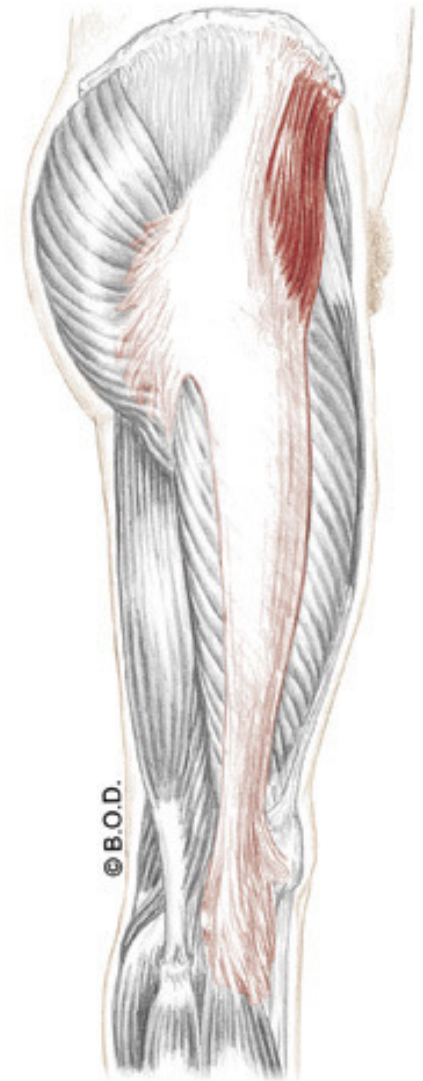
**A** Flex the hip (coxal joint)

Medially rotate the hip (coxal joint)

Abduct the hip (coxal joint)

**O** Iliac crest, posterior to the ASIS

**I** Iliotibial tract



Lateral View



# Tensor Fasciae Latae, page 324

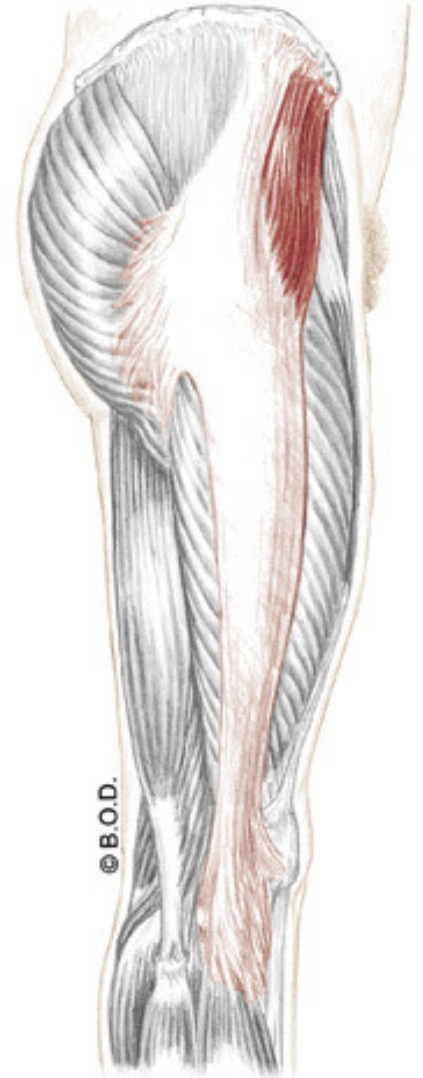
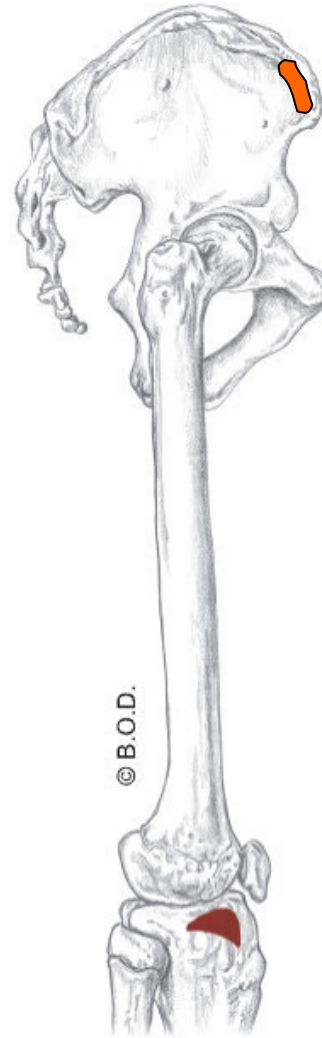
**A** Flex the hip (coxal joint)

Medially rotate the hip (coxal joint)

Abduct the hip (coxal joint)

**O** Iliac crest, posterior to the ASIS

**I** Iliotibial tract



Lateral View

# Tensor Fasciae Latae, page 324

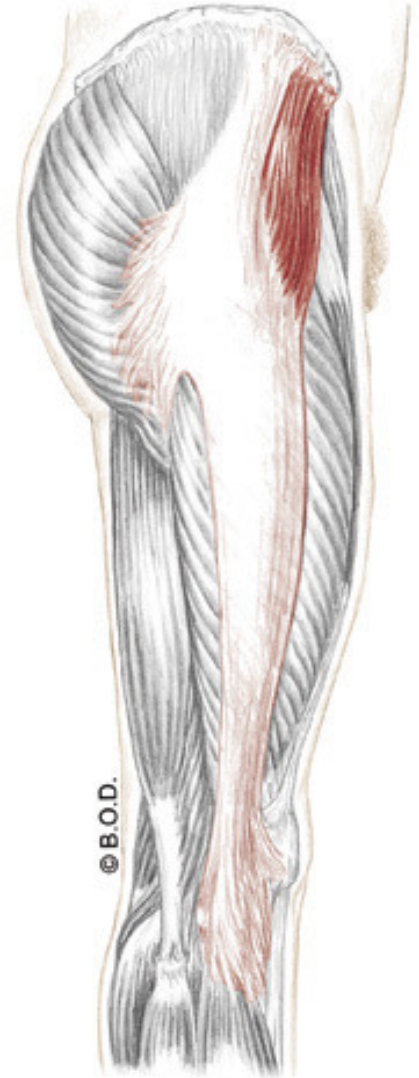
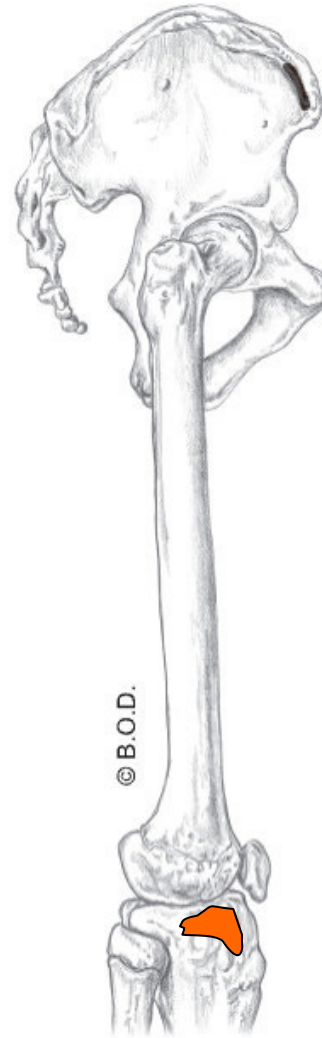
**A** Flex the hip (coxal joint)

Medially rotate the hip (coxal joint)

Abduct the hip (coxal joint)

**O** Iliac crest, posterior to the ASIS

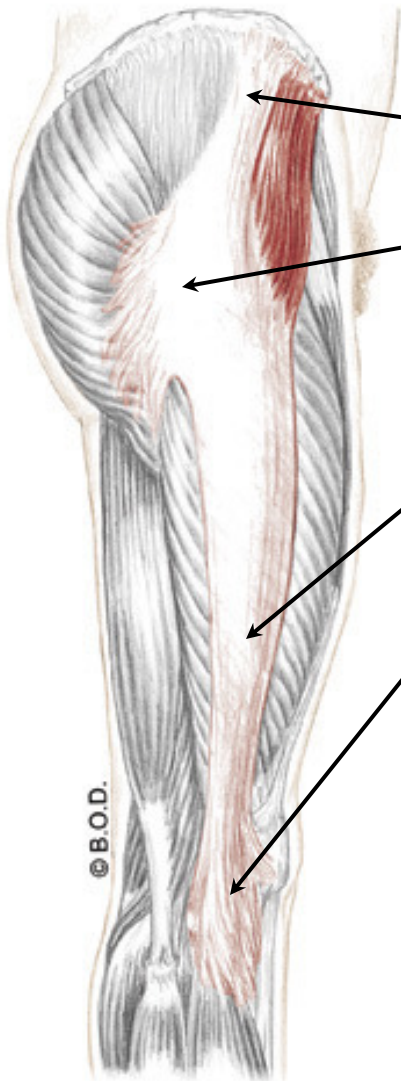
**I** Iliotibial tract



Lateral View

# Iliotibial Tract

## Trail Guide, Page 324



**Iliotibial tract** is a superficial sheet of fascia.

Its vertical fibers stretch between the iliac crest and the tibial tubercle.

Both TFL and gluteus maximus have insert into the IT tract.

Lateral View

# Adductor Magnus, page 320

A

## All fibers:

Adduct the hip (coxal joint)

Assist to medially rotate the hip (coxal joint)

Assist to laterally rotate the hip (coxal joint)

Assist to flex the hip (coxal joint)

## Posterior fibers:

**Extend** the hip (coxal joint)

O

Inferior ramus of the pubis

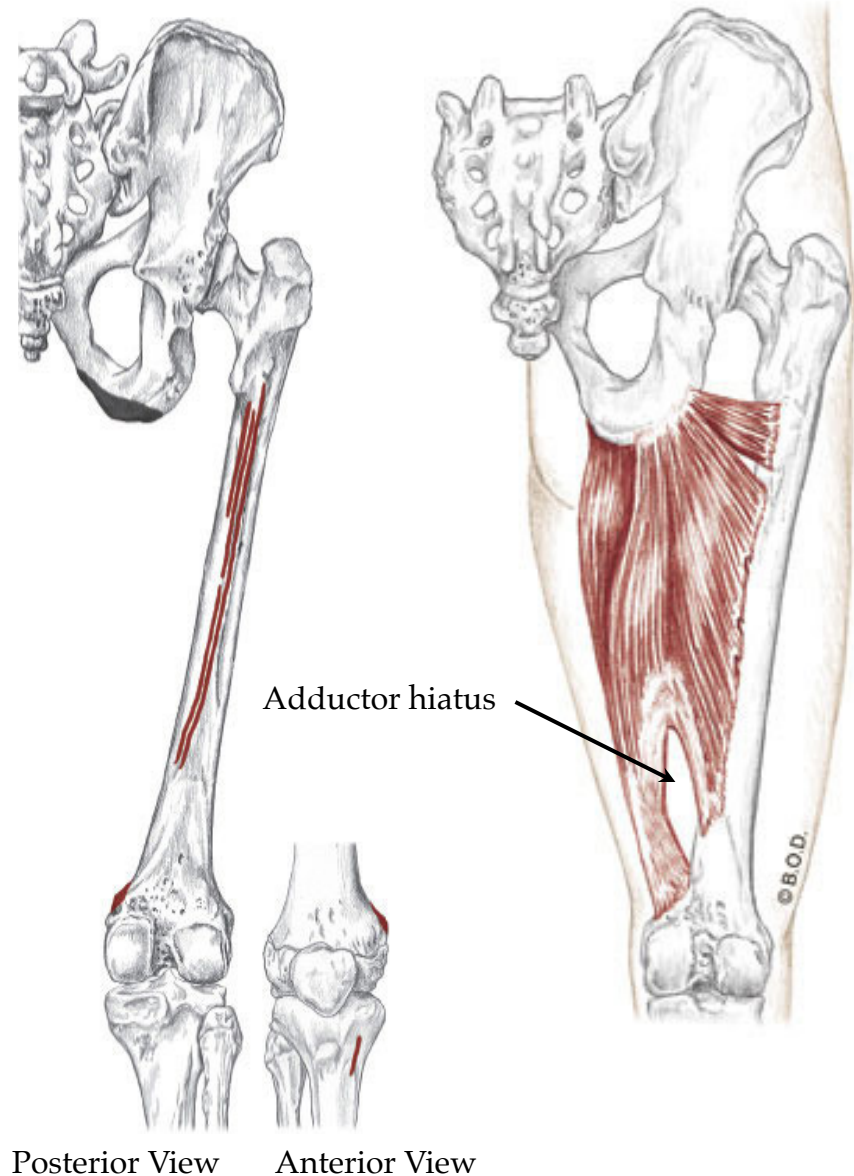
Ramus of the ischium

Ischial Tuberosity

I

Medial lip of linea aspera

Adductor tubercle



# Gracilis, page 321

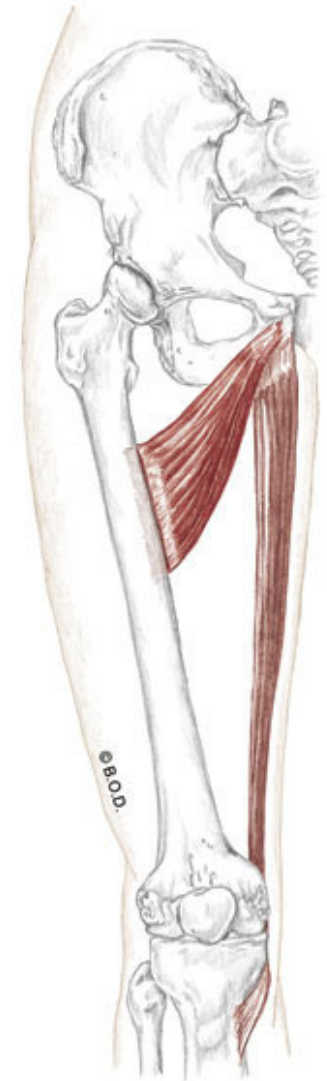
- A** All fibers:
- Adduct** the hip (coxal joint)
  - Assist to **flex** the hip (coxal joint)
  - Flex** the knee (tibiofemoral joint)
  - Medially rotate** the flexed knee (tibiofemoral joint)

**O** Inferior ramus of the pubis

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



Posterior View

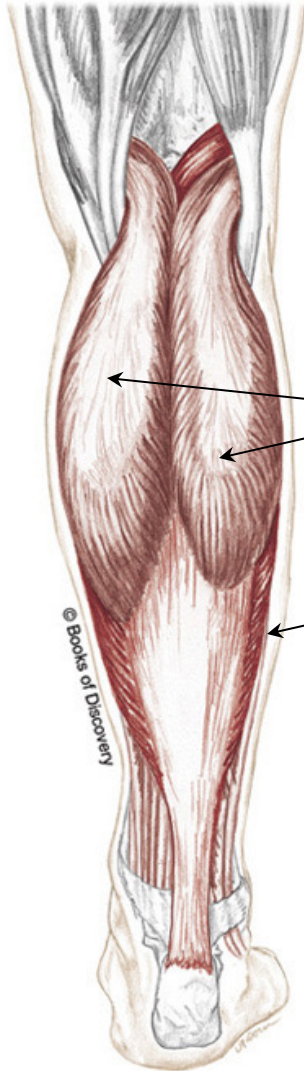


Anterior View



# Gastrocnemius and Soleus

Trail Guide, Page 371



Gastrocnemius and soleus form the large mass of posterior leg muscle. Together they are known as the **triceps surae**.

The superficial **gastrocnemius** has two heads and crosses two joints - the knee and ankle.

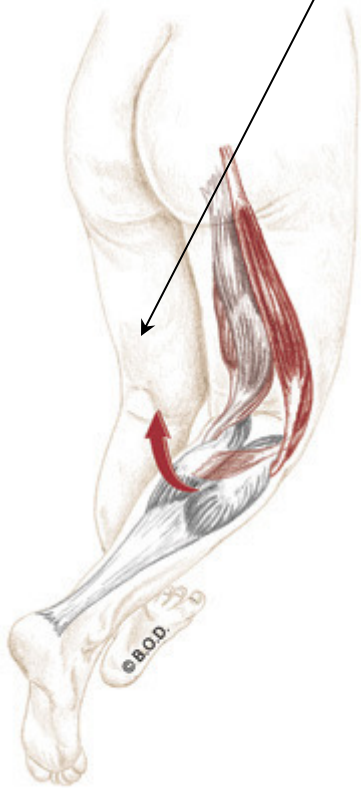
**Soleus** is deep to the gastrocnemius, yet its medial and lateral fibers bulge from the sides of the leg,

When do you use your triceps surae?

Posterior View



# Actions of the Triceps Surae Gastrocnemius and Soleus



Flexion of the  
tibiofemoral joint



Plantarflexion of the  
talocrucral joint

# Gastrocnemius, page 371

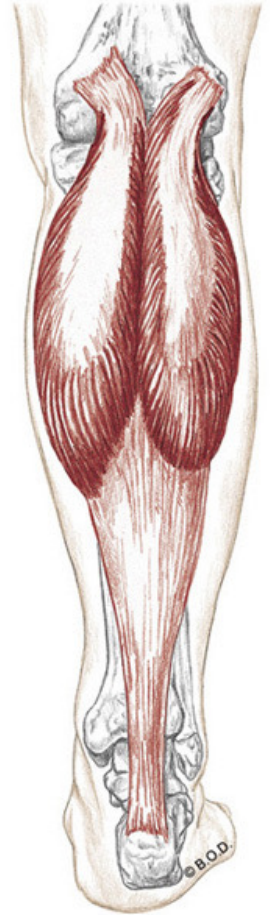
**A** Flex the knee (tibiofemoral joint)

**Plantar flex** the ankle (talocrural joint)

**O** Condyles of the femur, posterior surfaces

**I** Calcaneus via calcaneal tendon

Posterior View



# Gastrocnemius, page 371

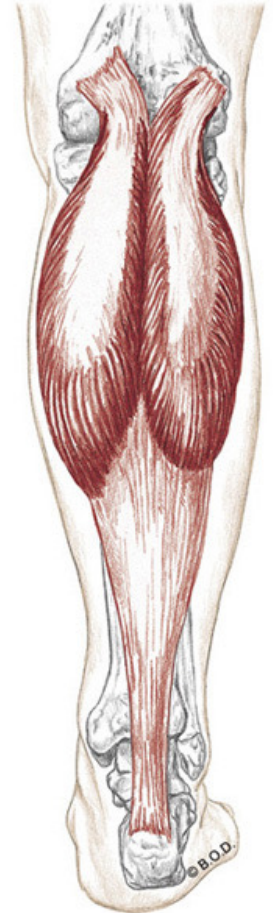
**A** **Flex** the knee (tibiofemoral joint)

**Plantar flex** the ankle (talocrural joint)

**O** Condyles of the femur, posterior surfaces

**I** Calcaneus via calcaneal tendon

Posterior View



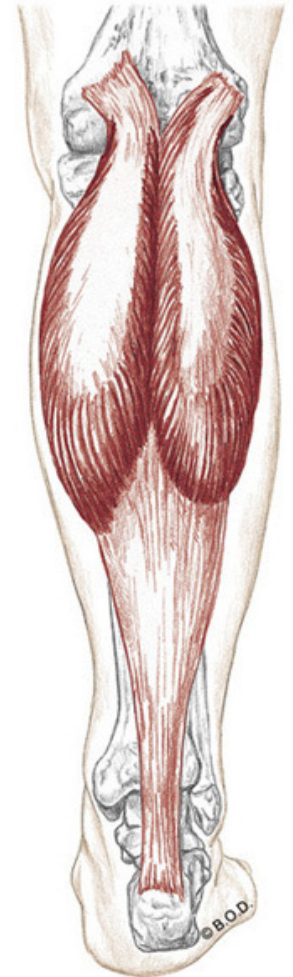
# Gastrocnemius, page 371

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

**Plantar flex** the ankle (talocrural joint)

**O** Condyles of the femur, posterior surfaces

**I** Calcaneus via calcaneal tendon



Posterior View

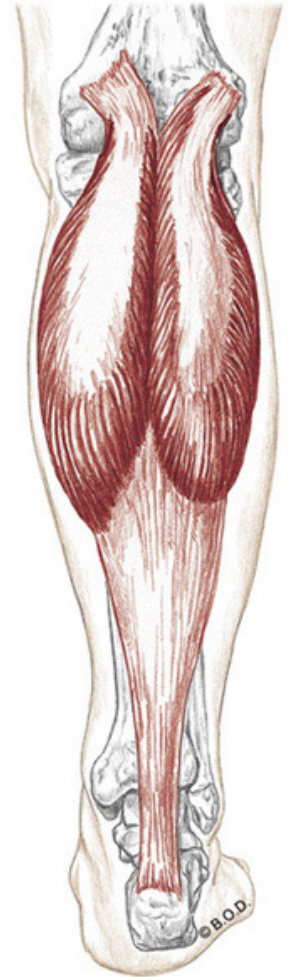
# Gastrocnemius, page 371

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

Plantar flex the ankle (talocrural joint)

**O** Condyles of the femur, posterior surfaces

**I** Calcaneus via calcaneal tendon



Posterior View

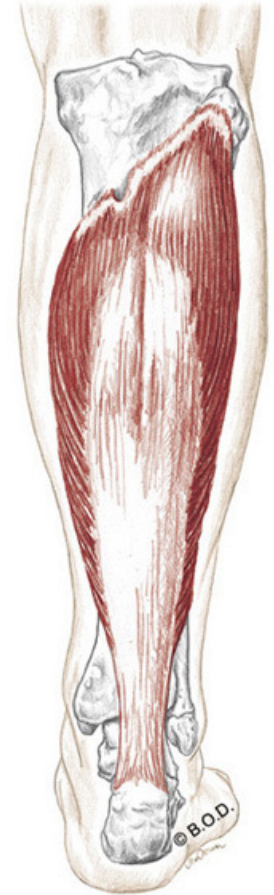
# Soleus, page 371

**A** Plantar flex the ankle (talocrural joint)

**O** Soleal line (proximal, posterior surface of tibia  
and posterior aspect of head of fibula)

**I** Calcaneus via calcaneal tendon

Posterior View





# Soleus, page 371

**A** Plantar flex the ankle (talocrural joint)

**O** Soleal line (proximal, posterior surface of tibia and posterior aspect of head of fibula)

**I** Calcaneus via calcaneal tendon



Posterior View

# Soleus, page 371

**A** **Plantar flex** the ankle (talocrural joint)

**O** Soleal line (proximal, posterior surface of tibia and posterior aspect of head of fibula)

**I** Calcaneus via calcaneal tendon



Posterior View

# Tibialis Anterior

## Trail Guide, Page 379

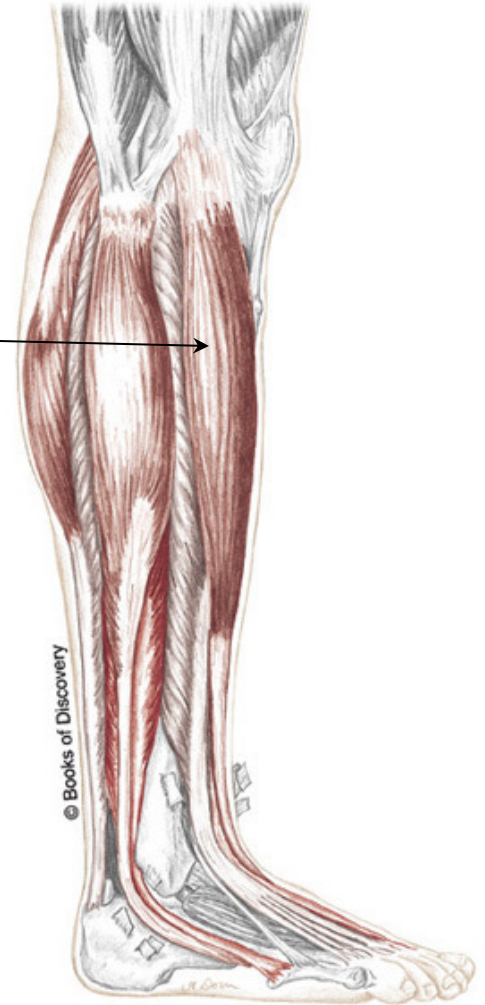


Anterior View

### **Tibialis anterior**

is large, superficial and the most clearly isolated of the group of extensors of the ankle and toes.

When do you use your tibialis anterior?

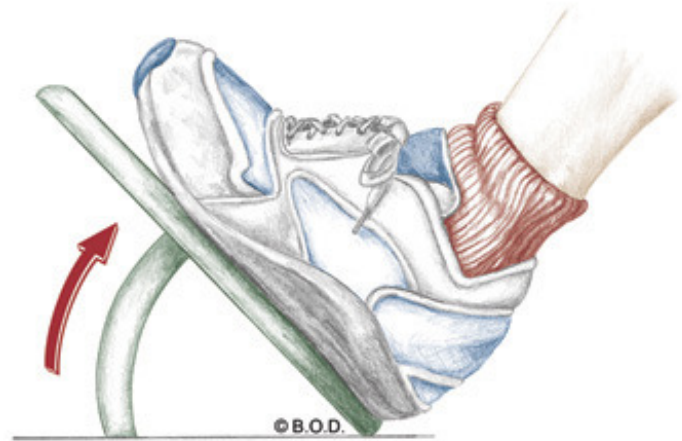


Lateral View

# Actions of the Tibialis Anterior



Inversion of the foot



Talocrural dorsiflexion

# Tibialis Anterior, page 379

A

Invert the foot

Dorsiflex the ankle (talocrural joint)

O

Lateral condyles of tibia  
Proximal, lateral surface of tibia  
Interosseous membrane

I

Medial cuneiform  
Base of the first metatarsal



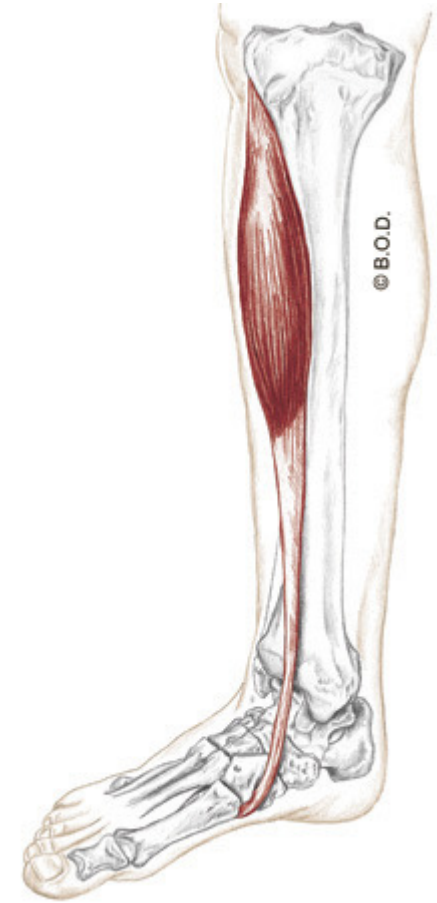
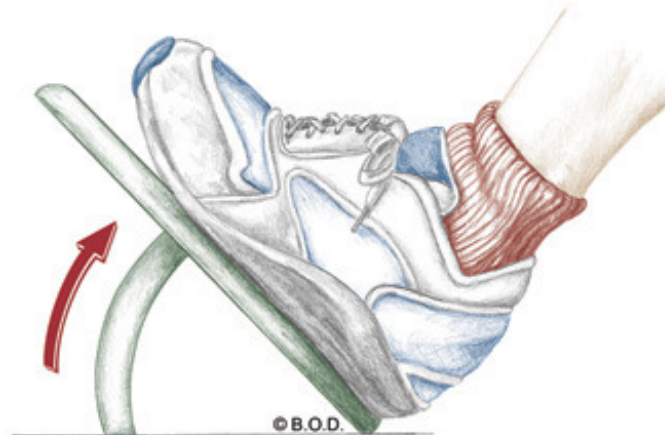
Anteromedial View

# Tibialis Anterior, page 379

**A** **Invert** the foot  
**Dorsiflex** the ankle (talocrural joint)

**O** Lateral condyles of tibia  
Proximal, lateral surface of tibia  
Interosseous membrane

**I** Medial cuneiform  
Base of the first metatarsal



Anteromedial View



# Tibialis Anterior, page 379

A

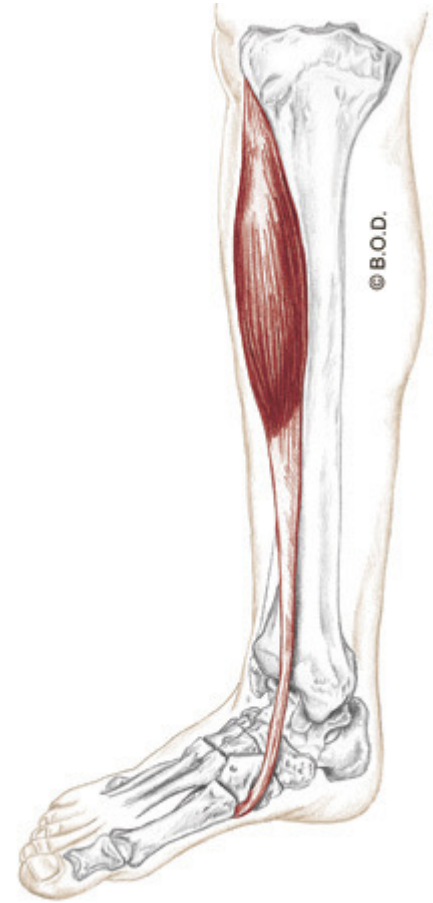
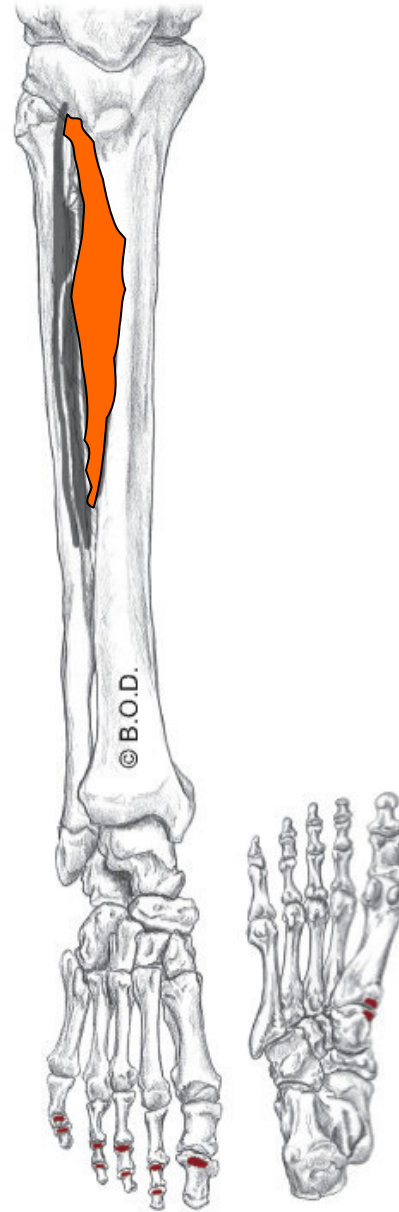
**Invert** the foot  
**Dorsiflex** the ankle (talocrural joint)

O

Lateral condyles of tibia  
Proximal, lateral surface of tibia  
Interosseous membrane

I

Medial cuneiform  
Base of the first metatarsal



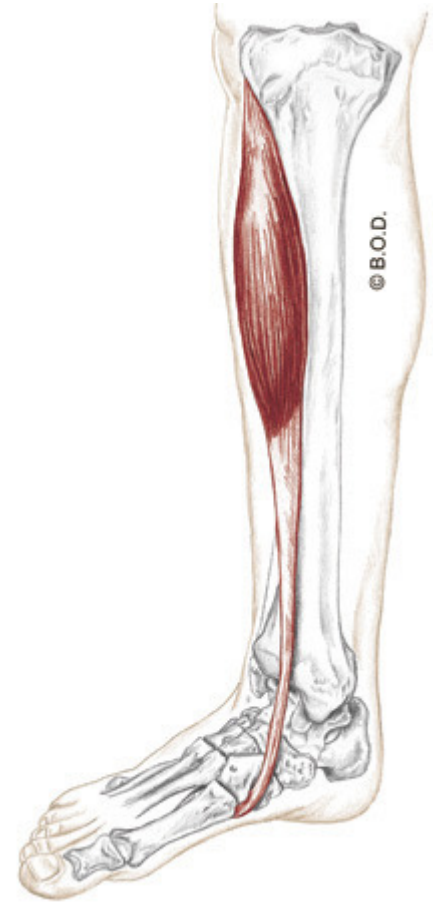
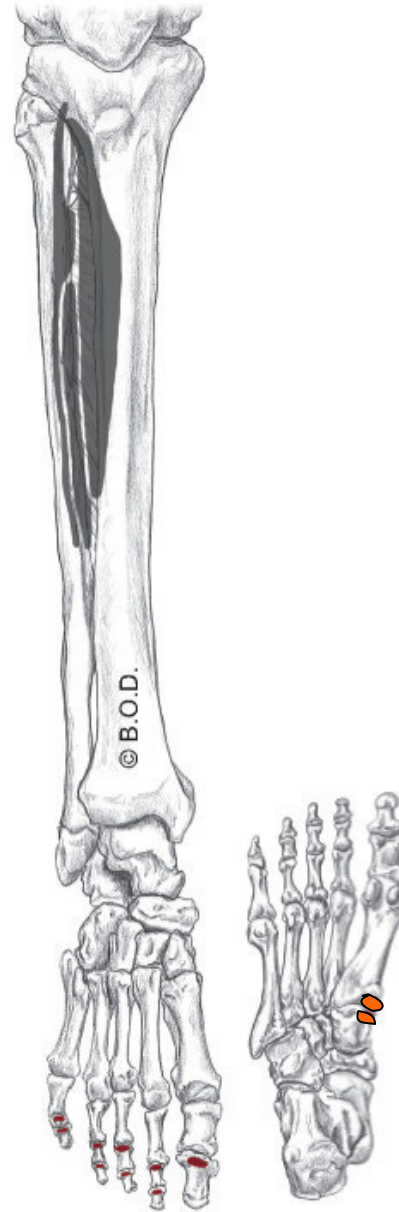
Anteromedial View

# Tibialis Anterior, page 379

**A** **Invert** the foot  
**Dorsiflex** the ankle (talocrural joint)

**O** Lateral condyles of tibia  
Proximal, lateral surface of tibia  
Interosseous membrane

**I** Medial cuneiform  
Base of the first metatarsal



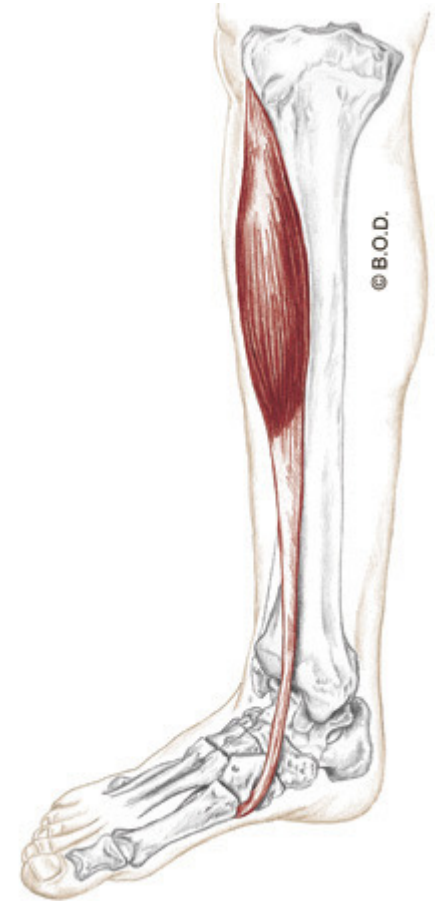
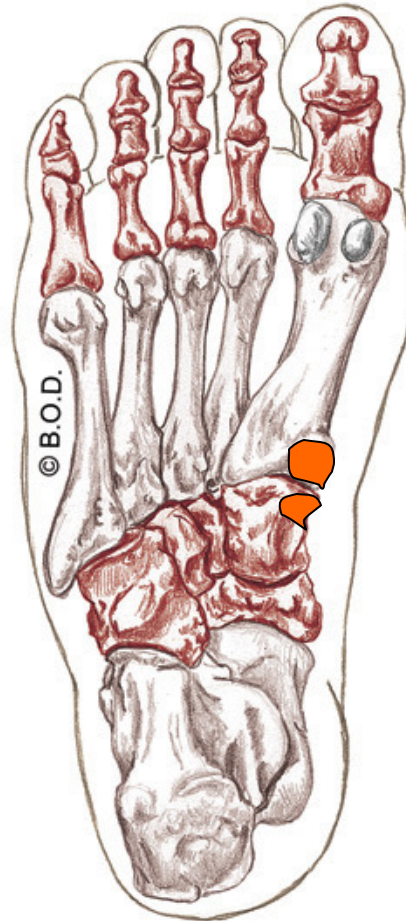
Anteromedial View

# Tibialis Anterior, page 379

**A** **Invert** the foot  
**Dorsiflex** the ankle (talocrural joint)

**O** Lateral condyles of tibia  
Proximal, lateral surface of tibia  
Interosseous membrane

**I** Medial cuneiform  
Base of the first metatarsal



Anteromedial View

# Fibularis Longus and Brevis

Trail Guide, Page 376



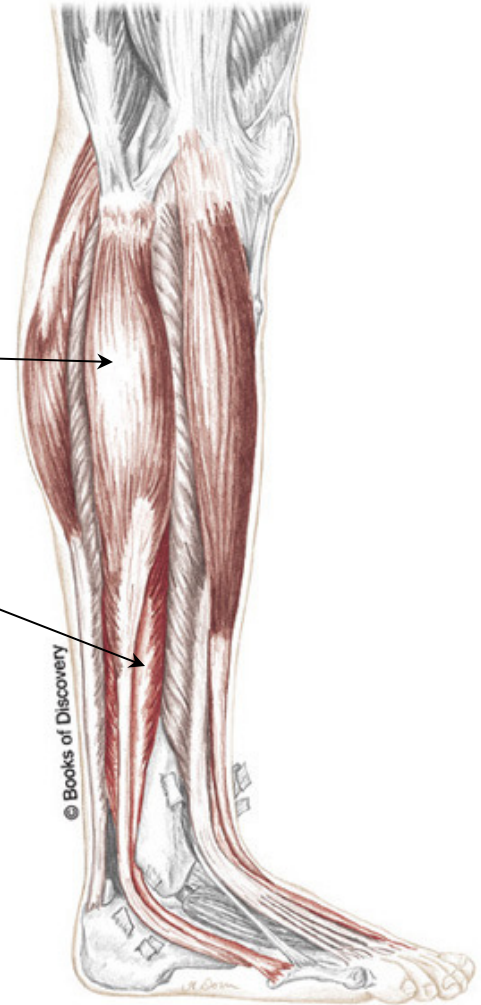
Anterior View

**Fibularis longus  
and  
Fibularis brevis**

These slender fibularis muscles are located on the lateral side of the fibula with distal tendons that pass posterior to the lateral ankle bone, also called the lateral malleolus.

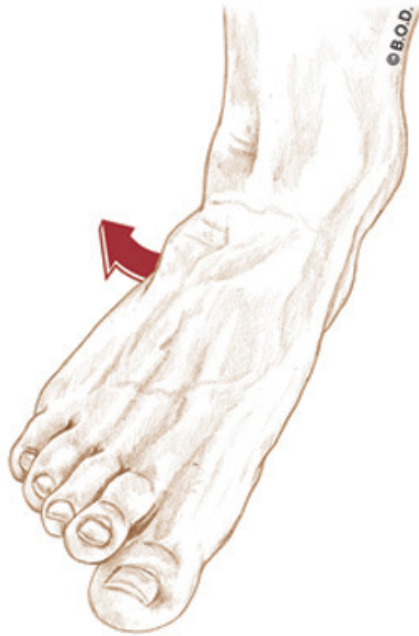
These muscles were previously called the peroneals (Peroneus longus and brevis).

When do you use your fibularis muscles?



Lateral View

# Actions of the Fibularis Longus and Brevis



Eversion of the foot



Talocrural plantar flexion

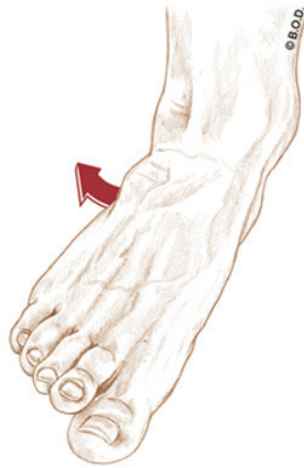


# Fibularis Longus, page 376

**A** **Evert** the foot  
Assist to **plantar flex** the ankle (talocrural joint)

**O** Head of fibula  
Proximal two-thirds of lateral fibula

**I** Medial cuneiform  
Base of the first metatarsal



Anteromedial View



# Fibularis Longus, page 376

**A** **Evert** the foot  
Assist to **plantar flex** the ankle (talocrural joint)

**O** Head of fibula  
Proximal two-thirds of lateral fibula

**I** Medial cuneiform  
Base of the first metatarsal



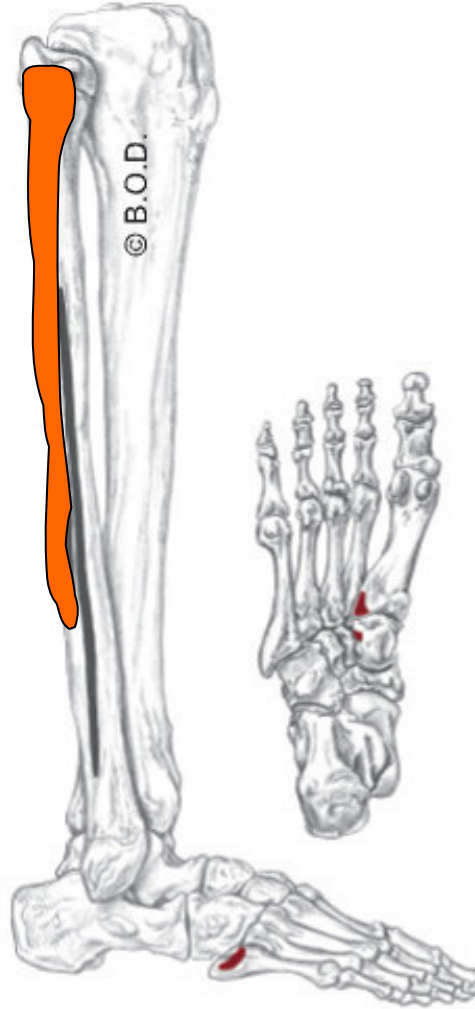
Anteromedial View

# Fibularis Longus, page 376

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Assist to **plantar flex** the ankle (talocrural joint)

**O** Head of fibula  
Proximal two-thirds of lateral fibula

**I** Medial cuneiform  
Base of the first metatarsal



Anteromedial View

# Fibularis Longus, page 376

**A** **Evert** the foot  
Assist to **plantar flex** the ankle (talocrural joint)

**O** Head of fibula  
Proximal two-thirds of lateral fibula

**I** Medial cuneiform  
Base of the first metatarsal



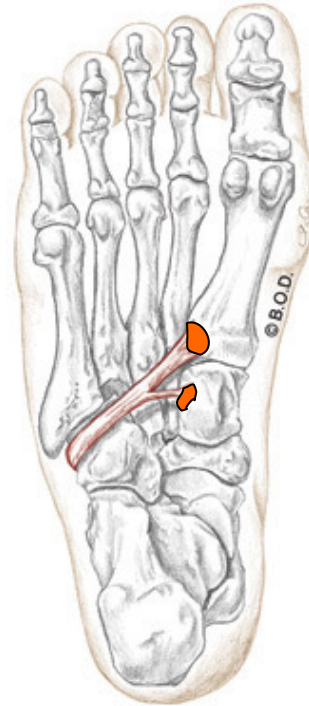
Anteromedial View

# Fibularis Longus, page 376

**A** **Evert** the foot  
Assist to **plantar flex** the ankle (talocrural joint)

**O** Head of fibula  
Proximal two-thirds of lateral fibula

**I** Medial cuneiform  
Base of the first metatarsal



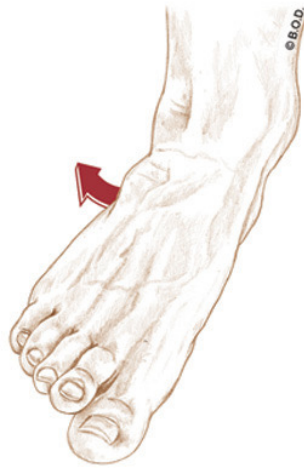
Anteromedial View

# Fibularis Brevis, page 376

**A** **Evert** the foot  
Assist to **plantar flex** the ankle (talocrural joint)

**O** Distal two-thirds of lateral fibula

**I** Tuberosity of the fifth metatarsal



Anteromedial View

# Fibularis Brevis, page 376

**A** **Evert** the foot  
Assist to **plantar flex** the ankle (talocrural joint)

**O** Distal two-thirds of lateral fibula

**I** Tuberosity of the fifth metatarsal



Anteromedial View

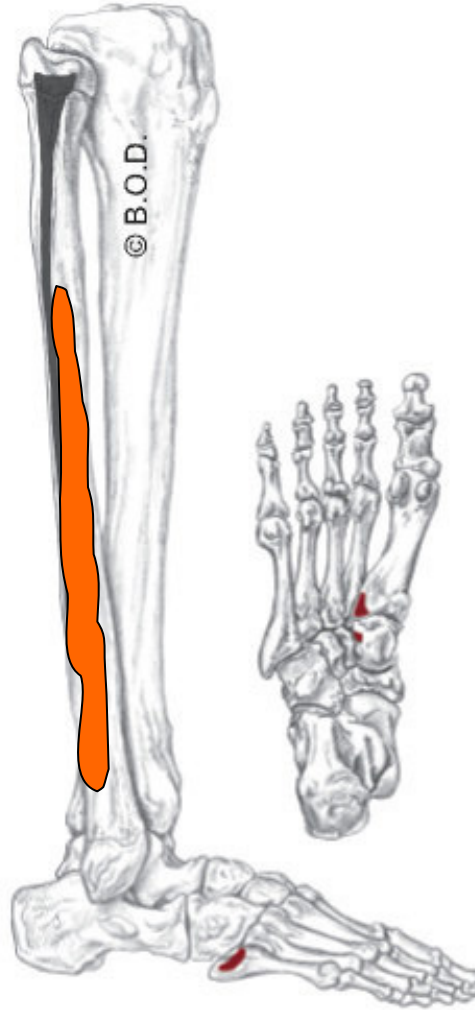


# Fibularis Brevis, page 376

**A** **Evert** the foot  
Assist to **plantar flex** the ankle (talocrural joint)

**O** Distal two-thirds of lateral fibula

**I** Tuberosity of the fifth metatarsal



Anteromedial View

# Fibularis Brevis, page 376

**A** **Evert** the foot  
Assist to **plantar flex** the ankle (talocrural joint)

**O** Distal two-thirds of lateral fibula

**I** Tuberosity of the fifth metatarsal



Anteromedial View



# 91a Kinesiology: Palpation Anterior and Posterior Legs