

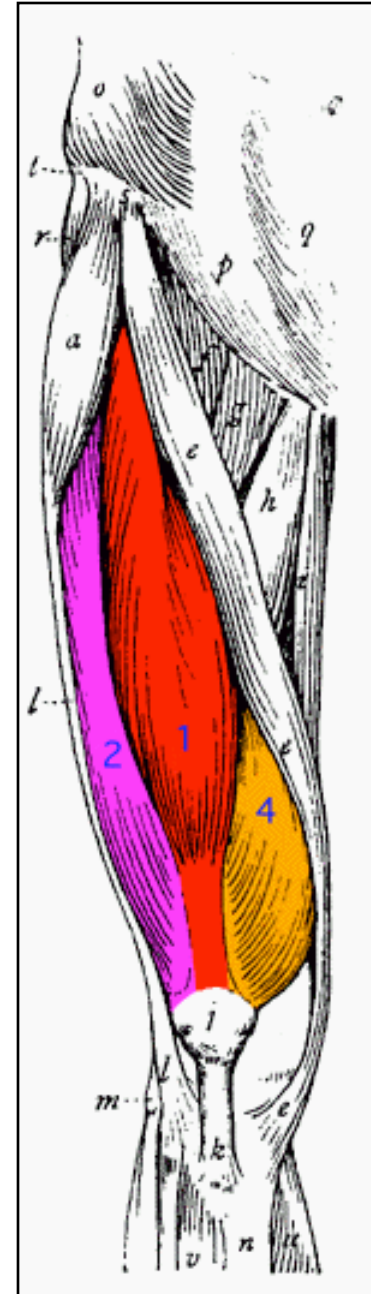
THE KNEE JOINT

Muscles That Act On The Knee

Muscles of the Knee Joint

- Hamstrings
 - All - flexion
 - B.F. - external rotation
 - S.T. and S.M - internal rotation
- Quadriceps
 - All - extension
- Unclassified
 - Sartorius - flexion and external rotation
 - Gracilis - flexion
 - Popliteus - flexion (unlocking) and internal rotation
 - Gastrocnemius - flexion

Anterior Muscles



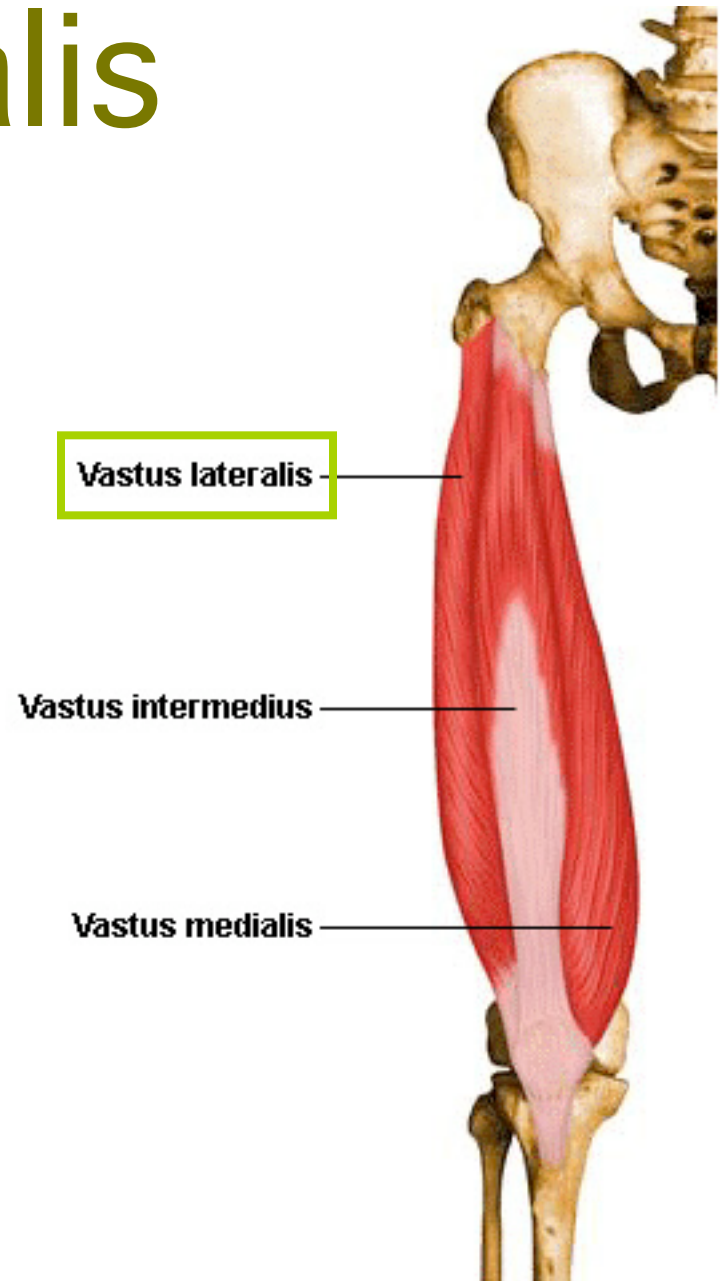
Rectus femoris

- Two joint muscle; most superficial
- Origin: anterior-inferior iliac spine of the ilium
- Insertion: top of the patella and patellar ligament to the tibial tuberosity
- Actions:
 - Extension of the knee



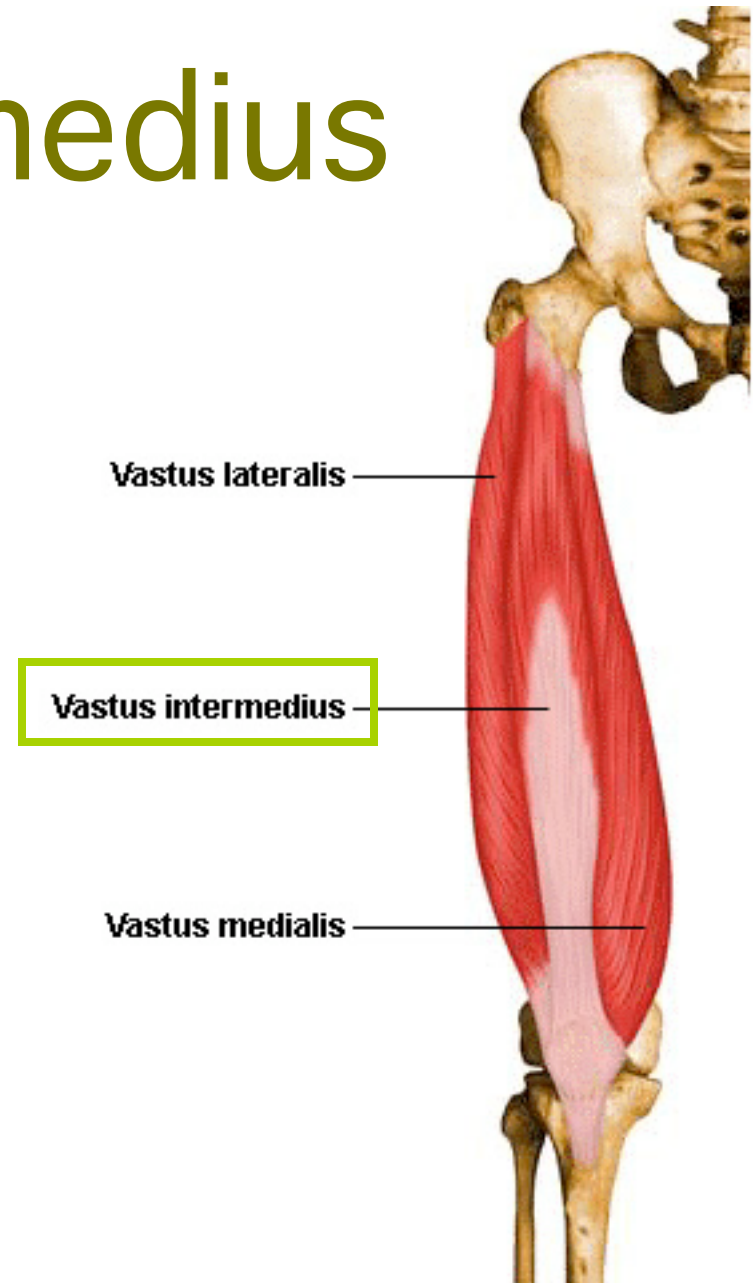
Vastus lateralis

- Origin: Lateral lip of linea aspera.
- Insertion: Outer half of the upper border of the patella and the patellar ligament and the anterior tuberoscity of the tibia
- Action:
 - Extension of the knee



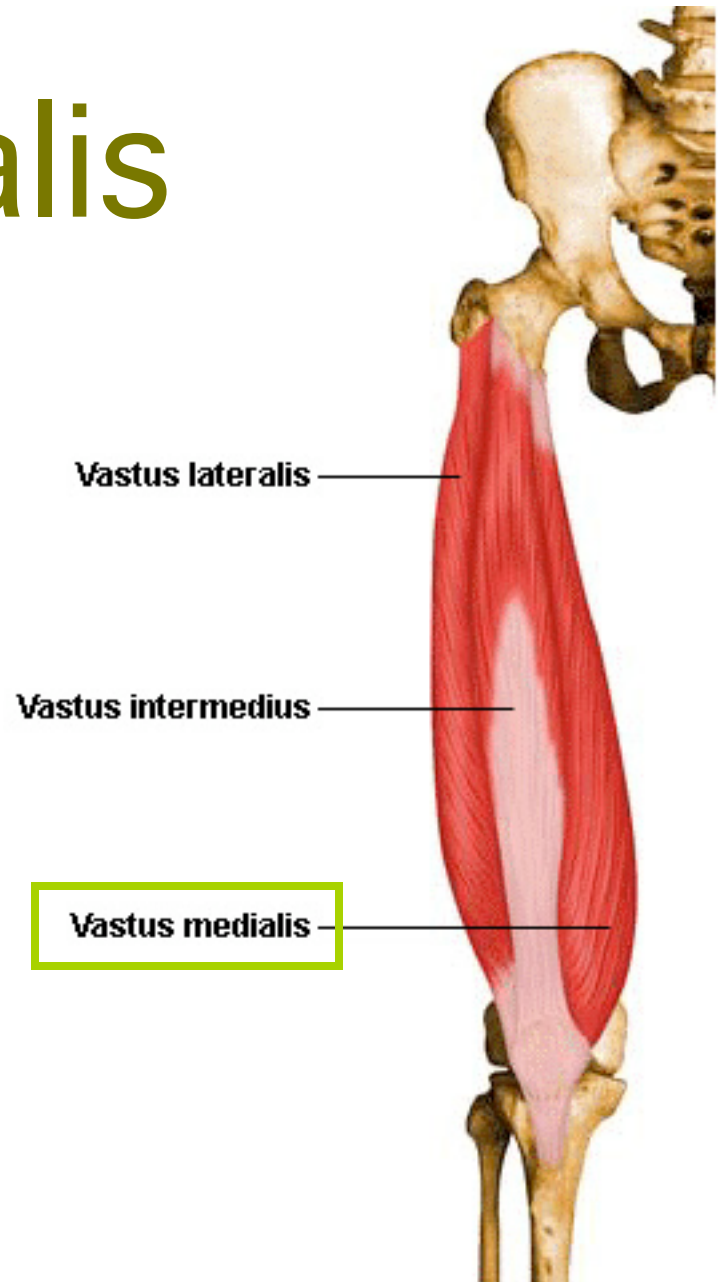
Vastus intermedius

- Origin: Upper 2/3 of the anterior surface of the femur
- Insertion: Upper border of the patella and the patellar ligament
- Action:
 - Extension of the knee

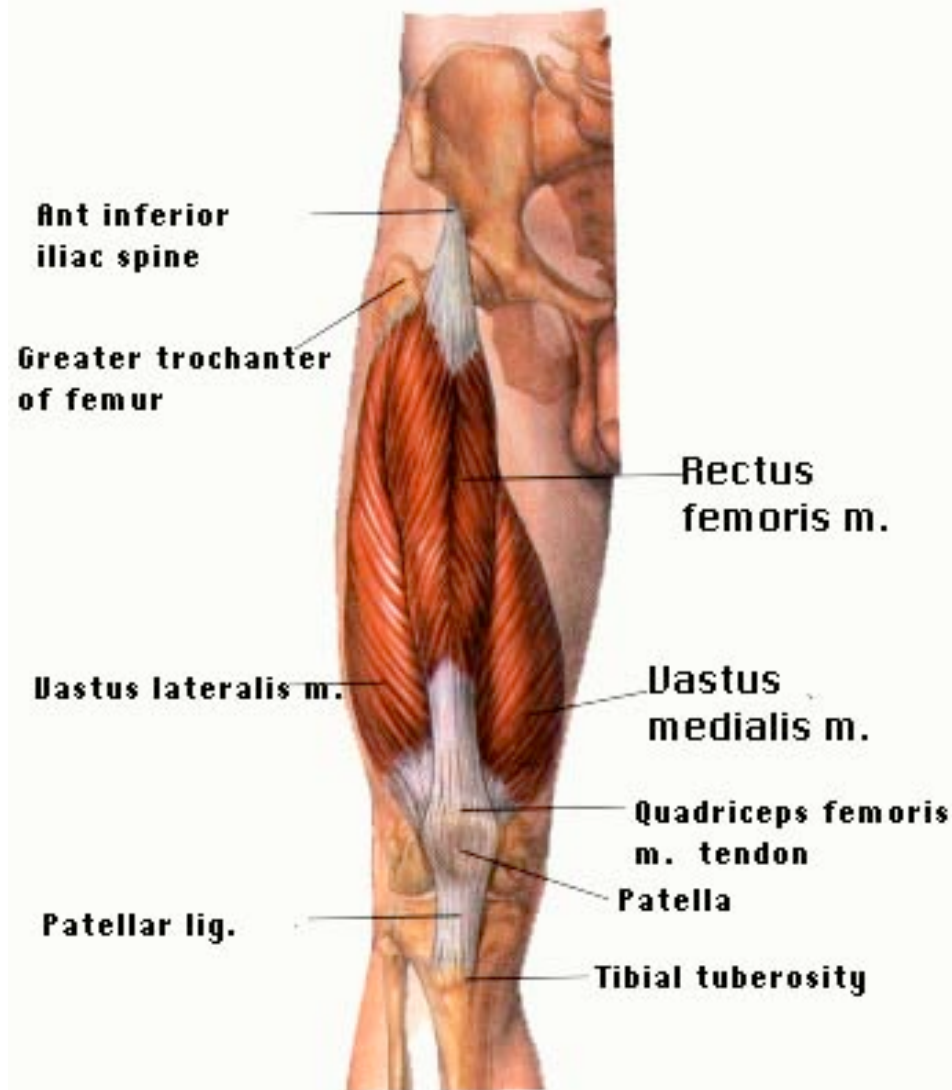


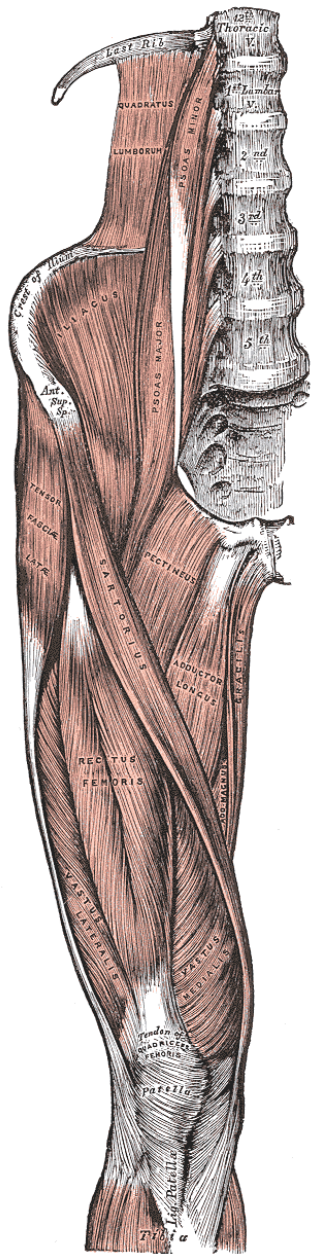
Vastus medialis

- Origin: Medial lip of the linea aspera and the internal condyloid ridge
- Insertion: Inner half of the upper border of the patella and patellar ligament
- Action:
 - Extension of the knee



Quadriceps Muscles

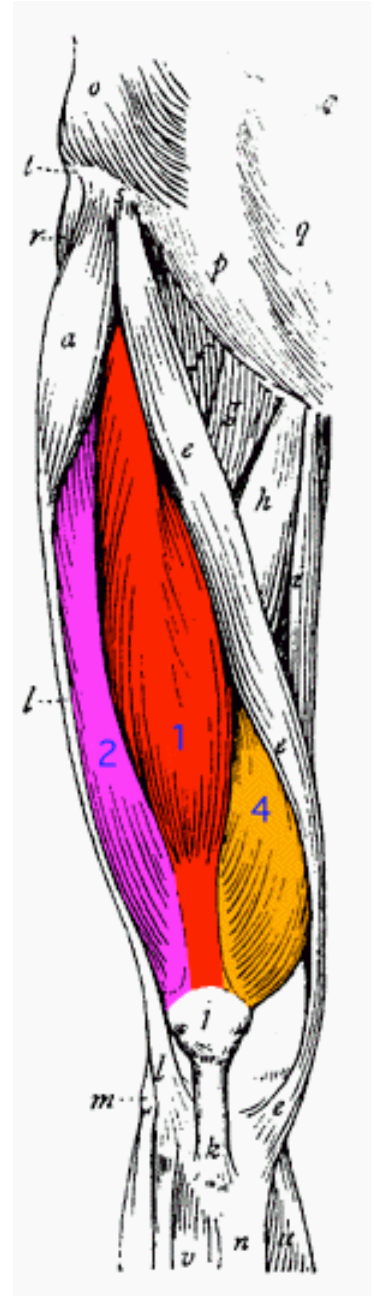


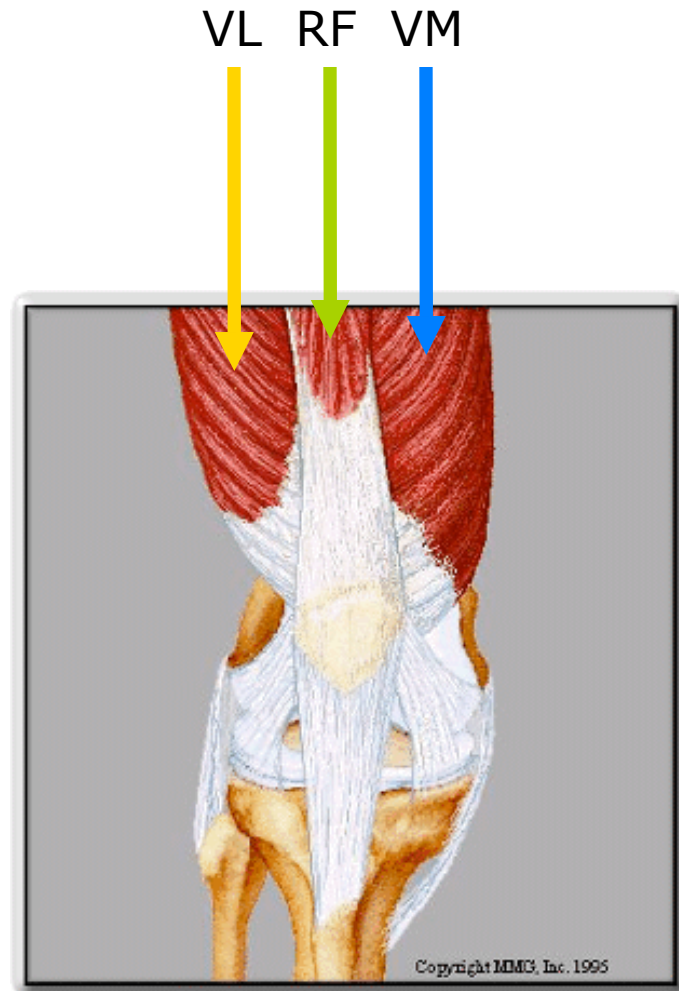
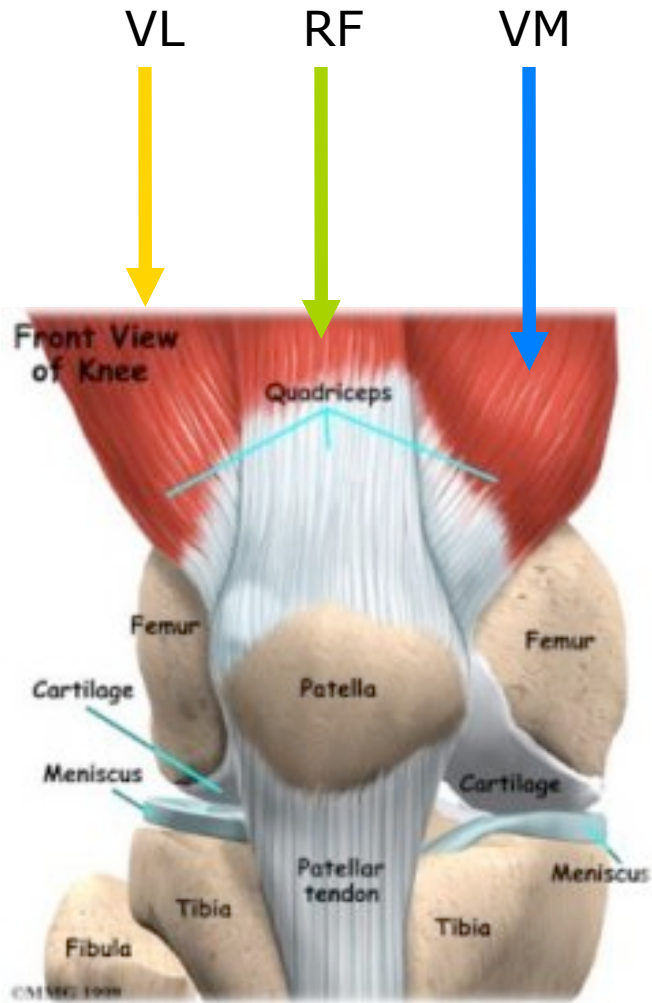


Vastus lateralis —

Rectus femoris —

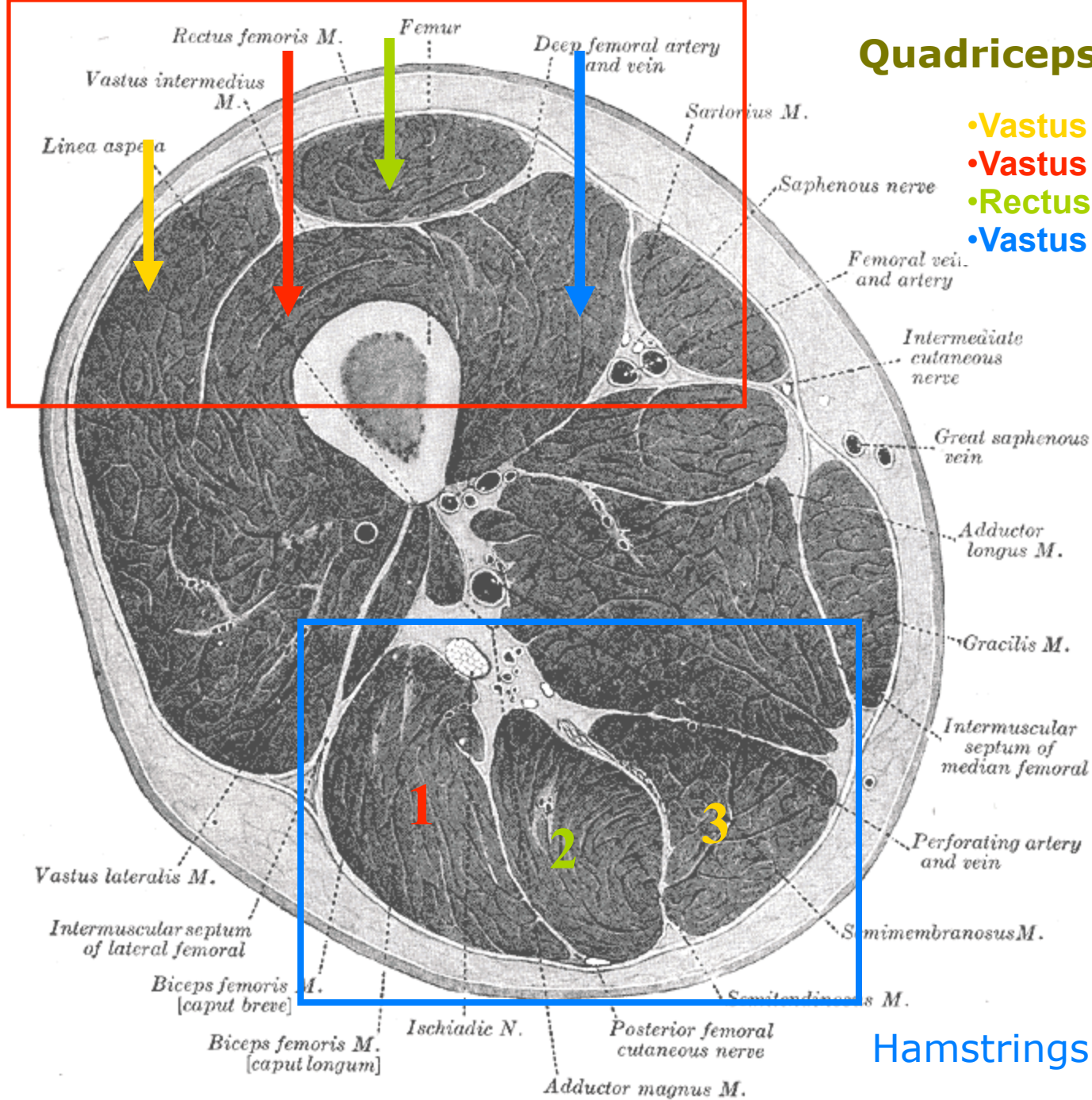
Vastus medialis —





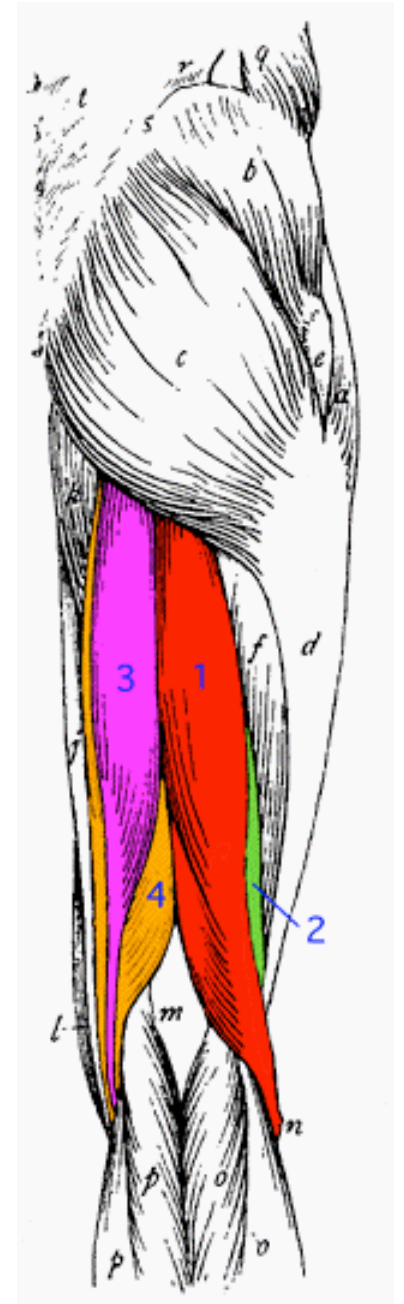
Quadriceps Muscles

- Vastus Lateralis
- Vastus Intermedius
- Rectus Femoris
- Vastus Medialis



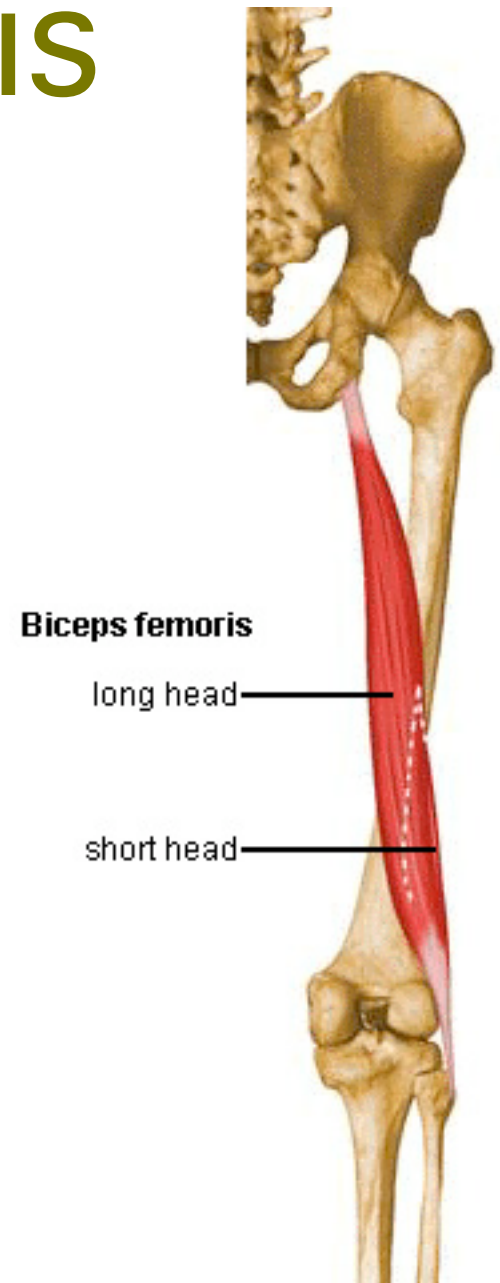
Hamstrings

Posterior Knee Muscles



Biceps femoris

- Lateral side
- Origin:
 - 1.) Long head - ischial tuberosity;
 - 2.) Short head - lower half of the linea aspera
- Insertion: Head of the fibula
- Action:
 - Flexion of knee
 - External rotation of the knee



Semitendinosus

- Medial side; superficial
- Origin: Ischial tuberosity
- Insertion: Anterior medial surface of the tibia
- Action:
 - Flexion of the knee
 - Internal rotation of the knee



Semimembranosus

- Medial side, deeper than semitendinosus
- Origin: Ischial tuberosity
- Insertion: Anterior medial surface of the tibia
- Action:
 - Flexion of the knee
 - Internal rotation of the knee

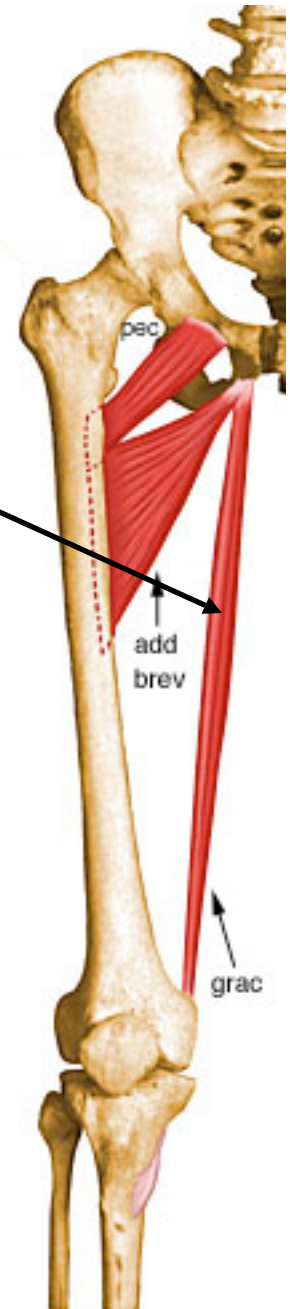


Hamstring Muscles

- Act more as “knee flexors” than “hip extenders”

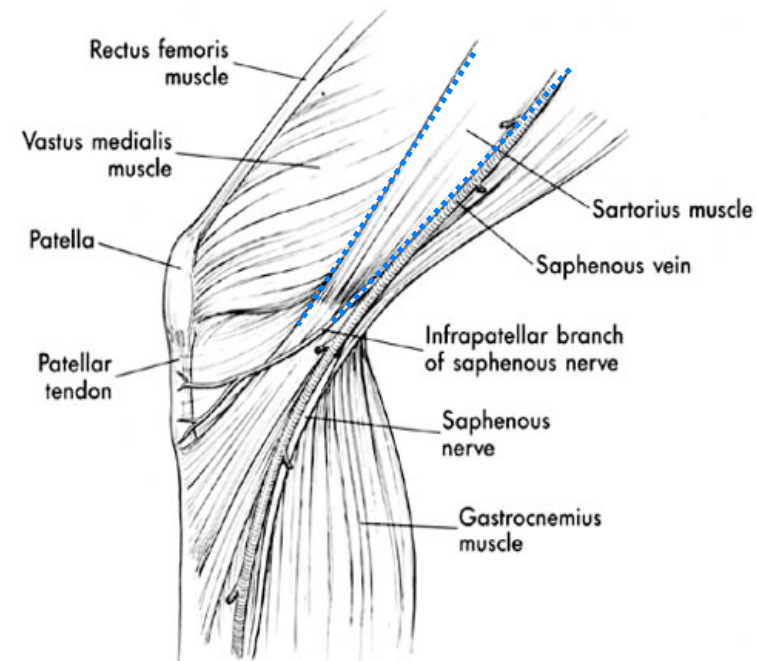
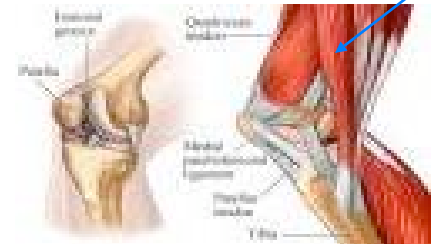
Gracilis

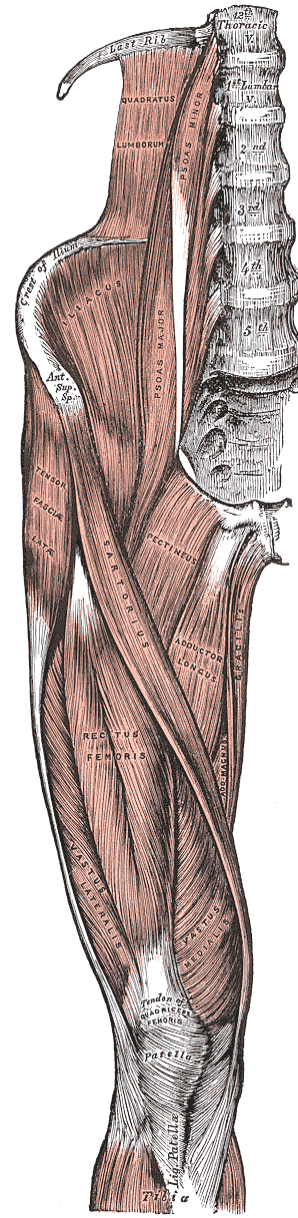
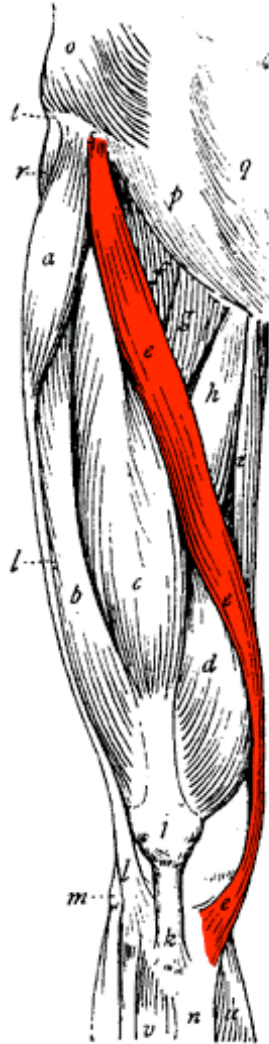
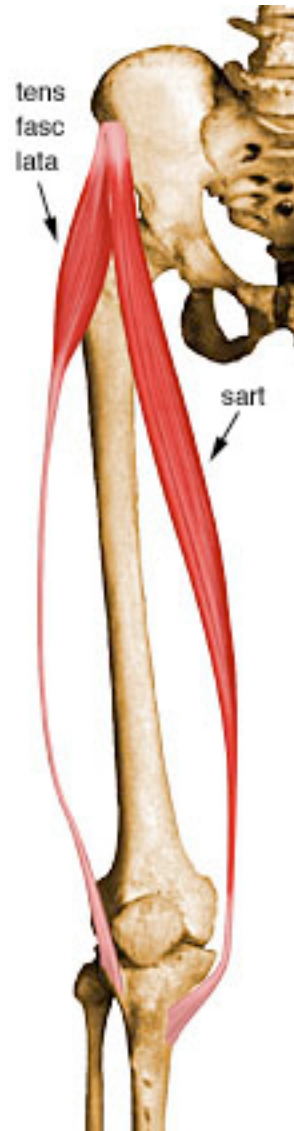
- O: Pubis crest
- I: Anterior medial surface of the tibia
- Actions:
 - flexion at the knee



Sartorius

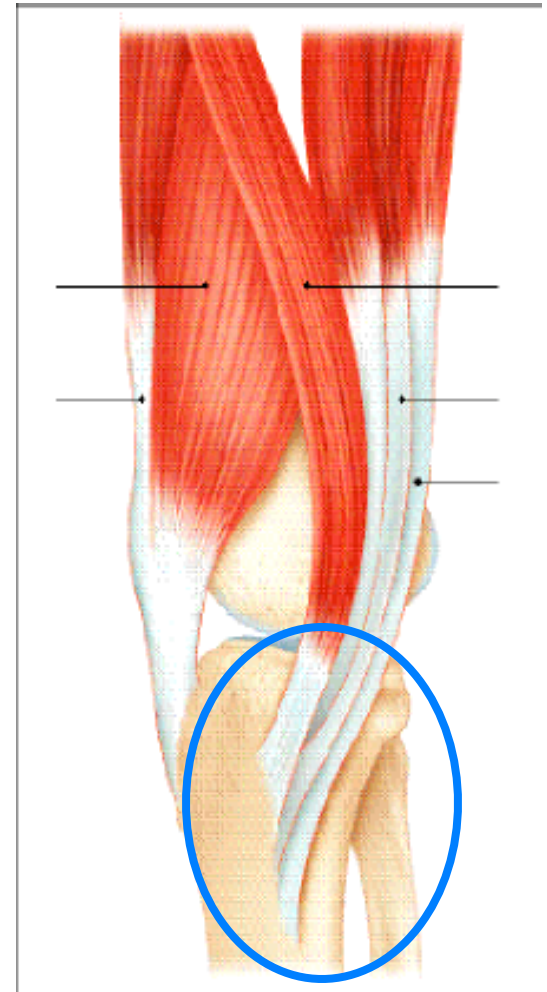
- Posterior at the knee joint
- Origin: Anterior-superior spine of the ilium
- Insertion: Anterior medial surface of the tibia
- Action:
 - Flexion at the knee





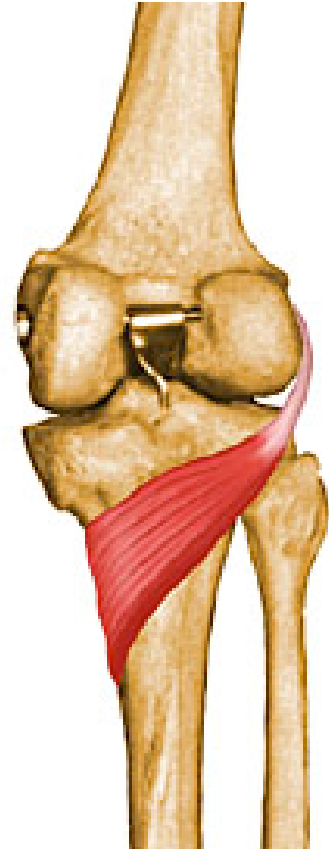
Pes Anserinus

- “Goose Foot”
- A tendon made up of the **sartorius**, **gracilis**, and **semitendinosus**



Popliteus

- Origin: Lateral condyle of the femur
- Insertion: Proximal third of posterior aspect of the tibia
- Action:
 - Flexion of the knee
 - Internal rotation of the knee



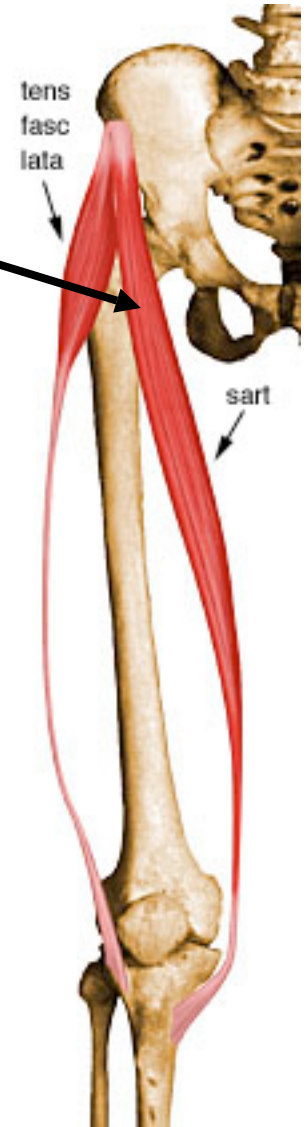
Gastrocnemius

- Origin: posterior surface of the medial and lateral femoral condyles
- Insertion: the calcaneus through the Achilles tendon
- Actions:
 - Flexion of the knee



Review

Name the muscle and its action(s)



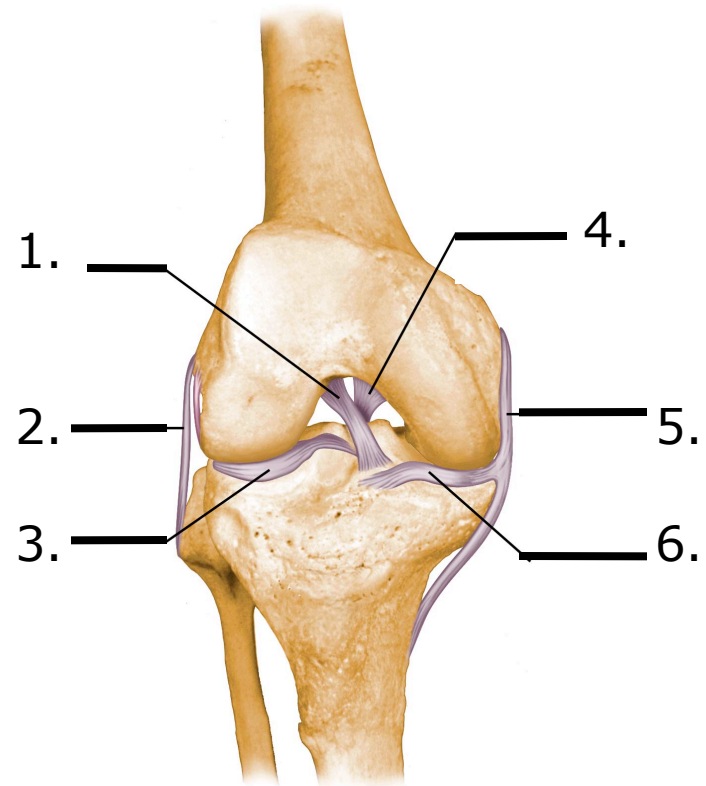
Action: Flexion at the knee

Name the muscle and its action(s)

- Action:
 - Flexion of the knee



1. Anterior cruciate ligament
2. Lateral collateral ligament
3. Lateral meniscus
4. Posterior cruciate ligament
5. Medial collateral ligament
6. Medial meniscus

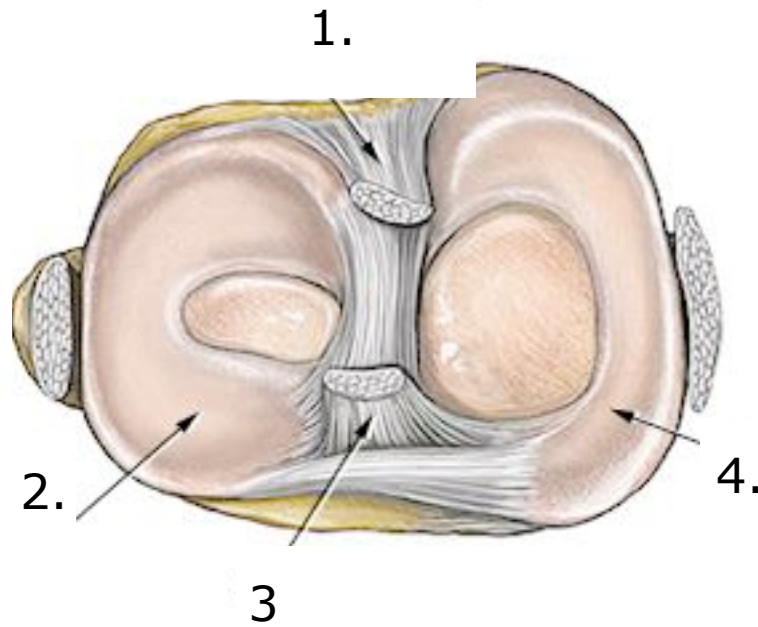


Name the muscle and its action(s)

- Action:
 - Flexion of the knee



- 1 = PCL
- 2 = Lateral meniscus
- 3 = ACL
- 4 = Medial meniscus

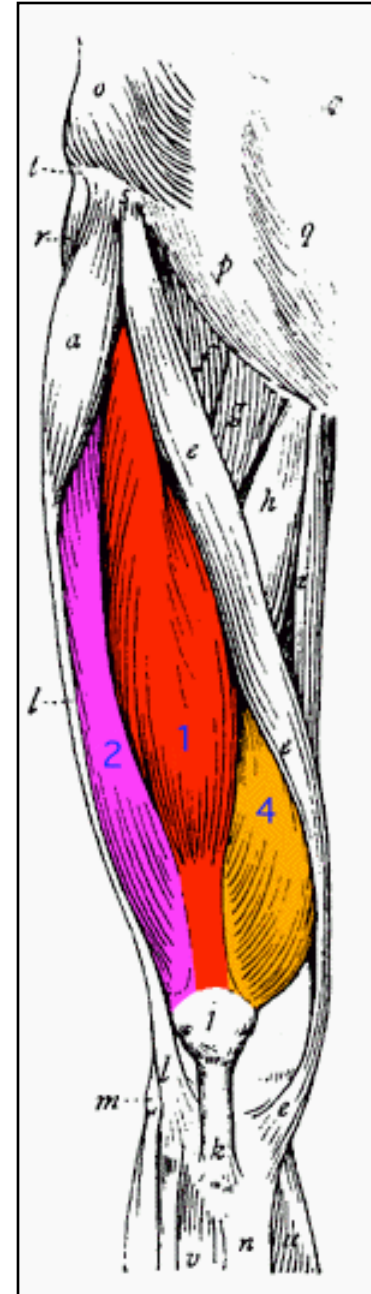


Name the colored muscles

2 = Vastus lateralis

1 = Rectus femoris

4 = Vastus medialis

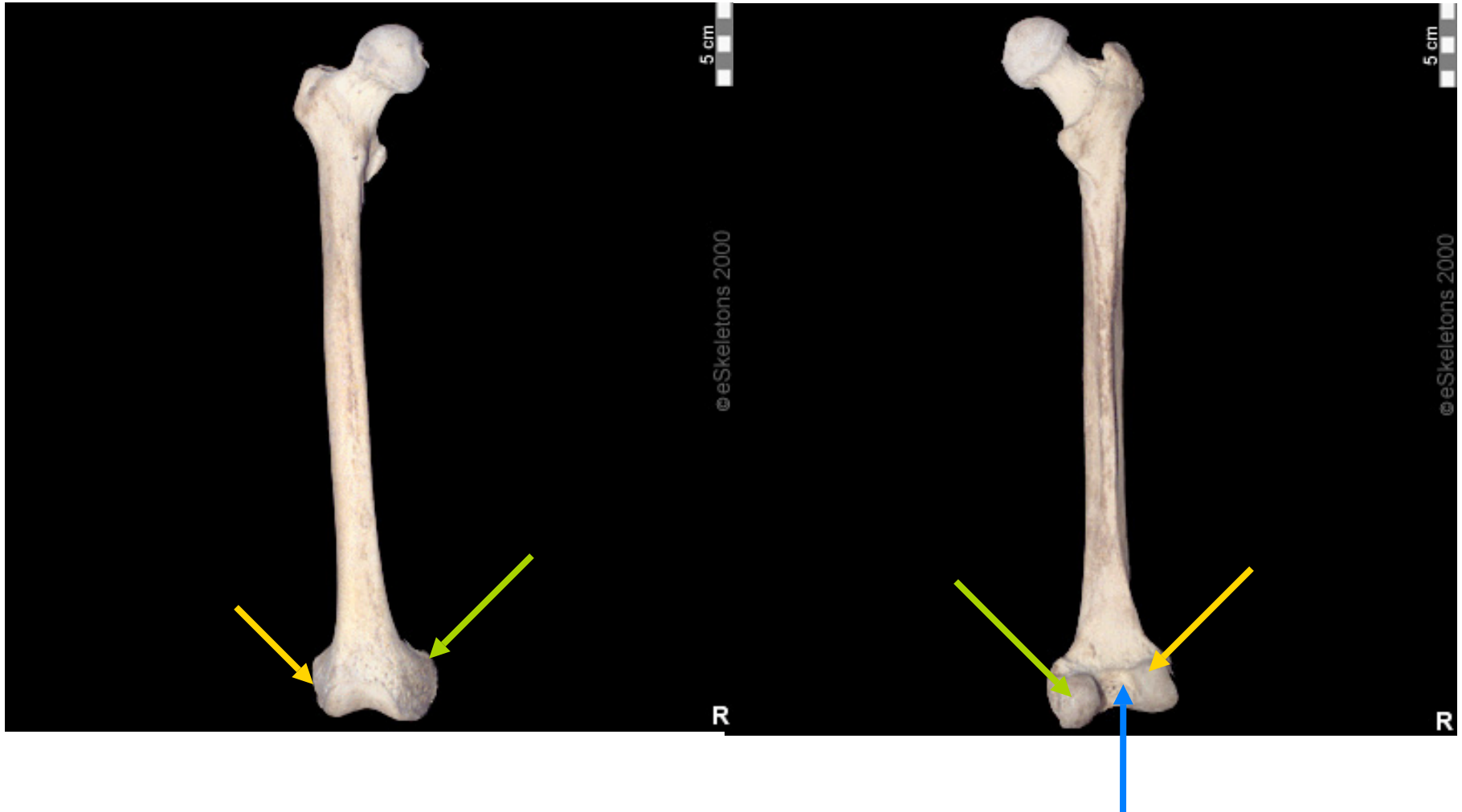


? =

? =

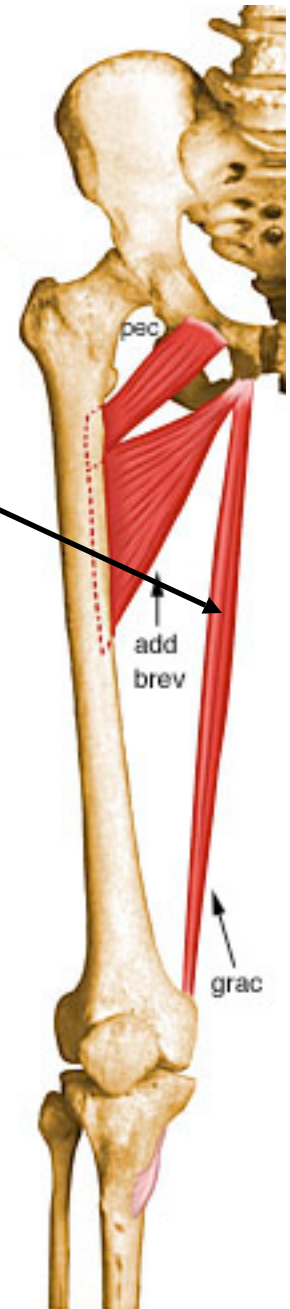
? =

Lateral condyle
Medial condyle
Intercondylar fossa

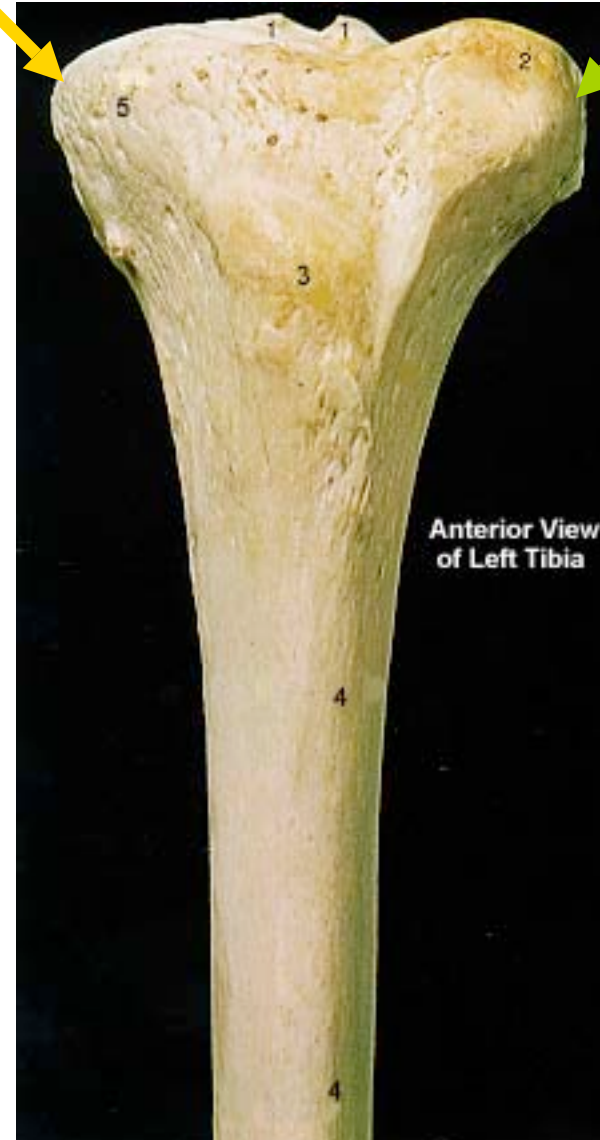


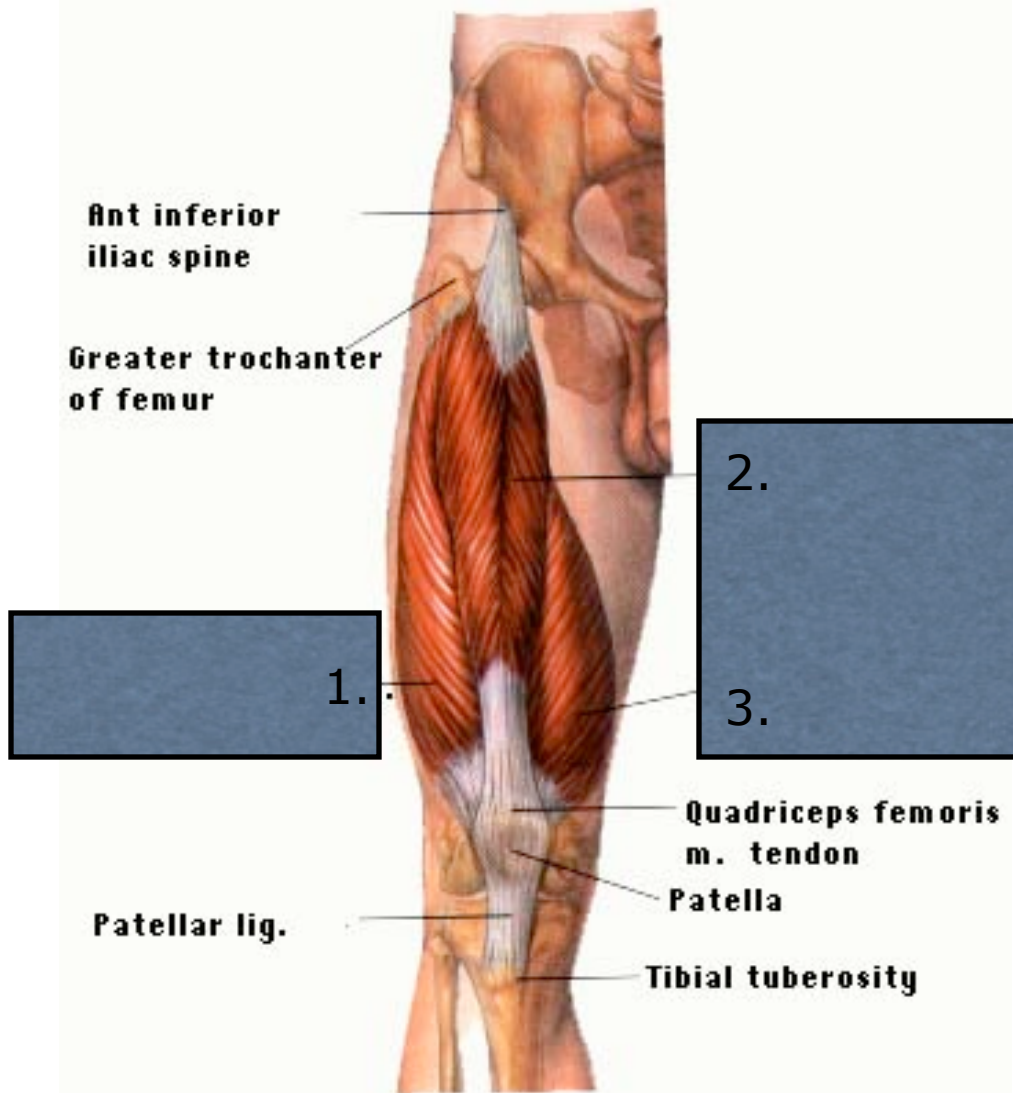
Name the muscle and its action(s)

Action - flexion at the knee

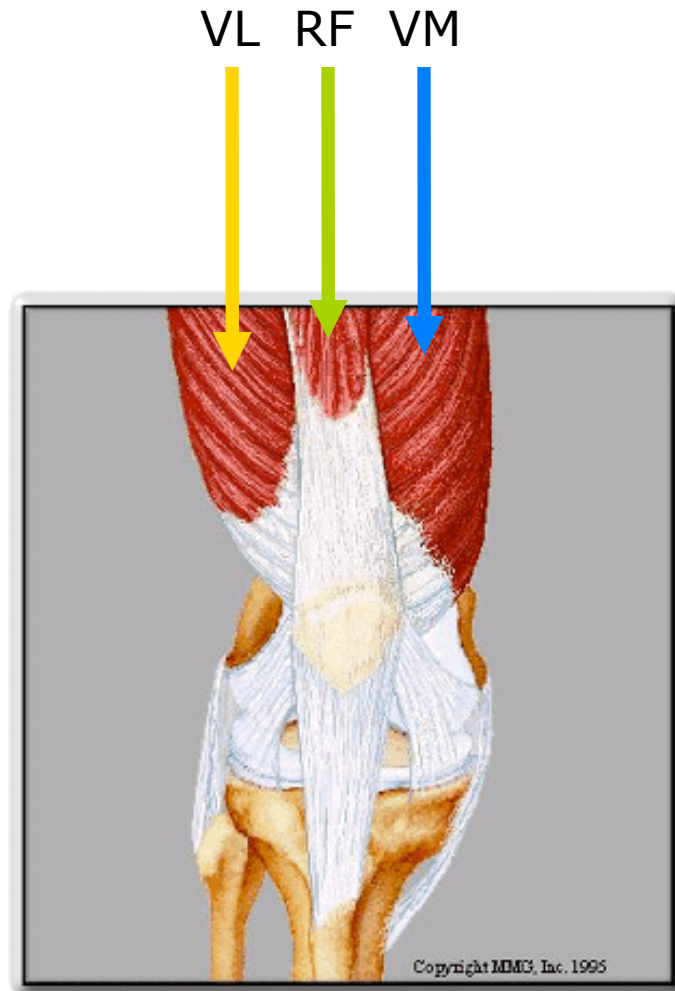
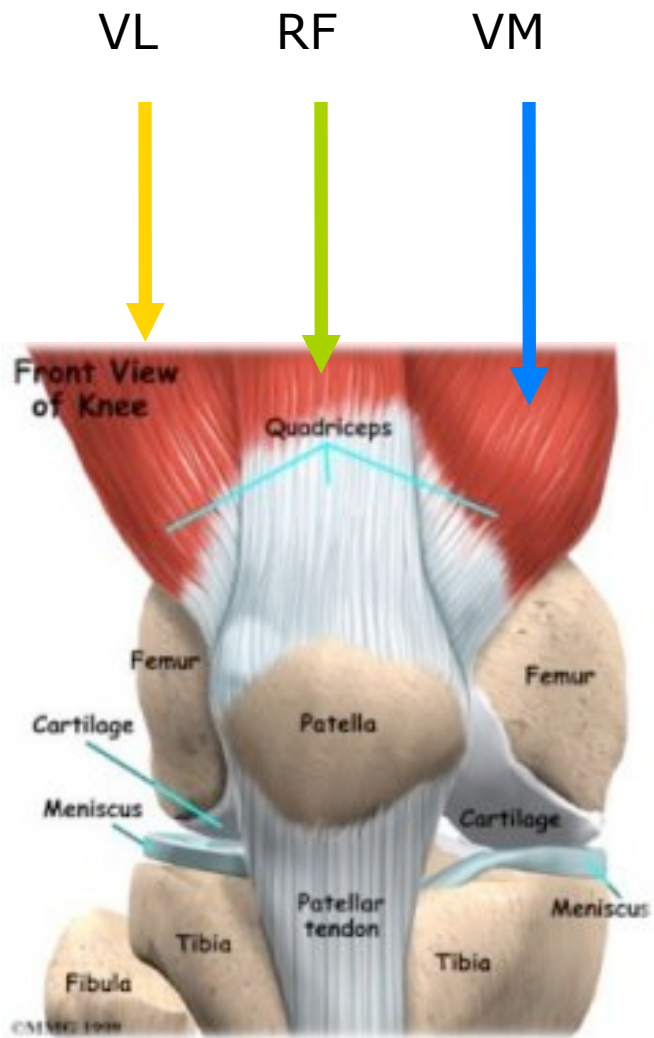


- ? = Medial condyle
- ? = Lateral condyle
- ? = Medial Malleolus





- 1. = Vastus lateralis
- 2. = Rectus femoris
- 3. = Vastus medialis

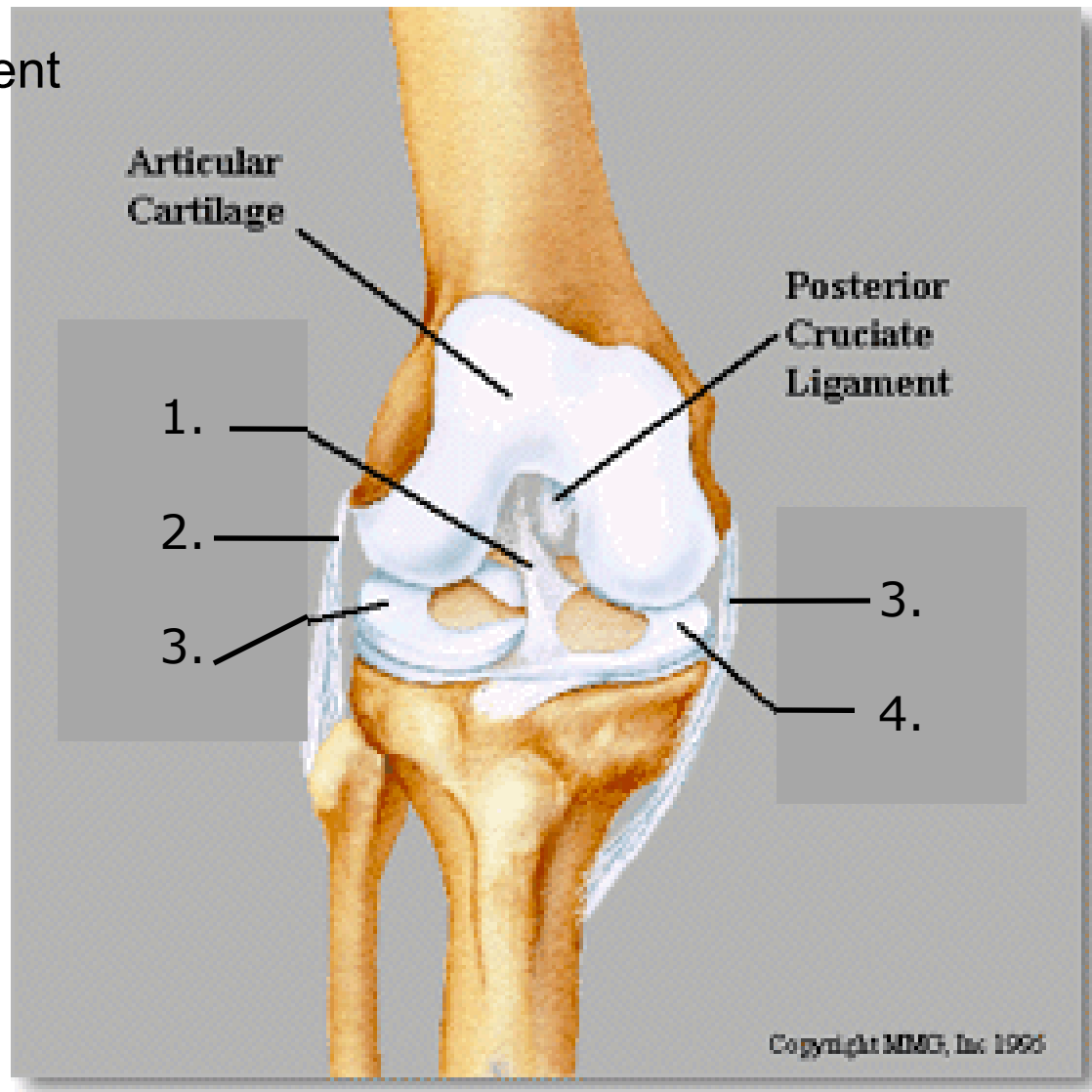


Name the muscle and its action(s)



- Actions:
 - Extension of the knee

- 1. = Anterior cruciate ligament
- 2. = Lateral collateral
- 3. = Lateral meniscus
- 3. = Medial collateral
- 4. = Medial mieniscus

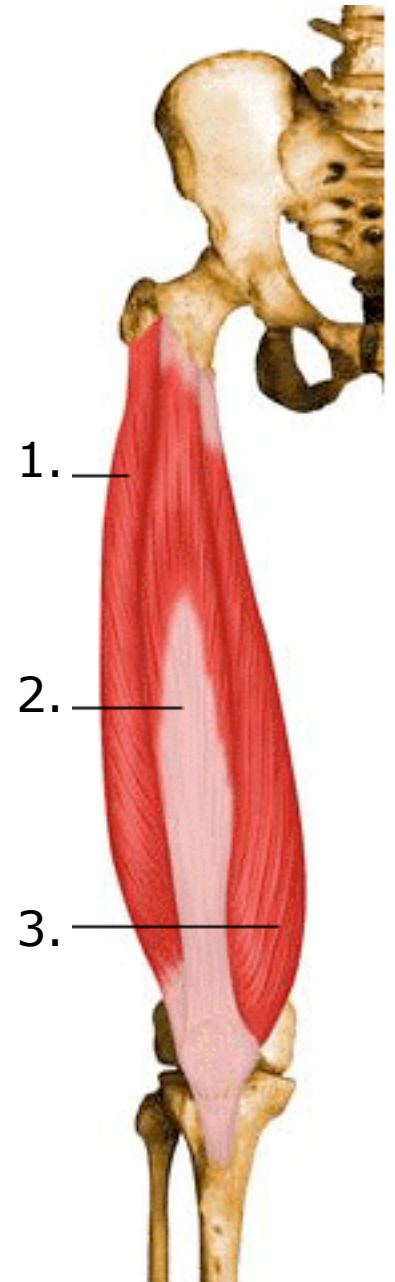


Name the muscles.

1 = Vastus lateralis

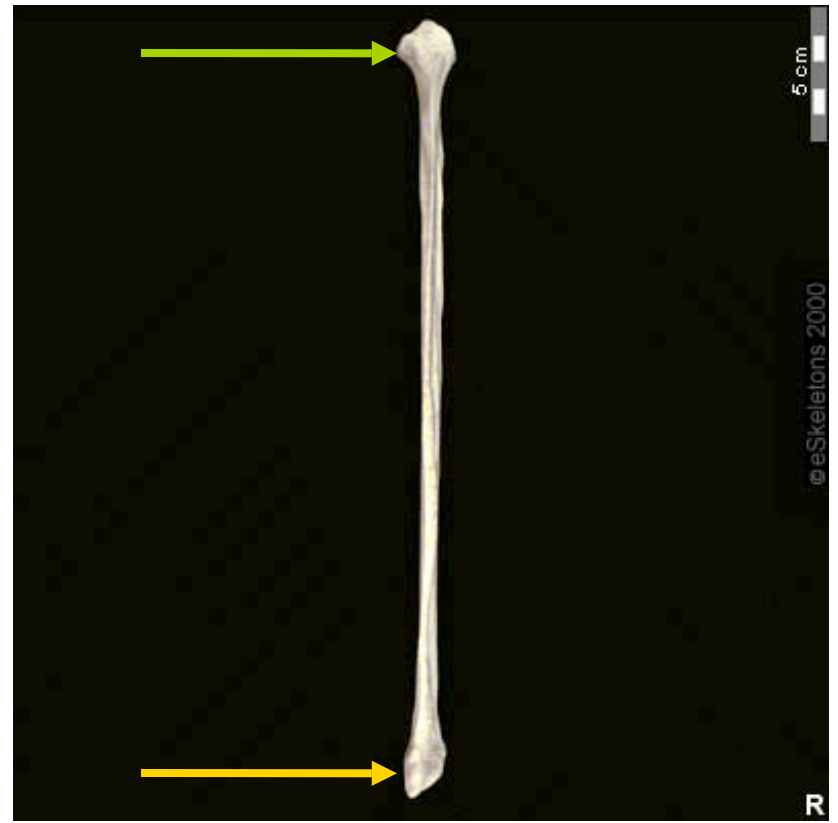
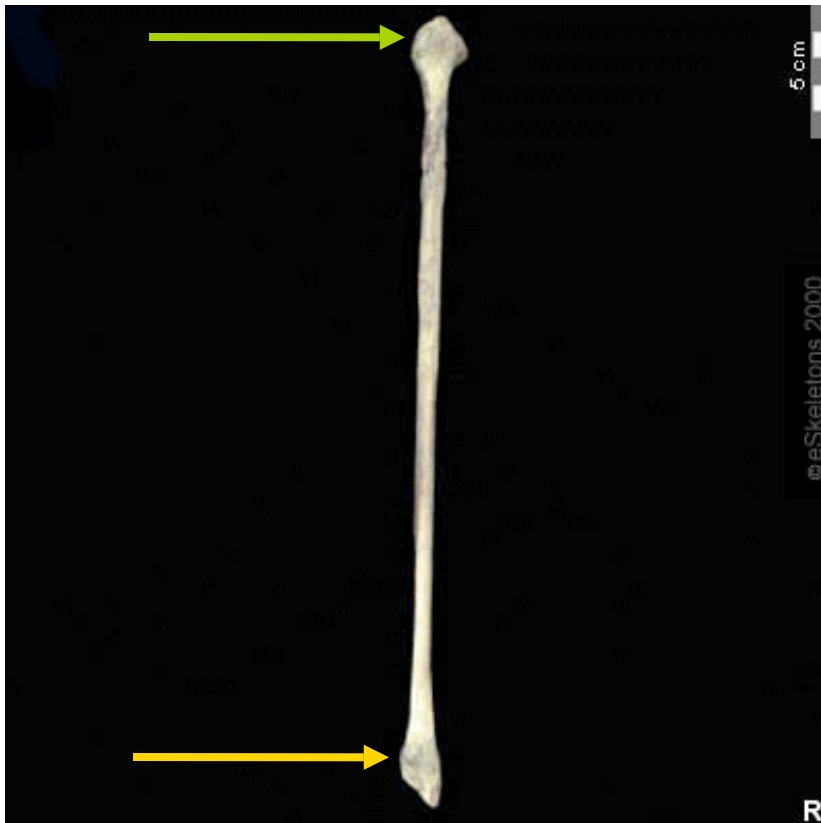
2 = Vastus intermedius

3 = Vastus medialis



? = Head

? = Lateral malleolus

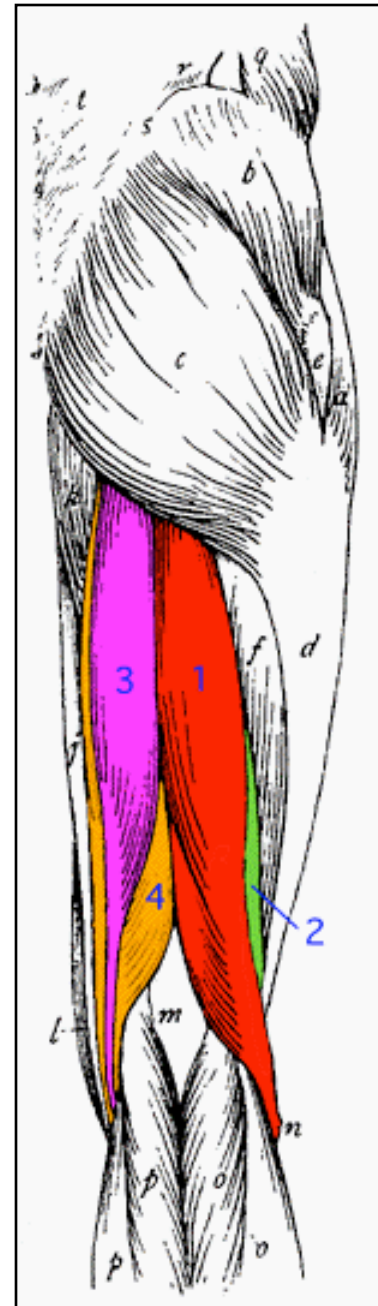


1. Biceps femoris

2. Biceps femoris

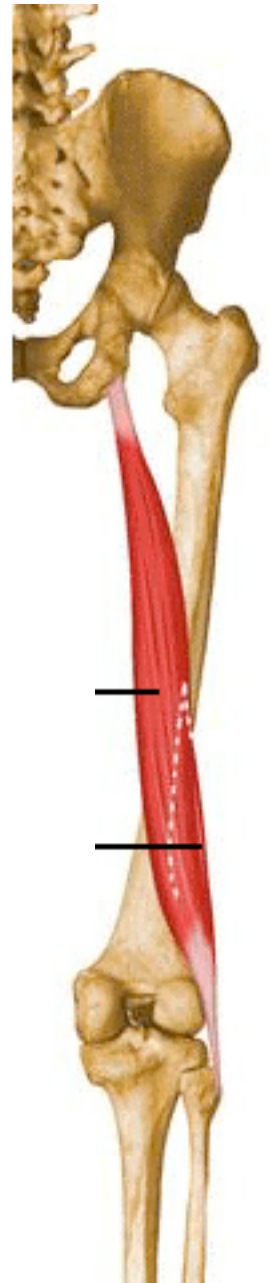
3. Semitendinosus

4. Semimembranosus

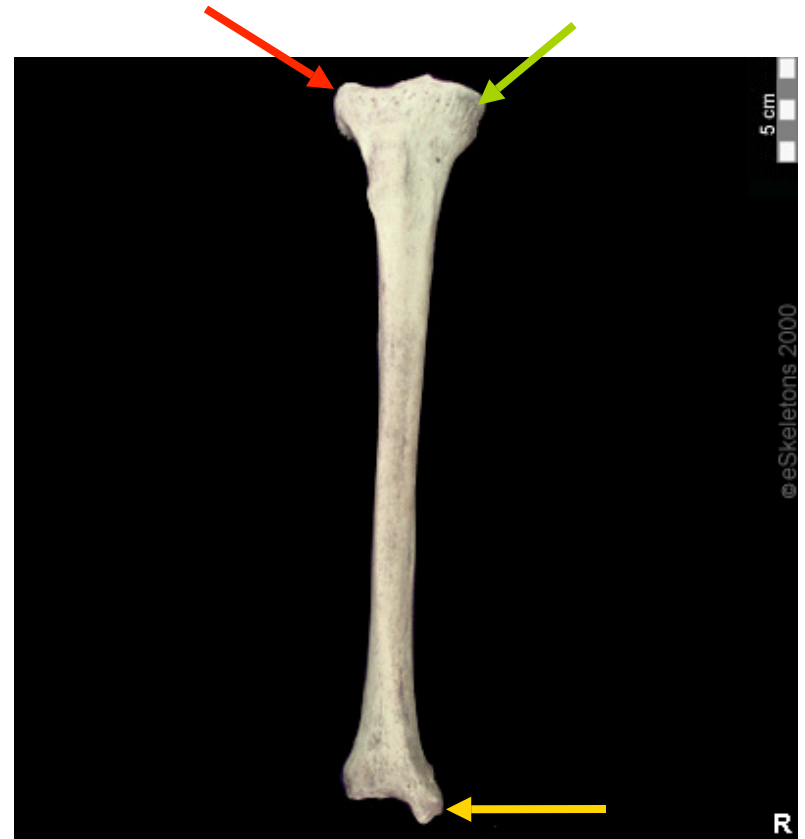
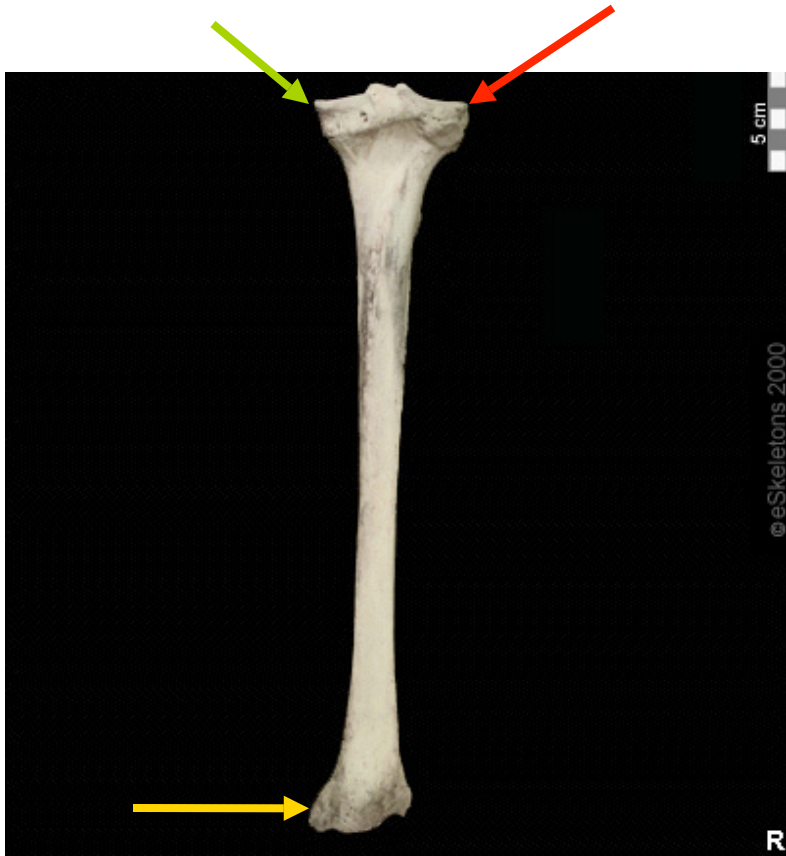


Name the muscle and its action(s)

- Action:
 - Flexion of knee

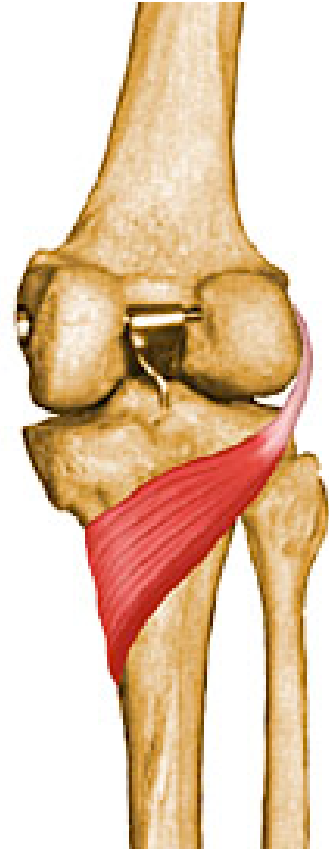


- ? = Medial condyle
- ? = Lateral condyle
- ? = Medial Malleolus



Name the muscle and its action(s)

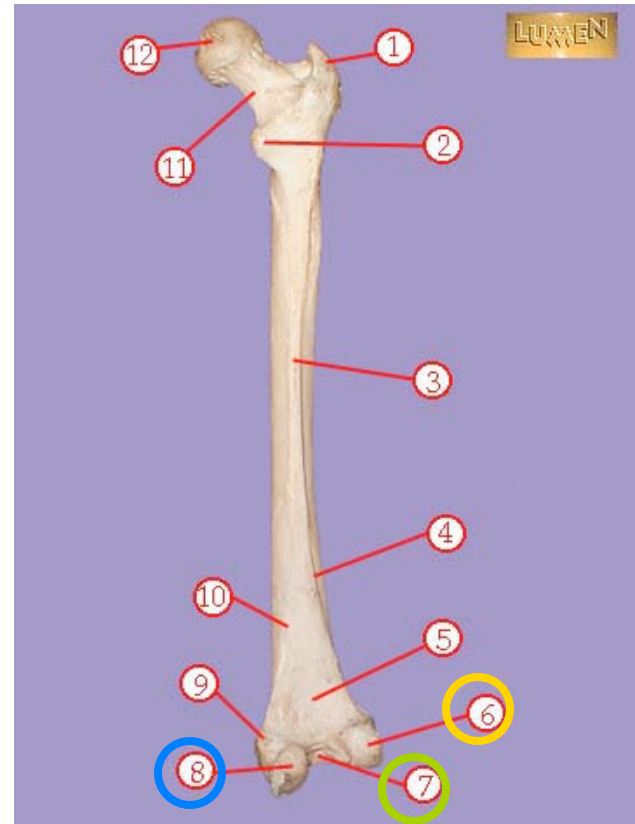
- Action:
 - Flexion of the knee



6 = ? Lateral condyle

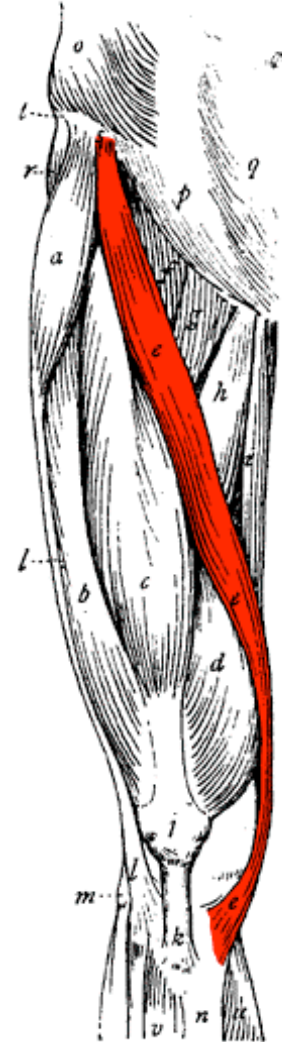
7 = ? Intercondylar fossa

8 = ? Medial condyle



Name the muscle and its action(s)

Action: Flexion at the
knee



1 = Medial meniscus

2 = PCL

3 = ACL

4 = Lateral meniscus

