

THE MUSCLES OF LOWER LIMBS

INTRODUCTION TO MUSCULAR SYSTEM

The three types of muscle are skeletal, smooth, and cardiac.

*SKELETAL MUSCLE

Skeletal muscles produce the movements of the skeleton; they are sometimes called voluntary muscles. The ends of a muscle are attached to bones, cartilage, or ligaments by cords of fibrous tissue called tendons.

*SMOOTH OR INVOLUNTARY MUSCLE

Smooth muscle works automatically and cannot be controlled. Involuntary muscle tissue would be found for example in the muscle in the intestine which moves food along the gut.

*CARDIAC MUSCLE

Cardiac muscle is also involuntary and cannot be controlled . This type of muscle tissue is found in the heart.

THE GLUTEAL REGION

The gluteal region, or buttock, is bounded superiorly by the iliac crest and inferiorly by the fold of the buttock. The region is largely made up of the gluteal muscles.

MUSCLES OF THE GLUTEAL REGION

1. Gluteus maximus

Origin: Outer surface of ilium, sacrum, coccyx.

Insertion: Iliotibial tract and gluteal tuberosity of femur.

Function: Extends and laterally rotates hip joint; through iliotibial tract, it extends knee joint.



Iliotibial tract

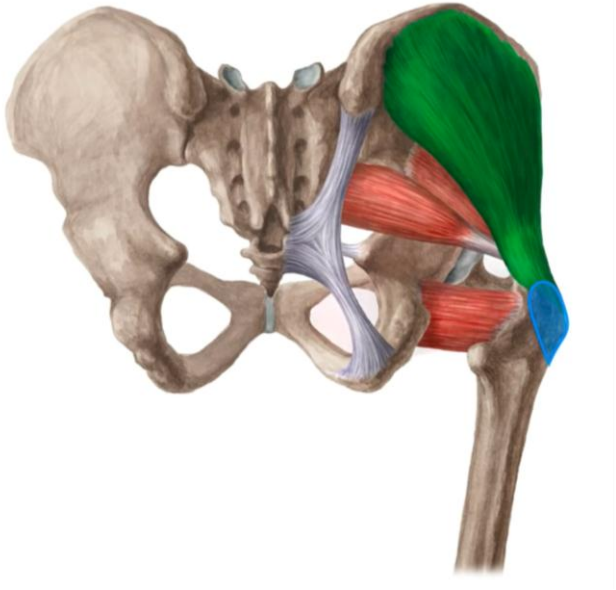


2. Gluteus medius

Origin: Outer surface of ilium.

Insertion: Greater trochanter of femur.

Function: Abducts thigh at hip joint; tilts pelvis when walking.

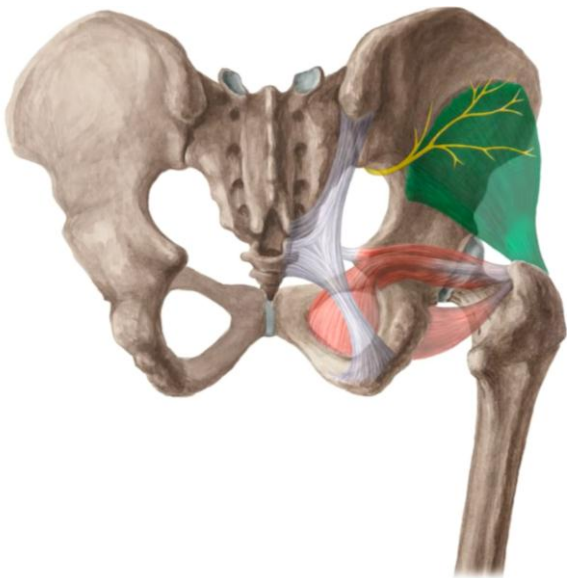


3. Gluteus minimus

Origin: Outer surface of ilium.

Insertion: Greater trochanter of femur.

Function: Abducts thigh at hip joint; tilts pelvis when walking.



4.Tensor fasciae latae

Origin: Iliac crest.

Insertion: Iliotibial tract.

Function: Assists gluteus maximus in extending the knee joint.

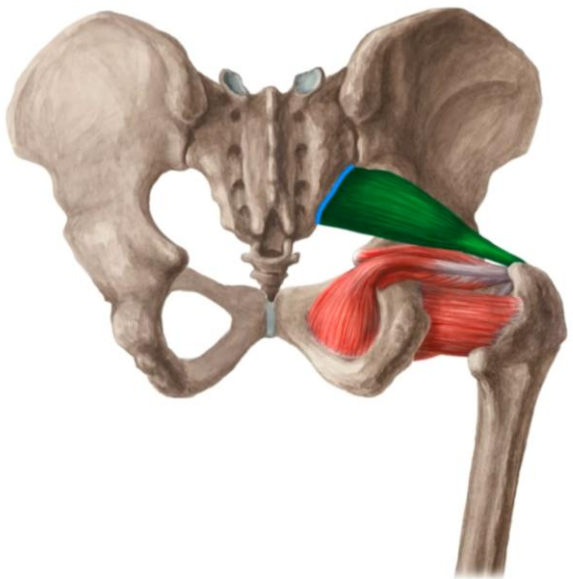


5.Piriformis

Origin: Anterior surface of sacrum.

Insertion: Greater trochanter of femur.

Function: Lateral rotator of thigh at hip joint

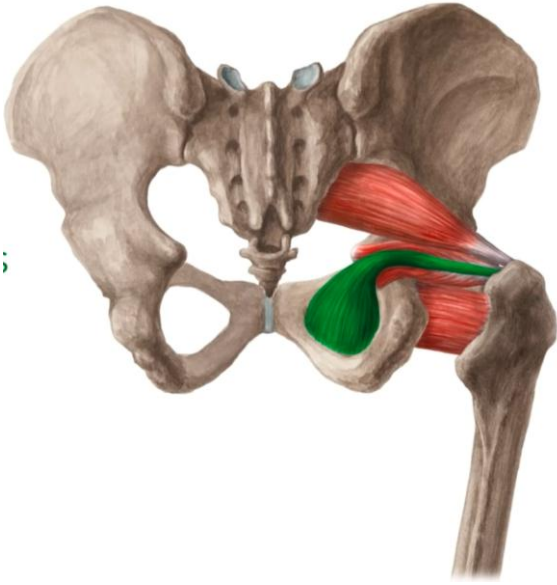


6.Obturator internus

Origin: Inner surface of obturator membrane.

Insertion: Upper border of greater trochanter of femur.

Function: Lateral rotator of thigh at hip joint.

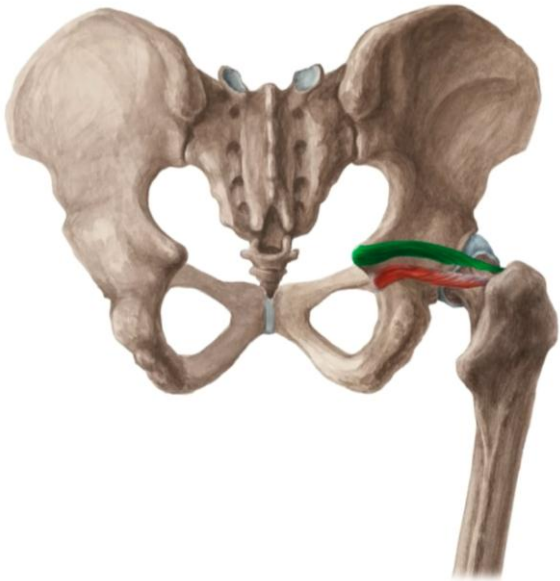


7.Gemellus superior

Origin: Spine of ischium.

Insertion: Greater trochanter of femur.

Function: Lateral rotator of thigh at hip joint.

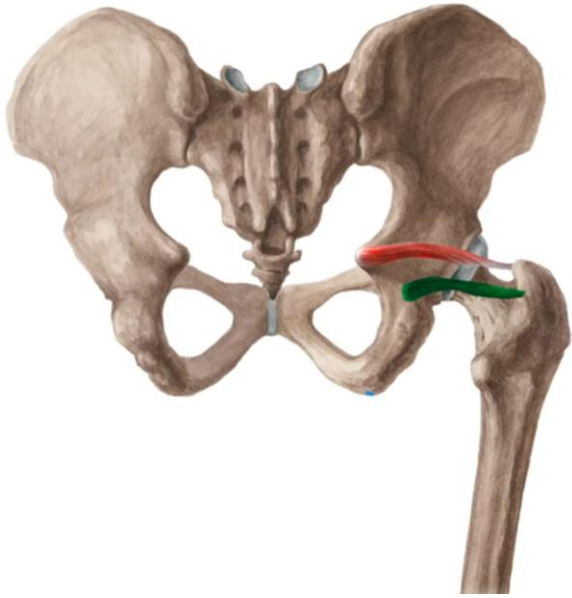


8.Gemellus inferior

Origin: Ischial tuberosity.

Insertion: Greater trochanter of femur.

Function: Lateral rotator of thigh at hip joint.

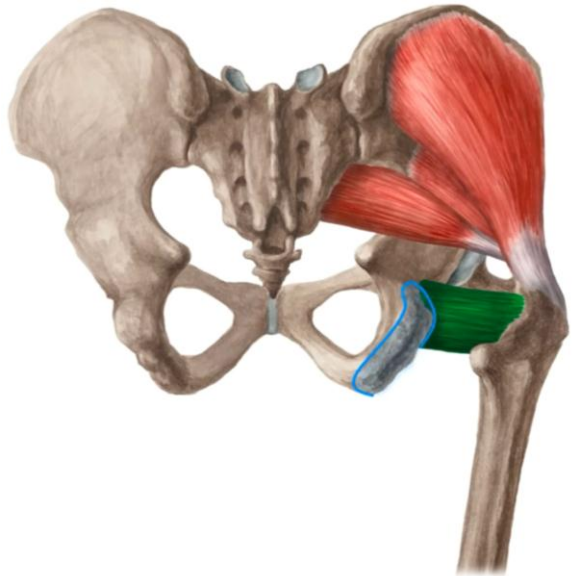


9.Quadratus femoris

Origin: Lateral border of ischial tuberosity.

Insertion: Quadrate tubercle of femur.

Function: Lateral rotator of thigh at hip joint.



THE THIGHS

Muscles of the Anterior Fascial Compartment of the Thigh

1. Sartorius

Origin: Anterior superior iliac spine.

Insertion: Upper medial surface of shaft of tibia.

Function: Flexes, abducts, laterally rotates thigh at hip joint; flexes and medially rotates leg at knee joint.



• Medial rotation of the knee

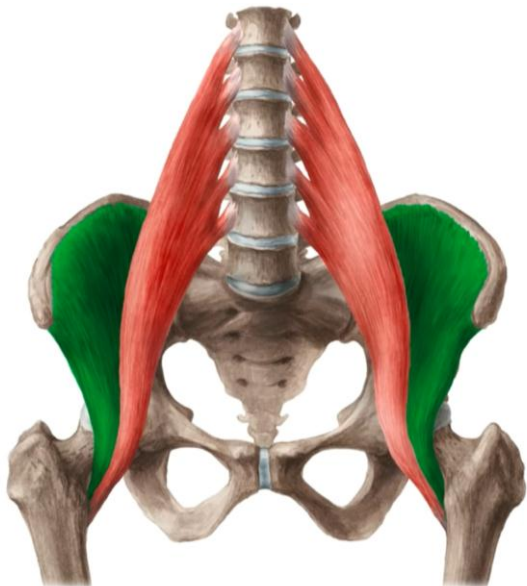


2. Iliacus

Origin: Iliac fossa of hip bone.

Insertion: With psoas into lesser trochanter of femur.

Function: Flexes thigh.

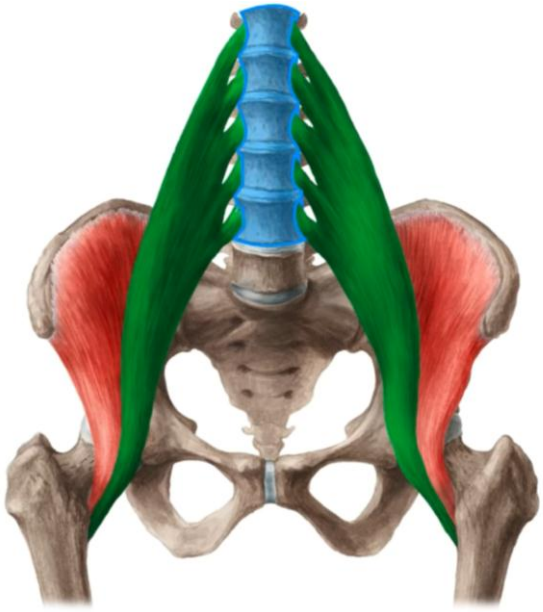


3.Psoas

Origin: 12th thoracic and five lumbar vertebrae.

Insertion: With iliacus into lesser trochanter of femur.

Function: Flexes thigh.



4.Pectineus

Origin: Superior ramus of pubis.

Insertion: Upper end of linea aspera of shaft of femur.

Function: Flexes and adducts thigh at hip joint.



5.Quadriceps femoris



a) Rectus femoris

Origin: anterior inferior iliac spine.

Insertion: Quadriceps tendon into patella, then via ligamentum patellae into tubercle of tibia.

Function: Extension of leg at knee joint; flexes thigh at hip joint.



b) Vastus lateralis

Origin: Upper end and shaft of femur

Insertion: Quadriceps tendon into patella, then via ligamentum patellae into tubercle of tibia.

Function: Extension of leg at knee joint.



c) Vastus medialis

Origin: Upper end and shaft of femur

Insertion: Quadriceps tendon into patella, then via ligamentum patellae into tubercle of tibia.

Function: Extension of leg at knee joint; stabilizes patella.



d)Vastus intermedius

Origin: Anterior and lateral surfaces of shaft of femur.

Insertion: Quadriceps tendon into patella, then via ligamentum patellae into tubercle of tibia.

Function: Extension of leg at knee joint.

