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# **Deep Gluteal Muscles**

The deep gluteal muscles are important to gait and lower limb motion. The general action of these muscles is to laterally rotate and abduct the leg, along with stabilizing the hip joint. Structures in this anatomic area include the sacrotuberous ligament, gluteus minimus, piriformis, obturator internus, quadratus femoris and gemelli muscles.



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# **General Action**

#### Lateral Rotation and Abduction

# Laterally Rotating to Ladder and Abs-abducting

With exception to the gluteus minimus, these muscles work to laterally rotate and abduct (move away from midline) the leg.

#### Muscles

# **Gluteus Minimus**

#### Glute-eel with Mini-ass

The gluteus minimus is the smallest and deepest of three gluteus muscles. This muscle is innervated by the superior gluteal nerve and can lead to "Trendelenberg gait" if paralyzed, as this muscle's main actions are abduction and medial rotation of the leg. It also works to stabilize the hip.

# **Medially Rotates Leg**

### **Medially Rotated Legs**

In addition to abducting the leg, the gluteus minimus helps to medially rotate the leg.

#### Piriformis

#### Perfumes

The piriformis is a pear-shaped or pyramid-shaped muscle in the deep gluteal region. It originates from the anterior sacrum and inserts on the greater trochanter of the femur. Patients can suffer from "piriformis syndrome," causing pain and neuropathy in the buttocks. This occurs due to irritation of the sciatic nerve, which passes under the piriformis muscle.

## **Superior Gemellus**

# Superior Gem-melons

The superior gemellus is a small muscle which originates at the spine of the ischium and inserts into the medial surface of the greater trochanter. It inserts at the same site as the inferior gemellus, hence their naming, as gemelli is the italian word for twins.

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# **Obturator Internus**

# **Operator Entering**

The obturator internis is a deep gluteal muscle which is part of the lesser pelvis. It originates at the anterolateral wall of the pelvis and inserts on the greater trochanter of the proximal femur. This muscle is essential to abduction and lateral rotation of the leg, along with stabilizing the femoral head.

# **Inferior Gemellus**

#### Inferior Gem-melons

The inferior gemellus is a small muscle which arises from the upper tuberosity of the ischiam and inserts on the medial surface of the greater trochanter. It inserts at the same site as the superior gemellus, hence their naming, as gemelli is the italian word for twins.

#### **Quadratus Femoris**

#### Quad-rat Femur

The quadratus femoris is a flat, quadrilateral muscle which acts to laterally rotate and abduct the leg, as well as stabilize the femoral head in the acetabulum. It originates at the ischial tuberosity and inserts on the posterior and inferior head of the femur on the quadratic tubercle.

# **Other Structures**

#### Sacrotuberous Ligament

# Sack-rum-tube

This ligament is in the posterior pelvis and is triangular in form. It runs from the sacrum to the tuberosity of the ischium. The sacrotuberous ligament is clinically significant because the pudendal nerve can become entrapped here, leading to perineal pain.