



# **ANATOMY TEAM**

**GLUTEAL REGION**

**&**

**BACK OF THIGH**

## OBJECTIVES

By the end of this lecture, the student should be able to identify and discuss:

❖ Contents of gluteal region:

- Groups of Glutei muscles and small muscles (Lateral Rotators).
- Nerves & vessels.

❖ Foramina and structures passing through them:

1-Greater Sciatic Foramen.

2-Lesser Sciatic Foramen.

- Back of thigh : Hamstring muscles.

تنويه : هذا العمل لا يعتبر مصدر أساسي للمذاكره وإنما هو للمراجعه فقط ، وتم التأكد بأنه لا يوجد أي اختلاف بين  
سلايد الأول والبينات

## Notes:

- **Pudendal:** supply genitalia.
- All blood vessels of gluteal region are arises from **internal iliac vessels.**
- Greater sciatic notch is transformed into **foramen** by **sacrotuberous & sacrospinous ligaments**
- **Lesser sciatic notch of hip bone is transformed into foramen** by **Sacrotuberous & sacrospinous ligaments.**
  - **Sciatic nerve is large and dangers nerve in our body .**
- Sciatic nerve carrier two nerve:
  - 1- **Superficial: Posterior cutaneous nerve.**
  - 2- **Deep: nerve to quadratus femoris.**
- Three Things that goes out from greater sciatic foramen and then enters to lesser sciatic foramen which are:
  - 1- **Nerve to obturator internus.**
  - 2- **Pudendal nerve.**
  - 3- **Internal pudendal vessels.**
- Tendon of obturator muscle goes out from lesser sciatic foramen.
- **Middle gluteal line** and **posterior gluteal line** separate gluteal surface into three parts: anterior, middle and posterior part.
- **Iliotibial tract:** **thickened band of deep fascia of the thigh, located on lateral side of thigh and it begin from iliac crest to lateral condyle of tibia.**
- **¾ superficial** part of gluteal Maximus is inserted on iliotibial tract and **¼ deep** inserted on gluteal tuberosity.
- There is another muscle that inserted on iliotibial tract which is **tensor fascia lata.**
- **Gluteal Maximus + iliotibial tract + tensor fascia lata = Deltoid of the lower limb.**
- Gluteal medius, Gluteal minimus and tensor fascia lata are supplied by **superior gluteal nerve.**
- In the situation of **cutting** of superior gluteal nerve it will lead to a movement which is called **waddling gait.** (مشية البطة)
- Intramuscular Injection of gluteal region injects gluteal **medius muscle.**
- Semitendinosus inserted on medial surface of tibia and that region consists of SGS.
- **SGS= Sartorius muscle, Gracilis muscle and Semitendinosus muscle.** "سند جدك سعيد"

## Review:

Where the glutei muscles originate from?

From gluteal surface

What is main insertion of gluteal Maximus muscle?

Iliotibial tract.

Where is obturator internus muscle inserts?

Medial surface of greater trochanter.

Which sacral vertebrae that supply piriformis muscle?

Anterior rami of S1 and S2.

What is the movement of small muscles group?

Lateral rotation of hip joint.

Where is superior gluteal nerve located?

Between medius, minimus muscles.

What are the branches of sciatic nerve in gluteal region?

No branches.

What are the branches of sciatic nerve in back of thigh?

1. Tibial nerve.
2. Common peroneal nerve.

Which part of adductor Magnus that include posterior compartment of the thigh?

Ischial part.

What is the nerve that supplies short head of biceps femoris?

Common peroneal nerve.

What is the name of ligament that is formed by semimembranosus muscle?

Oblique popliteal ligament.

What is the action of adductor Magnus “hamstring part”?

Extension of hip joint.

How many artery branches that arise from profound femoris artery?

Four perforating

Where sciatic nerve is comes from?

L4, L5, S1, S2 and S3.

What is nerve to obturator internus supply other than obturator internus muscle?

Superior gemelus.

What is nerve to quadratus femoris supply other than quadratus femoris muscle?

Inferior gemelus.

### # IMPORTANT LINKS:

- <http://www.youtube.com/watch?v=kXg3akhbrg>
- <http://www.youtube.com/watch?v=RHJwCzzWqhE>
- <http://www.gla.ac.uk/ibls/US/fab/tutorial/anatomy/glutealt.html#T1>

# QUIZ

**1-the action of Gluteus medius muscle and Gluteus minimus muscle is :**

- A- Extensors ,, Lateral rotation of hip joint
- B- Abductors ,, Medial rotation of hip joint
- C- Rotators ,, Adduction of hip joint
- D- Adductors ,, Medial rotation of hip joint

**2- Small muscles group in gluteal region are :**

- A- long , Lateral , Rotators
- B- Short , Lateral , Abductors
- C- Short , Lateral , Rotators
- D- Short , Medial , Rotators

**3- All NERVES of gluteal region muscles come from :**

- A- Lumbar plexus
- B- Coccygeal plexus
- C- Lumbosacral Plexus
- D- Sacral plexus

**4- - The nerve of quadratus femoris supplies quadratus femoris and ..... :**

- A- superior gemellus
- B- Inferior gemellus
- C- Inferior gluteal
- D- Obturator Internus

**5- All VESSELS of gluteal region muscles come from :**

- A- Inferior ischium vessels
- B- External iliac vessels
- C- Internal iliac vessels
- D- Anterior ischium vessels

**6- All of these VESSELS supply the gluteal region muscles Except :**

- A- Inferior gluteal vessels
- B- External gluteal vessels
- C- Internal pudendal vessels
- D- Superior gluteal vessels

**7- The greater sciatic notch of hip bone is transformed into foramen by :**

- A- Sacrotuberous ligament
- B- Lumbospinous ligament
- C- Sacrospinous ligament
- D- (A) and (C)

**8- Which of these structures are passing Above piriformis :**

- A- Inferior gluteal nerves & vessels
- B- Superior gluteal nerves & vessels
- C- Posterior cutaneous nerve of thigh
- D- (A) and (C)

**9- All of these Structures are passing through Lesser sciatic foramen Except :**

- A-Tendon of obturator internus
- B- external gluteal vessels
- C- Internal pudendal vessels
- D- Nerve to obturator internus

**10- Which one of following is Main origin of Gluteus Maximus :**

- A- Back of sacrum & coccyx and Back of Sacrotuberous tendon
- B- Back of sacrum & coccyx and Back of Lumbospinous ligament
- C- Back of sacrum & coccyx and Back of Sacrotuberous ligament
- D- Back of sacrum & coccyx and Back of Sacrospinous ligament

**11- The origin of Gluteus minimus is :**

- A- Anterior part of the gluteal surface of ilium
- B- Inferior part of the gluteal surface of ilium
- C- Superior part of the gluteal surface of ilium
- D- External part of the gluteal surface of ilium

**12- Which one of following is Main insertion of Gluteus Maximus :**

- A- gluteal tuberosity of the femur.
- B- lateral surface of the greater trochanter
- C- iliotibial tract
- D- anterior surface of the greater trochanter

**13- The insertion of Gluteus medius is :**

- A- gluteal tuberosity of the femur.
- B- lateral surface of the greater trochanter
- C- iliotibial tract
- D- anterior surface of the greater trochanter

**14- Superior gluteal nerve supplies :**

- A- Gluteus minimus
- B- Gluteus medius
- C- (A) and (B)
- D- Gluteus maximus

**15- Extension & lateral rotation of the hip joint is the action of :**

- A- Gluteus minimus
- B- Gluteus medius
- C- (A) and (B)
- D- Gluteus maximus

**16- Which one of following is origin of Obturator Internus :**

- A- Inner surface of the side wall of the pelvis
- B- Outer surface of the side wall of the pelvis
- C- Inner surface of the superior wall of the pelvis
- D- Inner surface of the side wall of the Sacral plexus

**17- Which one of following is origin of Inferior Gemelli :**

- A- lower part of greater and lesser sciatic notch
- B- lower part of greater sciatic notch
- C- upper part of lesser sciatic notch
- D- lower part of lesser sciatic notch

**18- Which one of following is action of Piriformis and Quadratus femoris:**

- A- Lateral rotation of the hip joint
- B- Lateral flexion of the Knee joint
- C- Control movement of the hip joint
- D- (A) and (C)

**19- Which one of following is insertion of Quadrates femoris:**

- A- Quadrate tubercle
- B- Intertrochanteric crest
- C- iliotibial tract
- D- (A) and (B)

**20- All of these are Hamstring muscles Except :**

- A- Biceps femoris
- B- triceps femoris
- C- Semitendinosus
- D- Ischial part of adductor magnus



**21- Sciatic nerve supplies :**

- A- Gluteus minimus
- B- Gluteus medius
- C- Hamstring muscles
- D- Gluteus maximus

**22- Which one of following is insertion of Biceps Femoris :**

- A- Quadratus tubercle
- B- Intertrochanteric crest
- C- iliotibial tract
- D- Into the head of the fibula

**23- Which one of following is action of Biceps Femoris :**

- A- Flexion of knee
- B- Lateral rotation of the hip joint
- C- Lateral rotation of flexed leg
- D- (A) and (C)

**24- Which one of following is origin of SEMITENDINOSUS :**

- A- lower part of greater and lesser sciatic notch
- B- Upper part of the medial surface of the shaft of the tibia ( SGS )
- C- upper part of lesser sciatic notch
- D- Ischial tuberosity

**25- Which one of following is insertion of SEMIMEMBRANOSUS :**

- A- Upper part of the medial surface of the shaft of the tibia
- B- Intertrochanteric crest
- C- iliotibial tract
- D- Posterior surface of the medial condyle of the tibia

**26- Which one of following is insertion of ADDUCTOR MAGNUS (HAMSTRING PART):**

- A- Adductor tubercle of the medial condyle of the tibia
- B- Adductor tubercle of the medial condyle of the femur
- C- Adductor tubercle of the lateral condyle of the femur
- D- (A) and (C)

**27- The profunda femoris vein drains the ..... part of the blood from the compartment:**

- A- greater
- B- Anterior
- C- inferior
- D- (A) and (C)

**28- Sciatic Nerve is overlapped posteriorly by :**

- A- Hamstring muscles
- B- biceps muscles
- C- semimembranosus muscles
- D- (B) and (C)

**29-Which of these structures passing from greater sciatic foramen to Lesser sciatic foramen :**

- A- nothing
- B- Nerve to obturator internus , Pudendal nerve
- C- Posterior cutaneous nerve of thigh
- D- (A) and (B)

**30- The nerve of obturator internus supplies Obturator Internus and ..... :**

- A- Gluteus minimus
- B- Superior gemellus
- C- inferior gemellus
- D- Gluteus maximus

**31- Usually The I.M. is injected in :**

- A- Gluteus minimus
- B- Gluteus medius
- C- Hamstring muscles
- D- Gluteus maximus

**32- Which one of the following is passing through greater sciatic foramen ?**

- A. Tendon of obturator internus muscle.
- B. Sciatic nerve.
- C. Femoral nerve.
- D. Obturator nerve.

**33- The action of hamstring muscles is:**

- A. Flexion of hip joint.
- B. Extension of hip joint.
- C. Lateral rotation of hip joint.
- D. Extension of knee joint.

**34-Hamstring muscles are not including :**

- A. Biceps femoris.
- B. Semitendinosus.
- C. Pubic part of adductor magnus.
- D. Semimembranosus

# **ANSWERS**

<b>1</b>	<b>B</b>
<b>2</b>	<b>C</b>
<b>3</b>	<b>D</b>
<b>4</b>	<b>B</b>
<b>5</b>	<b>C</b>
<b>6</b>	<b>B</b>
<b>7</b>	<b>D</b>
<b>8</b>	<b>B</b>
<b>9</b>	<b>B</b>
<b>10</b>	<b>C</b>
<b>11</b>	<b>A</b>
<b>12</b>	<b>C</b>
<b>13</b>	<b>B</b>
<b>14</b>	<b>C</b>
<b>15</b>	<b>D</b>
<b>16</b>	<b>A</b>
<b>17</b>	<b>D</b>
<b>18</b>	<b>D</b>
<b>19</b>	<b>D</b>
<b>20</b>	<b>B</b>
<b>21</b>	<b>C</b>
<b>22</b>	<b>D</b>
<b>23</b>	<b>D</b>
<b>24</b>	<b>D</b>
<b>25</b>	<b>D</b>
<b>26</b>	<b>B</b>
<b>27</b>	<b>A</b>
<b>28</b>	<b>D</b>
<b>29</b>	<b>B</b>
<b>30</b>	<b>B</b>
<b>31</b>	<b>B</b>
<b>32</b>	<b>B</b>
<b>33</b>	<b>B</b>
<b>34</b>	<b>C</b>

**GOOD LUCK**