



Gluteal Region and Back of Thigh

Musculoskeletal block- Anatomy-lecture 14

Editing file



Objectives

- ✓ Know contents of gluteal region:
 1. Groups of Glutei muscles and small muscles (Lateral Rotators).
 2. Nerves & vessels.
- ✓ Foramina and structures passing through them as:
 - 1-Greater Sciatic Foramen.
 - 2-Lesser Sciatic Foramen.
- ✓ Back of thigh : Hamstring muscles.

Color guide :

Only in boys slides in **Blue**

Only in girls slides in **Purple**

important in **Red**

Doctor note in **Green**

Extra information in **Grey**

Contents Of Gluteal Region:

Muscle

Nerve

Vessel

Glutei

Small muscles (Lateral Rotators)

1. Gluteus maximus.
2. Gluteus medius.
3. Gluteus minimus.

1. Piriformis
2. Superior gemellus
3. Obturator internus
4. Inferior gemellus
5. Quadratus femoris

(All from **Sacral Plexus**):

1. Sciatic nerve.
2. Superior gluteal nerve.
3. Inferior gluteal nerve.
4. Post. cutaneous nerve of thigh.
5. Nerve to obturator internus.
6. Nerve to quadratus femoris.
7. Pudendal nerve.

1. Superior gluteal V.
2. Inferior gluteal V.
3. Internal pudendal vessels.



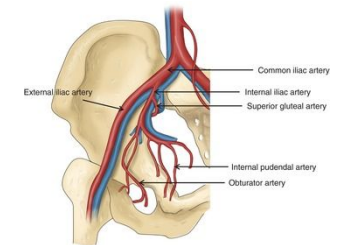
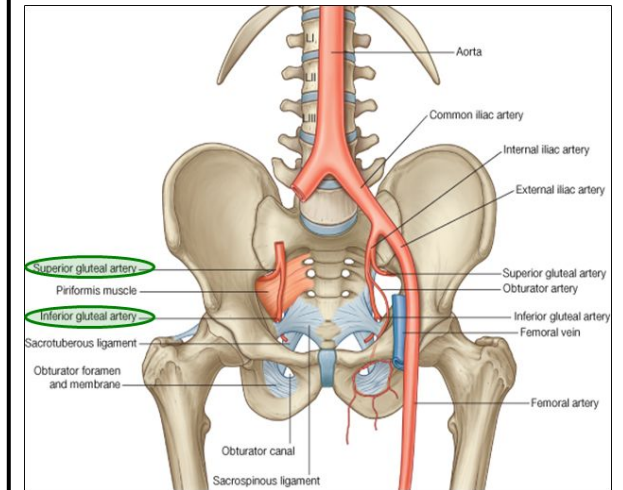
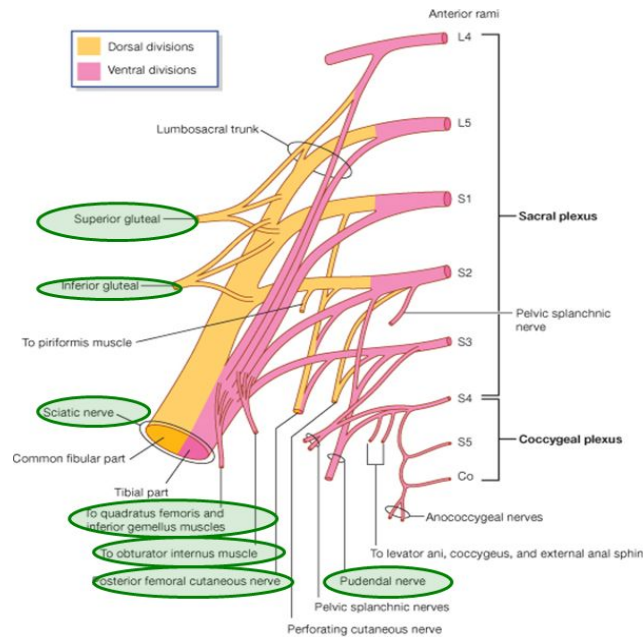
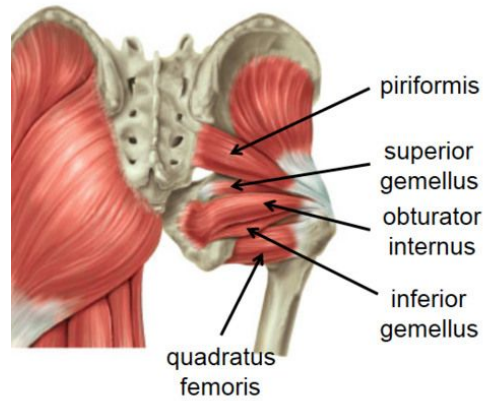
Gluteus Maximus



Gluteus Medius



Gluteus Minimus



Greater sciatic foramen:

Greater sciatic notch of hip bone is transformed into foramen by: **sacrospinous** (between the sacrum to ischial spine) & **sacrospinous** (between the sacrum to ischial tuberosity)

Structures **passing** through **Greater sciatic** foramen :

- **Piriformis muscle.**

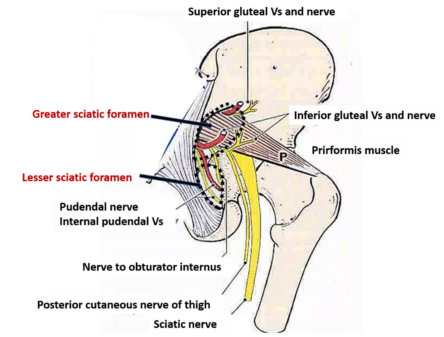
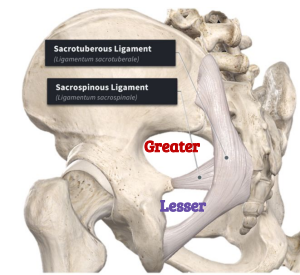
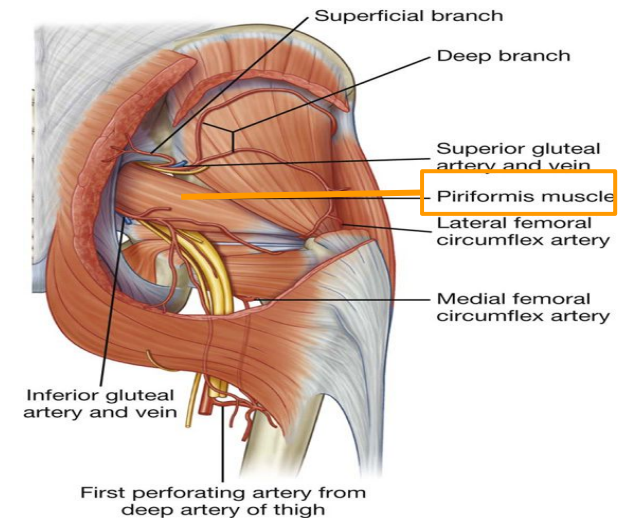
(Above piriformis muscle)

- Superior gluteal nerves and vessel

(Below piriformis)

- Inferior gluteal nerves and vessel
- **Sciatic nerve.**
- Posterior cutaneous nerve of thigh.(superficialis)
- Nerve to **quadratus femoris.**
- Nerve to **obturator internus.**
- Pudendal **Nerve**
- Internal pudendal vessels.

Go to **Lesser sciatic foramen** also

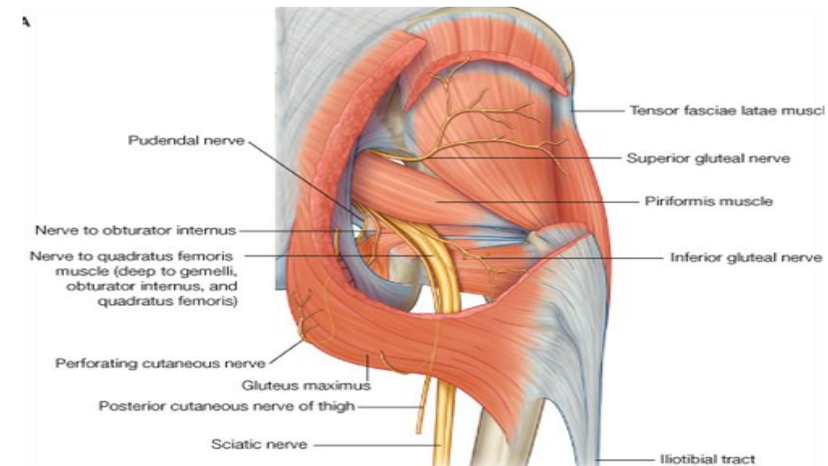


Lesser sciatic foramen:

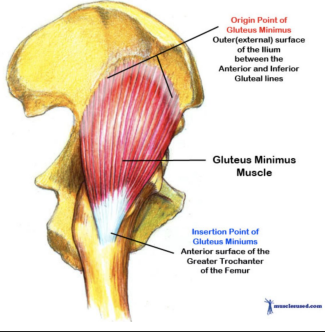
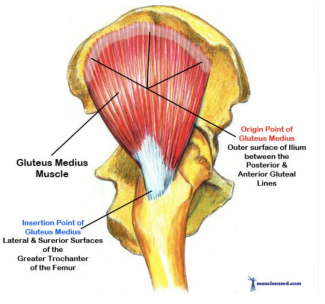
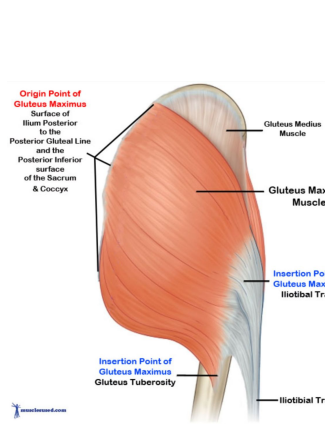
Lesser sciatic notch of hip bone is transformed into foramen by **Sacrospinous** & **sacrospinous** ligaments.

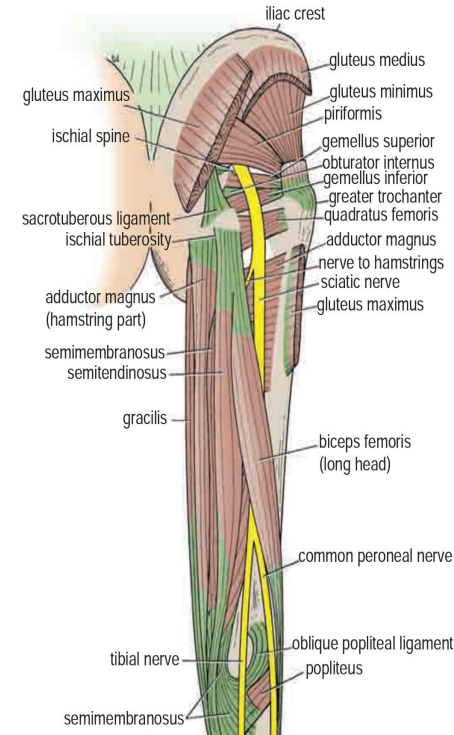
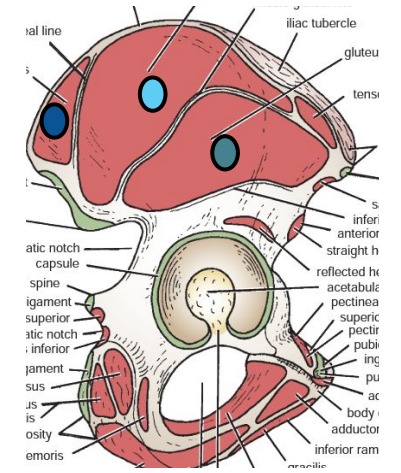
Structures **passing** through **Lesser sciatic foramen**

- Tendon of **obturator internus**
- Nerve to **obturator internus.**
- Pudendal **nerve.**
- Internal pudendal vessels.

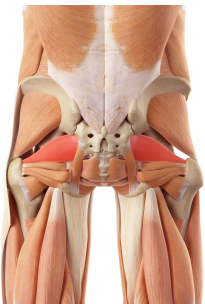
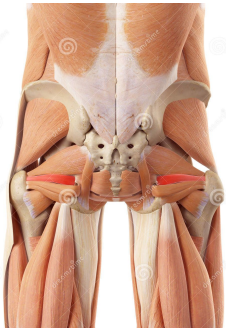

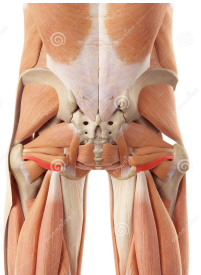
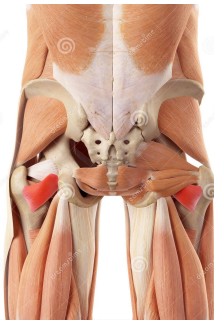


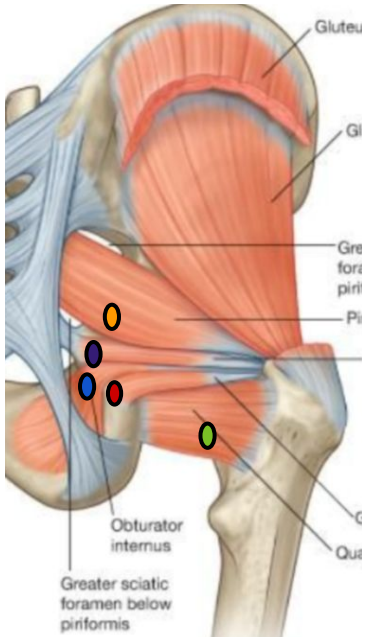
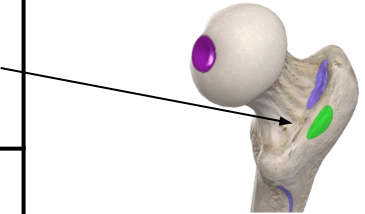
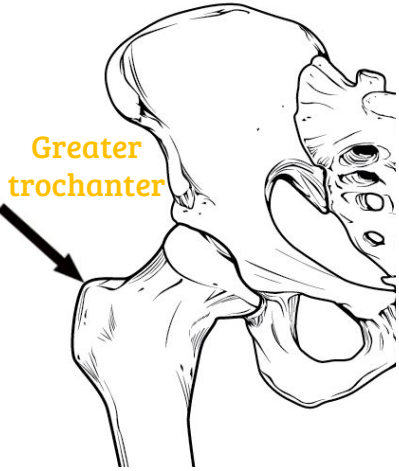
Glutei Muscles

Muscles	Origin	Insertion	Action	Nerve	Pictures
Gluteus minimus	Anterior part of the gluteal surface of ilium	Anterior surface of the greater trochanter	- Abduction & Medial rotation of hip joint . -Also they prevent tilt of the pelvis on raising the other limb from ground	Superior gluteal nerve.	
Gluteus medius	Middle part of the gluteal surface of ilium .	lateral surface of the greater trochanter			
Gluteus maximus	- Posterior part of the gluteal surface of ilium -Back of sacrum & coccyx & back of Sacrotuberous ligament .	- Main insertion: iliotibial tract - Other insertion: gluteal tuberosity of the femur (posterior)	- Extension & lateral rotation of the hip joint . -Through its attachment to iliotibial tract , - it stabilizes the femur on the tibia during standing.	Inferior gluteal nerve.	



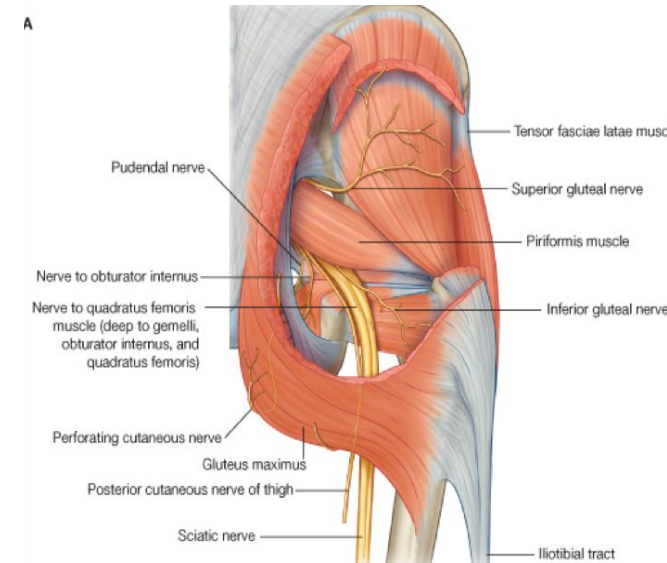
Small Muscles (Lateral Rotators)

Muscles	Piriformis	Superior Gemellus	Obturator Internus	Inferior Gemellus	Quadratus femoris
Origin	Pelvic surface of middle 3 sacral vertebrae	Upper part of lesser sciatic notch	Side wall of the pelvis	lower part of lesser sciatic notch	Lateral border of the "Ischial tuberosity"
Insertion	Greater trochanter	Into tendon of obturator internus.	Greater trochanter	Into tendon of obturator internus.	Quadratus tubercle. Interochanteric crest (girl's slide)
Action	<ul style="list-style-type: none"> Lateral rotation of the <u>hip</u> joint. Control movement of the <u>hip</u> joint. 				
Nerve	Anterior rami of S1,2	Nerve to obturator internus	Nerve to obturator internus.	Nerve to quadratus femoris.	Nerve to quadratus femoris
Pictures					



Nerves

Name	Course	Branches
Superior gluteal	Passes through GSF , above piriformis , then between gluteus medius & minimus .	1) Muscular to gluteus medius, minimus & tensor fasciae latae . 2) Articular to hip joint.
Inferior gluteal	Passes through GSF , below piriformis , then deep to gluteus maximus .	Muscular to gluteus maximus
Nerve to quadratus femoris	Passes through GSF , below piriformis .	1) Muscular to quadratus femoris & inferior gemellus 2) Articular to hip joint
Posterior cutaneous nerve to thigh	Passes through GSF , below piriformis , then descends deep to deep fascia.	Cutaneous branches to: gluteal region, back of scrotum in males (labium majus in females) back of thigh & upper part of back of leg.
Sciatic	a branch of the sacral plexus (L4 and 5; S1, 2, and 3) Passes through GSF , below piriformis , then superficial to: ischial spine, superior gemellus, tendon of obturator internus, inferior gemellus, quadratus femoris & leaves the gluteal region as it descends in the midline of the thigh It is overlapped posteriorly by the adjacent margins of the biceps femoris and semimembranosus muscles. It lies on the posterior aspect of the adductor magnus .	-No branches in gluteal region. -Divides into tibial & common peroneal nerves, in the middle of back of thigh.

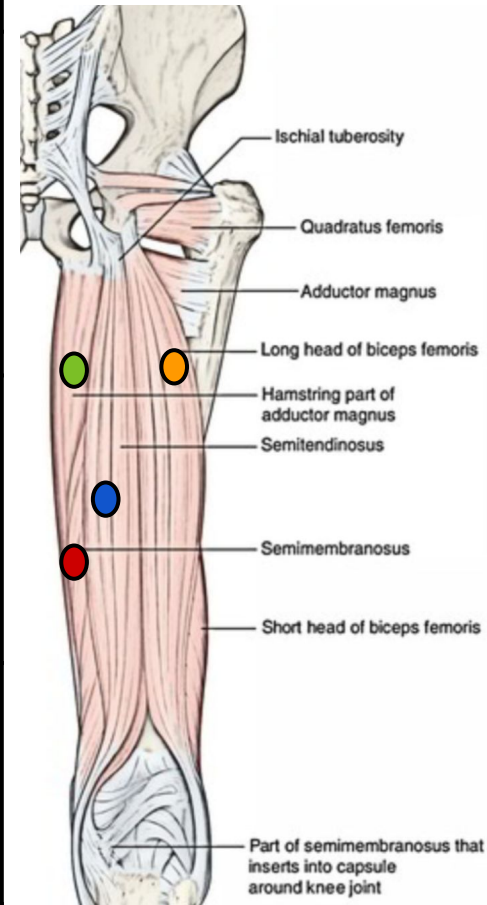



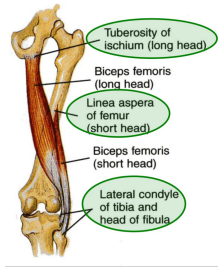
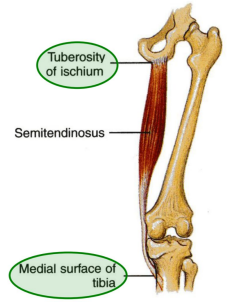
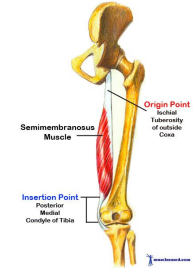
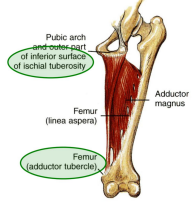
GSF: Greater sciatic foramen

Back of the thigh : Hamstring muscles:

Blood supply (girls slide only)

The **four** perforating branches of the **profunda femoris artery** (deep artery of thigh) provide a rich blood supply to this compartment. The profunda femoris **vein** drains the greater part of the blood from the compartment.



Muscle	Origin	Insertion	Action	Nerve Supply	Picture
Biceps femoris	<p><u>The long head:</u> the ischial tuberosity.</p> <p><u>The short head:</u> the linea aspera .</p>	Mainly into the head of the fibula.	<p>-Flexion of knee.</p> <p>-Lateral rotation of flexed leg.</p>  <p><u>Long head (only):</u> extends hip.</p>	<p><u>The long head:</u> tibial part of sciatic</p> <p><u>the short head:</u> the common peroneal part of the sciatic.</p>	
Semitendinosus	<p>Ischial tuberosity</p>	<p>Upper part of the medial surface of the shaft of the tibia (SGS)</p> <p>SGS: <u>same insertion and same action</u> (flexes knee joint) S: Sartorius G: Gracilis S: semitendinosus</p>	<p>-Flexes and medially rotates the leg at the knee joint</p> <p>-Extends the of the hip joint</p>	<p>Tibial portion of the sciatic</p>	
Semimembranosus		<p>Posterior surface of the medial condyle of the tibia. (forms the oblique popliteal ligament)</p>			
Adductor magnus (hamstrings part)	<p>Ischial ramus and ischial tuberosity</p>	<p>Adductor tubercle of the medial condyle of the femur</p>	<p>Extends the of the hip joint</p>		

MCQs

Question 1 What is the structure that pass through greater and lesser foramen:

- A. Nerve to obturator internus.
- B. pudendal nerve.
- C. internal pudendal vessels.
- D. All of them

Question 2:The main insertion of gluteus maximus is

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

Question 3: Which one of the following is NOT one of the Hamstring muscles?

- A.Biceps femoris.
- B. Semitendinosus.
- C. Triceps femoris.
- D.Semimembranosus.

Question 4 The sciatic nerve most commonly divides into tibial & common peroneal nerves, in:

- A. Gluteal region.
- B. The middle of back of lower third thigh.
- C. The lateral of back of lower third thigh.
- D.Below Piriformis.

Question 5: insertion of ADDUCTOR MAGNUS (HAMSTRING PART):

- A.Adductor tubercle of the medial condyle of the tibia.
- B.Abductor tubercle of the medial condyle of the femur.
- C.Posterior surface of the medial condyle of the tibia.
- D.Adductor tubercle of the medial condyle of the femur.

Question 6:How many branches does the sciatic nerve have in the gluteal region?

- A.0.
- B.1.
- C.2.
- D.3.

SAQ

Question 1: What ligaments form the greater and lesser foramen?

Answer :Sacrotuberous & sacrospinous

Question 2 : Name the muscles supplied by the branches of Inferior gluteal Nerve?

Answer : gluteus maximus

Team members

Boys team:

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- Naif Al-Dossari
- Faisal Alqifari
- Salman Alagla
- Ziyad Al-jofan
- Suhail Basuhail
- ★ Ali Aldawood
- Khalid Nagshabandi
- Mohammed Al-huqbani
- Jehad Alorainy
- Khalid AlKhani
- ★ Omar Alammari

Team leaders

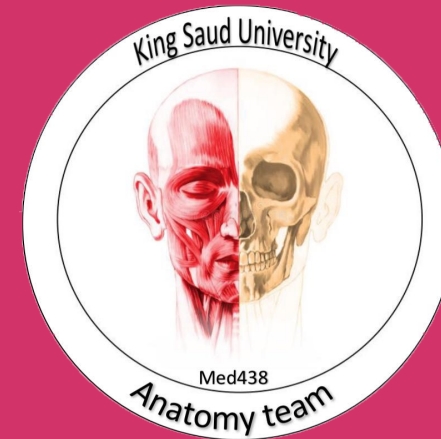
- ★ Abdulrahman Shadid
- Ateen Almutairi

★ =This lecture done by

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- Jude Al Khalifah
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- Maha Al Nahdi
- Renad Al Mutawa
- Ghaida Al Braithen
- Reham Yousef

Special thank for
Anatomy team 436



Good luck

Give us your feedback:

