



Introduction to Anatomy

Practical Lab

1st year Medical Students

2025-2026

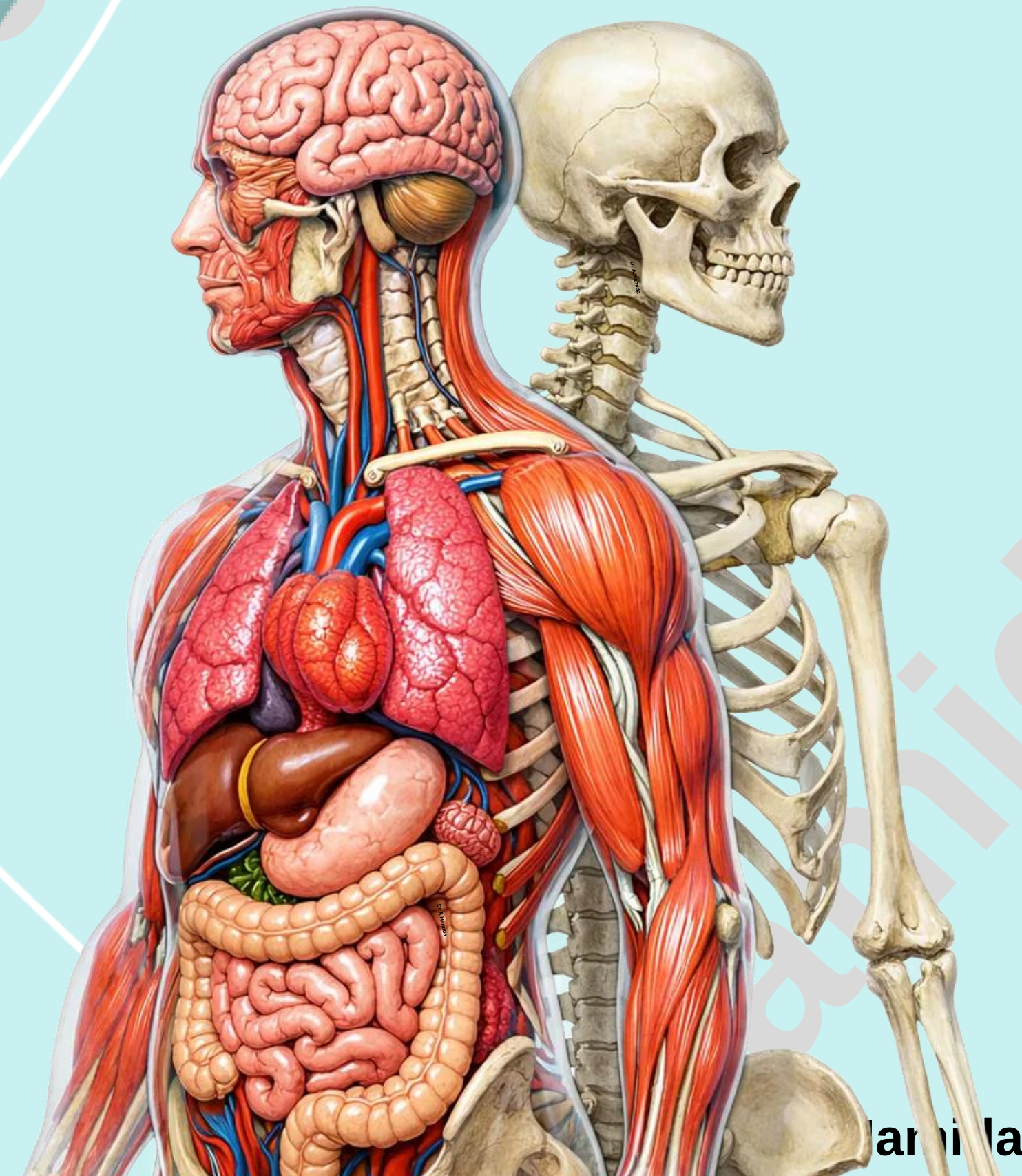
Second Semester

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Hamida

Practical Lab-5

Lower Limb Bones

- 1. Hip**
- 2. Femur (Proximal End)**

Check List: Lower Limb Bones

Practical Lab-5

1. Hip

- ✓ Identify the type and anatomical location of the hip.
- ✓ Outline the major parts of the hip:

1. Ilium:

- Iliac crest
- Anterior superior iliac spine
- Posterior superior iliac spine
- Anterior inferior iliac spine
- Posterior inferior iliac spine
- Iliac fossa
- Gluteal surface of ilium and gluteal lines
- Iliac tuberosity
- Auricular articular surface
- Arcuate line.

2. Ischium:

- Greater sciatic notch
- Lesser sciatic notch
- Ischial tuberosity
- Ischial spine
- Ischial ramus.

3. Pubis:

- Body of pubis
- Pubic tubercle
- Superior pubic ramus
- Inferior pubic ramus
- Pectineal line.

4. Acetabulum

5. Obturator Foramen

Check List: Lower Limb Bones

Practical Lab-5

2. Femur (Proximal End)

- ✓ Identify the type and anatomical location of the femur
- ✓ Outline the major parts of the femur:
 - Proximal (upper) end:
 - Head
 - Fovea of head
 - Neck
 - Greater trochanter
 - Lesser Trochanter
 - Intertrochanteric line
 - Intertrochanteric crest
 - Shaft.
 - Distal (lower) end.

Check List:

1. Hip

- ✓ Identify the type and anatomical location of the hip.
- ✓ Outline the major parts of the hip:

1. Ilium:

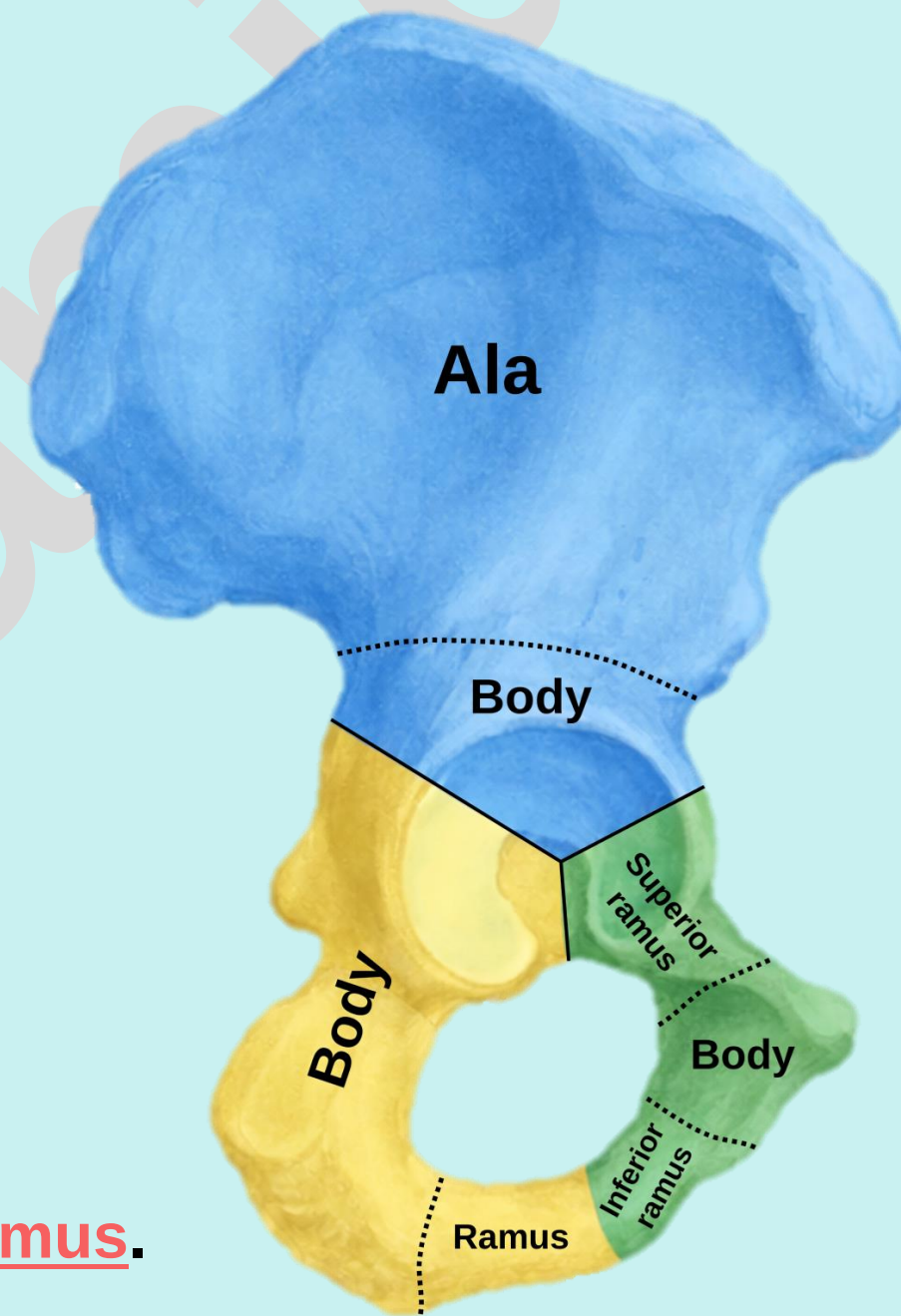
- It is the superior and largest part of the hip.
- Consists of: Body and Wing (Ala)

2. Ischium:

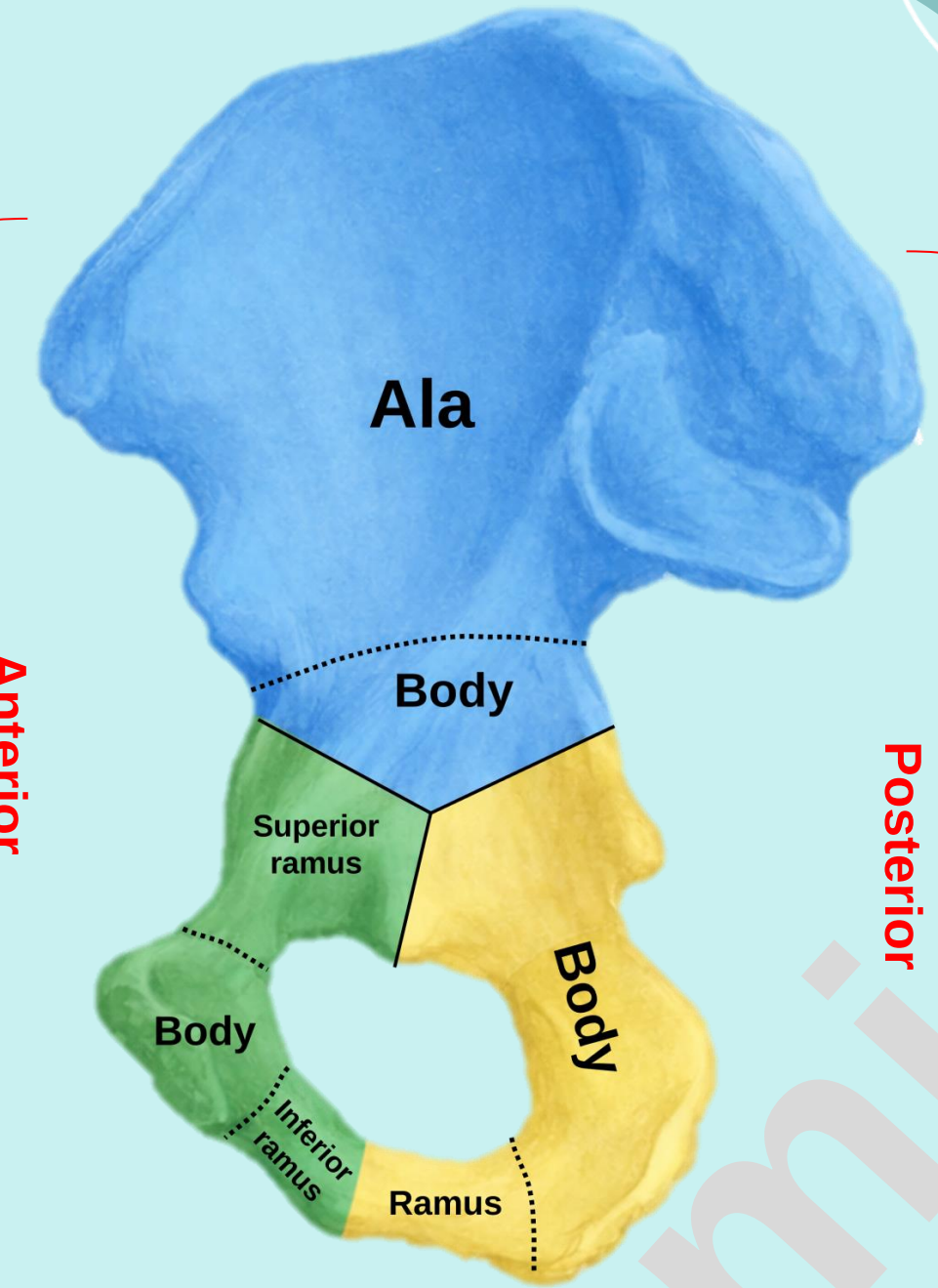
- It is the thick posteroinferior part of hip bone.
- Consists of: Body and Ramus

3. Pubis:

- It is the anteroinferior part of the hip bone.
- Consists of: Body, Superior ramus, and Inferior ramus.



Lateral view



Medial view

Check List:

Lateral view

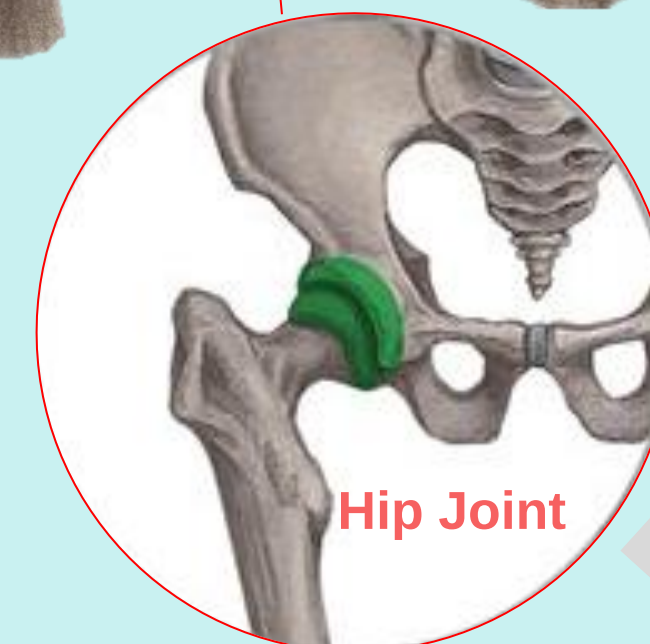
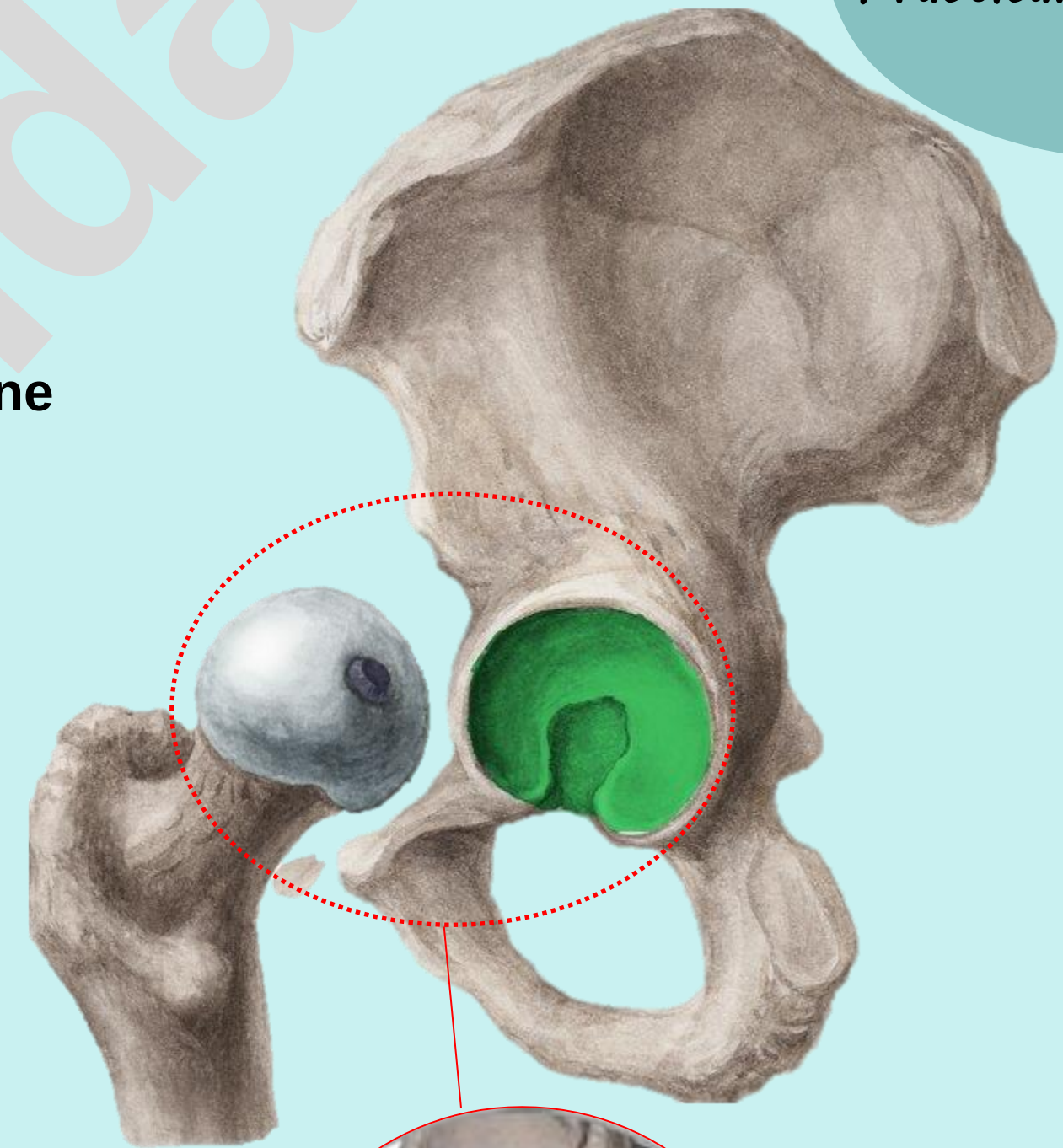
Practical Lab-5

1. Hip

✓ Outline the major parts of the hip:

4. Acetabulum:

- A large cup-shaped cavity on the lateral surface of the hip bone formed by the fusion of the ilium, ischium, and pubis.
- Directed laterally.
- Receives the head of the femur to form the hip joint.



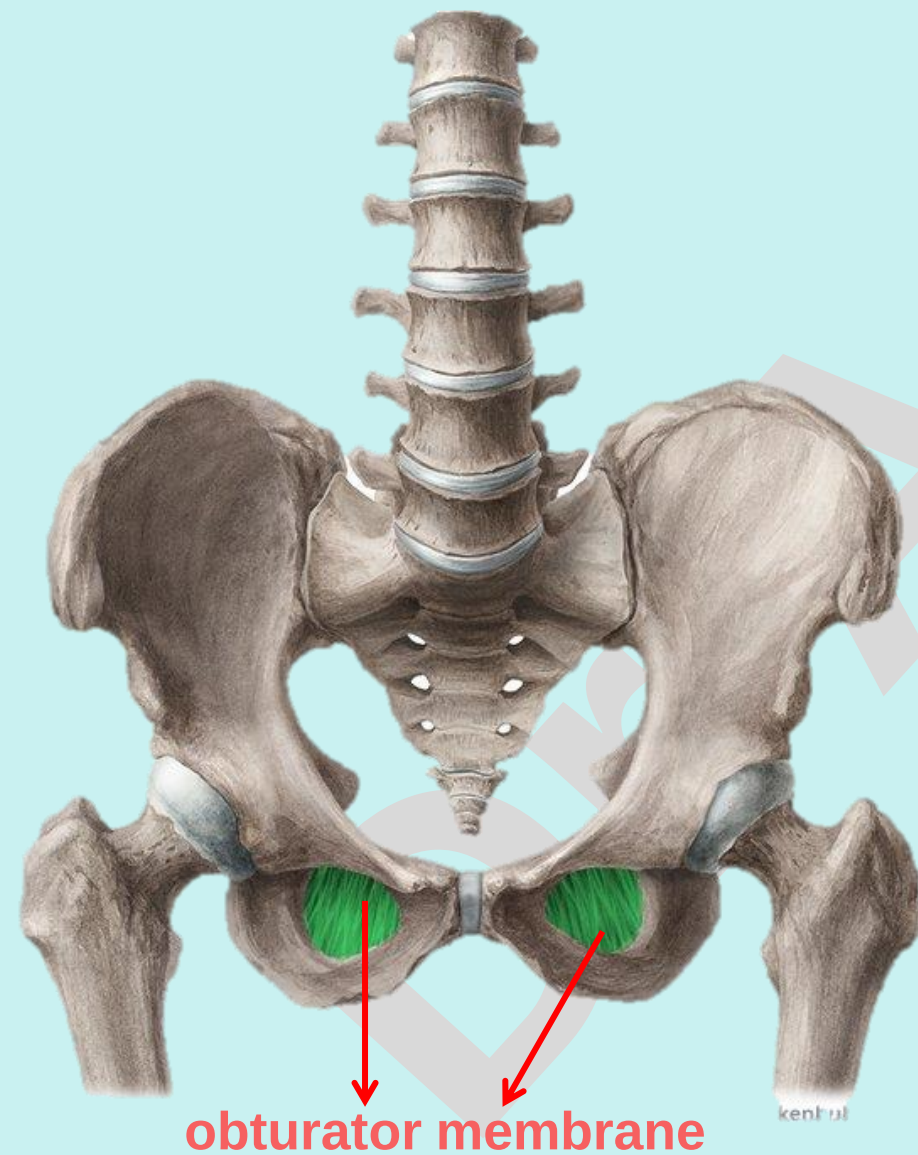
Check List:

1. Hip

✓ Outline the major parts of the hip:

5. Obturator foramen:

- A large opening in the lower part of the hip bone.
- Located between the pubis and ischium.
- Mostly closed by the obturator membrane.



Lateral view



Medial view

Check List:

Practical Lab-5

1. Hip

✓ Determine the side and anatomical position by holding it in such a way that:

1. The acetabulum is directed laterally.
2. The obturator foramen lies below the acetabulum.
3. The ilium is directed upward.
4. The pubis is directed anteromedially.
5. The ischium is directed posteroinferiorly.

✓ Practical trick:

- Hold the hip bone so that the greater sciatic notch fits between the thumb and index finger, while the remaining fingers cover the acetabulum.

Check List:

1. Hip

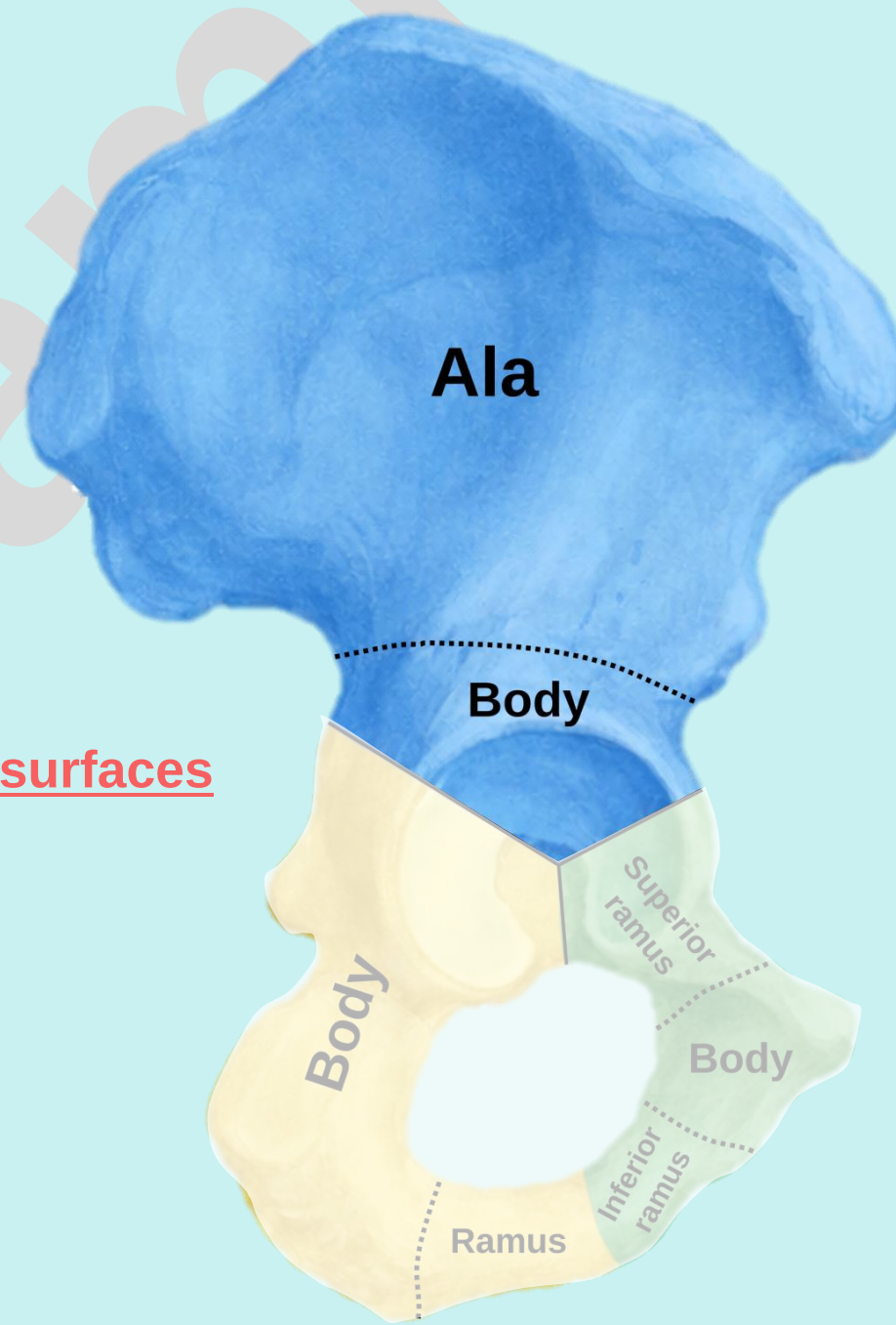
1. Ilium: consists of:

i. Body:

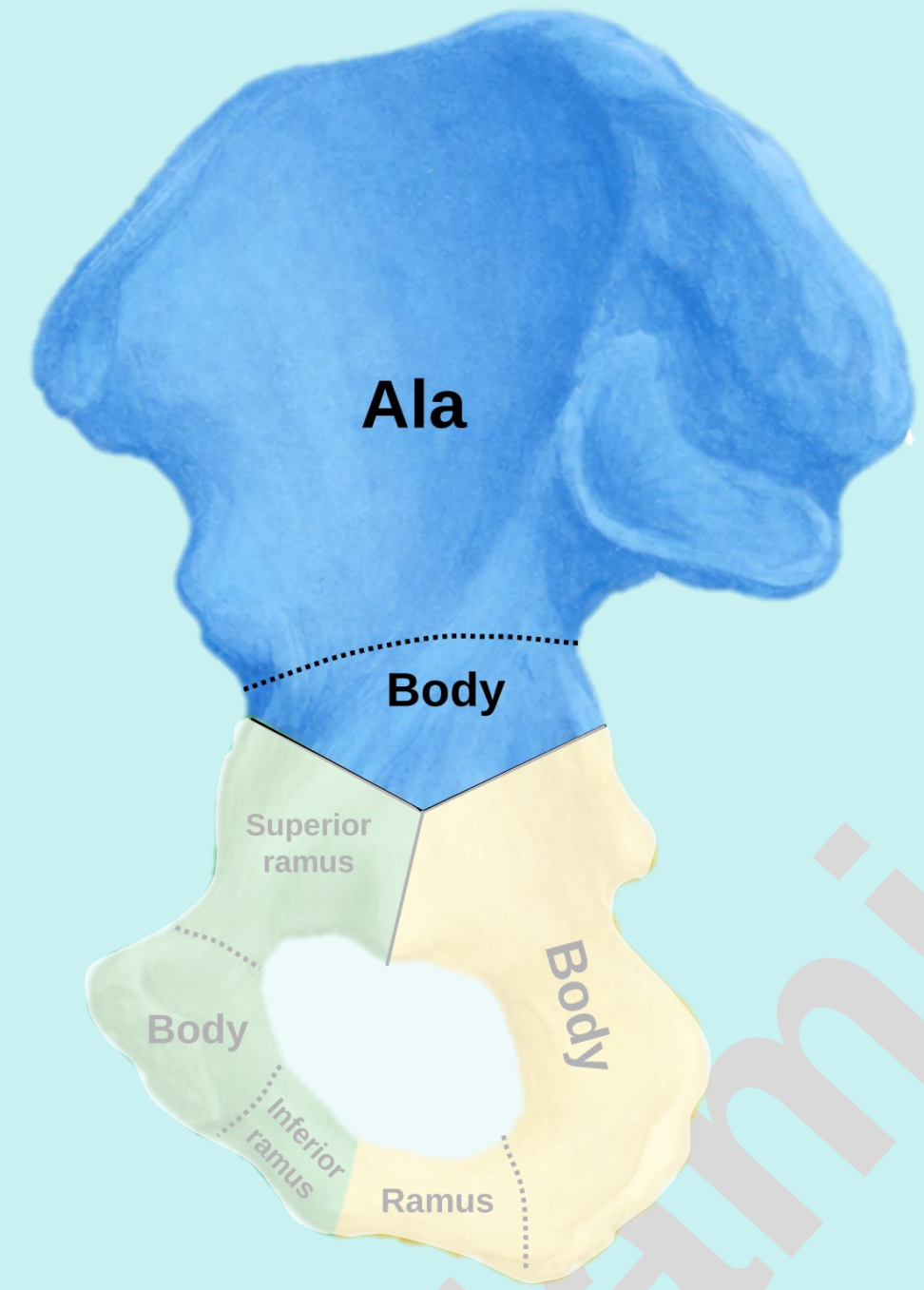
- Smaller, inferior portion.
- Forms the upper two-fifths of the acetabulum

ii. Wing (Ala):

- Broad, fan-shaped expansion.
- Presents the following features: four borders and two surfaces



Lateral view



Medial view

Check List:

Practical Lab-5

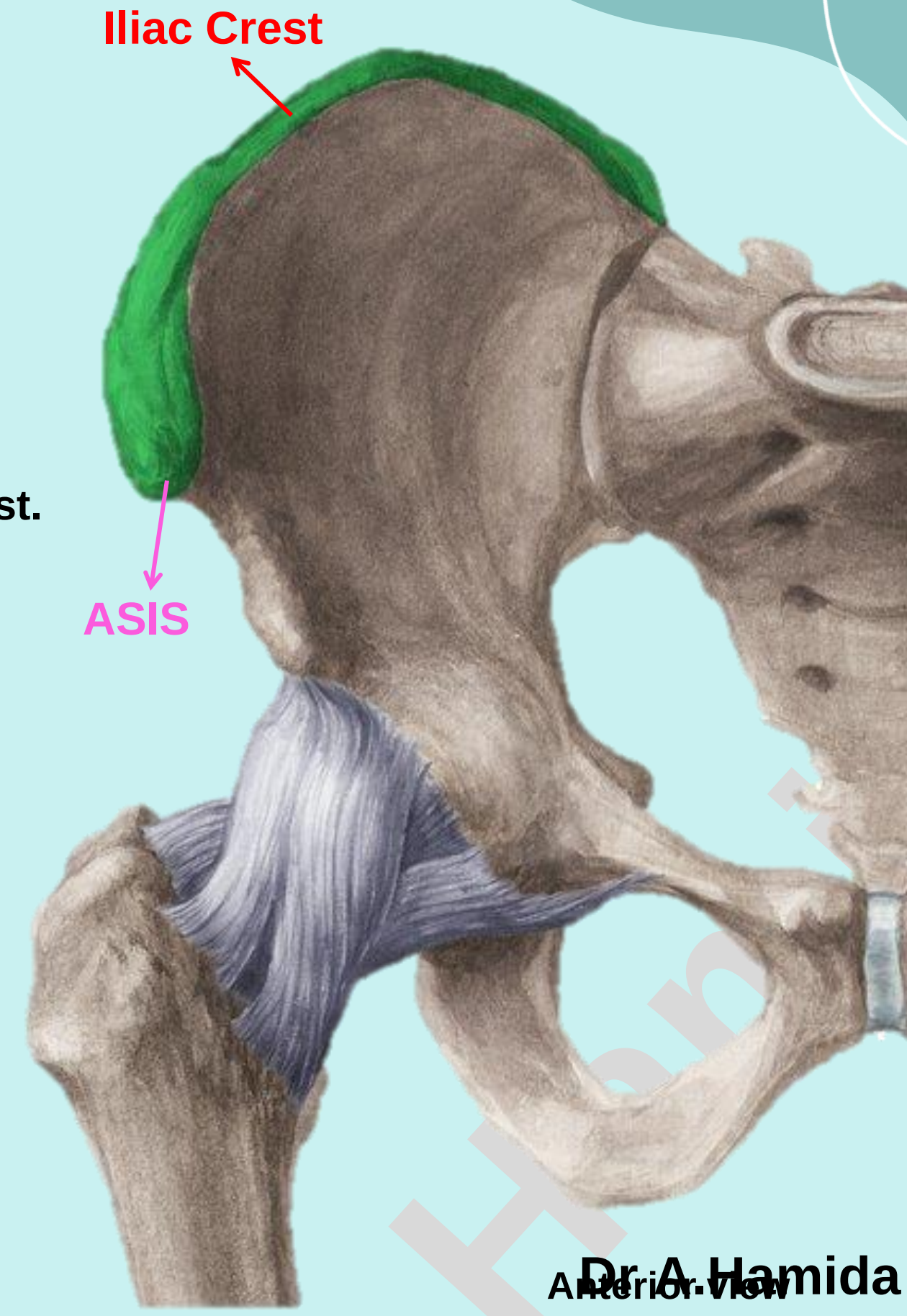
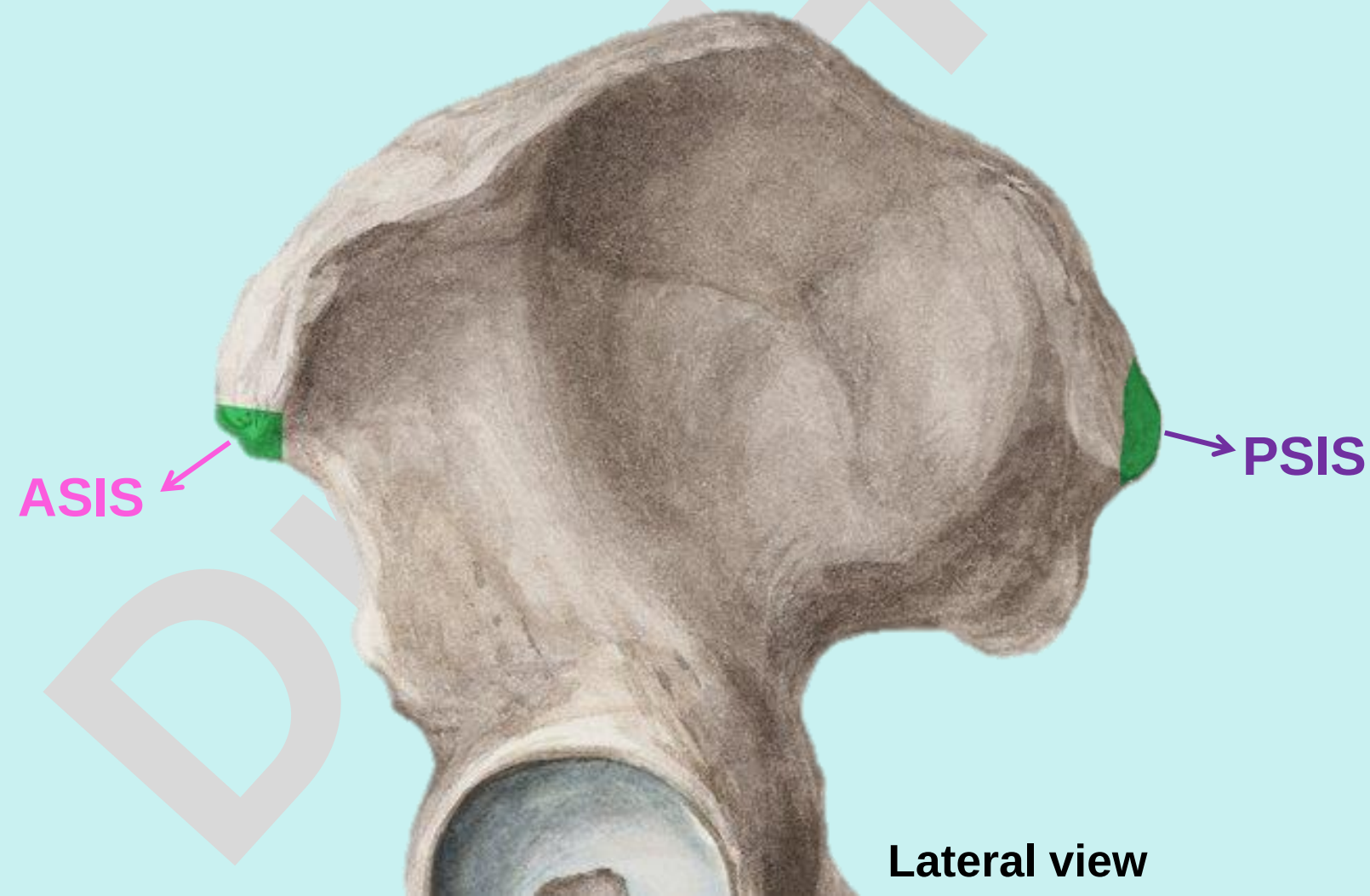
1. Hip

1. **Ilium:** consists of:

ii. **Wing (Ala):** Borders (Superior, Anterior, Posterior, and Medial)

* **Superior Border:** presents the following features:

- **Iliac Crest:** Thickened, curved border
- **Anterior Superior Iliac Spine (ASIS):** presents at the anterior end of iliac crest.
- **Posterior Superior Iliac Spine (PSIS):** presents at the posterior end of iliac crest.



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Check List:

Practical Lab-5

1. Hip

1. **Ilium:** consists of:

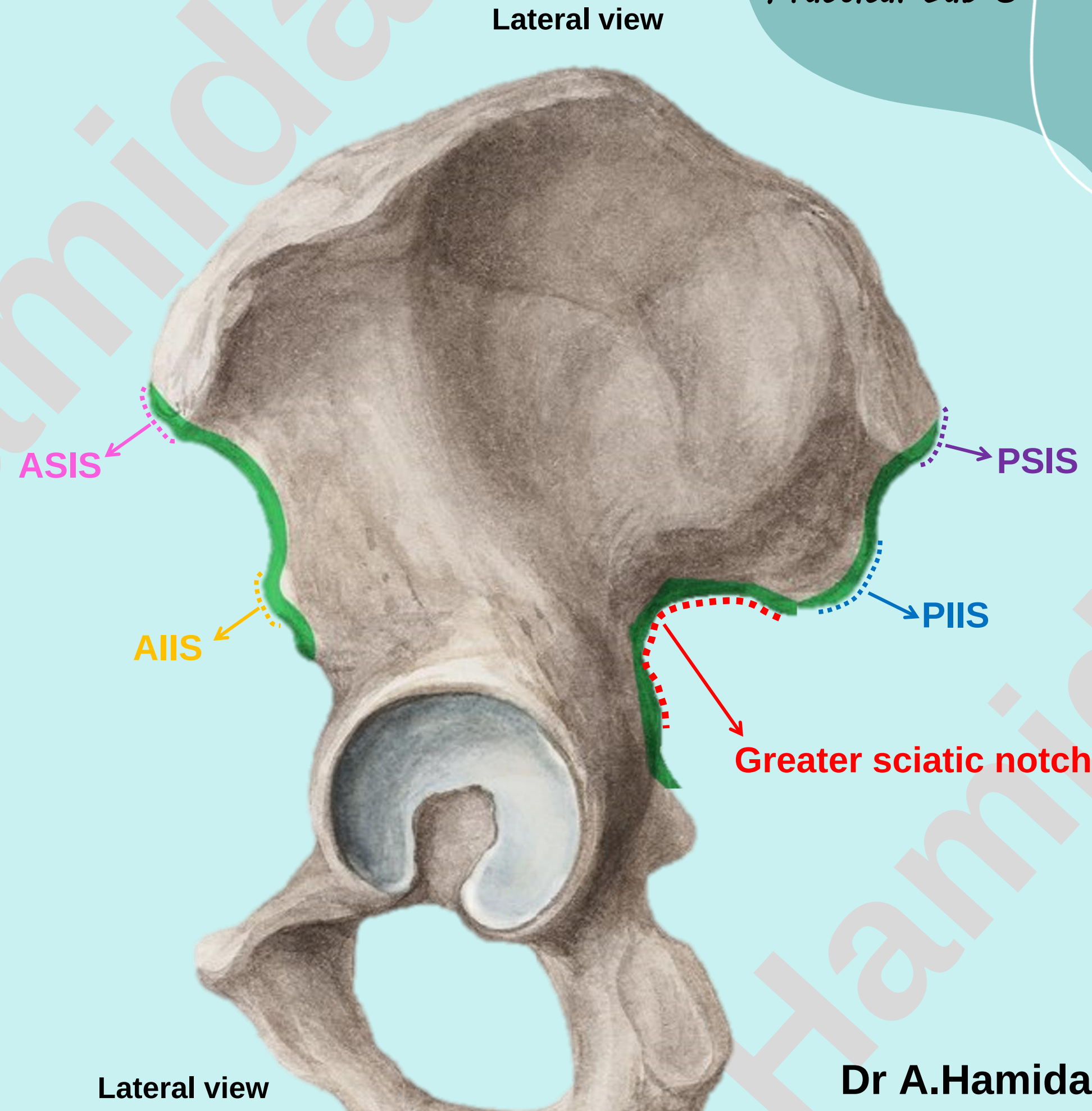
ii. **Wing (Ala):** Borders

* **Anterior Border:**

- Extends from the ASIS to the acetabulum.
- Presents: **Anterior Inferior Iliac Spine (AIIS).**

* **Posterior Border:**

- Extends from the PSIS to the ischium.
- Presents:
 - **Posterior Inferior Iliac Spine (PIIS)**
 - **Greater sciatic notch**



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Check List:

Practical Lab-5

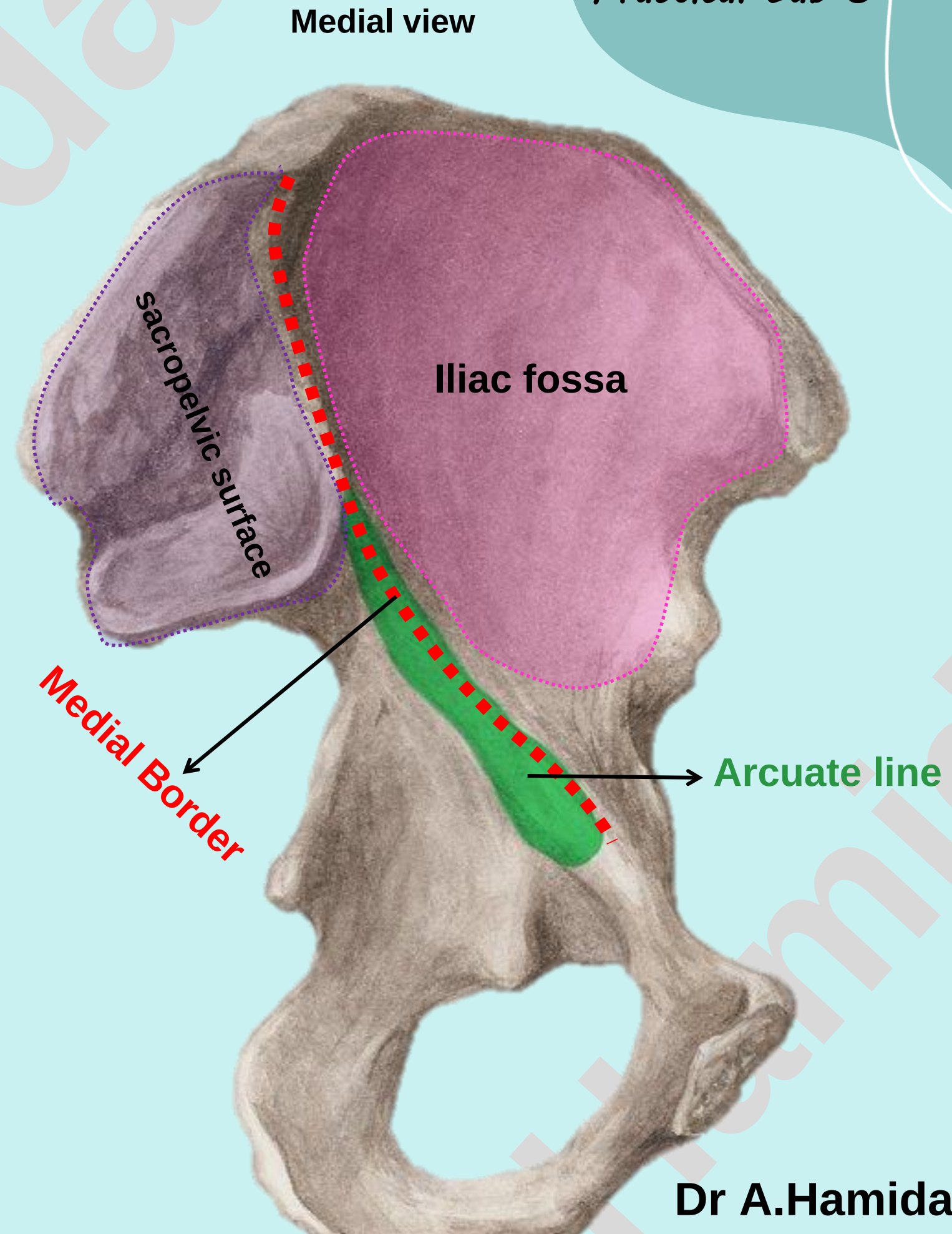
1. Hip

1. **Ilium:** consists of:

ii. **Wing (Ala):** Borders

* **Medial Border:**

- Extends downward and forward in the medial surface from the iliac crest toward the pubis.
- Divides the medial surface into: **Anterior part (iliac fossa)** and **Posterior part (sacropelvic surface)**
- Its lower part forms rounded ridge known as **arcuate line**.



Check List:

Practical Lab-5

1. Hip

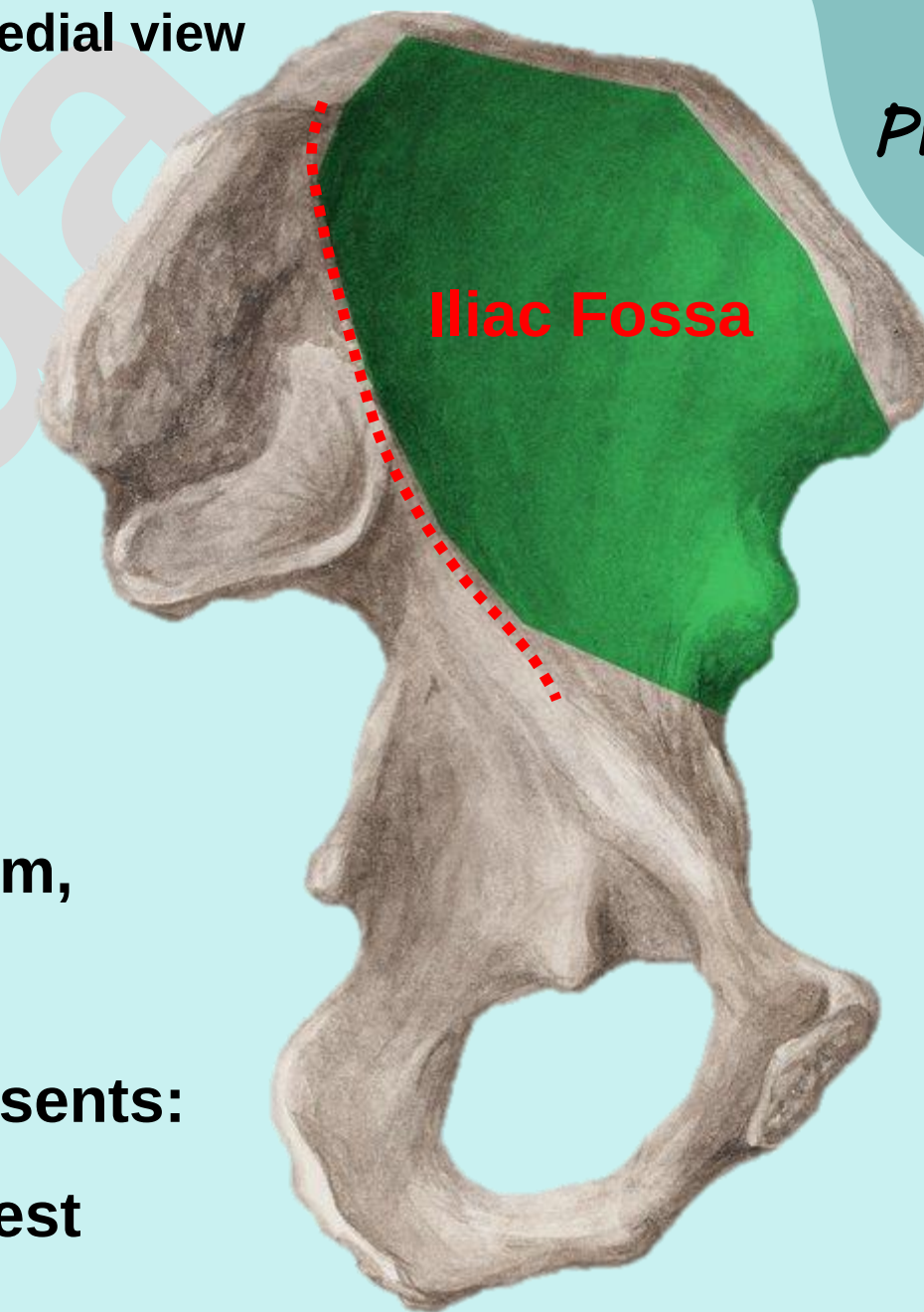
1. **Ilium:** consists of:

ii. **Wing (Ala):** Surfaces (Medial and Lateral)

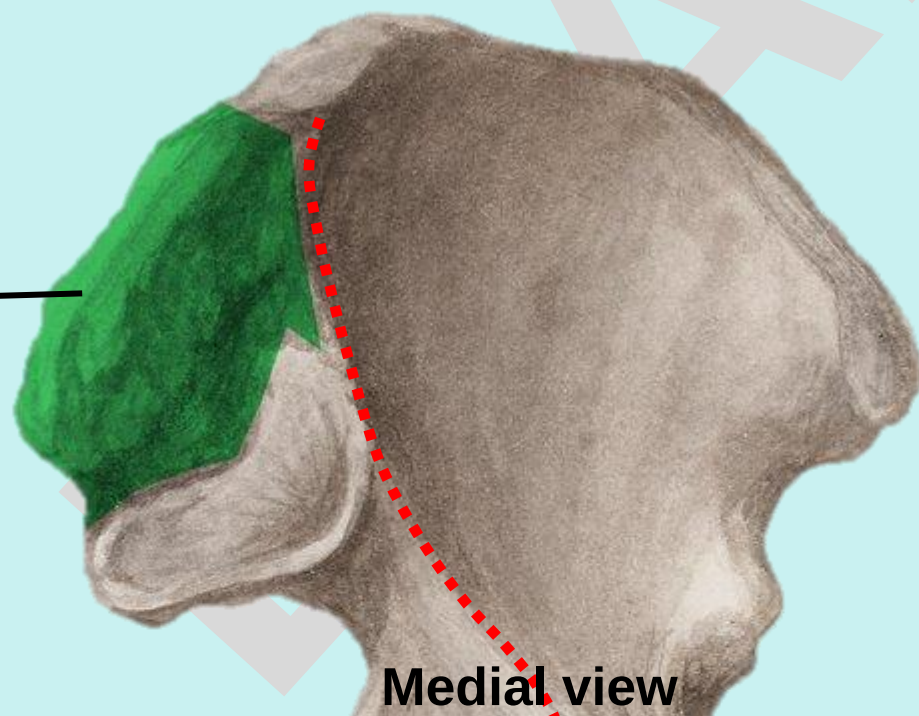
* **Medial (inner) surface:**

- The anterior part of the medial surface presents:
 - **Iliac Fossa:** a shallow concave surface on the inner aspect of ilium, below the iliac crest
- The posterior part of the medial surface (sacropelvic surface) presents:
 - **Iliac Tuberosity:** is a rough area below the dorsal part of iliac crest
 - **Auricular surface:** is an ear-shaped articular surface.

Medial view

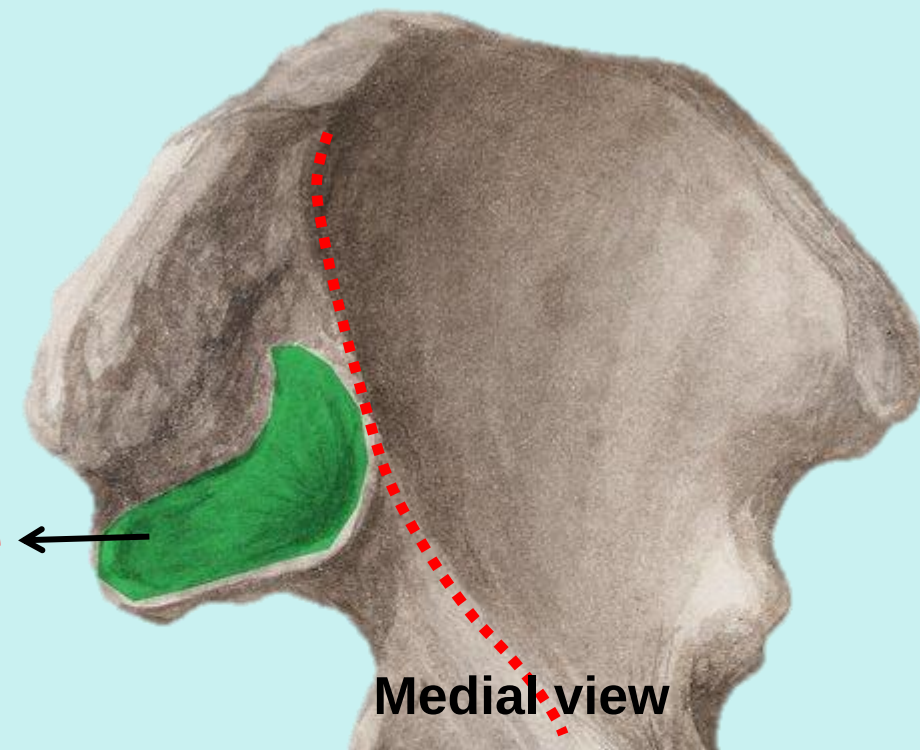


Iliac Tuberosity ←



Medial view

Auricular surface ←



Medial view

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Check List:

1. Hip

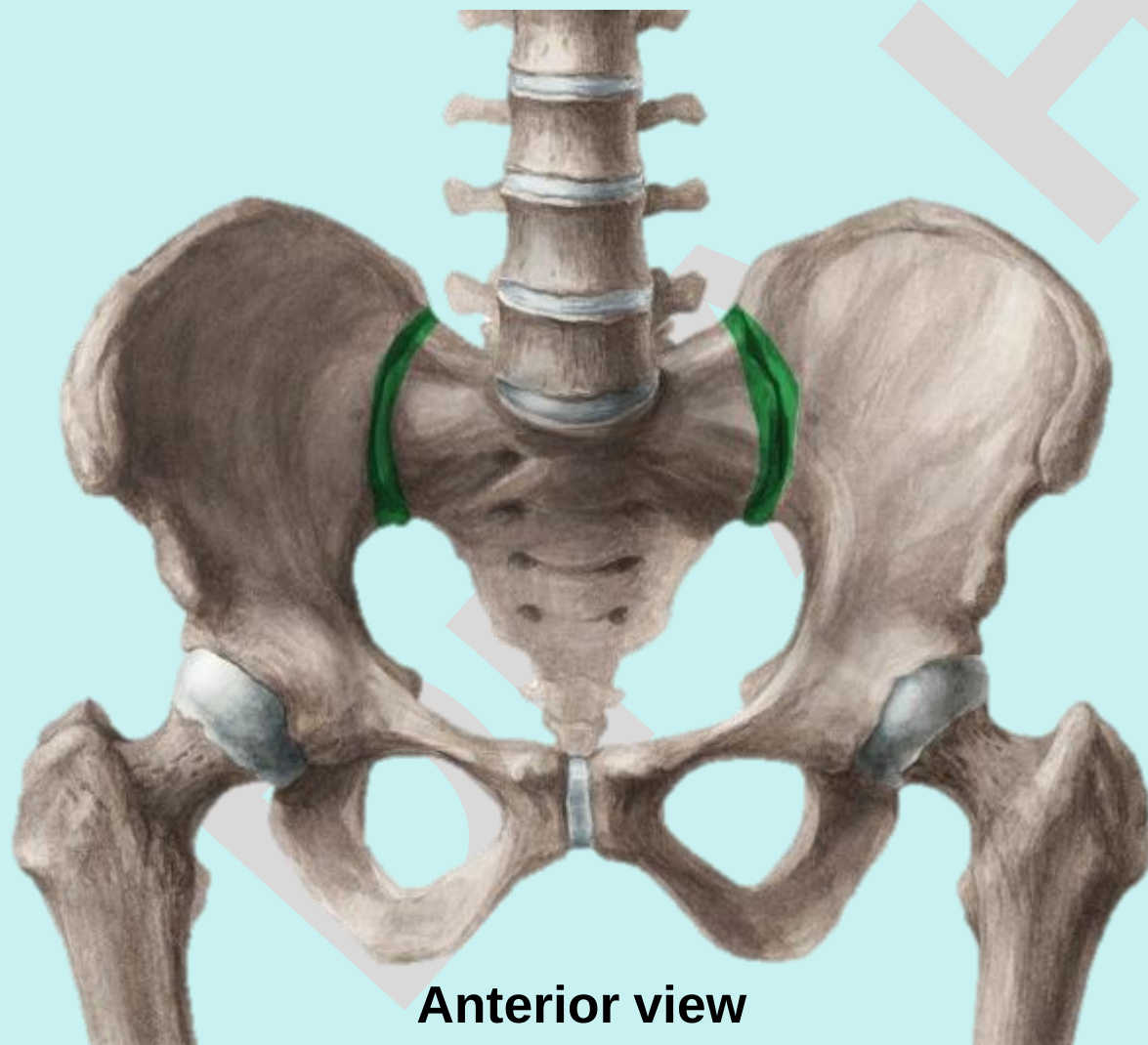
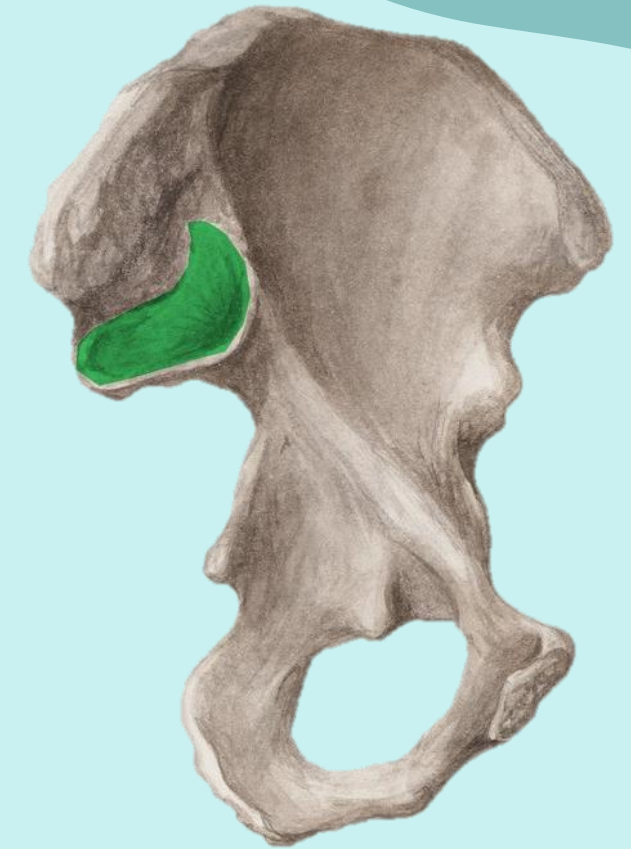
1. Ilium: consists of:

ii. Wing (Ala): Surfaces

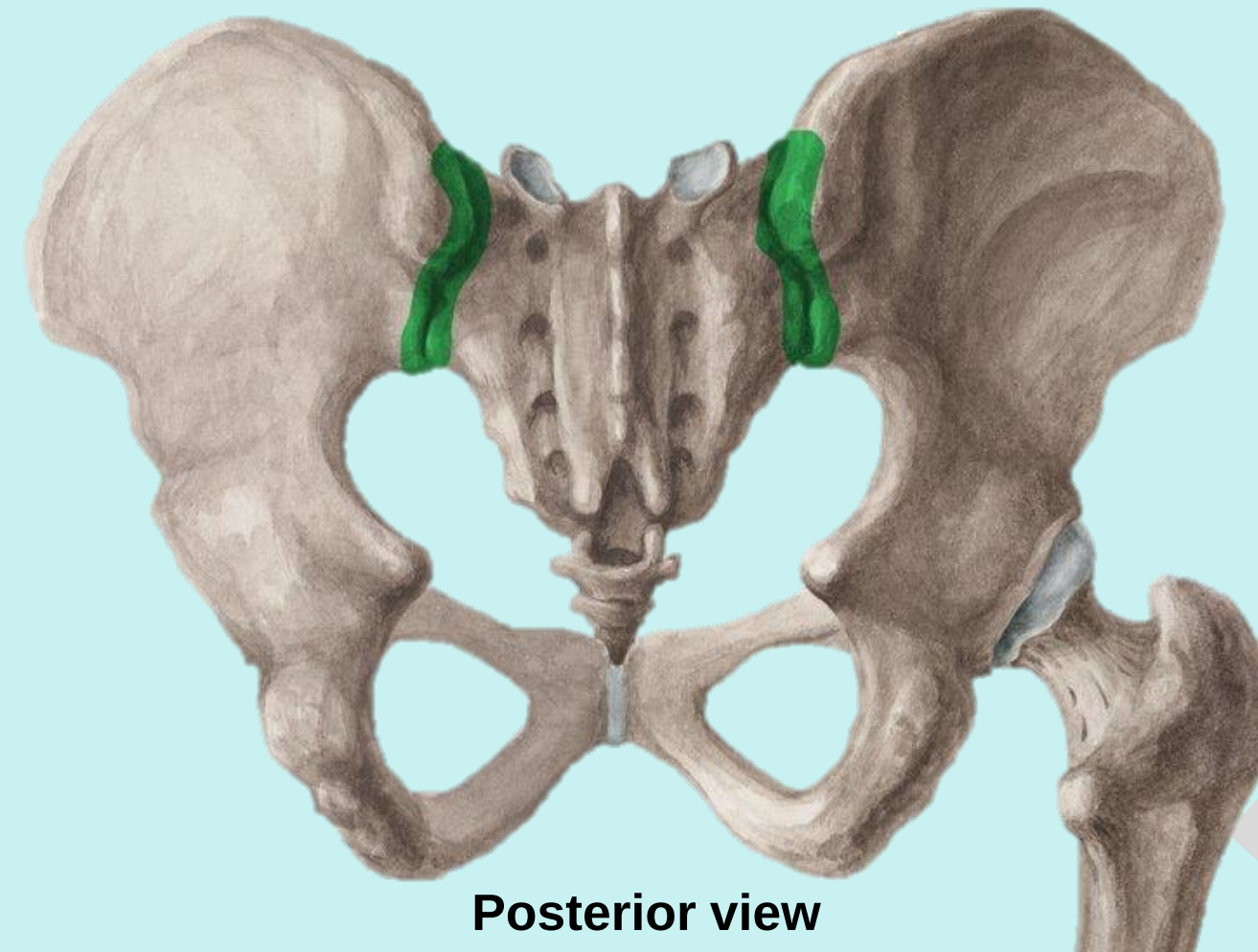
* Medial (inner) surface:

- Auricular surface: articulates with sacrum to form the sacroiliac joint.

Sacrum lateral view



Anterior view



Posterior view

Check List:

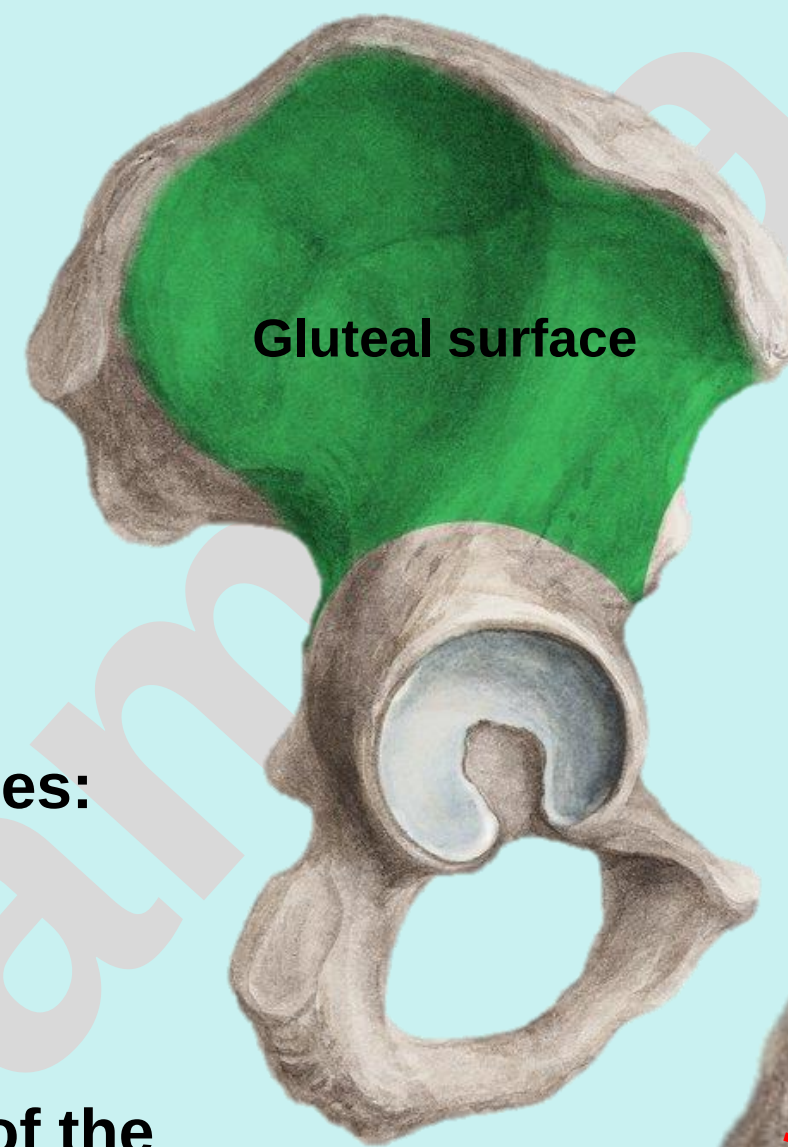
1. Hip

1. Ilium: consists of:

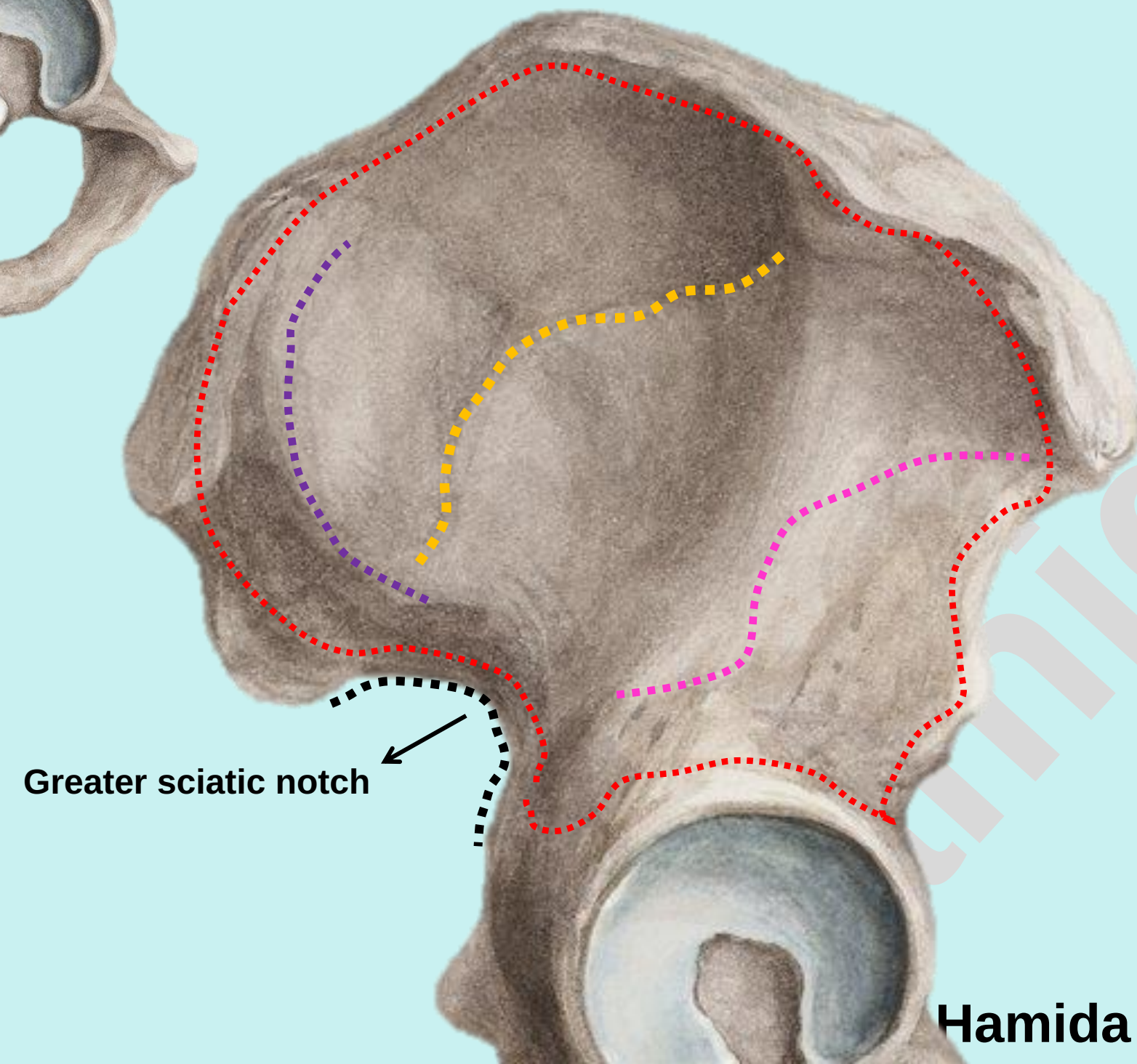
ii. Wing (Ala): Surfaces

* Lateral (outer) surface (gluteal surface):

- It is divided into four areas by three gluteal lines: inferior, anterior, and posterior gluteal lines.
- All these lines radiate from the upper margin of the greater sciatic notch.



Lateral view



Check List:

1. Hip

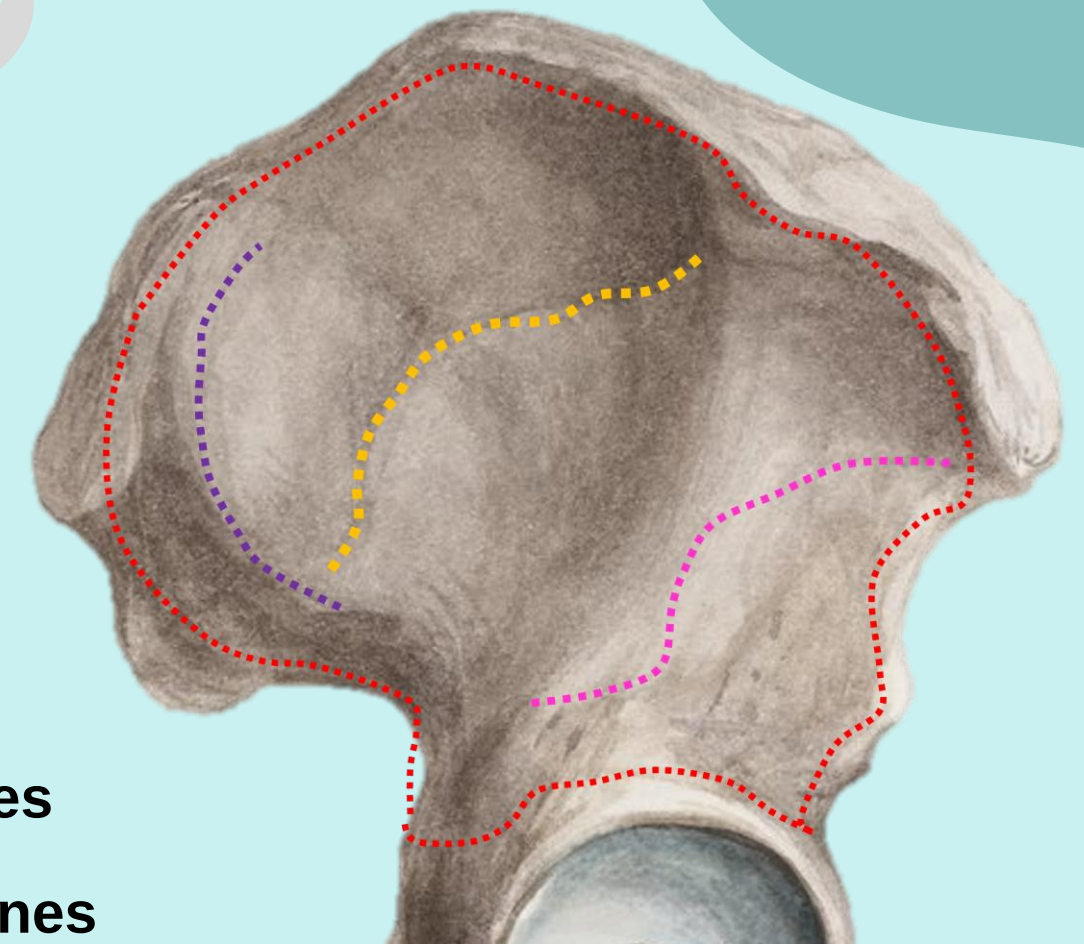
1. **Ilium:** consists of:

ii. **Wing (Ala):** Surfaces

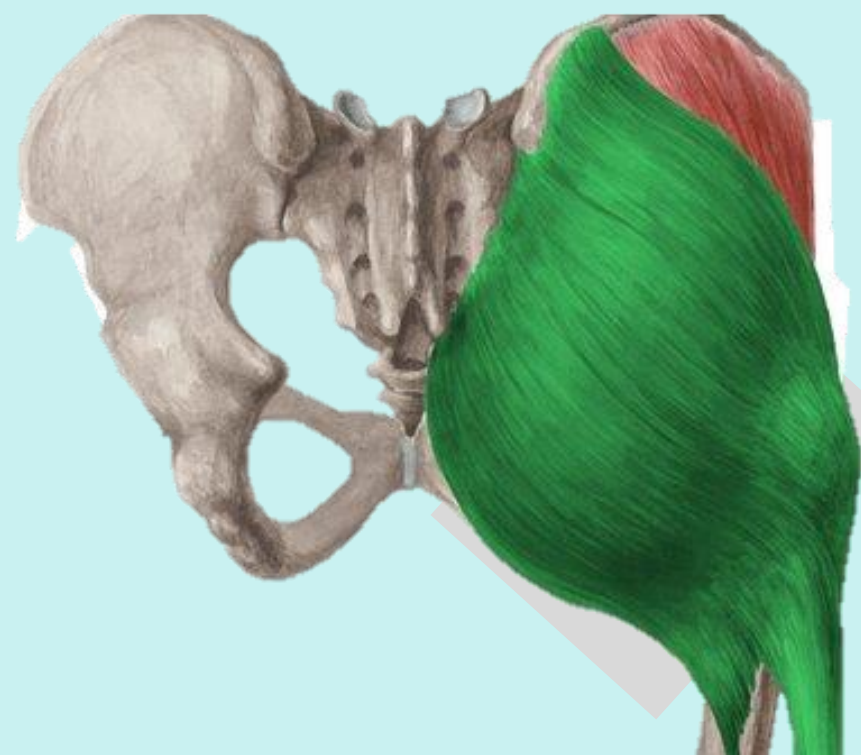
* **Lateral (outer) surface (gluteal surface):**

• The gluteal surface provides origin to gluteal muscles:

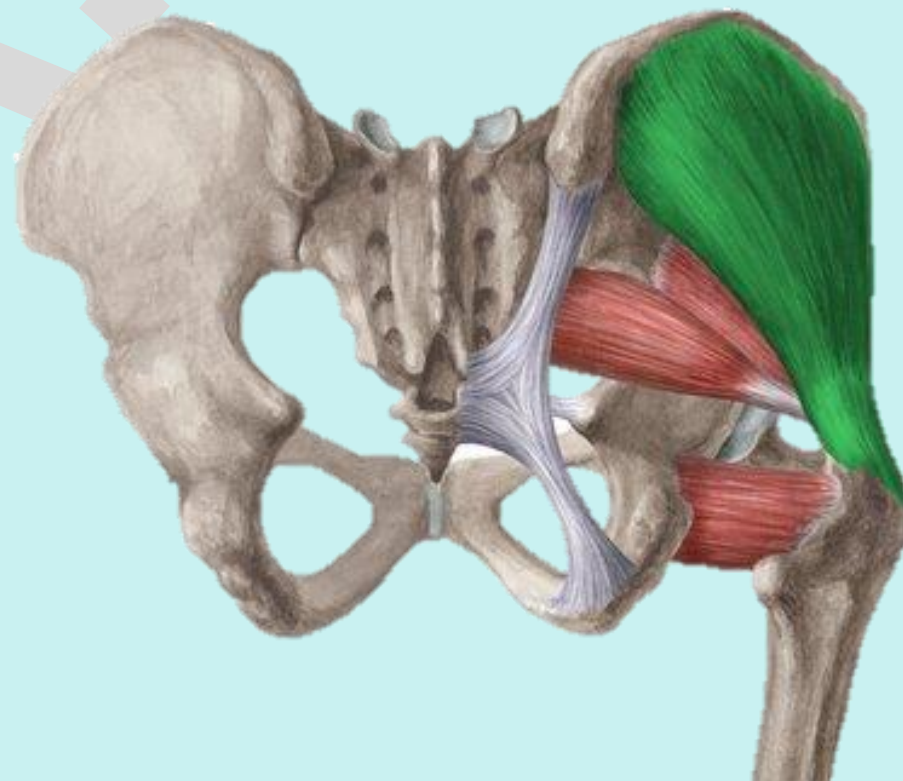
1. **Gluteus maximus:** originates posterior to the posterior gluteal line
2. **Gluteus medius:** originates between the posterior and anterior gluteal lines
3. **Gluteus minimums:** originates between the anterior and inferior gluteal lines



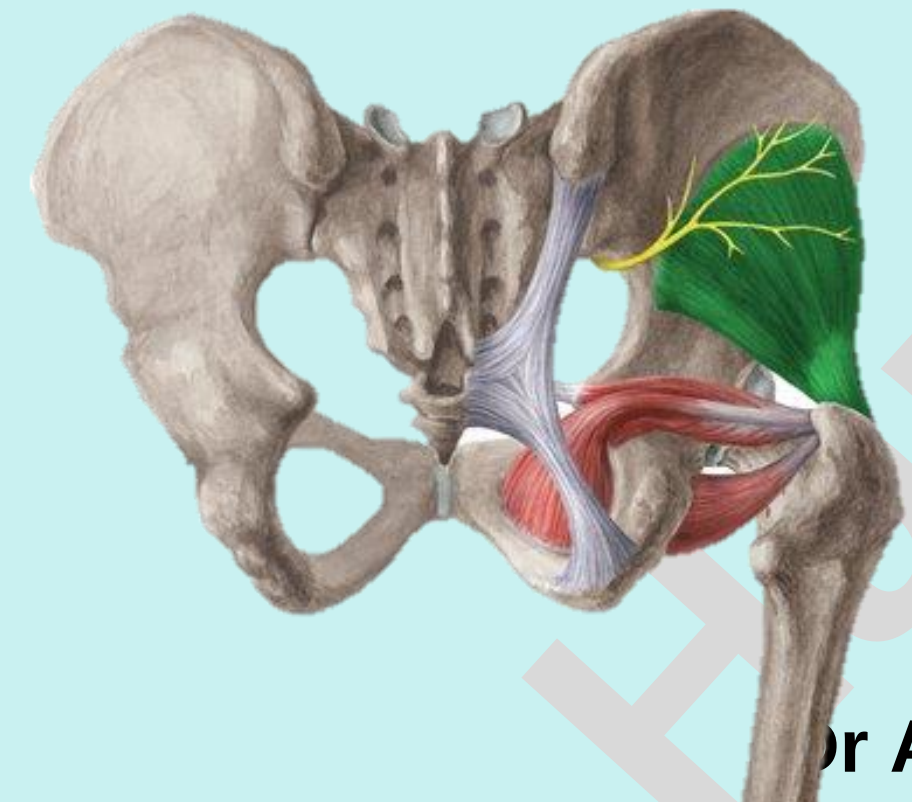
Gluteus maximus



Gluteus medius



Gluteus minimums



Check List:

1. Hip

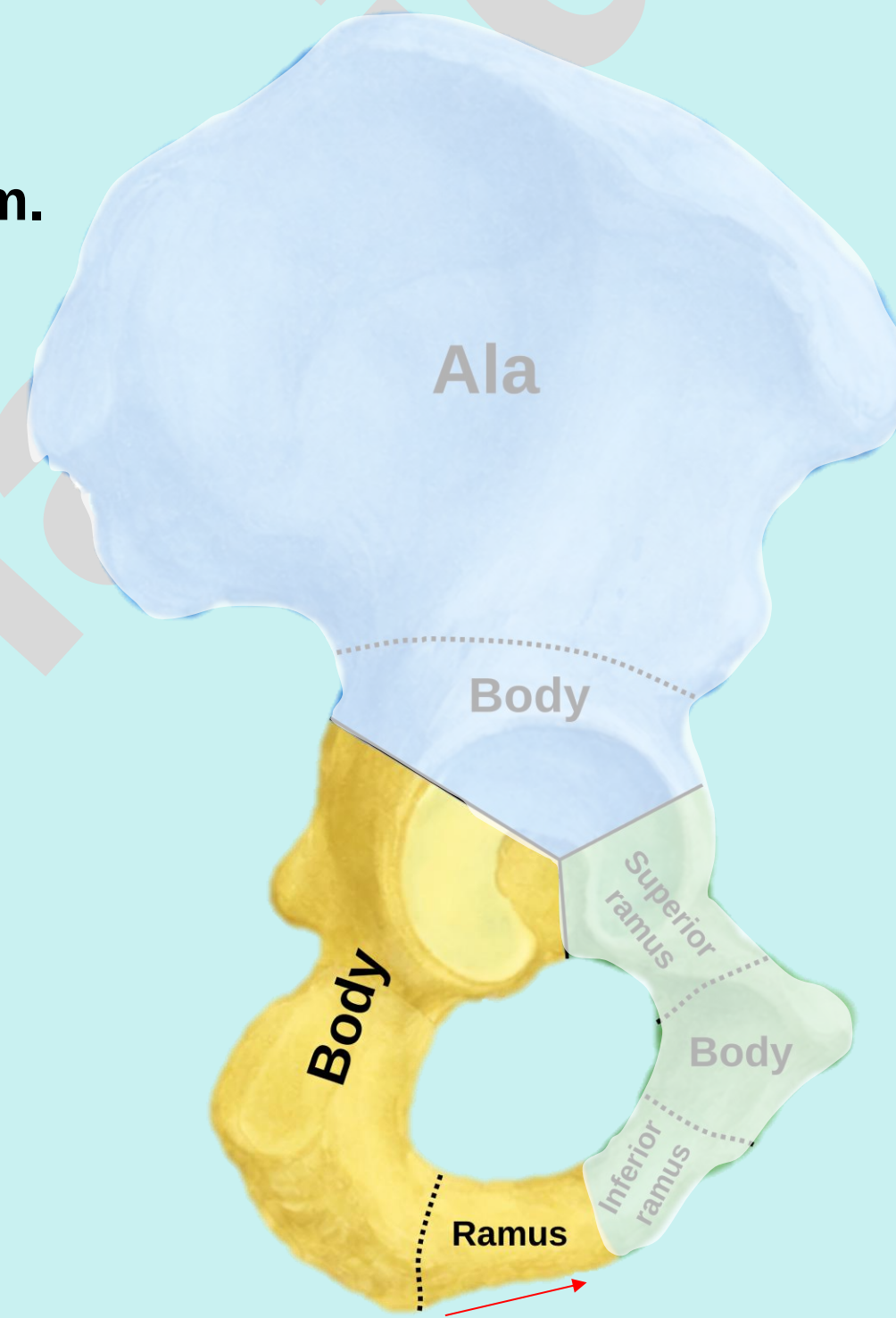
2. **Ischium:** consists of:

i. Body of Ischium:

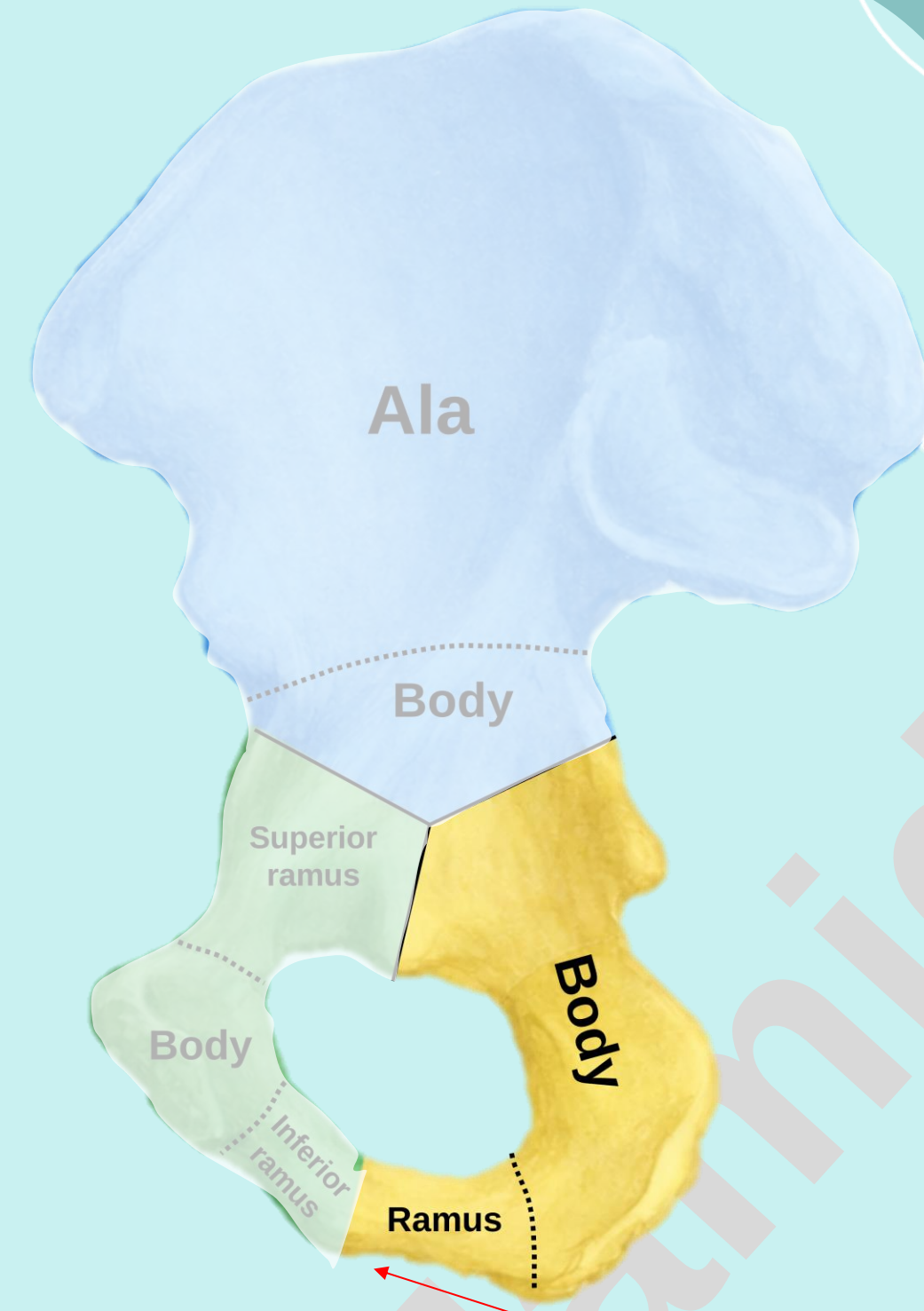
- Located below and posterior to the acetabulum.

ii. Ramus of Ischium:

- It arises from the lower part of the body and runs forward, and medially.



Lateral view



Medial view

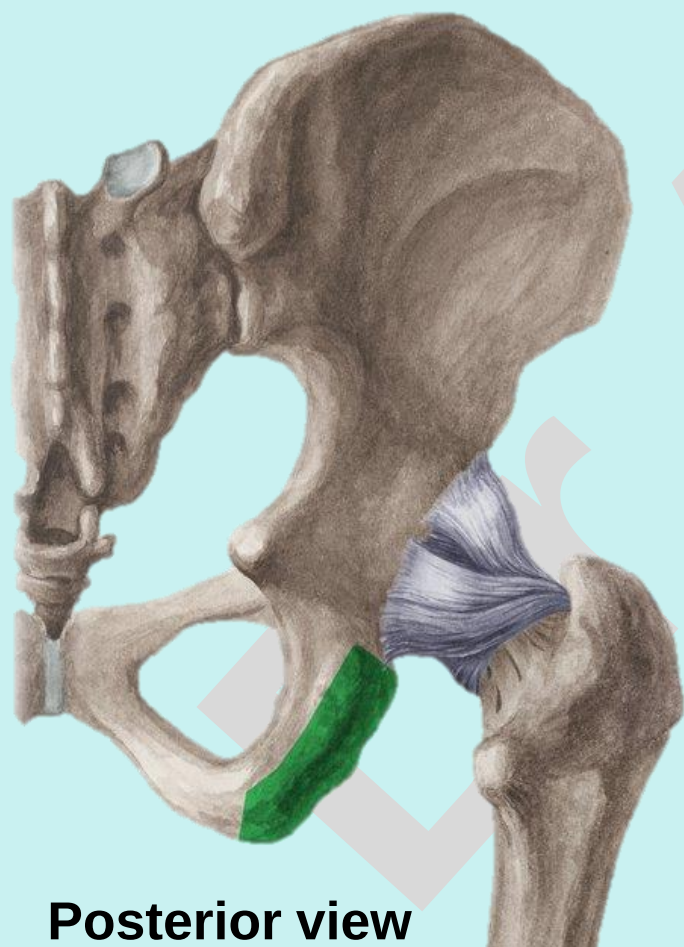
Check List:

1. Hip

2. **Ischium:** consists of:

i. Body of Ischium:

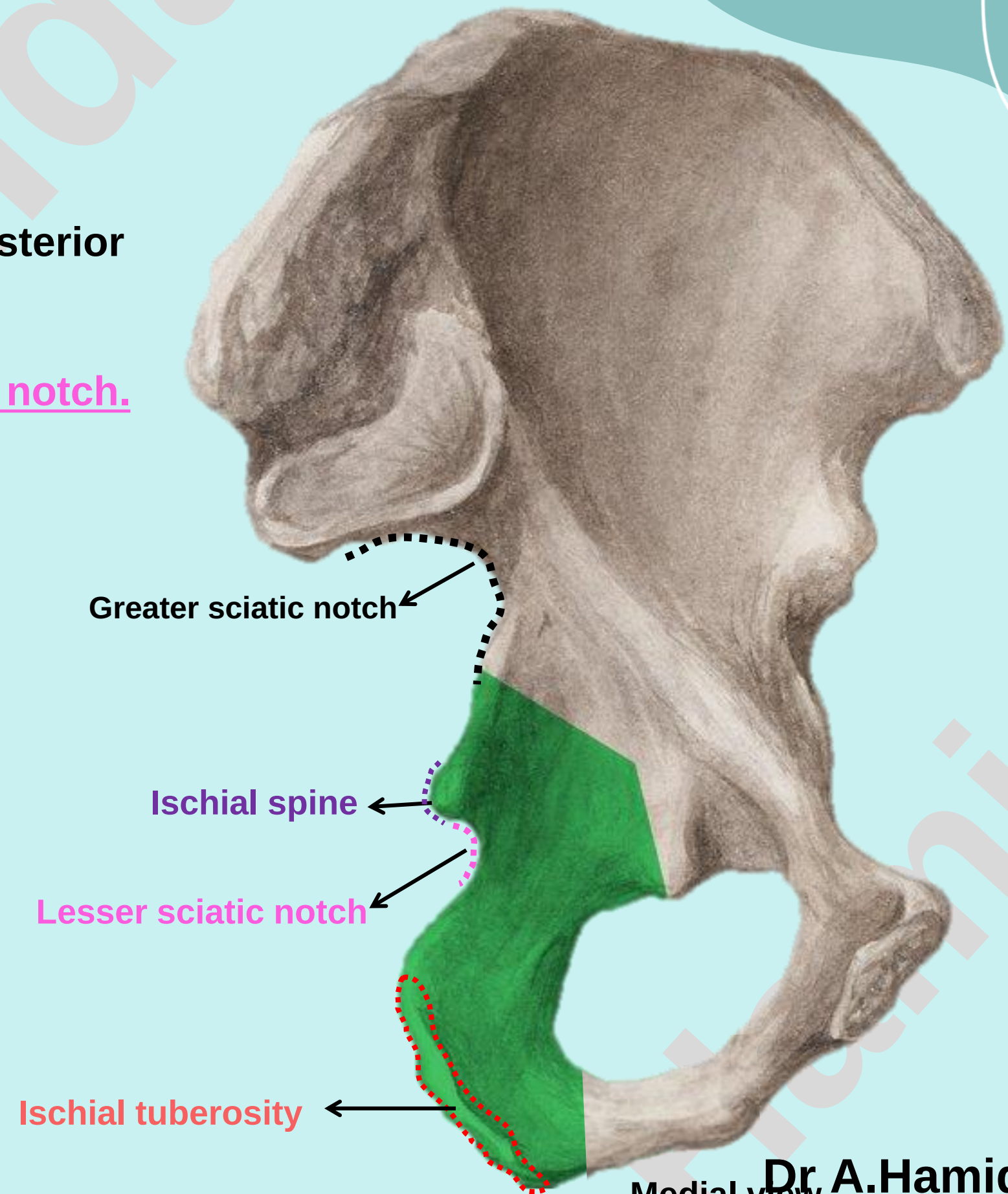
- The posterior border of the body continuous above with the posterior border of ilium.
- The posterior border presents: Ischial spine and Lesser sciatic notch.
- Posteroinferior part form large protuberance known as Ischial tuberosity provide site for several muscle attachments.



Posterior view



Lateral view



Medial view

Check List:

1. Hip

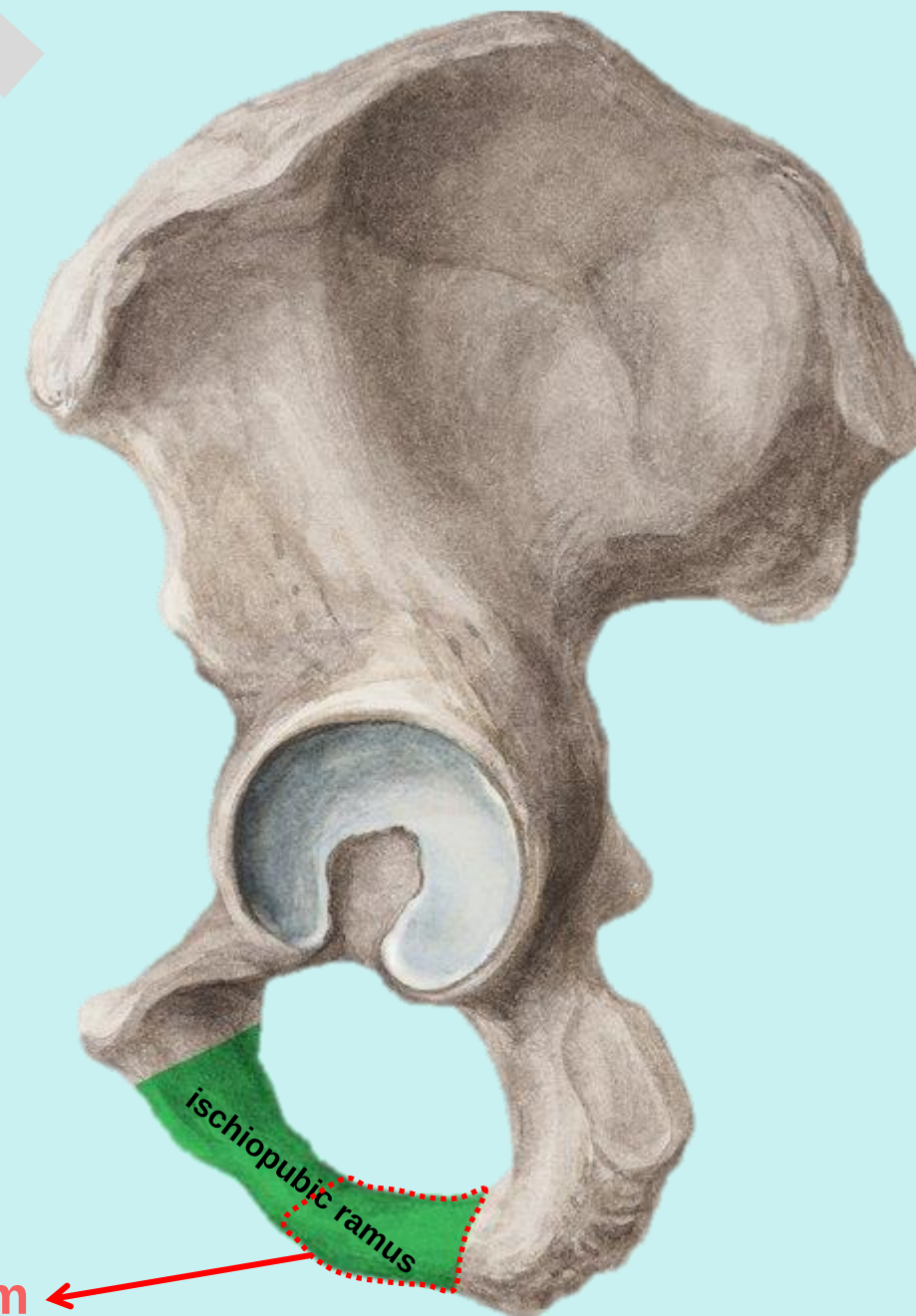
2. **Ischium:** consists of:

ii. Ramus of Ischium:

- Joins inferior ramus of the pubis to form the **conjoint ischiopubic ramus**.



Medial view



Lateral view

Ramus of Ischium

Check List:

1. Hip

3. **Pubis:** consists of:

i. Body of the Pubis:

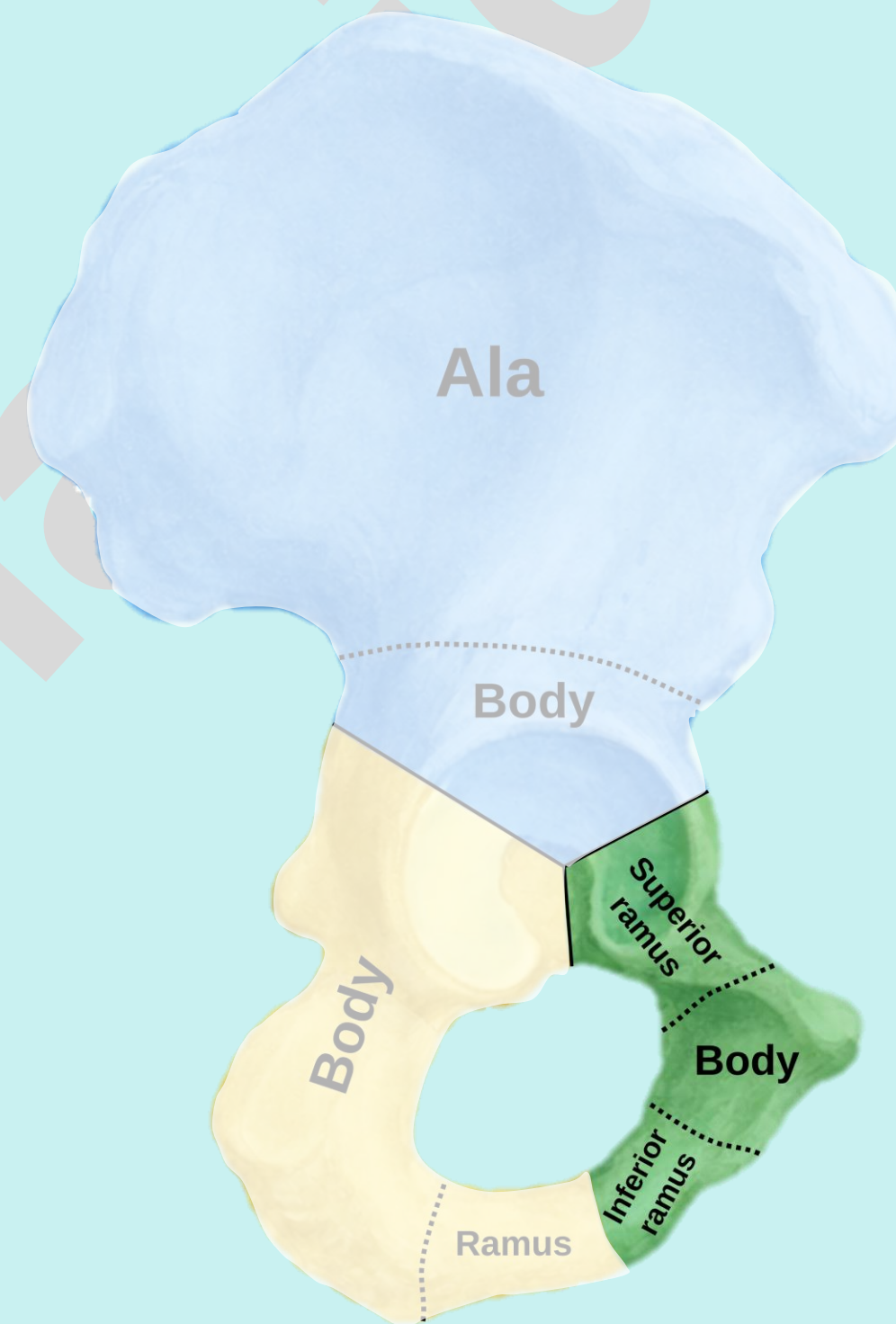
- Anteromedial part of the pubis.

ii. Superior Ramus of Pubis:

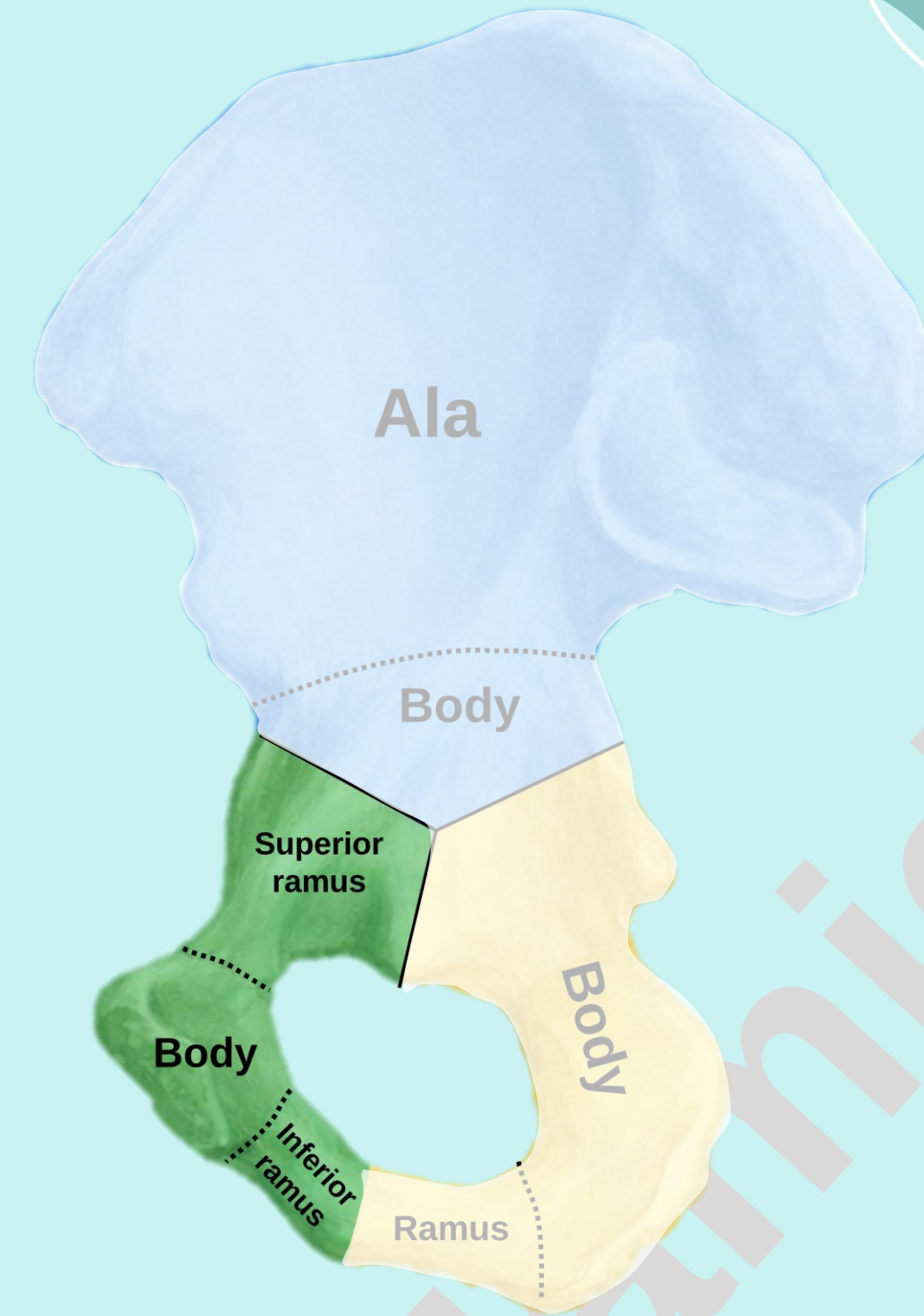
- It arises from the superolateral angle of the body of pubis and extends laterally above the obturator foramen.

iii. Inferior Ramus of Pubis:

- It extends downward and laterally from the lower part of the body of pubis



Lateral view



Medial view

Check List:

1. Hip

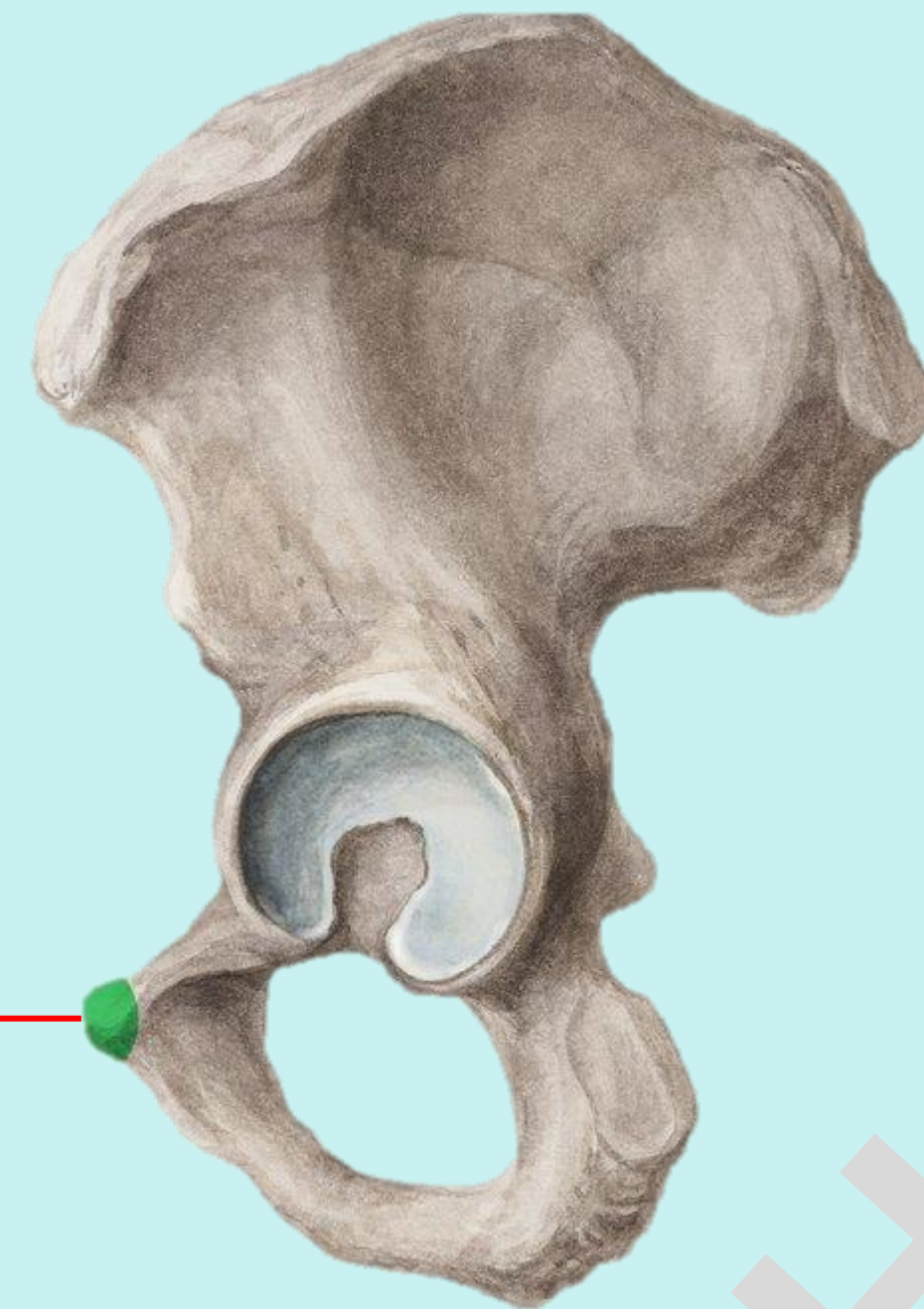
3. **Pubis:** consists of:

i. **Body of the Pubis:** Presents

- **Pubic tubercle:** found on the anterosuperior aspect of the body of the pubis.



Medial view



Lateral view

Pubic tubercle

Check List:

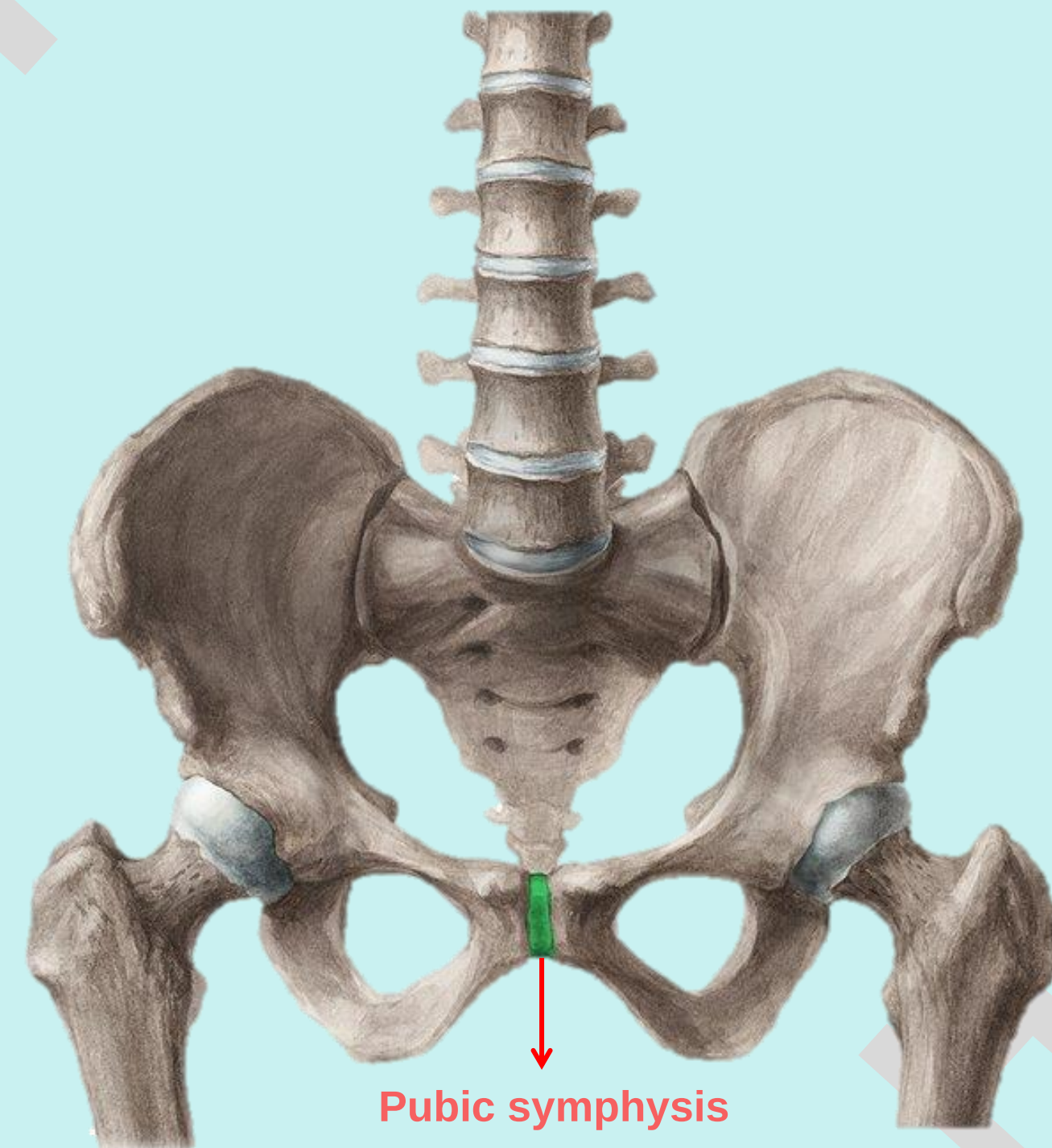
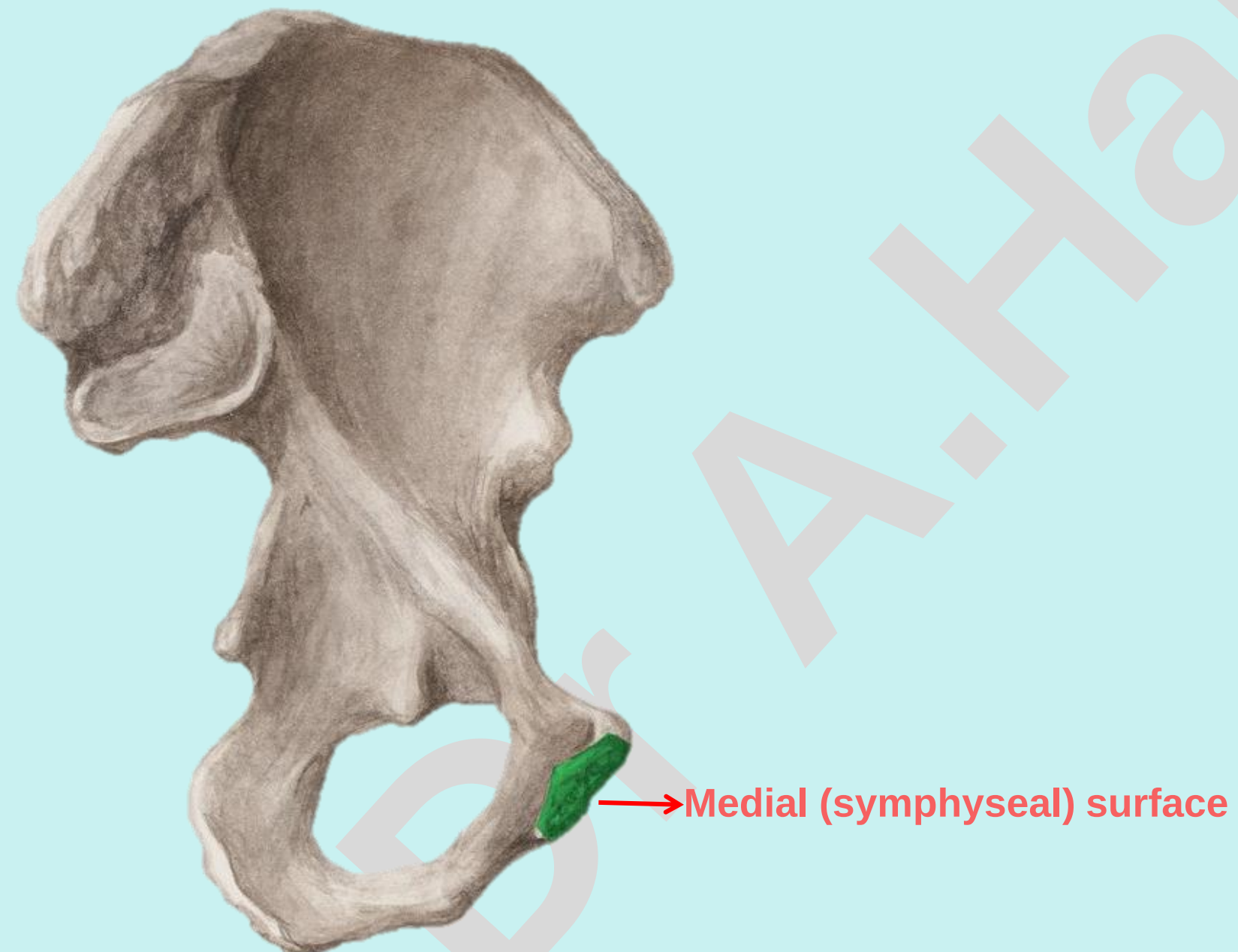
Practical Lab-5

1. Hip

3. **Pubis:** consists of:

i. Body of the Pubis:

- The medial (symphyseal) surface articulates with the opposite pubis to form the **pubic symphysis**.



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Check List:

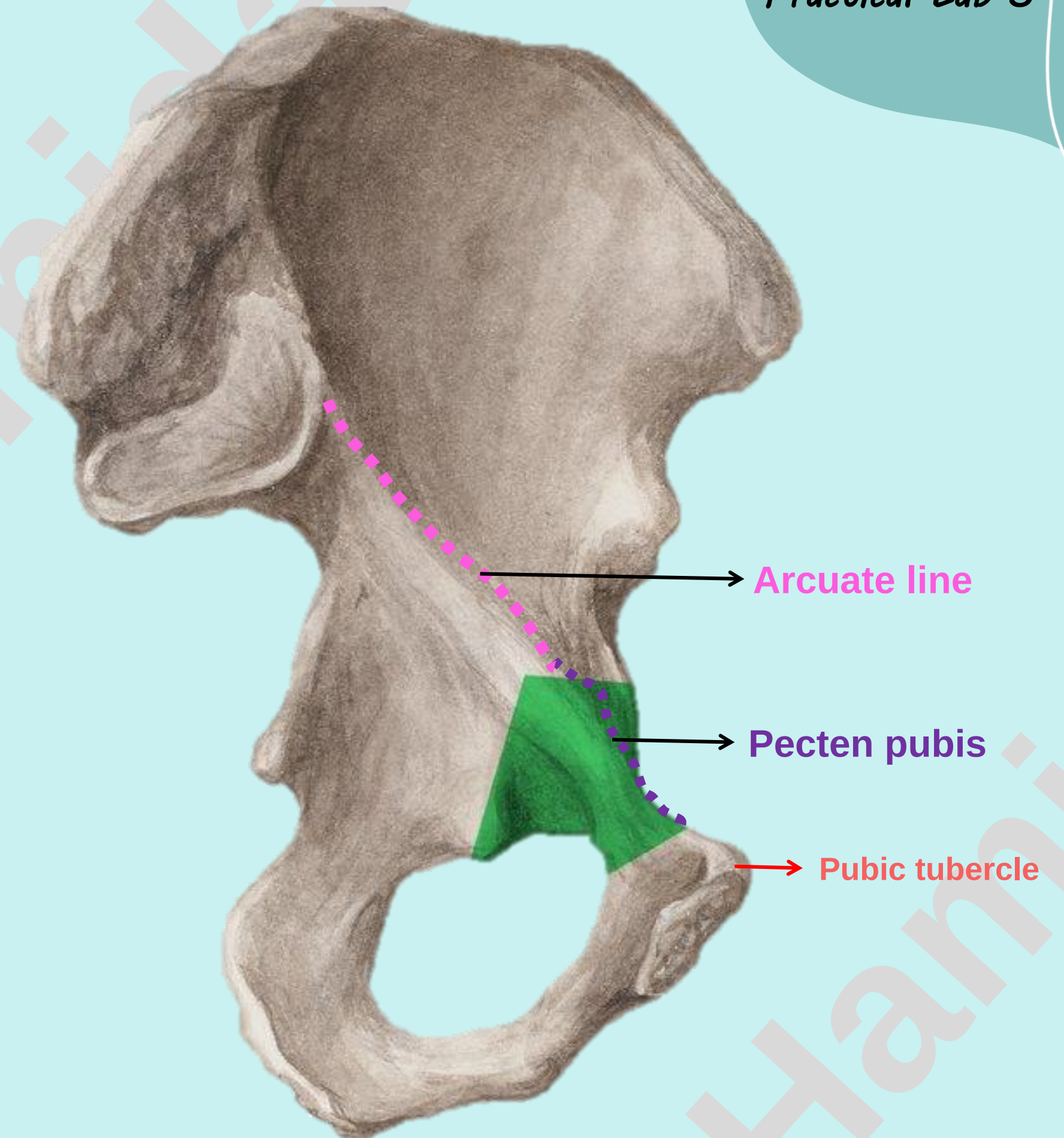
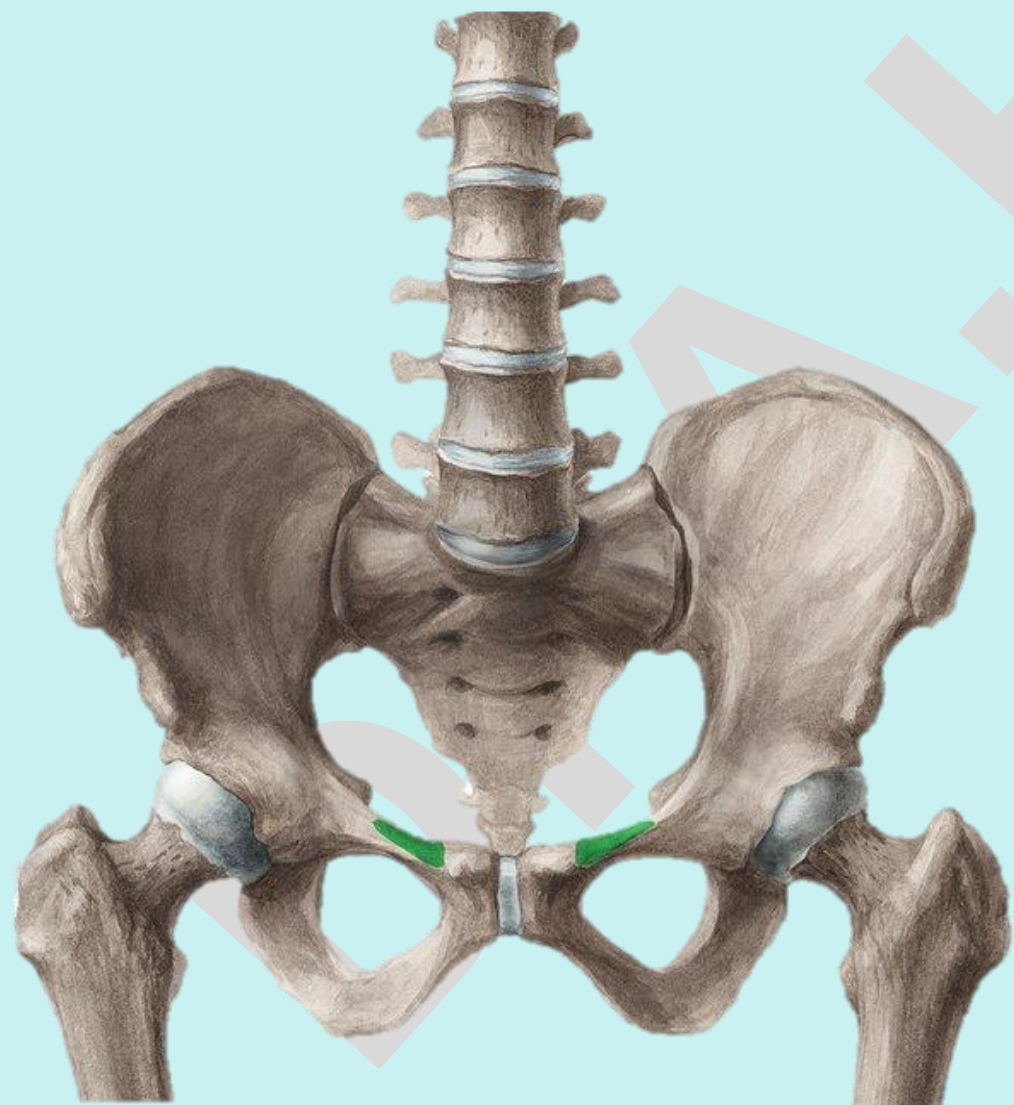
Practical Lab-5

1. Hip

3. **Pubis:** consists of:

ii. Superior Ramus of Pubis:

- Presents:
 - **Pectineal line (pecten pubis):**
 - * Extends laterally from the **pubic tubercle**.
 - * Continues as the **arcuate line** of the ilium.



Check List:

1. Hip

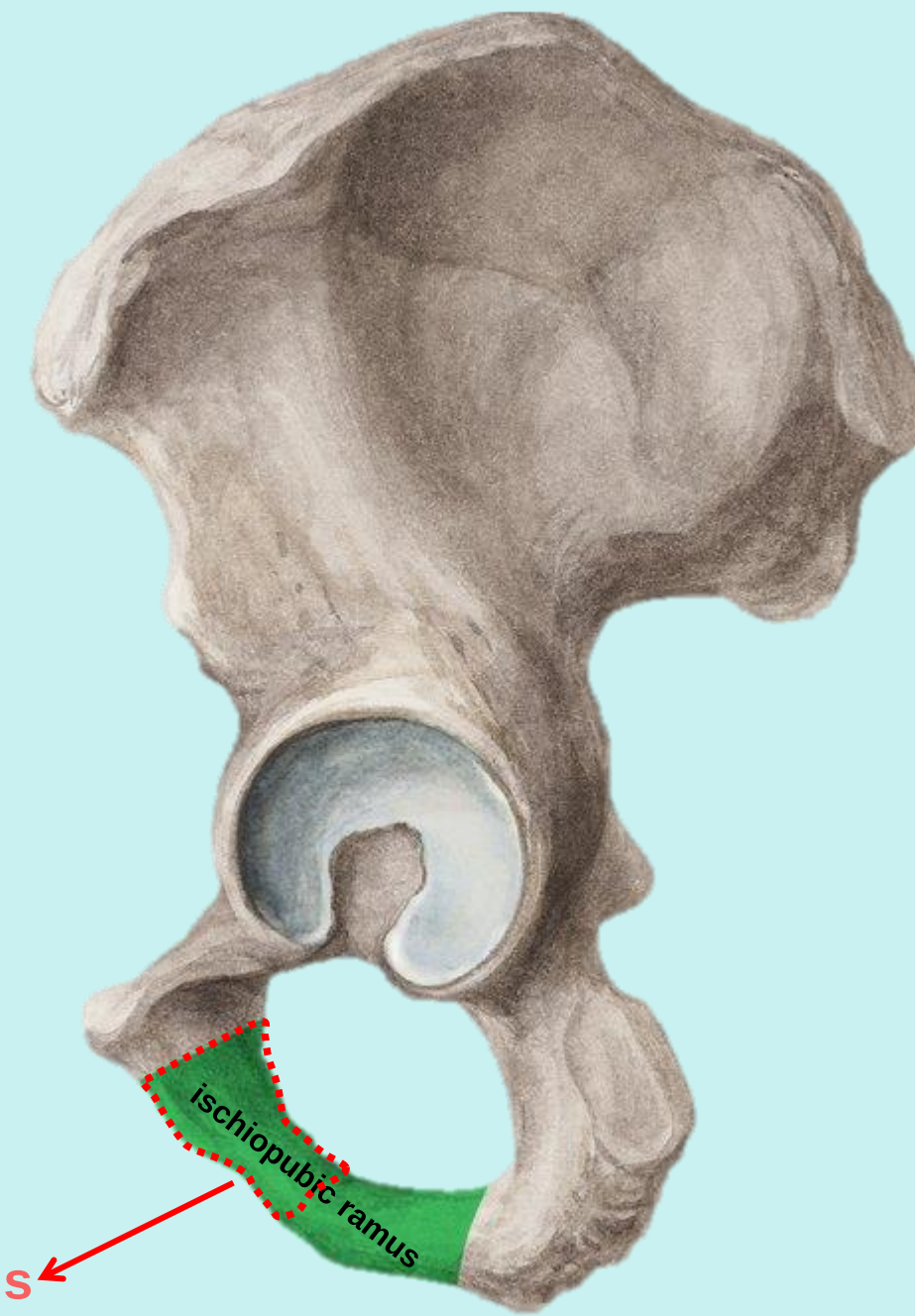
3. Pubis: consists of:

iii. Inferior Ramus of Pubis:

- Join the ramus of ischium to form the **conjoint ischiopubic ramus**.



Medial view



Lateral view

Inferior Ramus of Pubis

Check List:

Practical Lab-5

2. Femur

- ✓ Identify the type and anatomical location of the femur.
- ✓ Outline the major parts of the femur:
 1. **Proximal end:** consists of Head, Neck, and Trochanters
 2. Shaft
 3. Distal end.



Check List:

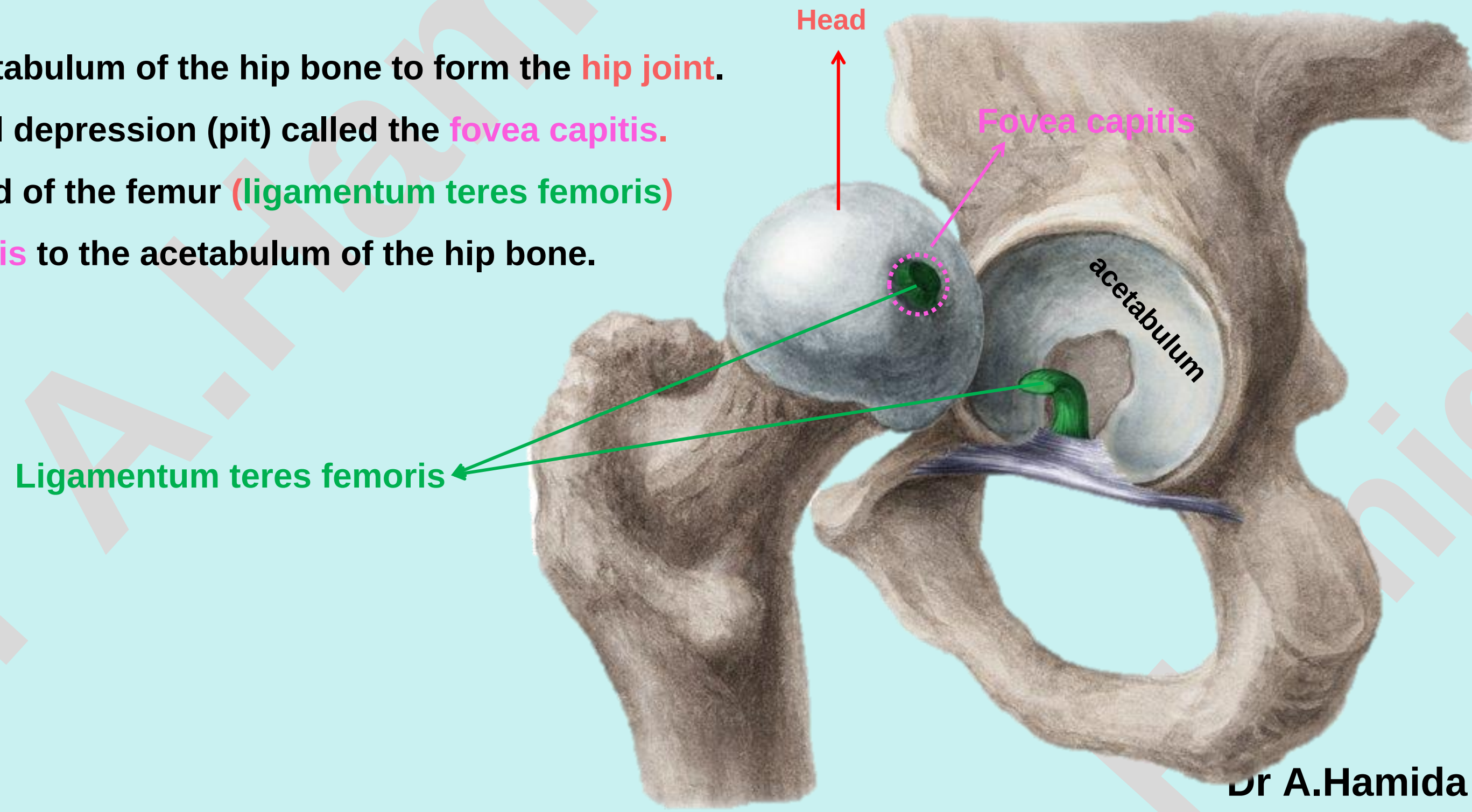
Practical Lab-5

2. Femur

1. **Proximal end:** consists of:

i. **Head:**

- Spherical in shape.
- Articulates with the acetabulum of the hip bone to form the **hip joint**.
- Contains a small central depression (pit) called the **fovea capitis**.
- The ligament of the head of the femur (**ligamentum teres femoris**) attaches the **fovea capitis** to the acetabulum of the hip bone.



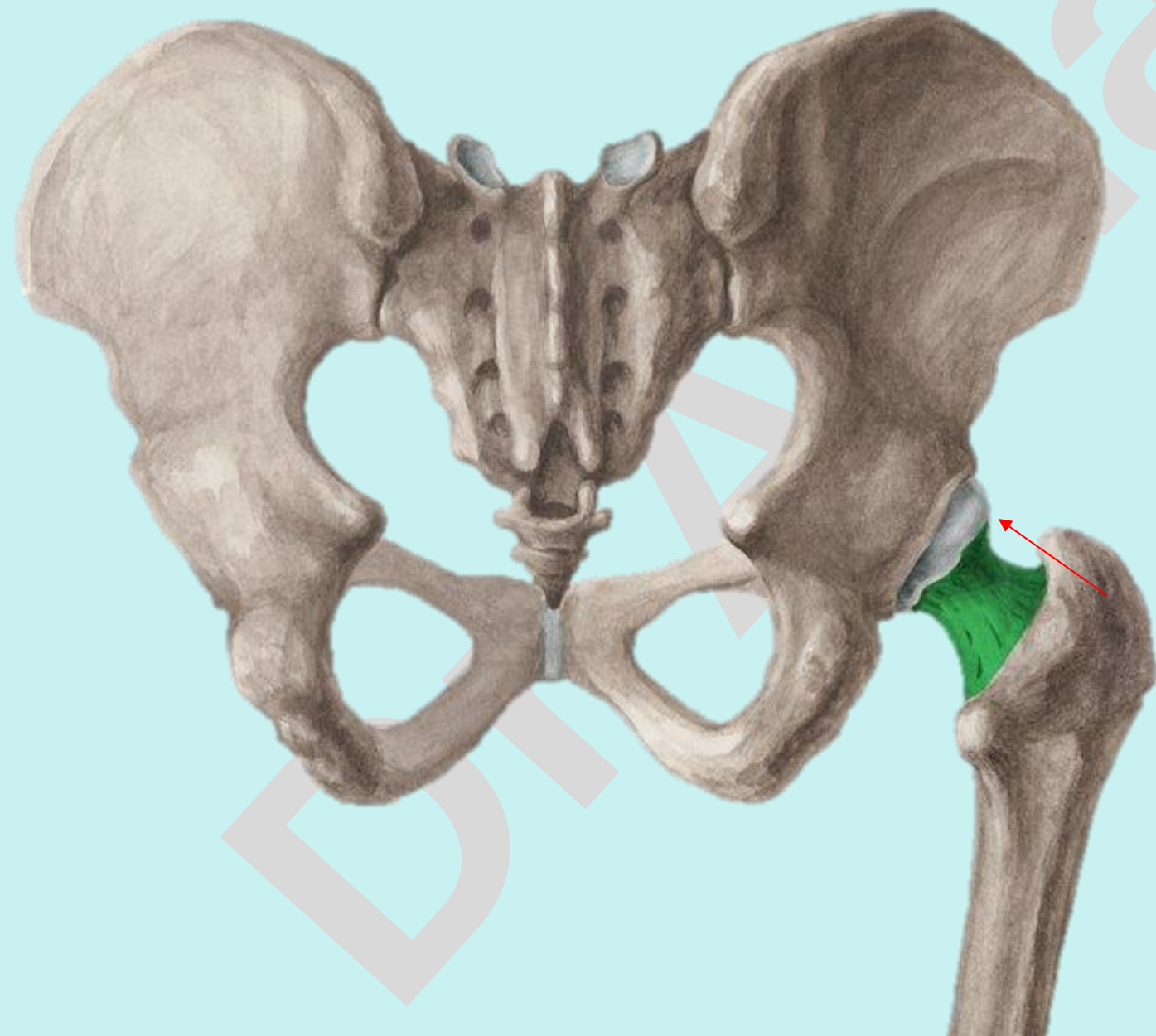
Check List:

2. Femur

1. **Proximal end:** consists of:

ii. **Neck:**

- A constricted region connecting the head to the shaft.
- Directed medially, upward, and slightly anteriorly



Check List:

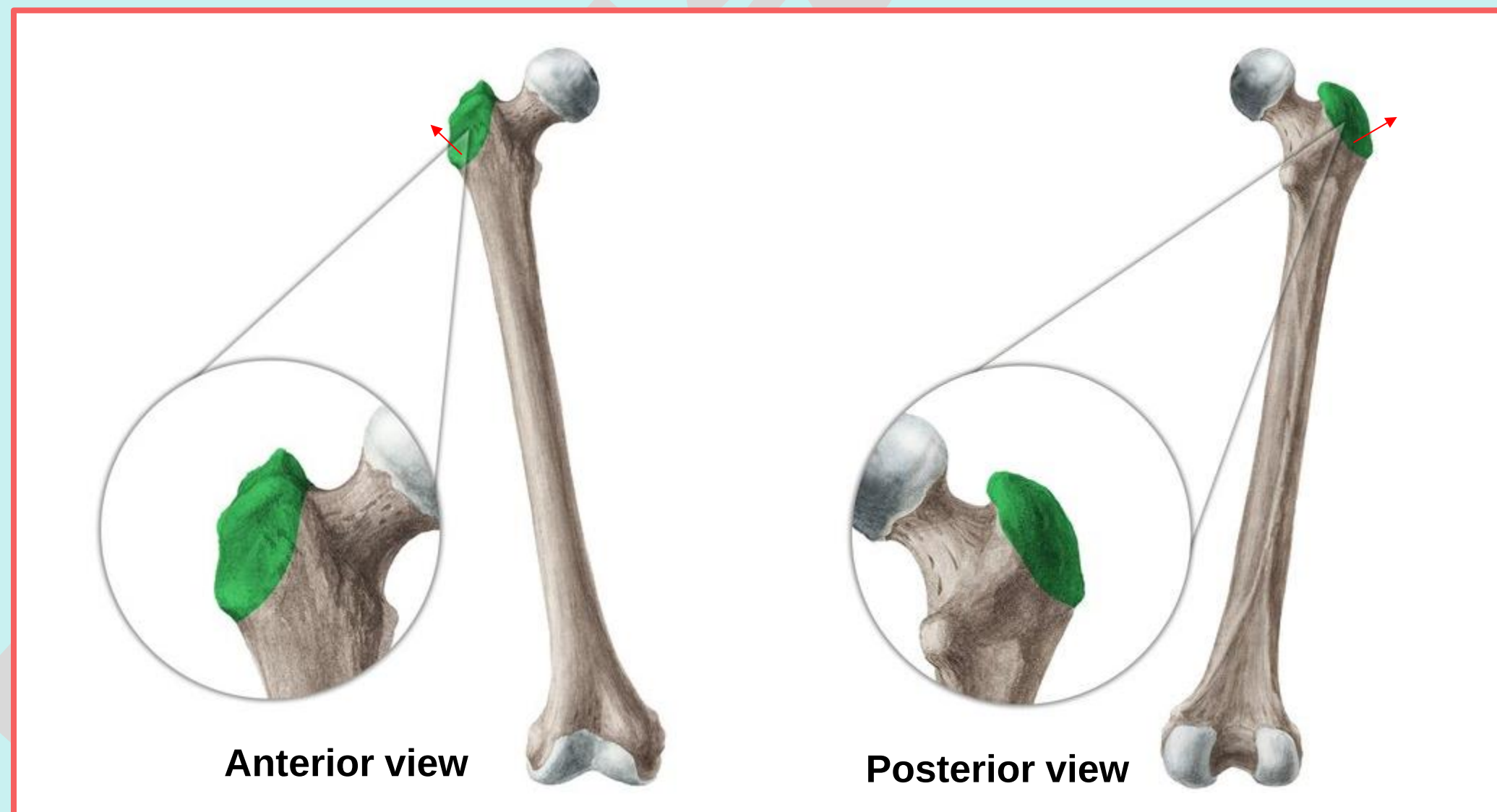
2. Femur

1. Proximal end: consists of:

iii. Trochanters :

1. Grater Trochanter:

- Large projection from the lateral side of the junction of neck and shaft.
- Directed upward and laterally.



Check List:

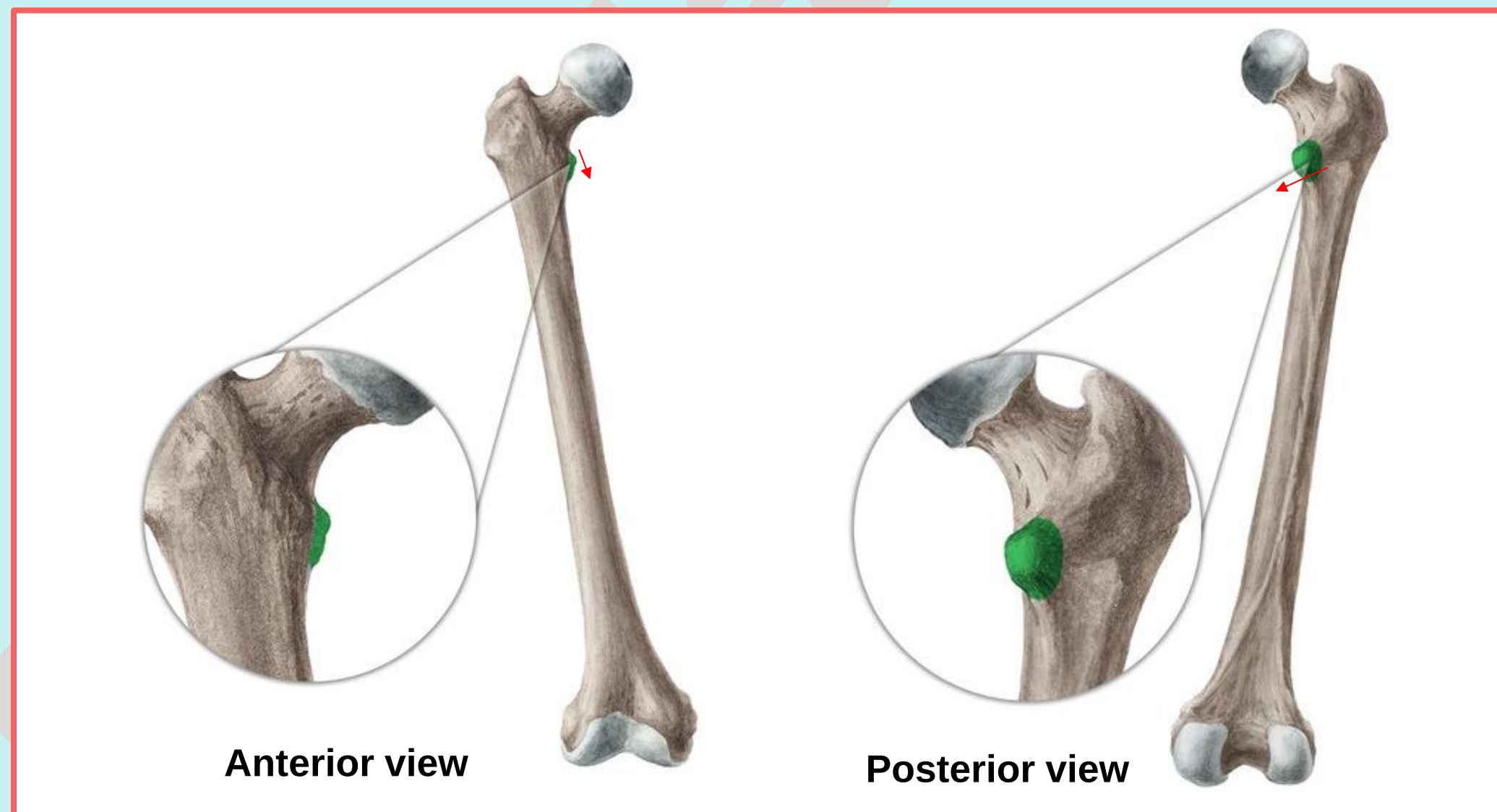
2. Femur

1. Proximal end: consists of:

iii. Trochanters :

2. Lesser Trochanter:

- Smaller projection from the posteromedial aspect of the neck–shaft angle.
- Directed medially.



Check List:

2. Femur

1. Proximal end: consists of:

iii. Trochanters :

- **Intertrochanteric line:** Extends between the greater and lesser trochanters anteriorly.

- **Intertrochanteric crest:** Extends between the greater and lesser trochanters posteriorly.

