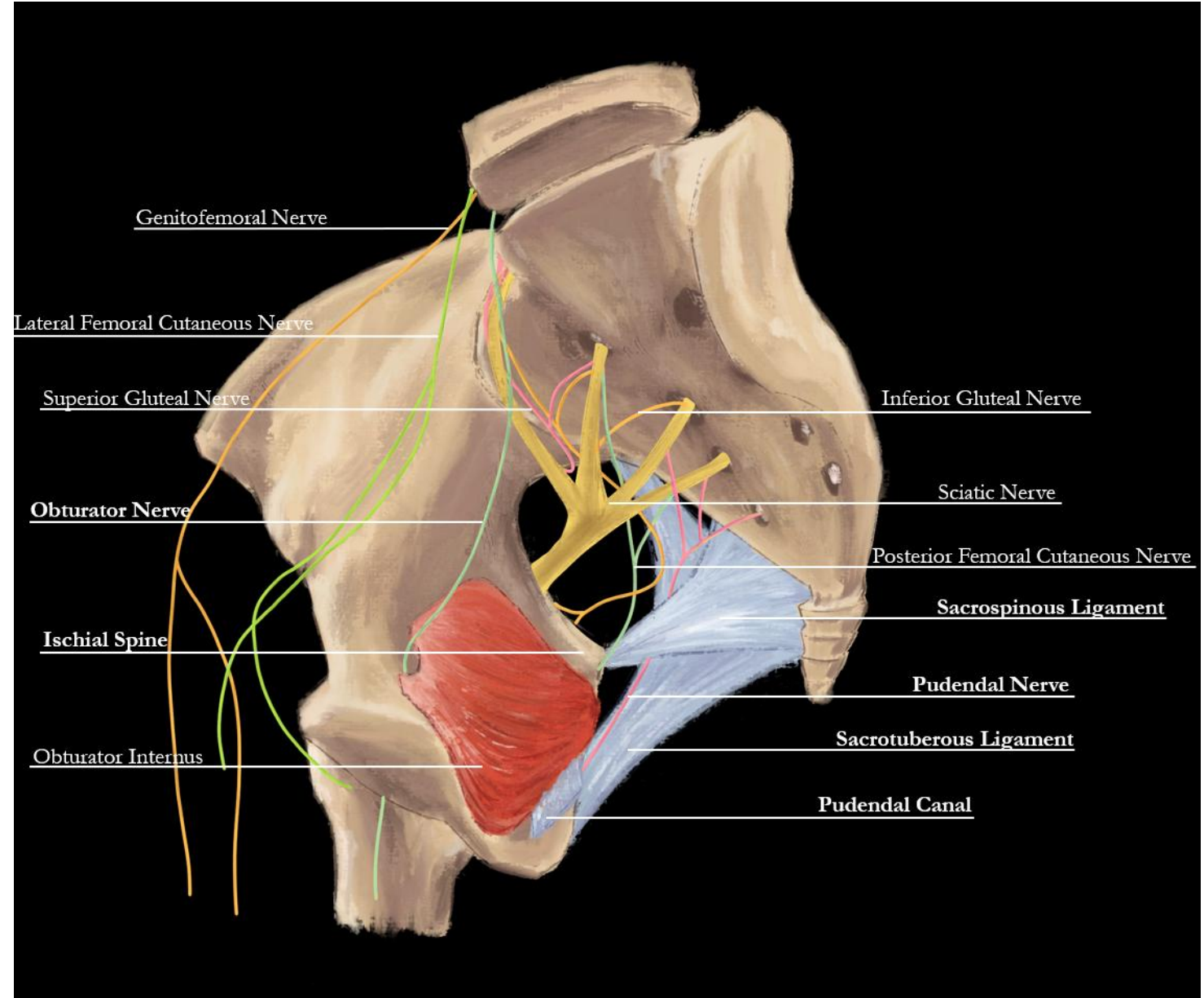


Lumbosacral Plexus: An Illustrated Atlas



Major Nerves of the Pelvis

Pudendal Nerve (S2-S4)

- Provides motor and sensory innervation to the perineum, external genitalia, and pelvic floor sphincters

Obturator Nerve (L2-L4)

- Primarily provides motor innervation to the medial compartment of the thigh (adductor muscles) and sensory innervation to the medial cutaneous thigh

Lateral Femoral Cutaneous Nerve (L2-L3)

- A purely sensory nerve supplying the anterolateral aspect of the thigh

Posterior Femoral Cutaneous Nerve (S1-S3)

- Provides sensory innervation to the posterior thigh, lower buttock, and perineum

Sciatic Nerve (L4-S3)

- Provides motor innervation to the posterior thigh (hamstrings) and all muscles of the leg and foot

Genitofemoral Nerve (L1-L2)

- Provides motor innervation to the cremaster muscle and sensory innervation to the anterior scrotal/mons pubis area and the upper anterior thigh.

Superior Gluteal Nerve (L4-S1)

- Motor to the gluteus medius, gluteus minimus, and tensor fasciae latae

Inferior Gluteal Nerve (L5-S2)

- Motor to the gluteus maximus. Crucial for hip extension.

Common Sites of Pathology/Impingement

Pudendal Nerve:

- **Pudendal Neuralgia:** Entrapment between the sacrotuberous and sacrospinous ligaments, or within Alcock's canal.

Obturator Nerve:

- Compressed by obturator hernias (yielding the **Howship-Romberg sign**: medial thigh pain exacerbated by hip extension).
- Also vulnerable to pelvic lymphadenopathy or retroperitoneal hematomas.

Lateral Femoral Cutaneous Nerve:

- **Meralgia Paresthetica:** Entrapment at the ASIS or inguinal ligament.
- Secondary causes include retroperitoneal hematomas, ASIS avulsion fractures, or iatrogenic injuries (e.g., bone graft harvesting).

Posterior Femoral Cutaneous Nerve:

- Entrapment by the piriformis muscle or compressed by profound ischial bursitis.

Sciatic Nerve:

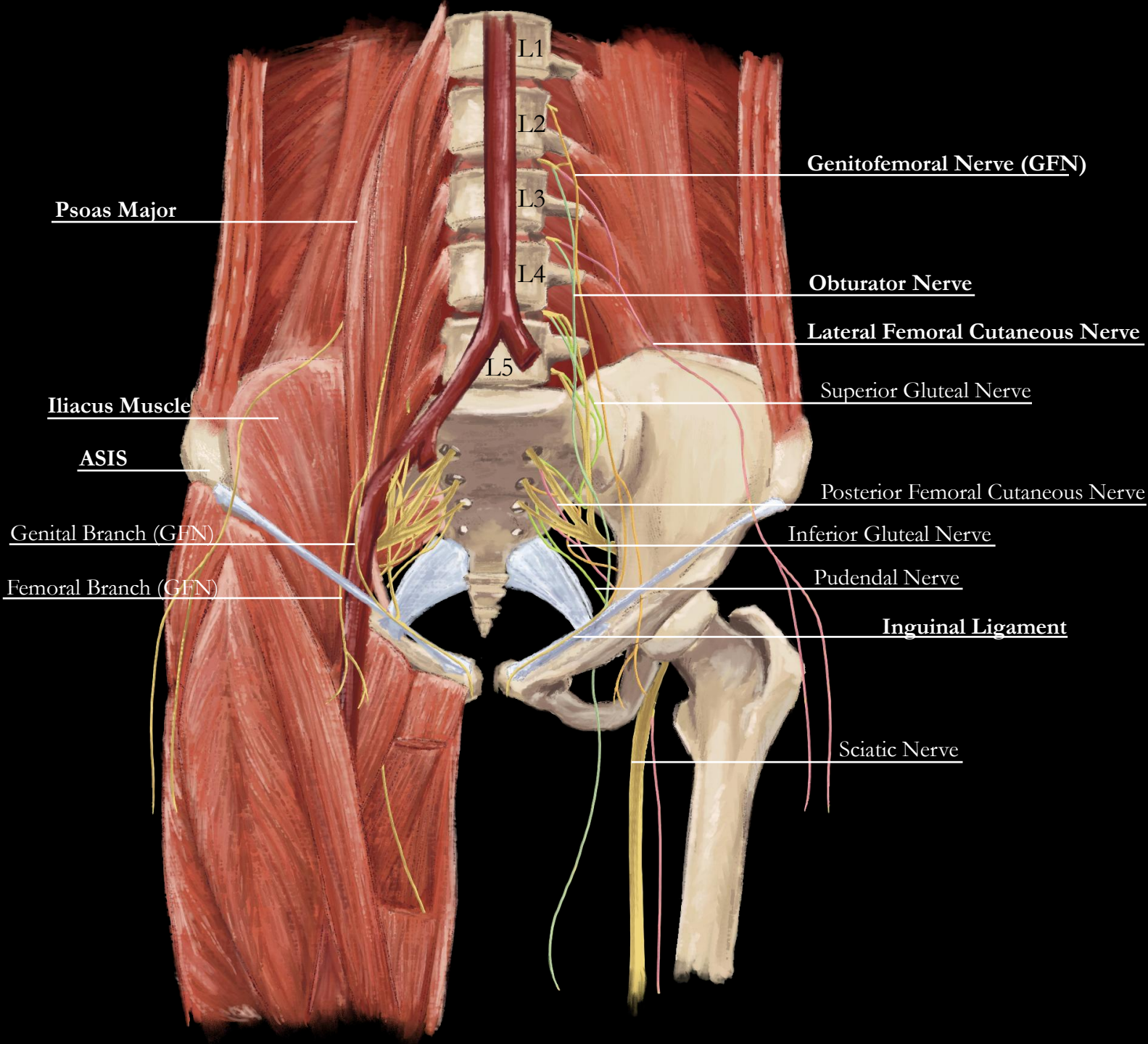
- **Piriformis Syndrome:** Compression by an enlarged/anomalous piriformis muscle.
- **Deep Gluteal Syndrome:** Compression by fibrovascular bands in the deep gluteal space.
- Also vulnerable to trauma from posterior hip dislocations or severe pelvic fractures.

Genitofemoral Nerve:

- Compressed against the psoas fascia by mass effects such as psoas abscesses, massive retroperitoneal hematomas, or retroperitoneal tumors.

Superior and Inferior Gluteal Nerves:

- Frequently iatrogenic (injury following posterior approach total hip arthroplasty).
- Can be compromised by space-occupying lesions in the greater sciatic notch, such as primary bone tumors or metastatic disease.



Genitofemoral Nerve

- Pierces the anterior surface of the **psoas major** and descends directly on its ventral surface
- It divides into **genital** and **femoral** branches superior to the **inguinal ligament**.

Obturator Nerve

- Descends through the fibers of the **psoas major**, emerges from its medial border, runs along the lateral pelvic wall

Lateral Femoral Cutaneous Nerve

- Emerges from the lateral border of **the psoas major**, crosses the **iliacus muscle** obliquely, and passes under (or sometimes through) **the inguinal ligament**, just medial to the **anterior superior iliac spine (ASIS)**

Superior Gluteal Nerve

- Exits the pelvis via the **greater sciatic foramen**, *superior* to the **piriformis**

Inferior Gluteal Nerve

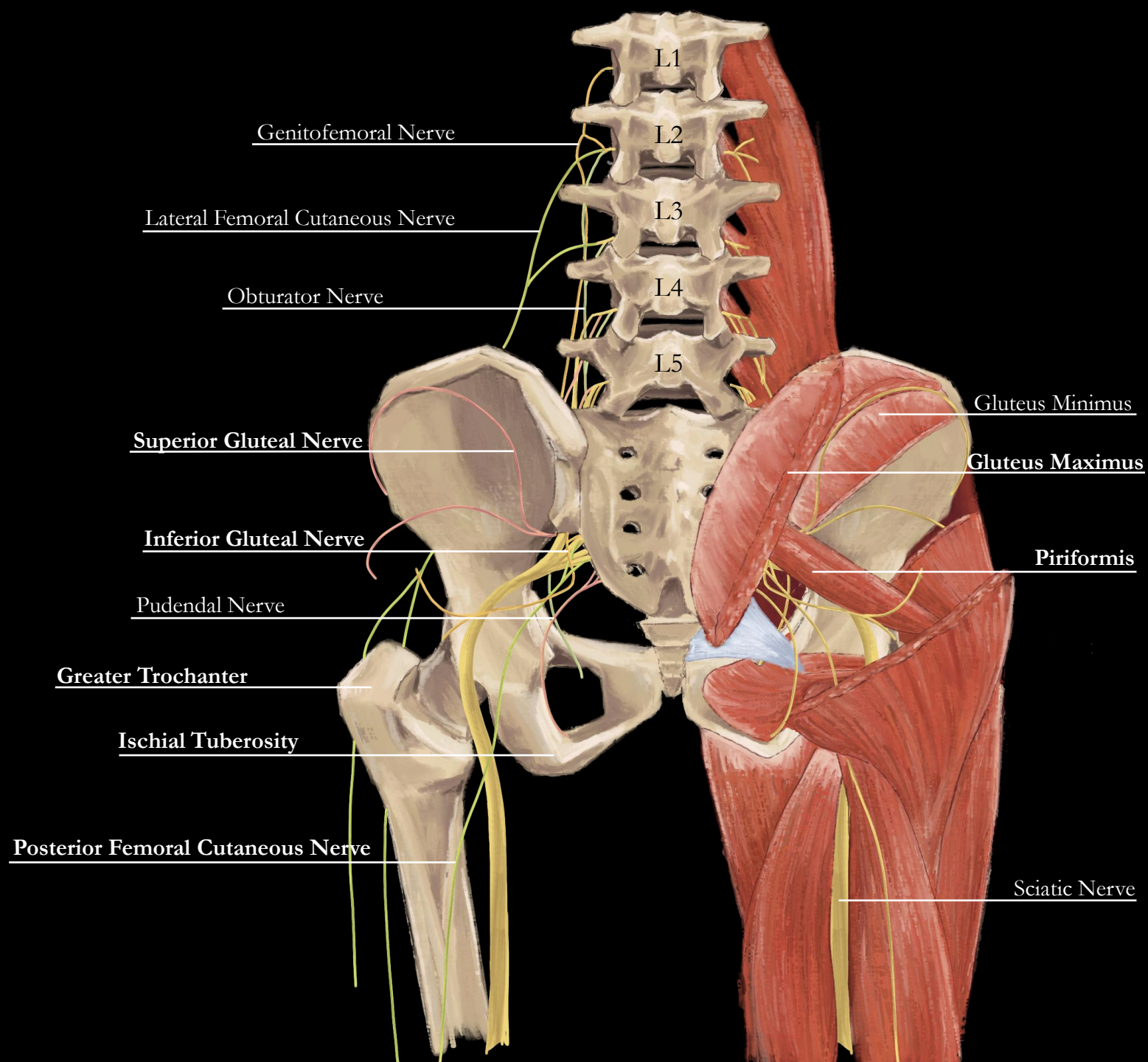
- Exits the pelvis via the **greater sciatic foramen**, *inferior* to the **piriformis**

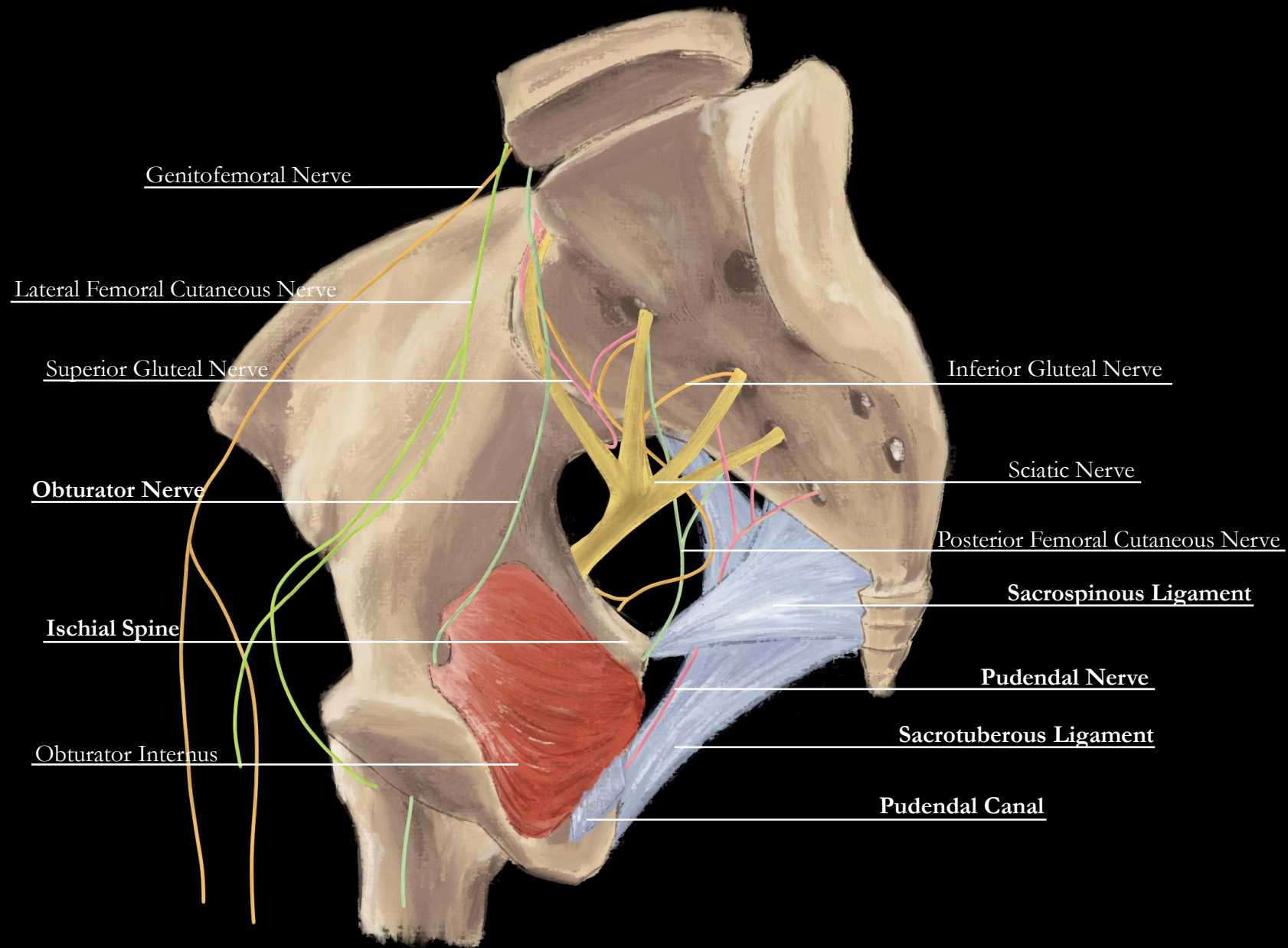
Posterior Femoral Cutaneous Nerve

- Exits the pelvis through the **greater sciatic foramen** inferior to the **piriformis**, running medial to the **sciatic nerve**
- It descends deep to the **gluteus maximus** and travels down the posterior thigh deep to the **fascia lata**

Sciatic Nerve

- Exits the pelvis through the **greater sciatic foramen** (typically inferior to the piriformis), descends through the gluteal region midway between the **greater trochanter** and the **ischial tuberosity**





Pudendal Nerve

- Exits the pelvis through the greater sciatic foramen (inferior to the piriformis), hooks around the **ischial spine/sacrospinous ligament**, and re-enters the pelvis via the lesser sciatic foramen to travel anteriorly through the **pudendal canal** (Alcock's canal).

Obturator Nerve

- Exits pelvis through the obturator canal to enter the medial thigh

2026

About the Artist

Kaitlyn Do is an undergraduate at Penn State University majoring in Biochemistry and Molecular Biology. A gifted illustrator, she is creating stunning, hand-drawn medical renderings for the Stanford xrayhead Anatomy Atlas. Kaitlyn's attention to detail breaks down anatomical complexities, providing a clearer educational experience for the reader.

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