I didn’t include the slides, this is only what the doctor read or said because he skipped a lot of things because we took it previously, very important to go back to the slides (*there is an edited version)

**Slides 4-12**

*Bony pelvis consists of 2 Hip bones and coccyx and sacrum posteriorly, the hip bones are connected anteriorly by pubic symphysis and posteriorly by iliosacral joints (ilium of the hip bone with sacrum), all together makes the bony pelvis.*

As we took the hip bone consists of 3 bones connected together within the acetabulum laterally:

1) Pubis is inferior anterior
2) Ischium is inferior posterior
3) Ilium is superior

*Ilium* consists of ala (superior) & the body (inferior) and the line that separates them internally is the **arcuate line.**

*below the posterior inferior iliac spine there is greater sciatic notch.*

*ischium* contributes to the acetabulum too, the inferior bulging part of it is a superficial structure ischial tuberosity and there is an **ischial spine and below it is the lesser sciatic notch.**

*In the pubis* we have a body and a superior & inferior rami, the two bodies join by pubic symphysis, anteriorly on the body there is a pubic crest and tubercle. On the superior ramus internally there is a ridge we call it Iliopectineal line (pectineal line), this line connects with the arcuate line posteriorly, and the pubic symphysis anteriorly..

**Sacrum**

It has anterior and posterior foramena, the ventral rami exits through anterior foramena into the pelvis and dorsal rami through posterior foramena outside the pelvis.

* Superior anterior margin of the sacrum is called promontory.

*coccyx* is inferior to the sacrum.

**Pelvis orientation: slides 12-15**
Anterior part of sacrum & pubic symphysis are directed backward downward and posterior part is upward, the pubic symphysis is oriented obliquely so the superior part is the most anterior (pubic symphysis and tubercle). So because of this orientation the pubic crest is vertical with anterior superior iliac spine when standing (on the same vertical level).

So this makes the sacrum oriented posteriorly, also the pelvis have an axis with the arch of the sacrum and it is the path of the baby delivery.

**The pelvis is divided into true (minor\lesser) pelvis and false (major\greater) pelvis, the false is a part of abdomen, the pelvic brim divides them.**

**Pelvic brim\inlet = Promontory (superior anterior margin of the sacrum) + arcuate line + iliopectineal line + pubic symphysis.**

*False pelvis:

Lies above pelvic brim, posteriorly there are the lumber vertebrae & iliac fossae, Anteriorly is the abdominal wall.

*True pelvis:

It has an inlet (the pelvic brim) and an outlet, the inlet the superior part and is bounded by sacral promontory, iliopectineal line & pubic symphysis. The outlet in inferior and is bounded posteriorly by the coccyx, laterally by ischial tuberosities and sacrotuberous ligaments & anteriorly by pubic arch.

• Pelvic cavity
  – Between inlet & outlet
  – Short curved canal
  – Shallow anterior & deep
  Posterior walls.

Slide 16-20 Read the tables it is about the difference between male & female pelvis.

**Pelvic wall: slides 21-24**
We have Anterior\Posterior\lateral\floor, we don’t have a roof because its continuous with abdomen superiory.

1) Anterior wall:

The shallowest & the smallest wall.

Consists of bodies of pubic bone, pubic rami & symphysis pubis.

2) Posterior wall:

Consists of Sacrum & coccyx, and **The Piriformis**

* Piriformis originate from sacrum, exits inside the pelvis from anterior wall of the sacrum just lateral to anterior sacral foramen through GREATER sciatic and inserts into greater trochanter. **important**

3) Lateral Wall:

*most of the hip bones specially pubis & ischium.

*laterally there is an obturator foramen that is enclosed by fibrous sheet the Obturator membrane.

* 2 ligaments:
  --- Sacrotuberous ligament
  – From sacrum, coccyx & PIIS to the ischial tuberosity
  --- Sacrospinous ligaments
  – From sacrum & coccyx to the ischial spine

These 2 ligaments transforms the sciatic notches to Greater & lesser sciatic foramen.

Greater sciatic foramen: is the exit from the pelvis.
Lesser sciatic foramen: is the entrance into the perineum.

*Obturator internus muscle:

Originates from edges of obturator foramen\membrane and the foramen\membrane itself and through LESSER sciatic foramen inserts into greater trochanter.

**Important:**

Piriformis: post. Wall \greater sciatic foramen
Obturator internus: lateral wall\lesser sciatic foramen.
Pelvic diaphragm consists of:
- Anteriorly the Levator ani muscle & posteriorly the coccygeus that lies on sacrospinous ligament, these along with fascia that covers them forms the pelvic diaphragm.

- The pelvic diaphragm separates the pelvic cavity above from the perineum below.
- Pelvic diaphragm is deficient anteriorly (urogenital hiatus).

**Levator ani muscle:**
- Wide thin sheet
- Originates from pubic body anteriorly and goes posteriorly through the middle of obturator internus muscle fascia and end posteriorly in ischial spine
- Orientation – Downward and medially

**The fibers\parts:**
- **Anterior fibers** (levator prostatae (male) or sphincter vaginae (female))
  – originate anteriorly from pubic body and goes posteriorly into perineal body.

*perineal body: cartiligenous structure between anus posteriorly and urogenital organs anteriorly. Part of cloaca*

- **Intermediate fibers**
  – **Puborectalis** – around the anorectal junction
*from pubis and goes around the rectum (junction between anus and rectum) and makes a sphincter and re-orientation of rectum (rectum is downward anterior\forward→anal canal is downward posterior\backward). Inserts into other fibers

**above the pelvic diaphragm is rectum and below is the anal canal

– **Pubococygeus

• Inserts into the anococcygeal body (it is a cartilaginous body continuous with the coccyx)

** anterior to anus is perineal body, posterior to it is the 5nococcygeal body.

• **Posterior fibers

(iliococcygeus)

– Inserted into the anococcygeal body & coccyx

**Pelvic fascia: slide 26

• Above is continuous with the fascia lining the abdominal walls

• Below is continuous with the fascia of the perineum

• Layers

– **Parietal layer:

Continuous to abdomen\covers the walls of pelvis and the pelvic diaphragm superiorly then it enters through urogenital hiatus anteriorly and covers the diaphragm inferiorly.

– **Visceral layer

• Covers & supports the pelvic viscera

– Fascial ligaments- connects some viscera(bladder\uterus and the fascia thickens and gives ligaments ) to the pelvic walls (pubovesical & sacrocervical ligaments)

• Parietal peritoneum
– Lines the pelvic walls
– Covers the viscera (superior wall of bladder\uterus\rectum\fallopian tubes) and continue as visceral peritoneum

**Nerves of pelvis: slide 32-34**

• Branches of lumbar plexus
  *all the lumbar nerves are outside the pelvis except:
  – Lumbosacral trunk which crosses the pelvic brim into pelvis to join the sacral plexus
  – Obturator nerve: crosses the pelvic brim to exit through obturator canal.

• Sacral plexus

  *sacral foramina are medial to prifiormis muscle and ventral rami exit through it and make the plexus anterior to periformis and posterior to internal iliac vessels and rectum

• Autonomic nerves we will talk later.

**Sacral Plexus:**

• Ventral rami L4-S4

• Anterior to the sacrum and posterior pelvic wall

• Form in front of periformis m.

• Supplies buttocks, perineum & part of lower limb

  • **Branches exit from the greater sciatic notch**
  • **Branches exit inferior to periformis m. except the superior gluteal n.**

**Autonomic Nerves**

• Pelvic part of sympathetic trunk

  – Posterior to common iliac vessels – Anterior to sacrum – Medial to sacral foramina

  – 4-5 ganglia
– Ganglion impar

• Pelvic splanchnic nerves
  – Parasympathetic (S2-S4)
  – Inferior hypogastric plexus
  – Inferior mesenteric plexus
• Superior hypogastric plexuses
  – In front of promontory
  – Forms right & left hypogastric nerves
• Inferior hypogastric plexuses
  – Hypogastric nerve + pelvic splanchnic nerve
  – Lateral to rectum, bladder & vagina

يا صديق النوم ان اليقظة هي النور الذي يبدد ظلمة الأحلام، قالها صديقي ثم نام!