

Anatomy & Physiology: Bones—Lumbo-Pelvic Hip Complex (Pelvic Girdle).

STRUCTURE.

- The lumbo-pelvic hip complex (LPHC) is a keystone structure in the human body as it transmits forces up through the lower kinetic chain to the upper kinetic chain.
- The LPHC consists of: 2 coxal (hip) bones joined anteriorly at the pubic symphysis; the sacrum; and the coccyx.
- Sacroiliac joint: where the auricular surface of the ilium articulate with the auricular surface of the sacrum.
- Coxal bone (hip bone): consists of 3 bones (initially separated by cartilage but fuses together around age 23 yrs): ilium, pubis; ischium ("Your hip is I.P.I. or ippy").
- Ilium: superior and largest of the hip bones.
 - Ala ("wing").
 - Acetabulum: forms part of the hip socket.
 - Body.
 - Iliac crest: superior border, extending anteriorly to form the anterior superior iliac spine. Palpateable.
 - Anterior superior iliac spine (ASIS): palpateable landmark.
 - Anterior inferior iliac spine (AIIS): palpateable landmark.
 - Posterior superior iliac spine (PSIS): palpateable landmark.
 - Posterior inferior iliac spine (PIIS): palpateable landmark.
 - Greater sciatic notch: inferior to the PIIS, through which the sciatic nerve passes (sciatic nerve is longest nerve in human body).
 - Iliac fossa.
 - Auricular surface: roughened area and articulates with the auricular surface of the sacrum to form the SI joint.
 - Arcuate line.
 - Posterior gluteal line (lateral surface).
 - Anterior gluteal line (lateral surface).
 - Inferior gluteal line (lateral surface).
- Ischium: inferior and posterior portion of the coxal bone.
 - Body.
 - Ramus: fuses with the pubis.

- Ischial spine.
- Lesser sciatic notch.
- Ischial tuberosity: rough and thickened area.
- Obturator foramen: formed from the ischium and pubis. Largest foramen in the skeleton. Almost totally closed off by fibrous obturator membrane.

- Pubis: inferior and anterior portion of the coxal bone.
 - Superior ramus.
 - Inferior ramus: the inferior rami of the two coxal bones, form the pubic arch.
 - Body.
 - Pubic tubercle.
 - Pubic crest.
 - Pubic symphysis: joint between two hip bones with fibrocartilage inbetween. In pregnant women, relaxin (hormone) increases the flexibility of the pubic symphysis.
 - Obturator foramen.

- Acetabulum: hip socket of hip joint formed by ilium, ischium, and pubis.

- False vs. True Pelvis.
 - Pelvic brim: defines the superior and inferior pelvis. Higher posteriorly than anteriorly due to tilt.
 - False pelvis: the portion of the pelvis superior to the pelvic brim.
 - True pelvis: the portion of the pelvis inferior to the pelvic brim.
 - Pelvic inlet: superior opening of the true pelvis.
 - Pelvic outlet: inferior opening of the true pelvis.
 - Pelvic axis.

- Male pelvis: tend to be larger, heavier, with more surface markings.
- Female pelvis: tend to be shallower and wider, more spacious true pelvis.

FUNCTION.

CLINICAL SIGNIFICANCE.

References

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