

# LOWER APPENDICULAR SKELETON

11/3/81, 11/5/81 rvsd 11/7/96, 1 Nov 00, 31 Oct 01, 9 Nov 01, 5 Nov 03, 26 Oct 05, 29 Oct 07, 3 Nov 08

Martini's 5<sup>th</sup>: 234-242, Martini 6<sup>th</sup>: 249-257, 7<sup>th</sup>: 245-255, 8<sup>th</sup>: 247-264

**Pelvic Girdle** formed from os coxae (hip bone) articulate with sacrum (sacroiliac joint)

**OS COXA** (p 255)

**acetabulum** (vinegar cruet):  
**obturator foramen**

in embryo formed from three bones, **ilium, ischium and pubis**  
where ilium, ischium and pubis meet, articulate with femur.

**Ilium:** **iliac crest**

**iliac fossa**  
**anterior superior iliac spine**  
**arcuate line**

large hole below acetabulum  
lateral top of "hip"  
(smooth inner concave surface)  
hard bony lateral anterior points  
(bow shaped) lower portion of iliac fossa, **greater sciatic notch**

**Ischium** (Gk for hip)

**greater ischial spine**  
**ischial tuberosity**  
**ischial ramus**

posterior inferior portion of os coxa, part of acetabulum  
below sciatic notch  
supports weight when sitting  
arches to meet pubic ramus (branch)

**Pubis:** **superior ramus** forms **pubic symphysis** (growing together)

**inferior ramus**

joins with ischial ramus

**Pelvic cavities:** false (greater) and true (lesser)

**pelvic brim**

sacral promontory, upper margin  
symphysis-arcuate lines  
surrounded by iliac fossa, abdominal wall  
surrounded by bone: ilium, ischium, pubis,  
sacrum, coccyx.

**false pelvis**

**true pelvis**

top is the inlet, bottom is the outlet

p 257: **Male Pelvis**

massive  
narrow iliac spines  
heart shaped inlet  
**narrow ischial tuberosities**  
**pubic angle acute**  
oval obturator foramen  
acetabulum faces laterally  
curved ilium wing

**Female Pelvis**

delicate  
wide iliac spines  
large circular inlet  
**wider ischial tuberosities**  
**pubic angle obtuse**  
triangular obturator foramen  
acetabulum faces more anterior  
straight ilium wing



**FEMUR** (thigh): longest bone in body

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**head**

spherical proximal epiphysis: **fovea capitis**, tied by ligamentum teres to acetabulum

**neck**

then two processes:

**greater and lesser trochantors** (for muscle attachment).

**linea aspera** (rough line)

posterior line widens into **popliteal** surface distally

**medial and lateral condyles**

at distal end, separated by **intercondylar fossa**

**adductor tubercle**

medially fr end

**PATELLA:** sesamoid bone, forms within tendon, protects, improves leverage of quadriceps femoris

**TIBIA:** **medial and lateral condyles**

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**intercondylar eminence**

at proximal end

**tibial tuberosity**

or spine

**anterior crest**

site of attachment of ligamentum patellae

**medial malleolus**

sharpness of shin  
projects down medially, inner lump of ankle.

**FIBULA:**

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**head**

articulates with lateral condyle of tibia

**lateral malleolus:**

outer lump of ankle

**ANKLE:** seven tarsal bones:

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**talus**

articulates via trochlea with tibia and fibula, between malleoli

**calcaneus**

heel bone, attachment for several calf muscles

**cuboid**

articulates laterally with calcaneus, anteriorly with forth & fifth metatarsals

**navicular**

articulates medially with calcaneus, distally with cuneiform

**medial cuneiform**

first metatarsal

**intermediate cuneiform**

second metatarsal

**lateral cuneiform**

third metatarsal (adjacent to cuboid)

**TOES:**

261 three cuneiforms articulate with **first three metatarsals: I, II, III**

cuboid with **last two metatarsals: IV, V.**

**PHALANGES** as in hand:

2nd-5th have proximal, middle,

distal phalanges.

1st has no medial.



**Arches:** supported mainly by ligaments

longitudinal arch: from calcaneus to metatarsals and tarsals, m portion greater than lateral (calcaneal).

transverse forms across at base of metatarsals

**Sesamoid bones:** form in tendons subject to compression, therefore usually around joints.

**Patella** is largest.

also around metacarpophalangeal and metatarsophalangeal joints