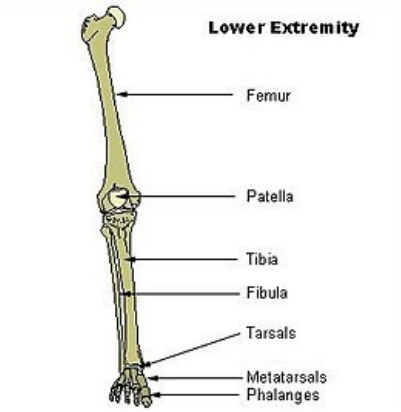
Bones of the lower limb

Bones of the lower limb or *ossa membri inferioris* just like the upper limb, they are formed by a girdle (*cingulum membri*) and the skeleton of the free limb (*skeleton membri liberi*).

The girdle of the lower limb

The plexus of the lower limb is formed by a single bone - **the pelvis** (*os coxae* , which is formed by the union of 3 components connected during development **by synchondrosis)** . It is articularly connected to the sacrum, and in the pubic clasp it is connected to the ipsilateral pelvic bone. This creates a closed ***structure*** - **the pelvis .**



Os coxae is made up of 3 bones: **hip bone (*os ilium*)** , **ischial bone (*os ischii*)** , **pubic bone (*os pubis*)** . The cartilaginous boundaries of all 3 bones meet during development in the form of the letter Y in the fossa of the hip joint (*cartilago ypsinoformis*).

Skeleton membri inferioris liberi

Thigh bone (*femur*)

The femur is the largest and strongest bone in the human body. It has 4 main parts:

- **Caput femoris** - head of the femur, fits into the socket of the acetabulum and is part of the hip joint;
- **Collum femoris** - the neck of the femur, connects the head to the body, forms a collodiaphyseal angle with the corpus with an average value of 125°, one of the most common fractures on the lower limb;
- **Corpus femoris** - the body of the femur, the longest part of the bone, on the upper side it extends into 2 tufts - *trochanter major et minor* ;
- **Condyli femoris** − on the distal side expands into 2 bumps − *epicondylus lateralis et medialis* , which are part of the knee joint..

Patella

The patella is considered the sesamoid bone in the insertion tendon of the quadriceps femoris muscle. It has *facies articularis, facies anterior and basis and apex patellae* . Apex is hidden in *leagues. patellae* . The patella is palpable along its front surface and along its circumference (through the tendon *of the quadriceps femoris* muscle).

Ossa cruris (leg bones)

This includes *the tibia* − medially and the fibula − laterally.

Tibia

It is a strong bone, placed medially in front. It is divided into 3 parts:

- **The proximal part** - it consists of 2 wide articular bumps - *condylus lateralis et medialis* , both of which bear at their proximal end articular surfaces (*facies articularis superior*) for contact with the condyles of the femur
- **The body of the tibia (*corpus tibiae*)** − strong, triangular
- **The distal part** - extends into the inner ankle - **malleolus medialis**

On the front side, between the condyles, there is a massive roughness - **tuberositas tibiae** , where the tendon of the quadriceps femoris muscle - **lig. patellae** .

Calf bone (*fibula*)

The fibula is a thin bone, located laterally and posteriorly. It cannot be said that it has a direct load-bearing function, it serves mainly as a place of muscle beginnings (e.g. mm. fibulares). It again has 3 parts:

- **Caput fibullae** − the head of the fibula bone, carries the articular surface for connection with the tibia, just below it is the **collum fibullae , the biceps femoris muscle** is attached to the head ;
- **Corpus fibullae** − has 4 edges − anterior, posterior, internal and ventromedial;
- **Malleolus lateralis (outer ankle)** − extends further distally than the inner ankle, it is connected to the tibia **by a syndesmosis** complete with an articular cleft.

Leg bones (*ossa pedis*)

Tarsal bones (*ossa tarsi*)

There are 7 metatarsal bones forming *the tarsus pedis* :

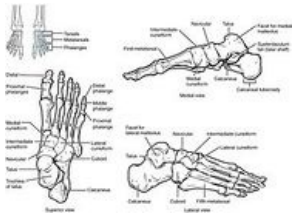
- **Ankle bone (talus)** - articulated with the bones of the lower leg, its parts are *trochlea, collum, caput* (articular surface for articulation with os naviculare), processus posterior - extends backwards, there is a groove called sulcus tendinis musculi flexoris hallucis longi;
- **The heel bone (calcaneus)** - the largest, anteroposteriorly elongated bone of the instep, has 3 articular surfaces on the dorsal side of the bone - **facies articularis talaris anterior, media, posterior** , **sustentaculum tali** - a protrusion of the heel bone supporting the talus, the other parts are **the tuber calcanei** (a conspicuous structure, clamps with the tendon of the triceps muscle − **Achilles tendon**) and **facies articularis cuboidea** ;
- **Navicular bone (os naviculare)** - proximally the articular surface for the caput tali, distally 3 triangular surfaces for the ossa cuneiformia, there is a noticeable roughness - tuberositas navicularis, which is palpable in the living;
- **Cuboid bone (os cuboideum)** − irregular shape, proximally it has a wavy curved articular surface for connection with the calcaneus, distally articular surfaces for metatarsal axis IV and V and medially articular surface for connection with the external sphenoid bone;
- **Cuneiform bones (ossa cuneiformia)** - there are three: os cuneiforme mediale (the largest), intermedium and lateral.

In the assembly of the metatarsal bones, we find **2 proximodistal stripes** :

- In the assembly of the bones of the metatarsals we find
  - **internal** − *talus* − *os naviculare* − 3 *ossa cuneiformia* − 3 *ossa metatarsalia*
  - **outer** − *calcaneus* − *os cuboideum* − 2 *ossa metatarsalia*

Metatarsal bones (*ossa metatarsi*)

These are 5 metatarsal bones (**os metatarsale**), designated by the Roman IV. Each has 3 parts − **basis, corpus, caput** . Together they form **the metatarsus** of the foot (instep). They are similar in structure, development and ossification to the metacarpus of the hand.



Bones of the toes (*ossa digitorum pedis*)

The skeleton of the fingers is formed by **the phalanges digitorum pedis** . Each finger has 3 joints − **phalanx proximalis, media et distalis** , the exception is the thumb, which has two joints (it does not have a phalanx media). Each article can again be divided into 3 parts - **basis, corpus, caput** .

Links

Related articles

- bones of the upper limb
- limb development
- general division of limb bones

References

- ČIHÁK, Radomír – GRIM, Miloš. *Anatomie.* 2., uprav. a dopl edition. Praha : Grada Publishing, 2002. 470 pp. vol. 1. pp. 253-272. ISBN 80-7169-970-5.