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**The Human Skeleton (sceletum)**

* **function:**
* Support for the body
* Movement (together with the muscles)
* Organ protection (skull – brain, spine – spinal cord, rib cage – lungs, heart)
* Composed of 206 bones (some get fused during life)

**A: the skull (*cranium*)**

**1. the braincase (neurocranium)**

* Protection for the brain and the sensory organs
* **Occipital bone** - os occipitale
* **Parietal bone**- os parietale
* **Frontal bone** - os frontale
* **Sphenoid bone** - os sphenoidale - has a saddle-shaped depression *sella turcica*, where the pituitary gland is located
* **Temporal bone -** os temporale – **the petrous part of the temporal bone**

**2. facial skeleton (splanchnocranium)**

* **Maxilla** - maxilla
* **Mandible - jaw –** mandibula
* **Lacrimal bone** - os lacrimale
* **Nasal bone** - os nasale
* **Zygomatic bone** - os zygomaticum
* **Palatine bones** – ossa palatina
* **Ethmoid bone** – os ethmoidale
* **Vomer**
* **Hyoid (lingual) bone** - helps to swallow and talk, it is loosely articulated, not found on the skull

**B: the bones of the torso**

**1. the vertebral column (columna vertebralis)**

* Composed of vertebrae and intervertebral discs
* The spine of an adult is curved twice, S-shaped:

⮡ lordosis – curving forward (cervical, lumbar)

⮡ kyphosis – curving backwards (thoracic, sacral)

* scoliosis – curving sideways
* **vertebrae (vertebrae)**:
* **7 thoracic**

C1: the atlas – does not have a body, only the anterior and the posterior arch and a hollow for the dens of the axis

C2: the axis - (function: connecting the skull and the spine) – the body protrudes into a dens to connect with C1

* **12 thoracic** – 12 pairs of ribs are attached to them
* **5 lumbar**
* **5 sacral** – fused into **the sacrum** (os sacrum)
* **4-5 coccygeal**

**The structure of a vertebra**: the body, the vertebral foramen (for the spinal cord), the transverse processes, the spinous process

**2. the rib cage (thorax)** – protects the heart and the lungs

* **sternum** - os sternum

⮡ parts: manubrium, the body, the xiphoid process

* **12 thoracic vertebrae**
* **12 pairs of ribs** - costae

⮡ 7 pairs of ‘true ribs’ – attached to the sternum via cartilages

⮡ 5 pairs of ‘false ribs’

⮡ 3 pairs share a cartilage with the ribs above them

⮡ 2 pairs of floating ribs, only attached to the vertebrae

**C: appendicular bones**

**Upper part**

* the shoulder girdle (connects the arm to the trunk): **- scapula** (scapula)

**- clavicle** (clavicula)

* the upper limb:

**- humerus** (humerus)

**- forearm: - ulna** (ulna) – the one pointing to the little finger

**- radius** (radius) – to the thumb

**- hand**:

• 8 carpals – ossa carpi

• 5 metacarpal – ossa metacarpalia

• 14 phalanges článkov prstov - phalanges

**Lower part**

* pelvic girdle:

- **ilium + ischium + pubis** – they fuse into the **hip bone** (os coxae)

* **pelvis** (pelvis) = 2 hip bones joined in the front by the pubic symphysis and by the sacrum in the back

- the hip bone and the sacrum a connected by a joint

- S2 -S5 fuse at the age of 14-20 years, S1 fuses between 20th and 30th year of age

* the lower limb

- **femur** (os femoris) – the longest bone

**- tibia** (tibia) – to the inner ankle

**- fibula** (fibula) – to the outer ankle

**- patella** (patella)

**- the foot:**

• 7 tarsals – ossa tarsi

• 5 metatarsals – ossa metatarsalia

• 14 phalanges - phalanges