...going one step further

A20/2

(1020161)

English

Didactic skull on cervical vertebral column

This model illustrates the shapes and relationships of the various bone plates of the skull with the aid of different didactic colors. The skull can be re-moved from the cervical column; C1, C2 and C7 have colored markings.

In addition, the rhombencephalon, spinal cord, spinal nerves of the cervical vertebral column, vertebral arteries, basilar artery and the rear cerebral arteries are shown.

The skull (cranium)
The skull is made up of:
- Brain box (Neurocranium): forms a protective capsule for the brain while enclosing the Auris interna and media (inner and middle ear).
- Facial skeleton (Viscerocranium): forms the nasal and jaw skeleton with the entries to the respiratory and digestive tracts.

Neurocranium
- Os frontale (frontal bone)
- Os temporale (temporal bone)
- Os sphenoidale (sphenoid bone)
- Os occipitale (occipital bone)
- Os parietale (parietal bone)
- Os ethmoidale (ethmoid bone)

Viscerocranium
- Maxilla (upper jaw)
- Os zygomaticum (zygomatic bone)
- Os palatinum (palatine bone)
- Os lacrimale (lacrimal bone)
- Concha nasalis inferior (inferior nasal concha)
- Os nasale (nasal bone)
- Vomer (vomer)
- Mandibula (mandible or lower jaw)
- Os hyoideum (hyoid bone)
- Ossicula auditiva (auditory ossicles), these include:
  - Malleus (hammer)
  - Stapes (stirrup)
  - Incus (anvil)

The neural cranium and visceral cranium are made up of individual bones, which are connected to one another by sutures, synchondroses (cartilaginous joints) or synostoses (bones). The lower jaw, the auditory ossicles and the hyoid bone are exceptions to this.

During the bone development of the fetus, large gaps are formed in the cranium in those places where many bones are joined, which are covered by connective tissue (fontanels). This is very important for infant parturition, since the skull can adapt itself to the dimensions of the birth canal by shifting the bones together. The fontanels close while the skull is growing (between the 3rd month and the 2nd year). The connective tissue sutures then lose their elasticity as well and harden to form synostoses.

The following bony elements of the model are described individually:

Cranium, ossa
1 Os frontale
2 Os temporale
3 Os sphenoidale
4 Os occipitale
5 Os parietale
6 Os ethmoidale
7 Maxilla
8 Os zygomaticum
9 Os palatinum
10 Os lacrimale
11 Concha nasalis inferior
12 Os nasale
13 Vomer
14 Mandibula

Vertebrae cervicales (CI-CVII)
15 Vertebra cervicalis I (Atlas)
16 Vertebra cervicalis II (Axis)
17 Vertebra cervicalis III
18 Vertebra cervicalis IV
19 Vertebra cervicalis V
20 Vertevra cervicalis VI
21 Vertebra cervicalis VII (Vertebra prominens)

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