

Spine

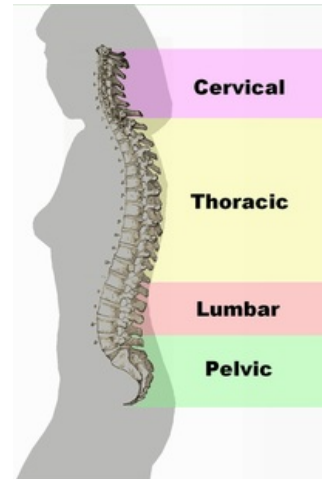
The **spine** forms the support and mobile pillar of the whole body. It is part of the axial skeleton.

Composition

The spine consists of **33-34 vertebrae**, which are linked by resilient but mobile joints. Depending on which part of the body the vertebrae are found, they are divided into segments (**cervical** C1-C7, **thoracic** Th1-Th12, **lumbar** L1-L5, **sacral** S1-S5 and **coccygeal** Co1-Co4(Co5). The individual parts differ not only in the number, but also in the structure of the vertebrae.

 For more information see *Vertebrae types*.

Vertebral *foramina vertebralia* creates a spinal canal through which in section **C₁-L₃** the spinal cord passes.



Spine

Connection on the spine

Vertebrae are connected by their bodies by:

1. synchondrosis (between the presacral vertebrae forms a joint *symphysis intervertebralis*, which contains the intervertebral plate, *discus intervertebralis*);
2. syndesmosis (ligaments, long ligaments of the spine; short ligaments of the spine that connect the arches and processes of the vertebrae);
3. intervertebral joints (articular connection between *processus articulares* of adjacent vertebrae, the shapes of the articular surfaces are different, articular the case is free).

The connection between the occipital bone, atlas and axis is referred to as **craniovertebral junction**.

 For more information see *Connection on the spine*.

Curvature of the spine

The length of the entire spine of an adult is about 35% of body height.^[1] Physiologically, the spine is biaxially curved. Curvature of the spinal convexity forward is called lordosis and can be found in the cervical and lumbar region. Curvature of the spinal convexity backwards is called kyphosis and can be found in the thoracic and sacral regions. A lateral curvature of the spine is called scoliosis. Physiological scoliosis is present in nearly every spine, most obviously between Th3 a Th5, and can be exacerbated by physical exertion.

 For more information see *Curvature of the spine*.

Mobility of the spine

The entire spine is highly mobile, most in the cervical part and least in the lumbar region, the sacral part of it to be exact. Movement in the chest area is largely restricted by the attached ribs. We call the movements of the spine *anteflexion* and *retroversion* (forward bends and backbends), *lateroflexion* (bends), *rotation* or *torsion* (turning sideways) and *suspending movements*, that change the curvature of the spine.

 For more information see *Spine mobility*.

Development of the spine

The **Spine** is formed in the embryonic period from the **somites**, which are partly adjacent to the chorda dorsalis - the **sclerotomies**. **Sclerotomy** surrounds the chord and the medullary tube and differentiates into individual parts of the spine - vertebrae and intervertebral plates. During development, the material of the vertebral somites moves towards the *myotomes* that form the basis of the muscles. For this reason, muscles go from one vertebra to another and not from one end of a vertebra to the end of the same vertebra. This allows the movement of the spine. Then there is a shift of the developing vertebra by half a segment as a result of the division into cranial and caudal parts. Another shift of half a segment is created by the enlargement of the cranial part and its transformation into a vertebral body. The cranial part pushes the caudal part, which gives rise to the **intervertebral disc**. The nucleus pulposus of the intervertebral disc is formed from the chorda dorsalis.

Links

Related articles

- Vertebrae
- Connection on the spine
- Examination of the mobility of the spine
- Spinal medulla
- Curvature of the spine
- Development of the spine

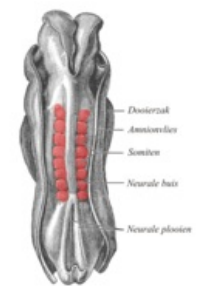
References

1. ČIHÁK, Radomír. *Anatomie*. 3. edition. Praha : Grada, 2011. vol. 1. ISBN 978-80-247-3817-8.

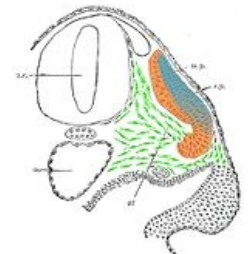
Used literature

- ČIHÁK, Radomír. *Anatomie 1*. 3. edition. Praha : Grada, 2011. ISBN 978-80-247-3817-8.

Template:Navbox - bones



Somite



Transverse section of a four-week-old human embryo.