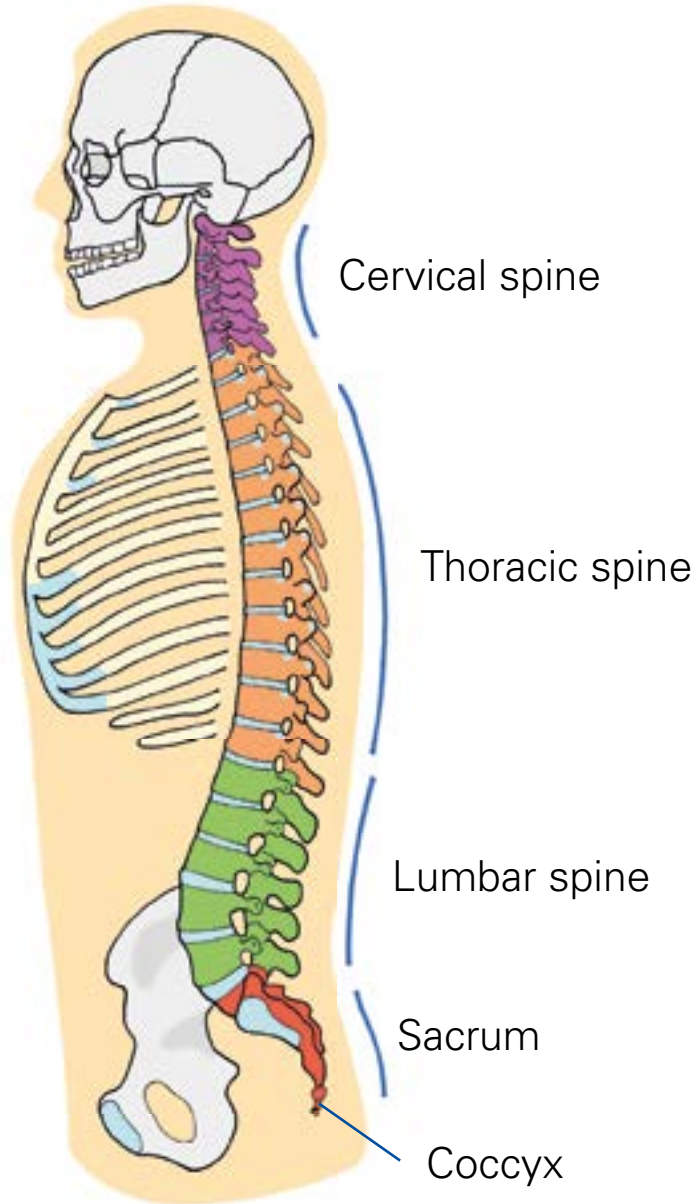


# Construction and function of the spine – the 24 movable vertebrae [1]

## Spine

A



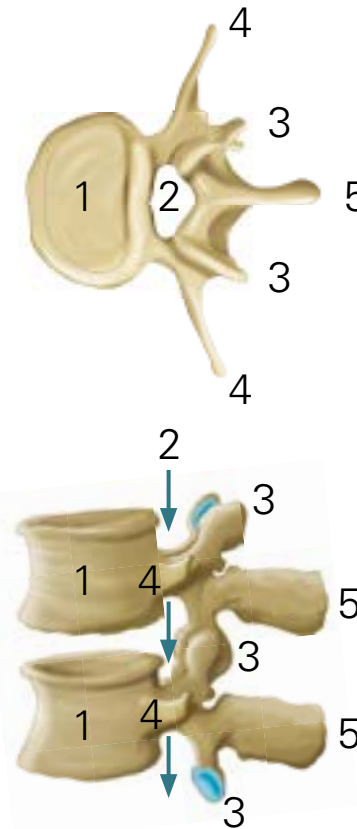
The spine consists of **24 movable vertebrae**.

It has a **characteristic curvature (S shape)**. This guarantees high stability and elasticity.

It offers **protection for the spinal cord**.

### Structure of the vertebrae

B



**Vertebral bodies (1):** These provide stability. They are joined by intervertebral discs (see next page), which act as shock absorbers.

**Vertebral canal (2):** The spinal cord runs through here, well protected.

**Articular processes (3):** These form the facet joints and in so doing ensure mobility.

Muscles and ligaments are attached to the **transverse processes (4) and spinous processes (5)**.

# Construction and function of the spine – the 24 movable vertebrae [1]

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## A Spine

The spine consists of 24 movable vertebrae (7 cervical, 12 thoracic, 5 lumbar). Rudimentary vertebrae have fused in the sacrum and coccyx.

Because of its characteristic curvature (S shape), the spine is very stable and elastic, so that mechanical shocks are intercepted and evenly distributed.

The spine protects the spinal cord, which runs through the vertebral canal.

## B Structure of the vertebrae

Vertebral bodies (1) are thick, roundish, load-resistant “bone discs”. They stabilise the spine and with their bone marrow are important suppliers of blood cells.

The vertebral canal (2) is surrounded by the vertebral arches. The spinal cord – well protected – runs through the vertebral canal.

Two articular processes (3) emerge from the vertebral arch upwards and downwards, forming the facet joint. This connects the vertebrae together and makes mobility of the spine possible. Facet joints are “sliding joints”, on which movement takes place parallel with the joint surfaces.

Also arising from the vertebral arch are three bony processes (the spinous process (5) and transverse processes (4)), which serve as attachment points for ligaments and muscles. The bony processes have a lever function, which supports the action of the attached muscles.

[1] Middleditch A, Oliver J. Functional Anatomy of the Spine (2002) 2nd edition. Oxford: Butterworth-Heinemann