

Autochthonous back muscles

This short overview gives a simplified description how the deep back muscles are structured. It summarises the most important knowledge (minimum requirement) about the autochthonous back muscles. To understand the sometimes subtle differences in their functions, please, consult your textbook.

The erector spinae muscle expands in a longitudinal groove formed by the spinous processes of the vertebrae and the angles of the ribs, ensheathed by the thoracolumbar fascia. The bulk of the muscle fibres arise from the posterior part of the iliac crest together with the medial sacral crest. The erector spinae can be subdivided into the following parts:

1. Medial Part

a) transversospinalis

In the thoracic part, the muscle extends cranially and medially as semispinalis thoracis. Further cranially, now as semispinalis cervicis, the muscle inserts on the spinous process of C2. The most cranial part, semispinalis capitis, ascends along the midline to reach the nape. Deeper, we can identify the multifidi which span over 3-4 vertebrae. The deepest muscles are called rotators, they pass nearly horizontally to span over a single vertebra.

2. Lateral Part

- a) The spinotransversal muscles (splenius) arise on the spinous processes and ascend in cranial direction. The splenius cervicis and the splenius capitis reach the transverse processes of the upper cervical vertebrae and the occipital bone, respectively.
- b) Further lateral we find the longissimus muscles. Its caudal parts, the longissimus thoracis and cervicis, insert on the costal angles and the transverse processes of the vertebrae. The cranial part, longissimus capitis, inserts on the mastoid process.
- c) The iliocostalis lumborum, thoracis & cervicis expand most laterally, they insert on the costal angles and the transverse processes of the lower cervical vertebrae.
- d) The levatores costarum arise on the transverse processes and insert on the lower ribs.
- e) The intertransversarii are found between the transverse processes of the vertebrae.

The exact function of the individual parts of the autochthonous (or intrinsic) back muscles is rather complex. Most simplified, their major functions are extension (i.e. "antigravitational" muscles) and rotation of the vertebral column.