

**Erector spinae** is a large musculotendinous mass, varying in size and composition along the length of the vertebral column. It is located in the groove between the spinous and transverse processes. It is covered by thoracolumbar fascia in thoracic and lumbar regions, by **serratus posterior inferior** below, and by the rhomboideus, splenii and serratus posterior superior above. It forms a palpable thick fleshy mass in the lumbar region, the lateral border of which forms a visible groove which ascends over the posterior aspect of the thorax, crossing the ribs at their angles and running laterally initially, then vertically and finally medially as it passes deep to the scapula.

### **Proximal Attachments**

Erector spinae has a U-shaped origin. It arises from the anterior surface of a broad thick tendon inferiorly, which attaches to the median sacral crest, the spinous processes of L5 to T11 and their supraspinous ligaments, the medial aspect of the dorsal part of the iliac crest and the lateral sacral crest. Deep to the lateral limb there is a fleshy attachment to the iliac tuberosity and the inner lip of the iliac crest. Muscle fibers pass superiorly and divide in the upper lumbar region around the level of the twelfth rib into 3 columns: the iliocostalis laterally, the **longissimus** intermediately and the spinalis medially, each of which is further subdivided.

### **Distal Attachments**

#### ***The lateral column***

**Iliocostalis lumborum** is attached by a series of tendons to the lower six ribs, close to their angle. Iliocostalis thoracis arises medial to the insertion of the iliocostalis lumborum tendons. These muscles insert via similar tendinous insertions to the upper six ribs. The iliocostalis cervicis muscles arise medial to these tendon insertions, and these in turn insert into the posterior tubercles of the transverse processes of the lower cervical vertebrae.

#### ***The intermediate column***

Longissimus thoracis is the longest and thickest element of erector spinae. It inserts, by two sets of tendinous slips (lateral and medial), to the ribs and transverse processes of all the thoracic vertebrae and the accessory processes of the upper lumbar vertebrae.

Longissimus cervicis originates from the transverse processes of the upper six thoracic vertebrae, medial to the insertions of longissimus thoracis, and inserts onto the posterior tubercles of the transverse processes of all the cervical vertebrae, with the exception of the first and seventh.

Longissimus capitis originates from the transverse processes of the upper thoracic vertebrae, in common with longissimus cervicis, as well as from the articular processes of the fourth to seventh cervical vertebrae. Its narrow tendon is inserted onto the posterior aspect of the mastoid process deep to splenius capitis.

#### ***The medial column***

Spinalis thoracis lies at the medial side of longissimus thoracis and blends with it. It is attached below to the spines of the eleventh and twelfth thoracic vertebrae and the first and second lumbar vertebrae. Separate tendons attach the muscle to the spines of the upper thoracic vertebrae.

### **Nerve Supply**

Erector spinae is supplied by the dorsal rami of the spinal nerves at the appropriate level.

### **Action**

The lateral muscle column extends and laterally flexes the vertebral column; the intermediate laterally flexes and extends the vertebral column, extends the head and turns the face towards the same side; the medial column **extends the vertebral column**.