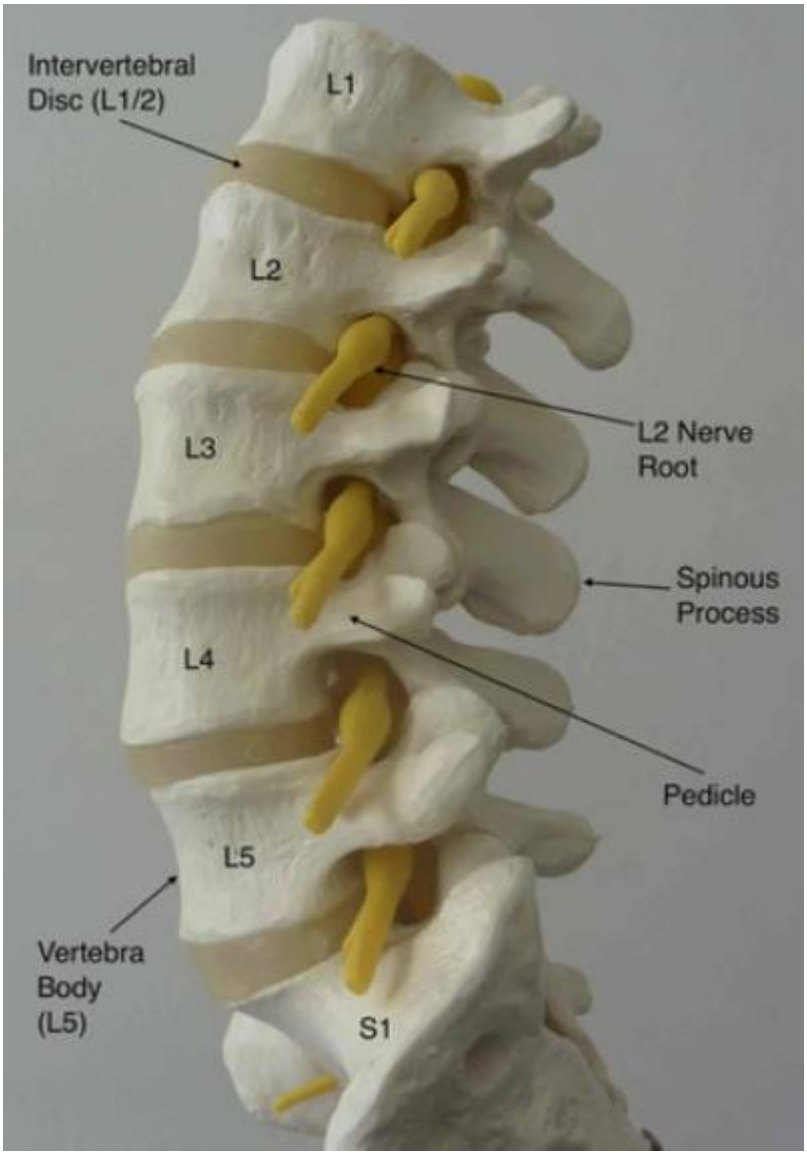
Lumbar vertebra L1



Lumbar vertebra L1 (1st lumbar vertebra) is the smallest and most superior of the lumbar vertebrae. As the first vertebra in the lumbar region, the L1 vertebra bears the weight of the upper body and acts as a transition between the thoracic vertebra and lumbar vertebrae.

The L1 vertebra is located in the spinal column of the lumbar (lower back) region inferior to the T12 vertebra and superior to the L2 vertebra. Like the other lumbar vertebrae, L1 has a large, roughly cylindrical region of bone known as the body, or centrum, which makes up most of its mass. The bodies of lumbar vertebrae are much wider than they are deep, convex on their anterior surface and concave on their posterior surface.

The body lies anterior to the hollow vertebral foramen and supports the entire weight of the tissues of the upper body. Intervertebral discs - made of gel surrounded by strong, rubbery fibrocartilage - lie between the bodies of the L1 vertebra and its neighboring vertebrae. The intervertebral discs support the spinal column, absorb shock force and body weight, and provide flexibility to the lower back.

The vertebral arch is a thin bony ring attached to the posterior of the vertebral body. In the L1 vertebra, it is a bit smaller than the vertebral body, but is much thicker and stronger than the arches

of the cervical and thoracic vertebrae above it. As in the other vertebrae of the spine, the vertebral arch plays the vital role of protecting the delicate spinal cord and spinal nerves that run through the hollow vertebral foramen. It also supports the bony processes that extend from the L1 vertebra.

Three thick extensions emerge from the vertebral arch to support the muscles of the lower back and hips. On the lateral sides of the arch, extending laterally and posteriorly, are the pair of transverse processes. Several muscles that stabilize the spine to provide posture and flex the thigh at the hip attach to the transverse processes. Compared to the other lumbar vertebrae, the L1 has very short, narrow transverse processes. Unlike the transverse processes of the thoracic vertebrae above it, there are no facets to attach ribs on the L1 vertebra. The thin, rectangular spinous process extends posteriorly from the vertebral arch toward the skin of the back. In the L1 vertebra, it points more inferiorly than it does in any other lumbar vertebra, making it somewhat resemble the spinous processes of the neighboring thoracic vertebrae. Many muscles that flex, extend, rotate and stabilize the lumbar spine attach to the spinous process.

Finally, a pair of articular processes extends vertically from the vertebral arch, with one connecting to the T12 vertebra above and the other to the L2 vertebra below. These articular processes play a vital role in stabilizing the spine while providing a small range of flexibility. Each process forms a rounded planar joint with the articular process of the neighboring vertebrae, locking the bones together but allowing them to glide relative to each other. The superior articular processes end in concave surfaces that surround the convex articular processes of the T12 vertebra above. On the inferior end, the inferior articular processes end in convex structures that surround the concave superior articular processes of the L2 vertebra.

Lumbar vertebra L1 fracture

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