The posterior longitudinal ligament is located along the anterior aspect of the vertebral foramina (vertebral canal) and extends from the posterior surface of the vertebral body of C2, along the posterior surfaces of the vertebral bodies, to the posterior surface of the body of S1. The fibers attach to the intervertebral discs, and adjacent postero-lateral margins of the vertebral bodies.

In the lumbar region the posterior longitudinal ligament appears as a narrow band over the posterior aspects of the vertebral bodies and expands laterally over the posterior intervertebral discs; it has a serrated appearance.