

The fourth lumbar ventral spinal rami exit the vertebral column through the intervertebral foramina between the pedicles of L4 and L5. They are larger than the ventral rami above and emerge above the transverse processes of L5, where they are connected to adjacent sympathetic ganglia by grey rami communicantes. The fourth lumbar spinal nerves do not have white rami communicantes.

They pass around the sides of the body of L4 with the lumbar arteries initially behind and then within the psoas major muscles. They join with the ventral rami of L1, L2 and L3 to participate in the formation of the lumbar plexus. Within psoas major each ventral ramus divides into ventral and dorsal branches; both ventral and dorsal branches divide into smaller and larger components.

The small ventral branches join with the ventral branches of the ventral rami of L2 and L3 to form the obturator nerves; the larger ventral branches join with corresponding branches of the ventral rami of L5, S1 to S3 to form the tibial part of the sciatic nerve. The small dorsal branches join with corresponding branches of the ventral rami of L2 and L3 to form the femoral nerves; the larger dorsal branches join with the dorsal branches of L5, S1 and S2 to form the common peroneal parts of the sciatic nerves.

Supply

The fourth lumbar ventral spinal rami supply quadratus lumborum, iliacus, psoas major and quadriceps femoris muscles and the adductor muscles of the thigh. Cutaneous fibers are distributed in the femoral and obturator nerves and branches of the sacral plexus.