The eighth cervical dorsal nerve roots contain afferent somatic and visceral nerve fibers corresponding to the eighth cervical spinal cord segment. They are large and thicker than the eighth ventral nerve roots and emerge from the postero-lateral sulci of the spinal cord. Rootlets of adjacent dorsal roots may communicate via thin branches.

The roots pass obliquely infero-laterally to their exit through the intervertebral foramina. They pass over the superior surface of the transverse processes of T1, to join with the eighth ventral roots to form the eighth cervical spinal nerves. The roots are larger in obliquity and length than the dorsal roots above, however, the distance between the spinal attachments and vertebral exit is never greater than the height of one vertebra. Each of the eighth cervical dorsal roots possesses an ovoid spinal ganglion (dorsal root ganglion) proximal to joining the eighth cervical ventral roots.

The dorsal roots are covered by a sleeve of pia mater, which is continuous with that of the spinal cord, and loosely invested by a prolongation of dura and arachnoid mater (the dural sleeve) almost as far as the spinal nerves.