

CONTENTS OF VERTEBRAL CANAL

FILUM TERMINALE (SE) / (SA)

The **filum terminale** ("terminal thread"), is a delicate strand of fibrous tissue, about 20 cm in length, proceeding downward from the apex of the conus medullaris. It is one of the modifications of pia mater. It gives longitudinal support to the spinal cord and consists of two parts:

The upper part, or *filum terminale internum*, is about 15 cm long and reaches as far as the lower border of the second sacral vertebra. It is continuous above with the pia mater and contained within a tubular sheath of the dura mater. In addition, it is surrounded by the nerves forming the cauda equina, from which it can be easily recognized by its bluish-white color.

The lower part, or *filum terminale externum*, closely adheres to the dura mater. It extends downward from the apex of the tubular sheath and is attached to the back of the first segment of the coccyx in a structure sometimes referred to as the *coccygeal ligament*.

CONUS MEDULLARIS

The **conus medullaris** (Latin for "medullary cone") is the tapered, lower end of the spinal cord. It occurs near lumbar vertebral levels 1 (L1) and 2 (L2), occasionally lower. The upper end of the conus medullaris is usually not well defined.

After the spinal cord tapers out, the spinal nerves continue to branch out diagonally, forming the cauda equina.

The pia mater that surrounds the spinal cord, however, projects directly downward, forming a slender filament called the filum terminale, which connects the conus medullaris to the back of the coccyx.

The tension that the filum terminale provides between the conus medullaris and the coccyx stabilizes the entire spinal cord.

CAUDA EQUINA (SE) / (SA)

The **cauda equina** (Latin for "horse's tail") is a bundle of spinal nerves and spinal nerve roots, consisting of the second to fifth lumbar nerve pairs, the first to fifth sacral nerve pairs, and the coccygeal nerve, all of which arise from the lumbar enlargement and the conus medullaris of the spinal cord.

The cauda equina occupies the lumbar cistern, a subarachnoid space inferior to the conus medullaris.

The nerves that compose the cauda equina innervate the pelvic organs and lower limbs to include motor innervation of the hips, knees, ankles, feet, internal anal sphincter and external anal sphincter.

In addition, the cauda equina extends to sensory innervation of the perineum and, partially, parasympathetic innervation of the bladder.

LIGAMENTUM DENTICULATUM (SA)

They are 21 paired triangular folds of pia mater that extend from lateral part of spinal cord.

Their base is close to the spinal cord and apex is attached to dura mater.

They are present between the ventral and dorsal nerve roots.

Ligamentum denticulatum helps in anchoring the spinal cord to the dura mater.