

Tethered cord syndrome is a stretch-induced functional disorder associated with the fixation (tethering) effect of inelastic tissue on the caudal spinal cord, limiting its movement. This abnormal attachment is associated with progressive stretching and increased tension of the spinal cord as a child ages, potentially resulting in a variety of neurological and other symptoms. Due to the variation of the growth rate of the spinal cord and the spinal column, the progression of neurological signs and symptoms is highly variable. Some individuals present with tethered cord syndrome at birth (so-called congenital), while others develop the symptomatology in infancy or early childhood. Other individuals may not develop any noticeable symptoms until adulthood. Although some authors call these cases acquired, the majority of these cases are mostly developmental, corresponding to the progressive development of excess fibrous connective tissue (fibrosis) in the filum terminale. The filum terminale is a strand of tissue that bridges the spinal cord tip and the tailbone (sacrum). The inelastic structures in children originated from defective closure of the neural tube (the precursor of the spinal cord) during embryonic development, eventually forming a condition known as spina bifida. Because of its functional (physiological) nature, tethered cord syndrome can be reversible if surgically treated in its early stage.