

TCSA Glossary of Terms

Adhesions: Bands of scar tissue that can form after surgery and sometimes stick tissues together. In the spine, adhesions may contribute to retethering (the cord getting stuck again after release).

Ankle Clonus: A rhythmic, involuntary pulsing movement of the foot when the ankle is quickly flexed. It can be a sign of nerve involvement in some neurological conditions. Ask your provider what it means in your case.

Bowel Dysfunction: Changes in bowel control, frequency, constipation, or accidents (soiling) that may be related to nerve signals affected by tethered cord syndrome.

Cauda Equina: The bundle of nerve roots that extends below the end of the spinal cord (conus). These nerves serve the legs, bowel, bladder, and sexual function. Tethering can affect how well these nerves work.

Chiari Malformation: A condition where part of the cerebellum sits lower than usual, pushing into the spinal canal. Chiari and tethered cord can occur together in some patients, and symptoms may overlap (headaches, balance issues, etc.).

Clinical Diagnosis: A diagnosis made primarily from symptoms, history, and examination findings, even when imaging is not definitive. This is important for occult tethered cord discussions.

Conus Medullaris: The tapered end of the spinal cord. Its usual position in most people is around the level of the first or second lumbar vertebra (L1–L2). When lower, it may suggest tethering.

Detethering / Tethered Cord Release (TCR): Surgery to free the spinal cord so it can move more normally. Often involves cutting or removing the filum terminale and may include releasing other tethering structures.

Dermal Sinus Tract: A small, often hidden tube-like tract from the skin surface (usually midline lower back) down toward deeper tissues near the spine. This can be associated with spinal cord tethering and carries a risk of infection.

Diastematomyelia / Split Cord Malformation: A congenital condition where the spinal cord is split into two halves (partial or complete) by bone, cartilage, or fibrous tissue. This is often associated with tethering and may require surgical treatment.

EMG (Electromyography): A test that measures how muscles respond to nerve stimulation. It can help evaluate nerve function in patients with suspected tethered cord–related leg weakness or changes.

Excessive Spinal Cord Tension: A descriptive term sometimes used by clinicians to explain what’s happening in tethered cord: the cord cannot glide normally with growth or movement, so it becomes stretched or tensioned, potentially damaging nerves over time.

Fatty Filum: A filum terminale that contains fat due to differences in tissue development before birth. A fatty filum can act like a “tether” that restricts spinal cord motion and is a common reason for surgical release.

Filum Terminale: A thin, thread-like piece of tissue that anchors the bottom of the spinal cord to the lower spine (sacrum). If thickened, tight, or fatty, it can contribute to tethering.

Gait Abnormalities: Noticeable differences in how a person walks—limping, toe-walking, in-toeing, tripping, or uneven stride. These may reflect pain, weakness, or nerve changes linked to tethered cord.

Hydromyelia / Syringomyelia (Syrinx): A fluid-filled cavity within the spinal cord. In some patients, tethering may contribute to fluid pressure changes that allow a syrinx to form. Treatment decisions depend on symptoms, size, and cause.

Incontinence: Loss of bladder or bowel control. In tethered cord syndrome, nerve signaling problems may lead to urinary leaks, urgency, retention, or accidents.

Intradural vs. Extradural: Terms surgeons use to describe whether something is inside (intradural) or outside (extradural) the protective covering of the spinal cord called the dura mater. Many tethered cord releases are intradural procedures.

Intraoperative Neuromonitoring (IONM or IOM): Real-time monitoring of nerve and spinal cord function during surgery to help surgeons avoid injury to critical nerves.

Leg/Back Pain: One of the core symptom categories in tethered cord syndrome. Pain may worsen with activity, growth spurts, or prolonged sitting.

Low-lying Conus: The lower end of the spinal cord (conus) sits farther down the spine than expected (below the usual L1–L2 level). This is often seen in patients with tethered cord.

Motor Changes: Weakness, decreased coordination, foot drop, or changes in muscle tone (tight or floppy) that may occur when nerves affected by tethering are under stress.

MRI (Magnetic Resonance Imaging): A non-invasive scan that shows detailed pictures of the spine and spinal cord. MRI can reveal signs like a low-lying conus, fatty filum, lipoma, split cord

malformation, or other anomalies, but some patients have normal imaging and still have symptoms.

Neurogenic Bladder: Bladder function problems caused by nerve issues. Symptoms may include urinary retention, frequency, urgency, leaking, or recurrent UTIs. Urology testing can help guide treatment.

Neurocutaneous Markers: Skin findings over the lower spine that may hint at an underlying spinal difference. Examples: dimples above the gluteal crease (especially if deep or high), hair tufts (“faun tail”), skin tags, hemangiomas, lipomas, or small openings. Not all are serious, but they should be mentioned to your provider.

Neurological Leg Symptoms: Numbness, tingling, burning, cramps, weakness, or changes in sensation or reflexes—all part of the core symptom categories for tethered cord syndrome.

Occult Tethered Cord: When a patient has symptoms consistent with tethered cord syndrome but imaging (like MRI) does not show a clearly low conus, fatty filum, or visible tether. Diagnosis relies heavily on symptoms and experienced clinical evaluation.

Orthopedic Deformities: Structural differences in bones, joints, or alignment—such as scoliosis, foot deformities (clubfoot, cavus foot), or leg length differences—that can be seen in some patients with tethered cord or related spinal conditions.

Orthotic Braces: External supports used to help with walking, alignment, or muscle weakness that may occur with tethered cord or related conditions.

Paresthesia: Abnormal sensations such as tingling, pins-and-needles, buzzing, or “falling asleep” feelings in the legs or feet. This may be intermittent or persistent.

Primary Tethered Cord Syndrome: Present at birth (congenital) and not caused by later trauma, surgery, or scarring.

Progressive Symptoms: Symptoms that get worse over time, which is an important red flag in tethered cord. It’s important to track changes such as increasing pain, new weakness, or worsening bladder control and report them to your care team.

Retethering: When the spinal cord re-adheres to tissue or scar after a prior tethered cord release, leading to the return or progression of symptoms. Follow-up care and symptom tracking are important.

Secondary Tethered Cord Syndrome: Occurs after birth due to a cause such as scar tissue from prior spinal surgery, trauma, infection, or other spinal conditions.

Sensory Changes: Altered feeling in the legs, feet, or saddle area (the region that would sit on a bicycle seat). This can include numbness, decreased temperature sensation, or abnormal responses to touch.

Spina Bifida Occulta: A mild form of spina bifida in which one or more vertebrae don't fully close but the spinal cord may appear covered. This is sometimes associated with tethered cord.

Surgical Consent: Before tethered cord release, surgeons discuss expected benefits (relief of progression, sometimes improvement in symptoms), possible risks (CSF leak, infection, nerve injury), and long-term follow-up. Make sure all your questions are answered.

Tethered Cord / Tethered Spinal Cord: The spinal cord is abnormally fixed to surrounding tissue and cannot move freely inside the spinal canal.

Tethered Cord Syndrome (TCS): A progressive condition diagnosed using symptom clusters in three main areas: (1) leg/back pain; (2) neurological leg symptoms (weakness, numbness, gait changes); and (3) bowel and/or bladder dysfunction. Often, but not always, accompanied by findings like a low-lying conus, fatty filum, skin markers, or orthopedic differences. Standard treatment is surgical release, usually by sectioning (cutting) or removing the filum terminale.

Toe-Walking: Walking on the balls of the feet or toes rather than the whole foot. Persistent toe-walking in children can have many causes; in some cases, neurological or orthopedic evaluation is warranted when tethered cord is suspected.

Urodynamic Testing (UDS): Specialized bladder testing that measures how the bladder fills, stores, and empties urine. This test helps determine whether bladder symptoms may be related to nerve problems such as those seen in tethered cord.

Urinary Retention: Difficulty emptying the bladder completely. This can lead to frequent urination, dribbling, or urinary tract infections. If suspected, medical evaluation is important.

Vertebra (plural: Vertebrae): The individual bones that stack to form the spine. Doctors often describe locations in the spine using vertebral levels, such as L1 (first lumbar vertebra) or S1 (first sacral vertebra). These landmarks help describe where the conus ends, where surgery occurred, or where abnormalities are seen.