

Clinical criteria for filum terminale resection in occult tethered cord syndrome, March 15, 2024. Klinge et. al.

TABLE 1.
Questionnaire for preoperative (baseline) and follow-up symptoms examinations

Category & Questions	Offered Answers
Bowel & bladder	
Bladder Sxs: leaking, urgency, frequency, hesitation , retention	Y/N , duration (none, <1 yr, 1–3 yrs, 3–5 yrs, 5–10 yrs, >10 yrs)
Urinary infection	None, ≤3 times/yr, >3 times/yr
Pain during urination	Y/N
Obstipation	Y/N
Bowel incontinence	Y/N
Pain	
Leg	Pain: Y/N , duration (<1 yr, 1–3 yrs, 3–5 yrs, 5–10 yrs, >10 yrs)
	Distribution (variable, lt, rt, both sides)
	Quality (can not describe, burning, aching, spastic, stabbing)
	Occurrence (day, night, both, constant, daily, sometimes, occasionally, rarely)
	Cramps: Y/N , occurrence (as above)
	Sensory signs: Y/N, duration (in yrs, as above)
Back	Y/N , duration, distribution, quality, occurrence, cramps Y/N , sensory signs
Sacral	Y/N
Neurology	
Fatigue leg	Y/N, lt/rt , increase w/ activity Y/N
Paresthesia leg	Y/N, lt/rt , increase w/ activity Y/N
Motor examination (C5–T1 & L2–S1)*	Motor score (5/5) for each myotome lt & rt

Klinge, P. M., Leary, O. P., Allen, P. A., Svokos, K., Sullivan, P., Brinker, T., & Gokaslan, Z. L. (2024). Clinical criteria for filum terminale resection in occult tethered cord syndrome. *Journal of Neurosurgery: Spine*, 40(6), 758-766. <https://doi.org/10.3171/2024.1.SPINE231191>

Clinical criteria for filum terminale resection in occult tethered cord syndrome, March 15, 2024. Klinge et. al.

Category & Questions	Offered Answers
Hyperreflexia*	Y/N, UE, LE, rt, lt
Foot clonus*	Y/N, >2 on the 5/5 scale (0 = none, 2 = normal), rt, lt
Increased muscle tone*	Y/N, UE, LE, rt, lt
Other findings	
Scoliosis*	Y/N
Kyphosis*	Y/N
Neurocutaneous signs*	Dimple, discoloration, asymmetrical gluteal fold, hairy patch

LE = lower extremity; Sxs = symptoms; UE = upper extremity; Y/N = yes/no.

Boldface type indicates items that were used for the construction of the 15-item symptom scale shown in [Table 2](#).

*Clinical findings; all other items were patient reported.

We used the questionnaire data to construct a 15-item scale that represents the five most prevalent symptoms and signs in the neurological, bowel and bladder, and pain categories ([Table 2](#)). The 15-item scale scores each present symptom with a single point, resulting in a total score range of 0 to 15. To streamline the questionnaire data, we allocated only 1 point for each symptom and finding regardless of whether they occurred on the left or right side or were bilaterally. A point was given for foot clonus with a level greater than 2/5. Bowel symptoms, which encompassed incontinence and/or obstipation, scored as a single point. We excluded segmental or radicular sensorimotor findings from the scale due to their rare occurrence. Additionally, we omitted observations that would remain unchanged after surgery, such as neurocutaneous signs, connective tissue disorders, and scoliosis. Applying a variety of statistical methods, we analyzed the applicability of the scale for assessment and prediction of outcome following FT excision for OTCS.

Clinical criteria for filum terminale resection in occult tethered cord syndrome, March 15, 2024. Klinge et. al.

TABLE 2.
Prevalence of symptoms on the 15 item-scale

Category or Sx	No. of Patients (%)
Neurological scale	
Increased muscle tone legs*	42 (28)
Hyperreflexia legs*	98 (66)
Foot clonus*	83 (56)
Fatigue legs	127 (85)
Paresthesia legs	84 (56)
Pain scale	
Leg	132 (89)
Sacral	62 (42)
Low-back	119 (80)
Cramps in leg & back	84 (56)
Fluctuating pain Sxs	42 (28)
Bowel & bladder scale	
Urinary leakage	85 (57)
Urinary urgency	87 (58)
Urinary frequency	78 (52)
Urinary hesitation	72 (48)
Bowel Sxs	92 (62)

*Objective clinical findings.