Pelvic Floor PT in Tethered Cord Syndrome

Clinical Quick Reference — Symptoms, Exam, Outcome Measures & Protocols

Pelvic Floor Symptom Domains

Bladder — retention, urgency/frequency, incontinence, incomplete emptying, possible detrusor-sphincter dyssynergia (DSD), recurrent UTIs

Bowel — neurogenic constipation, dyssynergic defecation, fecal incontinence/seepage, reduced urge sensation

Sexual/pain — decreased sensation, arousal changes/erectile dysfunction, difficulty with orgasm or reduced orgasm intensity

Pain – dyspareunia, coccydynia, generalized pelvic pain, hypertonic guarding

Exam: Neuro Screen

- Dermatomes S2–S5 (perianal/saddle region)
- Anal wink reflex (S4–S5)
- Lower extremity strength, tone, gait screen, spinal alignment, movement screen
- DTRs: Achilles, patellar

Exam: Pelvic Floor Muscle Exam

- External observation: tone, symmetry, scarring
- Internal exam (as appropriate): tone, strength (Modified Oxford Scale 0–5), coordination
- Coordination testing: reflexive PF coordination with cough, contract, relax, bear down
- Surface EMG / manometry baseline

Outcome Measures

- PFDI-20, PFIQ — bladder, bowel, pain
- ICIQ — urinary incontinence
- Central Sensitization Inventory (CSI) — pelvic pain
- NIH-CPSI — male focused, pain/bladder
- Wexner score — fecal incontinence

Precautions / Red Flags

- New/worsening neuro signs override the PF plan of care — pause & contact the surgical team
  - New/worsening leg weakness, sensory changes, back pain,decline in previously improved bowel/bladder control
- Follow surgeon-specific post-op restrictions (flexion, lifting, log-rolling)
- Avoid aggressive internal work / intensity increases in the early post-op window without clearance
- Pediatric: symptoms can emerge/worsen during growth spurts — reassess with rapid growth

A General Treatment Protocol

A flexible, individualized framework rather than a fixed recipe: (1) Assessment & education — characterize hypertonic vs. hypotonic presentation; (2) Manual therapy & down-training as indicated; (3) Motor re-education & strengthening matched to presentation; (4) Functional integration & home program. Frequency/duration individualized to presentation, response, and surgical timeline.

Manual Therapy Techniques

- Abdominal massage: clockwise along the colon's path (ascending → transverse → descending) to support motility
- Pelvic floor trigger point release: obturator internus, piriformis, levator ani, pubococcygeus
- Abdominal wall trigger point release: rectus abdominis, obliques — can refer pain to the pelvis

Stretching & Strengthening

- Stretching: diaphragmatic breathing, child's pose, happy baby, deep squat, piriformis/figure-4, hip flexor stretch, cat-cow, reclined butterfly.
- Strengthening: standard PF contractions, the Knack (Miller et al. 2008), bridge w/ PF coactivation, plank, side plank, clamshells, bird dog, sit-to-stand/squat.

Connection: the PF works with the deep core (transversus abdominis) and hip external rotators like obturator internus — muscles sharing fascial connections, best trained together.

Defecation Mechanics & Habit Training

- Footstool posture, knees above hips — cut time-to-empty ~130→51 sec, p<0.0001 (Sikirov 2003); straightens anorectal angle (Sakakibara et al.)
- Simulated defecation: coordinate abdominal contraction with relaxation of pelvic floor (via sEMG biofeedback or manometry)
- Abdominal massage 5-10 min before toilet sits
- Attempt bowel movement 20-30 min after meals to stimulate gastrocolic reflex

Patient Education Targets

- Toileting posture: feet flat, knees above hips, slight forward lean, abdomen and pelvic floor relaxed
- Bladder: void 2–4h while awake, no straining, no more than 2 voids at night
- Bowel: 3x/day–3x/week normal; target Bristol Type 4
- Water Intake: ~1/2 body weight in ounces/day
- Fiber Intake: ~14 g per 1,000 kcal consumed (USDA)
- Urge suppression techniques: pause, no rushing, take slow breaths to relax the body, 5 strong pelvic floor contractions, mental distraction (backward counting, games, focus on something else), calmly walk to the bathroom once urge eases

For clinical use by licensed physical therapists. Individualize to patient presentation and coordinate with the surgical/medical team.