

Pelvic Floor Physical Therapy for the Pediatric Patient

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Learning Objectives

- Describe the differences between pediatric and adult pelvic health physical therapy
- Discuss the role of a physical therapist in addressing bowel and bladder issues
- List topics that are important to discuss when taking a subjective history for a pediatric pelvic health patient
- Discuss examination findings that contribute to pelvic floor dysfunction
- Describe interventions performed in pediatric pelvic floor physical therapy and explain how they address patients bowel and bladder issues

Pediatric Pelvic Health Physical Therapy

- No internal examination or treatment
- Play based and goal directed exercises
- Family centered care
- Developing body systems
- Sensory integration/body awareness



<https://parklandhealthplan.com/living-well/blog/articles/10-easy-home-exercises-parents-can-do-with-kids/>

Prevalence

- Daytime urinary incontinence affects approximately 7-10% of children (aged 5-13 years)¹
- Constipation has a prevalence of up to 30% in children²
- Bedwetting:³
 - 5 to 6 years: 15-20 percent
 - 8 to 10 years: 6-10 percent
 - 11 to 13 years: 4-5 percent
 - 14 to 16 years: 2-3 percent
 - 17-18 years: 1-2 percent



<https://www.abc.net.au/everyday/when-is-it-ok-to-send-your-kids-to-a-sleepover/100012052>



<https://www.washingtonpost.com/education/2022/07/28/six-things-students-need-today/>

“We find evidence that adolescents who experienced delayed development of bladder control have **poorer self-image, more negative perceptions of school and more problems with peer relationships at school** than those with normal development.”⁴

When children need pelvic floor physical therapy

Bowel/bladder issues after age 4

Common Diagnoses:

- Urinary incontinence
- Urge incontinence
- Overactive bladder
- Stress incontinence
- Nocturnal enuresis
- Constipation
- Encopresis
- Urinary frequency
- Recurrent UTI's
- Dysfunctional voiding
- Vesicoureteral reflux
- Neurogenic bladder

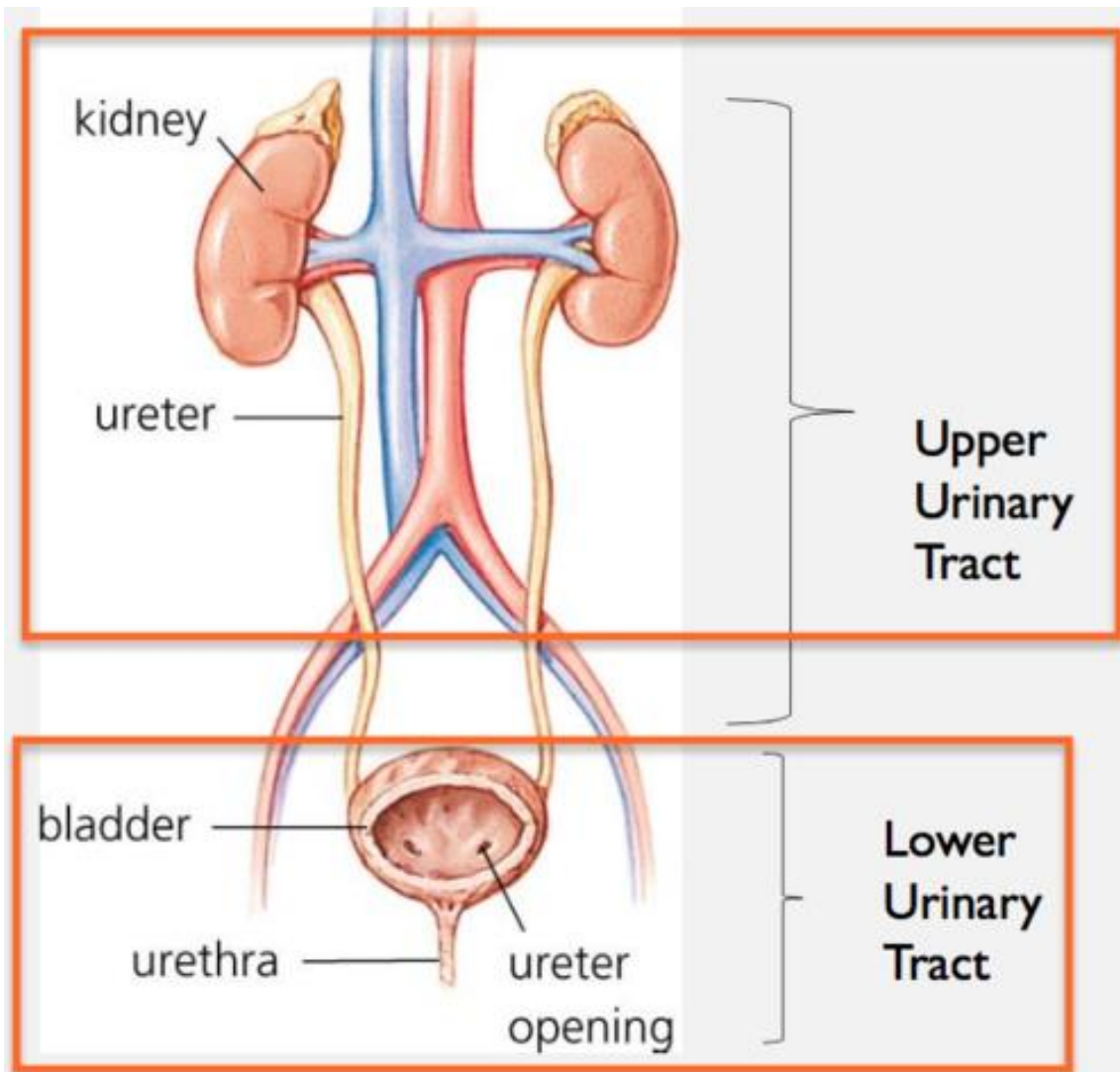


<https://excel-pt.com/pediatric-therapy/>

Anatomy/Physiology

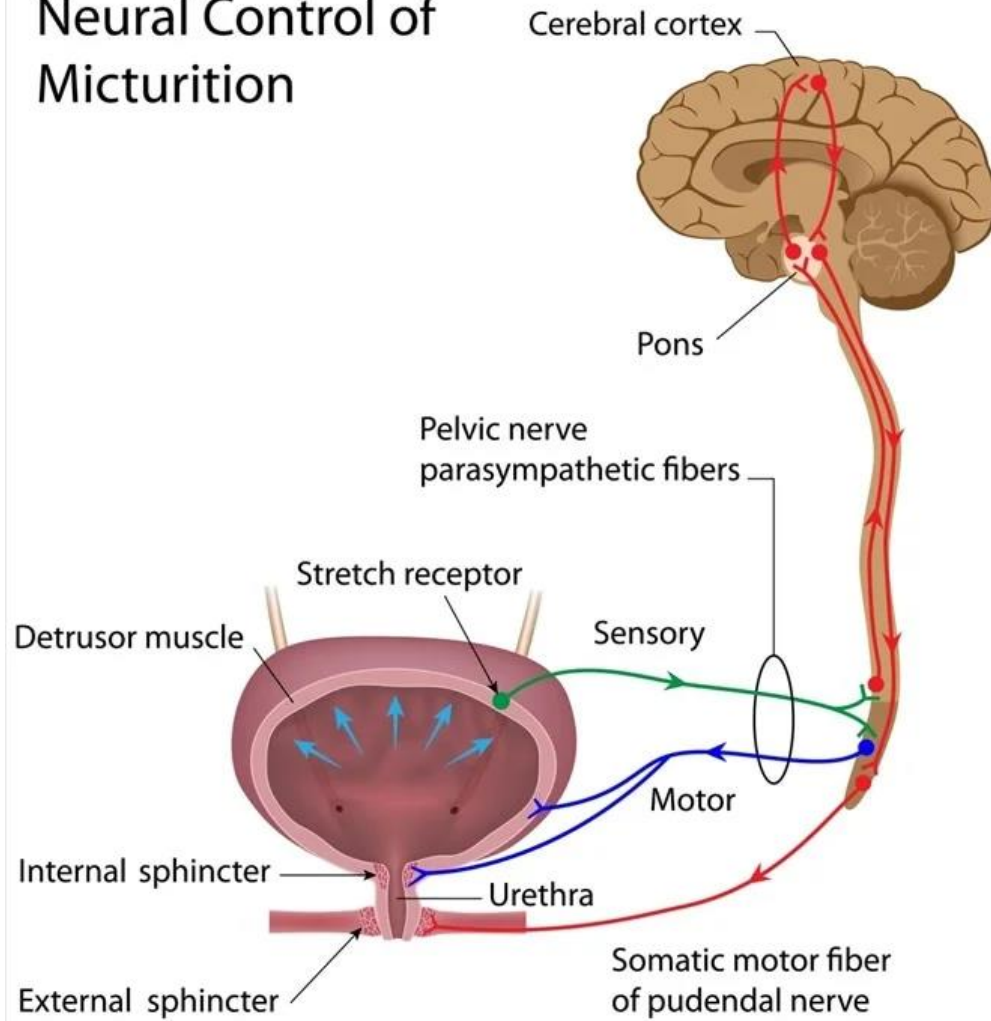


<https://my.clevelandclinic.org/health/diagnostics/7144-gi-x-ray-examinations>



<https://quizlet.com/292812365/into-to-renal-and-urinary-system-diseases-aki-flash-cards/>

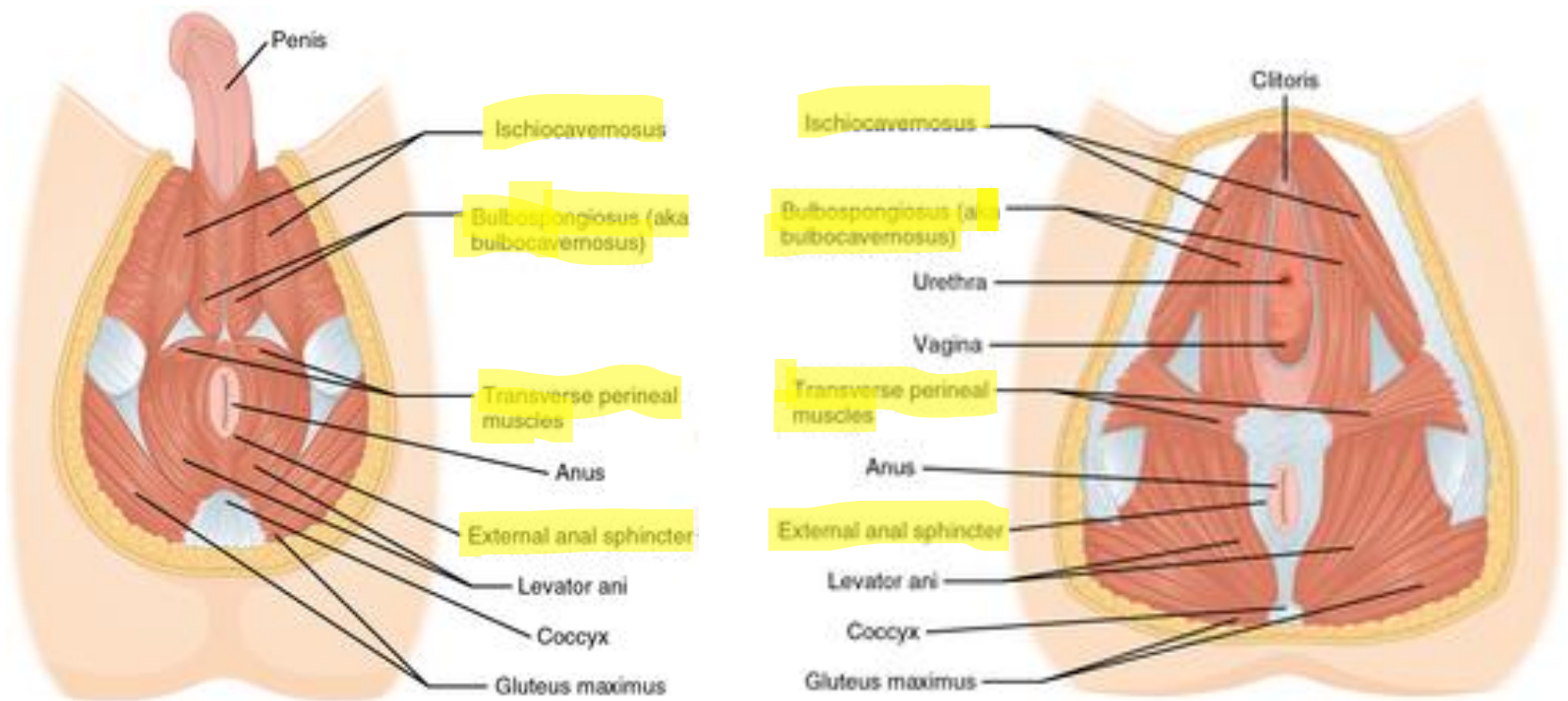
Neural Control of Micturition



<https://www.news-medical.net/health/Micturition-Reflex-Neural-Control-of-Urination.aspx>

Layers of Pelvic Floor Muscle

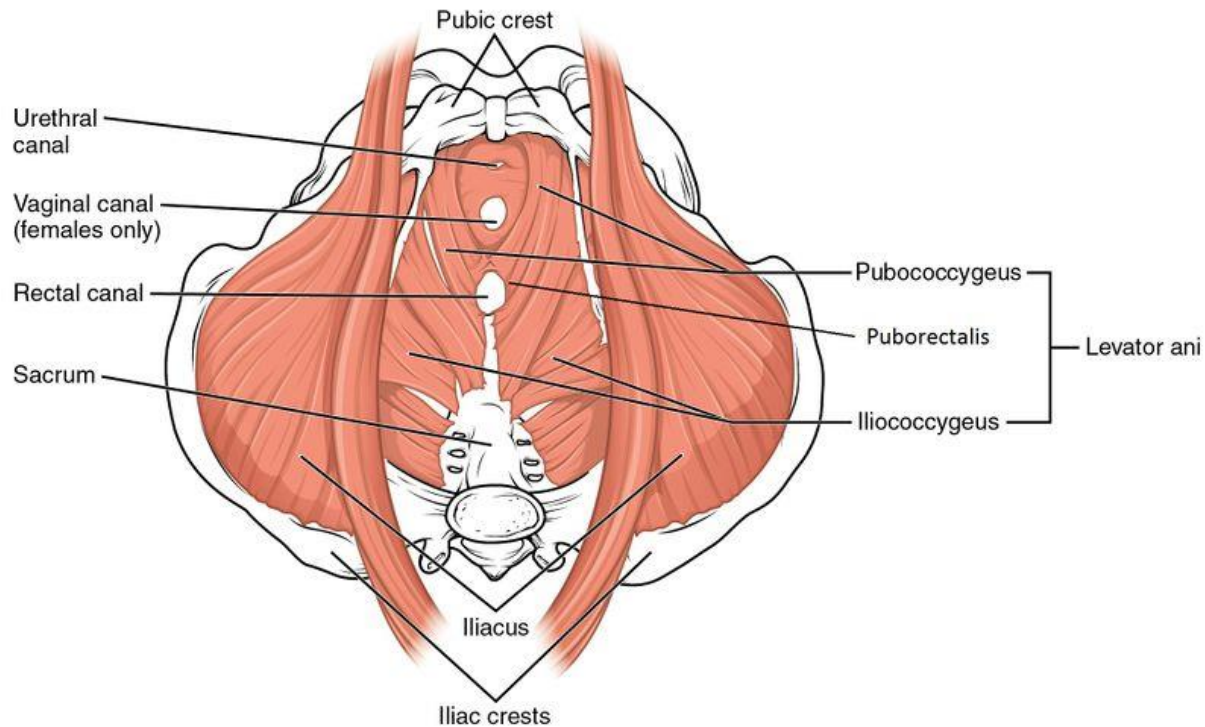
Urogenital & Anal Triangle



https://en.wikipedia.org/wiki/Urogenital_triangle

Layers of Pelvic Floor Muscle

Pelvic Diaphragm/Levator Ani Muscles



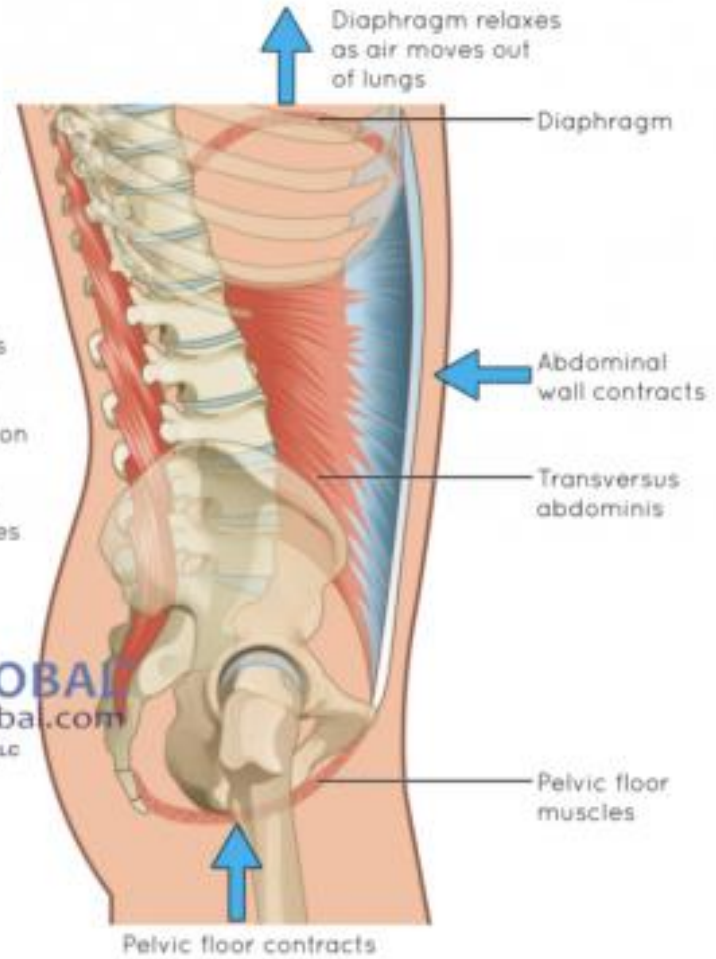
Pelvic diaphragm (superior view)

https://www.physio-pedia.com/images/6/6a/Muscles_of_the_Pelvic_Floor.jpg

Inhalation



Exhalation



<https://pelvicguru.com/tips-for-pelvic-floor-relaxation/>

Subjective

- Past Medical History
 - **Joint hypermobility** increases risk for urinary incontinence in girls and constipation in boys⁵
 - **Autism spectrum disorder** 30% more likely to experience enuresis⁶
 - **Intellectual disability** with IQ < 70 increases risk for urinary incontinence⁷
 - Children with **genetic syndromes** have higher rates of urinary incontinence, especially Fragile X and Rhetts Syndrome⁷
 - **ADHD** with increased risk for lower urinary tract symptoms⁸, fecal incontinence and constipation⁹
 - Diagnostic testing

Subjective

– Medications

- To address bowel and bladder issues
 - Constipation - Laxatives, stool softeners, fiber supplements, probiotics, enema
 - Bladder Dysfunction – Desmopressin, anticholinergics, alpha blockers, beta 3 agonists
 - Chronic UTI's – Prophylactic antibiotics
- Side effects – Constipation?

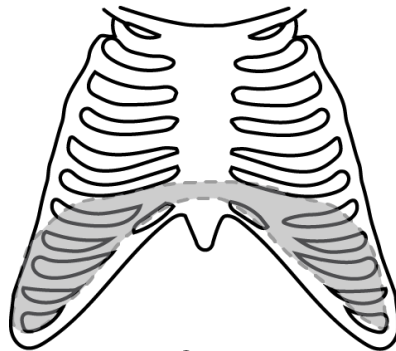
Subjective Examination

Gross Motor Milestone Attainment

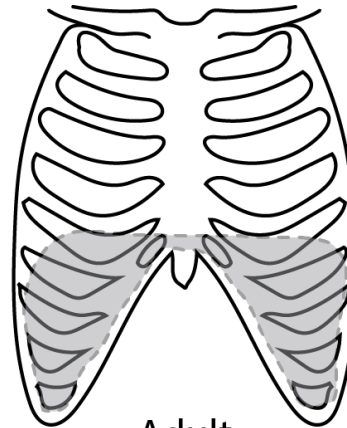
- Sitting
- Crawling
- Walking

Toileting History

- Toilet Training Age
- Regression



Infant



Adult

https://www.researchgate.net/figure/Rib-structure-of-a-newborn-left-compared-to-an-adult-right_fig5_317929622

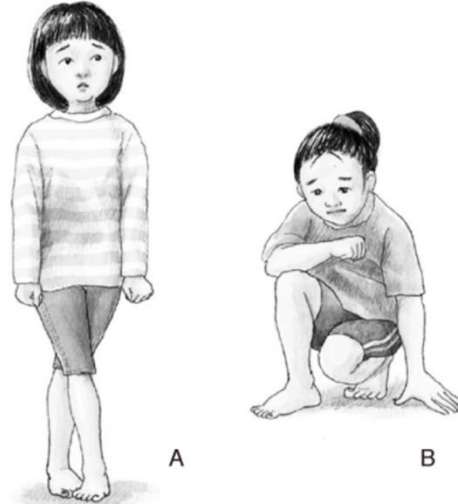
Subjective Examination

– Psychosocial Factors

- Abuse
- Home environment
- School
- Activities/Interests

– Toileting Behaviors

- Sitting position
- Hygiene
- Withholding



<https://www.highhopesdubai.com/bowel-and-bladder-dysfunction-in-children-what-can-rehabilitation-do-for-your-child/>



<https://childlifewildlife.com/2019/01/18/un-pee-lievable/>

Subjective Examination

Bladder Function

Storage Symptoms

- Urinary Incontinence
- Increased/Decreased Frequency
- Urgency

Voiding Symptoms

- Hesitancy
- Straining
- Weak Stream

Subjective Examination

Bladder Function

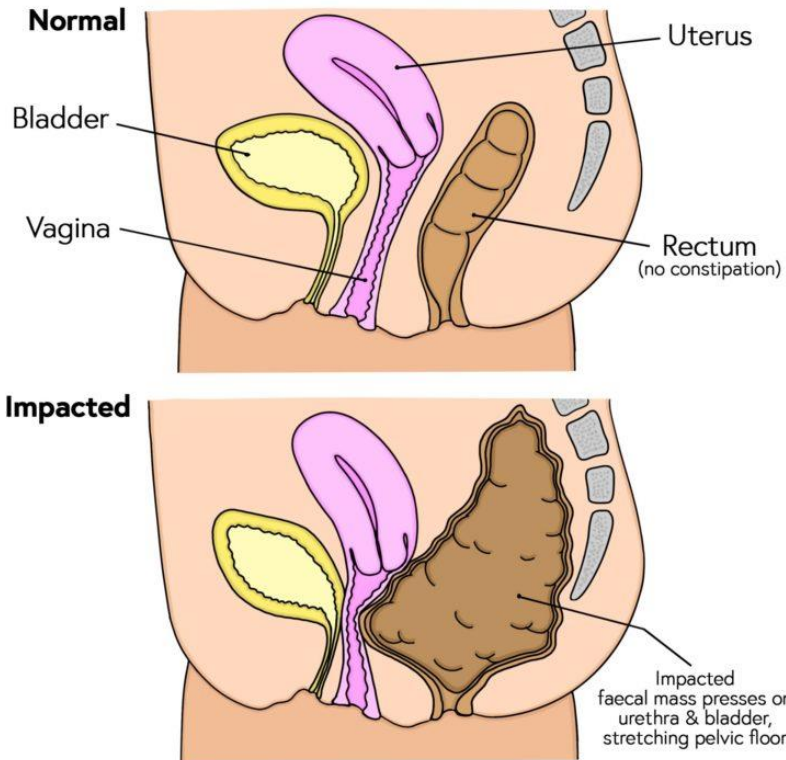
- Dysuria
- Holding maneuvers
- Feeling of incomplete bladder emptying
- Post-micturition dribble
- Spraying of urinary stream
- Genital and lower urinary tract pain

Subjective Examination

Nocturnal Enuresis

- Frequency
- Fluid intake before bed
- Deep sleeper
- Snoring⁵

Constipation



Constipated children are 6.8 times more likely to have lower urinary tract dysfunction than those not constipated¹¹

<https://www.futurelearn.com/info/courses/understanding-continence-promotion/0/steps/46126>

Rome IV Diagnostic Criteria for Functional Constipation

Children and adolescents (developmental age ≥ 4 years)

At least 2 of the following present at least once per week for at least 1 month:*

2 or fewer defecations in the toilet per week

At least 1 episode of fecal incontinence per week

History of retentive posturing or excessive volitional stool retention

History of painful or hard bowel movements

Presence of a large fecal mass in the rectum

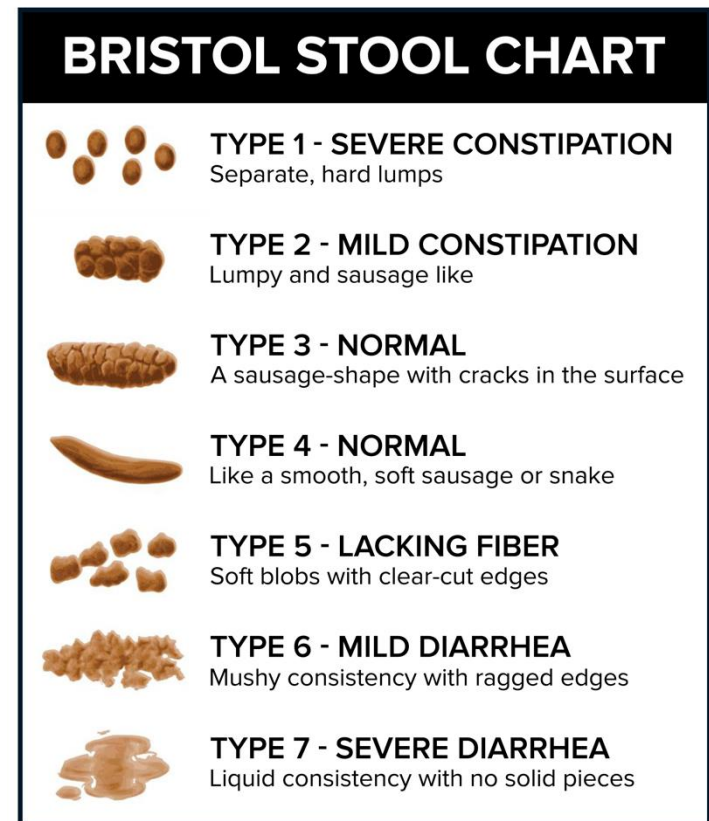
History of large-diameter stools that may obstruct the toilet

The symptoms cannot be fully explained by another medical condition

Subjective Examination

Bowel Function

- Pain
- Feeling of incomplete emptying
- Straining
- Gastrointestinal issues
- Frequency
- Consistency (Bristol Stool Chart)



Subjective Examination

- Diet
 - Water
 - Fiber
 - Bladder Irritants?
 - Constipating foods?
 - Allergies/sensitivities?
- Pain
 - Stomach
 - Low back
 - Hips
 - Legs

Questionnaires

International Consultation on Incontinence Questionnaire-Pediatric Lower Urinary Tract Symptoms (ICIQ-CLUTS)

- Child and parent versions to screen for presence or lack of presence of lower urinary tract symptoms
- Children over 9 years old

Child Bladder and Bowel Dysfunction Questionnaire (CBBDDQ)

- 5-12 years old
- Completed by parents
- Bowel and bladder subscales

Questionnaires

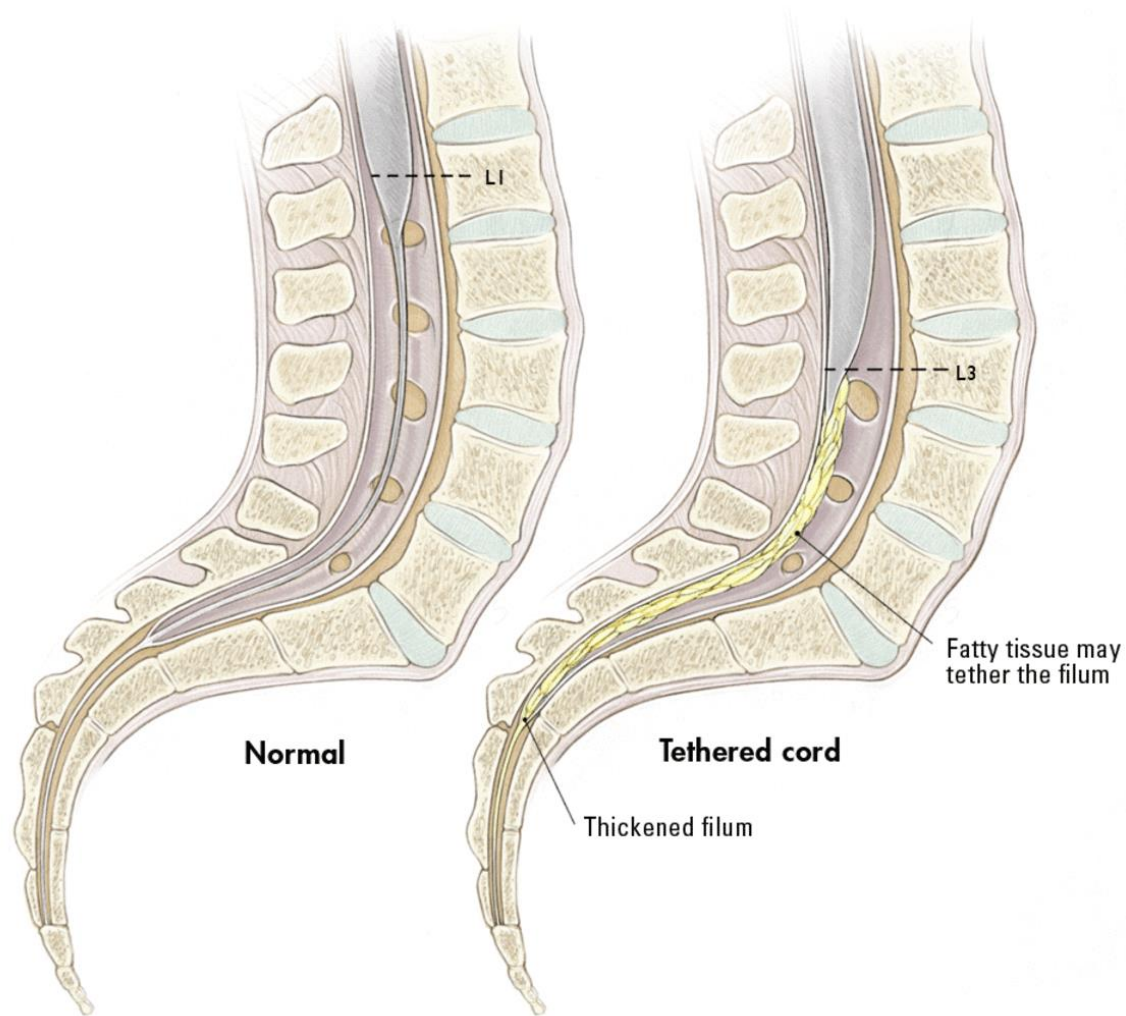
PinQ

- Ages 6-15
- Completed by child
- Evaluates bladder dysfunction

Dysfunctional Voiding and Incontinence Scoring System (DVISS)

- Ages 4-10
- Parents fill out questionnaire
- 90% sensitivity and specificity in detecting bowel and bladder dysfunction

Tethered Cord Syndrome



Tethered Cord Syndrome

Symptoms:

- Lower-extremity weakness
- Motor and sensory abnormalities in the legs
- Back and leg pain
- Gait disturbance
- Orthopedic foot deformities
- Cutaneous abnormalities in the low back
- Scoliosis
- Constipation
- Urinary dysfunction

Objective Examination

Posture

Pelvic Floor Muscle
Activation

Contraction

Elongation/Bulge

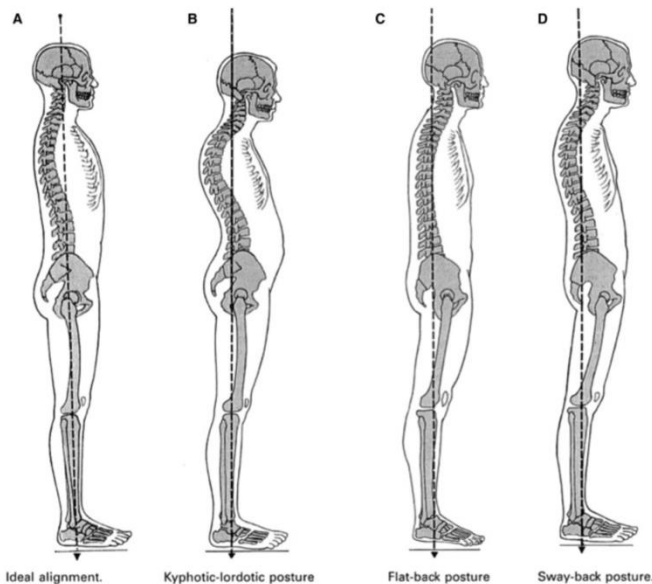


Figure 1 The 4 postural types defined according to the classification of Kendall. (A) Ideal alignment. (B) Kyphotic-lordotic posture. (C) Flat-back posture. (D) Sway-back posture. (Reprinted from Kendall FP, McCreary EK, Provrance PG, Rodgers MM, Romani WA. Muscles: testing and function, with posture and pain. 5th ed. Baltimore, MD: Lippincott Williams & Wilkins; 2005)

Objective Examination

Range of Motion/Flexibility

- Trunk
- Lower Extremities

Balance

Coordination

Strength

- Trunk
- Lower Extremities

Objective Examination

- Functional Movement Screen
- Developmental Screen/Peabody/BOT
- Beighton

Screening for Tethered Cord

- Trunk Flexion Range of Motion/Adam's Test
- Lower extremity myotomes
- Lower extremity dermatomes
- Heel to Shin
- Lower extremity muscle tone and reflexes
- Sacral nerve tension test
- Sensory Integration

Patient Education

- Anatomy/physiology of bowel and bladder
- Pelvic floor function and relationship with diaphragm
- Diet and fluid intake
- Timed/schedule voids
- Avoidance of withholding
- Toilet positioning
- Constipation

Treatment

Stretching

- Pelvic Floor
- Hip Adductors

Diaphragmatic Breathing

Biofeedback

Pelvic Floor Activation

- Pelvic floor elongation
- Pelvic floor contraction

Treatment

Sensation

- Pelvic floor
- Bladder fullness

Postural correction

Strengthening

- Transverse abdominis
- Obliques
- Multifidus
- Trunk extensors
- Hip abductors
- Hip rotators

Treatment

Balance

Manual Therapy

Electrical stimulation

Yoga

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