

DEFINITION

Constipation is infrequent passage of hard, often dry stool. In 99% of cases, the cause of the constipation is never definitively proven. The condition is common in children and often (in 60% of cases) occurs during the first year of life. Delay or difficulty with defecation ≥ 7 days.

IMMEDIATE CONSULTATION REQUIRED IN THE FOLLOWING SITUATIONS

- History: failure to pass meconium in the first 24 hours of life in an infant now presenting with difficulty passing stool
- Rectal examination: rectum empty, despite stool in colon (as revealed by abdominal exam)
- Abnormal size and location of anus (ectopic or imperforate)
- Abnormal findings on neurologic examination
- Evidence of sexual abuse
- Clinical indications of intestinal obstruction (e.g., vomiting, abdominal pain, decrease in bowel sounds)
- Clinical indications of acute surgical abdomen
- Fever

Types

Functional

- Persistent, difficult, infrequent, or seemingly incomplete defecation with no evidence of primary anatomic or biochemical cause. Most constipation-related symptoms in children and infants are functional.

Organic

- Due to underlying disorder
- Likely to present in the first month of life
- Occurs in 5-10% of children
- Constipation is a symptom, not a diagnosis. In all cases, the underlying cause must be sought, as many of the causes are correctable.

CAUSES

Dietary

- Introduction of cow's milk
- Inadequate fluid intake

CONSTIPATION PEDIATRIC

- Under nutrition
- Diet high in carbohydrates or protein (or both)
- Low-fiber diet
- Coercive toilet training
- Toilet phobia
- Postponing defecation
- School bathroom avoidance
- Medications (e.g., narcotic analgesics, iron)
- Lack of exercise
- Stress

Organic

- Diseases causing abnormally dry stool
- Diabetes insipidus or diabetes mellitus
- Fanconi's syndrome
- Idiopathic hypercalcemia
- Hypothyroidism
- Cystic fibrosis
- Anorectal abnormalities
- Prune-belly syndrome (poor development of abdominal muscles causing the belly to have a prune like appearance, undescended testicles, urinary tract problems)

PREDISPOSING AND RISK FACTORS

Gastrointestinal Anomalies

- Hirschsprung's disease (congenital megacolon)
- Onset of symptoms in the first week of life
- Delayed passage of meconium (after 48 hours of life)
- Abdominal distension
- Vomiting
- A transition zone on a contrast enema
- Anorectal stenotic lesion, stricture or fissure
- Masses (intrinsic or extrinsic)
- Anterior anal displacement

CONSTIPATION PEDIATRIC

Central Nervous System Lesions

- Hypotonia (benign congenital hypotonia)
- Hypertonia (cerebral palsy)

Other Causes

- Hypothyroidism
- Prune-belly syndrome
- Coercive toilet training
- Toilet phobia
- Postponing defecation
- School bathroom avoidance
- Medications (e.g., narcotic analgesics, iron)
- Lack of exercise
- Stress

HISTORY

- Change in frequency of bowel movements (in older children rather than infancy, a period of more than 3 days without a bowel movement)
- Consistency of stool (usually hard; in severe constipation, stools may be very thick)
- Pain on defecation
- Blood on stool
- Straining while passing stool
- Intermittent, cramping abdominal pain
- Constipation present since birth (in this situation, consider Hirschsprung's disease)
- Dietary history, specifically low-fiber content (the best sources of fiber are whole wheat bread and flour, bran, whole grain cereals, vegetables, and some fruits)
- Family history of constipation
- Drugs that are constipating (e.g., iron)
- Concurrent bladder incontinence or abnormal anal tone (neurologic)
- Medical conditions that may cause constipation
- Hypothyroidism (dry skin, lethargy, slow growth of hair and nails)

CONSTIPATION PEDIATRIC

PHYSICAL FINDINGS

- Assess height and weight and plot on growth chart; determine if child is following adequate growth curve
- Assess abdomen for tenderness and masses
- Abdominal distention
- Fecal masses can usually be felt along the descending colon or in the suprapubic area
- Digital rectal exam for size, dilation, and presence of stool
- Impacted hard stool
- Tone of external sphincter
- Reflex contraction of anus on gentle scratching of the perianal skin with a sharp object (anal wink reflex)
- Anal placement should be midline and midway between posterior fornix and coccyx
- Size of the rectal vault
- Evidence of precipitating event (e.g., anal fissure)

DIFFERENTIAL DIAGNOSIS

- In infancy, the possibility of Hirschsprung's disease causes the greatest concern. This diagnosis is most likely in an infant who has been severely constipated from birth and in whom passage of meconium was delayed (that is, greater than 24 hours after birth).

COMPLICATIONS

- Overflow incontinence (encopresis) with fecal soiling (may be incorrectly characterized as diarrhea)
- Impaction with chronic dilatation
- Urinary tract infection (UTI) with or without vesicoureteral reflux
- Intestinal obstruction
- Constipation also seems to be related to enuresis

INVESTIGATIONS AND DIAGNOSTIC TESTS

- Stool for blood

CONSTIPATION PEDIATRIC

- Check urine (culture and sensitivity) to exclude UTI, which can be a complication of chronic constipation

Refer for testing for the following if recurrent episodes:

- Thyroid
- Celiac disease
- Anorectal manometry
- Motility studies

MAKING THE DIAGNOSIS

Often client/caregiver present with concerns over stool patterns that are within the normal range and only require reassurance after a detailed history and physical exam are conducted.

Diagnosis of constipation:

- Small, separate hard lumps of stool ("rabbit droppings")
- Large, hard stools
- Distress or straining on defecation
- Bleeding with stooling
- Overflow soiling (in children > 1 year of age)
- Pain on defecation
- Retentive or withholding behavior in children > 1 year of age
- Waxing and waning abdominal pain and/or poor appetite in children > 1 year of age
- Previous or current anal fissure
- Previous constipation

Differentiating between functional and organic constipation:

- History and physical is usually sufficient to diagnose functional constipation in most children; consider symptoms and signs that suggest organic constipation

Rome III diagnostic criteria for functional constipation

- Infants and children < 4 years of age

For children \geq 1 month of age with \geq two of the following:

CONSTIPATION PEDIATRIC

- \leq two bowel movements per week
- \geq one episode per week of incontinence after toilet training
- History of excessive stool retention
- History of painful or hard bowel movements
- Presence of large fecal mass in rectum
- History of wide-diameter stools that block toilet
- Accompanying symptoms
- May include irritability, decreased appetite, early satiety
- Disappear immediately after bowel movement of a large stool

Children 4 to < 18 years of age:

- Developmental age \geq 4 years
- At least two of the following, occurring at least once per week, for > 2 months
 - \leq two bowel movements per week
 - \geq one episode per week of incontinence after toilet training
 - History of retentive behavior or excessive volitional stool retention
 - History of painful or hard bowel movements
 - Presence of large fecal mass in rectum
 - History of wide-diameter stools that may block toilet
- Failure to meet diagnostic criteria for irritable bowel syndrome (IBS), which are:
 - \geq one occurrence/week for \geq 2 months of abdominal discomfort or pain associated with \geq two of the following \geq 25% of the time:
 - Improvement with defecation
 - Onset associated with change in stool frequency
 - Onset associated with change in stool appearance
 - No evidence of inflammatory, anatomic, metabolic, or neoplastic process that explains symptoms

MANAGEMENT AND INTERVENTIONS

Goals of Treatment

- Rule out gastrointestinal emergency
- Relieve symptoms
- Establish regular bowel function

CONSTIPATION PEDIATRIC

- Determine if there is any underlying cause
- Prevent or treat complications
- Encourage wise use of laxatives, to prevent dependence on these drugs

Appropriate Consultation

- Consult a physician/RN(NP) if constipation is not resolving despite interventions.

Non-Pharmacological Interventions

Interventions depend on age and severity of constipation.

- In infants who are receiving formula or breast milk, give an extra daily feeding of 2-4 oz (60-125 mL) of water, in addition to the regular usual formula or breast milk feedings.
- Infants (> 6 months of age), toddlers, and older children: prune juice, apple juice, or pear juice may be effective; as solid foods are introduced, gradually increase fruits and vegetables as proportion of the diet. Prunes may also be effective.
- Increase dietary fiber if low. Toddlers and children require 20 g/day in childhood; this rises to 29 g/day in adolescence.
- Increase fluid intake, particularly water outside of regular feeding or meals.

Pharmacological Interventions

Medication is used only if organic pathology has been ruled out.

- For clients \leq 2 years of age: $\frac{1}{2}$ infant/child glycerin suppository daily (split lengthwise); 3-5 years of age: 1 infant/child glycerin suppository daily; clients \geq 6 years of age: 1 adult glycerin suppository daily; and repeat prn.
- Magnesium hydroxide (Milk of Magnesia) for clients 2-6 years of age: 6.5-15 mL orally at bedtime; clients 6-12 years of age: 15-30 mL orally at bedtime.
- Lactulose 1 mL/kg (up to adult dose) orally once daily.

Limit the use of these agents to 3 or 4 days at most for acute constipation, unless complications such as encopresis are present, where they may be used for longer with physician/RN(NP) consultation.

Client and Caregiver Education

- Explain pathophysiology to family/caregiver (and child, if old enough): draw a diagram of the GI system and explain how stool is formed and the mechanism of constipation.
- Encourage high-fiber, high-bulk diet. Most children eat a diet very low in fiber. A commitment on the part of the whole family is usually required to change this aspect of the diet. A good rationale for promoting a high-fiber diet for all family members is that high-fiber intake may reduce the risk of cancer in later life and also evens out timing of carbohydrate absorption.
- Stress importance of follow-up.
- Educate about proper toilet training for toddlers: regular attempts just after meals, proper position (hips flexed, feet flat); do not coerce the child to toilet train.
- Develop a food and drink diary.
- Counsel client/caregiver about the appropriate use of medications (dose, frequency, compliance, etc.).

Monitoring and Follow-Up

- If the child has been treated for acute functional constipation, no physical or physiological cause, reassess in 2 or 3 days to see if the condition has resolved.

Referral

The following factors may indicate the need for emergency transfer to hospital:

- Clinical indications of intestinal obstruction (e.g., vomiting, abdominal pain, decrease in bowel sounds)
- Clinical indications of Hirschsprung's disease (e.g., delayed passage of meconium at birth, fever, pain, distension, bloody diarrhea)
- Clinical indications of acute surgical abdomen

DOCUMENTATION

- As per employer policy

REFERENCES

Biggs, W. S. (2013, July 30). *Constipation (child)*. Retrieved from <http://www.essentialevidenceplus.com>

SASKATCHEWAN REGISTERED NURSES' ASSOCIATION

RNs WITH ADDITIONAL AUTHORIZED PRACTICE
CLINICAL DECISION TOOL
DECEMBER 1, 2016

CONSTIPATION PEDIATRIC

- Dijk, M. van., Vries, G. J., de Last, B. F., Benninga, M. A., & Grootenhuis, M. A. (2015). Parental child-rearing attitudes are associated with functional constipation in childhood. *Archives of Disease in Childhood*, 100(4), 329–333.
<http://doi.org/10.1136/archdischild-2014-305941>
- Health Canada. (2011). *First Nations & Inuit health: Clinical practice guidelines for nurses in primary care*. Ottawa, ON: Author. Retrieved from <http://www.hc-sc.gc.ca>
- Ferry, G. D. (2013, October 22). *Prevention and treatment of acute constipation in infants and children*. Retrieved from <http://www.uptodate.com>
- Pinworms*. (2013, February). Retrieved from <https://dynamed.ebscohost.com>
- Paul, S. P., Dewdney, C., & Lam, C. (2012). Managing children with constipation in the community. *Nurse Prescribing*, 10(6), 274–284.
- Paul, S. P., Broad, S. R., & Spray, C. (2016). Idiopathic constipation in children clinical practice guidelines. *Archives of Disease in Childhood - Education & Practice Edition*, 101(2), 65–69. <http://doi.org/10.1136/archdischild-2014-307956>
- Rogers, J. (2012). Assessment, prevention and treatment of constipation in children. *Nursing Standard*, 26(29), 46–52.
- Rx Files Academic Detailing Program. (2014). *Rx Files: Drug comparison charts*. Saskatoon, SK: Saskatoon Health Region.

SASKATCHEWAN REGISTERED NURSES' ASSOCIATION

RNs WITH ADDITIONAL AUTHORIZED PRACTICE
CLINICAL DECISION TOOL
DECEMBER 1, 2016

CONSTIPATION PEDIATRIC

NOTICE OF INTENDED USE OF THIS CLINICAL DECISION TOOL

This SRNA Clinical Decision Tool (CDT) exists solely for use in Saskatchewan by an RN with additional authorized practice as granted by the SRNA. The CDT is current as of the date of its publication and updated every three years or as needed. A member must notify the SRNA if there has been a change in best practice regarding the CDT. This CDT does not relieve the RN with additional practice qualifications from exercising sound professional RN judgment and responsibility to deliver safe, competent, ethical and culturally appropriate RN services. The RN must consult a physician/RN(NP) when clients' needs necessitate deviation from the CDT. While the SRNA has made every effort to ensure the CDT provides accurate and expert information and guidance, it is impossible to predict the circumstances in which it may be used. Accordingly, to the extent permitted by law, the SRNA shall not be held liable to any person or entity with respect to any loss or damage caused by what is contained or left out of this CDT.

SRNA © This CDT is to be reproduced only with the authorization of the SRNA.