FARNCOMBE
Farncombe Family Digestive Health Research Institute

Center for Child &
Youth Digestive Health

Difficult Constipation - Pediatrics

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Financial Interest Disclosure

(over the past 24 months)

No relevant financial relationships with any commercial interests

CanMEDS Roles Covered

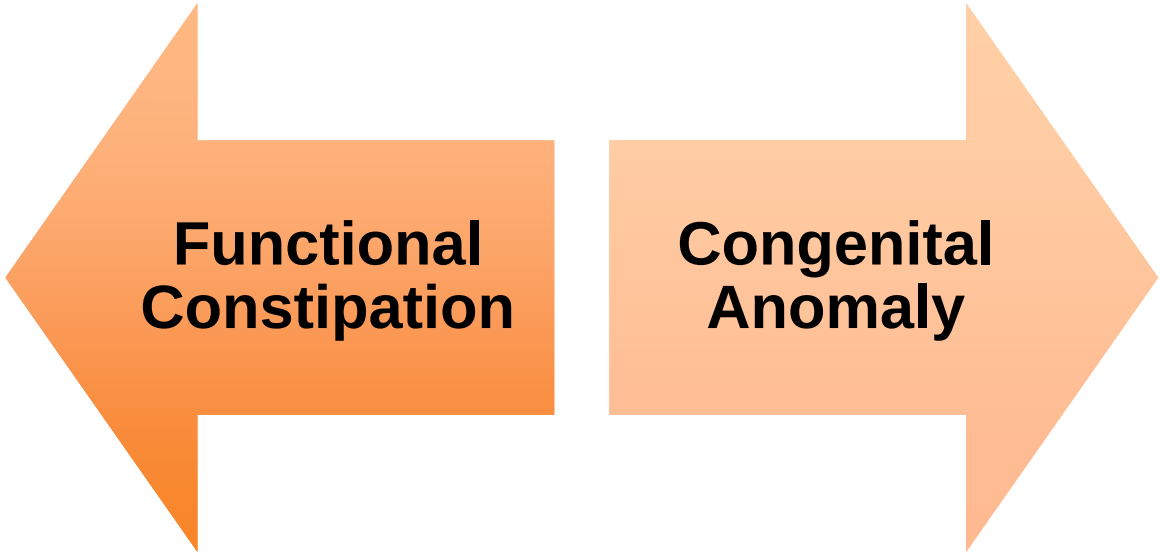
✔	**Medical Expert** (as *Medical Experts*, physicians integrate all of the CanMEDS Roles, applying medical knowledge, clinical skills, and professional values in their provision of high-quality and safe patient-centered care. *Medical Expert* is the central physician Role in the CanMEDS Framework and defines the physician's clinical scope of practice.)
	Communicator (as Communicators, physicians form relationships with patients and their families that facilitate the gathering and sharing of essential information for effective health care.)
✔	**Collaborator** (as *Collaborators*, physicians work effectively with other health care professionals to provide safe, high-quality, patient-centred care.)
	Leader (as *Leaders*, physicians engage with others to contribute to a vision of a high-quality health care system and take responsibility for the delivery of excellent patient care through their activities as clinicians, administrators, scholars, or teachers.)
	Health Advocate (as *Health Advocates*, physicians contribute their expertise and influence as they work with communities or patient populations to improve health. They work with those they serve to determine and understand needs, speak on behalf of others when required, and support the mobilization of resources to effect change.)
✔	**Scholar** (as *Scholars*, physicians demonstrate a lifelong commitment to excellence in practice through continuous learning and by teaching others, evaluating evidence, and contributing to scholarship.)
	Professional (as *Professionals,* physicians are committed to the health and well-being of individual patients and society through ethical practice, high personal standards of behaviour, accountability to the profession and society, physician-led regulation, and maintenance of personal health.)

Learning Objectives

- Understand the differences in evaluation of constipation between children, adolescents, and adults

- Describe the evidence for current therapies for constipation in pediatric and adult populations

Difficult Constipation - Pediatrics



Functional Constipation

TABLE 2. Rome III diagnostic criteria for functional constipation

In the absence of organic pathology, ≥2 of the following must occur

For a child with a developmental age <4 years*

1. ≤2 defecations per week
2. At least 1 episode of incontinence per week after the acquisition of toileting skills
3. History of excessive stool retention
4. History of painful or hard bowel movements
5. Presence of a large fecal mass in the rectum
6. History of large-diameter stools that may obstruct the toilet

Accompanying symptoms may include irritability, decreased appetite, and/or early satiety, which may disappear immediately following passage of a large stool

For a child with a developmental age ≥4 years with insufficient criteria for irritable bowel syndrome†

1. ≤2 defecations in the toilet per week
2. At least 1 episode of fecal incontinence per week
3. History of retentive posturing or excessive volitional stool retention
4. History of painful or hard bowel movements
5. Presence of a large fecal mass in the rectum
6. History of large-diameter stools that may obstruct the toilet.

* Criteria fulfilled for at least 1 month. Adapted from Hyman et al (12).
† Criteria fulfilled at least once per week for at least 2 months before diagnosis. Adapted from Rasquin et al (13).

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Approach to Functional Constipation

- Education
- Diary
- Toilet training
- Oral medication
- Manage fecal impaction

Management – What is the Evidence?

Evaluation and Treatment of Functional Constipation in Infants and Children: Evidence-Based Recommendations From ESPGHAN and NASPGHAN

M.M. Tabbers, C. DiLorenzo, M.Y. Berger, C. Faure, M.W. Langendam, S. Nurko, A. Staiano, Y. Vandenplas, and M.A. Benninga

- Evidence did not support:
  - Fibre supplements
  - Extra fluid intake
  - Pre- or probiotics
  - Behavioural therapy
- No RCTs to support:
  - Physical activity
  - Multidisciplinary treatment
  - Alternative medicine

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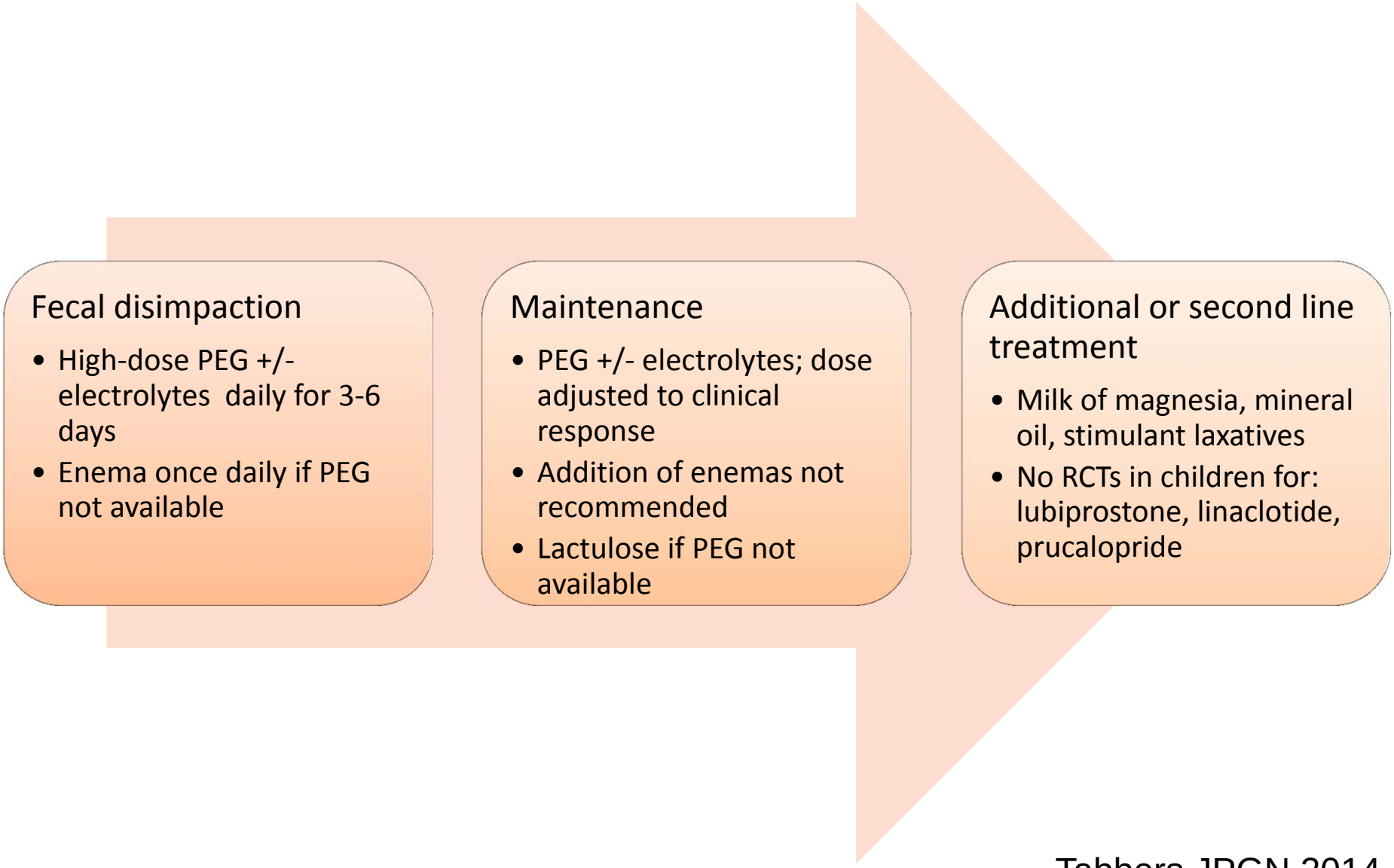
Pharmacological Management



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Differential Diagnoses

Celiac disease*
Hypothyroidism, hypercalcemia, hypokalemia*
Diabetes mellitus†
Dietary protein allergy*
Drugs, toxics
  Opiates, anticholinergics
  Antidepressants*
  Chemotherapy
  Heavy metal ingestion (lead)
Vitamin D intoxication*
Botulism
Cystic fibrosis*
HD*
Anal achalasia*
Colonic inertia†
Anatomic malformations
  Imperforate anus*
  Anal stenosis*
Pelvic mass (sacral teratoma)
Spinal cord anomalies, trauma, tethered cord*
Abnormal abdominal musculature (prune belly, gastroschisis, Down syndrome)*
Pseudoobstruction (visceral neuropathies, myopathies, mesenchymopathies)
Multiple endocrine neoplasia type 2B†

- **Celiac disease**
- **Hypothyrodism**
- **Congenital anomalies**

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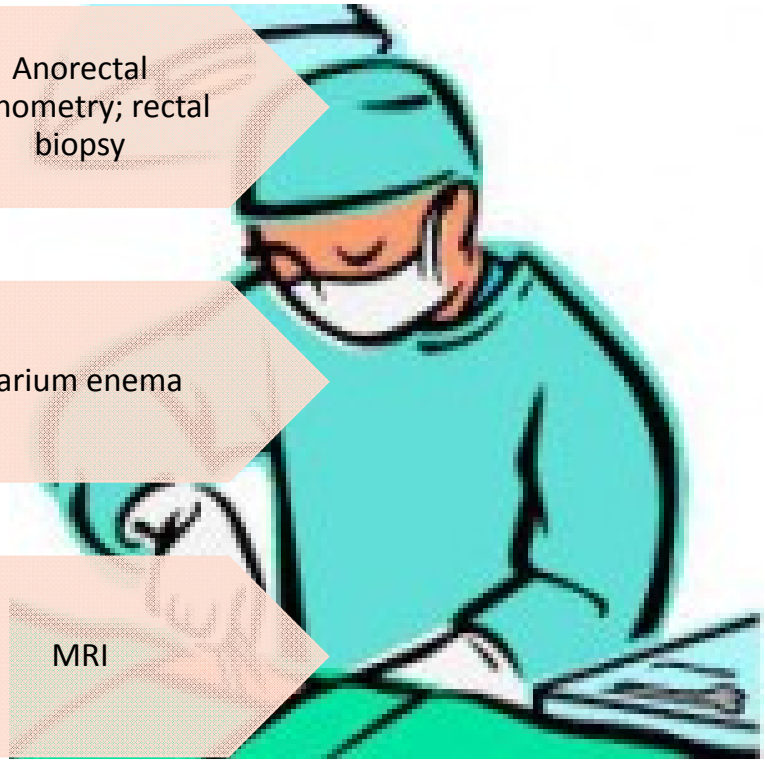
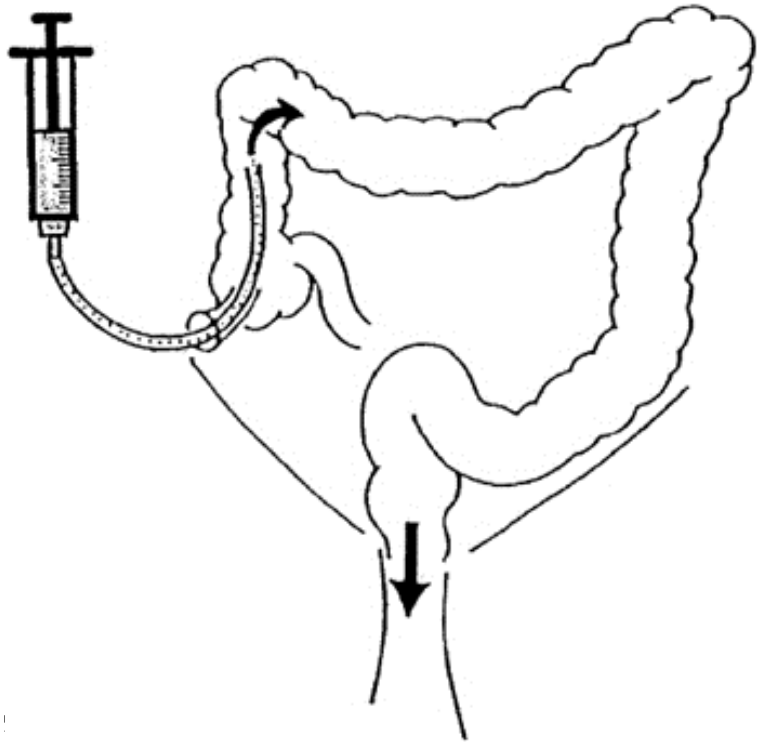
Congenital Anomalies

Hirschsprung's disease	Delayed passage of meconium	Anorectal manometry; rectal biopsy
Anorectal malformations	Inspection of perianal region; associated congenital anomalies	Barium enema
Spinal malformations	Exam of lumbosacral region	MRI
Pseudoobstruction syndrome	Family history; associated anomalies	Abdominal ultrasound; colonic manometry



Intractable Constipation

- Anterograde continence enema (ACE)
  - No RCTs; 6 open retrospective studies
  - Option when maximal conventional therapy not successful
  - Potential complications: granulation tissue, leakage, dislodgement, skin infection, stoma stenosis



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Future Directions