BOWEL FUNCTION, DYSFUNCTIONS AND REHAB NURSE INTERVENTIONS

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ADAPTED FROM

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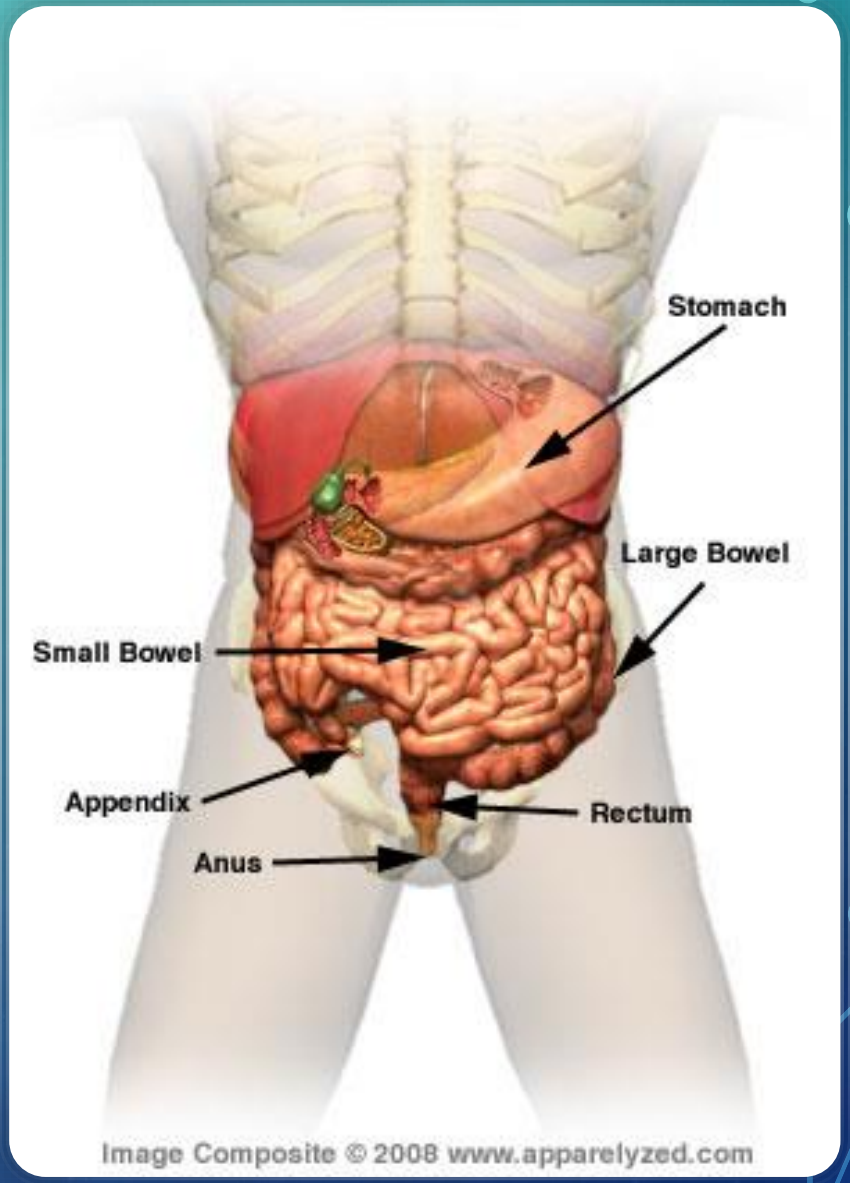
OBJECTIVES

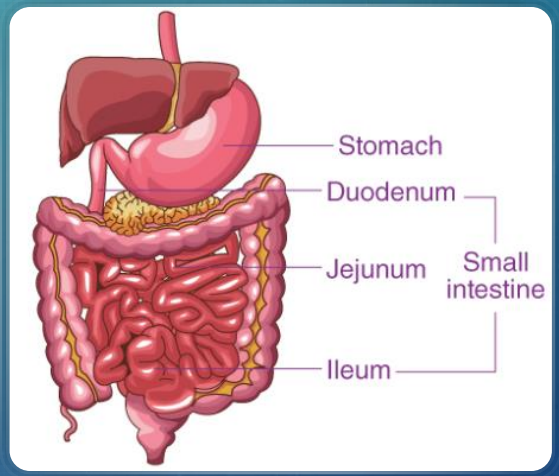
- Participants will be able to:
- State pattern of defecation related to developmental levels
- Discuss the scope of the problem related to Fecal Incontinence
- Describe normal anatomy and physiology of the Large Bowel & Defecation
- Describe the Nursing Interventions Appropriate for Upper Motor Neuron and Lower Motor Neuron Bowel Problems
- Identify factors to assess regarding Fecal Incontinence

NORMAL BOWEL FUNCTION



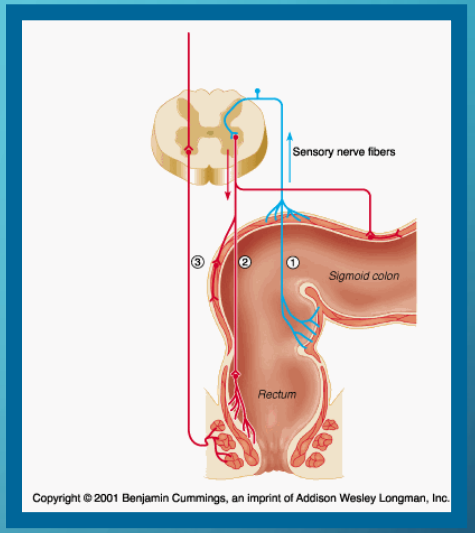
PHYSIOLOGY OF THE SMALL INTESTINE

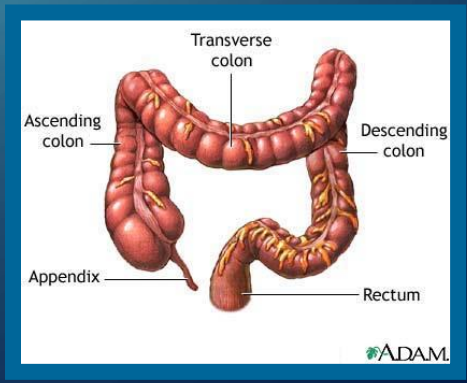
- Referred to as the small bowel where majority of digestion takes occurs.
  - The longest portion of the digestive system (~ 20-25 ft in length)
- Break down and absorb ingested nutrients
- Made of three segments:
  - Duodenum
    - First segment
    - Key regulator of digestion and absorption
    - Digestive juices from the bile duct and pancreatic duct are emptied here
  - Jejunum
  - Ileum



PHYSIOLOGY OF THE LARGE INTESTINE

- Primary function
  - Reabsorb water and electrolytes
  - Formation and temporary storage of feces
- Approximately 6 feet in length
- Absorption of water
  - Peristalsis
    - Occurs 1-3 times per day
  - Sphincter Function
    - Internal and External muscles that open and close to move feces in/out of the rectum
  - Sensory Awareness
    - Dysfunctions will alter reflex activity



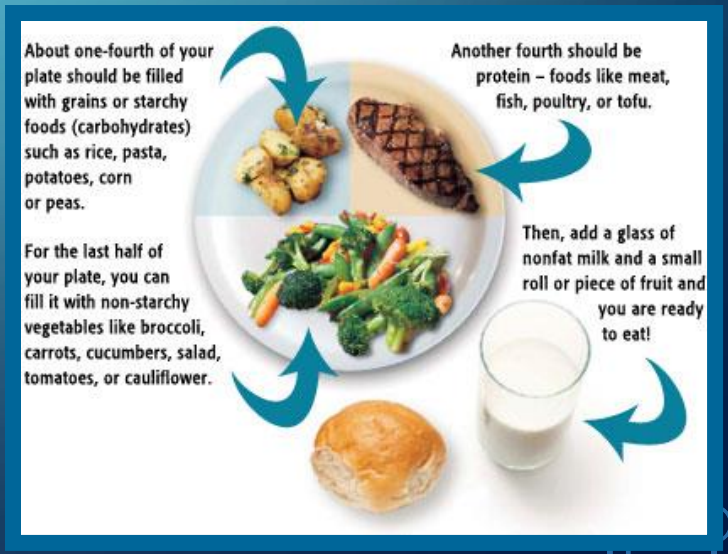


NURSING ASSESSMENT

- Ask about personal and family history of GI problems and risk factors, such as alcoholism, smoking, drug and medicine use, and poor dietary habits.
- Ask about symptoms, such as GI discomfort, flatus, nausea, vomiting, diarrhea, and abdominal pain
- Determine the defecation pattern and ask about weight fluctuations.
- Assess bowel sounds to determine if intestines are functioning:
  - Absent: no sounds in 3-5 minutes
  - Hypoactive: only one sound in 2 minutes.
  - Normal: sounds heard every 5-20 seconds.
  - Hyperactive: 5-6 sounds in <30 seconds.

REQUIREMENTS FOR STOOL FORMATION AND NORMAL BOWEL FUNCTION

- Adequate fiber
- Adequate fluid
- Activity and mobility
- Upright posture



BOWELS HABITS AS WE AGE

- **Infants**
  - **Breastfed babies tend to have more frequent bowel movements than formula-fed babies, and younger babies tend to poop more than older babies.**
- **Children**
  - **May have bowel movements more than once a day, or they may skip a day.**
- **Adults**
  - **It is normal for a daily bowel movement, several times a day or less often. Being regular means that soft, well-formed bowel motions are easily passed.**
- **Older Adults**
  - **Constipation is more common in older adults and is defined as having fewer than two bowel movements per week, hard stools, straining during bowel movements, or incomplete evacuation.**

BOWEL DYSFUNCTION AND NURSING MANAGEMENT

- **Acute Constipation**
  - Recent onset (last less than 12 weeks)
- **Chronic constipation**
  - **Considered a functional bowel disorder**
  - Severe constipation-lasting longer than 3 months with 2 or more of the following:
    - Straining
    - Lumpy or hard stools
    - Sensation of incomplete evacuation
    - Manual maneuvers
    - Fewer than three spontaneous bowel movement per week
  - Enlarges descending colon
  - Dependency
    - Laxatives
    - Cathartics
    - Enemas

BOWEL DYSFUNCTION AND NURSING MANAGEMENT

Management of Constipation

- Acute constipation
  - Evaluation of perineum
  - Assess for hemorrhoids
  - Administer laxatives
- Chronic constipation
  - Increase the amount of fiber in the diet
  - Increase fluid intake (at least 64 oz daily)
  - Exercise
  - Educate to avoid constipating foods

BOWEL DYSFUNCTION AND NURSING MANAGEMENT

- Unmanaged Constipation
  - Obstruction
    - Medical Emergency
  - Bowel sounds
    - High pitched or absent
- Obtain Abdominal X rays to r/o obstruction
- Transfer patient off unit to a higher level of care

PREVENTION OF CONSTIPATION

- Upright Position (left-side lying if upright impossible)
- Develop a regular bowel schedule
  - When you feel the urge to go, don't wait! NO DELAYED TOILETING!
- Daily fiber intake (gradual increase)
- 2 liters of fluids per day
- Exercise regularly
- Pharmacologic treatment, short-term

RNAO 2005 guideline LOE 4

PURPOSE OF FIBER IN THE DIET

- Most constipation is caused by insufficient fiber in the diet
- Adequate amount is 20-30 gm daily.
- Two types of fiber
  - Soluble Fiber
    - Dissolves in liquids to form a gel-like substance
    - Slows the movement of stool through the GI system
  - Insoluble Fiber
    - Changes little with the digestive process and increases the speed of stool through the colon
    - Too much can cause diarrhea

TYPES OF IMPAIRED BOWEL FUNCTION

- Diarrhea
  - Causes
    - Caffeine
    - Infection
    - Irritability of gut
    - Food poisoning
    - Medical conditions
- Management
  - Proper use of supplemental fiber
  - Careful meal planning
  - Followed by a registered dietitian
  - Followed by a gastroenterologist

TYPES OF IMPAIRED BOWEL FUNCTION

- Acute Diarrhea
  - A pattern of at least 3 loose or liquid stools in a 24-hour period
  - Viral or bacterial infections
  - Originating from small intestine
    - Watery stools and hyperactive bowel sounds
  - Originating from large intestine
    - Indicates bacterial infection with abdominal pain and fever
- Management
  - Replace fluid loss
  - Obtain stool sample
  - Administer Loperamide or Bismuth Subsalicylate
  - Administer probiotics

DIARRHEA IN INFANTS AND CHILDREN

- Accounts for about 20% of hospitalizations of children <2
- Causes about 500 deaths in children <4 in the United States each year
- Should be monitored closely to determine the cause:
  - Osmotic
  - Secretory
  - Motility
  - Inflammatory
  - Viral/bacterial

TYPES OF IMPAIRED BOWEL FUNCTION

- Chronic Diarrhea
  - Diarrhea that lasts > 30 days
  - Irritable Bowel Syndrome (common cause)
    - Presents with either constipation or diarrhea
  - Symptoms include L lower quadrant pain
    - stools tend to occur in the early morning
    - Urgently after foods are eaten
    - Feeling of incomplete bowel evacuation
- Management
  - Assess diet for irritating foods that should be omitted
  - Omit wheat and grain products, lactose, fructose, and artificial or natural sweeteners
  - Administer medications to stabilize gut and slow gut motility

INFLAMMATORY BOWEL DISEASE: ULCERATIVE COLITIS

- Superficial inflammation of the mucosa of the colon
- Can become a Medical Emergency
  - Severe Ulcerative Colitis
  - Fulminant Colitis
- High Risk
  - Megacolon
  - Perforation
- Symptoms: Abdominal pain, Anemia, Diarrhea, Anorexia, Weight loss, Fatigue, Fecal urgency, Bloody diarrhea/rectal bleeding
- Treatment: Glucocorticoids, Aminosalicylates, Antibiotics is s/s of toxicity, D/C anticholinergics, NSAIDS, and antidiarrheals

INFLAMMATORY BOWEL DISEASE: CROHN'S DISEASE

- Inflammation of the lining of the digestive tract
- Inflammation is transmural
  - Leads to intestinal stenosis and fistulas
- Common sites: ileum and cecum
- A chronic condition
- Symptoms: diarrhea, anemia, abdominal pain (RLQ), cramping, weight loss, n/v, fever, night sweats
- Treatment: Triamcinolone for oral lesions, Aminosalicylates, glucocorticoids, antidiarrheals, probiotics, AVOID lactulose, and eliminate food triggers

UPPER MOTOR NEURON: REFLEX (SPASTIC) NEUROGENIC BOWEL

- Assessment
  - Occurs in SCI at T12 or above OR damage to cerebral cortex
  - Nerve connection between spinal cord and colon remain intact
  - Hyper-reflexic bowel
  - Disrupted External Anal Sphincter
  - Bulbocavernosus Reflex Intact

UPPER MOTOR NEURON: REFLEX NEUROGENIC BOWEL

- Plan
  - Routine bowel management program by digital stimulation
    - Gastrocolic Response
    - Potential for Autonomic Dysreflexia
      - 1% Xylocaine lubricant
      - Nupercainal (hemorrhoid cream)
    - Trans Anal Irrigation
  - Plan for Accidents
  - GOAL: SOFT, FORMED stool
  - High fiber diet
  - Adequate fluid intake
  - Exercise

LOWER MOTOR NEURON (AREFLEXIC BOWEL)

- SCI damage at or below T 12-S1
- Partial or complete injury of the sacral reflex arc at S2-4
- Absent Bulbocavernosus Reflex
- Lack of tone at internal and external sphincters
- Associated with constipation and increased risk of incontinence between bouts of elimination

LOWER MOTOR NEURON (AREFLEXIC BOWEL)

- Plan
  - Routine bowel management program
    - Usually does not respond to suppositories, rectal chemical stimulants or digital stimulation
  - Manual evacuation used for removal of stool
  - High-fiber Diet (to bulk stool)
  - Fluid Intake 1800-2200 ml /day
  - Stool Softener every day or BID
  - Goal: FIRM, FORMED stool
  - Keep rectal vault clear to prevent accidents

UNINHIBITED NEUROGENIC BOWEL

- Assessment
  - Awareness of urge may be impaired
  - Sphincter intact
  - Bulbocavernosus Reflex intact or hyper reflexic
  - Sudden Urge incontinence
  - Spontaneous evacuation without urge (or warning)
  - GOAL: establish a regular pattern with a good bowel training program.

PARALYTIC BOWEL

- Paralysis of bowels
  - Peristalsis slows down or completely stops (Ileus)
  - Can cause obstruction and blockage of the intestinal content
- Diabetes or Tabes Dorsalis
- Rarely produces incontinence
- Constipation
- Management
  - Monitor patient for s/s of Ileus
  - Provide rest to the intestine
  - Keep patient NPO
  - Administer nutrition per dietitian recommendations

PRINCIPLES OF BOWEL TRAINING (BTP)

- Scheduled defecation
- Stimulation
- Position
- Straining
- Exercise
- Kegel exercises

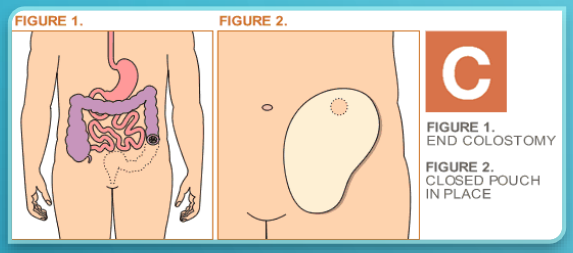
DIGITAL STIMULATION

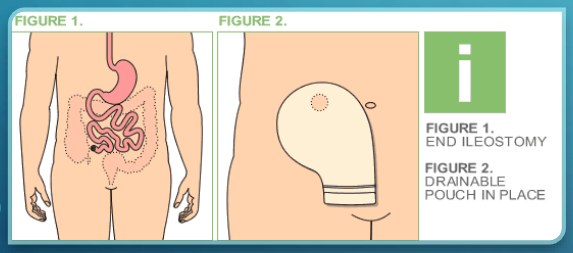
- Manual removal of stool from the rectum
- Use a gloved, lubricated hand against the inside of the anal sphincter wall to relax it by using a semi-circular motion.
- Can be combined with a bearing down technique called Valsalva maneuver (straining)

TRANS ANAL IRRIGATION

- Transanal Irrigation (TAI) is the introduction of water into the rectum using a cone or catheter. Water is instilled into the colon and immediately released. During the release water, stool, gas, and other fecal matter is expelled from the large intestines. This usually takes about 10-15 minutes but should not last more than 30 minutes if performed correctly. TAI works best with gravity but can be performed in bed.

COLOSTOMIES AND ILEOSTOMIES





Artificial openings on abdominal wall to allow for passage of stool

- Malignant tumors
- Ulcerative colitis
- Abdominal resection
- Neurogenic bowel (usually a last resort treatment)

PATIENT EDUCATION: OSTOMY CARE

- Assess the patient's readiness and ability to learn and manage their own care
- Provide step-by-step instruction,
  - Begin with simple steps
- Conduct on-going assessments

COMMON MEDICATIONS USED FOR BOWEL MANAGEMENT

Oral Laxatives	Medications	Purpose
Stimulants	Bisacodyl, Senna	Increase peristalsis, move feces through faster and keep it soft
Osmotic Laxatives	Lactulose, Magnesium Citrate Go -lytely	Increase stool bulk by pulling water into colon. Increase water intake
Bulk Forming Laxatives	Psyllium (Metamucil)	Adds bulk, Fiber to stool. Increase water intake
Emollients (Stool Softners)	Docusate Sodium	Help stool retain fluid and soft
Enemas 	Mini-enema (Enemeez)	Stimulates the rectal lining and softens stool

COMMON MEDICATIONS USED FOR BOWEL MANAGEMENT

Rectal Stimulants	Medications	Purpose
(Hyperosmolar) Suppositories 	▪Bisacodyl (Magic Bullet)	▪Increases colon activity by stimulating (irritating) the nerves in the lining of the colon
	▪Glycerin	▪Stimulates peristalsis in the colon and lubricates the rectum

BRISTOL STOOL CHART

	Type 1	Separate hard lumps	**SEVERE CONSTIPATION**
	Type 2	Lumpy and sausage like	**MILD CONSTIPATION**
	Type 3	A sausage shape with cracks in the surface	**NORMAL**
	Type 4	Like a smooth, soft sausage or snake	**NORMAL**
	Type 5	Soft blobs with clear-cut edges	**LACKING FIBRE**
	Type 6	Mushy consistency with ragged edges	**MILD DIARRHEA**
	Type 7	Liquid consistency with no solid pieces	**SEVERE DIARRHEA**

PRACTICE QUESTIONS

- Which bowel program is most appropriate for a patient who has had a spinal cord injury at C5-6:
  - a. a. Enemas given daily in the morning to prevent incontinence during the day
  - b. b. Consistent time of day associated with the gastrocolic reflex, triggering of reflex emptying with suppositories or digital stimulation
  - c. c. Administration of laxatives and suppositories every evening timed within 6 hours of laxative administration
  - d. d. Bulk fiber products used to form stool with toileting time at a consistent time of the day associate with gastro-colic reflex

ANSWER: B

PRACTICE QUESTIONS

- As part of a bowel-training program, the patient has daily scheduled defecation. What is the BEST time to schedule a bowel movement?
  a. First thing in the morning after arising.
  b. At bedtime.
  c. 2 hours after a meal.
  d. 20-30 minutes after a meal.

ANSWER: D

PRACTICE QUESTIONS

- When planning a diet for the spinal cord injury patient who has had issues with constipation due to a neurogenic bowel, it is important to include:
  - A limited amount of fluid, generally <1 L daily.
  - Limited servings of fiber-rich foods.
  - Foods high in fiber, such as whole grains and fresh fruits and vegetables.
  - Extra servings of foods such as cabbage, cauliflower, and carrots.

ANSWER: C

PRACTICE QUESTION

- Patient with an autonomous neurogenic bowel may experience incontinence during transfers because:
  a. Anal sphincters are flaccid and do not retain stool under abdominal pressures
  b. The rectum will reflexively empty when stool enters it
  c. This problem is associated with stress incontinence
  d. Sensation is impaired which limits reflex contraction of the external sphincter

ANSWER: A

PRACTICE QUESTION

- Primary factors for establishment of a bowel program include all of the following EXCEPT:
  a. Establishing a consistent emptying time
  b. Maintaining appropriate levels of hydration
  c. Regular and frequent schedule of cathartic stimulants
  d. Diet high in bulk and fiber

ANSWER: C

PRACTICE QUESTION

- The most common bowel elimination problem is:
  a. Diarrhea
  b. Constipation
  c. Incontinence
  d. Urgency

ANSWER: B

PRACTICE QUESTION

- When teaching a patient how to use as suppository to stimulate a bowel movement, it is important that they know:
  a. That even if the suppository causes diarrhea, it is important to still insert one/day.
  b. Not to insert the suppository into stool in the rectum; remove the stool manually first.
  c. That fluids should be limited 2-4 hours before inserting a suppository.
  d. That the suppository can be taken orally to help lubricate the GI tract.

ANSWER: B

PRACTICE QUESTION

- The best way to test muscle tone of the external anal sphincter is to:
  a. Check an anal reflex by tapping around the anus.
  b. Check a bulbocavernosus reflex by lightly circling the anus with a finger.
  c. Check an anocutaneous reflex with pinpricks around that anus.
  d. Conduct a digital rectal exam.

ANSWER: D


Any
Questions