Neurogenic Bowel Care Nursing Perspectives

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Sequela of Spinal Cord Injury (SCI)

- SCI may interrupt communication between the nerves in the spinal cord, that control bladder & bowel function, and the brain
- results in bladder or bowel dysfunction that is termed "neurogenic bladder" or "neurogenic bowel"
- Urology nurses are the professional to take care of neurogenic bladder and neurogenic bowel dysfunction
- neurogenic bowel dysfunction includes fecal incontinence, constipation, bowel frequency and lack of bowel movements
Complications & problems related to neurogenic bowel dysfunction

- Faecal incontinence
- Constipation
- Abdominal pain
- Autonomic dysreflexia

- Up to 23% of individuals with chronic SCI have required hospitalization for evaluation or treatment of complications of neurogenic bowel

- 5-10% of the deaths associated with SCI are due to gastrointestinal complications

Complications & problems related to neurogenic bowel dysfunction

- Protracted duration in toileting
- Damage to colorectal structures
  - Haemorrhoids, Anal fissures, Rectal prolapses, Megacolon
- Pressure ulcer formation
- Falls
- Limiting social life, poor social adjustment
- Barrier to employment or education opportunities
- Interfere with sexual activities
- Dependence on caretakers for toileting

Basic conservative management

Dietary management

- 20 - 35 grams fibre daily is recommendation for older children, adolescents and adults
- Peeling can reduce the amount of fibre in fruits and vegetables
- Any increase in fibre should be gradually done over a 4 to 6 weeks period to prevent a bloated feeling and too much gas

Fluid management

- Maintains water content inside faeces to facilitate bowel movement through the digestive system, drink fluid 2 Litre / day

Tips to Effectively manage a Bowel program

**Positioning:**
- Upright on commode if possible (gravity assists stool expulsion and peristaltic activity is greater when upright)
- On Left lateral position with knees bent, the upper leg higher than the lower to expose the anus & avoid damaging the anal canal

**Privacy:**
- In relax manner, and not to be rushed for bowel care
- The more tense you are, the more difficult for bowels emptying
- A hurried bowel care will increase the likelihood of an unplanned bowel movement later in the day

Bowel care should be performed with an empty bladder in order to avoid bowel related UTI
Tips to Effectively manage a Bowel program

**Timing:**
- A regular and consistent time to perform bowel care will train the bowels

**Time of routine:**
- 30 - 60 minutes after meals or drinking warm liquids, take advantage of the gastro-colic reflex

**Frequency:**
- Daily until routine established without breakthrough accidents, then every other day or every third day as tolerated
- A program greater than every 3 days may lead to hard stools and constipation
Activity level

- keep adequate physical activities
- increase abdominal muscular tone & stimulate peristalsis
Assistance maneuver

- Abdominal massage
- Valsalva maneuver
- Gastro-colic response
- Bending
- Lifting
- Push-ups
Faecal incontinence management

Biofeedback

Transrectal electrostimulation
- Palmer 1997
- 55 children mean age 6.7 y.o.
  myelodysplasia & faecal incontinence
- Daily transrectal electrostimulation
- 36.3% complete success, 54.5% moderate success
- No untoward effects

Anal plug

Timed toileting

- Regularly sit for at least 5 minutes on the toilet after each meal (3 times daily) to use the gastro-colic reflex to initiate a bowel movement

Rectal suppositories

- Suppositories have to be inserted between the stool and the rectal wall to have optimal effect
Digital removal of faeces

- Laxatives the night before, the stool will have moved to the lower bowel & rectum ready for emptying the next morning

- and suppositories/ enema 1 hour prior to the procedure in an effort to promote rectal stimulation

- hooking faeces with a gloved lubricated finger & gently removing faeces from the rectum

- hard stool:
  - remove faeces one lump at a time until no more faecal matter can be felt

- solid faecal mass:
  - push finger into the middle of the mass, split it & remove small pieces with a hooked finger until no more faecal matter can be felt
Digital rectal stimulation

- For reflexic bowel dysfunction (UMN)
- Laxatives the night before
- Suppositories / enema 1 hour before the procedure

Digital rectal stimulation

- Insert gloved lubricated finger ½ to 1 inch into the rectum. Wait for the internal anal sphincter to relax ~30 seconds.

- Gently rotate the finger 6-8 times in a circular motion, maintaining contact with rectal wall, and withdraw.

- Stimulation can be repeated every 5 to 10 minutes (≤5 sets of stimulation) until the bowel is emptied.

- Gentle abdominal massage, valsalva manœuvre, & manual evacuation may be used to assist bowel emptying.
Precautions for digital removal of faeces & digital rectal stimulation

- may cause autonomic dysreflexia (AD) in individuals with spinal cord lesions T6 or above.
- consider using a topical anesthetic gel to decrease this risk.
- monitor for acute elevation of blood pressure, symptoms of autonomic dysreflexia: pounding headache, piloerection.
- If any rectal bleeding or signs / symptoms of autonomic dysreflexia occurs, stop the procedure immediately and inform doctor for treatment.
Precautions for digital removal of faeces & digital rectal stimulation

- Injury to the rectal lining or anal sphincter if performed forcefully in a person with impaired sensation
- Use plenty of lubricant and to be gentle
- Make sure you have short nails
Retrograde colonic irrigation

- Faecal disimpaction before starting the bowel cleansing program

- Slowly instill lukewarm tap water into the bowel through an irrigation set & Foley catheter

- Bowel opening by massaging the abdomen in an isoperistaltic direction, following the course of the colon

- Cleanse only the distal part of the colon
Retrograde colonic irrigation

- left lateral position
- Empty patient’s bladder or move the urinary drainage equipment away from the anal area
- Falls prevention
- Pressure sore prevention
- use a well lubricated rectal catheter and insert up the colon as far as possible

- NEVER PUSH THE CATHETER AGAINST RESISTANCE
Retrograde colonic irrigation

- Initially, irrigations are given on a daily basis.

- If successful, frequency can be reduced to once every 2 days.

- Irrigation volume is 500 ml at the beginning.

- But can be increased up to 2 liters, for adults, if necessary.

Precautions for enemas / irrigations

Absolute contraindications:
- Acute active inflammatory bowel disease
- Known obstructing rectal or colonic mass
- Rectal or colonic surgical anastomosis within the last 6 months
- Severe cognitive impairment (unless carer available to supervise/administer)
Potential complications related to enemas / irrigations

- Bowel perforation due to pushing too hard on the wall of rectum (sensation is lacking in SCI patients)
- Rectal bleeding due to traumatic push or haemorrhoids
- Autonomic dysreflexia may happen if large volume of enema used
  - monitor for acute elevation of blood pressure, signs or symptoms of autonomic dysreflexia
- Water intoxication or electrolyte disturbances may occur
- Scald to bowel lining if fluid inserted is too hot
Use of laxatives or additives for enemas / irrigations

- Tap water is suitable for most patients
- However, young children (under 13 years) and any patient with electrolyte disturbances should use normal saline
- If water alone does not promote rectal emptying, phosphate enema may be added to the irrigation water
- However, this should not be introduced until water alone has been tried for at least 1 month
Calculation of enema volume for enemas / irrigations

- In 1958, Ziskind and Gellis
- The enema volume was calculated at 3.5% of body weight or 350 to 2,000 ml
- No significant changes in serum sodium or chloride were noted
- Due to the uncertain sodium level of softened water in any home families, advise to use untreated tap water
- The safest regimen has not yet been established
- Periodic evaluation of serum electrolytes
Malone antegrade continence enema (MACE)

Furlan 2007:

- MACE procedure has the best long-term outcome in terms of
  - the likelihood of an improvement in bowel function, complication rate, reduction in autonomic dysreflexia episodes and patient preferences
- Overall success has been as high as 90% in both pediatric & adults patients with myelodysplasia and/or neurogenic bowel dysfunction

Malone antegrade continence enema

- improved QoL related to faecal incontinence or intractable constipation
- independence on others for toileting
- decreased toileting time
- cleanse almost the entire colon, reducing the risk of fecal soiling & constipation
- autonomic dysreflexia resolved postoperatively


TEICHMAN, JOEL M. H.; HARRIS, J. MANSEL; CURRIE, DONALD M.; BARBER, DOUGLAS B.


Malone antegrade continence enema

- Faecal disimpaction before starting the bowel cleansing program
- Isolated report of fatal hypernatremia after irrigation with normal saline
- Water intoxication with hyponatremia, mental status changes may occur
- Elizabeth BY et al. (2001) reported tap H20 & MACE is a safe combination in her cohort of 71 patients of mean age 126.4 months FU 3.5 years

Complications:

- Stomal stenosis, stomal leakage, false passage & bowel obstruction, metabolic complications related to colonic irrigation
- Prevention of stomal stenosis: regular stomal calibration with 12Fr Nelaton catheter 2-3 times a day
Our local experience on Malone antegrade continence enema

- 4 patients - 3 girls and 1 boy, aged 8-12 (mean 9.5) years - underwent MACE Feb - Sep 2006
- spinal dysraphism in all 4 patients
- chronic intractable constipation (4) & fecal incontinence (3)
- Mean F/U was 69.25 (range 66-73) months
- All 4 patients performed antegrade continence enema independently every 1-2 days (mean 1.5 days)
- Lukewarm tap water was used without laxatives or purgatives
Our local experience on Malone antegrade continence enema

- Mean volume of tap water required was 875 ml (range 600 - 1200)
- Mean time used for irrigation was 45 minutes (range 15 - 60)
- Mean time duration to develop a regular bowel movement pattern was 6.75 months (range 6 – 9)
- All experienced no fecal incontinence from stoma or rectum
- All enjoyed no constipation
- Serum sodium level of all patients was within normal range
- 1 stomal stenosis requiring self dilation daily since 36 months after the MACE procedure
Thank you