Neurogenic Bowel Dysfunction

The practical management of a bowel care programme for the spinal cord injured population

National Rehabilitation University Hospital

An tOspidéal Náisiúnta Athshlánúcháin

For Healthcare Professionals

National Rehabilitation University Hospital

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These procedures are recommended for individuals with a spinal cord injury. All decisions must be based on clinical judgement, as each individual may have unique requirements. If you would like any further information or to give us feedback, please contact scsc@nrh.ie

Commission for Accreditation of Rehabilitation Facilities. Details of the NRH accreditation on www.nrh.ie

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Introduction

This booklet is intended as a guide to accompany our animated training video on the practical aspect of neurogenic bowel management for spinal cord injured (SCI) individuals.

This is not a stand-alone module but will assist in the following procedures:

- Insertion of suppository
- Digital rectal stimulation (DRS)
- Digital removal of faeces (DRF)
- Autonomic Dysreflexia

These procedures should be undertaken only after approved training and assessment, which should be carried out in accordance with local policies, guidelines and evidence-based practice as appropriate to your own organisation.

What is a Neurogenic Bowel?

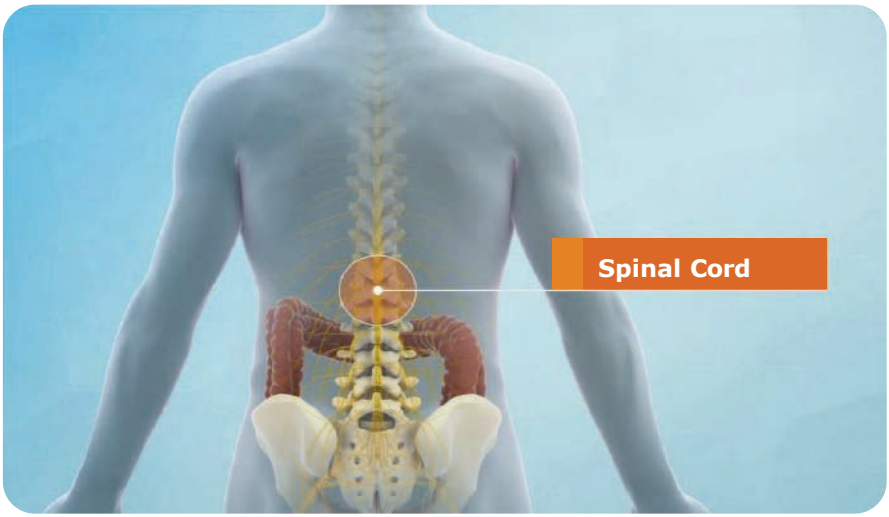
Neurogenic Bowel is the term used to describe dysfunction of the colon (constipation, faecal incontinence and disordered defecation) due to loss of normal sensory and or motor control.
(Chung and Emmanuel 2006).

What are the Aims of a Bowel Care Programme?

- To have a regular predictable bowel motion at a time and place that is socially acceptable
- To avoid complications
- To maintain quality of life
- To complete the programme within one hour

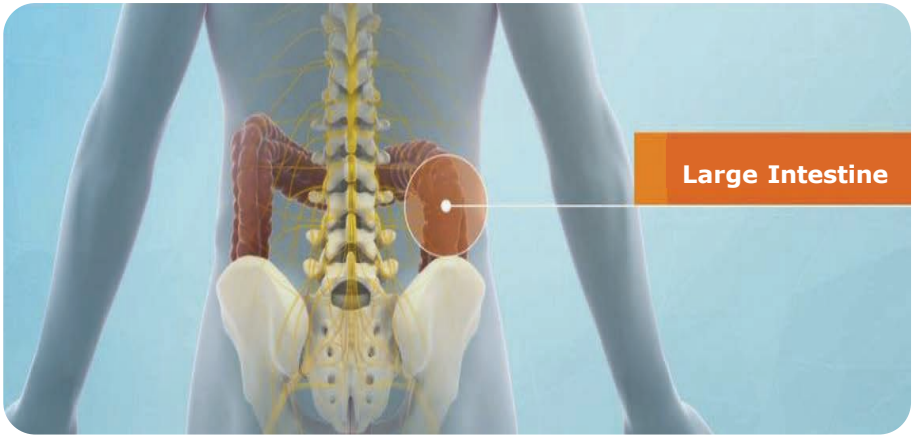
The Function of the Spinal Cord

The spinal cord is the pathway for communication between the brain and the body. Any damage to the spinal cord may disrupt this communication. The outcome will vary depending on the location and severity of the damage



The Main Function of the Large Intestine

The main function of the large intestine is to absorb water and remove waste from the body.



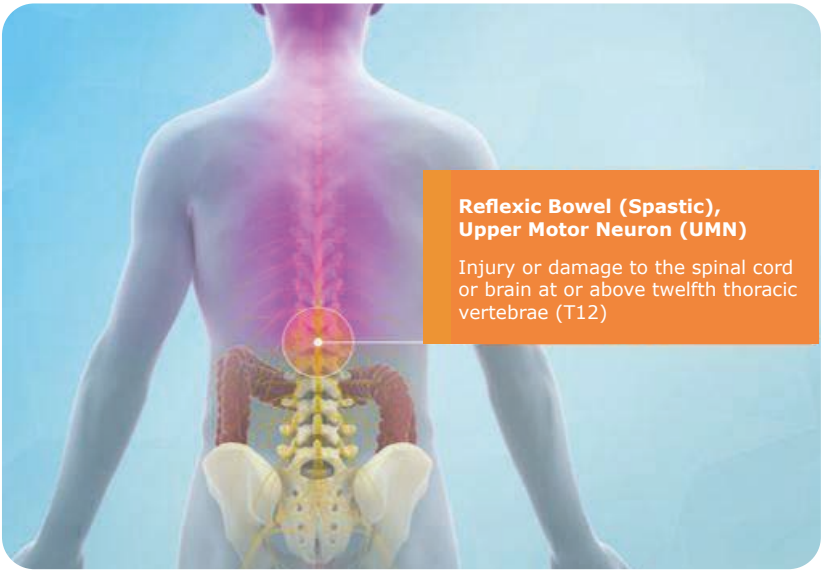
What are the Different Types of Bowel Programmes?

There are two distinct bowel programmes, reflexic or areflexic. However, some SCI individuals may need an alternative programme such as those with a mixed lesion, cauda equina or conus medullaris injuries.

- **Mixed lesion:** An individual with a SCI between the twelfth thoracic vertebrae (T12) and the second lumbar vertebrae (L2) may show some aspects of both reflexic and areflexic bowel dysfunction.
- **Cauda Equina:** In individuals with Conus Medullaris Injuries the bowel may be areflexic immediately and in the long term, but mixed dysfunction is also possible.

What is a Reflexic Bowel?

A reflexic bowel is also known as a spastic bowel or an upper motor neuron (UMN) bowel. This refers to injury or damage to the spinal cord or the brain at or above the twelfth thoracic vertebrae (T12).



Outline Plan for a Reflexic Bowel Programme

Outline plan for a Reflexic Bowel Programme

Aim: Bristol stool type 4. Daily or alternate day programme at a regular time. Attention to diet.

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Stimulant laxative: 8-12 hours prior to bowel management if required

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Gastrocolic reflex: Plan bowel programme 20-30 minutes after food or drink to stimulate the reflex

↓

Abdominal massage: Can aid bowel evacuation

↓

Digital rectal examination (DRE). Insert rectal stimulant: Suppository or micro-enema

↓

Digital rectal stimulation (DRS)

↓

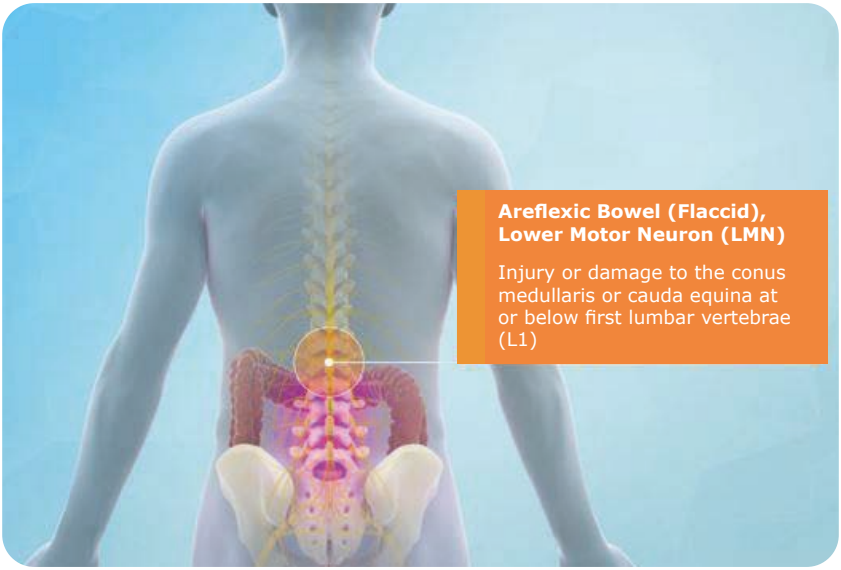
Digital removal of faeces (DRF) if reflex evacuation is incomplete

↓

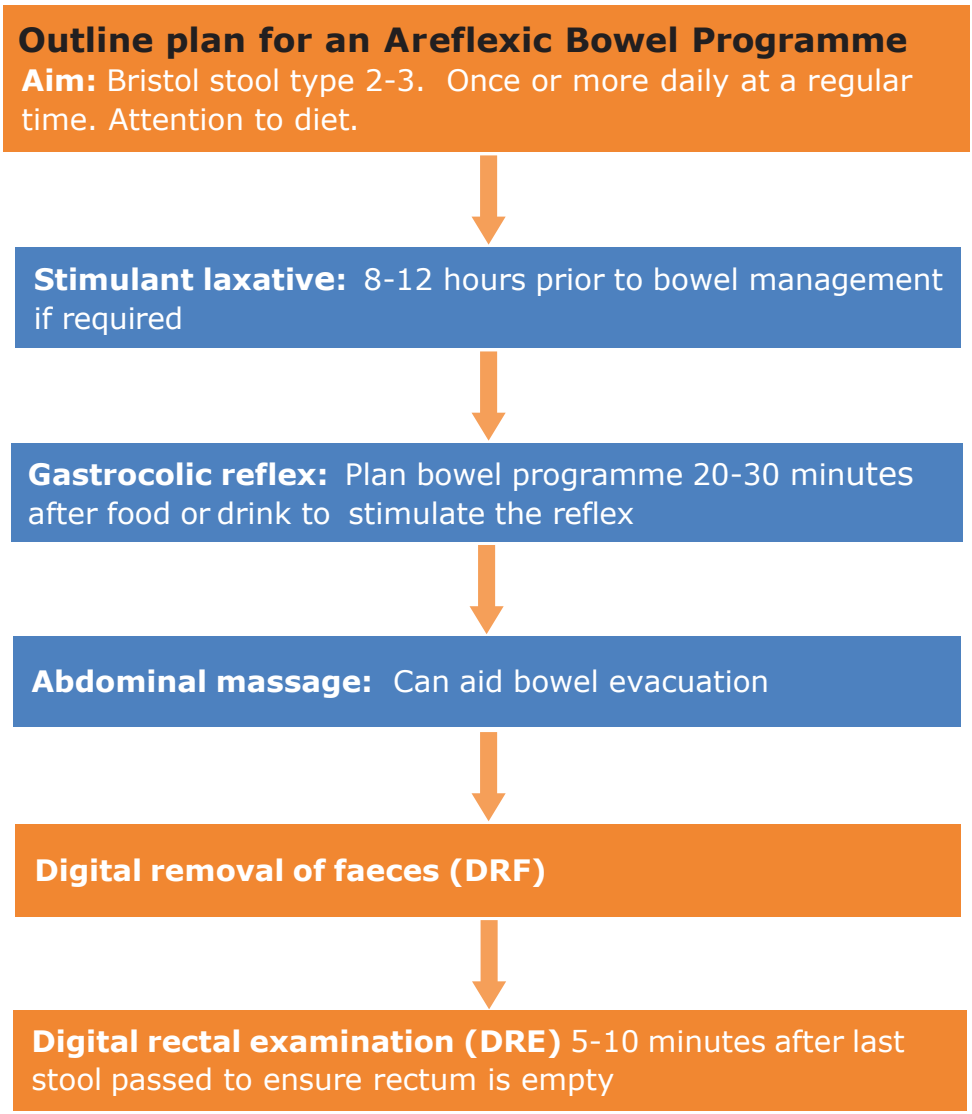
Digital rectal examination (DRE) 5-10 minutes after last stool passed to ensure rectum is empty

What is an Areflexic Bowel?

An areflexic bowel is also known as a flaccid bowel or a lower motor neuron (LMN) bowel. This usually refers to injury or damage to the conus medullaris or cauda equina at or below the first lumbar vertebrae (L1).



Outline Plan for an Areflexic Bowel Programme



Preparation before each Procedure

- Explain the procedure as per local guidelines
- Gain consent as per the National Consent Policy
- Identify type of bowel programme prescribed; Reflexic or Areflexic
- Check for any allergies or contraindications
- Ensure privacy and dignity is observed throughout the procedure
- Collect all the relevant supplies for the procedures

List of Supplies for the Procedure

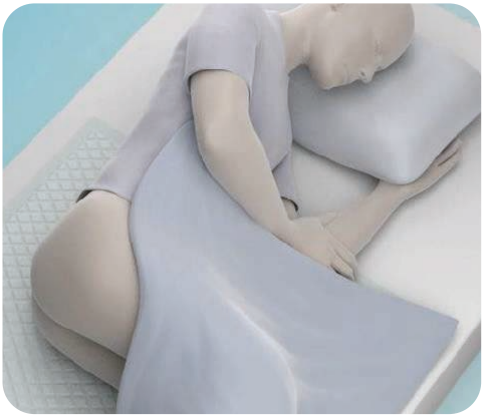
List of supplies needed for the bowel programme:

- Personal Protective Equipment (PPE)
- Disposable gloves
- Lubricant
- Suppositories
- Incontinence sheets
- Wipes
- Refuse bag

Pre-procedure

- Perform hand hygiene (maintain nail care to prevent damage to the rectal mucosa)
- Don PPE including disposable gloves
- Position the individual for the procedure

Recommended Position of the Individual for these Procedures

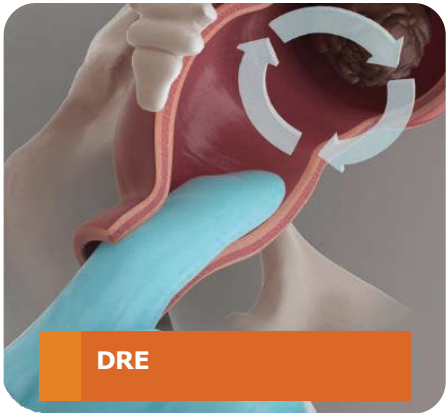


For training purposes, these procedures are demonstrated with the individual in bed lying on the left side, also known as the left lateral position. However, these procedures may also be performed over the toilet.

Digital Rectal Examination (DRE)

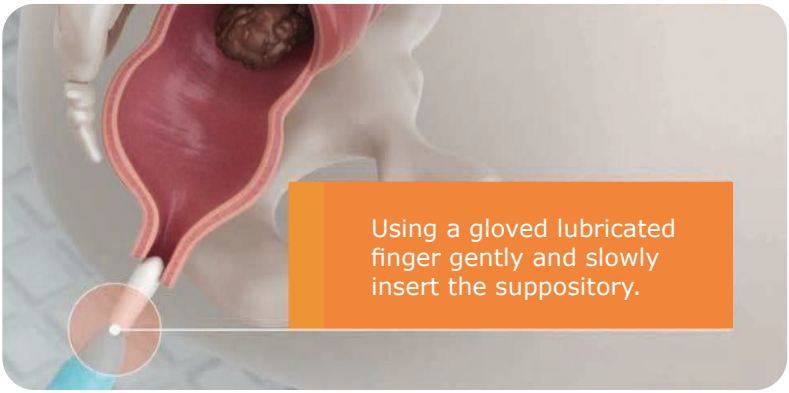
Digital Rectal Examination (DRE) is required before commencing any rectal intervention. This involves examining the rectum with a gloved lubricated finger to assess:

- Presence of faeces in the rectum
- Consistency of stool if present (recommended to use Bristol Stool Scale)
- Sphincter tone and sensation
- Check for any abnormalities



PROCEDURE 1: Insertion of Rectal Suppository

This procedure may be performed in bed or over the toilet.



- Separate the buttocks to identify the anus
- Using a gloved lubricated finger gently and slowly insert the suppository
- Ensure the suppository is resting against the rectal wall
- Insert a second suppository if required
- The suppository begins to melt which stimulates the colon walls to contract
- Wait for the rectum to empty.

Suppositories usually take effect within 15-30 minutes; follow the manufacturer's guidelines.

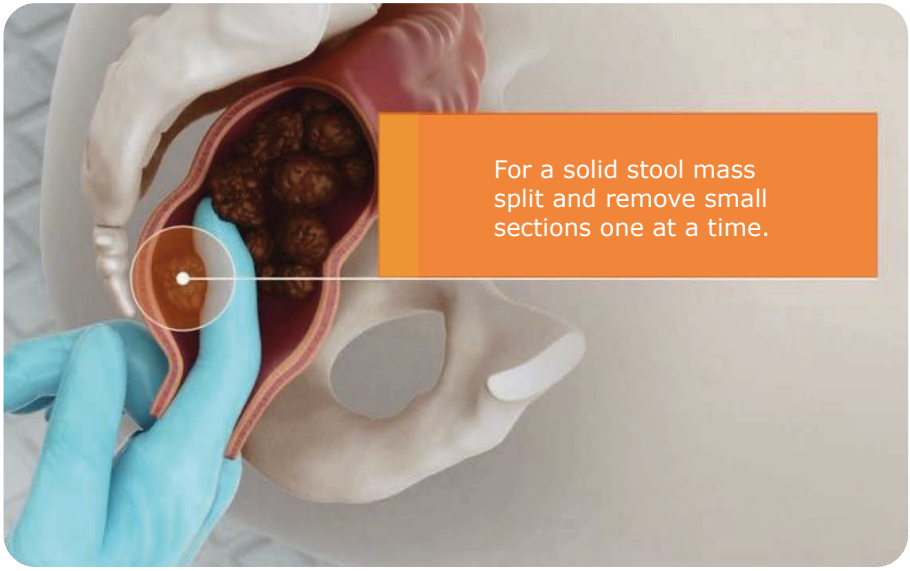
PROCEDURE 2: Digital Rectal Stimulation (DRS)

This involves inserting a gloved lubricated finger gently and slowly into the rectum.

- Rotate lubricated finger in a clockwise direction for at least 10 seconds while maintaining contact with the bowel wall
- Withdraw finger slowly and wait for reflex evacuation of faeces from the colon
- Stimulation may be repeated every 5-10 minutes until the rectum is empty or reflex activity ceases. The normal range would be between 3-6 stimulation episodes. If no reflex activity occurs following 3 episodes of stimulation, do not continue
- Use digital removal of faeces (DRF) if stool is still present in the rectum

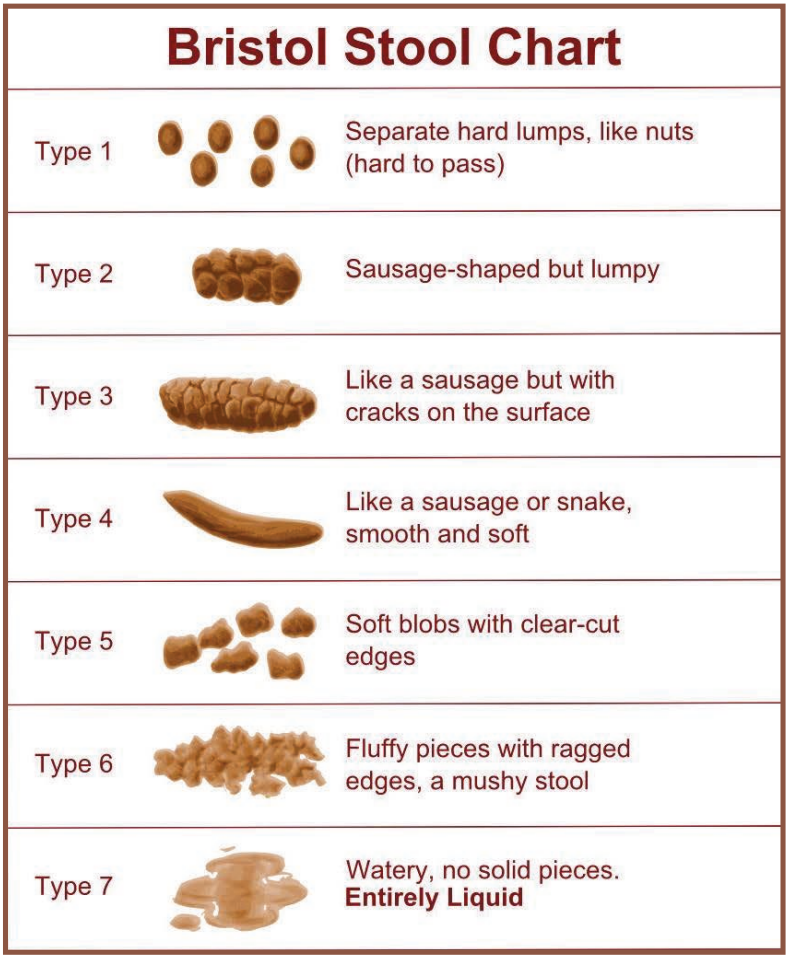
PROCEDURE 3: Digital Removal of Faeces (DRF)

- This involves inserting a gloved lubricated finger gently and slowly into the rectum
- For a solid stool mass split and remove small sections of faeces, one at a time
- Repeat process until the bowel is empty of faeces



Post-procedure

- Wash and dry the anal area
- Reposition the patient as appropriate
- Perform hand hygiene
- Document the results of the bowel programme using the Bristol Stool Scale



Autonomic Dysreflexia

Some individuals with a spinal cord injury at the neurological level of T6 or above may experience autonomic dysreflexia.

Autonomic dysreflexia is a medical emergency characterised by the acute elevation of arterial blood pressure and bradycardia, although tachycardia may also occur.

If untreated it may lead to cerebral haemorrhage, seizures, myocardial infarction or even death.

The most common cause is bladder distension followed by constipation or impaction.

The following algorithm details the treatment for a dysreflexic episode.

Treatment Algorithm for Autonomic Dysreflexia in Spinal Cord Injury

Signs and Symptoms of Autonomic Dysreflexia

Common causes to exclude first are:
1. Bladder Distension,
2. Constipation, ask individual or carer if cause suspected

Check Blood Pressure (BP)

Is BP>20mmHg above resting level?
(Note: BP in a person with tetraplegia or high paraplegia is typically low, for example, 90-100/60mmHg)

Call for Assistance

Immediate Intervention
Sit person upright and lower legs
Loosen any tight clothing and or leg straps
Remove compression stockings and or abdominal binder
Monitor BP and pulse until symptoms have resolved

For patients with catheter:

- Empty leg bag and note volume
- Check tubing for blockage or kinking
- If catheter is blocked remove and re-catheterise using lubricant containing lignocaine
- Drain 500mls initially, then 250mls every 10 - 15 minutes to avoid hypotension

For patients without catheter:

- If bladder is distended and patient unable to pass urine, insert catheter using lubricant containing lignocaine
- Drain 500mls initially, then 250mls every 10 - 15 minutes to avoid hypotension

If bladder distension excluded - gently carry out rectal examination for faecal mass:

Gently insert gloved finger in lignocaine gel into rectum and remove faecal mass

If Bladder and Bowel excluded
Look for other causes of noxious stimulus

for example, pressure sores, burns, fracture, ingrown toenail.
Ensure adequate analgesia is given when there is a persisting known cause of noxious stimulation

If symptoms persist and cause is unknown

Give Nifedipine 10mg capsule "bite and swallow" method

If BP not settling and cause not identified,
Contact **Medical Team** for further assistance

Contact Information

If you require further information, or have any questions or concerns about the management of a neurogenic bowel care programme, please contact:

The Spinal Cord System of Care (SCSC) Programme
National Rehabilitation Hospital
Rochestown Avenue
Dún Laoghaire
Co. Dublin
Ireland, A96 RPN4

Email:scsc@nrh.ie

Please note: Outside the Republic of Ireland, please contact your local spinal specialist centre.

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www.nrhfoundation.ie

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Glossary of Terms

Abdominal massage: 'Pressure is applied intermittently to the abdomen following the usual lie of the colon in a clockwise direction; using the back or heel of the hand or a tennis ball or similar, pressure is applied and released firmly but gently in a continuous progression around the abdomen' (Coggrave 2005).

'Abdominal massage significantly shortens total colonic transit times, reduces abdominal distension and increases frequency of bowel movement. 15 mins a day for SCI individuals can reduce transit times' (Ayas et al 2006 Coggrave 2014).

Areflexic bowel: is also known as a flaccid bowel. This refers to injury or damage to the conus medullaris or cauda equina at or below the first lumbar vertebrae.

Autonomic Dysreflexia: 'This is a potentially life-threatening hypertensive medical emergency that occurs most often in spinal cord injured individuals with spinal lesions at or above the 6th thoracic vertebrae' (Khastgir J, et al 2007).

Bowel care: Activity undertaken to regularly evacuate stool from the rectum and sigmoid colon.

Bowel Management: Regular, pre-emptive individually developed and prescribed series of interventions carried out by the patient/nurse/attendant/carer to prevent faecal incontinence and constipation, usually in individuals with neurogenic bowel dysfunction.

Bowel programme: A combination of interventions in a given order conducted to achieve the predictable evacuation of stool from the bowel.

Bristol stool form scale: Evidence-based objective descriptors of stool consistency, reproduced by kind permission of Dr S J Lewis.

Cauda Equina Syndrome: '(CES) is caused by compression of the nerves of the cauda equina, causing one or more of the following: bladder and/or bowel dysfunction, reduced sensation in the saddle (perineal) area, and sexual dysfunction, with possible neurological deficits in the lower limbs (motor/sensory loss, reflex change).' Fraser et al 2009.

Conus Medullaris Injuries: This occurs at the conical end of the spinal cord around the level of the lower end of the first lumbar vertebrae.

Digital rectal stimulation: The insertion of a gloved, lubricated finger through the anus into the rectum followed by a gentle circular motion of the finger for at least 10 seconds to stimulate reflex evacuation of stool from the bowel.

Digital rectal examination: Examination of the rectum by inserting a gloved, lubricated finger into the rectum.

Digital removal of faeces: Removal of stool from the rectum using a gloved lubricated finger.

Gastrocolic Reflex: A reflex response to the introduction of food or drink into the stomach, resulting in an increase in muscular activity throughout the gut, which can result in movement of stool into the rectum ready for evacuation. It can be utilised by planning bowel evacuation 15-30 minutes after a meal – it is thought to be strongest in response to breakfast. Patients are advised to make use of the gastrocolic reflex by eating or drinking 15-30 minutes before attempting to empty their bowels. (Kumar et al 2016)

Neurogenic bowel: is the term used to describe dysfunction of the colon (constipation, faecal incontinence and disordered defecation) due to loss of sensory and motor control or both as a result of central neurological disease or damage. Neurogenic bowel dysfunction may be reflex, areflexic or mixed. (Chung and Emmanuel 2006)

Reflexic bowel: A reflexic bowel is also known as a spastic bowel. This refers to injury or damage to the spinal cord or the brain at or above the twelfth thoracic vertebrae.

Rectal stimulant: These are pharmacology agents used, such as a suppository or enemas, which is inserted into the rectum to stimulate reflex evacuation of stool. Not usually used in individuals with areflexic bowel function.

Stimulant laxative: Directly stimulates peristalsis which pushes the stool along in the bowel / large intestine. This medication is taken 8-12 hours prior to a planned bowel evacuation, as recommended by your Health Care Professional.

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Bristol stool scale reproduced by kind permission of Dr S J Lewis, Nuffield Health Plymouth Hospital, Derriford Rd, Derriford, Plymouth, PL6 8BG (April 2016)

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Notes:

An tOspidéal Náisiúnta Athshlánúcháin

Rochestown Avenue
Dún Laoghaire
Co. Dublin
Ireland, A96 RPN4

Tel: + 353 1 235 5000

www.nrh.ie