



Multiple sclerosis information

for health and social care professionals

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Bowel

Although bowel problems are common in patients with MS they are generally under reported and neglected¹. Wiesel² reported that the prevalence of bowel dysfunction in patients with multiple sclerosis is higher than in the general population. Up to 70% of patients complain of constipation or faecal incontinence, which may coexist^{2,3}. Sullivan and Ebers⁴ also reported that 53% of people with MS complained of constipation and another study of a large number of people with MS found that 43% had constipation and 53% faecal incontinence.

Bowel dysfunction is a source of considerable ongoing distress in many patients with MS. Symptoms related to the bladder and bowel are reported by patients as an important symptom limiting their ability to work². Management of bowel problems is influenced by many factors, including people's expectations of 'what is normal', tradition, and culture⁵. Bowel control is extremely complex, involving a delicate coordination of many different nerves and muscles. Overall bladder and bowel dysfunction has been linked to lower limb dysfunction, meaning that paralysis of legs and walking difficulties are often accompanied by bladder and bowel problems, thus compounding management difficulties.

Managing dysfunction begins with assessment by an experienced health professional followed by ongoing collaboration with the individual to develop an approach which meets their particular needs. Assessment should be repeated as an individual's needs change. In the absence of research evidence from studies with MS patients, findings in other similar patient groups, such as spinal cord injury, should be used to inform care.

Neurological control

In order to have voluntary control of defaecation (continence), it is necessary to have sensation of the presence of stool in the rectum, sometimes referred to as the 'call to stool'. This sensation occurs when the faeces move into the rectum, stretching the rectal walls and triggering messages of the need to evacuate to be sent via the sensory pathways to the sacral spinal cord and brain. Sensory information will differentiate between solid

or liquid stool or flatus in the rectum. In response to sensory messages motor impulses reach the anorectum from the brain and sacral spinal cord to coordinate reflex activity and to allow voluntary relaxation of the anal canal for evacuation; if defaecation is not convenient, the urge to defaecate can be voluntarily suppressed, stool moves back up into the rectum and away from the anal canal.

Damage to any part of this pathway, may reduce or completely interrupt transmission of motor and sensory nerve impulses resulting in reduced or lost sensation and control over voluntary muscle function leading to faecal incontinence.

Damage to autonomic nerve pathways in the spinal cord alters colonic motility due to impaired parasympathetic and sympathetic input. This may result in rapid transit and loose stool but more often results in slower transit and constipation. Reduced motility and impaired reflex coordination of the pelvic floor, left or descending colon, rectum and anal canal can result in evacuation difficulties. These pathophysiological problems are compounded by reduced mobility, polypharmacy, spasticity and fatigue⁶.

Management

Bowel dysfunction, particularly faecal incontinence, has a significant negative impact on the quality of life of individuals. It may be an important contributor to the decision to stop working, and may result in social isolation and admission to residential care. Minimising the impact on the individual and their family is important.

The NICE guidance on management of MS⁶ specifically identifies bowel problems as significant and commonly encountered by patients. The guidelines suggest that all health professionals in contact with individuals with MS should have in mind the possibility of bowel dysfunction. Where an individual reports problems with bowel function an assessment should be undertaken to clearly identify the problem and to support the development of an individualised bowel management programme.

There are few published studies to support bowel management for people living with MS, so much of the following is based on evidence and experience from the spinal cord injured population.

Aims

The aim of managing bowel dysfunction depends on the main symptom.

- **Faecal incontinence** - providing predictable, effective and reliable evacuation at a chosen time.
- **Constipation** - promoting an appropriate stool form with easy, effective evacuation on a regular basis.

In either case where an individual has faecal urgency, impaired mobility and therefore difficulty accessing a toilet in a timely way, or where help is required with toileting, promoting a regular routine, which allows evacuation to occur at an appropriate time, is essential. This is sometimes referred to as a pre-emptive approach; bowel evacuation and care is prompted at a suitable time when it is most manageable so pre-empting faecal incontinence or urgency at other times. Regular effective emptying of the bowel also helps to avoid the build up of constipated stool and development of faecal impaction.

Assessment

A bowel assessment should be holistic in nature, focusing on the objectives identified by the individual and placing the bowel issue in the context of the wider impact of MS for that individual. Co-morbidities should also be considered, an individual with MS may also experience gastrointestinal morbidity and referral for gastroenterological or colorectal opinion may be warranted.

A simple bowel diary completed for one week before assessment is a very useful adjunct. This should record timing, frequency and stool form at evacuation. Methods used to assist evacuation (laxatives, rectal stimulants, digital interventions), episodes of faecal incontinence and other problems should all be noted. A record of dietary and fluid intake can also be useful.

The assessment should consider:

- type of MS and level of disability
- brief medical history - including gut-related disease/surgery, obstetric history
- medication - including over-the-counter and complementary or alternative medicines. The following groups of drugs are associated with altered stool consistency, most often constipation:

aluminium antacids, antibiotics, antimuscarinics, antiepileptics, antidepressants, calcium supplements, diuretics, iron tablets, opiates

Individuals with MS will often be taking multiple medications. Where new medications are commenced or changes made to dosage, the patient should be educated to be alert for changes in bowel function and if necessary to seek advice.

- diet - appetite, frequency of meals/snacks, intake of fruit, vegetables and wholegrain foods
- fluid intake - volume and type
- bowel function - sensation of need for evacuation, voluntary control - ability to defer defaecation – for how many minutes after first urge
- frequency of evacuation
- stool form - use the Bristol Scale⁷ to describe stool form. Abnormal stool such as black-tarry, pale or bloody stool should prompt further investigation which may include onward referral
- frequency of faecal incontinence - volume and stool type
- other symptoms - abdominal bloating, passage of flatus, pain, rectal bleeding, haemorrhoids, fissures etc
- current/previously tried methods of managing - if any - oral laxatives, rectal stimulants, use of pads
- duration of bowel care
- level of dependence in bowel care - who provides care if required
- accessibility/suitability of toilet facilities - refer to local community occupational therapist if appropriate
- impact on social and work life.

Ideally, the assessment will include a digital rectal examination. This allows visual assessment of the perianal area, assessment of anal tone, sensation and voluntary anal squeeze, presence and type of stool in the rectum, local problems such as anal stricture, prolapse, haemorrhoids, fissure etc.

Radiographic colonic transit studies and anorectal physiology tests may be undertaken in some centres. However, the usefulness of such tests in managing neurogenic bowel dysfunction has yet to be established.

Interventions

Diet

The impact of dietary fibre on bowel function in individuals with MS is not clear. However, the general health benefits of an adequate intake of soluble and insoluble fibre through fruit, vegetables and whole grain foods are well recognised. The individual should be encouraged to aim for five portions of fruit and vegetables daily with one or two portions of wholegrain foods. Their intake should be increased gradually to avoid abdominal bloating or flatulence, and will be dependent on ability to eat and appetite. Fruit and vegetables may be fresh, frozen or dried; a standard portion is 80g. Impact on bowel function can be assessed as the diet is gradually changed and amended as necessary.

Fluid intake

The normal function of the large bowel is to absorb water. In conditions where transit time is extended, greater water absorption occurs resulting in increased risk of constipation. Inadequate fluid intake is also a factor. A good guide in assessing fluid intake is to observe the colour of the patient's urine⁸, pale straw coloured urine indicates an adequate intake, darker urine suggests that intake should be increased. While water, which is free of any additives, is the ideal any fluid that the patient will drink should be encouraged to maintain pale straw coloured urine.

Defaecation dynamics

In patients presenting with constipation who are able to use the toilet, correct positioning when toileting can promote improved evacuation of stool. Feet should be supported and the knees should be higher than the hips in a quasi-squatting position. Bracing the abdominal muscles and bulging the abdominal wall outwards to increase abdominal pressure may assist the passage of stool without raising intrarectal pressures unduly.

Opening the bowels over a toilet is the norm for adults and all reasonable efforts should be made to facilitate this. This may require adaptation of the toilet or bathroom. An occupational therapist assessment of the patient's own environment and appropriate risk assessment for carers giving bowel care in the home is required.

Establishing a routine

Having a regular routine is fundamental to gaining control over bowel function and avoiding constipation. The routine should be developed

individually and be designed to fit into the individual's life. Frequency of bowel care may range from once or twice daily to alternate days and some flexibility should always be maintained⁹.

Establishing appropriate stool consistency

Stool consistency is described here using the Bristol Stool Form Chart⁷, a copy of which can be found below.

The Bristol Stool Form Scale

Type 1		Separate hard lumps, like nuts (hard to pass)
Type 2		Sausage-shaped but lumpy
Type 3		Like a sausage but with cracks on its surface
Type 4		Like a sausage or snake, smooth and soft
Type 5		Soft blobs with clear-cut edges (passed easily)
Type 6		Fluffy pieces with ragged edges, a mushy stool
Type 7		Watery, no solid pieces ENTIRELY LIQUID

If the stool is too soft or loose it is difficult to control and can contribute to incontinence. A bulking agent such as Fybogel may help, along with increasing wholegrains such as wholemeal bread which help to absorb liquid. However, there is a risk of 'soft impaction' or overloading of the bowel with soft bulky stool in immobile individuals with slow colonic transit when using bulking agents.

Where the stool is constipated and diet alone has not been effective a number of laxatives which soften stool and/or stimulate colonic activity are available. It is important to match the introduction or increase in stool softeners or stimulant laxatives with planned management of evacuation. People usually begin with small doses of laxatives and increase gradually until the appropriate stool consistency is achieved; if the stool becomes too soft the laxative should be reduced gradually.

Bristol Stool Form Scale 4 is identified as the optimal stool form for the general population and for those with intact evacuatory reflexes. Some individuals prefer to have a more formed stool (Bristol Stool Form 3) as this gives them more control over evacuation; for instance individuals without evacuatory reflexes who use manual evacuation of stool as their main method of evacuation. Care should be taken to avoid development of constipation in the longer term.

Abdominal massage

Abdominal massage is used by up to 30% of individuals with neurogenic bowel dysfunction^{9,10}. It is regarded as a non-invasive technique to encourage stool transit, and while it may not eradicate the need for laxatives it may reduce it¹¹ and improve quality of life in constipated individuals. Massage may be used before and after digital rectal stimulation, insertion of stimulants or digital removal of faeces to aid evacuation¹². McClurg and Lowe-Strong¹³ also describe a technique for massage, and suggest regular use not directly associated with bowel evacuation can be beneficial.

Laxatives

Where stool form is not optimal due to slow transit or evacuation difficulty, oral laxatives may be used to improve stool form and evacuation.

Types of laxatives:

- **Bulk forming laxatives** include ispaghula (Fybogel, Regulan, Isogel), methylcellulose (Celevac), sterculia (Normacol). They must be taken with ample fluids to avoid obstruction; a good general fluid intake is essential. They may be

useful where dietary fibre cannot be increased and are suitable for long term use. They should not be used in existing bowel obstruction or faecal impaction. They take a few days to become effective and may cause flatulence and abdominal distension especially when first used. They should be used daily in a regular pattern.

- **Osmotic laxatives** such as lactulose and macrogols (Movicol, Idrolax) act by retaining fluid in the bowel due to osmotic action. They produce a softer bulkier stool. They take up to three days to become effective and may cause bloating and flatulence. Small regular doses to achieve optimal stool consistency may be best as doses large enough to cause evacuation may result in incontinence.
- **Stimulant laxatives**, such as senna and bisacodyl, stimulate intestinal motility. They take 8-12 hours to be effective. They are used to promote evacuation of stool and so are only taken 8-12 hours prior to planned evacuation of the bowel. While they are usually recommended for short-term use in the general population, in individuals with neurogenic bowel dysfunction, long-term use is more usual and they form part of the individuals ongoing bowel management programme.
- **Assisting evacuation of stool**
Being able to initiate bowel evacuation at a chosen time is an important part of achieving managed continence. This can be done by using pharmacological or digital rectal stimulation for those with reflex activity.

Rectal stimulants

Suppositories or micro enemas are used to trigger reflex rectal contractions to expel stool in individuals who have reflex activity in the anorectum. Glycerin, Lecicarbon E and bisacodyl suppositories (ranging from milder to stronger) may be used; Micralax, Microlette and Norgalax mini enemas may also be tried, usually when suppositories have not been effective.

- **Digital rectal stimulation**

Where an individual has reflex activity in the anorectum and is unable to voluntarily expel stool from the rectum, digital rectal stimulation (DRS) may be used to initiate defaecation at a chosen time. The technique stimulates increased reflex muscular activity in the rectum, raising rectal pressure to expel stool, and relaxes

the external anal sphincter, thus reducing outlet resistance^{2,12,14,15}. It also stimulates movement of stool into the rectum. It is often required in addition to the use of pharmacological rectal stimulants but for some patients digital rectal stimulation alone is effective. It can be conducted by the individual themselves if able or by a suitably trained nurse or carer.

Manual evacuation of stool

The need for and importance of manual evacuation of stool has been recognised in recent publications^{16,17}. Manual or digital removal of stool involves the insertion of a single gloved, lubricated finger into the rectum to break up and/or remove stool¹⁸. It is a very common intervention amongst individuals with neurogenic bowel dysfunction⁹ and is used by individuals with no anorectal reflexes¹⁹ as their main method of evacuation. It can be conducted by the individual themselves if able or by a suitably trained nurse or carer. Caution has been expressed in one text because the risk of stimulation of the vagus nerve in the rectal wall can slow the clients heart²⁰ but this is an uncommon side effect, rarely seen in practice.

Transanal irrigation

Warm water (body temperature 36-38C) is instilled into the rectum and colon using a hand or electric pump or by gravity. This both stimulates colonic reflex activity and mechanically washes stool out. A small number of different systems are available and irrigation using either system can be given by a carer. Two recent reviews have suggested that transanal irrigation is superior to bowel management using suppositories^{21,22} but laxatives may still be required to maintain an effective programme. Irrigation can provide improved outcomes in terms of duration and completeness of evacuation, but it does not suit every patient and reliable selection criteria have yet to be identified. Assessment by an experienced health professional, and careful teaching and supervision of the irrigation technique increase the likelihood of success.

Biofeedback

Biofeedback is a behavioural therapy which aims to educate a patient about bowel function, diet and fluids, and re-educate them in terms of their muscle function and bowel control²³. Psychological and emotional support is also offered. Biofeedback may be useful for individuals with mild to moderate MS symptoms²⁴, and is offered at many specialist colorectal centres.

Sacral nerve stimulation (SNS)

SNS is delivered via an implanted device which provides continuous low amplitude stimulation of the sacral nerve plexus²⁵ which is interrupted to allow defaecation. Intact sacral nerves are required; SNS is not effective in individuals with complete spinal cord injury²⁶. The benefits of this technique for individuals with neurogenic constipation and faecal incontinence are still undergoing exploration^{26,27}.

Stoma formation for bowel management

For some individuals neurogenic bowel dysfunction and its management have such a severe impact on quality of life that they opt for a stoma to alleviate the problem. Approximately 3.5% of individuals with spinal cord injury in the UK have a stoma to manage their bowel dysfunction²⁸ and the outcomes appear very good in this highly selected group^{29,30}. The numbers of individuals with MS who make the same choice is unknown but for some individuals a stoma can significantly reduce the impact of bowel dysfunction on their lives when all other options have been explored.

Containment products

The goal of effective bowel management is to enable the individual to achieve managed continence; the use of containment products as the main method of management is only a choice where all other options have been explored and found ineffective. There is a wide range of equipment and disposable items, both body-worn and to protect bedding etc available to choose from³¹.

References

1. DasGupta R, Fowler CJ. Bladder, bowel and sexual dysfunction in multiple sclerosis: management strategies. *Drugs* 2003;63(2):153-6.
2. Wiesel PH, Norton C, Glickman S, et al. Pathophysiology of bowel dysfunction in multiple sclerosis. *Eur J Gastroenterol Hepatol* 2001;13(4):441-8.
3. Bakke A, Myhr KM, Gronning M, et al. Bladder, bowel and sexual dysfunction in patients with multiple sclerosis - a cohort study. *Scand J Urol Nephrol Suppl* 1996;179:61-6.
4. Sullivan SN, Ebers GC. Gastrointestinal dysfunction in multiple sclerosis. *Gastroenterology* 1983;84(6):1640.
5. Powell M, Rigby D. Management of bowel dysfunction: evacuation difficulties. *Nurs Stand* 2000;14(47):47-51.
6. National Institute for Health and Clinical Excellence. Multiple sclerosis - management of multiple sclerosis in primary and secondary care. NICE Clinical Guideline 8. London: NICE; 2003.
7. Heaton KW, Radvan J, Cripps H, et al. Defaecation frequency and timing, and stool form in the general population: a prospective study. *Gut* 1992;33(6):818-24.
8. British Dietetic Association 2007. Fluid – why you need it and how to get enough. www.bda.uk.com/foodfacts/fluid.pdf [accessed August 2011]

9. Coggrave M. Neurogenic continence part 3: bowel management strategies. *Br J Nurs* 2008;17(11):706-10.
10. Han RR, Kim JH, Kwon BS. Chronic gastrointestinal problems and bowel dysfunction in patients with spinal cord injury. *Spinal Cord* 1998;36(7):485-90.
11. Lämås K. Abdominal massage to manage constipation. *Nurs Times* 2010;107(4):26-7.
12. Coggrave M. Management of the neurogenic bowel. *Br J Neurosci Nurs* 2005;1(1):6-13.
13. McClurg D, Hagen S, Hawkins S, et al. Abdominal massage for the alleviation of constipation symptoms in people with multiple sclerosis: a randomized controlled feasibility study. *Mult Scler* 2011;17(2):223-33.
14. Wiesel P, Bell S. Bowel dysfunction: assessment and management in the neurological patient. In: Norton C, Chelvanayagam S, editors. *Bowel continence nursing*. Beaconsfield: Beaconsfield Publishers; 2004. p.181-203.
15. Consortium for Spinal Cord Medicine. Clinical practice guidelines: Neurogenic bowel management in adults with spinal cord injury. *J Spinal Cord Med* 1998;21(3):248-93.
16. Royal College of Nursing. *Digital rectal and manual removal of faeces. Guidance for Nurses*. London: RCN; 2004.
17. National Patient Safety Agency. Ensuring the appropriate provision of manual bowel evacuation for patients with an established spinal cord lesion. *National Patient Safety Information 01*. London: NPSA; 2004.
18. Kyle G, Prynne P, Oliver O. A procedure for the digital removal of faeces. *Nurs Stand* 2005;19(20):33-9.
19. Stiens S, Bergman S, Goetz LL. Neurogenic bowel dysfunction after spinal cord injury: clinical evaluation and rehabilitative management. *Arch Phys Med Rehabil* 1997;78(3 Suppl):S86-102.
20. Sonnenberg A, Tsou VT, Muller AD. The "institutional colon": a frequent colonic dysmotility in psychiatric and neurologic disease. *Am J Gastroenterol* 1994;89(1):62-6.
21. Christensen P, Krogh K. Transanal irrigation for disordered defecation: a systematic review. *Scand J Gastroenterol* 2010;45(5):517-7.
22. Emmanuel A. Review of the efficacy and safety of transanal irrigation for neurogenic bowel dysfunction. *Spinal Cord* 2010;48(9):664-73.
23. Burch J, Collins B. Using biofeedback to treat constipation, faecal incontinence and other bowel disorders. *Nurs Times* 2010;106(37):18,20-1.
24. Wiesel PH, Norton C, Roy AJ, et al. Gut focused behavioural treatment (biofeedback) for constipation and faecal incontinence in multiple sclerosis. *J Neurol Neurosurg Psychiatry* 2000;69(2):240-3.
25. Kenefick NJ, Christiansen J. A review of sacral nerve stimulation for the treatment of faecal incontinence. *Colorectal Dis* 2004;6(2):75-80.
26. Jarrett ME, Mowatt G, Glazener CH, et al. Systematic review of sacral nerve stimulation for faecal incontinence and constipation. *Br J Surg* 2004; 91(12):1559-69.
27. Brill SA, Margolin DA. Sacral nerve stimulation for the treatment of faecal incontinence. *Clin Colon Rectal Surg* 2005;18(1):38-41.
28. Coggrave M, Norton C, Wilson-Barnett J. Management of neurogenic bowel dysfunction in the community after spinal cord injury: a postal survey in the United Kingdom. *Spinal Cord* 2009;47(4):323-30.
29. Branagan G, Tromans A, Finnis D. Effect of stoma formation on bowel care and quality of life in patients with spinal cord injury. *Spinal Cord* 2003;41(12):680-3.
30. Munck J, Simoens Ch, Thill V, et al. Intestinal stoma in patients with spinal cord injury: a retrospective study of 23 patients. *Hepatogastroenterology* 2008;55(8):2125-9.
31. Cottenden A. Management with Continence Products. In: Abrams P, Cardozo L, Khoudry S, et al, editors. *Incontinence: basics and evaluation*. Bristol: International Continence Society; 2005. p 149-255.

MS Trust resources

Bowel factsheet
Diet factsheet



Bibliography

Fowler CJ, Panicker JN, Emmanuel A, editors. *Pelvic organ dysfunction in neurological disease*. Cambridge: Cambridge University Press; 2010

Bywater A, While AE. Management of bowel dysfunction in people with multiple sclerosis. *Br J Comm Nurs* 2006;11(8):333-41.

Coggrave M. Management of neurogenic bowel. *Br J Neurosci Nurs* 2005;1(1):6-13.

Coggrave M, Wiesel PH, Norton C. Management of faecal incontinence and constipation in adults with central neurological diseases. *Cochrane Database Syst Rev* 2006;(2):CD002115.

National Institute for Health and Clinical Excellence. *Faecal incontinence: the management of faecal incontinence in adults*. NICE Clinical Guideline 49. London: NICE; 2007.

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