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Latest developments in transanal irrigation therapy

Sharon Holroyd

Transanal irrigation has been acknowledged as a minimally invasive technique with proven clinical evidence of benefit, particularly in patients with neurogenic bowel disorders. The severity of impairment in patients with neurogenic bowel disorders will depend on the level of spinal cord damage and may lead to a loss of the sense of needing to defecate, loss of control of the external sphincter, loss of muscle tone and contractility of the bowel/rectum, and disrupted transit time. Any transanal irrigation system chosen will require careful assessment of the patient's needs and preferences before treatment is initiated. There is also a need for ongoing support from a suitably experienced healthcare professional to ensure compliance and efficacy. Although the initial cost of transanal irrigation systems may seem expensive, when compared to the long-term cost of other treatments, repeated tests and hospital admissions, they represent a more cost-effective long-term option.

KEYWORDS:

Continence ■ Constipation ■ Anal irrigation ■ Faecal incontinence

Functional bowel disorders such as faecal incontinence and constipation are relatively common conditions, which have a significant negative impact on patients. This can often affect the social, psychological and financial areas of life, as well as leading patients to become isolated due in part to the social taboo surrounding bowel issues (Lukacz et al, 2011; Holroyd, 2015a). Constipation can affect up to 25% of the population at some point in their lifetimes (Belsey et al, 2010), and it is a condition that crosses all genders, ages and cultures, although it is more prevalent in the very young or older adults (Holroyd, 2015b).

CHRONIC CONSTIPATION

Chronic constipation is difficult to define as the symptoms, including frequency of passing stool or consistency of faecal matter, and nature of the condition, vary between patients and are to some extent subjective (Woodward, 2012). Common causes of chronic constipation are related to diet, dehydration, fluid intake, medication, reduced mobility or behavioural avoidance of passing stool.

Conservative management has included lifestyle adjustments, dietary and fluid advice, and medication. Much has

been written, however, on patients' dissatisfaction with the available treatments and the time they often spend self-diagnosing and self-treating due to embarrassment at disclosing the problem to healthcare professionals (Cheng et al, 2003; Potter and Wagg, 2005; Tack et al, 2011). More invasive interventions such as biofeedback (see box below) and corrective surgery such as stoma formation are also available.

NEUROGENIC BOWEL DYSFUNCTION

Neurogenic bowel dysfunction includes constipation, faecal incontinence and disordered defaecation as a result of a loss of sensory and/or motor control caused by central neurological disease and/or damage (Chung and Emmanuel, 2006). Any damage or interruption to the spinal nerves or spinal cord, including injury, infection, cauda equina (extreme pressure on the nerves at the end of the spinal cord), or neurological diseases such as multiple sclerosis (MS), Parkinson's and motor neurone disease, interrupts the pathways responsible for effective bladder and bowel function.

The severity of impairment will depend on the level of spinal cord damage and may lead to a loss of the sense of needing to defecate, loss of control of the external sphincter,

THE SCIENCE — WHAT IS BIOFEEDBACK?

Biofeedback involves the insertion of a probe into the anal passage, which then monitors muscle activity. The sensors in the probe transmit graphic presentations to a computer screen, which can be used as a visual aid to help patients increase their muscle function and coordinate it with sphincter relaxation, thereby improving the effectiveness of bowel emptying.

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loss of muscle tone and contractility of the bowel/rectum, and disrupted transit time. Statistics report that over two-thirds of people with MS will develop bowel symptoms (Hinds et al, 1990) and over one-third of people with Parkinson's disease will experience severe constipation (Krogh et al, 2008).

ANAL IRRIGATION

The concept of anal irrigation has been understood for thousands of years, and as a medical intervention it has been widely practised since the 1980s as an alternative treatment for functional and neurogenic bowel disorders. Its adoption in the UK has been more limited, but it was first used to prevent constipation and incontinence in children with spina bifida, before being extended to spinal injuries units (Shandling and Gilmour, 1987; Christensen et al, 2006). Today, it is still used infrequently in general practice, often being introduced only when other treatments have failed and almost always instigated by a specialist nurse (Tod et al, 2007; Chan et al, 2011).

Transanal irrigation has been defined as the process of facilitating the evacuation of faeces from the rectum and descending colon by introducing enough water into the bowel via the anus to reach above the rectum (Coggrave et al, 2012). It has been stated that effective irrigation in patients with a chronic neurogenic bowel dysfunction is significantly more effective at reducing faecal incontinence and constipation than conservative methods such as medication, diet, fluids or biofeedback (Christensen and Kogh, 2010; Emmanuel, 2010). There is also evidence to suggest a reduction in urinary tract infections in individuals who have undergone effective anal irrigation (Lazerescu et al, 2009; Norton et al, 2009).

Time spent on bowel management can be reduced dramatically when using effective transanal irrigation, thus improving the quality of life of patients, with the procedure taking, on average, approximately 45 minutes to complete (Christensen et al, 2006;

Coggrave, 2007; Christensen and Krogh, 2010).

Successful use of transanal irrigation also allows the patient to choose when and where to empty their bowels, providing more controlled and predictable evacuation habits, which can lead to an improved quality of life.

ASSESSMENT

Assessing an individual's suitability for transanal irrigation is a key component to success and continuing compliance with the treatment. The National Institute for Health and Clinical Excellence (NICE, 2007) recommended rectal irrigation as part of a treatment algorithm for faecal incontinence; the treatment algorithm offers a series of possible interventions from conservative, minimally invasive management to more intensive/ invasive options.

Figure 1 shows the recognised hierarchy of interventions for managing neurogenic bowel symptoms. This offers community nurses a guide to the interventions they can use and highlights the stage at which transanal irrigation should be considered.

Age is not a significant factor as transanal irrigation has been

successfully initiated in children as young as four years of age. However, it is preferable that individuals perform the procedure independently and any additional support required from healthcare professionals or carers will need to be identified at the assessment stage.

Studies have shown that the drop-out rate for patients using transanal irrigation is highest in the initial months of treatment and a large proportion of patients do stop the treatment completely within a three-year period (Christensen et al, 2009a). It should be made clear to the patient at the assessment stage that it can take up to 12 weeks to establish a consistent and effective routine (Emmanuel et al, 2013).

DELIVERY METHODS

It is generally acknowledged that 500mls of warm water is an appropriate starting volume for irrigation in adults (Emmett et al, 2015), although some of the compact cone systems are designed for individuals who only need a small volume of water (120mls). This is adjusted over time depending on results; the frequency of irrigation is also determined individually over a period of several weeks.

As irrigation can be either self-administered or delivered by an appropriately trained individual,

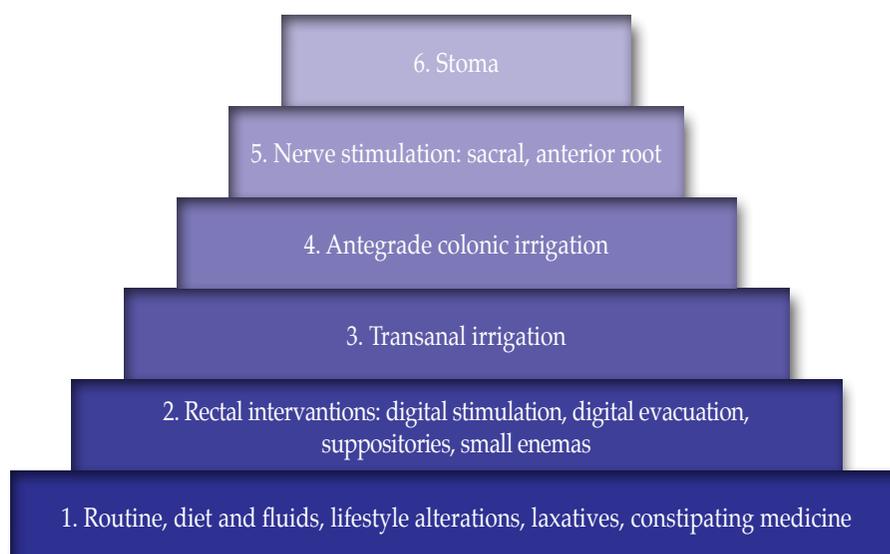


Figure 1.

Hierarchy of interventions to manage neurogenic bowel symptoms, highlighting the stage at which transanal irrigation should be considered (Coggrave et al, 2012). Note: not all levels are suitable for all individuals and the pyramid does not represent a strict pathway — movement up or down is determined by ongoing assessment.

Table 1: Contraindications for rectal irrigation

Caution required	<ul style="list-style-type: none"> ▶ Spinal cord injury T6 and above, close monitoring for autonomic dysreflexia (sudden excessively high blood pressure) ▶ Unstable metabolic conditions ▶ Patients under the age of 18 years (some systems are designed for use in children age four years and above) ▶ Physical, cognitive, mental or emotional disorder ▶ Fissures or haemorrhoids
Relative contraindications	<ul style="list-style-type: none"> ▶ Current pregnancy or planning pregnancy ▶ Active perianal sepsis ▶ Large haemorrhoids ▶ Faecal impaction ▶ Radiotherapy ▶ Severe diverticular disease ▶ Use of rectal medications ▶ Congestive cardiac failure ▶ Anal/rectal/bowel surgery in past six months
Absolute contraindications	<ul style="list-style-type: none"> ▶ Acute inflammatory bowel disease ▶ Obstructive anal or colonic mass ▶ Rectal or colonic anastomosis (surgical connection between parts of the body) in the last six months ▶ Severe cognitive impairment

it is useful in many patient groups, including those with MS, Parkinson's disease, stroke and spinal cord injuries.

Typically, transanal irrigation systems introduce water into the rectum using a manual or automatic pump, or a gravity-fed system. This is achieved through the use of a rectal balloon catheter (e.g. Peristeen[®], Coloplast; Qufora IrriSedo Mini[®], Macgregor Healthcare), or a cone-shaped device (e.g. aquaflush[®], Oakmed; Qufora IrriSedo Cone[®], Macgregor Healthcare; IryPump S[®], B Braun).

Balloon catheter systems hold themselves in place once the balloon is inflated, thereby creating a seal that helps to retain the irrigation fluid. In some patients, however, the inflation process can cause a reflex action that expels the catheter.

The cone option, on the other hand, requires the user to hold the cone in place during the instillation of irrigation fluid and the patient needs a degree of flexibility and dexterity to do this; they also require adequate core strength to balance sufficiently while completing the installation process while maintaining the position of the cone.

With both balloon and cone systems, the patient should ideally be able to sit upright on a toilet or commode to perform transanal irrigation, although there are some systems that support delivery for bed-bound patients.

Also, while all of the systems offer rectal washouts, there are different presentations and delivery systems that suit different lifestyles, for example, the choice of system can be influenced by patients' manual dexterity and/or visual impairment, or simply through individual preference. One of the latest developments is a system that combines the balloon catheter instillation method with a choice of either a manual or electronic pump device (Navina[®] Smart, Wellspect Healthcare); this system can suit those who have good technological ability as well as those who prefer a manual approach.

As a procedure, transanal irrigation is not an instant or quick fix and takes a period of trial and error to achieve consistency. There have to be realistic expectations of achievable outcomes to help prevent noncompliance or a situation where the patient stops using the treatment due to frustration with progress. While there are some absolute

contraindications for using rectal irrigation, there are also some general cautionary points to be aware (see *Table 1*).

Some of the identified risk factors include deterioration of faecal incontinence, anal leakage, minor bleeding and abdominal cramps (Biering-Sorensen et al, 2009). There is also a risk of bowel or rectal perforation when using transanal irrigation, however, the evidence reports this as a rare occurrence (Biering-Sorensen et al, 2009; Christensen et al, 2009a; Coggrave et al, 2012).

CONCLUSION

Transanal irrigation has been acknowledged as a minimally invasive technique with proven clinical evidence of benefit, particularly in patients with neurogenic bowel disorders (Emmanuel, 2010; 2011). Any system chosen will require careful assessment of the patient's needs and preferences before treatment is initiated. There is also a need for ongoing support from a suitably experienced healthcare professional to ensure compliance and efficacy (Christensen and Krogh, 2010; Woodward, 2012). Although the initial

Revalidation **Alert**

Having read this article, reflect on:

- How you might assess patients in need of transanal irrigation.
- If any special considerations are required before the procedure of transanal irrigation is administered.
- Your knowledge of the different product options available for patients who require transanal irrigation.

 Then, upload the article to the new, free JCN revalidation e-portfolio as evidence of your continued learning:
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cost of transanal irrigation systems may seem expensive, when compared to the long-term cost of other treatments, repeated tests and hospital admissions, they can be seen as a more cost-effective long-term option (Christensen et al, 2009b). **JCN**

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KEY POINTS

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