Transanal irrigation: an update on current practice and guidance

Abstract

Transanal irrigation (TAI) is now a recognised intervention for bowel dysfunction whether it is constipation or faecal incontinence and is becoming a more popular treatment therapy. However, there is a myriad of devices now available and professionals need to be aware of the most appropriate device for the right individual. They need to understand how to assess for the most effective device and be aware of patient benefits and complications, but also be aware of adherence issues. This article will look at these points in depth and try to unravel some of these issues.

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Key words

- Bowel Dysfunction
- Transanal irrigation
- TAI benefits/ complications
- Bowel Assessment
- Adherence to TAI

This article has been subject to double-blind peer review

Accepted 20 February 2024

Transanal irrigation (TAI) has over the past number of years received increasing attention in the treatment of severe bowel dysfunctional disorders (Mekhael et al, 2021). It is the process whereby tepid water (36–38°C) (Henderson et al, 2018; Yates, 2020) is instilled into the lower bowel via the rectum/anus either by a rectal catheter or cone device to assist with evacuation. The catheter/cone is removed which allows the water to be expelled along with the contents of the rectum, sigmoid colon and possibly the descending colon (Henderson et al, 2018). It is sometimes also referred to as rectal irrigation or bowel washouts (Yates, 2020). While usually self-administration is undertaken by the individual, it can also be performed by a carer or professional (Yates, 2020).

TAI has been most commonly utilised in the management of neurogenic bowel dysfunction eg, Multiple sclerosis, spinal injuries, spina bifida, Parkinson's disease and other conditions which affect sphincter control or bowel motility disorders. However, it has now been expanded to be used in other bowel conditions affecting defaecation (Mekhael et al, 2021), such as low anterior resection syndrome (LARS), obstructed defaecation, chronic constipation (CC), slow transit times, evacuation difficulties or prolapse due to weak / damage pelvic floor (Emmanuel et al, 2013) and faecal incontinence (FI) including trauma and functional bowel disorders (Keanne et al, 2020). It has been approved by the National Institute of Health and Care Excellence (NICE) (2018; 2022) as a form of bowel treatment for these specific individuals who suffer bowel dysfunction.

Prevalence of bowel problem

Whilst we know that approximately 6.5 million adults in the UK suffer from a bowel condition and over half a million suffer from faecal incontinence (FI) (NHS England, 2018) the exact prevalence for each condition is not known. The prevalence of severe functional constipation is not well documented but this may be due to the embarrassment of individuals addressing or discussing their symptoms or differing definitions, however, we know it is a prevalent condition that is underreported. It has been defined as 'passing infrequent stools or difficult passage of stools or both for at least 3 months' (Emmett et al, 2013). Faecal incontinence is defined as 'the recurrent uncontrolled passage of solid or liquid material' (Dueland-Jakobsen et al, 2016). It is estimated that the prevalence in the population for patients experiencing at least one episode of FI per month is high, with up to 12.4% affected. Both these conditions have a profound effect on the individual's quality of life, and can affect them physically, psychologically, socially and financially (Yates, 2019). Many individuals present to healthcare professionals (HCP) expressing feelings of isolation, embarrassment, loss of self-esteem, restriction

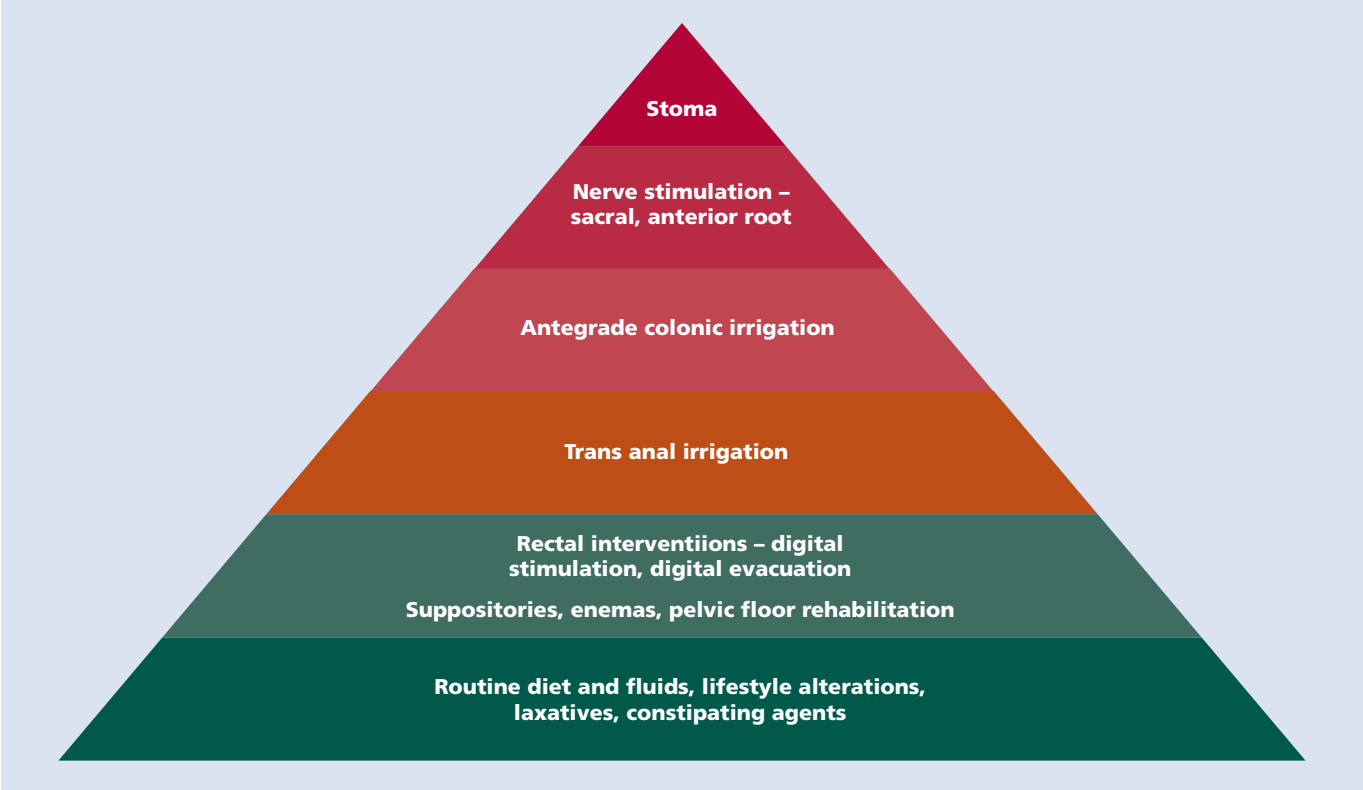

Figure 1. Hierarchy of interventions (green shows conservative interventions, orange minimal invasive interventions, red more invasive interventions)

in social activities, employment and relationships with partners, family and friends (Yates, 2019). This means both of these patient groups can present a significant health burden to both primary and secondary care (Byrne et al, 2019). TAI has now been identified as a clear clinical treatment option which may ease the burden for both the individual and health system. However, as a clinical treatment option, numerous factors may influence an individual's ability to be able to use the device and NICE (2022) identifies that it may not be suitable for all people with bowel dysfunction.

Bowel assessment and initial treatments options for bowel dysfunction

Prior to any discussion with regards to anal irrigation, the individual should have an individual bowel assessment by a competent professional who is trained in TAI and initially follow the hierarchy of treatments identified by Emmanuel et al (2013) (*Figure 1*).

- Initial treatment options for bowel dysfunction should take the form of conservative therapies which would include (*Figures 1* and *2*):
  - Dietary advice including fibre intake (too much fibre causes bloating/abdominal distension so introduce gradually (Magnuson et al, 2023)/ fluid consumption (euhydration: the state of optimal total body water content as regulated by the brain. Intracellular and extracellular fluid volumes are maintained with minimal physiological adjustment) most likely to be the most appropriate recommendation (Magnuson et al, 2023)
  - Timed defaecation (use of gastrocolic reflex) (Magnuson et al, 2023)
  - Medication including laxatives (including specialist-initiated medication such as prucalopride (serotonin HT4 receptor agonist), lubiprostone, linaclotide or naloxegol), or constipating agents
  - Use of suppositories/enemas
  - Digital anorectal stimulation may be used with or without laxatives. Its mode of action is to stimulate the anorectal reflexes to enhance evacuation (Magnuson et al, 2023)
  - Pelvic floor rehabilitation.

However, this treatment hierarchy has recently been simplified by Magnuson et al (2023). This provides a more practical approach

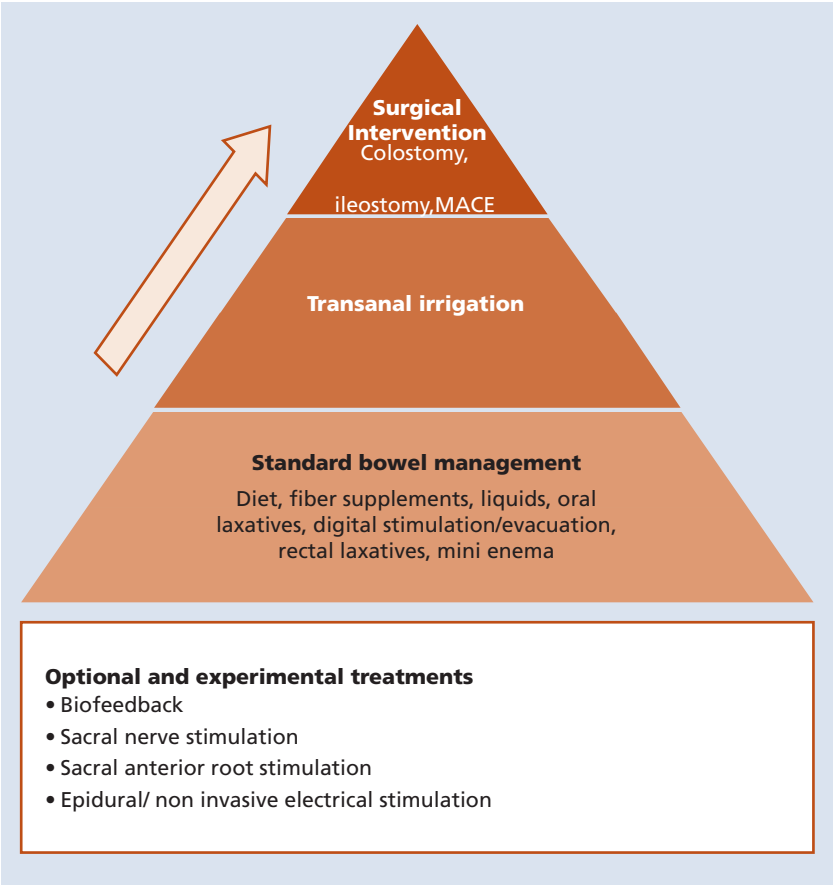

Figure 2. Simplified treatment algorithm for neurogenic bowel dysfunction. Optional and experimental treatments can be considered where available and in the presence of eligible patients

Table 1. Initial assessment for transanal irrigation

Assessment area	Considerations
Red flags	Rule out critical conditions that preclude TAI
Contraindications	Identify factors preventing TAI use
Cautions	Note conditions requiring special care or modifications
Bowel sasessment	Symptoms (onset, duration, triggers), previous treatments
Medical history	General medical, surgical, obstetric
Digital rectal examination	Perianal sensation, anal tone
Medications	Current and over-the-counter medications
Physical function	Stability/balance on toilet, mobility, cognition, vision, manual dexterity/strength/flexibility
Body considerations	Body habitus, buttock contour, skin integrity
Quality of life impact	Potential improvement from TAI
Patient expectations	Realistic outcomes of treatment
Support	Availability of carer/support person, if needed
Home environment	Toilet accessibility/positioning, required equipment

(adapted from Henderson et al, 2018; Yates, 2019; Yates, 2020; Harris, 2022)

to the treatment algorithm as the previous pyramid proved to be quite complex and not all treatments are available in all areas (Magnuson et al, 2023).

However, studies indicate that more than 50% of individuals who undertake conservative treatments will have exhausted these treatments with little or no improvement (Kim et al, 2013). This view has been further supported by Magnuson et al (2023) who suggest that re-evaluation of treatments would be deemed appropriate in relation to changes in lifestyle, diet, physical ability, medical conditions, worsening of symptoms and reduction or cessation of patient satisfaction with current treatment. This failure to achieve good bowel care with the individual's current bowel program should alert clinicians to consider TAI (Emmanuel et al, 2013). However, Henderson et al (2022) have identified in the PERSPECTIVE study that individuals with known bowel dysfunction waited a long time prior to starting TAI with over 44% having symptoms for over 10 years. Reasons for this delay were given as delay in getting to specialist services, not presenting to health care early on or convoluting patient journeys dallying treatments (Henderson et al, 2022). It also showed that individuals with constipation or mixed symptoms started TAI sooner than those suffering from diarrhoea (Henderson et al, 2022).

Individual assessment required prior to commencing transanal irrigation

This assessment should rule out all red flags, including blood in faeces, weight loss, abdominal pain and changes in bowel habits. It should also include a digital rectal examination to rule out loaded rectum, anal fissures or anal stenosis. This examination should be carried out preferably within 48 hours of first irrigation for optimal safety (Emmanuel et al, 2021). The assessment should further encompass factors such as symptoms, onset of bowel problems, medical and surgical history, medication, mobility, dexterity, proximity to the toilet, and social needs (eg, carer requirements) (Table 1) (Yates, 2020). Additionally, Emmanuel et al (2013) emphasise that the patient's psychological profile and demonstrated compliance with other hospital follow-up protocols are important predictors of safe and long-term TAI use; these

factors should also be considered during the baseline assessment.

Benefits of transanal irrigation

TAI is regarded as a relatively safe intervention and can provide countless benefits to both individual users and professionals. These benefits include (adapted Emmanuel et al, 2013, NICE, 2018, 2022, Yates, 2019):

- Consistent bowel regime with regular bowel actions and better control
- Reduction in constipation/ impaction/ faecal incontinence
- Can prevent incontinence / leakage / soiling
- Individuals can chose time / place of evacuation
- Reduction in time to achieve bowel care
- Reduces prevalence of urinary tract infections and associated costs
- Psychological improvement and improves quality of life
- Reduces stoma surgery rates
- Reduces the cost of treating bowel dysfunction in individuals who have had unsuccessful standard care
- Reduces costs of treating neurogenic bowel dysfunction and hospital admissions.

Contraindications and complications

Although TAI is a simple, reversible and minimally invasive intervention, it carries potential complications. Henderson et al (2018) note that it can worsen faecal incontinence in some individuals and lead to the expulsion of the rectal catheter (when used). Mekhael et al (2021) report that individuals may experience leakage of irrigation fluid, abdominal pain, cramps or discomfort, perianal or anorectal pain on insertion, minor rectal or anal bleeding, sweating, chills and nausea. There is a potential risk of bowel perforation when inserting a rectal catheter, inflating a balloon, and instilling water. Christensen et al (2016) state the average risk rate is six in every million irrigations, with recent data suggesting a reduction to two per million (Henderson et al, 2018). Perforation may occur due to one of three mechanisms: direct impaling trauma, over-inflation of the balloon, or exaggerated hydrostatic pressure during water instillation (Emmanuel, 2013). Perforations are more likely to occur within the first 8 weeks of TAI use, and the risk does not increase with long-term use (Henderson et al, 2018)

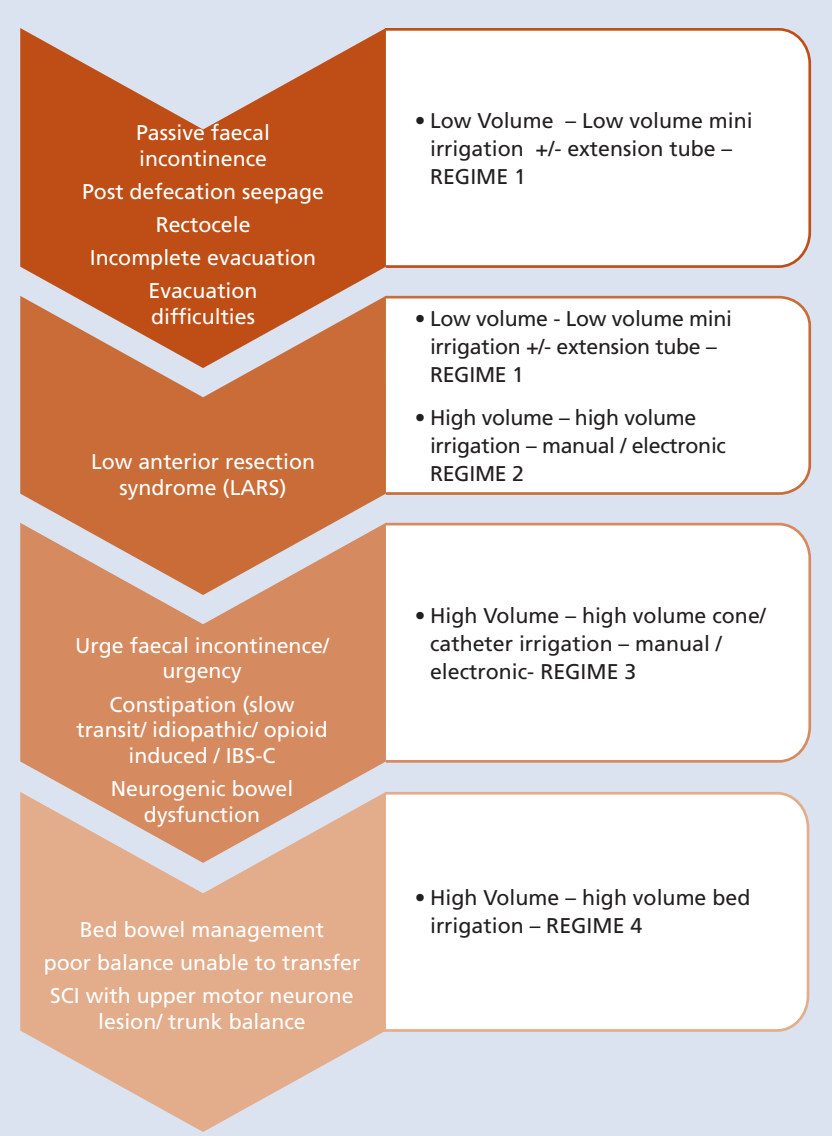

Figure 3. Bowel Conditions and recommended TAI Device (Emmanuel et al, 2020)

Table 2. Contraindications

Active inflammatory bowel disease
Acute diverticulitis
Anal or colorectal stenosis
Change in bowel habits (until cancer excluded)
Colorectal cancer
During chemotherapy
Ischemic colitis
Pregnancy (even established users)
Within 12 months after radical prostatectomy
Within 3 months of rectal/colorectal surgery
Within 4 months of polypectomy

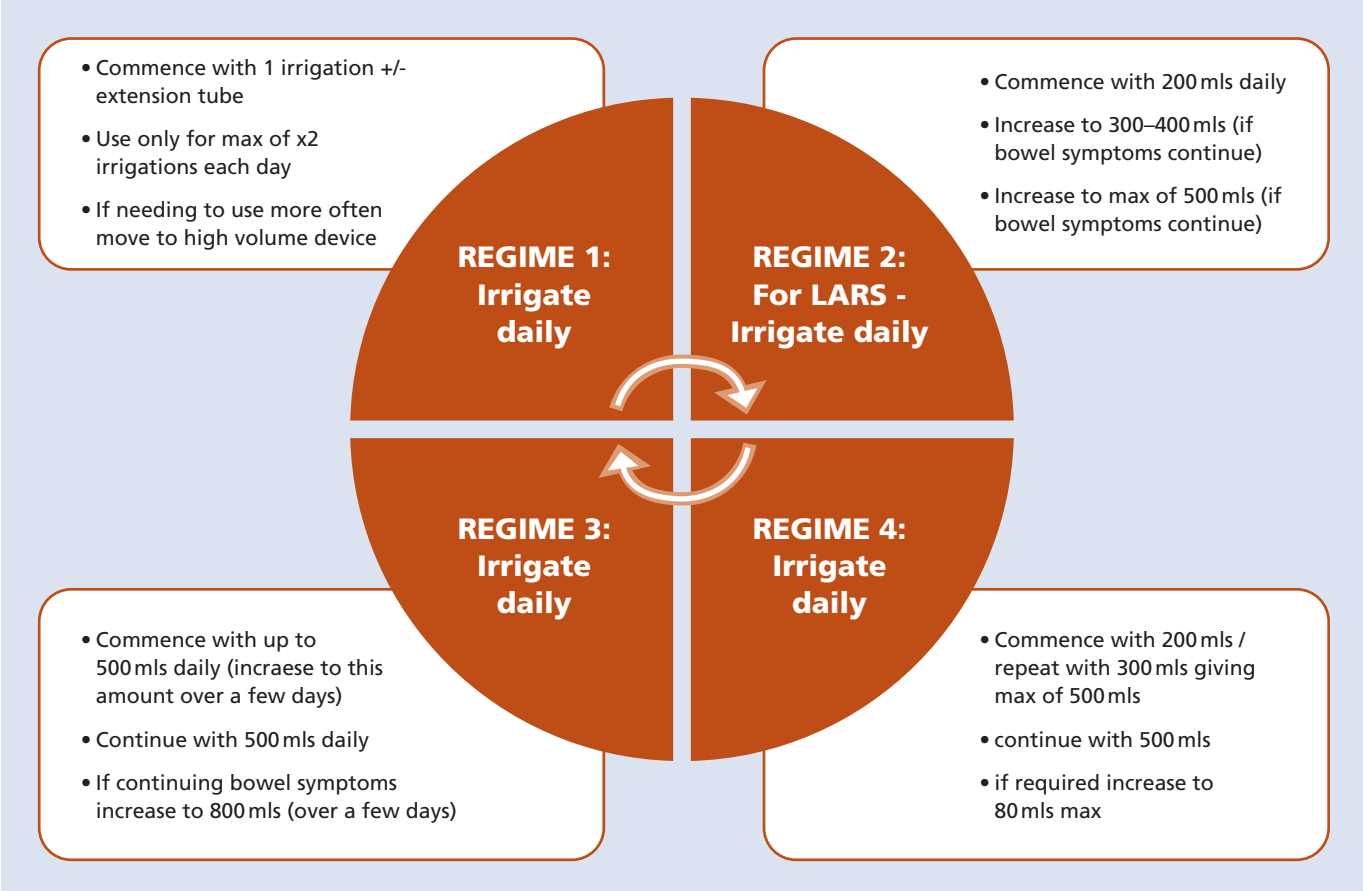

Figure 4. Initial recommendations for TAI in assessment period (Emmanuel et al, 2020)

However, whilst complications are rare contraindications and cautions are numerous (*Tables 2* and *3*).

Transanal irrigation and how it works

TAI is designed to empty the rectum and, depending on the device used, may extend to the descending colon. Regular TAI use aims to re-establish controlled bowel function by allowing users to choose the time, frequency and place of evacuation. In faecal incontinence, efficient emptying of the distal colon and rectum reduces the frequency of new stool reaching these areas, thereby minimising leakage between irrigations (Emmanuel, 2010). For patients with constipation, regular evacuation of the rectosigmoid region can accelerate colonic transit, preventing faecal impaction (Henderson et al, 2018). However, before initiating TAI, a thorough risk assessment is crucial to identify any contraindications or cautions specific to the individual (*Tables 2* and *3*).

Choosing the equipment

There is now a wide range of equipment available for initiating TAI. While most published evidence and NICE recommendations focus on the Coloplast Peristeen device, studies are emerging that evaluate other available devices, such as the Navina Smart system (Emmanuel et al, 2021). Healthcare professionals should be knowledgeable about the different types of TAI devices to make well-informed choices tailored to individual patient needs and abilities. These systems typically use tap water at approximately 36–38°C and feature either a rectal cone or a rectal balloon catheter for insertion (Magnuson et al, 2023). The choice of a gravity-based, manual pump, or electric pump system depends on the patient's condition, mobility, dexterity and preference (Magnuson et al, 2023).

TAI devices can be classified as low-volume (up to 250 ml), which primarily assist in rectal evacuation, or high-volume (between 250–1500 ml, often averaging 700 ml), designed

Table 3. Transanal irrigations cautions

Caution	Notes
Anticoagulant therapy (excluding aspirin or clopidogrel)	Increased risk of bleeding
Cognitive impairment	May affect ability to safely perform TAI
Colonic biopsy within 3 months	Increased risk of perforation
Congestive cardiac failure	Fluid retention may worsen condition
Faecal impaction	Should be resolved before initiating TAI
History of rectal bleeding	Requires careful evaluation before considering TAI
Inactive inflammatory bowel disease	TAI may exacerbate symptoms
Long-term steroid therapy	Increased risk of tissue fragility
Low blood sodium (hyponatremia)	Risk of fluid imbalances
Painful anal conditions (fissure, fistula, haemorrhoids, rectal ulcers)	May cause discomfort or complications
Pelvic radiotherapy	Increased risk of tissue fragility
Pregnancy (planned)	Safety during pregnancy is not well-established
Rectal or colorectal surgery within 6 months	Increased risk of complications
Renal disease	Risk of fluid and electrolyte imbalances
Use of rectal medications for other conditions	Potential interactions with TAI
Previous anal, colorectal, or pelvic surgery	Increased risk of complications
Previous diverticulitis, diverticular abscess, or severe diverticulitis	Increased risk of perforation or recurrence

Adapted from Emmanuel, 2013; Henderson, 2018; Yates, 2021

to empty the left colon from the splenic flexure to the rectum (Magnuson et al, 2023). Systems delivering high volume irrigation can also be used for low volume irrigation.

Individual instruction

Individuals are normally instructed in TAI by specialist teams, so the professionals are deemed competent in TAI and are able to give advice with regards to the appropriate device. Initially, it is recommended that the patient is uses daily irrigation for the first 2–3 months to establish a routine (Emmanuel et al, 2020). They can try different times of the day with a frequency of no more than once daily (unless recommended) and maximum of 800 mls water (Emmanuel et al, 2020).

Adherence to device and regime

Previous studies, like Christensen et al (2009), suggest varying efficacy across different patient populations. Higher success rates are seen in spinal injury and neurogenic bowel patients, with some success in faecal incontinence and leakage, but less so in faecal soiling. However, Bildstein et al (2017) present a contrasting view in their study of 108 individuals (87 women/21 men, ages 18–83). After one-year follow-up, only 46 remained on TAI (adopters), while 62 discontinued use (non-adopters). Reasons for discontinuation included catheter expulsion, rectal balloon issues, water retention/leakage, pain, bleeding, inefficacy and constraints (Bildstein et al, 2017). This indicates a significant discontinuation rate of 57%. The study highlights initial training complications as a potential predictor of lower adherence. Conversely, Henderson et al (2022) suggest that if TAI remains effective at 3 months, it likely will remain effective over longer periods (6-12 months, potentially even 5 years). Both studies acknowledge limitations and the need for further research.

Conclusion

TAI is a valuable asset in the treatment of bowel dysfunction, however, it is not suitable for all individuals. It has been recognised that there is more studies undertaken with regards to efficacy with individuals suffering constipation rather than faecal incontinence but it remains another tool in a professional's armoury for treating bowel dysfunction. The key is

identifying the right individual and adopting the device and implementing the correct method of TAI. This will increase the efficacy and adherence and reduce what is known as a distressing condition. There is an increasing amount of devices, literature and research around the use of TAI and it does get confusing, however, it is the duty of the professional to keep up to date with developments when treating patients with bowel dysfunction. **GN**

Declaration of interest *None*

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