Intermittent self-catheterisation in MS

Keywords: Multiple sclerosis/Bladder management/Intermittent self-catheterisation
● This article has been double-blind peer reviewed

1 People with MS can have complex bladder dysfunction

2 Clean intermittent self-catheterisation can be used by this group and is often seen as the gold standard in bladder management

3 There is little evidence on the best technique or training method for ISC or its impact on quality of life in people with MS

4 People may have problems incorporating ISC into their daily lives, and may need support and follow-up

5 Further research is needed on ISC in people with MS, focusing on long-term use and adherence

A review of the literature on the use of ISC in people with multiple sclerosis found significant support and follow-up may be required to ensure long-term use of this technique.

How bladder problems affect people with multiple sclerosis

Using intermittent self-catheterisation in MS

What the research evidence says about its use

B bladder problems are common in people with multiple sclerosis (MS) (Vahter et al, 2009). The mainstay of treatment includes lifestyle advice, anticholinergic medication and intermittent self-catheterisation (ISC).

The latter is advised when there is incomplete bladder emptying. It involves inserting a small tube into the bladder, allowing all urine to flow out, then removing the catheter. This technique, pioneered by urologist Jack Lapides over 30 years ago, can be repeated several times a day, and has proved to be the most effective and practical means of facilitating bladder emptying (Moy and Wein, 2007).

This article examines the evidence specific to people with MS, on concordance/compliance, training and quality of life.

For a recent comprehensive review on ISC, see Newman and Willson (2011), and for management options for bladder dysfunction in people with MS, consult Haslam (2009).

Multiple sclerosis and ISC

Multiple sclerosis is the most common progressive neurological disease affecting young people in the UK (Vahter et al, 2009). The incidence is increasing, especially among women; the ratio of women to men is 3:1 (Press Association, 2011). According to Kalsi and Fowler (2005), bladder dysfunction can be present in approximately 75% of people with MS.

There is strong clinical evidence that bladder dysfunction results mainly from spinal cord disease. The several types of bladder dysfunction are those known to result from disconnection between centres in the brainstem, critical to neurological control and the sacral part of the spinal cord.

The various expected pathophysiological results in a variable combination of symptoms. These include detrusor overactivity (urgency, frequency and urge incontinence); detrusor insufficiency (frequency and incomplete emptying); and detrusor sphincter dyssynergia (hesitancy, interrupted stream, incomplete emptying) (Hadjimichael, 2002).

In 2009, a panel of UK experts drew up a consensus document on bladder management in people with MS, in which they determined clean intermittent self-catheterisation to be of the greatest importance and should be recommended in those with persistent post-void residuals of more than 100ml (Fowler et al, 2009).

Its use has increased in recent years because intra-detrusor injections of botulinum toxin A have been used to help control overactive bladder symptoms, which often means patients have to use ISC because their ability to void can be reduced (Reitz et al, 2004).

The benefits of ISC

It is thought that ISC is more effective than indwelling catheterisation for those who can perform it themselves or have a carer who can do so for them (Naish, 2003).

It reduces the risk of common indwelling urinary tract infections, incontinence and renal failure. Patients have more control over their bladder function, enabling them to plan and manage their personal activities. They can also decide when and where they void.
Intermittent self-catheterisation in MS

A review of the literature on the use of ISC in people with multiple sclerosis found significant support and follow-up may be required to ensure long-term use of this technique.

ISC may also reduce lower urinary tract symptoms (frequency, urgency and incontinence) between catheterisation, which can lead to improved self-care and independence, with fewer barriers to intimacy and sexual activities (Newman and Willson, 2011).

Catheterisation techniques

Three techniques can be used when carrying out ISC (Box 1).

However, there is a lack of evidence to suggest that any specific technique (sterile or clean), catheter type (coated or uncoated), method (single-use or multiple-use), person (self or other) or strategy is better than any other for all clinical settings (Moore et al, 2007).

In the UK, the vast majority of patients and health professionals in the community use the clean, single-use technique, whereas hospitals may prefer sterile intermittent catheterisation, because it may lead to fewer cases of bacteriuria and urinary tract infection (Prieto-Fingerhut et al, 1997).

Reusable catheters are seldom used in the UK, but are employed in North America.

Literature on ISC

The bulk of available literature on ISC focuses on clinical issues such as complications and use of different catheters and is not specific to people with MS.

Urinary tract infection (UTI) is the most frequent complication in patients undertaking intermittent catheterisation and is of concern because, when urethral damage occurs, the mucosal barrier to infection is compromised (De Ridder et al, 2005). The bladder wall is also susceptible to bacteria that circulate in retained urine. When the bladder becomes stretched from retained urine, the capillaries become occluded, preventing the delivery of metabolic and immune substrates to the bladder wall (Heard and Buhrer, 2005), leaving people with conditions such as MS susceptible to UTIs and renal deterioration.

UTIs can also result from poor catheterisation technique or the very passage of the catheter through the urethra mucus, which can contain infection-causing microbes, before the catheter reaches the bladder (Moore et al, 2002).

A review of non-clinical qualitative literature in mixed-patient populations was undertaken. The following keywords were used: intermittent self-catheterisation, neurological, multiple sclerosis, spinal cord, incomplete bladder emptying, detrusor sphincter dyssynergia, bladder, adherence, compliance, concordance, and quality of life. The following databases were searched: Amed; Cinahl; Embase; Medline; Proquest; Pubmed; British Nursing Index; and the Cochrane Central Registry for Controlled Trials. Additional papers were sought by hand searching reference lists and relevant journals, and retrieving cited references.

Only full papers written in English, published between 2000 and 2011, were included. From the 12 papers identified, three main areas were highlighted: concordance; training; and quality of life.

Concordance

There is evidence that ISC is not always continued but there is little research on the reasons.

For example, in a study by McClurg et al (2008), 17 men and 93 women with MS were questioned about bladder symptoms. Of the eight men and 25 women advised to use ISC, six men and 15 women were routinely carrying it out. However, two men and 10 women had stopped using the technique within one year of being taught (McClurg et al, 2008). Similarly, Vahter et al (2009) found in their study of 23 people with MS that 40% had stopped using ISC by four months.

A large comprehensive follow-up study of bladder management after spinal cord injury in the US between 1973 and 2005 (n=12,984), found a significant drop in the use of ISC once patients had been discharged into the community (Cameron et al, 2009).

A poorly managed bladder can adversely affect quality of life, a point highlighted by Logan and Shaw (2011) in their study based on a sample of 15 patients with spinal cord injuries. They concluded that incontinence had a major impact on patients’ quality of life and that successful bladder management was crucial to independence. One of the factors influencing continuation with ISC was that, although service provision while teaching the technique was excellent, follow-up support was poor and failed to meet expectations.

Training and support

Kessler et al (2009) recruited 92 patients with various neurological problems such as MS (n=17), spinal cord (n=13) and non-neurological problems (n=62). They concluded that, although ISC did not appear to be a burden for patients without neurological problems, it may be for those with such conditions and further research specific to this group is needed.

Similarly, Vahter et al (2009) reported on the influence of cognitive dysfunction intervention to use ISC in their sample of 23 patients with MS. They concluded that it was necessary to adapt the number of training sessions to reflect the patient’s cognitive ability to help improve continuation with ISC. However, even with an open-ended number of training sessions ranging from two to 11, this study reported that three patients could still not perform ISC and six had stopped using it at three months. The reasons highlighted for

www.nursingtimes.net / Vol 108 No 5 / Nursing Times 31.01.12 17
stopping included: patients did not want to continue (n=3); improved bladder function (n=2); and deteriorating health (n=1).

Quality of life
Four studies identified the overriding need for adequate information and thorough instruction by health professionals to promote self-efficacy and improve quality of life (Logan et al, 2008; Shaw et al, 2008; van Achterberg et al, 2008; McConville, 2002).

They concluded that issues of knowledge, fears, motivation and potential psychological impact of performing ISC should be addressed before deciding on this treatment option.

Follow-up care is essential and should include re-evaluating skills, discussing adherence, integrating ISC in daily activities and general coping issues.

Jaquet et al (2009) reported findings of a qualitative study of eight patients’ experiences of coping (the selection criteria was undertaking ISC for at least six months).

These authors suggested that, when patients are confronted with having to do ISC for the rest of their lives, this most often results in a crisis reaction, which adversely affects their ability and motivation to continue ISC and requires support so they can come to terms and cope with the situation.

A major finding was that most patients used strategies and created rituals (for example, around catheter disposal) to some extent to be able to cope with having to undertake ISC several times a day.

Van Achterberg et al (2008) also found that patients struggled with planning ISC and needed the predictability of those rituals so, in the acute phase of the crisis, rituals may be seen as a tactic for survival that allow patients to disregard the reality of their situation.

These authors also reported that ISC has an enormous influence on patients’ lives, both physically and mentally; there is evidence that patients risk social isolation if they do not learn to master situations without the use of rituals.

As early as the first training visit, nurses should advise patients about alternative ways of dealing with the need to self-catheterise in unfamiliar places.

After an introductory period, individual to each person, patients should be offered a follow-up consultation about life with ISC as well as the opportunity to stay in contact with nurses in the outpatient clinic indefinitely (van Achterberg et al, 2008). The goal for patients should be the ability to perform ISC where and when needed.

**BOX 1. TECHNIQUES OF CATHETERISATION**

Three techniques can be used when carrying out ISC

**Clean reused**
- Use of a sterile, disposable catheter with good hand hygiene
- After use, the catheter is washed and rinsed
- The catheter is then air dried and stored in a ventilated container or ziplock plastic bag
- The catheter is reused by the same patient for a limited period of time (usually one week) as directed by their clinician.

**Clean, single-use**
- Use of a sterile, disposable catheter with good hand hygiene
- The catheter is disposed of after single use

**Sterile or aseptic**
- Use of sterile gloves, disinfectant wipes or swabs
- Use of a sterile, single-use catheter
- Use of a sterile drainage tray, or closed collection bag

**Conclusion**
There is little evidence in the literature on the physiological or social benefits of using ISC, best practice in technique, training methods or its benefits (or otherwise) for the quality of life of people with MS.

While ISC is deemed to be the preferred way of emptying the bladder for people with MS, the condition’s multifaceted symptoms – which primarily follow a symptom progression – which primarily follow a way of emptying the bladder for people with MS.

While ISC is deemed to be the preferred way of emptying the bladder for people with MS, the condition’s multifaceted symptoms – which primarily follow a relaxing and remitting course, but are ultimately progressive – mean these patients are likely to have more complex issues affecting their training, adherence and follow-up needs compared with other groups using ISC.

Further disease-specific research is needed on long-term use and adherence to ISC. NT

**References**