Out of Hours

Giving intermittent catheter users more choice

Intermittent catheterisation (IC) has been around for a long time. Ancient texts report the use of onion stalks and wooden and metal tubes to empty dysfunctional bladders. American Founding Father Benjamin Franklin created a flexible silver coil catheter in 1752 when his brother suffered from bladder stones. Mass-produced catheters became available in the mid-19th century thanks to Charles Goodyear, who was looking for applications for his newly-developed vulcanised rubber.

With improved trauma care, World War II saw large numbers of servicemen and civilians survive spinal cord injuries. Their bladders were most commonly managed using indwelling Foley catheters, introduced in 1935. Intermittent catheterisation was rare because urologists advocated laborious sterile procedures due to the perceived risk of urinary tract infection (UTI).

All this changed in the early 1970s when Jack Lapides, a Michigan urologist, demonstrated that IC could be performed in conditions that were simply clean rather than sterile, without causing UTI. Since then, millions around the world have used IC to independently manage bladder dysfunction.

At first, Lapides' 'clean intermittent catheterisation' was performed using a water-based lubricant and simple plastic or rubber catheters, which were washed and used many times. Subsequently, catheters intended for single-use have been developed, with coatings that become slippery when soaked in water or with packaging containing a lubricant. Single-use catheters became available on NHS prescription in the UK in the 1980s and are now offered to almost all who practice IC. The simple, cheaper, multiuse catheter is all but forgotten, with significant cost implications. Costs to the NHS in England for IC catheters rose from around £13.5 million per annum in 1999 to £88 million in 2013.

The UK's almost exclusive use of single-use catheters is not the case in many other countries. Re-use is the norm in developing nations and commonplace in many developed countries. Research in Canada and Australia has reported re-use by 47–50% of patients.^{1,2} Studies in the US reported re-use by 35–83%, with catheters re-used a median of 20 times.³

The marketing and adoption of single-use catheters were based on the assertions that single-use would reduce the risk of UTIs and that catheters with an evenly-lubricated

coating would result in less risk of urethral damage. But in fact there is little evidence to suggest that single-use is superior to the clean re-use methods originally described by Jack Lapides. A recently updated Cochrane systematic review found no convincing evidence that any particular approach to IC is better than any other in terms of UTI. No significant differences were found between coated and uncoated catheters in terms of urethral trauma or haematuria.⁴

This shortage of evidence allows the perpetuation of the assertions and perceptions on which the NHS's adoption of single-use catheters is based. There is little evidence on the most effective cleaning or storage methods for catheters intended for re-use. To address these evidence gaps, a major research programme is under way, supported by the UK National Institute for Health Research.^{5,6} The programme is examining ways of cleaning and storing re-usable catheters and is assessing patients' and clinicians' views. Subsequently, a randomised controlled trial will compare single-use alone with a regimen that combines re-use and single use to assess outcomes including UTI, acceptability, patient preference, and cost.⁵ This research programme will likely be perceived by some in the catheter industry as an exercise intended purely to identify cost savings for the NHS. But evidence on safe and acceptable re-use methods may create a new market for industry with potential for innovations in re-usable catheters and associated products: a market that may extend to developing nations, where, while single-use regimens are unaffordable, new re-usable products may be welcomed.

Through interviews with users of IC in the UK, the programme has already found that some patients consider re-use at least some of the time to be an appealing option. Some felt re-usable products may be a more discrete option, reporting difficulties in carrying multiple single-use catheters and in disposal of packaging, particularly in public toilets. Some favoured re-use for environmental reasons. Previously published research reported similar views. Patients have described the challenge of incorporating IC into their lives and have stressed the importance of choice and flexibility in regimens and products, rather than relying exclusively on one product.⁴

Clinicians, researchers, and industry all have roles to play in developing and

ADDRESS FOR CORRESPONDENCE

Brian Buckley,
Department of Surgery, College of Medicine,
University of the Philippines, Manila, the Philippines.
E-mail: briansbuckley@gmail.com

promoting methods and products in order to help those who use IC.

Brian Buckley,
Visiting Professor of Health Research, Department of Surgery, University of the Philippines, Manila, the Philippines; Honorary Research Fellow, Institute of Applied Health Sciences, University of Aberdeen, and Clinical Research Associate, Discipline of General Practice, National University of Ireland.

Mandy Fader,
Professor of Continence Technology, University of Southampton, Southampton.

Margaret Macauley,
Research Nurse, Continence & Skin Technology Group, University College London, London.

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