Abstract
Those using intermittent catheterization (IC) have many catheter types and styles to select from; including what manufacturers refer to as discreet catheters. Discreet catheters are often manufactured to be smaller in length, coiled in design, or foldable, thus allowing for easier concealment or discretion when carried in public and offering a degree of personal privacy. This study explores discreet catheter use and its alignment with the lifestyle experience of those who use such catheters. This study assesses the user and user experience with discreet catheters. User experience is defined as catheter choice, associated activities, and urinary tract health. A cross-sectional survey investigated life and health status of individuals in the Netherlands requiring IC. The study enrolled 1892 individuals of which 784 use a discreet catheter as their primary catheter. Catheter choice: 82% of study respondents state they have the ability to choose the type of catheter they use. Of those indicating not having the ability to choose their catheter, they state their health care professional did not inform them of different catheters, brands, or options. Catheter associated activities: Those employed full or part time are satisfied with their discreet catheter (95.1%) claiming it is discreet, and gives them confidence to live their life the way they choose; that the catheter did not interfere with social activities (72.6%), and had little to no interference with work outside of the home (76.1%). Urinary tract infections (UTI): 39.4% report a clinician diagnosed UTI within 6 months prior to the survey. The data indicates that 18.3% of the sample are deficient in UTI knowledge stating they do not know what a UTI is, or what associated symptoms are; 41% followed a clinician suggested regimen for catheterizing; 25.5% altered catheterization schedules to fit daily activities; 33.3% stated they did not follow a regimen, but catheterized when convenient. The data supports positive experiences for individuals who use discreet catheters as their primary method of bladder voiding, particularly socially active individuals requiring an element of personal privacy in their life. However, UTIs are a matter of concern due to a reported deficit in knowledgeable about UTI's and symptomology.

KEYWORDS
continence, intermittent self catheterisation, nurse education, patient information, patients’ experience, quality of care, quality of life, urinary catheterisation, urinary incontinence, urinary infection
1 | INTRODUCTION

Since the first documented evidence of urinary catheterization over 3500 years ago, the goals of the procedure have been an effective method to void the bladder, and to provide a relative degree of ease of insertion. Some of the earliest known catheters were reeds and hollow leaves of an onion plant (Allium Fistulosum). As civilization and accompanying industrialization evolved catheters were made of various materials such as wax coated fabrics and parchment, wood, and metals. These gave way to hard rubber catheters, and in turn this gave way to latex, silicone and polyvinylchloride catheters in use today.3–5

Throughout most of the history of catheterization, medical practitioners had little interest, if any, in the cleanliness of the procedure, or whether they considered a patient’s quality of life. Other than the need for catheterization for the immediate relief of the problem at hand, the risk of a urinary tract infection (UTI), in the absence of hygienic methods, and the potential for what are now known to be deleterious effects would have been great.6–7 Today, such risks are well established along with associated qualitative and quantitative symptomology.8

The importance of hygiene or aseptic techniques was not recognized as a protective factor against illness and infection until the 19th century. With the advent of germ theory, and the experiments of Joseph Lister, Robert Koch, and Louis Pasteur clean techniques and antiseptic procedures eventually became a standard of practice for those that needed to void by catheterization.9–11 Recognition of the importance of this can be found in an early 20th century patent (1914) for a catheter case describing an aseptic closed system.12 Evidence suggestive of concern over quality of life for those that required bladder evacuation by means of a catheter may also be traced to the 19th century with references to intermittent catheterization (auto-catheterization).13,14 However, a review of the medical literature indicates little attention, if any, was given to the lifestyle of the patient and the types and styles of intermittent catheters that may compliment their lifestyle until the 1970s.

Lapides’ advocacy of clean intermittent self-catheterization (1972) can be argued as the beginning of an era of greater independence for those requiring intermittent catheterization for bladder management. At that time aseptic intermittent catheterization was difficult to do for those living in a normal home environment, and often required access to clinicians specialized in this.15 In a 1976 paper Lapides found that clean intermittent self-catheterization not only showed marked improvements in urinary continence, urinary infection, renal function, bladder emptying, but as he noted “perhaps most important, the mental and emotional status of the patient.”16

Since Lapides, clean intermittent self-catheterization has not only been an effective method of bladder management, but also a prescribed means of offering independence for those that require catheter bladder management. It has given manufacturers of catheters the ability to provide catheter designs that offer choice to the individual and enhance lifestyles. For those using IC to void their bladder there are now many catheter types and styles to select from, to include what are now referred to as discreet catheters. Discreet catheters are often manufactured to be smaller in length, coiled in design, or foldable, thus allowing for easier concealment or discretion when carried in public. However, a review of manufacturer’s literature suggests that one reason a catheter may be considered discreet is the size of the packaging which offers the user discreet concealment and a degree of personal privacy. Others portray discreet catheters not only by their size in packaging, but also in their ability for the end-user to have discretion throughout the entire catheterization experience. This survey explores how, and if, the manufacturer’s claims of discreet catheters align with the lived experience of those who primarily use discreet catheters. Given that a search of the published literature finds that this is an unaddressed question, we sought to understand this discreet catheter user experience over a wide range of attributes."

2 | OBJECTIVE

It is the objective of this study to assess the user and user experience with what manufacturers refer to as discreet catheters. We look at issues of catheter choice, catheter associated activities, and urinary tract health and knowledge. In this, we add to the body of knowledge surrounding intermittent catheterization use and add insight for clinicians responsible for the well-being of people who rely on the use of intermittent catheters to empty their bladder.

WHAT IS KNOWN ABOUT THIS TOPIC

Currently, little is known of the impact that discreet intermittent catheters have on the lifestyle of a person that must use IC as a method of bladder voiding. Of particular interest here are the topics of catheter choice, catheter associated activities, and urinary tract health. A search of peer reviewed published literature suggests that these are topics that have not been previously investigated in this style of catheter.

WHAT THIS PAPER ADDS

We investigate the user and user experience with what manufacturers refer to as discreet catheters. We look at issues of catheter choice, catheter associated activities, and urinary tract health and knowledge. In this, we add to the body of knowledge surrounding intermittent catheterization use and add insight for clinicians responsible for the well-being of people who rely on the use of intermittent catheters to empty their bladder.

3 | METHODS

A cross sectional survey was constructed to investigate various aspects of life and health status of individuals living in the Netherlands that require clean intermittent catheterization as a method of bladder
management. The study proposal was reviewed by the medical ethics review committee of the azM and Maastricht University (METC azM/UM), (https://metc.mumc.nl/nl), and found not to fall under the Medical Research Involving Human Subjects Act (WMO).

Recruitment of potential respondents was obtained through two proprietary databases from medical enterprises supplying medical aids, care materials, and health services in the Netherlands. A non-transferable link to the survey was provided and completion of the questionnaire acted as consent to study participation. The study enrolled 1892 individuals in compliance with protocol eligibility of which 1649 could be identified as to the type and style of catheter being used. Of these 784 were determined to use a discreet catheter as their primary catheter (as identified by manufacturer literature). This provided a margin of error of plus or minus 3.5%. The survey was assessed for (a) face validity, that is, the degree to which the assessment appears effective in terms of stated aims and (b) content validity, that is, does the content of the survey include a representative sample of the domains to be measured. These are non-statistical assessments provided by expert reviewers from the sponsors of the study. Upon the close of the study the data was assessed for reliability using Cronbach’s alpha and was found to be reliable with a standardized alpha of 0.801. The study was conducted in between September of 2019 and March of 2020.

A determination of subjective well-being, through the use of self-reported quality of life, was measured on a visual analog scale anchored at 0 (worst possible life) and 100 (best possible life). In this, we recognize that the visual analog scale represents a single overarching definition of subjective well-being, that is, the individual’s evaluation of their quality of life as a whole.

Statistical analysis included statistics descriptive of central tendency, frequencies and tabled cross-tabulated responses and chi square analyses. Percentages are based on the number of responses to each question; missing data may occur. Statistical analysis was assessed using SPSS.

4 | RESULTS

4.1 | Demographics

There are 784 respondents in the study that are identified as users of discreet catheters of which 740 identified themselves as to gender (male: 314, 42.4%, female: 426, 57.6%). Seventy-two percent (565 of 784) have been using intermittent catheterization for more than 1 year. Eighty-three percent (654 of 784) are greater than 50 years of age. Eighteen percent rate their health as very good or excellent (n = 136 of 749), while 73 percent (544 of 749) rate their health as good to fair. Nine percent (n = 69 of 749) rate their health as poor. Twenty-seven percent (n = 211 of 784) have neurogenic or neurologic reasons for using IC; spinal cord injuries, Multiple Sclerosis, Spina Bifida, stroke, or Cauda Equina Syndrome (collectively referred to a neurogenic in this discussion). Seventy-three percent (573 of 784) have non-neurogenic reasons for using IC: urinary incontinence, urinary retention or obstruction, prostate problems and bladder cancer. Table 1 presents a description of the study respondents by gender, age and reason for using IC.

4.2 | Catheter choice

Of interest is whether those using discreet catheters as their primary catheter have the ability to choose their catheter. Six hundred and forty-four, or 82.5% state they have the ability to choose the type of catheter they use (84.7% of males and 81.5% of females); no statistically significant difference is noted between males and females for choice. Of the 644, 15.8% state they chose a discreet catheter because their previous catheter did not have this attribute. Of those stating they did not have the ability to choose their primary catheter (n = 137), 36 respondents (26.3%) state their health care professional did not inform them of different catheters. Fifteen, or 10.9% stated they did not know different brands existed, and 51 or 37.2% stated they did not know they had the option to choose. Of the 644 with the ability to choose, 597 or 92.7% offer some insight into their independence by stating they do not require any help with the catheterization procedure.

Whether they have the ability to choose their catheter, or not, the question arises as to where they might get catheter associated information, that is, what is their primary source for catheter associated information or education. The majority of males (50.3%) and females (55.9%) state their primary source of information is a specialized nurse or doctor such as a urology clinic nurse or urologist. No statistically significant difference is noted between males and females. However, 28.3% of males and 15.7% of females state they use the internet to figure things out for themselves. This represents a statistically significant difference between males and females with a greater percentage of males stating they “figure it out myself”; chi square, p < 0.001. Approximately 14% of all respondent’s state they use a community health care service, that is, those community based health care services delivering products or specialized nursing support to a patient’s home, as an information resource. Non-specialized doctors or nurses are generally not used as a source of catheter information. See Table 2.

4.3 | Catheter associated activities

For those using discreet catheters as their primary method of intermittent catheterization, an issue of interest is whether they are satisfied with the catheter, primarily when involved in activities outside of the privacy of their own home. This involves such activities as employment activities and social activities, as this may be a reason for choosing such a catheter. Table 3 shown below presents the experience of using discreet catheters for those employed full or part time.

Overall, those employed full or part time are satisfied or very satisfied with their discreet catheter (173 of 182, 95.1%)
with 85.2% agreeing that it is indeed discreet, and 86.8% agreeing that it gives them confidence to live their life the way they choose.

Also, of concern for those using intermittent catheterization is whether the need to catheterize interferes with social activities, or work outside of the home (not necessarily employment). This issue is presented in Tables 4 and 5, along with an associated self-reported quality of life. For those stating that the need to catheterize presents little to no interference with their social activities (n = 537 of 740, 72.6%), they have an associated self-reported quality of life of 74.2 (95%CI: 72.8–75.6) on a scale of 0 to 100. For those stating there is little to no interference with work outside of the home (n = 563 of 740, 76.1%), they have an associated self-reported quality of life of 73.9 (95%CI: 72.5–75.3) on a scale of 0 to 100 (Table 5). For comparison purposes, it is worth noting that a recent study by some of the authors of this paper reported a quality of life score for those using intermittent catheterization, and being socially connected, of 78.8 (95%CI: 75.6–81.9) on a scale of 0 to 100.20

4.4 | Urinary tract infections

For those using discreet catheters to void the bladder, urinary tract health is an important health consideration, and for those in our study, 296 of 751 (39.4%) report a clinician diagnosed urinary tract infections within 6 months prior to the survey. Of those reporting a UTI, 63.9% reported one to two UTI’s within this time period, and 36.1% report more than two. As both incidence and prevalence of UTI’s varies widely in the literature due to various methods used for evaluation and the criteria for infection, and as such methods and criteria are unknown in our study, we do not make comparisons with the published literature. Rather, we choose to report on the study sample’s reported knowledge of urinary tract infections. While most in our sample claimed knowledge of UTI symptoms; either self-educated on the subject (175 of 754, 23.2%) or clinician educated (326 of 754, 43.2%), the data indicates that 18.3% (138 of 754) state they do not know what a UTI is, or what symptoms may be associated with a UTI (Table 6). Of this, 10.3% are in the neurogenic group (21 of 203), and 21.2% are in the non-neurogenic group (117 of 551). This represents a statistically significant difference, p = 0.001, where the non-neurogenic group is 2.34 times more likely not to know what a UTI is,

TABLE 1 Gender by age and reason for using intermittent catheterization

| Age     | Reason for catheterization | Male N  | Male % | Female N | Female % | Total N | Total % |
|---------|-----------------------------|---------|--------|----------|----------|---------|---------|
| 18-30   | Neurogenic                  | 2       | 0.6    | 9        | 2.1      | 11      | 1.5     |
|         | Non-neurogenic              | 1       | 0.3    | 7        | 1.6      | 8       | 1.1     |
| 31-40   | Neurogenic                  | 8       | 2.5    | 11       | 2.6      | 19      | 2.6     |
|         | Non-neurogenic              | 0       | —      | 14       | 3.3      | 14      | 1.9     |
| 41-50   | Neurogenic                  | 4       | 1.3    | 26       | 6.1      | 30      | 4.0     |
|         | Non-neurogenic              | 6       | 1.9    | 34       | 8.0      | 40      | 5.4     |
| 51-60   | Neurogenic                  | 16      | 5.1    | 48       | 11.3     | 64      | 8.6     |
|         | Non-neurogenic              | 34      | 10.8   | 59       | 13.8     | 93      | 12.6    |
| 61-70   | Neurogenic                  | 25      | 8.0    | 33       | 7.7      | 58      | 7.8     |
|         | Non-neurogenic              | 118     | 37.6   | 107      | 25.1     | 225     | 30.4    |
| >70     | Neurogenic                  | 8       | 2.5    | 11       | 2.6      | 19      | 2.6     |
|         | Non-neurogenic              | 92      | 29.3   | 67       | 15.7     | 159     | 21.5    |
| Total   |                            | 314     |        | 426      |          | 740     |         |

TABLE 2 When you have questions about intermittent catheterization, what is the PRIMARY resource you use for education?

|                                    | Male N  | Male % | Female N | Female % | Total N | Total % |
|------------------------------------|---------|--------|----------|----------|---------|---------|
| I figure it out myself (searching the internet, etc.) | 89      | 28.3%  | 67       | 15.7%    | 156     | 21.1%   |
| Specialized nurse/doctor; urology clinic nurse, wound ostomy continence nurse, spinal cord injury nurse, Urologist etc | 158 | 50.3% | 238 | 55.9% | 396 | 53.5% |
| General (non-specialized) nurse/doctor at a hospital/doctor’s office/long term care or other healthcare location | 5 | 1.6% | 9 | 2.1% | 14 | 1.9% |
| Community health service (a nurse that visits you at home) | 35      | 11.1%  | 68       | 16.0%    | 103     | 13.9%   |

Note: A statistically significant differences exists between males and females for the category “I figure it out myself”, p < 0.001.
or what the symptoms are, than the neurogenic group (estimate based on odds ratio; range 1.42–3.83, \( p < 0.001 \)).

In regard to UTIs, catheterization schedules are often recommended by clinicians as a method to ensure minimal bladder volumes and thereby mitigate the potential for UTIs.\(^{21}\) The data indicates that only 41% (311 of 756) of respondents followed a clinician suggested regimen for catheterizing. Of these, those with non-neurogenic reasons for catheterizing were more likely to adhere to a schedule (253 of 553, 45.8%) than their neurogenic counterparts (58 of 203, 28.6%). This represents a statistically significant difference (chi sq, \( p < 0.001 \)). The data also indicated that 25.5% of respondents (193 of 756) altered their catheterization schedules to fit their daily activities. Of these, 30% of the neurogenic group (61 of 203) did so, while 23.9% of the non-neurogenic group (132 of 553). A statistically significant difference between groups is noted, chi sq, \( p = 0.004 \).

### TABLE 3  Catheter experience for those employed full or part time

| Those employed full or part time                                      | Male       | Female     | Total      |
|----------------------------------------------------------------------|------------|------------|------------|
| How satisfied are you with the intermittent catheter you PRIMARYLY use? | 72 of 77   | 101 of 105 | 173 of 182 |
| Satisfied or very satisfied                                         | 93.5%      | 96.2%      | 95.1%      |
| The catheter that I primarily use is discreet (smaller packaging, storage. Easy disposal: Agree or strongly agree | 65 of 77   | 90 of 105  | 155 of 182 |
| Agree or strongly agree                                              | 84.4%      | 85.7%      | 85.2%      |
| The catheter that I primarily use gives me the confidence to live my life the way I choose: Agree or strongly agree | 64 of 77   | 94 of 105  | 158 of 182 |
| Agree or strongly agree                                              | 83.1%      | 89.5%      | 86.8%      |

### TABLE 4  Catheterization interference with social life and the associated quality of life

| In the last 6 months, how much of the time did the need to catheterize interfere with your social activities? | Male       | Female     | Total      | Associated self-reported quality of life VAS: 0–100 |
|---------------------------------------------------------------------------------------------------------|------------|------------|------------|----------------------------------------------------|
| Most or all of the time                                                                               | 15 of 77   | 32 of 105  | 47 of 182  | 55.1                                               |
| Some of the time                                                                                       | 66 of 77   | 90 of 105  | 156 of 182 | 67.0                                               |
| Little or none of the time                                                                            | 233 of 77  | 304 of 105 | 537 of 182 | 74.2                                               |

### TABLE 5  Catheterization interference with work outside of the home and the associated quality of life

| In the last 6 months, how much of the time did the need to catheterize interfere with your work outside the home? | Male       | Female     | Total      | Associated self-reported quality of life VAS: 0–100 |
|-----------------------------------------------------------------------------------------------------------|------------|------------|------------|----------------------------------------------------|
| Most or all of the time                                                                               | 9 of 77    | 31 of 105  | 40 of 182  | 57.7                                               |
| Some of the time                                                                                       | 60 of 77   | 77 of 105  | 137 of 182 | 65.6                                               |
| Little or none of the time                                                                            | 245 of 77  | 318 of 105 | 563 of 182 | 73.9                                               |

### TABLE 6  Do you know how to tell when you are experiencing a urinary tract infection (UTI) and what symptoms to look for?

| No, I do not know what a UTI is nor what symptoms to look for | Neurogenic | Non-neurogenic | Total      |
|-------------------------------------------------------------|------------|----------------|------------|
| N %                                                         | 21 of 103  | 117 of 21.2%   | 138 of 18.3% |
| Yes, a health care professional (nurse, doctor, etc.) explained to me what an UTI is and what to look out for | 95 of 46.8% | 231 of 41.9%   | 326 of 43.2% |
| Yes, I educated myself about UTI's and related symptoms (searching the internet, talking to other IC users, etc.) | 55 of 27.1% | 120 of 21.8%   | 175 of 23.2% |
| Other                                                       | 32 of 15.8% | 83 of 15.1%    | 115 of 15.3% |
| Total                                                       | 203 of 100 | 551 of 100     | 754 of 100  |

or what the symptoms are, than the neurogenic group (estimate based on odds ratio; range 1.42–3.83, \( p < 0.001 \)).
5 | DISCUSSION

It was the objective of this study to assess the user and user experience with discreet catheters, where user experience is defined as catheter choice, catheter associated activities, and urinary tract health.

5.1 | Catheter choice

Patient choice in treatment is a broad concept, and as some have noted, the relationship between service and patient is often hierarchical and paternalistic.22 To this end, organizations such as the UK NHS and the European Charter of Patient Rights (2002) have declared that patients have the right to free choice and personalized treatment, to be involved in discussions and decisions about their health and care; to be given accessible, reliable and relevant information in a form they can understand to enable them to participate fully in their own healthcare.23 In short, to share with the patient the appropriate information to make decisions that affect their personal lives. So it is with catheters, as stated by the European Association of Urology Nurses: “It is important that the health care professional enables the patient to make an informed choice when choosing the best method and product for their individual needs.”24 The use of a discreet catheter can be a personal choice, based on such factors as a sense of personal privacy in the face of social interaction. However, our data indicates that in 18 percent of the study sample the choice of catheter was not made by the individual. It is possible that the attending clinician made the choice based on their appraisal of the individual and lifestyle. What we do know is that personal choice in the selection of a discreet catheter has the potential to be compromised by the fact that many were not informed of different catheters (styles, types, or brands), or given the option to choose. Nevertheless, the data show that the majority of those using a discreet catheter were generally satisfied or very satisfied with the catheter particularly with activities outside of the privacy of their home, such as employment or social activities.

5.2 | Catheter associated activities

Studies have shown that factors such as self-confidence, social interaction, and access to work activities can influence the QoL of people requiring intermittent urinary catheterization.25 It can be said that those using intermittent catheters to void the bladder will experience changes to daily routines from that prior to their need for catheterization. Some of this may be the result of planned actions derived from the need to void on a regular basis, or changes in social life and work habits. In all of this, the need for discretion and consequently privacy may be paramount. Therefore, the experience of intermittent catheterization, that is, associated with activities outside of the privacy of the user’s own home is of interest. The data indicates that as the need to catheterize increasingly interferes with one’s social activities or work outside the home, their self-reported quality of life decreases.

For some, this may speak to the need for a clinician assessment of the catheterization regimen of the patient. However, our study shows that those engaged in social activities or work/employment activities are satisfied with the catheter with approximately 74% of the study respondents stating there was little to no interference with social activities from the need to catheterize. Additionally, 74% of respondents also stated little to no interference with work outside the home from the need to catheterize, with 95% of those employed full or part time being satisfied or very satisfied with their discreet catheter. In part, due to these individuals stating the discreet catheter gave them the confidence to live their life the way they choose (87%).

5.3 | Urinary tract infections

For those practicing intermittent catheterization, urinary tract health is of primary importance. Recurrent symptomatic UTIs are a major complication of long-term clean intermittent catheterization in SCI patients26,27 with a reported incidence of catheter associated UTIs of 2.5 per person year.28 In our study, we found that 39 percent of respondents reported a clinician diagnosed UTI within the 6 months prior to the survey. Many factors can influence the incidence of a UTI beginning with a basic knowledge of UTI’s and adherence to voiding schedules. Our data indicated that almost one in five respondents did not know what a UTI is, or what symptoms are associated with UTI’s. This is a gap in patient knowledge that can be easily reduced through in-person clinician instruction or literature. It is suggested that clinicians, particularly those engaged in community health services or other non-acute settings, who often are a first line of defence post-discharge, assess their patients to ensure that this gap in critical knowledge is mitigated. In our study we found that services offered by nurses in a community health setting often reduced the need for more traditional clinical visits. It is important in our discussion to acknowledge the increasing contribution of the community health nurse as it is projected that changes in social structure, urbanization, and family units in the decades to come will require a different approach to traditional disease-oriented health services. To this end, community health care, whether it be defined as home health or residential care as in some countries, is seen as a viable approach in the health maintenance of the individual.29

Regarding patient knowledge of UTI’s, the data indicates easily recognizable symptoms such as strong smelling urine and a frequent need to urinate as being the most common symptoms reported in patients: 46.3% and 34.2%, respectively. The most common clinician recommended treatments were prescribed oral antibiotics and increased fluid intake.

5.4 | Limitations

The study is limited by the fact that it is a cross-sectional survey and as such captures only a point in time. While associations can be made, cause and effect cannot be determined.
6 | CONCLUSIONS

The study investigated the experience of the user of discreet catheters. In our study the data indicates that the selection of discreet catheter is a matter of personal choice or to a lesser degree, at the discretion of an advising clinician. Overall, the data indicates that those using such catheters are primarily satisfied, over a number of attributes with this style of catheter. In part, due to these individuals stating the discreet catheter gave them the confidence to live their life the way they choose.

For those engaged in social activities or work/employment activities outside the home, the great majority report satisfaction with discreet catheters. However, it was noted that as the need to catheterize increasingly interferes with such activities the quality of life of the individual decreases. This would suggest the need for clinician assessment of the catheterization regimen of the patient.

Regarding UTI’s, it was found that approximately one in five respondents were not knowledgeable about UTI’s, or symptomology. This is an issue of concern, and one that appears to be easily mitigated. It is suggested that the primary health care professional consult their patients on this topic, and this be followed up by clinicians in the community health care setting. It is suggested that clinicians, particularly the community health care clinician, who often is a first line of defence post-discharge, assess their patients to ensure that this gap in critical knowledge is mitigated.

In conclusion, this data supports positive experiences for individuals who use discreet catheters as their primary method of bladder voiding, particularly socially active individuals requiring an element of personal privacy in their life.

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ETHICS STATEMENT

The study proposal was reviewed by the medical ethics review committee of the azM and Maastricht University (METC azM/UM), (https://metc.mumc.nl/nl), and found not to fall under the Medical Research Involving Human Subjects Act (WMO).

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