A multicentre exploratory study of the impact of urinary incontinence in the 6 weeks after catheter removal following radical prostatectomy

A common complication of radical prostatectomy surgery is the sudden onset of urinary incontinence (UI), with most men experiencing at least transient post-surgery UI [1]. The recent meta-synthesis by Carrier et al. [1] of qualitative studies on men’s perceptions of the impact of physical symptoms after radical prostatectomy on their quality of life found that UI is a ‘significant problem for which men feel ill-prepared’ (p. 13). In the postoperative weeks, men must cope with the practicalities of effectively containing urine, whilst also dealing with the psychological burden of sudden-onset incontinence which can cause a ‘second shock following the initial shock of the diagnosis’ [2]. Incontinence can be the most problematic postoperative issue causing anxiety and feelings of helplessness [3]. Some men have reported their psychological recovery from incontinence to be more challenging than the physical recovery from surgery, needing reassurance that they would improve, and many felt emotionally unprepared for dealing with UI [1].

Exacerbating this deficiency in preparedness, many men report feeling poorly informed about incontinence symptoms in the peri-operative period, lacking ‘accurate, detailed and honest information’ on the practical and psychological elements of managing incontinence [4]. By contrast, appropriate and timely information can support men to feel a sense of control over the situation [4]. This population has also reported difficulty in proactively discussing sensitive topics, including incontinence [3]. Healthcare professionals need to be proactive in providing advice and support to help to prepare men, by making sure they have information on the level of incontinence that they are likely to experience and how to best cope [1]. There are few quantitative data to provide greater detail on the day-to-day impact that UI has on many men’s lives in the key period after catheter removal, but before the first follow-up appointment (usually 6–8 weeks post-surgery). Without this knowledge, healthcare professionals are unable to provide the accurate support and information that men are seeking. Therefore, this study used two questionnaires and a 6-week product diary to investigate the impact of UI on a cross-section of men in the 6 weeks after catheter removal following radical prostatectomy.

This study was embedded within a wider feasibility study where men received usual care or usual care plus a continence product decision aid [5]; therefore, the sample size is limited, and the study design is exploratory. Men attending ‘trial-without-catheter’ (TWOC) clinics in four NHS hospital trusts in the south of England following radical prostatectomy were invited to participate in the wider study by their nurse specialist and were eligible to take part if they had the capacity to provide consent and could speak and read English. Ethical approval was given by the NHS Research Ethics Committee (South Central—Berkshire NHS Research Ethics Committee 16/SC/058). Data collection was from January to June 2017. A convenience approach to sampling was taken, with all men attending the clinics and meeting the eligibility criteria approached to take part at each research nurse-facilitated session.

Participants kept a diary (bespoke design, reviewed for usability and face validity by the research team and three expert patients) of their continence product use (number/design) for 6 weeks. At the end of the 6-week period, participants completed the Expanded Prostate Cancer Index Composite (EPIC) questionnaire (urinary domain only) [6] and the King’s Health Questionnaire (KHQ) [7]. Data were inputted and analysed using Microsoft Excel spreadsheets. Simple descriptive statistics (counts and percentages) were used to describe proportions of groups in the data. Data from the product diaries were summarized to show the number of products used per week per participant.

Eighty-seven men were approached to join the wider study; seventy-seven men were recruited and 67 returned useable sets of questionnaires. A small number of men (up to three) did not answer all questions in the King’s Health Questionnaire (KHQ); this is recorded as ‘no response’ under each relevant item. Men’s ages ranged from 44 to 83 years and all were of white British ethnic origin. All had undergone a robot-assisted radical prostatectomy procedure. EPIC and selected KHQ results are shown in Table 1 (with full KHQ results in Table S1).

Only 15% reported total urinary control by 8 weeks post-surgery. Most reported both stress and urge incontinence, but more (40%) reported higher levels (moderate or a lot) of stress incontinence compared with 27% for urge incontinence. Almost all the men experienced a degree of nocturia, with 49% at higher levels (moderate or a lot). Only 16% found their leakage not to be a problem, but 58% said that it was a small or very small problem, with a further quarter finding it to be a moderate or big problem. Over a half (54%) reported
that their bladder impacted their everyday activities. Many reported that UI impacted their ability to undertake activities outside the home (54%), travel (69%), sleep (65%) and exercise (58%), plus it made them feel worn out and tired (50%). Only 21% reported that their bladder did not affect their life.

Two-thirds of the men were still using incontinence products at 8 weeks post-surgery, with most using one to three pads a day by this point. Most used male pads (small disposable pads also known as leaves), with a small minority using unisex pads with fitted underwear or disposable pull-on pants. No men reported using non-pad options (e.g. urinary sheaths). There was a gradual decline in pad use across the 6 weeks post-catheter removal, with the number of men not using a pad at all increasing from 4/67 in week 1 to 23/67 in week 6. Twenty-two men used 21 or more pads in week 1, declining to 11 men by 6 weeks post-catheter removal. However, one-third of men also reported sometimes or often experiencing wet underwear despite pad use.

This exploratory study used validated measurement tools and a product use diary to provide insight into men’s experiences of the physical, psychological and practical impact of this surgical side effect in the 6 weeks post-catheter removal. Because of their bladder problems, most men experienced difficulties undertaking daily activities (including sleep and exercise, both important for recovery), with likely impingement on their physical well-being. Psychological health was also affected for a substantial minority of the men, with almost 40% feeling anxious and/or depressed due to their bladder problems in the postoperative weeks, and over half were worried about smelling because of incontinence. This supports the qualitative literature which describes the negative impact that post-prostatectomy UI can have on men’s anxiety levels [8]. Previous literature has highlighted that men would welcome practical guidance on managing UI post-catheter removal [4].

It is important to note that this study was exploratory in nature, embedded within a wider trial with a small sample size. Further limitations of the sample must be considered.

### Table 1: EPIC and Kings Health Questionnaire (selected questions) 6 weeks post-trial without catheter.

#### EPIC summary (selected questions)

| Question                                                                 | n (%)                |
|--------------------------------------------------------------------------|----------------------|
| 1. Over the past 4 weeks, how often have you leaked urine?               |                      |
|   More than once a day                                                    | 34 (51)              |
|   About once a day                                                        | 10 (15)              |
|   More than once a week                                                   | 5 (7)                |
|   Rarely or never                                                         | 16 (24)              |
| 2. Which of the following best describes your urinary control in the last 4 weeks? |                      |
|   No control whatsoever                                                   | 1 (1)                |
|   Frequent dribbling                                                      | 13 (19)              |
|   Occasional dribbling                                                   | 43 (64)              |
|   Total control                                                           | 10 (15)              |
| 3. How many pads or adult diapers per day did you usually use to control leakage? |                      |
|   None                                                                    | 16 (24)              |
|   1 pad per day                                                          | 27 (40)              |
|   2 pads per day                                                         | 11 (16)              |
|   3 or more pads per day                                                 | 13 (20)              |
| 4. How often have you leaked urine?                                      |                      |
|   More than once a day                                                    | 34 (51)              |
|   About once a day                                                        | 10 (15)              |
|   More than once a week                                                   | 5 (7)                |
|   Rarely or never                                                         | 16 (24)              |
| 5. How many pads or adult diapers per day did you usually use to control leakage? |                      |
|   None                                                                    | 16 (24)              |
|   1 pad per day                                                          | 27 (40)              |
|   2 pads per day                                                         | 11 (16)              |
|   3 or more pads per day                                                 | 13 (20)              |
| 6. Overall, how big a problem has your urinary function been for you during the last 4 weeks? |                      |
|   No problem                                                             | 11 (16)              |
|   Very small problem                                                      | 28 (42)              |
|   Small problem                                                           | 11 (16)              |
|   Moderate problem                                                        | 14 (21)              |
|   Big problem                                                            | 3 (4)                |

#### Kings Health Questionnaire (selected questions)

| Question                                                                 | n (%)                |
|--------------------------------------------------------------------------|----------------------|
| Physical/Social Limitation: Does your bladder problem affect...          |                      |
|   your physical activities?                                              | 28 (42)              |
|   Slightly                                                               | 23 (34)              |
|   Moderately                                                             | 9 (13)               |
|   A lot                                                                  | 7 (10)               |
|   your ability to travel?                                                | 21 (31)              |
|   Slightly                                                               | 34 (51)              |
|   Moderately                                                             | 6 (9)                |
|   Very much                                                              | 6 (9)                |
|   your social life?                                                      | 42 (63)              |
|   Slightly                                                               | 14 (21)              |
|   Moderately                                                             | 9 (13)               |
|   Very much                                                              | 2 (3)                |
| Emotions: Does your bladder problem make you feel...                     |                      |
|   Not at all                                                             | 39 (58)              |
|   Slightly                                                               | 20 (30)              |
|   Moderately                                                             | 4 (6)                |
|   Very much                                                              | 1 (1)                |
|   No response                                                            | 3 (4)                |
|   anxious or nervous?                                                    | 38 (57)              |
|   Slightly                                                               | 20 (30)              |
|   Moderately                                                             | 6 (9)                |
|   0                                                                     | 3 (4)                |
|   bad about yourself?                                                    | 47 (70%)             |
|   Slightly                                                               | 14 (21%)             |
|   Moderately                                                             | 2 (3%)               |
|   Very much                                                              | 1 (1%)               |
|   No response                                                            | 3 (4%)               |
| Sleep/Energy: Does your bladder problem...                                |                      |
|   affect your sleep?                                                     | 21 (31)              |
|   Sometimes                                                              | 31 (46%)             |
|   Often                                                                  | 11 (16)              |
|   All the time                                                           | 2 (3)                |
|   No response                                                            | 2 (3)                |
|   make you feel worn out and tired?                                      | 31 (46)              |
|   Sometimes                                                              | 29 (43)              |
|   Often                                                                  | 4 (6)                |
|   All the time                                                           | 1 (1)                |
|   No response                                                            | 2 (3)                |
| Do you do any of the following?                                          |                      |
|   Never                                                                  | 25 (37)              |
|   Sometimes                                                              | 26 (39)              |
|   Often                                                                  | 9 (13)               |
|   All the time                                                           | 4 (6)                |
|   No response                                                            | 3 (4)                |
| Be careful how much fluid you drink?                                     | 39 (58)              |
|   Sometimes                                                              | 22 (33)              |
|   Often                                                                  | 3 (4)                |
|   All the time                                                           | 1 (1)                |
|   No response                                                            | 2 (3)                |
| Change your underclothes because they get wet?                           | 31 (46)              |
|   Sometimes                                                              | 23 (34)              |
|   Often                                                                  | 5 (7)                |
|   All the time                                                           | 6 (9)                |
|   No response                                                            | 2 (3)                |

EPIC, Expanded Prostate Cancer Index Composite. Percentages are rounded and might not = 100.
when interpreting the results: all participants had undergone robot-assisted prostatectomies, four surgical centres were included with an unknown number of surgeons performing participants’ operations, all participants were white British and literate in English with no black, Asian or minority ethnic or non-English speaking participants, and all were recruited in the south of England. These factors limit the generalizability of the findings.

Nonetheless, the data presented provide a useful insight into men’s experiences, confirming the findings of previous qualitative studies [1]. These, and previous findings, should encourage healthcare professionals to recognize the impact of UI on daily life and ‘implement support interventions to ensure that the negative impact on life experience is minimized.’ [1]. A starting point would be providing the ‘accurate, detailed and honest information’ that men are looking for to help them cope with the challenging weeks post-surgery [4]. Information should aim to support men through the 2- to 3-month period before their first follow-up, explaining the likely impact on day-to-day activities and strategies and products to help. Information should be provided at postoperative discharge to ensure men are prepared for their catheter removal appointment and should be re-iterated when the catheter is removed. Guidance on product choice and how to manage UI is available from www.continenceproductadvisor.org (an evidence-based, independent website for clinicians and patients), which also includes a specialist section for men preparing for having a catheter and managing incontinence after TWOC: www.prostatecontinence.org.

In conclusion, in the 6 weeks after post-prostatectomy catheter removal, most men were still experiencing both stress and urge incontinence, plus nocturia, with only 15% reporting full urinary control. They used one to three pads per day, but many still experienced wet underwear. They reported that UI limited their activities, including sleep, and made them tired. Men have previously reported feeling unsupported and underprepared to deal with postoperative incontinence, but this study demonstrates that, frustratingly, these concerns have still not been addressed. Healthcare professionals should use these detailed findings to prepare men more fully for the physical, psychological and practical realities of the postoperative period.

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Conflicts of Interest
None declared.

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Supporting Information
Additional Supporting Information may be found in the online version of this article:

Table S1. Kings Health Questionnaire at 6 weeks post-trial without catheter (percentages are rounded and might not = 100).