

Australian men's experience of cystoscopic day surgery Part 2

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Abstract

To investigate the preparation for and recovery from cystoscopic day surgery (DS) 100 male patients completed a preoperative written questionnaire and two postoperative telephone questionnaires. Findings indicated that DS cystoscopy minimally disrupted paid work, had minor postoperative symptoms, a readmission rate of only 2% and utilised few community support services such as visits to general practitioners. However, 37% of participants said that they would have liked more information. Participants' perceptions of their level of preparation were significantly related to various outcome measures such as the intensity of postoperative symptoms and the use of resources postoperatively. © 1998 Elsevier Science B.V. All rights reserved.

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1. Introduction

The increase in DS numbers observed over the past 10 years in New South Wales (NSW) [1] follows international DS trends showing a growth in the numbers as well as in the variety and complexity of procedures being performed [2,3]. The need to contain escalating hospital costs has been postulated as one of the main reasons behind the emphasis given by the NSW government to the development of DS. However, clear evidence supporting this argument is not available in Australia [4]. In addition, technological advances, the availability of new anaesthetic agents and changing attitudes among health professionals [5] have contributed to a reduction in the time necessary to both perform and recover from a variety of procedures, thereby increasing the likelihood of these procedures being carried out on an ambulatory basis. It is important to evaluate how patients are coping with the

changes in health care which result in a new and more active patient role with increased responsibility for their own recovery.

There has been limited research in Australia on patients' perceptions of their preparation for and recovery from DS procedures; O'Connor et al. (1991) assessed patient satisfaction with day surgery facilities in NSW public hospitals [6]. Overseas data suggest that outcomes following DS vary depending on previous experience of DS, employment status, education, expectations and preparation for surgery [7]. The new concept of 'satisfaction against need' proposed by Nelson et al. (1997) has two key aspects. The first is the patient's perception of the health benefit which resulted from the health care encounter. The second aspect has to do with meeting needs that may or may not be part of the patient's expectations. Nelson et al. argue that one of these needs is for useful information which has the potential to improve a patient's ability to assume more control over health status [8]. This factor then becomes a key element when considering patients recovering at home without the immediate support of health professionals.

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Cystoscopic DS procedures account for 6.7% of the NSW DS case load (NSW Health, personal communication, 23 June 1997). Limited research has focused on the experiences of this particular population. The findings from a qualitative study involving in-depth interviews with 21 men following cystoscopic DS [9] showed that most participants had experienced uncomplicated recoveries and felt adequately prepared for the surgical experience and the recovery at home. However, some did not know who to contact or what to do if unexpected symptoms such as bleeding presented after discharge.

This study aimed to: identify preoperatively, selected pre-surgical lifestyle behaviours related to health status as perceived by participants; identify preoperatively, co-morbidities, psychological states and medication profile; determine patients' expectations of the recovery process prior to surgery; determine post operatively, the quality and quantity of preoperative educational preparation; investigate patients' outcomes following DS cystoscopy including duration and nature of postoperative symptoms patient satisfaction, patient's educational preparation, time off work, readmission rates and community resources utilised.

2. Method

2.1. Design

The study involved 100 male cystoscopy patients. Data were collected on three separate occasions. The first questionnaire was administered preoperatively. The second and third questionnaires were completed via phone; the second between the 3rd and 6th postoperative days, and the third between the 21st and 24th postoperative days as these had been shown during a pilot study to be the minimum and maximum periods of recovery.

2.2. Sample

All males who spoke English, were 18 years old and over and who were undergoing cystoscopy at three free standing DS units were invited to participate. The researchers contacted DS staff on a weekly basis to ascertain if any male cystoscopy patients were booked for cystoscopy. More than 90% of patients approached agreed to participate. The reasons for non-participation were mainly language difficulties or an inability to be available for the period of data collection. Five of the participants who completed the first questionnaire but did not complete the next two were deleted from the sample and five additional participants were recruited. Patients were approached by the researchers within the first hour of arrival at the unit. Eligibility was deter-

mined and consent was sought. Eligible patients were made aware of their right to refuse or withdraw and confidentiality was assured.

2.3. Instruments

The pre and postoperative questionnaires used had been developed from questionnaires used overseas and from data obtained from previous studies by the authors [9,10]. The preoperative questionnaire aimed to obtain information on sociodemographic characteristics (age, sex, occupation and education), participants' perception of health status, lifestyle behaviours and health history, and their level of preparation for the surgical experience and home recovery. The postoperative questionnaires measured participants' perceptions of the recovery process including clinical problems experienced, resources used, impact of the surgery on lifestyle, satisfaction with the DS experience and re evaluation of their educational preparation. For most questions the response formats ranged from yes–no to variable response formats. Participants responded to open-ended questions which ranged from entering a number (e.g. the average number of cigarettes smoked in a 24-h period) to describing the characteristics and location of a symptom or commenting on any aspect of the DS experience.

Consultations with other researchers and the clinicians involved with the project during the pilot study were conducted to improve the instruments' content validity. An overall reliability coefficient was not calculated because of the variable response mode of the items.

2.4. Analyses

Basic descriptive statistics were performed on items with interval data. Categorical data were classified by frequencies. Selected interval variables such as age were recoded into categorical variables. Where indicated by cross-tabulations, χ^2 -tests were conducted to determine whether an association existed between categorical variables.

3. Results

3.1. Demographic profile

The 100 participants' ages ranged from 19 to 81 years, with a mean of 54.3 (S.D. = 15.7). A total of 65% were employed full-time (23% self-employed), 21% were retired, 9% were pensioners, and the remaining 5% were employed part-time, unemployed, studying full-time or doing voluntary work. Participants were asked to identify their highest level of formal education—28% had a

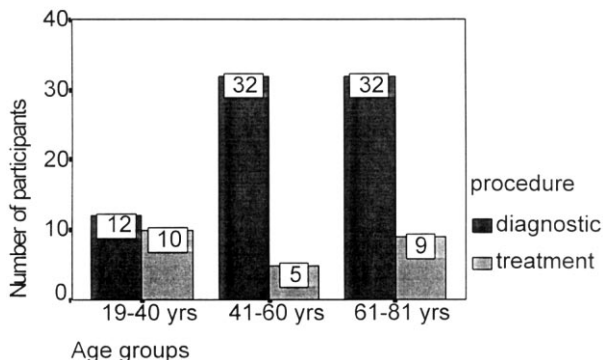


Fig. 1. Number of participants having a diagnostic or treatment cystoscopy in the different age groups ($n = 100$).

university degree, 22% had a technical (TAFE) certificate, 20% had completed their school certificate or equivalent, 19% had completed a high school certificate or equivalent, 10% had only attended primary school, and one participant reported no formal education.

Almost half of the sample (49.5%) had not been admitted to day surgery in the last 2 years, 26.3% had been admitted once and 23.2% had had day surgery more than twice in the 2 preceding years. A larger percentage of older participants than younger participants had previous DS experience, but no significant relationship was found between age and DS experience.

A total of 76 participants had a diagnostic cystoscopy, the remaining 24 participants had some form of treatment (e.g. diagnostic cystoscopy and vasectomy, diagnostic cystoscopy and removal of stent). The number of participants in the different age groups having diagnostic or treatment cystoscopies is presented in Fig. 1.

There was a significant association between age and procedure performed. The young participant group had more treatment cystoscopy than the older participants ($\chi^2 = 7.88$, $df = 2$, $P < 0.05$).

Smoking, drinking and exercise habits were investigated and a combined score was worked out with lower values representing healthier behaviours [11]. Scores ranged from 0 to 270 with a mean of 88.7 and a standard deviation of 58.94 showing that a substantial proportion of the sample regarded their lifestyle behaviours as healthy.

Table 1
Participants' perception of their physical, psychological and overall health

Perception	Physical ($n = 99$) (%)	Psychological ($n = 97$) (%)	Overall ($n = 99$) (%)
Very poor/poor	12.1	3.1	4.0
Fair	35.4	25.8	25.3
Good	44.4	53.6	59.6
Excellent	8.1	17.5	11.1

The participants' perceptions of their physical, psychological and overall health were determined (Table 1). They were asked to report any physical illnesses and psychological conditions they had experienced in the previous year, as well as any medications they were taking at the time of the interview.

Altogether, 35 men said they had had no physical problems, 52 had one or two problems and eight men had more than two problems. Hypertension was the comorbidity most frequently reported (21 participants), followed by arthritis (18), cancer and circulatory problems (ten each). No relationship was found between the presence and number of comorbidities and the length of recovery.

The most frequently identified psychological problem was anxiety (69% of participants), but only 18 participants said they were often or always anxious. No relationship between anxiety and the length of recovery was found. A total of 62 participants said that tiredness was a problem, but this symptom was not significantly related to other variables.

Finally, 45 participants were not taking any medications, 30 men were taking one, 14 were taking two, and nine were taking three or more. The most frequently reported medication was for hypertension (21), followed by coronary/cardiac medication (nine) and medication for depression/anxiety, constipation, hyperglycaemia and anticoagulants (five each).

3.2. Expectations of the recovery process prior to surgery

When participants were asked how long they thought it was going to take them to resume their usual activities, 69% said a few hours to 1 day, 10.3% thought it would take 2 days, and 8.2% said 3 or more days (refer to Table 6 for a comparison between expected recovery time and actual recovery time). Altogether 33% of employed participants had not planned to take any time off from their usual employment following the procedure. A total of 11 participants did not know how long their recovery was going to take. Surprisingly, these men were more likely to have had previous DS experience and to be having a diagnostic cystoscopy. Men with previous DS experience who did not know how long it was going to take them to recover from DS were older than those with no previous DS experience.

Table 2
Preoperative educational preparation

Type of information	Yes ^a (%)	No ^b (%)	Who ^c
Written information about DS (<i>n</i> = 100)	71	29	Surgeon, <i>n</i> = 36; DS staff (nurse/other), <i>n</i> = 33; > 1 source, <i>n</i> = 3
Verbal information about DS (<i>n</i> = 99)	58	42	Surgeon, <i>n</i> = 33; DS staff (nurse/other), <i>n</i> = 26; > 1 source, <i>n</i> = 11
Written information about procedure (<i>n</i> = 98)	22	78	Surgeon, <i>n</i> = 12; DS staff (nurse/other), <i>n</i> = 6; > 1 source, <i>n</i> = 2
Verbal information about procedure (<i>n</i> = 100)	67	33	Surgeon, <i>n</i> = 52; DS staff (nurse/other), <i>n</i> = 14; > 1 source, <i>n</i> = 12
Participant felt had received enough information (<i>n</i> = 97)	60	37% would have liked more information about the procedure and/or the recovery process	

^a Percentage of participants who received information.

^b Percentage of participants who did not receive information.

^c Information provider.

3.3. Preoperative and postoperative educational preparation

The type of information regarding the participants' preparation for the DS experience as well as the most important sources of information are reported in Table 2. Some participants received more than one type of information.

Participants were also asked if they felt they had received enough information or if they would have liked more information about anything in particular. There is a significant relationship ($\chi^2 = 10.70$, *df* = 1, *P* = 0.01) between the participants' perception of the adequacy of preoperative information and how participants felt before the operation. Those participants who had received enough information were more likely to feel indifferent or relaxed before the operation, while those who would have liked more information were more likely to feel anxious or frightened before the procedure. This significant relationship persists when controlling for participants' DS experience.

During the first postoperative telephone follow up participants were asked to rate the quality of the information they had received preoperatively (Table 3). There were differences but no significant relationships between these findings and what participants said preoperatively about their level of preparation for the operation. It is interesting to note that a higher percentage of those who said preoperatively that they would have liked more information, when questioned postoperatively rated the preoperative information as insufficient (26%). A total of 33% of those who preoperatively said they had received enough information postoperatively rated the information provided preoperatively as excessive.

Participants were asked to identify the sources of information about recovery, the time this had been made available to them and its usefulness (Table 4).

While some participants received information from only one source others said that they had received it from two (36%) or three sources (12%). Most participants found the information useful (41%) or very useful (49%). However, 4% did not find it useful. A total of 37 participants commented about other information they would have liked to receive preoperatively and 12 wanted to know how the procedure was done, twelve what to expect (postoperative symptoms, length of recovery), four why the procedure was needed and four more information about the anaesthesia. Concerns over actual costing details of the procedure and the location of the DS unit were noted. The majority of participants (94%) said that they would choose DS again for the same or a similar procedure.

3.4. Postoperative symptoms

In a previous study by the authors [9] four postoperative symptoms (pain, bleeding, tiredness and problems with voiding) were identified as causing concern. During the first postoperative telephone follow up, participants were asked if they had any symptoms, and if so, how intense had the symptom been. They were also asked, if they expected to have any symptoms, what measures had they taken for relief if these had been effective (Table 5). They were asked if they had experienced problems with or while doing certain activities (e.g. urinating, having sexual intercourse). The most frequently reported symptoms were mild bleeding and pain associated with voiding, some participants perceived these symptoms to be more intense than what they expected. Ten participants described symptoms of concern arising between the 1st and the 3rd postoperative week, but they had recovered by the second postoperative interview.

Pain was reported by 37% of participants. The location and characteristics of pain were strongly related to voiding. The majority of participants (64.9%) experi-

Table 3
Participants' postoperative evaluation of preoperative educational preparation ($n = 94$)

Perception of preoperative information	Postoperative evaluation of preoperative information		
	Insufficient	Adequate	Excessive
Have received enough information	10	57	33
Would have liked more information	26	56	18

enced the most severe pain on the first evening. Ten men (28%) said that it had taken them 24 h to be pain free. A further 27% were pain free by 48 h. The majority (70.3%) were pain free by the time of the first postoperative phone interview. Panadol[®] and Ural[®] were the medications usually given or suggested to participants for pain relief. Other measures mentioned were to drink lots of water and to try to occupy their minds in something different like gardening or walking. Overall, 20 of the 37 participants reporting pain took measures to relieve it and 16 reported these had been effective.

A non significant association was found between both the reason for the DS procedure (diagnosis or treatment) and DS experience and the report of pain. A total of 46% of those having a treatment cystoscopy reported pain as compared to 34% of those having a diagnostic procedure only; 41% of those with no previous DS experience reported pain while 34% of those with previous DS experience reported pain. Of those who experienced pain, 81% said that they expected it; 54.1% rated their pain as mild and 32.4% said that the pain was more than expected. Of those without DS experience, 60% identified the pain as intense as they had expected, compared to 35.5% of those with DS experience. In addition, 65% of those with no DS experience rated their pain as mild compared to 41.2% of those with DS experience.

The participants' perception of their level of preparation is significantly related to the intensity of pain. Those who said that they had received enough information were more likely to rate their pain as mild than

those who said that they would have liked more information ($\chi^2 = 6.05$, $df = 2$, $P < 0.05$). A higher percentage of participants who wanted more information said that pain was more than expected than those participants who felt that they had received enough information (13.9% of those who wanted more information as compared to 10% of those who felt had received enough).

Altogether, 44 participants reported bleeding. The most intense bleeding was experienced on the first evening (71%). Regarding the bleeding characteristics 71% said that it was just blood, while the remaining 29% said that they had bleeding with clots. In 50% of cases the bleeding had stopped by 24 h, with a further 23% of participants reporting that it had stopped by 48 h post operation. Six participants were still bleeding by the time the first postoperative phone interview was conducted; one of them did not feel completely recovered from his surgery by the time of the second phone interview (postoperative day 21). A total of 57% of participants (25) who bled reported they had not been given instructions as to how to deal with bleeding. Some 15 participants took measures aimed at relieving the symptom, and in most cases these measures consisted of drinking lots of water. Four participants had been told to contact the DS unit or the surgeon if the bleeding was too severe or took longer than expected. One participant asked his general practitioner for postoperative advice.

Of the participants undergoing a treatment cystoscopy, 50% reported bleeding, while 42% of those having a diagnostic procedure reported bleeding. No significant association (0.05 level) was found between bleeding and the type of cystoscopy. Of participants who reported bleeding, 68% said that they expected to bleed. Of participants who perceived their level of preparation to be appropriate, 81% rated their bleeding as mild as compared to 50% of those who would have liked more information. Altogether, 23% of participants reporting bleeding said that it was more than what they had expected. Of those without DS experience, 27% experienced bleeding as intense as they had expected compared to 21% of those with DS experience. In addition, 15% of those with DS experience said that the bleeding was more intense than expected, as compared to 6% of those without previous DS experience.

Table 4
Information about recovery for 100 participants

Type, time and source of information about recovery	Participants (n)
Written instructions from DS unit	34
Verbal information 1 week before surgery from surgeon	21
Verbal information minutes before surgery (DS nurse or surgeon)	10
Verbal information minutes after surgery (DS nurse or surgeon)	51
Did not recall receiving information about recovery	24

Table 5
Postoperative symptoms of concern

Symptoms	Yes (%)	Severity (%)	Greater than expected (%)	Used remedy (%)	Who devised
Pain (n = 100)	37	Mild, 54.1 Moderate, 24.3 Severe, 21.6	32.4	54.6	DS nurse (n = 5) Surgeon (n = 2)
Bleeding (n = 100)	44	Mild, 65.9 Moderate, 20.5 Severe, 11.4	22.7	34.1	Surgeon (n = 10) DS nurse (n = 8) DS leaflet (n = 1) GP (n = 1) DS leaflet (n = 4)
Tiredness (n = 100)	16	Mild, 25 Moderate, 43.9 Severe, 35.1	12.5	31.3	
Problems w/ voiding (n = 97)	45	Mild, 66.7 Moderate, 17.8 Severe, 15.6	Pain was often present while voiding. Descriptions ranged from “sharp pain, like being cut by razor blades” to “only a sting when urinating”.		

3.5. Recovery duration

The vast majority of subjects (85%) had recovered by postoperative day 3 or 4 (Table 6). Just over half of the participants (53%) recovered within the time-frame they had anticipated. This was more likely if participants had previous DS experience (56.5% of those with previous DS experience as compared to 37.8% of those without DS experience). This association is significant ($\chi^2 = 11.27$, $df = 1$, $P < 0.01$).

No significant relationship was found between age and recovery duration. When controlling for procedure performed at DS, there is a significant relationship between age group and recovery duration among those having a diagnostic cystoscopy. A total of 67% of participants in the older age group recovered within 24 h as compared to 38.7 and 27.3% in the other two age groups ($\chi^2 = 7.14$, $df = 2$, $P < 0.05$). A higher percentage of 19–40-year-old participants received treatment while more of the older participants had diagnostic

Table 6
Comparison between expected and actual recovery duration

Recovery duration	Expected recovery duration (n = 97) (%)	Actual recovery duration (n = 94) (%)
Hours	16.5	22.3
1 Day	52.6	24.5
2 Days	10.3	17.0
3–6 Days	5.1	22.4
≥ 7 Days	3.1	13.8
Didn't know	11.3	
Recovery time depends on operation	1.0	

cystoscopies (Fig. 1). Readmission rates were very low with only three participants being admitted to hospital following their cystoscopic DS. One participant was admitted to undergo treatment as a result of the findings of his diagnostic cystoscopy, another for a urinary tract infection and the third participant was admitted to hospital for bowel obstruction.

3.6. Advice sought during recovery at home

General practitioners were the most often reported source of advice, followed by surgeons (Table 7).

Altogether, 32 participants asked for advice from different sources. Six participants asked for advice from more than one source. No association was found between the participants' DS experience and their likelihood to seek advice, even when controlling for the presence of symptoms of concern during the recovery

Table 7
Number of participants who sought advice from different sources as reported at first and second postoperative phone interviews (n = 100)

Source of advice	First postoperative phone interview	Second postoperative phone interview
GP	8 ^a	10 ^a
Surgeon	5 ^b	8 ^b
DS unit nurse	6	2
E dept. Nurse	1	2
Chemist	1	2
Family	1	Nil
Friend	4	Nil

^a Two of these participants were the same, they asked the GP for advice on both occasions.

^b One of these participants asked the surgeon for advice in the two occasions.

period. A significant relationship was found between the participants seeking advice from any source and the level of preparation for the DS experience. A higher percentage of participants who would have liked to receive more information (47.2%) than participants who felt they had received enough information (21.7%) sought advice during their recovery at home ($\chi^2 = 6.84$, $df = 1$, $P < 0.01$). When controlling for the presence of symptoms of concern, the significant association only persists for those who presented with symptoms postoperatively ($\chi^2 = 6.04$, $df = 1$, $P = 0.05$). When controlling for previous DS experience, the significant association between participants' level of preparation and seeking advice only persisted for those with previous DS experience ($\chi^2 = 8.52$, $df = 1$, $P < 0.01$). Not surprisingly, there is a significant association between the likelihood of seeking advice during the recovery phase at home and the presence of symptoms ($\chi^2 = 8.80$, $df = 1$, $P < 0.01$). Three participants who did not present symptoms during recovery reported seeking advice; one from his GP, another from a friend who was a GP and the third from the surgeon. In addition, there is a significant association between recovery duration and participants seeking advice ($\chi^2 = 19.68$, $df = 3$, $P < 0.001$). No significant relationship was found between participants' age and seeking advice.

4. Discussion

This study indicates that men having cystoscopic DS consider they were well served by the process. Men preferred DS to full hospital admission because of the limited time involved in obtaining a health related outcome which minimally disrupted their lifestyles. The study highlighted the safety, low complication and readmission rate of this procedure. Adequate patient education, particularly for first timers, was an important aspect of the findings. Men who received information about the DS procedure were less anxious than their peers who said they had received insufficient information. Being sufficiently informed appeared to give participants expectations about the procedure, the outcome and the recovery, which enabled them to formulate their responsive behaviours. While the study found that 34 participants were given written information, 24 participants (almost a quarter of the sample) stated they did not recall any information having been given to them. It cannot be inferred that information was not provided to participants. It may be that they could not recall information due to anxiety. It is for this reason that the research team considers written information to be so significant. Additionally, the provision of an opportunity for participants to reflect on, to discuss and

clarify information with a health professional should also be addressed in the ambulatory surgery context where the access to professional assistance during the recovery period is minimal.

The value of effective information was reflected in the significant difference between participants who received sufficient information and who rated their pain as mild, while those who received insufficient information rated their pain as moderate to severe. Of participants who bleed postoperatively, 57% were not told how to deal with bleeding. Even participants with substantial experience with cystoscopy should be instructed on postoperative management. As cystoscopy is considered to be a simple procedure it is important for health professionals to be reminded of the benefits of effective education to the recovery process.

Preadmission clinics should be considered an essential component of the DS process. Health care professionals working in these venues perform preoperative patient assessment and provide patients with written and verbal information. In addition, patients have the opportunity to reflect on and discuss unclear aspects of the DS process, while staff have the chance to evaluate patients' expectations of recovery from surgery. This can be followed by instructions for the recovery at home that are practical and specifically applied to the patient and the procedure. This need to provide comprehensive, individualised information on recovery will become increasingly important as more complex procedures are performed on less healthy patients.

Acknowledgements

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