

# Uptake, views, opinions and practice of same-day discharge following total laparoscopic hysterectomy: a national survey of UK gynaecologists

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## ABSTRACT

**Background:** Total laparoscopic hysterectomy (TLH) is associated with reduced post-operative pain and enhanced recovery, allowing same-day discharge (SDD). However, adoption of SDD TLH is not established, and practice varies.

**Objectives:** To conduct a national survey of UK gynaecologists with an interest in laparoscopic surgery to obtain their views, opinions and experience of SDD TLH.

**Methods:** Members of the British Society for Gynaecological Endoscopy were invited to complete an online questionnaire between January 2023 and January 2024.

**Main Outcome Measures:** The questionnaire consisted of 16 questions about SDD TLH covering three domains: (i) service provision, (ii) prognostic variables and (iii) information giving and education.

**Results:** One hundred and forty-eight clinicians from 148/215 NHS hospitals (69%) responded. One hundred and thirty one (89%) respondents thought that SDD following TLH was beneficial, and 48 (32%) hospitals had an established service. Adequate pain control was considered the most important factor to achieve SDD TLH, followed by control of nausea and vomiting. Seventy-eight (53%) respondents removed the urinary catheter at the end of the procedure. All respondents believed that managing patients' expectations was important to achieve compliance with SDD and 123 (83%) thought that developing an online preadmission patient information resource was needed.

**Conclusions:** One third of UK NHS hospitals have a SDD TLH service but there is variation in availability and protocols (pre-, peri- and post-operative management). These data can help develop health service strategy to promote SDD after TLH and standardise protocols.

**What is New?** The survey quantifies and demonstrates hospital-level variation in uptake and practice of SDD provision after TLH.

**Keywords:** Same-day discharge, laparoscopic hysterectomy, questionnaire, SDD pathway

## Introduction

Total laparoscopic hysterectomy (TLH) is replacing abdominal approach to hysterectomy as the standard of care due to its less invasive nature allowing reduced intra-operative blood loss, post-operative pain and

length of stay.<sup>1,2</sup> Capitalising upon this enhanced recovery, there has been a move to same day discharge after TLH,<sup>3</sup> other types of laparoscopic hysterectomy (LH)<sup>4,5</sup> and vaginal hysterectomy<sup>5</sup> thereby avoiding overnight hospital stay and optimising the use of

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scarce healthcare resources. Previous research has shown that day-case TLH does not compromise patient care compared to conventional discharge practices and is associated with an increase in patient satisfaction.<sup>6-8</sup> Patient characteristics contributing to the success of day-case hysterectomy, that is discharge on the same day, include younger age, lower body mass index and reduced co-morbidity scores.<sup>9,10</sup> Surgical factors increasing compliance with same-day discharge (SDD) include greater surgeon experience, reduced operating times and aspects of surgical technique such as using low operating pressures no higher than 8-11 mmHg.<sup>6,7,12</sup> The barriers to SDD identified in the literature include post-operative pain and nausea and vomiting (N&V)<sup>11</sup> and urinary retention, which were more likely with longer operating time, greater blood loss and more intra-operative opioid use.<sup>10</sup>

Thus, in addition to patient selection and surgical proficiency, standardised protocols and pathways for pre-, peri- and postoperative care appear to be important to increase the likelihood of safe and successful SDD. Implementation of such pathways can be relatively quick and successful.<sup>3,13</sup> Nensi et al.<sup>7</sup> reported an increase in their SDD rate from 18% prior to introduction of a SDD pathway, to 79% after implementation of the pathway, without any significant differences in peri-operative complications, readmission rates or patient satisfaction. While the literature seems to support the introduction of SDD TLH pathways, SDD has not yet been adopted as the standard of care in the UK or internationally.<sup>24</sup> In the UK, the National Health Service (NHS) - "Getting It Right First Time (GIRFT)" initiative is promoting SDD for a number of common gynaecological operations, including LH, where SDD rates of 50% have been proposed as achievable across the country.<sup>14</sup>

We, therefore, undertook a national survey to understand the prevalence of established SDD services for TLH in UK NHS hospitals and the proportion of hospitals planning to introduce such services. In addition, we sought UK gynaecologists' views and experiences of SDD for TLH, including key clinical and educational components of SDD pathways, to optimise the success of such pathways and their implementation.

## Methods

We conducted an online survey in the UK of members of the British Society for Gynaecological Endoscopy (BSGE) about SDD TLH services. They were invited to share their

views, opinions and experience of SDD TLH. Access to the survey, a link and/or QR code to the online software provider "SurveyMonkey" was advertised online and through a press release in the BSGE "Scope" newsletter (Issue 21).<sup>15</sup> The survey was open from January 2023 to January 2024. The questionnaire was developed through a literature review to understand the existing practice regarding SDD TLH. The survey was reviewed by a focus group discussion, including doctors who are experts in the field of minimally invasive surgery. The questionnaire was evaluated for relevance and face validity by a team of five experts representing the officers of BSGE and the editor of the BSGE "Scope" newsletter.

The aim was to gain the views, beliefs, opinions and practice of UK gynaecologists with an interest in endoscopic surgery on SDD TLH. The acquired information could then be used to plan and standardise future service development, including SDD pathways with the aim of improving compliance with SDD TLH, patient experience and clinical outcomes.

The survey comprises 16 mandatory questions including exclusive and non-exclusive categorical responses as well as hierarchical responses (scale 1 to 5 in importance). The option of an open "free text" reply was restricted to three questions in order to enhance speed of completion of the survey and thus response. The online survey was split into three domains. The first domain enquired about the SDD *service provision*: prevalence of SDD services, plans to set up such services, availability of specific protocols and infrastructure including use of dedicated SDD units and specialist nursing roles for discharge and follow up. The second domain focused on *prognostic variables*: views and opinions about the relative importance of patient expectations and clinical factors such as pain, N&V, early mobilisation, introduction of diet and timing of urinary catheter removal. Their surgical practice regarding peri-operative insufflation pressures and protocols for post-operative local anaesthesia and analgesia was also asked about in this domain. The third and final domain sought views on *information giving and education*: pre-admission information and potential value of developing bespoke online resources.

While we were interested in the views and experiences of individual clinicians, we recorded the NHS hospitals they worked in to provide an accurate denominator at the hospital level to estimate the rate of SDD services across the UK. If more than one clinician replied from a specific hospital, we selected the first response. All information

collected through the survey was anonymous. A full list of the survey questions is available in Figure 1.

## Results

### Service Provision

One hundred and seventy-one clinicians registered as BSGE members from 148/215 (69%) NHS hospitals in the UK responded to the survey. The full list of responses to the 16 survey questions posed is available in Supplementary Table 1. 131 (89%) of respondents thought that SDD following TLH was beneficial for eligible patients and 48 (32%) of hospitals had already set up an SDD TLH service with a further 53 (36%) in the process of setting up a service. 61/148 (41%) of respondents confirmed they had established a specific protocol for their implemented or proposed SDD TLH service. Fifty-nine/148 (40%) had a dedicated unit or area within their hospital (e.g. Day Surgery Unit) for patients undergoing SDD TLH. 85 (57%) of hospitals had pathways that included nurse-led discharge, i.e. nurses can make the decision that a patient is fit for discharge according to the specified discharge criteria.

The majority of survey respondents (126, 85%) reported provision of phone numbers to patients as a form of contact option within the first few days following discharge from the hospital after an SDD TLH (Table 1).

### Prognostic Variables

All respondents agreed that patients' expectations about their duration of stay on admission to hospital was important, with 134 (91%) feeling that this was very important. We also asked BSGE survey respondents to rank (1 = most important; 5 = least important) the relative importance of the following clinical factors to facilitate SDD after a TLH: control of pain, control of N&V, early mobilisation, early introduction of diet and early removal of the urinary catheter. Adequate control of pain scored the highest ranking amongst all respondents [mean: 4.4; standard deviation (SD): (16.0), followed by adequate control of N&V (mean: 3.14; SD: (19.6)] (Table 2).

Half of the respondents (78, 53%) reported removing the urinary catheter at the end of the procedure to facilitate SDD (Figure 2). The majority of respondents (138, 93%) use a pneumoperitoneal pressure of either 12 mmHg or 15 mmHg to achieve SDD TLH. Cutaneous ports post-incision was the most used local anaesthetic in 94 (64%) to reduce postoperative pain following planned SDD TLH (Figure 3). Non-opioids were the most popular routine post-operative analgesia (112, 76%), followed by opioids in 77 (52%) amongst respondents. Nine (6.1%) respondents used continuous patient-controlled analgesia opioid.

Same Day Discharge (SDD) Total Laparoscopic Hysterectomy (TLH) Quality Improvement Question Initiative Questionnaire	
<p>1. Do you think a SDD TLH service is beneficial for eligible patients?</p> <ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> <li>• Don't know</li> </ul> <p>2. Are you currently setting up or planning to set up a SDD TLH service?</p> <ul style="list-style-type: none"> <li>• Have set up a service already,</li> <li>• Yes</li> <li>• No</li> <li>• Don't know</li> </ul> <p>3. Do you have a specific protocol / pathway for the implementation of SDD for TLH in your hospital?</p> <ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> <li>• Don't know</li> </ul> <p>4. Do you have a dedicated unit or area within your hospital (e.g. day surgery unit) for patients undergoing SDD TLH?</p> <ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> <li>• Don't know</li> </ul> <p>5. Does your hospital's service pathway include nurse-led discharge (i.e. nurses can make the decision that a patient is fit for discharge e.g. based upon set criteria)?</p> <ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> <li>• Don't know</li> </ul> <p>6. What contact options are patients provided with in the first few days following discharge from hospital after a SDD TLH? (tick all that apply)</p> <ul style="list-style-type: none"> <li>• Phone numbers</li> <li>• Text (SMS) numbers</li> <li>• On-line contact (e.g. web address)</li> <li>• Pro-active phone call from a member of the clinical team</li> <li>• Pro-active text (SMS) from a member of the clinical team</li> <li>• Pro-active text on-line contact (e.g. email) from a member of the clinical team</li> </ul> <p>7. To what extent do you think a patient's expectation, about their duration of stay on admission to hospital, is important to achieve SDD TLH procedures</p> <ul style="list-style-type: none"> <li>• A lot</li> <li>• A little</li> <li>• Not at all</li> </ul> <p>8. Please rank the relative importance of the following clinical factors to facilitate SDD after a TLH (1 = most important; 5 = least important)</p> <ul style="list-style-type: none"> <li>• Adequate control of pain</li> <li>• Adequate control of nausea and vomiting</li> <li>• Early mobilisation</li> <li>• Early introduction of diet (eat and drink)</li> <li>• Early removal of the urinary catheter</li> </ul> <p>9. When do you ideally take the catheter out following TLH to facilitate SDD?</p> <ul style="list-style-type: none"> <li>• At the end of the procedure</li> <li>• After 2-4 hours</li> </ul>	<ul style="list-style-type: none"> <li>• After 6 hours</li> <li>• Patients are sent home with the catheter in situ</li> </ul> <p>10. What pneumoperitoneal pressures do you routinely target and achieve for the majority of a TLH? (tick all options that apply)</p> <ul style="list-style-type: none"> <li>• 15 or higher?</li> <li>• 12mm</li> <li>• 10mm</li> <li>• 8mm</li> <li>• 6mm</li> </ul> <p>11. What type of local anaesthetic do you use routinely use to reduce postoperative pain following planned SDD TLH? (tick all options that apply)</p> <ul style="list-style-type: none"> <li>• Cutaneous ports pre-incision</li> <li>• Cutaneous ports post-incision</li> <li>• Laparoscopic transverse abdomen plane (LTAP) blocks</li> <li>• Regional anaesthetic</li> <li>• I do not use local anaesthetic</li> <li>• Other (please specify) _____</li> </ul> <p>12. What type of analgesia do you routinely use to reduce postoperative pain following planned a SDD TLH?</p> <ul style="list-style-type: none"> <li>• Non-opioids</li> <li>• Opioids</li> <li>• Continuous PCA opioid</li> <li>• Other (please specify) _____</li> </ul> <p>13. Do you think that developing an online pre-admission information resource for patients listed for a TLH could help compliance with SDD for eligible patients?</p> <ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> <li>• Don't know</li> </ul> <p>14. If we were to develop an online resource to pilot for patients who are waiting for a SDD TLH, how do you think this should be provided?</p> <ul style="list-style-type: none"> <li>• A live, structured 'educational class' (e.g. over zoom) that allows the opportunity for attendees to ask questions ('Q&amp;A') run by the local clinical team</li> <li>• A pre-recorded educational class (e.g. over zoom) accessible on demand but without the opportunity for attendees to ask questions (but FAQs with answers provided)</li> <li>• No preference for either suggestion</li> <li>• No need to provide information like this (i.e. you do not consider such resources necessary and / or practical)</li> </ul> <p>15. If you did not answer 'yes' to the question above, can you explain why? (tick all options that apply)</p> <ul style="list-style-type: none"> <li>• Not applicable</li> <li>• Lack of resources</li> <li>• Lack of expertise</li> <li>• Lack of support from management</li> <li>• Lack of support from clinicians</li> <li>• Lack of evidence for benefit</li> <li>• Not a clinical priority</li> <li>• Other (please specify) _____</li> </ul> <p>16. If you agree that a SDD TLH service is important, how helpful do you think, some sort of upliftment tariff or some sort of financial incentive to Trusts would be, in driving the uptake and adoption of a SDD TLH Services across hospitals in the UK?</p> <ul style="list-style-type: none"> <li>• A lot</li> <li>• A little</li> <li>• Not at all</li> </ul>

Figure 1. Same day discharge following total laparoscopic hysterectomy survey (distributed online-SurveyMonkey).

**Table 1.** What contact options are patients provided with in the first few days following discharge from 148 hospitals after an SDD TLH? (more than one response allowed).

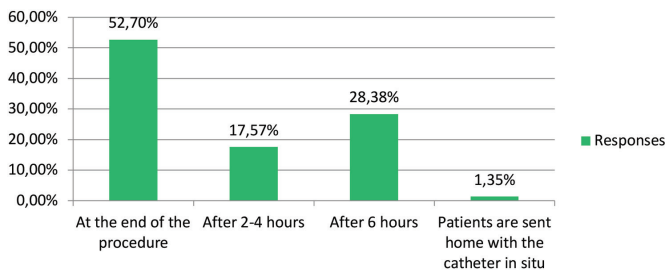
Answer choices	Responses	
Phone numbers	126	85.1%
Text (SMS) numbers	9	6%
online contact (e.g. web address)	20	14%
Pro-active phone call from a member of the clinical team	54	36.5%
Pro-active text (SMS) from a member of the clinical team	6	4.1%
Pro-active on-line contact (e.g. email) from a member of the clinical team	4	2.7%

SDD: Same day discharge, TLH: Total laparoscopic hysterectomy, SMS: Short message service.

**Table 2.** Ranking of the relative importance of the clinical factors facilitating SDD after a TLH from 148 respondents representing 148 UK hospitals. (1 = most important; 5 = least important).

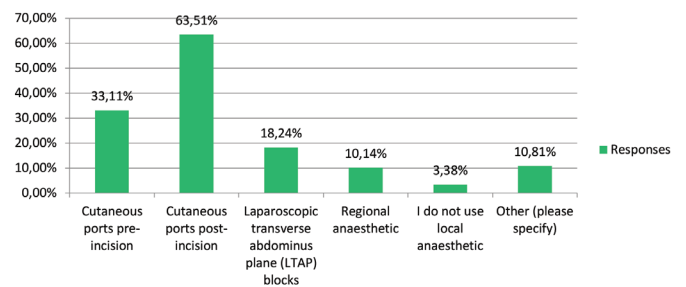
Answer choices	1	2	3	4	5	Mean score (SD)
Adequate control of pain	105 (70.9%)	18 (12.2%)	10 (6.8%)	9 (6.1%)	6 (4.1%)	4.40 (16.0)
Adequate control of nausea and vomiting	7 (4.7%)	63 (42.6%)	38 (25.7%)	24 (16.2%)	16 (10.8%)	3.14 (19.6)
Early mobilisation	9 (6.1%)	29 (19.6%)	53 (35.8%)	41 (27.7%)	16 (10.8%)	2.82 (16.0)
Early introduction of diet (eat and drink)	9 (6.1%)	8 (5.4%)	18 (12.2%)	46 (31.1%)	67 (45.3%)	1.96 (23.2)
Early removal of the urinary catheter	18 (12.2%)	30 (20.3%)	29 (19.6%)	28 (18.9%)	43 (29.1%)	2.68 (8.0)

SD: Standard deviation, SDD: Same day discharge, TLH: Total laparoscopic hysterectomy, SMS: Short message service.



**Figure 2.** Removal of urinary catheter timing following TLH to facilitate SDD (148 hospital respondents)?

TLH: Total laparoscopic hysterectomy, SDD: Same day discharge.



**Figure 3.** Type of local anaesthetic routinely used to reduce postoperative pain following planned SDD TLH? (148 hospital respondents - more than one response category allowed)

TLH: Total laparoscopic hysterectomy, SDD: Same day discharge.

### Information Giving and Education

The majority of respondents (123, 83%) thought that developing an online pre-admission information resource for patients listed for a TLH could help compliance with SDD in eligible patients. We sought views about preferences and support for the development of an online resource for patients awaiting an SDD TLH (Table 3). Half of the respondents, 75 (51%), believed that a pre-recorded educational class (e.g. video conferencing platforms) accessible on demand, incorporating "frequently asked questions" with answers provided, would be the most

beneficial online resource to pilot for patients who are waiting for a SDD TLH. We also asked respondents to rank reasons why they thought the development of a patient's pre-admission information resource might not be helpful. Ninety-eight (66%) did not think this contention was applicable. Of the 50 respondents providing a response (more than one response category allowed), lack of resources was ranked by 17 (34%) as the main obstacle, followed by lack of support from management (13, 26%), lack of evidence for benefit (11, 22%), non-clinical priority (9, 18%) and lack of resources (17, 34%).

**Table 3.** Views on the development of a proposed online resource for patients awaiting an SDD TLH (148 hospital respondents).

Answer choices	Responses	
	A live, structured 'educational class' (e.g. over Zoom) that allows the opportunity for attendees to ask questions ('Q&A') run by the local clinical team	37
A pre-recorded educational class (e.g. over zoom) accessible on demand but without the opportunity for attendees to ask questions (but FAQs with answers provided)	75	50.7%
No preference for either suggestions	27	18.2%
No need to provide information like this (i.e. you do not consider such resources necessary and/or practical)	9	6.1%

SDD: Same day discharge, TLH: Total laparoscopic hysterectomy, FAQs: Frequently asked questions.

Overall, 104/148 (70%) of respondents agreed that providing an upliftment in the funding tariff or some sort of financial incentive would be helpful in driving the uptake and adoption of a SDD TLH services across hospitals in the UK.

## Discussion

### Principal Findings

This national survey provides an insight into the opinions, views and beliefs of UK gynaecologists with an interest in endoscopic surgery about service provision, prognostic variables and information/education as well as current implementation and plans for implementation of SDD TLH. If the uptake of LH is expected to follow a similar trajectory to other minimally invasive surgical techniques, it is reasonable to anticipate increased adoption as more evidence supports its benefits, including quicker recovery times and reduced hospital stays. Almost 90% of respondents thought that SDD TLH was beneficial for patients. While the concept of SDD TLH following LH service has been established to be safe and feasible,<sup>3,6,16</sup> we found that it is only implemented by one third of hospitals surveyed, although another third is planning to set up the service. Surprisingly, more than half of hospitals did not have a dedicated unit or area for day-surgery, a deficiency that may be holding back service implementation. As regards prognostic factors to improve the success of SDD TLH, all respondents agreed that patients' expectation about their duration of stay on admission to the hospital was important, implying that patient information and education are a key facet of SDD TLH pathways.

Although most respondents removed the urinary catheter at completion of surgery, used post-operative local anaesthesia to port sites and a mixture of opioid and non-opioid analgesia, it was interesting to note that there

was substantial variation in protocols for management of the bladder and post-operative pain. Follow up protocols varied with only the minority of providers pro-actively contacting patients by phone or SMS at home post-operatively, to support the SDD service. The majority of respondents believed that the development of online patient friendly information/education resources to support SDD TLH could help compliance and satisfaction.

### Strengths and Limitations

Surveys provide evidence on practice, attitudes, and knowledge. To the best of our knowledge, there is no comparable national survey addressing discharge concepts following LH. For the first time, this survey provides data on the opinions, beliefs and practices of SDD TLH services from gynaecologists with an interest in endoscopic surgery across the UK. The survey includes data from 69% of UK hospitals from BSGE-registered gynaecologists in the UK. The response rate and UK hospital representation are good. Non-response bias, which arguably affects the external validity of our findings, is present to some degree, but there is no agreed-upon standard for acceptable response rates.<sup>17</sup> Response rates of between 50% and 75% are generally considered acceptable to be representative and valid.<sup>18-20</sup> While we believe our hospital response rate to be good, at the time of the survey the BSGE had approximately 1400 gynaecologist members. We did receive responses from 171 members, but this equates to only 12% of members who are gynaecologists. Thus, a repeat, wider survey, with a better individual response rate would allow for a more in-depth evaluation of the beliefs and opinions of relevant clinicians.

### Implications for Clinical Practice

Successful discharge post-surgery of any type requires a clinically stable patient capable of managing, with some support, in their home environment. This means the



ability to control pain to allow mobilisation and comfort and to treat N&V, such that an oral diet is possible. Proficient laparoscopic surgery utilising the most effective technologies reduces intra-operative trauma, complications and post-operative pain.<sup>21</sup> However, the conduct of the operation, whilst of fundamental importance, is only one factor that will influence compliance with SDD and patient satisfaction.

Attention needs to be paid to all stages of the patient journey: pre-, peri- and post-operative management. This requires appropriate patient selection, optimisation of health status and education, judicious anaesthetic and surgical management and holistic post-operative care, targeting treatment of pain, N&V and voiding dysfunction, as well as proactive patient follow-up and accessibility. One area of peri-operative practice that our survey revealed was not being implemented was "pressure surgery". Almost all respondents aimed for a pneumoperitoneal pressure of 12 mmHg-15 mmHg despite evidence that low-pressure surgery (6-8 mmHg) facilitated by specialist insufflation systems can reduce post-operative pain and facilitate SDD<sup>22,23</sup> more are important clinical factors to facilitate SDD TLH.

While there is a need for more evidence, there are data identifying pre-, peri- and postoperative factors that can optimise SDD.<sup>24,25</sup> The variation in practice revealed in our national survey shows however, that either the available evidence is being ignored, interpreted differently or is deficient. Surgeons' preference plays a critical role in the implementation of SDD after minimally invasive hysterectomy. While the rehospitalisation rates, postoperative complications and healthcare costs are low in SDD cases,<sup>26,27</sup> concerns about patient safety are preventing its application in over a third of patients.<sup>25</sup> This highlights the need for standardised protocols that outline postoperative monitoring and discharge criteria, ensuring effective communication among healthcare teams and providing comprehensive patient education to prepare patients for discharge and follow up care. It is important to share best practice from all units but especially those hospitals with established and successful units with high rates of SDD TLH, safety and patient satisfaction. In addition, research studies and trials evaluating SDD TLH should be supported so we can better understand the key prognostic components. In the absence of evidence to guide best practice, protocols should be tailored to suit local populations and infrastructure.

While pre- and peri-operative care may vary, it is most likely that it is the post-operative management pathways that dictate the success or failure of SDD TLH. Management of pain, N&V and self-care (mobilisation) are key determinants of suitability for hospital discharge following surgery.<sup>3,5,11,13</sup> Standardisation of post-operative pain control based upon the best evidence is required, and if evidence is lacking to uniform practice then we need to acquire it. It was surprising to see that 10% of units used regional anaesthesia because this impairs early mobilisation and urinary voiding. The use of laparoscopic transverse abdominis plane (LTAP) blocks or local anaesthetics at the port sites has been found to help minimise postoperative pain<sup>3,11</sup> but LTAPs were only routinely used by 18% of respondents.

Opioid and non-opioid analgesia were used post-operatively. We did not ask directly about whether patients were discharged with morphine or other potent opioids. Several publications recommend opioid-free analgesia pathways to facilitate effective implementation of SDD TLH<sup>10,28</sup> and this reflects findings from a meta-analysis<sup>24</sup> that opioid prescribing at surgical discharge does not reduce pain intensity but does increase adverse events. However, other units successfully run SDD TLH services with routine use of opiates as take-home medications<sup>11</sup> and this is commonplace following caesarean section.<sup>29</sup> Observational studies suggest that removing urinary catheters at the end of the surgery help to maximise the chance of successful trial without catheter (TWOC) and subsequent SDD.<sup>3,12,13</sup> However, almost half of the respondents delayed urinary catheter removal. Indeed, few respondents were prepared to send patients home with a urinary catheter if they failed their TWOC. Thus, there are areas to address, evaluate and standardise that may quite quickly increase SDD after TLH rates.

Health service policy needs to help effect change and inevitably this means prioritisation and resourcing. The NHS is working in collaboration with the NHS England GIRFT programme and the British Association of Day Surgery to address the shortage of inpatient beds and expand day-case surgery.<sup>30</sup> Recognising the paramount importance of providing exceptional care for women, 70% of respondents agreed that introducing a national tariff that is structured and priced to incentivise and adequately reimburse care for SDD TLH would be helpful. This will encourage other hospitals to implement SDD TLH pathways and will reflect high quality care and cost effectiveness.

## Implications for Research

Systematic reviews of randomised and non-randomised studies have identified factors predictive of compliance with SDD.<sup>6,24</sup> Pathways should incorporate this evidence base to optimise success. However, given how prevalent hysterectomy is in contemporary gynaecological practice, there remains a relative paucity of large multicentre trials or observational datasets evaluating specific protocols and pathways, and this may explain the observed variation in SDD practices. While individual interventions need evaluating, there needs to be research into overarching protocols inclusive of pre-, peri- and post-operative strategies. In the absence of a core outcome set for hysterectomy, outcomes to assess should include rates of compliance with SDD, safety, satisfaction, patient experience and cost-effectiveness of SDD TLH. Previous studies suggest that patients who are discharged on the same day experience comparable recovery outcomes in terms of physical function when compared to those discharged the following day.<sup>3,25</sup> This supports the viability of SDD as a safe and effective option, allowing patients to return to their daily activities sooner while minimising hospital stay duration.

There have been three RCTs that did not show any significant difference in patients' satisfaction according to length of stay or return to physical function following SDD TLH compared to the traditional 1-to-2 night stay TLH.<sup>25,31,32</sup> However, there appears to be a lack of data regarding the effectiveness of pre-operative patient information, patients' experience and the cost-effectiveness of SDD, and this is of fundamental importance for enhanced recovery post-surgery.<sup>14</sup> Patient-friendly, educational materials pertaining to day-case LH are lacking. Information technology should be utilised. Over 80% of respondents thought that developing online pre-admission information resources, including educational "classes" in preparation for SDD post-TLH from the hospital, could help patients' compliance with the process and improve their experience and satisfaction. Qualitative research to better understand patients' views and motivations across diverse backgrounds is needed to optimise SDD models of care.

## Conclusion

Our survey suggests that there is an increase in the use of SDD following LH. Several factors are associated with SDD, including pre-planning, intraoperative considerations and patients' education and support. Our

survey gives an insight into hospital-level variation uptake and practice relating to SDD after TLH. These data can be used to help develop a health service strategy to promote SDD after TLH and standardise protocols based on best practice. Audits and research projects need to be run alongside this innovation in the model of care to evaluate and improve outcomes after minimally invasive gynaecological surgery.

## Ethics

**Ethics Committee Approval:** The content and dissemination of this survey of the British Society of Gynaecological Endoscopy (BSGE) members was reviewed by the officers and clinical governance committee and approval was given.

**Informed Consent:** All responses were anonymous, so informed consent is not required.

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## Footnotes

### Authorship Contributions

Surgical and Medical Practices: L.A., T.J.C., Concept: L.A., T.J.C., Design: L.A., T.J.C., Data Collection or Processing: L.A., T.J.C., Analysis or Interpretation: L.A., T.J.C., Literature Search: L.A., T.J.C., Writing: L.A., T.J.C.

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**Supplementary Table 1.** <https://l24.im/Ef5wL>