

# Patient Perception for 24 Hours Discharge after Minimal Invasive Gynecological Surgery in Saudi Population

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## ABSTRACT

Same day discharge are considered safe and are cost effective in patient with minimal invasive gynecological surgery.

**Objectives:** To evaluate patient perception of 24 hours discharge after minimally invasive gynecological surgery in selective type of patient depended on specific criteria in Saudi population.

**Methodology:** It is a retrospective study conducted at Dr. Soliman Fakeeh Hospital during 1<sup>st</sup> January 2016 till 30 December 2019, looking for patient perception of 24 hours discharge after minimal invasive gynecological surgery in Saudi population.

**Results:** Excellent health status was observed in 49.1% of the patients, while 34% been in a good status, and 17% with fair level. Age range of 49.1% was between 25 to 34 years. Almost 84.9% respondents were holding a university degree, 9.4%, 3.8%, and 1.9% had high school, elementary, and intermediate degree, respectively. Women living with their children or grandchildren were 66% while 18.9% were living with other family members, 13.2% living with spouse, and only 1.9% were living alone

**Conclusions:** Same day discharges are associated with a better overall prognosis and patient satisfaction. There are specific criteria to be met before a surgeon determines if a patient is fit for same day discharge. The implementation of same day discharge programs would promote economic benefits, better access to surgical care, and overall greater efficacy. Surgeons should be made aware of the better prognostic implications of same day discharges as well as their impact on patient satisfaction

## INTRODUCTION

Same day discharge is safe and cost effective in patients with minimal invasive gynecological surgery. Selective type of patient, knowledge, medical condition, pre-operative risk factor and proper pre-operative counselling all increase the rate of discharge within 24 hours. An investigation found Ninety-six percent (96%) of the women who were asked to participate (208 out of 216) did so. Sixty-one percent and sixty-four percent, respectively, said they felt physically and emotionally healthy. The vast majority (82.7%) have some college experience. [1]. There were 256 TLHs done in the year prior to our protocol. Forty-seven patients (18.3%) were sent home the same day as their surgery, 191 (74.5%) were sent home the day after surgery, and 18 (7.0%) remained in the hospital for two or more days. We enrolled 129 of the 215 patients who underwent TLH in the year after the program's launch. [2].

We analysed information from 396 consecutive hysterectomies performed using minimally invasive techniques. Age (47.3 vs 43.4 years,  $p = .001$ ), preoperative hematocrit (358 vs 373,  $p = .035$ ), prior laparotomy (31% vs 14.1%,  $p = .003$ ), operative time (190.5 vs 115.2 minutes,  $p = .001$ ), estimated blood loss (244.6 vs 104.1 mL,  $p = .001$ ), lysis of adhesion (27. [3].

Overall, same-day discharge rates decreased from 47% to 35% and readmission rates from 1.7% to 0% after video implementation. Greater than 87% of both groups were very or somewhat satisfied with their care ( $p = .71$ ). Excluding patients who did not qualify for same-day discharge, the prevideo implementation same-day discharge rate was 72% ( $n = 78$ ) and the postvideo implementation same-day discharge rate was 62% ( $n = 69$ ). Higher patient complexity ( $p = .003$ ), later case end time ( $p = .001$ ), longer operative time ( $p = .001$ ), and robot-assisted cases ( $p = .002$ ) significantly predicted non-same-day discharge. After implementing initiatives to increase provider same-day discharge awareness and to standardize postoperative management, in addition to video implementation, the same-day discharge rate increased to 86% ( $n = 51$ ) [4]. Infections at the incision site were less common in those who were sent home the same day, but there was no change in the rates of other postoperative problems such as readmissions or second surgeries. [5]. Patients who had laparoscopic hysterectomy were counted to be 17,935. Of those who were sent home within 24 hours, 1828 (12.4%) were released on postoperative day 0, while 12,892 (87.6%) left on day 1 or later. Women who were released the day of surgery had a 2.3% lower readmission rate than those released the day after surgery, at 3.1% ( $p = .051$ ). [6].

A total cohort of 55 women undergoing vaginal hysterectomy and pelvic floor reconstruction for pelvic organ prolapse and/or urinary incontinence was identified. It was shown that 78.9% of patients who were admitted for an overnight stay had a successful voiding trial on their first try, while only 30.8% of those who were admitted for an unanticipated reason did so ( $p = .011$ ). Neither the number of visits to the ER ( $p = .677$ ) nor the number of unscheduled visits to the doctor's office ( $p = .193$ ) differed significantly between the control and intervention groups [7]. One of the operative factors was a longer than expected operating duration (3.5% versus 2.7%;  $P = .014$ ). Patients who encountered any difficulties before discharge (6.9% vs 3.1%;  $P = .01$ ) or any issues after discharge (3.6% vs 1.6%;  $P = .01$ ) had a significantly greater rate of readmission following surgery. Scores of 2 (3.3%), 3 (5.7%), and 4 (9.5%) on the LHRS were associated with the highest rates of readmission. [8]. There were 53 patients total. Patients whose surgeries were performed earliest in the day were more likely to go home the same day (91.7% versus 64.7%; relative risk = 1.4 [range 1.0-2.0];  $P = 0.02$ ) than those whose surgeries were performed later in the day. Participants' overwhelming preference for same-day release from care (98%). Five out of eight areas on the Short Form 36 showed statistically [9]. A total of 119 patients were found. Out of the total number of patients, 75 (63%), were treated in the ED (mean stay 156.7 50.2 min) and 44 (37%), were admitted (mean stay 1.2 0.6 days). There were no complications that might have been discovered or avoided at the time of admission because all patients showed with symptoms between 5 and 13 days after surgery. Within 30 days of surgery, 4 patients with SDD were readmitted; 2 of these patients required additional surgery ( $p = 0.16$ ). [10]. There were 421 citations found in the literature review, and 27 of them were read in full. There were a total of six qualifying comparative studies. Results from the studies were abstracted and entered into appropriate computerised formats. [11]. Primary outcomes were the use of a visual analogue scale to assess levels of pain (VAS). The average time for a patient to go home after surgery was only 4.9 1.4 hours. The average VAS score was 4 (3.5 2.6) at 1 hour post-op, 2 (1.9 1.2) at 4 hours, and 1.8 1.4 at the end of day 1. [12].

Overall, the rate of readmission was 1.8%; it was 2.2% after discharge on the same day, and it was 1.7% after discharge on postoperative day 1 ( $p = .10$ ). Smoking (adjusted odds ratio [aOR] = 2.06; 95% confidence interval [CI], 1.49-2.88), nonwhite race (aOR = 1.53; 95% CI, 1.1007-2.14), and cystoscopy (aOR = 2.05;

95% CI, 1.49-2.82) were linked with an elevated risk of readmission in a logistic regression analysis [13]. Some characteristics were linked to a lower chance of being discharged the same day as surgery; they included advanced age, starting surgery after 1:00 pm and finishing it after 6:00 pm, a longer duration of operation, and a high projected blood loss. [14].

Of the 1,162 instances, 1,029 (or 96%) were total vaginal hysterectomies, with patients being sent home the same day. In the first month after discharge, 5 patients (0.5%) were readmitted or evaluated by emergency services [15].

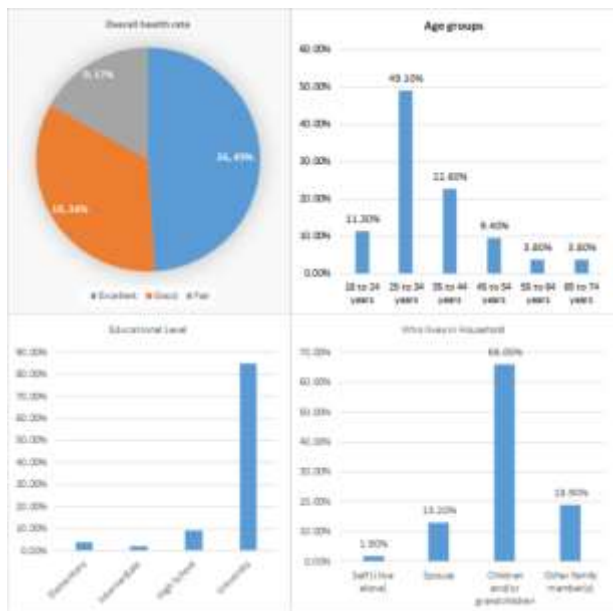
There were a total of 303 participants. There was a 6.9% increase in laparotomies as a result of surgical complications. One hundred forty-seven patients (48.5%) were released the same day (median stay 295 minutes). Seven (4.8%) of the outpatients were readmitted to the hospital within three weeks of their operation. As many as three patients (2%) may have been spared a trip to the ER or hospitalisation if they had been admitted after surgery from the start [16]. Infection of the abdominal incision, cuff dehiscence, and vaginal haemorrhage were the most prevalent reasons for readmission. Within 48 to 72 hours, less than 4% of patients sought emergency care, mostly due to nausea, vomiting, pain, and urine retention. The average uterus weighed 155 g, and surgeons spent 150 minutes operating. [17].

**METHODOLOGY**

This study is a retrospective study for a period starting from 1<sup>st</sup> January 2016 till 30 December 2019 at DSFH, looking for patient perception of 24 hours discharge after minimal invasive gynecological surgery in Saudi population.

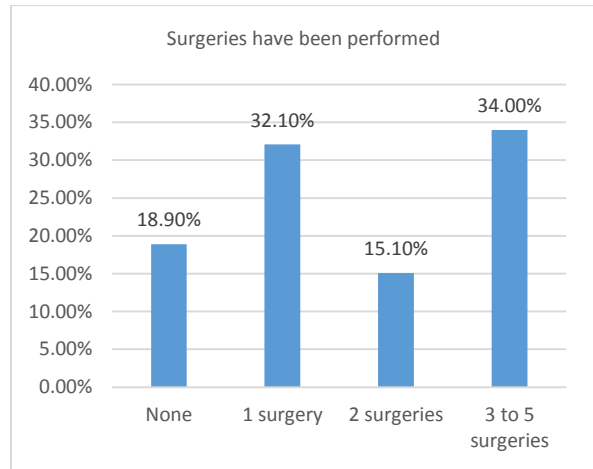
**RESULT**

To find out the patient perception of 24 hours discharge after minimal invasive gynaecological surgery in Saudi population, sample from 53 women were 49.1% reported that their health status was excellent, while 34% been in a good status, and 17% with fair level. 49.1% from them were ranged in their age between 25 to 34 years old, while the rest distributed in either lower ages or higher one. Almost, respondents were holding a university degree (84.9%), 9.4%, 3.8%, and 1.9% holding high school, elementary, and intermediate degree, respectively. 66% from respondents' women are living with children and/or grandchildren, while 18.9% lives with other family members, 13.2% living with spouse, and only 1.9% lives alone.



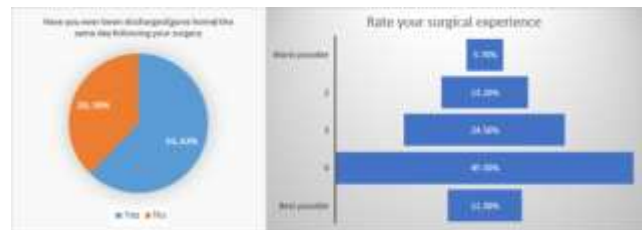
Graph 1: Respondent's characteristics

In Graph 2, the prevalence of surgeries among respondents shown that 34% from respondents were exposed to 3 to 5 surgeries, while 32.1% from them were exposed to 1 surgery, and 15.1% for 2 surgeries. It shown that 18.9% from respondents were not exposed any of surgeries.



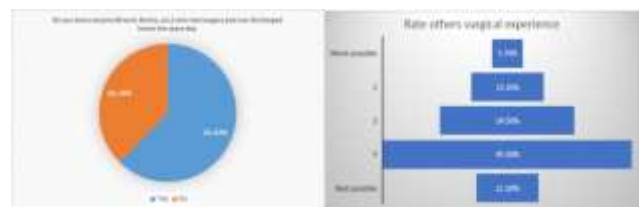
Graph 2: Prevalence of surgery

In graph 3, 60.4% from respondents stated that they did not been discharged (gone home) the same day following the surgery, while 39.6% stated that they discharged on the same day after surgery. On the other hand, the rate for surgical experience when they went home the same day following the surgery shows that 22.6% stated that was best possible experience while 9.4% were worst as possible, with average mean = 3.51.



Graph 3: Respondent's statement related to their experience with discharge within a day.

In graph 4, 37.7% from respondents stated that they do not know anyone (friend, family, etc.) who had surgery and was discharged home the same day, while 62.3% stated that they know anyone (friend, family, etc.) who had surgery and was discharged home the same day. On the other hand, the rate their surgical experience (when they went home the same day following their surgery) shows that they perceived 11.3% stated that was best possible experience while 5.7% were worst as possible, with average mean = 3.43 out of 5.



Graph 4: Respondent's statement related to other experience with discharge within a day.

In table 5, respondents asked about their thoughts as The results suggest strongest perception was associated to being with

sleeping in own bed (27.1%) and family (27.8%) eating own food (17.3%) on the day of their minimally invasive gynecologic surgery.. Other reasons were sown as well.

Table 5: Would you feel safe returning home after a minimally invasive gynecologic procedure? I was wondering what you thought were the most crucial advantages of having a same-day discharge following laparoscopic gynaecological surgery.. (n = 133)

	Count	%
1. Being with family	37	27.82%
2. Sleeping in own bed	36	27.07%
3. Eating own food	23	17.29%
4. Decreased risk of infection.	9	6.77%
5. Decreased risk of blood clot.	3	2.26%
7. Less nausea and vomiting	4	3.01%
8. Easier to go to the bathroom.	8	6.02%
9. Easier to take care of catheter.	1	0.75%
10. Less financial burden	9	6.77%
11. Decreased risk of complications.	1	0.75%
12. to see visitor	2	1.50%

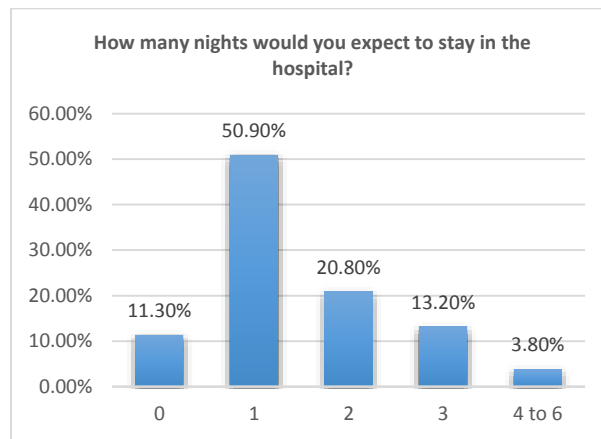
Table 6: Please share your thoughts on why it's vital to spend the night in the hospital following laparoscopic gynaecological surgery. We need you to select at least one. (n=116)

	Count	%
1. Rest away from home duties	20	17.24%
2. Sleeping in hospital bed	10	8.62%
3. Eating hospital food	1	0.86%
4. Decreased risk of infection.	16	13.79%
5. Decreased risk of blood clot.	14	12.07%
6. Better pain control	27	23.28%
7. Less nausea and vomiting	1	0.86%
8. Easier to go to the bathroom.	5	4.31%
9. Easier to take care of catheter.	10	8.62%
10. Less financial burden	1	0.86%
11. Decreased risk of complications.	10	8.62%
12. be under observation.	1	0.86%

In table 6, highest perception was for better pain control with 23.3%, 17.2% for the rest away from home duties, 13.8% for decreased risk of infection, and 12.1% for decreased risk of blood

clot. Other reasons were stated such as sleeping in hospital bed (8%), easier to take care of catheter and decreased risk of complications. (8.6%), easier to go to the bathroom (4.31%), Eating hospital food, less nausea and vomiting, less financial burden, and be under observation (0.86%).

In graph 7, respondent's perception related to the nights expected to stay at hospital shown that 50.9% perceived that they expect to stay one night, 20.8% perceived that they expect to stay two nights, 13.2% perceived that they expect to stay three nights, and only 3.8% perceived that expect to stay 4 to 6 nights. The only 11.3% from respondents were perceived that will not stay any night



Graph 7: Respondent's perception related to the nights expected to stay at hospital.

Findings in table 8 showed that no statistical relationship between the respondents' health and number of surgeries performed as P-value = 0.103. However, it shows higher percentages of respondents who stated that they have fair health status in case of having surgeries, compared to respondents who do not have had surgeries before.

Table 8: cross tabulation between the general, how would you rate your overall health?

		How many surgeries have you had?				P-value
		None	1 surgery	2 surgeries	3 to 5 surgeries	
In general, how would you rate your overall health?	Excellent	Count	4	10	7	0.103
		%	40.0%	58.8%	87.5%	
	Good	Count	4	4	0	
		%	40.0%	23.5%	0.0%	
	Fair	Count	2	3	1	
		%	20.0%	17.6%	12.5%	

Table 9: cross tabulation between the general health and discharge.

		Have you ever been discharged (gone home) the same day following your surgery?		P-value	
		Yes	No		
In general, how would you rate your overall health?	Excellent	Count	12	14	0.002
		%	57.1%	43.8%	
	Good	Count	2	16	
		%	9.5%	50.0%	
	Fair	Count	7	2	
		%	33.3%	6.3%	

Findings in table 9 showed that their a statistical relationship between the respondents' health and if been discharged on the same day after surgeries (P-value = 0.002), as who been stated that they discharged within a day, they had more fair health status (33.3%), compared to 6.3% in who did not discharged within a day. On the other hand, 50% from who did not discharge within a day stated that they have good health compared to 9.5% from who

discharged within a day. Lastly, more than half of who discharged within a day been in an excellent health status, compared to 43.8% in who did not discharged within a day.

Findings in table 10 showed a statistically significant relationship between health status and their rate of surgical experience when they went home the same day following the surgery (P-value = 0.004). Accordingly, higher rate of satisfaction shown in case of excellent health status, compared to low satisfaction level in cases of fair health status.

Table 10: Differences between respondent health status and how to rate the surgical experience.

	In general, how would you rate your overall health?	N	Mean Rank	Mean	P-value
what number would you use to rate your surgical experience (when you went home the same day following your surgery)?	Excellent	26	32.81	3.92	0.004
	Good	18	25.22	3.50	
	Fair	9	13.78	2.33	

## DISCUSSION

Same day discharges after minimally invasive gynecological procedures have a high success rate of 93% without significant differences of readmission rate when compared to next day discharge. Studies have also shown the cost-effectiveness of \$200 USD per night for same day discharges. Same day discharges are also associated with higher patient satisfaction [18].

We reinforce previous results with our prospective study showing the efficacy and safety of same day discharges following minimally invasive gynecological procedures. Our study revealed similar results to other studies investigating patient perception of same day discharges. We have also included the perspective of our patients regarding early discharges following minimally invasive gynecological procedures. Patients rate their overall health better when they have undergone less surgical intervention as well as when discharged earlier after such interventions. Patients reasoning for wanting to go home related more towards their personal comfort, while their reasoning for wanting to stay in the hospital was more medically related. Patients who wanted to stay in the hospital listed better infection and blood clot control as well as better pain management. It is important to note that our results, similar to previous studies, indicate that patients who are discharged early post minimally invasive gynecological procedures are more likely to perceive themselves as healthier and this would have important implications upon the prognosis of these interventions. A few systematic reviews regarding same day discharges reflect similar results. In one study which investigated over 1000 minimally invasive gynecological procedures showed that the strategy of same day discharges is effective and associated with lower rates of readmission [19]. Another study regarding minimally invasive hysterectomy in over 10,000 patients also reflected similar results [20].

The criteria determining same day discharges after minimally invasive gynecological procedures include the exclusion of additional risk factors such as age >70 years, a procedure that takes >2 hours, surgeries that start after 1 pm, and complications during surgeries [21]. Keeping these factors in mind, as well as the comorbidities of the patient, the surgeons decide whether the patient is fit for a same day discharge. Also, the educational level of the patient and the counseling offered play an important role. When the patient has a positive perception regarding same day discharge it prevents prolonged hospital stay [22]. The is evident in our study where most of our patients were of a higher educational background. Our patients also favored same day discharges for personal comfort reasons but are more likely to choose staying at the hospital for medical reasons such as decreasing infections, blood clots and pain.

Readmission rate is an important aspect that determines the quality of care offered by the hospital. Therefore, possibility of readmission is a major factor of decision making after surgeries. In a study that was done to determine readmission rates after minimally invasive endometrial cancer surgery, the readmission rate was 7.6% in 90 days postop<sup>(6)</sup>. Another factor that decides same day discharges is intraoperative complications. A study done in 17,000 patients with minimally invasive hysterectomy determined the length of hospital stay with respect to comorbidity and intraoperative complications. Older women, women with pulmonary diseases, hypertension, obesity, and low socio-economic status are less likely to be discharged on the same day [23].

## CONCLUSION

In this study, we demonstrate and present similar results to previous studies investigating same day discharges after minimally invasive gynecological procedures. Same day discharges are associated with a better overall prognosis and patient satisfaction. There are specific criteria to be met before a surgeon determines if a patient is fit for same day discharge. The implementation of same day discharge programs would promote economic benefits,

better access to surgical care, and overall greater efficacy. Surgeons should be made aware of the better prognostic implications of same day discharges as well as their impact on patient satisfaction.

## REFERENCES

1. Patient Perceptions Of Same-Day Discharge After Minimally Invasive Gynecologic And Pelvic Reconstructive Surgery Sarah Evans, Erinn M Myers, Smitha Vilasagar ,American Journal of Obstetrics & Gynecology, 2019 Implementation of a same-day discharge protocol following total laparoscopic hysterectomy Alysha Nensi, Mary Coll-Black, Nicholas Leyland, Mara L Sobel ,Journal of Obstetrics and Gynaecology Canada 40 (1), 29-35, 2018
2. Predictors of overnight admission after minimally invasive hysterectomy in the expert setting Gaby Moawad, Paul Tyan, Victoria Vargas, Daniel Park, Hannah Young, Cherie Marfori, Journal of minimally invasive gynecology 26 (1), 122-128, 2019
3. Promoting same-day discharge for gynecologic oncology patients in minimally invasive hysterectomy Cynthia R Fountain, Laura J Havrilesky , Journal of minimally invasive gynecology 24 (6), 932-939, 2017
4. The safety of same-day discharge after laparoscopic hysterectomy for endometrial cancer Jessica Lee, Yindalon Aphinyanaphongs, John P Curtin, Jing-Yi Chern, Melissa K Frey, Leslie R Boyd , Gynecologic oncology 142 (3), 508-513, 2016
5. Safety of same-day discharge for minimally invasive hysterectomy for endometrial cancer Aaron M Prais, Ling Chen, Caryn N St Clair, Ana I Tergas, Fady Khoury-Collado, June Y Hou, Candee V Ananth, Alfred I Neugut, Dawn L Hershman, Jason D Wright
6. American Journal of Obstetrics & Gynecology, 2019 Same-Day Discharge after Vaginal Hysterectomy with Pelvic Floor Reconstruction: Pilot Study Lora Liu, Johnny Yi, Jeffrey Cornella, Richard Butterfield, Matthew Buras, Megan Wasson Journal of minimally invasive gynecology, 2019
7. Predictors of 30-day readmission and impact of same-day discharge in laparoscopic hysterectomy Ashley J Jennings, Ryan J Spencer, Erin Medlin, Laurel W Rice, Shitanshu Uppal American journal of obstetrics and gynecology 213 (3), 344. e1-344. e7, 2015
8. Early Discharge after Laparoscopic Hysterectomy: a Prospective Study Jenna Gale, Calvin Thompson, Karine J Lortie, Olga Bougie, Sukhbir S Singh Journal of Obstetrics and Gynaecology Canada 40 (9), 1154-1161, 2018
9. Feasibility and safety of same-day discharge after laparoscopic radical hysterectomy for cervix cancer Lauren Philip, Allan Covens, Danielle Vicus, Rachel Kupets, Katherine Pulman, Lilian T Gien , Gynecologic oncology 147 (3), 572-576, 2017
10. Feasibility and safety of same-day discharge after minimally invasive hysterectomy in gynecologic oncology: a systematic review of the literature Samar Nahas, Tomer Feigenberg, Susan Park , Gynecologic oncology 143 (2), 439-442, 2016
11. Low pain score after total laparoscopic hysterectomy and same-day discharge within less than 5 hours: results of a prospective observational study Olivier Donnez, Jacques Donnez, Marie-Madeleine Dolmans, Alice Dethy, Marie Baeyens, John Mitchell , Journal of minimally invasive gynecology 22 (7), 1293-1299, 2015
12. Readmission rates after same-day discharge compared with postoperative day 1 discharge after benign laparoscopic hysterectomy David Sheyn, Sherif El-Nashar, Megan Billow, Sangeeta Mahajan, Mary Duarte, Robert Pollard , Journal of minimally invasive gynecology 25 (3), 484-490, 2018
13. Systematic review of same-day discharge after minimally invasive hysterectomy Malene Korsholm, Ole Mogensen, Mette M Jeppesen, Vibeke K Lysdal, Koen Traen, Pernille T Jensen , International Journal of Gynecology & Obstetrics 136 (2), 128-137, 2017
14. Outpatient vaginal hysterectomy: optimizing perioperative management for same-day discharge
15. Mark A Zakaria, Barbara S Levy , Obstetrics & Gynecology 120 (6), 1355-1361, 2012 Feasibility of same-day discharge after laparoscopic surgery in gynecologic oncology Lilian T Gien, Rachel Kupets, Allan Covens , Gynecologic oncology 121 (2), 339-343, 2011
16. Same-day discharge after laparoscopic hysterectomy Misa Perron-Burdick, Miya Yamamoto, Eve Zaritsky , Obstetrics & Gynecology 117 (5), 1136-1141, 2011
17. Schiavone MB, Herzog T J, Ananth C V, et al. Feasibility and economic impact of same-day discharge for women who undergo laparoscopic hysterectomy. Am J Obstet Gynecol. 2012;207(5):382.e1-9. doi:10.1016/j.ajog.2012.09.014
18. Nahas S, Feigenberg T, Park S. Feasibility and safety of same-day discharge after minimally invasive hysterectomy in gynecologic oncology: A systematic review of the literature. Gynecol Oncol. 2016;143(2):439-442. doi:10.1016/j.ygyno.2016.07.113
19. Korsholm M, Mogensen O, Jeppesen MM, Lysdal VK, Traen K, Jensen PT. Systematic review of same-day discharge after minimally invasive hysterectomy. Int J Gynaecol Obstet. 2017;136(2):128-137. doi:10.1002/ijgo.12023
20. Prais AM, Chen L, St Clair CM, et al. Safety of same-day discharge for minimally invasive hysterectomy for endometrial cancer. Am J Obstet Gynecol. 2019;221(3):239.e1-239.e11. doi:10.1016/j.ajog.2019.05.003
21. Evans S, Myers EM, Vilasagar S. Patient perceptions of same-day discharge after minimally invasive gynecologic and pelvic reconstructive surgery. Am J Obstet Gynecol. 2019;221(6):621.e1-621.e7. doi:10.1016/j.ajog.2019.06.046
22. Liang MI, Rosen MA, Rath KS, et al. Reducing readmissions after robotic surgical management of endometrial cancer: a potential for improved quality care. Gynecol Oncol. 2013;131(3):508-511. doi:10.1016/j.ygyno.2013.09.033