

## Values of Hysterectomy Guidelines to Determine the Feasibility of Vaginal Hysterectomy

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### Vaginal Hysterectomy

Hysterectomy guidelines have demonstrated valuable medical and economic outcomes. "Guidelines to Determine the route of Hysterectomy published in 1995 revealed a potential savings of 615 hospital days, \$1,317,413 US, in hospital charges and 7250 convalescent days relative to the 3:1 ratio of abdominal to vaginal hysterectomy [1]. In another published report on Guidelines for hysterectomy in 2000, reported potential cost-savings of \$1,184,000 for every 1000 hysterectomies that recommended Vaginal hysterectomy, and freed up 1020 patient bed-days and reduced complications by approximately 20% [2].

ACOG Committee Opinion #444 affirmed the use of guidelines that incorporated uterine size, mobility and pathology confined to the uterus (no adnexal pathology or known or suspected adhesions) that were proposed as selection criteria for vaginal hysterectomy [3].

ACOG Committee Opinion #444 also recognized a randomized trial, when residents that followed these specific guidelines for the selection and performance of hysterectomy. The percentage of vaginal hysterectomy selected and performed by residents for benign disease in this randomized study was more than 90%. Uterine size reduction techniques were only necessary in 11% of patients selected for vaginal hysterectomy [4]. Extra uterine disease such as adnexal disease, severe endometriosis, or adhesions may preclude vaginal hysterectomy. However, in these cases it may be prudent to visualize the pelvis with a laparoscope before deciding on the route of hysterectomy [1,2].

What is known about the relative advantages of abdominal, vaginal, laparoscopic and robotic hysterectomy. In 1995 two prominent organizations conducted separate "level of evidence" reports of laparoscopy-assisted vaginal hysterectomy.

The Emergency Care Research Institute (ECRI) endorsed these guidelines in 1995, [5] and the Amherst (NY) Technology Assessment Program of the HMO Group [6], also the Board of the Society of Pelvic Reconstructive Surgeons in 1999, the National Guideline Clearinghouse in 2000 supported by the American Medical Association, the American Association of Health Plans and the U.S. Agency for Healthcare Research and Quality [7], and United Healthcare, the nation largest insurer [8].

These guidelines were developed to assist physicians with their surgical practice to make surgical decisions based on objective evidence rather than personal preferences, or the acceptance of invalid contraindications to the vaginal approach to provide the best possible decision-making for surgeons and their patients.

The guidelines developed by the author were exposed to residents and Fellows to determine what hysterectomy route was proven to be appropriate. Residents and Fellows decision-making on the route of hysterectomy selected by following the guidelines performed 99% of 11,094 cases performed vaginally and resulted in a ratio of 1:92 abdominal to vaginal hysterectomy.

I determined that it would probably be helpful to present the values of the decision tree for hysterectomy in an additional report. Each

diagnosis requiring hysterectomy is presented in Figures 1 thru 9. If a diagnosis suggests the need for a hysterectomy, then every indication requires adequate documentation.

Vaginal accessibility is determined by pelvic examination. Nulliparity is not a contraindication to the vaginal route, but virginity may be. Uterine size is documented by pelvic ultrasound that reports an accurate measurement of uterine size of <280 g or >280 g rather than gestational week-size that is an obstetrical measurement.

If presumptive extrauterine disease is a potential concern, then Laparoscopy-assisted vaginal hysterectomy (LAVH) is of value to evaluate if extrauterine pathology is absent, mild, or severe? [4]. However, only the original description of LAVH should be performed.

Since the concept minimally invasive hysterectomy has been promoted, there has been an exuberant uptake of laparoscopic and robotic hysterectomy, but those methods are suggested because of concern for possible extrauterine disease and their extent. It is also time for laparoscopic surgeons and companies to consider the vaginal route as a minimally- invasive hysterectomy.

Each diagnosis requiring a hysterectomy was evaluated in terms of vaginal accessibility, uterine size, and the presence of presumptive extrauterine disease. Figure 1 demonstrates how these three assessments are useful to determine what type of hysterectomy is possible and successfully performed.

Figure 1 represents 11,094 hysterectomies that were subjected to the hysterectomy guidelines and 10,975 of the 11,094 were performed successfully identified to undergo the vaginal approach. 109 patients had vaginal inaccessibility that contraindicated the vaginal route and 10 patients were discovered to have extrauterine pathology that contraindicated the vaginal route. Thus, the feasibility of the vaginal route was determined to be 98.9% successful.

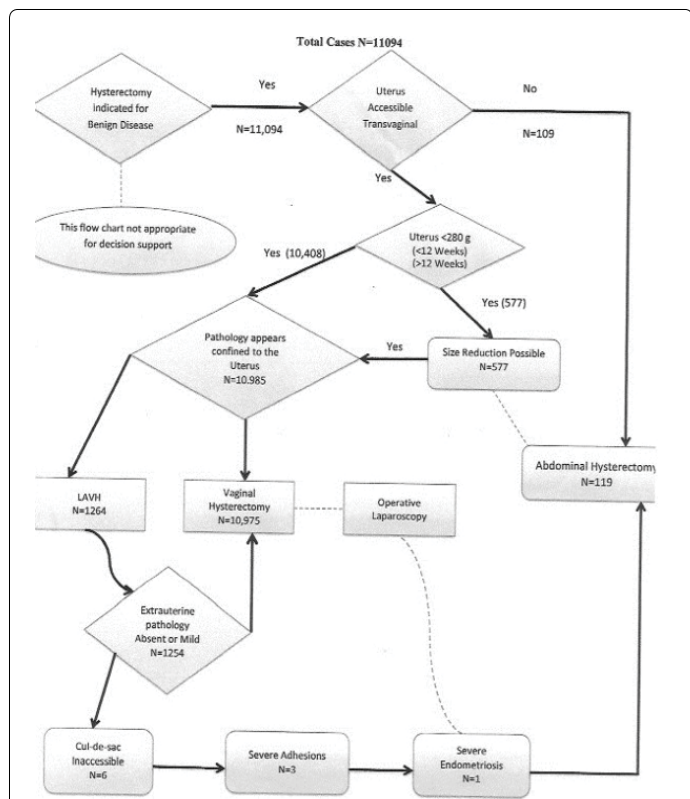
Figure 2 represents 2656 cases that required hysterectomy for leiomyomata. 56 patients had vaginal inaccessibility that contraindicated the vaginal route and required the abdominal route. 80% of hysterectomies for leiomyomata are usually selected and performed by the abdominal route; however, with the use of the hysterectomy guidelines we performed 97% of leiomyomata cases vaginally.

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**Figure 1:** Represents use of the guidelines on 11,094 cases requiring hysterectomy. Vaginal hysterectomy was selected and performed on 10,975 (98.9%).

Figure 3 represents 913 cases that required hysterectomy for Adenomyosis. 42 patients had vaginal inaccessibility and there was no concern of extrauterine pathology. Therefore, 871 (95%) were performed by the vaginal route.

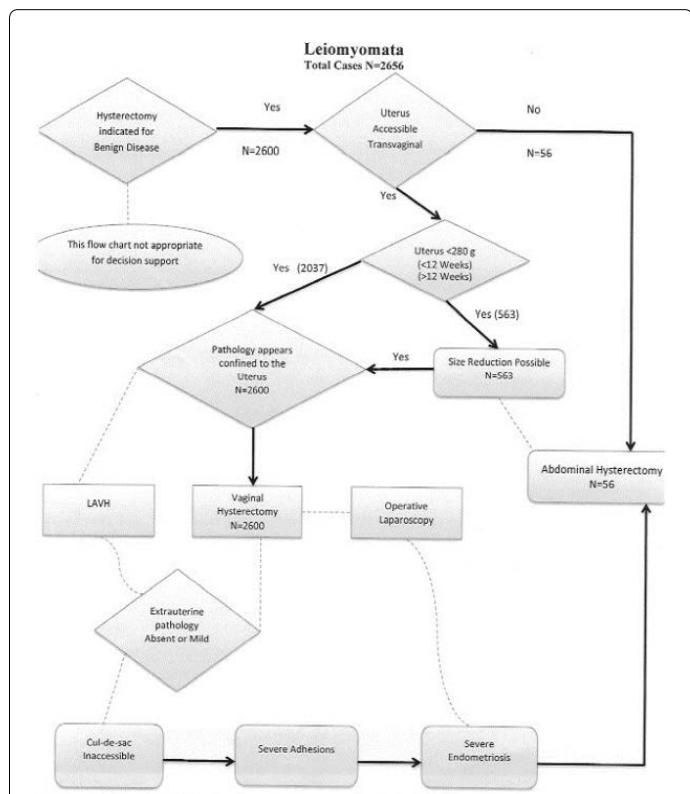
Figure 4 represents 1551 cases of abnormal uterine bleeding that are usually considered for AH, LH or RH. There were no concerns regarding vaginal inaccessibility, uterine enlargement or presumptive extra uterine disease. Therefore, 1551 (100%) cases were performed by the vaginal route.

Figure 5 represents 4389 cases with pelvic organ prolapse. There were no concerns regarding vaginal inaccessibility, uterine enlargement, or concerns of presumptive extrauterine disease, so 4389(100%) patients had a vaginal hysterectomy.

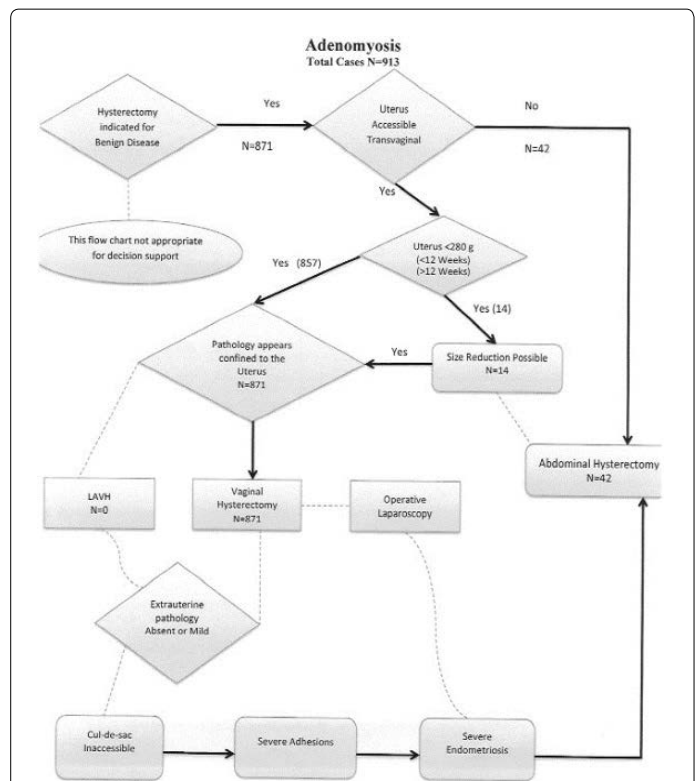
Figure 6 represents 313 patients that required a hysterectomy for Ca in situ of the cervix. Three patients had vaginal inaccessibility but none had concerns of uterine enlargement or extrauterine disease. Therefore, 310(99%) underwent the vaginal hysterectomy.

Figure 7 represents 535 patients with a history of chronic pelvic pain. Four patients had vaginal inaccessibility and three patients had proven severe pelvic adhesions diagnosed by laparoscopy prior to the selection of the route of hysterectomy. Uterine size was <280 g in all 535 cases requiring hysterectomy. 528(96%) patients had a vaginal hysterectomy.

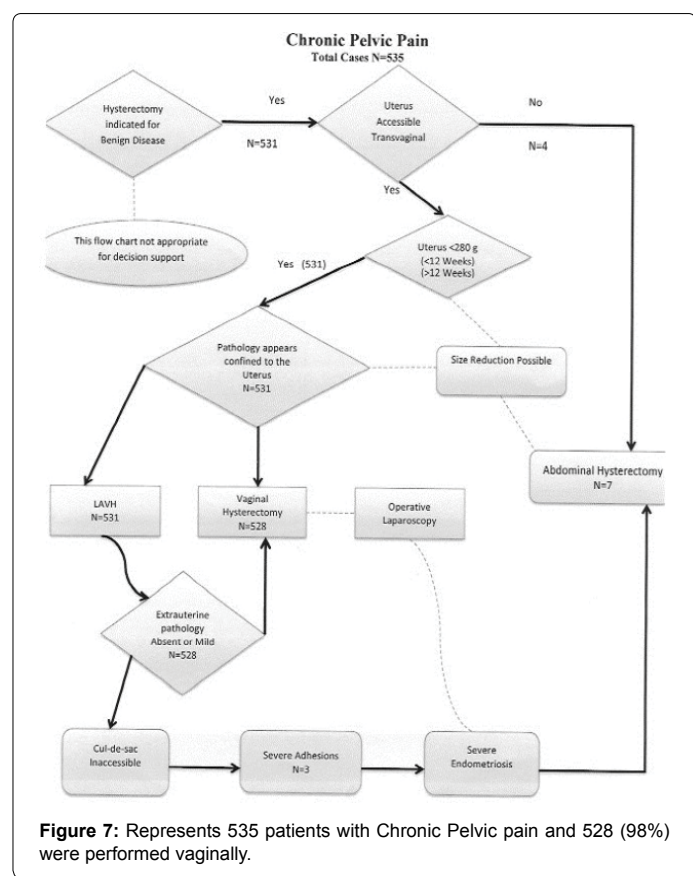
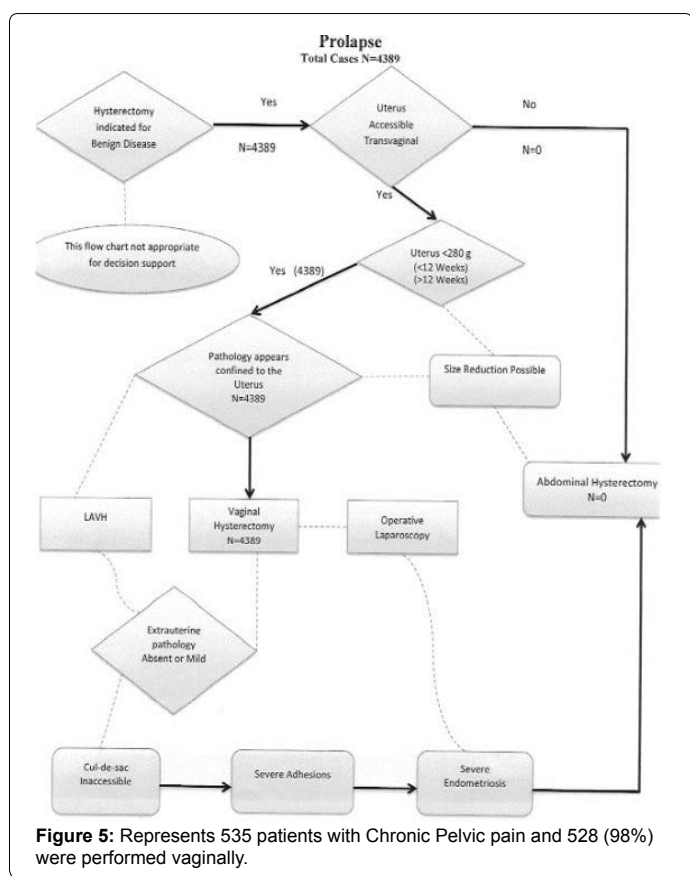
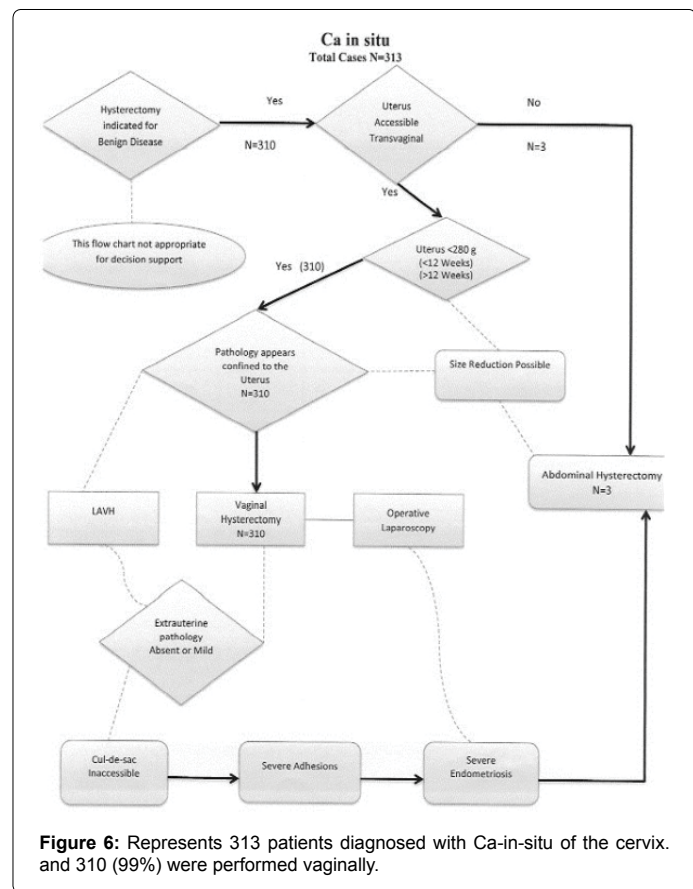
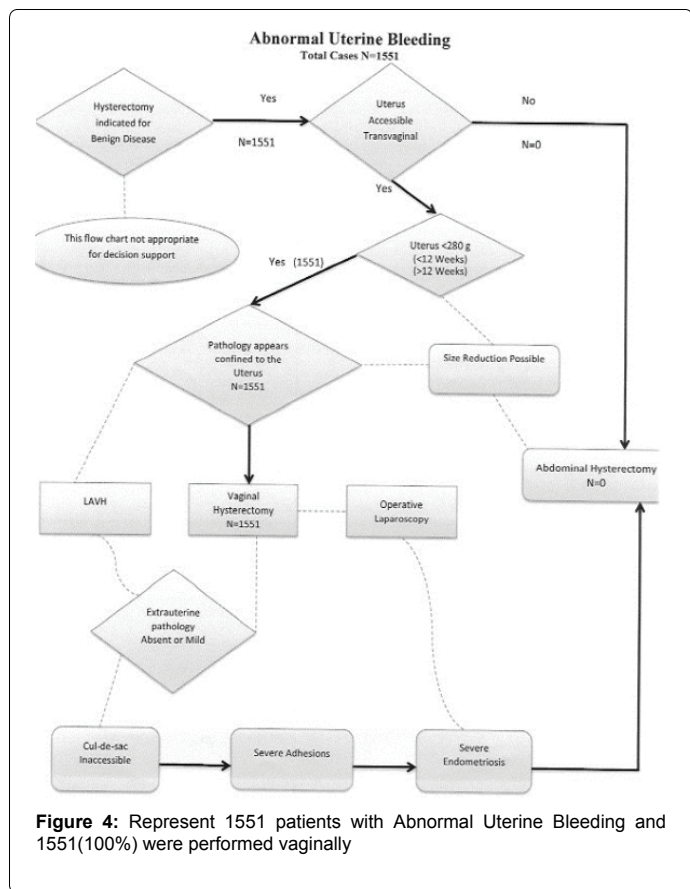
Figure 8 represents 347 patients with the history of endometriosis. There were no concerns regarding vaginal accessibility, but one patient was discovered to have severe endometriosis discovered with laparoscopy prior to determining the route of hysterectomy and had an abdominal hysterectomy. Therefore, 346 (99%) patients had successful vaginal hysterectomy.



**Figure 2:** Represents 2656 cases with leiomyomata and 2000 (97%) cases were performed vaginally.



**Figure 3:** Represents 913 patients diagnosed with Adenomyosis and 817(95%) were performed vaginally.



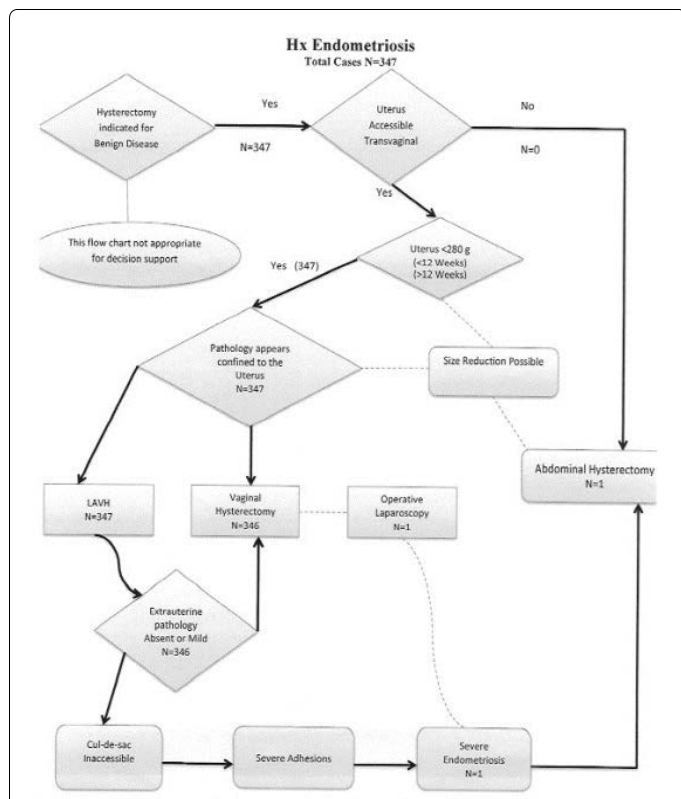


Figure 8: Represents 347 patients with a diagnoses of a history of Endometriosis and 346 (99%) were performed vaginally.

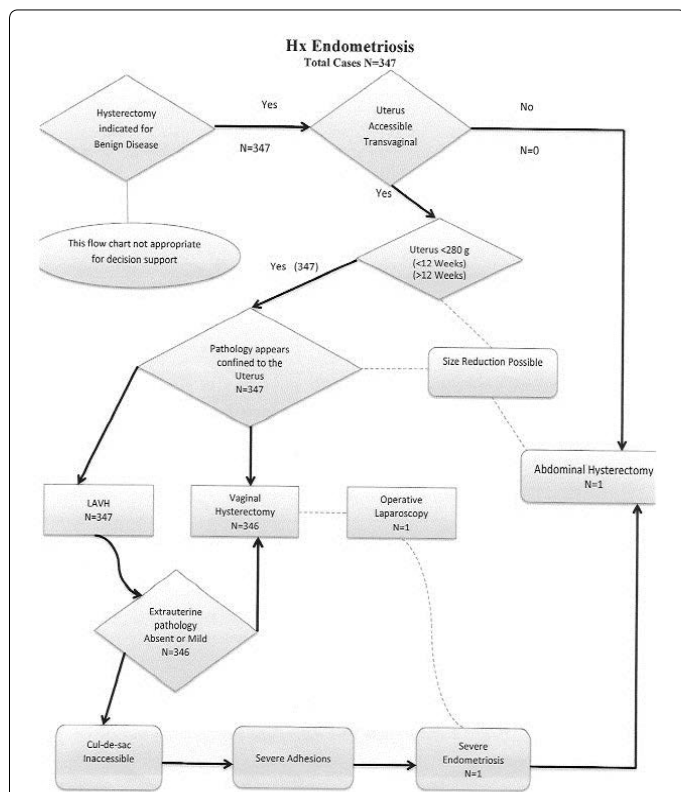


Figure 9: Represents 390 patients with a history of pelvic inflammatory disease and 380 (97%) patients underwent vaginal hysterectomy.

Figure 9 represents 390 patients with a history of pelvic inflammatory disease. Four patients had vaginal accessibility and 6 patients had an inaccessible *cul de sac* determined with laparoscopy prior to determining the route of hysterectomy. 380(96%) had successful vaginal hysterectomy.

We have previously reported in 1991 that significant factors associated with the overuse of AH appear to be lack of documentation of actual uterine size. It has also been documented that most uteri for all indications, including leiomyomata, have been documented to be <280 g [9,10]. In addition it has been suggested that feasibility studies supports the technical advantage of the robot with potentially benign extra uterine disease such as presumed adhesions from prior surgery, inflammation or endometriosis [11]. However, extrauterine disease was not discovered as prevalent when it was evaluated with laparoscopy prior to selecting the route of hysterectomy. Should the robot be further continued when presumptive extrauterine disease is not documented. 1264 patients were evaluated for presumptive extrauterine disease, yet in only ten patients had concerns for presumed presence of extrauterine disease and the vaginal route was successfully performed in 1254. When presumed extrauterine disease was evaluated in 1264 patients in our study, only 10 patients had significant documented extrauterine disease. This suggests that presumed extrauterine disease may not be discovered as frequently as many presumed. In fact, more than 95% of women did not have documentation of presumed extrauterine disease when it was thought to be present. Therefore, in our opinion, the feasibility studies that apparently support the advantages of the robot may require more thought or adoption of the hysterectomy guidelines.

### References

1. Kovac SR (1995) Guidelines to Determine the route of hysterectomy. *Obstet Gynecol* 85: 18-23.
2. Kovac SR (2000) Decision-directed hysterectomy: a possible approach to improve medical and economic outcomes. *Int J Gynecol Obstet* 71: 159-169.
3. ACOG Committee Opinion #444 Choosing (1999) Guidelines for the selection of the route of hysterectomy: application in a resident-clinic population. *Am J Obstet Gynecol* 1521-1527.
4. Kovac SR, Barhan S, Lister M, Tucker L, et al. (1999) Guidelines for selection of the route of hysterectomy: application in a resident-clinic population. *AM J Obstet Gynecol* 521-1527.
5. Emergency Care Research Institute (ECRI) (1995) Laparoscopy in hysterectomy for benign Contraindications. Philadelphia: Plymouth Meeting PA: the Institute 1995: Technology Assessment Report.
6. Betram D, Reinhard JD (1995) The Terminix Report No.243:Amherst (NY) Technology Report: laparoscopically Assesment Program of the HMO Group.
7. Society of Pelvic Reconstructive Surgeons (2000) Guidelines to determine the route and method of hysterectomy for benign disease. Dayton, OH. Society of Pelvic Reconstructive Surgeons.
8. National Guideline Clearinghouse Synthesis (2000) Guidelines for Determining the route of hysterectomy for benign disease. National Guidelines Clearinghouse (NGC) website. Rockville.
9. United Health restricts use of nonvaginal husterectomies.
10. Kovac SR, Christie SJ, Bindbeutel GA (1991) Abdominal versus Vaginal Hysterectomy: A Statistical Model for Determining Physician Decision Making and Patient Outcome. *Med Decis Making* 11: 19-28.
11. Advincula AP, Wang K (2016) Evolving role and current state of robotics in Minimally Invasive Gynecology Surgery. *Minim Invasive Gynecologic Surgery* 16: 291-301.