



MINIMALLY INVASIVE SURGERY

New data and the guidance of our professional societies are bringing us closer to clarity in understanding the superiority of minimally invasive techniques of hysterectomy



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Two-thirds of the almost one-half million hysterectomies performed annually in the United States for benign conditions take the abdominal route—even though less invasive transvaginal and laparoscopic approaches are available. Compared with abdominal hysterectomy, vaginal and laparoscopic hysterectomies are, on the whole, associated with less morbidity, a shorter

hospital stay, and more rapid return to physical activity.

Over the past year, our understanding of the comparative advantages and risks of the various approaches to hysterectomy has been deepened by new research and by guidance from AAGL. Here is what we've learned, and here is how our surgical practices ought to be evolving for the long-term good of our patients.

Hysterectomy should be performed only rarely abdominally

AAGL Position Statement: Route of hysterectomy to treat benign uterine disease. J Minim Invasive Gynecol. 2011;18(1):1-3.

In 2011, AAGL, which has been an international leader in promoting minimally invasive gynecologic surgery for longer than 40 years, issued a position statement on hysterectomy for the treatment of benign disease. AAGL's position is a clear assertion that, when vaginal hysterectomy is not possible, laparoscopic hysterectomy should be

performed—thus leaving few clinical indications for an abdominal hysterectomy.

Historically established contraindications to vaginal or laparoscopic hysterectomy—prior cesarean delivery, need for oophorectomy, an enlarged uterus—have been invalidated by recent studies. In competent hands, ovarian removal can be accomplished in 65% to 98.5% of vaginal hysterectomies.¹ Vaginal morcellation techniques can facilitate removal of a large uterus vaginally and mechanical tissue morcellators enable laparoscopic removal.

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In 2011, ACOG reaffirmed its 1999 Committee Opinion on Gynecologic Practice,¹ which recommends that the vaginal approach for hysterectomy be the preferred route. ACOG asserts that, when vaginal hysterectomy is impossible, the laparoscopic and abdominal routes are alternatives.

How do these positions differ?

The difference in the AAGL Position Statement and the ACOG Committee Opinion lies in the surgeon's ability to perform laparoscopic or vaginal hysterectomy. Although it might seem admirable for a surgeon to choose abdominal hysterectomy because he, or she, lacks the training and skills to perform the procedure laparoscopically or vaginally, AAGL does not hold this position. AAGL has established the expectation that, if a surgeon is unable to perform a hysterectomy safely vaginally or laparoscopically, he should refer the patient to a gynecologic surgeon who can.

Furthermore, AAGL recommends that abdominal hysterectomy be reserved for four broad situations, when:

- a patient has a medical condition, such as cardiopulmonary disease, in which the **risk of general anesthesia or increased intra-peritoneal pressure** that is associated with laparoscopy is deemed unacceptable
- **morcellation** is known, or likely, to be

WHAT THIS EVIDENCE MEANS FOR PRACTICE

Whenever feasible for benign disease, perform hysterectomy vaginally or laparoscopically. Make the effort to facilitate these approaches based on the underlying principles of **1)** informed patient choice and **2)** preferential provision of minimally invasive options.

If you have not had the requisite training or learned the skills required to perform vaginal or laparoscopic hysterectomy, you should enlist the assistance of colleagues who do or refer your patients to those colleagues for surgical care. You should also, for the long term, seek to acquire those skills through formal training.

required for vaginal or laparoscopic hysterectomy and uterine malignancy is either known or suspected

- hysterectomy is indicated but there is **no access to surgeons or facilities** required for vaginal or laparoscopic hysterectomy and referral is not feasible
- **anatomy is so distorted** by uterine disease or adhesions that the vaginal and laparoscopic approaches are deemed unsafe or unreasonable by a recognized expert in vaginal or laparoscopic hysterectomy techniques.

When hysterectomy is necessary, therefore, the demonstrated safety, efficacy, and cost-effectiveness of vaginal and laparoscopic approaches to surgical removal of the uterus mandate that these procedures be **1)** the ones of choice and **2)** presented as options to all appropriate candidates.

Quality of life improves after laparoscopic hysterectomy—more than it does after abdominal hysterectomy

Nieboer T, Hendriks J, Bongers MY, Vierhout ME, Kluijvers KB. Quality of life after laparoscopic and abdominal hysterectomy: a randomized controlled trial. *Obstet Gynecol.* 2012;119(1):85-91.

Nieboer and colleagues have presented their long-term data from a prospective,

randomized evaluation of quality of life (QOL) after abdominal hysterectomy compared with QOL after laparoscopic hysterectomy. Other researchers have compared hysterectomy approaches, but most of those studies focused on such outcome measures as operation time, surgical intraoperative and postoperative complications, hospital

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by Brent E. Seibel, MD



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WHAT THIS EVIDENCE MEANS FOR PRACTICE

Vaginal and laparoscopic approaches to hysterectomy have significant short-term advantages over abdominal hysterectomy by traditionally compared measures of surgical outcome. Taking the less-invasive approach allows you to offer greater long-lasting improvement in your surgical patients' quality of life.

stay, and rate of recurrence of the condition that prompted the surgery. This is the first study to address **QOL parameters that are more patient-centered**—using a validated questionnaire and having a median follow-up of 4.7 years (range, 188 to 303 weeks).

In 2007, investigators published the findings of a randomized comparison of QOL measures after total laparoscopic hysterectomy and total abdominal hysterectomy. Their assessment in that study utilized eight QOL measures from the RAND-36 Measure of Health-Related Quality of Life (the Dutch version of the validated QOL questionnaire, the SF-36 Health Survey)² (TABLE).

The current (Nieboer and co-workers) study evaluated 59 randomized patients from the 2007 work: 27 to laparoscopic hysterectomy and 32 to abdominal hysterectomy. The overall response rate after 4 years was 83% (N = 49).

The QOL questionnaire addressed eight RAND-36 (SF-36) measures, with each measure having a possible score of 0 to 100 (maximum possible total score, 800); the higher the

number, the better the QOL. The researchers considered a difference of 15 points between the two surgical approaches on any single parameter to be statistically significant.

Findings. The mean total RAND-36 (SF-36) score was 50.4 points (95% confidence interval, 1.0–99.7) higher in the laparoscopic hysterectomy group at each point of measurement in the weeks postoperatively, up to 4 years of follow-up. Higher scores at 4 years were also seen in the laparoscopy group for vitality, physical functioning, and social functioning.

From these findings, the authors surmise that QOL remains better 4 years after laparoscopic hysterectomy than it does after abdominal hysterectomy.

Why these findings? The Nieboer team offers several explanations for ongoing improvement in QOL scores among laparoscopic hysterectomy patients.

First, it is conceivable that laparoscopic patients scored higher on the Body Image Scale, benefiting from the knowledge that they underwent what, even in layman's terms, would be called the “minimally invasive approach.”

Second, chronic abdominal or pelvic pain could affect QOL scores. It has been shown that, for other laparotomy procedures, the incidence of postop chronic pain ranges from 3% to 56%. Risk factors for postop chronic pain are female gender, younger age, and surgery for benign disease—similar to those that characterized the patient population in this study.

Some weaknesses. The authors acknowledge that the study has shortcomings, including **1)** a small sample and **2)** their inability to discriminate QOL that reflects subjects' surgical outcome from QOL related to typical life events—the death of a spouse, for example.

Nieboer and colleagues conclude by saying that, given the apparent improved QOL after laparoscopic hysterectomy compared with abdominal hysterectomy, **all patients in whom vaginal hysterectomy is not feasible should be able to opt for laparoscopic hysterectomy.**

8 key RAND-36 measures of quality of life in women who have had a hysterectomy

- Bodily pain
- Emotional role
- General health
- Mental health
- Physical functioning
- Physical role
- Social functioning
- Vitality



All patients in whom vaginal hysterectomy is not feasible should be able to opt for laparoscopic hysterectomy

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Quality of life improves after laparoscopic supracervical hysterectomy—more than after a total lap procedure

Einarsson J, Suzuki Y, Vellinga T, et al. Prospective evaluation of quality of life in total versus supracervical laparoscopic hysterectomy. J Minim Invasive Gynecol. 2011;18(5):617-621.

Einarsson and colleagues sought to prospectively evaluate a cohort of patients undergoing total laparoscopic hysterectomy (TLH) or laparoscopic supracervical hysterectomy (LSH) for **1**) time to recovery and **2**) short-term QOL after surgery. In all, 122 women underwent surgery (TLH: N = 71; LSH: N = 51) for benign indications. A QOL questionnaire (again, the SF-36) was administered immediately preoperatively, as a baseline, and at 3 to 4 weeks postoperatively.

Preoperatively, patients were presented with the two surgical options, without being influenced with information about any benefit to removing or retaining the cervix at laparoscopic hysterectomy. Patients then chose which surgery they wanted, and were neither randomized nor blinded to the procedure that was performed.

Findings. The data show greater patient self-selection and more patients with endometriosis in the TLH group; other preoperative baseline characteristics were similar across groups. More operative and postoperative complications were seen in the TLH group (vaginal cuff bleeding requiring return to the operating room, 2 patients; cuff cellulitis, 1; intraoperative vaginal laceration, 1; urinary tract infection, 1), although the difference did not reach statistical significance. There were no significant differences group to group in postop nausea, pain, narcotic use, or return to daily activities.

Regarding the eight QOL parameters, however, a statistically significant difference was observed in six of them to favor

laparoscopic supracervical hysterectomy: physical functioning, physical role, bodily pain, vitality, social functioning, and physical component summary.

Study has shortcomings. The authors address two limitations of their study: namely, that the participants were neither blinded nor randomized. They acknowledge that these limitations might have biased QOL measurements in a way that showed improved QOL among the supracervical hysterectomy group. They raise the possibility that not being blinded to whether the cervix was removed may have affected subjects' bodily perception. (Patients also returned to their daily activities 5 days earlier in the supracervical group, but this finding was found to be statistically insignificant.)

It is possible, however, to look at these limitations not as shortcomings of the study but as an important insight into the validity of patient choice and the benefits of patient education and autonomy in decision-making. Perhaps patients who have chosen to keep their cervix have a discernable advantage in regard to their perception of a higher QOL after hysterectomy.

An additional critique. Although the authors addressed a return to several daily activities that are outside the SF-36 questionnaire (e.g., a return to household chores,



Patient education and autonomy of choice about whether to keep the cervix might improve quality of life postoperatively

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WHAT THIS EVIDENCE MEANS FOR PRACTICE

When you've determined that hysterectomy is indicated for treatment of a patient's benign disease and plan a laparoscopic approach, consider that education and autonomy of choice about whether to keep the cervix might improve quality of life postoperatively.

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driving, work, exercise, and normal activities) they did not address sexual activity.

It has been the generally accepted practice to instruct patients not to place anything in the vagina, and to avoid vaginal intercourse, for at least 6 weeks after the cervix has been removed—regardless of the route of removal. After supracervical hysterectomy, however, patients can resume intercourse as early as 2 weeks. I think that it would be realistic for the authors to have stated that **a quicker return to sexual activity after surgery might improve QOL scores** for women, but they did not specifically address this domain. 🚫

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