# Study Reveals Improved Patient Outcomes, Cost Savings Associated With MIS

According to a recent study published in *The Journal of Minimally Invasive Gynecology*, minimally invasive hysterectomy procedures can result in significant cost-savings compared to open hysterectomy procedures when performed on the right candidates. This cost-savings, the study reports, is thanks to the lessened degree of complications patients face post-operatively with a minimally invasive hysterectomy, allowing the patient to migrate from the inpatient to outpatient setting faster, and thus, saving money.

Hysterectomy is one of the most-frequently performed procedures in the United States, with 600,000 operations performed each year. According to the study, 90 percent of the patients undergoing hysterectomies are doing so for benign reasons—leiomyomas, pelvic pain, pelvic organ prolapse and abnormal uterine bleeding, among the most common reasons.

Traditionally, hysterectomies have been performed in an open abdominal or vaginal approach. However, recent years have seen an evolution to minimally invasive laparoscopic and laparoscopic-assisted vaginal techniques. However, 70 percent of hysterectomies are still performed in an open approach.

According to the study, clinical evidence has shown that minimally-invasive techniques are associated with fewer complications, shorter hospitalization, and more rapid return to normal activities when compared with open hysterectomy techniques. However, despite the evidence, minimally-invasive approaches have been slowly accepted for hysterectomies, even among patients who show no clinical contraindications. The study reports only 1 in 3 hysterectomies are performed minimally-invasively.

The “bridge the gap” between clinical efficacy and effectiveness, the study evaluated medical and pharmacy claims data and enrollment data from a large fee-for-service U.S. managed health care plan. Claims were submitted directly to the health care plan by physicians, facilities and pharmacies for payment purposes, and the plan required them to give a complete and accurate diagnosis and procedure information. Patients included in the study were required to have undergone a hysterectomy between July 1, 2005 and June 30, 2006 and be continuously enrolled in the health plan for 6 months before and 6 months after the procedure.

The researchers analyzed clinical outcomes, specifically:

- Overall infection rate
- Type of infection

- Days of antibiotic use
- Number of major bleeding episodes
- Procedure-specific complication rates.

They also evaluated economic outcomes:

- Insurer and patient payment totals.
- Cost-capture of the surgical procedure and expenditures related to follow-up office visits.
- Hospitalizations.

Among the 3, 799, 885 female patients enrolled in the health plan, 15, 404 met inclusion criteria for the study. Of those patients, 3,520 (23 percent) patients underwent minimally-invasive hysterectomy through laparoscopy while 3,310 (20 percent) were treated with minimally-invasive vaginal hysterectomy and 8, 754 patients underwent an open abdominal hysterectomy.

The study found 18 percent of open abdominal patients experience complications, compared to 15 percent of laparoscopic patients and 14 percent vaginal hysterectomy patients. Major bleeding rates were also marginally higher in open patients, as well as the overall rate of procedure-specific complications.

Meanwhile, the length of stay for open patients was 3.7 days compared to the MIS patients' 1.6 day long stay for laparoscopic procedures and 2.2 days for vaginal hysterectomies. Overall, the unadjusted expenditures were higher for open-procedure patients, accruing an average $12, 086 in expenditures compared to $10,868 and $9,544 for laparoscopic and vaginal hysterectomies, respectively. Another notable finding included that open procedures were not performed in an outpatient setting, while 40 percent of laparoscopic procedures were performed in an outpatient facility and 20 percent of vaginal procedures were done in an outpatient setting.

While the study presents certain limitations in its analysis, it works to provide "real world" evidence that minimally-invasive hysterectomy techniques should be considered for the right surgical candidates, the study reports. Minimally-invasive hysterectomy procedures showed to provide patients with less complication, less bleeding episodes and a shorter length of stay than open procedures. As a result, the costs of a hysterectomy performed minimally-invasively presented cost-savings benefits. While the evolution to minimally-invasive technique has been slow to adapt in the hysterectomy realm, maybe it should be considered more carefully by physicians. The right patients can benefit from a less-invasive procedure in a multitude of ways.

*Source: Warren, MD, Lori et al; "Open Abdominal versus Laparoscopic and Vaginal Hysterectomy: Analysis of a Large United States Payer Measuring Quality and Cost of Care." The Journal Of Minimally Invasive Gynecology, Vo. 16, No. 5, September/October 2009.*

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