

13 Are longer operative times total laparoscopic hysterectomy associated with decreased benefits compared to total abdominal hysterectomy?

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OBJECTIVES: To determine whether there is an operative time limit above which the benefits of total laparoscopic hysterectomy, TLH, for benign conditions are diminished when compared to shorter lengths for abdominal hysterectomy, TAH.

MATERIALS AND METHODS: Utilizing targeted hysterectomy data from the National Surgical Quality Improvement Project we identified patients who underwent either TLH or TAH between the years 2015-2018 using CPT codes. Women with a diagnosis of or undergoing procedures for malignancy, prolapse or incontinence, or non-gynecologic conditions, undergoing vaginal or supracervical hysterectomy by any approach were excluded. The primary outcomes of interest were any postoperative adverse event, and length of stay (LOS) were analyzed using generalized linear models; LOS was analyzed via logistic regression and risk of any complication with a negative binomial model. The models controlled for demographic data, co-morbidities, and hysterectomy-specific information such as uterine weight, presence of endometriosis and pelvic inflammatory disease at the time of surgery. Missing data were addressed using multiple imputation analysis. The interaction between operative time and route of surgery was included as a covariate in each model. Given the potential risk for selection bias, secondary models were constructed utilizing propensity score matching to adjust for likelihood of undergoing either route of surgery preoperative characteristics.

RESULTS: A total 82,132 TLH and 40,974 TAH met criteria for analysis. The mean operating time was similar for both routes, 129 ± 60 minutes for TLH and 129 ± 64 minutes for TAH, $p=0.45$. The complication rate was higher for TAH than TLH (16.6% vs 7.7%, $p<0.001$); and the median length of stay was longer for TAH (2, IQR: 2-3, days vs 1, IQR: 0-1, days, $p<0.001$). After adjusting for confounders, the variables most strongly associated with complications were a preoperative transfusion (aOR=2.37, 95%CI: 2.03-2.76), TAH (aOR=2.14, 95%CI: 1.92-2.39), greater than 10% weight loss within 6 months, and operating time (aOR=1.44 per hour of surgery, 95%CI: 1.41-1.49). Based on this analysis, there was no time point at which TAH would be more advantageous than TLH (Figure 1), and this held true for the propensity score adjusted cohort. For longer LOS, the strongest predictor was undergoing TAH (aOR=3.06, 95%CI: 2.99-3.14). Based on this model, as long as the operating time was shorter than 25.5 hours, LOS after TLH will always be shorter than after TAH after adjusting for all meaningful confounders, (Figure 2); this also held true in the propensity score matched cohort.

CONCLUSION: Based on this analysis, there is no reasonable duration of surgery at which TLH is associated with a higher rate of complications or longer length of stay compared to TAH.

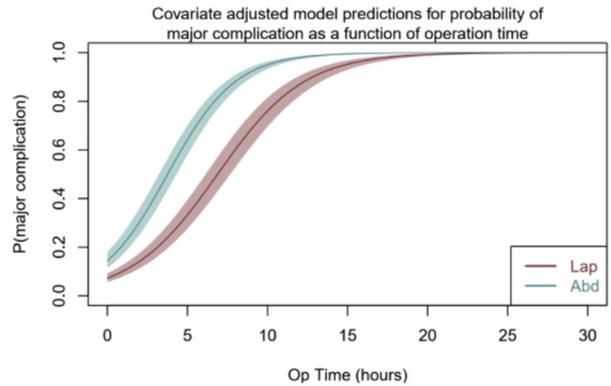
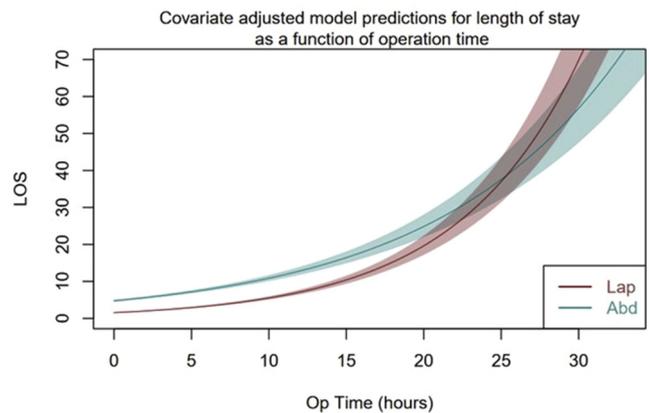


Figure 1: Incidence of Complications versus Operative time (in hours) for TAH and TLH



DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Natalie Hills: Nothing to disclose; stephen rhodes: Nothing to disclose; C. E. Bretschneider: Nothing to disclose; Douglas Gilchrist-Scott: Nothing to disclose; David Sheyn: Nothing to disclose.

14 Comparison of laparoscopic hysterectomies for benign indication by surgical complexity to assess for differences in surgical outcomes

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OBJECTIVES: To compare surgical outcomes following laparoscopic hysterectomies of varying complexity tier

MATERIALS AND METHODS: A retrospective review of hysterectomies from 01/01/2019 to 07/31/2021 that took place at Kaiser Permanente Riverside and Moreno Valley was performed. Inclusion criteria included laparoscopic hysterectomies performed for benign indications in women older than 18. Malignant or urogynecology cases were excluded. Complications, urgent care, and emergency visits, and readmissions within 90 days of the surgery date were assessed. Procedure length, estimated blood loss and conversion rates were also evaluated. Kaiser's validated three-tiered complexity scoring system (Tier 1, Tier 2, Tier 3) was used to assess complexity.

