

## **DIFFERENCE IN OPERATING ROOM OUTCOMES FOR FERTILITY-RELATED HYSTEROSCOPY PERFORMED IN THE AMBULATORY SURGICAL SETTING VERSUS THE IN VITRO FERTILIZATION SUITE**

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**Background:** Uterine cavity abnormalities occur in 16.2% of women presenting for infertility<sup>1</sup>. Hysteroscopy in those impacted allows for visualization of the cavity and simultaneous correction of any pathology found that may impact fertilization or growth of a pregnancy. Reproductive endocrinologists and infertility specialists often perform these procedures, both in the ambulatory surgical setting (AMB) and the in vitro fertilization suite (IVFS).

**Objective:** To evaluate whether operating room outcomes differ between hysteroscopies performed for fertility-related indications when performed in an ambulatory surgical setting versus the in vitro fertilization suite.

**Materials and Methods:** This is a retrospective cohort study of all patients who underwent hysteroscopy for fertility-related indications between March 2022 - March 2023 at four sites (2 IVFS, 2 AMB) within a single academic health system. Differences in operating room (OR) time, post anesthesia care unit (PACU) time, estimated blood loss (EBL), intravenous (IV) fluid, and fluid deficit values were taken from the electronic medical record, as well as demographic data including patient age, body mass index (BMI), and anti-müllerian hormone (AMH) levels. Indications for surgery were also collected. Student's t-tests were used to compare IVFS and AMB outcomes, as well as patient-specific demographic data between the two groups. P-value of < 0.05 determined significance.

**Results:** One-hundred-thirty-two cases were included in the study, of which 72 (55%) were performed in the AMB and 60 (45%) were performed in the IVFS. There was no difference in age (36.1 vs 36.2 years ( $p = 0.87$ )), BMI (26.7 vs 26.7 kg/m<sup>2</sup> ( $p = 0.97$ )), or AMH (3.6 vs 5.7 ng/mL ( $p = 0.07$ )) between the 2 groups. IVFS cases were found to have significantly shorter OR time [32.3 vs. 69.2 minutes ( $p < 0.0001$ )], PACU time (52.6 vs. 101.2 minutes ( $p < 0.0001$ )), and lower amounts of EBL (5.2 vs 12.1 cc, ( $p = 0.007$ )), IV fluid (502.0 and vs. 679.2 cc, ( $p = 0.001$ )), and fluid deficit (237.2 vs 641.4 cc, ( $p = 0.0001$ )) compared to cases performed in the AMB (Table 1). Indications for surgery are found in Table 2. The majority of cases performed in the AMB were polypectomies (58.3%) and myomectomies (23.6%), while the majority of cases performed in the IVFS were diagnostic (61.7%) and polypectomies (31.7%).

**Conclusions:** Hysteroscopies performed in the IVFS had shorter intraoperative and recovery times as well as a decreased EBL, IV fluid use, and fluid deficit compared to the AMB. On average, OR time was more than halved and PACU time nearly halved when performed in the IVFS compared to AMB. Performing more case-level-appropriate fertility-related hysteroscopies in the IVFS may reduce intraoperative and recovery time, increase efficiency, and potentially lead to lower costs and higher patient satisfaction.

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**References:**

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[https://www.asrm.org/practice-guidance/practice-committee-documents/fertility-evaluation-of-infertile-women-a-committee-opinion-2021/? t tags=siteid%3A01216f06-3dc9-4ac9-96da-555740dd020c%2Clanguage%3Aen& t hit.id=ASRM Models Pages ContentPage%2F\\_201ad136-e639-46fb-ac1e-ed60ee512deb\\_en& t hit.pos=15](https://www.asrm.org/practice-guidance/practice-committee-documents/fertility-evaluation-of-infertile-women-a-committee-opinion-2021/? t tags=siteid%3A01216f06-3dc9-4ac9-96da-555740dd020c%2Clanguage%3Aen& t hit.id=ASRM Models Pages ContentPage%2F_201ad136-e639-46fb-ac1e-ed60ee512deb_en& t hit.pos=15)

**Table 1.** Operative Room Outcomes of AMB and IVFS Hysteroscopy

|                          | Ambulatory<br>(N=72) | IVF Suite<br>(N=60) | P-value    |
|--------------------------|----------------------|---------------------|------------|
|                          | Average / SD         | Average / SD        |            |
| Time in OR (min)         | 69.2 ± 21.5          | 32.3 ± 11.8         | p < 0.0001 |
| Time in PACU (min)       | 101.2 ± 63.9         | 52.6 ± 15.8         | p < 0.0001 |
| EBL (cc)                 | 12.1 ± 17.1          | 5.2 ± 1.0           | p = 0.007  |
| IV Fluid (cc)            | 679.2 ± 255.2        | 502.0 ± 311.3       | p = 0.001  |
| Fluid Deficit (cc)       | 641.4 ± 688.6        | 237.2 ± 237.3       | p = 0.0001 |
| Age (years)              | 36.2 ± 4.3           | 36.1 ± 4.3          | NS         |
| BMI (kg/m <sup>2</sup> ) | 26.7 ± 9.5           | 26.7 ± 3.6          | NS         |
| AMH (ng/mL)              | 5.7 ± 8.0            | 3.6 ± 3.8           | NS         |

Note: SD = standard deviation, NS = no significance

**Table 2.** indications for Fertility-Related Hysteroscopy

|                                 | Ambulatory<br>N = 72 | IVF Suite<br>N = 60 |
|---------------------------------|----------------------|---------------------|
| Diagnostic                      | 4 (5.6%)             | 37 (61.7%)          |
| Polypectomy                     | 42 (58.3%)           | 19 (31.7%)          |
| Myomectomy                      | 17 (23.6%)           | 0 (0%)              |
| Lysis of Adhesions              | 5 (6.9%)             | 4 (6.7%)            |
| Retained Products of Conception | 3 (4.2%)             | 0 (0%)              |
| Septum Resection                | 1 (1.4%)             | 0 (0%)              |

