Perceptions of Manual Vacuum Aspiration among Resident and Attending Physicians in Louisiana

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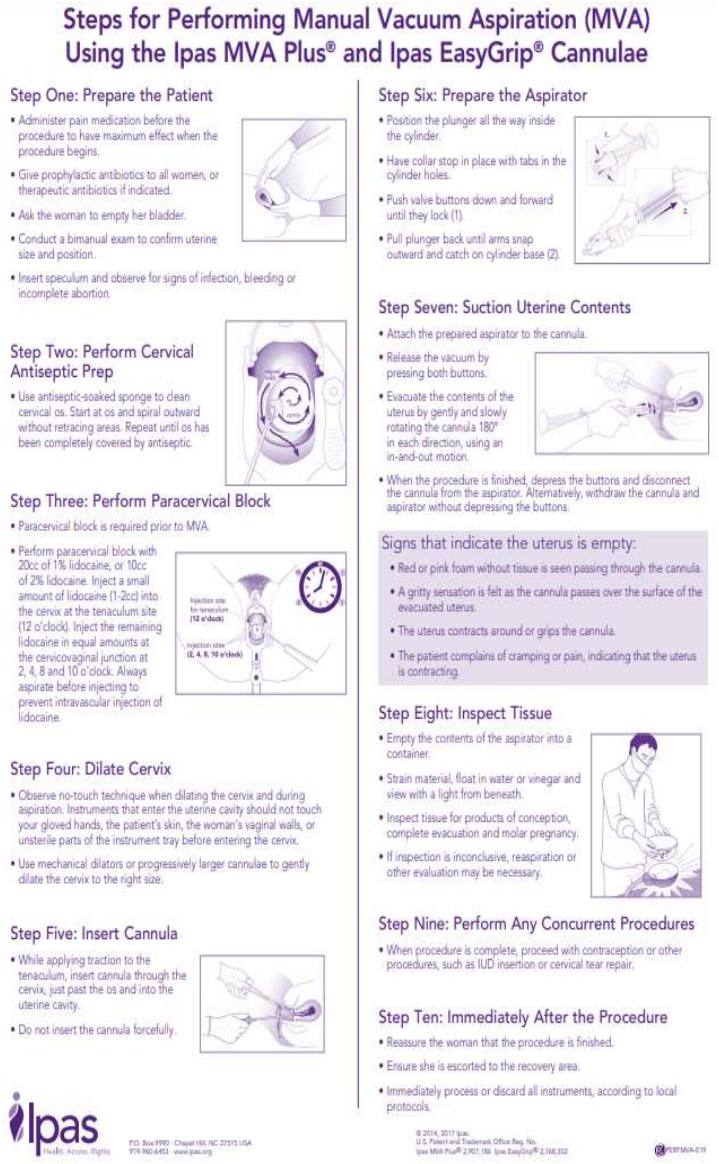
Background

- Manual vacuum aspiration (MVA) is a form of surgical uterine evacuation which can be used in induction of early pregnancy termination or in the treatment of incomplete spontaneous abortion.
- MVA is regarded as a safe method of surgical abortion, resulting in similar safety and efficacy compared to conventional dilatation and sharp curettage (D&C) and electric vacuum aspiration (EVA).
- The World Health Organization (WHO) has, since 1991, recommended vacuum aspiration as the surgical abortion technique of choice for pregnancies of up to 12 to 14 weeks of gestation.
- Benefits of MVA compared to conventional methods include:
  - Can be performed in primary care and outpatient settings under local anesthesia, avoiding general anesthesia-related complications
  - Less painful
  - Shorter procedure (<10 min)
  - Shorter recovery time
  - Associated with less blood loss
  - Lower risk of severe complications, such as uterine perforation
- Preliminary results of a study that used papaya simulation models to train family medicine resident physicians on MVA showed that, after the training, there was a 55% decrease in perceived difficulty of uterine evacuation and a 275% increase in procedural confidence.
- Despite its effectiveness and ease of use, MVA remains underutilized compared to other surgical abortion techniques, perhaps due to limited training and exposure to the procedure. There remains a lack of studies on physicians' perceptions of MVA, especially following the overturn of *Roe v. Wade* in 2022, which outlawed abortion in many states in the US, including Louisiana.
- **The purpose of this study was to assess the knowledge, beliefs, and attitudes towards MVA training among OB/GYN resident and faculty physicians, both before and after a MVA simulation workshop.**

Methods

- OB/GYN resident and faculty physicians from 3 of the 5 residency programs in the state of Louisiana underwent a training and simulation workshop involving the Ipas MVA Cannula and completed two pre- and post-surveys.
- Outcome variables included:
  - Perception of MVA difficulty
  - Comfort level with performing MVA
  - Confidence in their ability to perform MVA
- For the question, "Do you anticipate any barriers to performing MVA in your practice? (Please elaborate on why you chose yes or no)," free responses were categorized into 6 categories:
  - Instrument availability
  - Hospital buy-in
  - Anti-abortion laws
  - Provider education
  - Patient acceptance
  - Cost
- A McNemar test was conducted to determine differences in pre- and post-surveys responses for the three outcome variables.
- An alpha level of 0.05 was used to determine significance.



Steps for Performing Manual Vacuum Aspiration (MVA) Using the Ipas MVA Plus® and Ipas EasyGrip® Cannulae

Step One: Prepare the Patient
- Administer pain medication before the procedure to have maximum effect when the procedure begins.
- Give prophylactic antibiotics to all women, or therapeutic antibiotics if indicated.
- Ask the woman to empty her bladder.
- Conduct a bimanual exam to confirm uterine size and position.
- Insert speculum and observe for signs of infection, bleeding or incomplete abortion.

Step Two: Perform Cervical Antiseptic Prep
- Use antiseptic-soaked sponge to clean cervical os. Start at os and spiral outward without retracing areas. Repeat until os has been completely covered by antiseptic.

Step Three: Perform Paracervical Block
- Paracervical block is required prior to MVA.
- Perform paracervical block with 20cc of 1% lidocaine, or 10cc of 2% lidocaine. Inject a small amount of lidocaine (1-2cc) into the cervix at the tenaculum site (12 o'clock). Inject the remaining lidocaine in equal amounts at the cervicovaginal junction at 2, 4, 8 and 10 o'clock. Always aspirate before injecting to prevent intravascular injection of lidocaine.

Step Four: Dilate Cervix
- Observe no-touch technique when dilating the cervix and during aspiration. Instruments that enter the uterine cavity should not touch your gloved hands, the patient's skin, the woman's vaginal walls, or unsterile parts of the instrument tray before entering the cervix.
- Use mechanical dilators or progressively larger cannulae to gently dilate the cervix to the right size.

Step Five: Insert Cannula
- While applying traction to the tenaculum, insert cannula through the cervix, just past the os and into the uterine cavity.
- Do not insert the cannula forcefully.

Step Six: Prepare the Aspirator
- Position the plunger all the way inside the cylinder.
- Have collar stop in place with tabs in the cylinder holes.
- Push valve buttons down and forward until they lock (1).
- Pull plunger back until arms snap outward and catch on cylinder base (2).

Step Seven: Suction Uterine Contents
- Attach the prepared aspirator to the cannula.
- Release the vacuum by pressing both buttons.
- Evacuate the contents of the uterus by gently and slowly rotating the cannula 180° in each direction, using an in-and-out motion.
- When the procedure is finished, depress the buttons and disconnect the cannula from the aspirator. Alternatively, withdraw the cannula and aspirator without depressing the buttons.

Signs that indicate the uterus is empty:
- Red or pink foam without tissue is seen passing through the cannula.
- A gritty sensation is felt as the cannula passes over the surface of the evacuated uterus.
- The uterus contracts around or grips the cannula.
- The patient complains of cramping or pain, indicating that the uterus is contracting.

Step Eight: Inspect Tissue
- Empty the contents of the aspirator into a container.
- Strain material, float in water or vinegar and view with a light from beneath.
- Inspect tissue for products of conception, complete evacuation and molar pregnancy.
- If inspection is inconclusive, reaspiration or other evaluation may be necessary.

Step Nine: Perform Any Concurrent Procedures
- When procedure is complete, proceed with contraception or other procedures, such as IUD insertion or cervical tear repair.

Step Ten: Immediately After the Procedure
- Reassure the woman that the procedure is finished.
- Ensure she is escorted to the recovery area.
- Immediately process or discard all instruments, according to local protocols.

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Results

- 12 attending physicians and 28 resident physicians participated in the MVA training and simulation workshop.
- The majority of attending physicians had been employed as attending physicians for more than 7 years. 75% of attending physicians were not trained in MVA during their residency or fellowship and did not currently perform MVAs.
- First-, second-, third-, and fourth-year residents were all represented in the study.
  - The majority of residents reported that they had never witnessed (64.3%) or performed (82.1%) an MVA, whereas only 25.0% and 33.3% of attending physicians reported that they had never witnessed or personally performed an MVA, respectively.
- Over 90% of respondents expressed that they were "very satisfied" with the training.
  - Post-training, 100% of attendings and 96.4% of residents reported intending to offer MVA in their practice.
- The majority of respondents reported that they anticipated barriers to performing MVA in their practice.
  - Most commonly reported barrier: instrument availability.
  - Residents also commonly reported hospital buy-in, anti-abortion laws, provider education, and patient acceptance as potential barriers.
- For both attendings and residents, a significant number of participants perceived MVA to be easier following the training. Both attendings' and residents' confidence in performing MVA significantly increased following the training. Additionally, resident physicians reported significantly higher levels of comfort with the thought of performing MVA following the training; however, this was not a significant finding for attending physicians.

Discussion

- Although we did not specifically assess perceptions on abortion in this study, the high percentage of reported satisfaction with the training is especially notable, as all participants in this study are physicians who practice in a state that is hostile to abortion.
- This training also significantly improved physicians' perceptions of easiness, comfort, and confidence in performing MVA.
- All participants also came from 3 out of 5 OB/GYN residencies in Louisiana, representing 23.5% of all OB/GYN attendings in Louisiana (12/51) and 26.4% of all OB/GYN residents in Louisiana (28/106).
- In the future, we aim to replicate this training, simulation workshop, and survey at other institutions, especially those located in areas where abortion remains illegal. Additionally, future studies will examine providers' knowledge, attitudes, and beliefs on abortion procedures, availability, and legality.

Conclusions

The lack of prior MVA training in attending physicians likely affects the sustained lack of training for the current generation of resident physicians, leading to a low penetrance of MVA in Louisiana. Given the high satisfaction rating and considerable increases in participants' ease, comfort, and confidence in performing MVA following this training/simulation, we conclude that trainings such as these have the potential to improve physicians' knowledge and attitudes towards MVA. Training healthcare providers appropriately and increasing availability of MVA is critical for patients seeking safe and effective methods of abortion. This is especially relevant in states in the Deep South, such as Louisiana, where abortion is historically and presently highly stigmatized, as well as in the face of legal impediments generated by the recent overturn of *Roe v. Wade*. MVA remains a safe and effective tool that should be utilized for abortion management where/when clinically and legally possible.