

MASTER CLASS

In-Office Gynecologic Surgery, Part 2



BY CHARLES E. MILLER, M.D.

In the last Master Class in Gynecologic Surgery, Dr. James Presthus provided the reader with an overview on in-office gynecologic surgery. Hysteroscopy, the standard of care in the diagnosis and treatment of abnormal uterine bleeding, is a procedure

that lends itself especially readily to an office environment.

Dr. Presthus pointed out that the physician “can provide more thorough and efficient care in a more comfortable, familiar, and cost-effective setting.” He emphasized that despite the use of less anesthesia, patients routinely tolerate the procedure well.

Dr. Presthus gave us the “why” behind his recommendation that the gynecologist commit to office-based surgery.

Now, Dr. Mark Glasser provides us with the “how and what” considerations

of in-office gynecologic surgery, focusing on hysteroscopy, global endometrial ablation, and the Essure tubal occlusion procedure.

Not only does Dr. Glasser make recommendations on instrumentation, he also discusses the surgical technique of hysteroscopy and the anesthesia concerns that can arise. This article is an excellent primer for those considering in-office hysteroscopy.

From 1992 until 2006, Dr. Glasser was the director of advanced gynecologic laparoscopy training for the Kaiser North-

ern California Region. He is a past member of the board of trustees of the AAGL and continues to serve on the national advisory committee of the AAGL and the editorial board of the *Journal of Minimally Invasive Gynecology*.

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BY MARK GLASSER, M.D.

Hysteroscopy and Ablation: Instrumentation, Setup, and Process

As Dr. James Presthus discussed, in-office hysteroscopy not only makes good economic sense, it is good patient care. The office hysteroscope is critical for thoroughly evaluating abnormal uterine bleeding (the most common

indication) and for more accurately diagnosing its common causes while maintaining the valuable ability to “see and treat.” For the diagnosis of abnormal uterine bleeding, hysteroscopy is simply an essential, integral part of good patient care. Once you add the office hysteroscope to your diagnostic armamentarium, you will find it difficult to imagine practicing ambulatory gynecology without it.

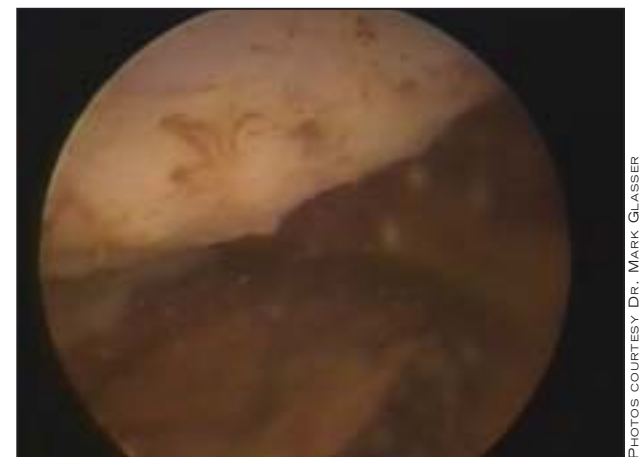
Office hysteroscopy plays a much larger role beyond diagnosis, however, because it enables us to remove polyps and adhesions, to do biopsies, and to perform minor therapeutic and operative procedures—such as hysteroscopic sterilization using the Essure system and global endometrial ablation—in a setting where our patients are comfortable and relaxed.

Control of pain (or the perception that patients will not tolerate the procedure) seems to be the greatest concern of physicians who are considering adding in-office hysteroscopy to their practice. It need not be. Patients tolerate in-office hysteroscopy extremely well.

A small hysteroscope is no larger than a Pipelle endometrial suction curette. Showing the patient a picture of both instruments, side by side, is truly worth a thousand words. Add to that the reduction in anxiety thanks to familiar surroundings, the conversations with office staff who often know the patient on a first-name basis, and a visualization of the procedure, and the discomfort that would be



A 42-year-old patient with a 4-cm type 0 myoma was treated in the office with the HTA system (preoperative view at left). The patient has been amenorrheic for more than 6 years (postprocedure view at right).



PHOTOS COURTESY DR. MARK GLASSER

experienced in an operating room quickly dissipates.

Diagnostic hysteroscopy with a 3-mm flexible hysteroscope, in fact, does not require any anesthesia. Nevertheless, because studies indicate that a minority of patients find distention of the uterus uncomfortable and because we take a “see and treat” approach to in-office hysteroscopy, we use a small paracervical block. This way, virtually 100% of our patients are completely comfortable, and we are ready to move on to treatment if needed.

This is exactly what we tell our patients: that the small injection of local anesthetic will help them to tolerate the procedure, especially if we find a polyp or other abnormal tissue and want to remove it on the spot rather than subject them to a second procedure at a later date.

Both the Essure procedure and global endometrial ablation—we use a thermal ablation device called the Hydro ThermAblator (HTA) system—can be performed under local anesthesia with oral premedication at home.

When you embark on in-office operative hysteroscopy, it is vital to be aware of state regulations regarding in-office surgery. Almost 20 states now have rules that differentiate procedures into level I surgery and level II surgery, depending largely on the types of anesthesia used.

The South Carolina Board of Medical Examiners, for instance, defines level I surgery as including minor procedures in which “[oral] preoperative medication and/or unsupplemented local anesthesia” is used in quantities no greater than the manufacturer’s recommended dose, with “no drug-induced alteration of consciousness other than preoperative minimal [oral] anxiolysis of the patient.”

Level II office surgery includes procedures that “require the administration of minimal or moderate intravenous, intramuscular, or rectal sedation/analgesia, thus making postoperative monitoring necessary.” Offices performing level II surgery must receive certification and follow various regulations and standards aimed at ensuring patient

safety. A significant amount of office-based surgery done today involves the use of parenteral narcotics and thus is considered level II surgery. The protocols we use for in-office hysteroscopy and hysteroscopic procedures, however, are all level I.

For ablation, the HTA system is ideally suited for office use under minimal or level I sedation because it operates at low pressure (50 mm Hg) and is a “no touch” technique. Many of the other nonhysteroscopic global ablation technologies have also been used in the office setting, but—in order to ensure patient comfort—they may require parenteral narcotics, which are considered moderate or level II sedation.

Instrumentation and Setup

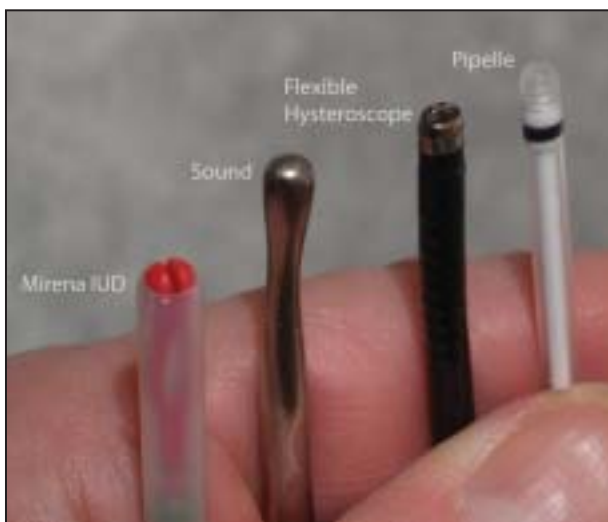
For diagnostic hysteroscopy, I favor a 3-mm flexible hysteroscope. I also prefer using normal warmed saline as a distension medium, and I have found that hanging the saline in a 1,000-cc bag on a tall IV pole, with standard IV tubing and with a pressure cuff to maintain distention, is an ideal setup. We use the C-Fusor pressure infusor bag.

Injecting the saline with a 60-cc syringe is another option and is certainly adequate for a quick diagnostic procedure. The disadvantage to this approach, however, is the likelihood of needing to continually change syringes if polyp removal or another treatment is needed, or if the patient has a patulous cervix and transcervical fluid loss occurs.

Some physicians prefer not to purchase a flexible scope and instead choose a continuous-flow diagnostic/operative hysteroscope. For the physician who is just starting out and wants one piece of equipment with the most versatility, I would recommend a 5.5-mm continuous flow hysteroscope with a 5-Fr operating channel. The Bettocchi 4.5-mm continuous flow hysteroscope is another alternative.

In either case, the use of these rigid scopes demands the

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A photo of a 3-mm flexible hysteroscope with other commonly used office instruments reassures patients.

COURTESY DR. MARK GLASSER



The Medex C-Fusor is placed around a bag of normal saline, which is used to maintain distention pressure.

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use of a tenaculum as well. Because application of a tenaculum is often uncomfortable for the patient, local anesthetic should be used at the tenaculum site, as well as a small paracervical block in case the cervix needs to be dilated.

When a rigid hysteroscope is used diagnostically, an open-sided speculum should be used, because a closed speculum will restrict the free movement of the scope. After the hysteroscope is inserted through the cervix, the open-sided speculum is removed to allow for free lateral movement of the scope. Such a choice is irrelevant when a flexible hysteroscope is used because the end of the scope moves freely and flexes up to 110 degrees, allowing for adequate visualization of the cornua and the tubal ostia.

[Note: Vaginoscopy, a new technique, popularized in Italy, entails the insertion of a small-diameter rigid or flexible scope directly into the vagina without the use of a speculum, and then right into the cervix and uterus without the use of a tenaculum. The procedure appears to be well tolerated by patients, but it may not work well in patients with a narrow cervical os.]

Insertion of the hysteroscope through the cervix should always be done under direct visualization with fluid running and a camera always at the 12:00 position. It rarely is necessary to dilate the cervix when using a 3-mm flexible hysteroscope, even in nulliparous or postmenopausal women. Once the scope passes the external os, fluid pressure will sufficiently dilate the cervical canal. Dilatation is more often necessary when a 5.5-mm operative hysteroscope is used, though rarely for multiparous women.

When a polyp is visualized during a diagnostic hysteroscopy performed with a 3-mm flexible hysteroscope, the cervix can then be dilated to 5 mm or 6 mm if necessary, and the polyp can be removed using a Randall stone forceps inserted to the area where the polyp was visualized. Alternatively, a 2- to 3-mm-long laryngeal polyp forceps can be placed into the uterus alongside the flexible hysteroscope and used to remove the polyp under direct visualization.

Other forceps that are useful for polyp removal are the Kelly, Sopher, and Javerts polyp forceps. These instruments are 7 mm in diameter and are easily inserted if the cervix is dilated using standard Hegar or Pratt dilators to 6-7 mm. This can be done without any patient discomfort if a paracervical block has been administered initially.

The use of a continuous flow operative scope with a 5-Fr to 7-Fr operative channel instead of the diagnostic scope is another option for polyp removal, foreign body removal, or directed biopsy. It is most important not to attempt to pull a biopsy out through the operative channel, but rather to move the entire scope from the cervix with the specimen in view.

Our basic instrument tray for diagnostic and operative hysteroscopy, therefore, consists of an open-sided speculum; a series of Hegar dilators; a single-tooth tenaculum;

a stainless steel or glass medicine cup; polyp forceps and Randall stone forceps; 9-inch ring forceps; two surgical towels; a 10-cc control syringe; a 22-gauge spinal needle; and 10 4-by-4-inch sponges. (We buy nonsterile sponges in packages of 500 and put 10 on each instrument tray, and then we steam-autoclave each kit.)

We always have a second sterile tenaculum in case the patient has a patulous cervix. A Gimplerson four-prong tenaculum is also valuable for the control of transcervical leakage.

Other basic equipment includes a camera system, a monitor (the new flat-panel monitors available from scope manufacturers are lightweight and compact), a light source (preferably xenon), and if possible, a video printer. We do not sterilize our cameras because the cameras will last longer if they are not subject to soaking or steam autoclaving. Instead, we simply fold an 11-by-17-inch Steri-Drape with an adhesive edge over the nonsterile camera.

For the Essure procedure, we use a sterile under-buttock drape with a fluid collection pouch to keep track of inflow and outflow.

Every procedure room should also have basic safety equipment: an oxygen supply with a mask or nasal cannula; a positive pressure manual resuscitator (Ambu bag); and monitoring equipment for pulse and blood pressure. We use a Dinamap automatic blood pressure and pulse monitor, which frees the nurse to concentrate on talking with the patient.

An automatic electronic defibrillator is optional, but it certainly is a good piece of relatively inexpensive equipment for any medical office to have, and I encourage its inclusion in any in-office hysteroscopy setup. A pulse oximeter is mandatory only for level II procedures. With office hysteroscopy, you likely will never use one (we have not), but it is nice to know it's there to use if a patient has a change in consciousness.

When level II procedures are being performed using parenteral narcotics and/or sedatives, a fully stocked crash cart is required, and an ACLS (advanced cardiac life support)-certified staff member who is not performing the procedure must be present to monitor the patient.

Anesthesia and Patient Comfort

At the Kaiser Permanente San Rafael (Calif.) Medical Center, we have performed more than 12,000 gynecologic office procedures—from diagnostic hysteroscopies to hysteroscopic sterilizations and endometrial ablations—under local anesthesia with minimal oral sedation, over a 25-year period.

For diagnostic and minor operative hysteroscopy, we generally instruct patients to take 400-800 mg ibuprofen at home 1 hour before the procedure. We administer a paracervical block consisting of 5-10 mL of 1% lidocaine to the cervical vaginal junction superficially through the mucosa at 3:00 and 9:00.

Whenever a tenaculum is used, we also inject the anterior lip of the cervix with approximately 1-2 mL of local anesthetic before the tenaculum is applied, and then leave the room for 5-10 minutes to allow the block to set properly.

Remember, as with any office gynecologic procedure, it is important to use a "no-touch" technique, as the uterine wall is innervated by both sympathetic and parasympathetic fibers. It is unnecessary to sound the uterus; the old but still common practice of sounding is uncomfortable for the patient and may provoke uterine contractions that make distention of the uterus difficult. It may also cause perforation and is simply unnecessary.

Our oral premedication regimen for HTA and Essure procedures consists of 800 mg ibuprofen (Motrin), 10 mg diazepam (Valium), and two hydrocodone/acetaminophen (Vicodin) tablets taken at home 1-2 hours before the procedure. Patients are instructed to arrive 30 minutes prior to their scheduled appointment, at which time they are given an intramuscular injection of

30 mg ketorolac (Toradol) and 0.4 mg atropine.

Toradol is a prostaglandin synthetase inhibitor and has a peripheral effect as well. Atropine is used to prevent vasovagal reactions. The patient should be warned that she may experience dry mouth, but that this is preferable to the extreme discomfort felt during a vasovagal episode.

We then administer a paracervical/intracervical block with 1% mepivacaine (Carbocaine, Polocaine), which is longer acting than lidocaine. We inject 2 mL in the anterior lip of the cervix before it is grasped with a tenaculum; we place the needle against the cervix and ask the patient to cough, which results in self-injection. We then inject 10 mL in the cervicovaginal junction on each side at 3:00 and 9:00. These injections are given superficially, just under the mucosa, to raise a weal.

We inject an additional 5 mL intracervically about 1-2 cm deep at 8:00 and 4:00, and 5 mL submucosally at 6:00 between the uterosacrals. The total amount of mepivacaine given is 37 mL, or 370 mg (the recommended maximum dose is 400 mg).

Again, it is important to leave the room for 10-15 minutes to allow the block to set properly. We recommend that the physician leave while the nurse stays to monitor the patient and help her relax.

The Essure procedure can be done with less oral anesthesia and a smaller paracervical or intracervical block than endometrial ablation requires, but because our patients tolerate our ablation anesthesia regimen so well, we use it for both procedures.

In a study of 249 endometrial ablations performed at Kaiser Permanente San Rafael over 5.5 years using the HTA system, only one procedure was discontinued because of pain, and two patients were admitted overnight for cramping and nausea. The overall success rate was 90.6%, despite 40% of our patients having submucous myomas. The only complications were four cases of postoperative endometritis, with two of those patients requiring hospitalization for intravenous antibiotics, and two cases of procedure failure due to false passages.

We have not had any adverse anesthetic reactions in our patients who have undergone HTA over the years, or in any of the thousands of other women who were given similar paracervical blocks for office gynecologic procedures.

Postprocedure recovery is rarely necessary for these level I procedures. Our nurses monitor patients' blood pressure for 10-15 minutes after the procedures are completed and ensure that patients are feeling well and are ambulatory. This monitoring is done in the procedure room. Patients who don't feel well enough to leave in that time period are brought into another exam room and are discharged when they are ready. This is very rare.

Our patients also receive written postoperative instructions that tell them to report any increase in abdominal pain, any fever, any foul-smelling discharge, and—after endometrial ablation—the absence of any discharge.

Most of the time, patients will just wave good-bye, pleased to have had their procedure done in the office.

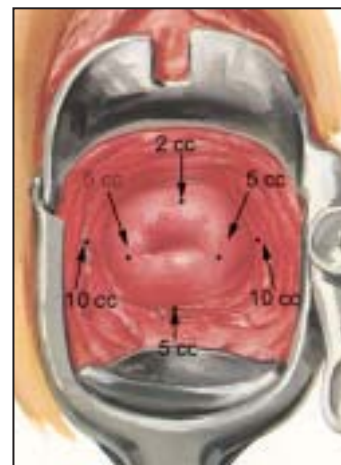
For level II procedures, the postrecovery protocol is much more complex.

The South Carolina rule, for instance, states that monitoring in the recovery area must include both pulse oximetry and noninvasive blood pressure measurement, and that the patient must be assessed for level of consciousness, pain relief, or any untoward complication.

Most states require that the patient be monitored for at least 30 minutes and, depending on which drugs were administered, for as long as 2 hours.

Again, it is important for physicians who plan to use anything but minimal sedation in the office to know their state requirements, if any. These can usually be obtained online from the state department of health services. ■

DR. GLASSER disclosed that he is a consultant for Boston Scientific Corp. and for Conceptus Inc.



This image shows paracervical block injection sites (dots) and doses of 1% mepivacaine (arrows) injected at each site.