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### Optimizing the Safety and Efficacy of Hysteroscopic Surgery

Narrator:

Welcome to CME on ReachMD. This segment, *Optimizing the Safety and Efficacy of Hysteroscopic Surgery*, is provided by Omnia Education. Prior to beginning the activity, please be sure to review the faculty and commercial support disclosure statements as well as the learning objectives.

Dr. Isaacson:

This activity will discuss approaches that enable physicians to perform hysteroscopic surgery more safely and effectively by focusing on best practices, overcoming operative difficulties, the inclusion of pharmacologic agents that improve visualization, reduce vascularity, and reduce the possibility of hyponatremia. Dr. Zurawin, welcome to the program.

Dr. Zurawin:

Thanks very much, Dr. Isaacson, it's a pleasure to be here.

Dr. Isaacson:

Dr. Zurawin, what do you think are the major hurdles in achieving and maintaining competence in hysteroscopic surgery?

Dr. Zurawin:

Well, of course, that's a key question to all of this, Dr. Isaacson. I think mainly it's providing adequate training during residency. Right now there's a challenge in the number of cases that residents do during their 4 years of residency, the availability of cases for hysteroscopic surgery, either even diagnostic hysteroscopy, and the competence and availability of attending physicians to actually teach them hysteroscopy; in other words, having enough faculty who are actually familiar with hysteroscopy themselves. The second thing is that the understanding of the awareness of hysteroscopy in 2016 show that practicing gynecologists were used to doing hysterectomies or laparoscopies or other diagnostic and treatment procedures, but really, hysteroscopy is the foundation for the practicing gynecologist for diagnosis and treatment of abnormal uterine bleeding, infertility, abnormal conditions, and it really should be an office procedure for most conditions. And I think those are unfulfilled needs in hysteroscopy today.

Dr. Isaacson:

Well, I couldn't agree with you more, but your answer to the question makes it sound like there's been a change in practice of hysteroscopy and operative hysteroscopy from when you trained many, many, many years ago, to the current practice. Do you feel that pathology has changed, or it's the pathology that's there is being treated with different modalities?

Dr. Zurawin:

Well, certainly technology has changed. We have actually thinner diameter equipment; we have better optics; we have different fluid distention systems; we have actual video-transmission. We don't have to look through the scope itself. But we also have different equipment that allows us to do many more procedures. We have now hysteroscopic morcellation instead of loop resection of fibroids. We have endometrial ablation devices that weren't available 20 and 30 years ago. So all of those things have changed and I think that they've made hysteroscopy better and more accessible for the practicing gynecologist.

Dr. Isaacson:

So, it sounds to me that the technology has improved, but yet the actual practice of hysteroscopy, particularly in an outpatient office setting, is not quite to the level at which you would expect it to be, and the hurdle that you've described is that we just don't have adequate educators, or adequate number of educators, to our residents and fellows, but I want to move onto the next question which is really, what are the most challenging situations that you face in hysteroscopic surgery?

Dr. Zurawin:

Well, I think it's the same as most surgeons, which is safe entry into the uterine cavity. And that can be challenging with a stenotic cervix or a sharply anteverted or retroflexed uterus. So, the surgeon needs to have correct technique and knowledge of their instrumentation, whether they're using a rigid scope or a flexible scope, and they need to be able to handle the difficult entry in patients with scarring or, frequently nowadays, those patients who've had a previous endometrial ablation where there is extensive scarring. You have a very large hysteroscopic practice and you see lots of challenging situations. What are the most challenging situations for you?

Dr. Isaacson:

We always enter under direct visualization. So, challenges are overcome by watching and looking at the anatomy as you're going in, as opposed to going in with a dilator that obviously has no visualization. So, if you go in with a small-diameter hysteroscope, and we do this in the office with no anesthesia, with no tenaculum, and with no speculum, we can often maneuver any of the difficult anatomy that you had described, such as those with scarring. Now, those with previous endometrial ablation is a different category because they have a tremendous amount of scarring, and if they're continuing to have abnormal bleeding after an ablation, then some type of definitive therapy may be more appropriate than a repeat hysteroscopy, in that particular patient population.

Dr. Zurawin:

Well, you're talking already about a more advanced entry technique which is the vaginoscopic and I think that is a preferred way to do it. Many of the beginning hysteroscopists don't do that, which is another concern, of course. But you also bring up a couple of other points, which I'd like to elaborate on, that is using misoprostol to aid in cervical dilation in patients who have stenosis. That's a good key. In the patients who have difficulty entry, perhaps in previous ablation, it's helpful to use ultrasound-guided entry. You use a transabdominal ultrasound with a transducer that guides the hysteroscope in, and in some cases I've actually used a balloon catheter, like the interventional radiologists do, and thread a very thin catheter in there that's even thinner than dilators. But those are really rare and advanced difficult cases. I think that the vaginoscopic entry is key for everybody to learn, but also the use of misoprostol. Now, while we're on the idea of techniques that help entry and make the hysteroscopy easier, I think one of the other keys for our audience is the use of vasopressin which would reduce intraoperative bleeding and fluid absorption, and in many cases, actually makes the cervix more pliable and easy to enter. What's your experience with vasopressin?

Dr. Isaacson:

I don't use it to reduce bleeding or to use it to reduce fluid absorption, but I do occasionally use a very dilute solution of vasopressin, which is 1 ampule, which is 20 units of vasopressin, and it's diluted into 300 cc of saline. And we'll take this very dilute solution and inject approximately 20 cc of it into the cervix and it does help with cervical dilation. We haven't had to use it when we're doing office-based procedures, which are using smaller diameter hysteroscopes that are typically 5 mm or less in outer diameter, but when we're doing resectoscopic surgery with the larger resectoscopes this is a very useful technique. I also don't use the misoprostol for office-based procedures and, also, understand when you use misoprostol, it's only helpful in the premenopausal patient unless you pre-treat the postmenopausal patient with estrogen first to induce the receptors and which make the misoprostol effective.

Dr. Isaacson:

What's your technique for using misoprostol when you do use it?

Dr. Zurawin:

I'll use 200 mcg of misoprostol orally. You know, you have the option of using vaginal tablets, but I think that patients find it much more acceptable to use it orally, and if it's a stenotic patient, and I agree with you it's more successful in the premenopausal patient, I'll give it to them the night before surgery and also the morning of, about a half hour or so, 20 minutes or half hour before surgery. And I'll find that that will actually soften and ease entry into the cervix. Now, when I do operative hysteroscopy, for example with the hysteroscopic morcellators which are high-volume, normal-saline-based distention media, I find that sometimes the misoprostol will dilate the cervix, or at least soften it a little too much, so that then you'll lose some fluid around the cervix, around the instrument itself. But I do use vasopressin extensively when I do the hysteroscopic morcellator because I do find that it does reduce fluid absorption and also helps reduce bleeding. Like any other pharmacological agent that we inject, I think it's important to remember that we have to give it time to work. . You have to give it a few minutes to work and you can usually see that by observing the blanching effect on the cervix. Now, one of the things that I know that you do is a see-and-treat kind of protocol. I'm interested in learning more about that, but can you talk a

minute about how our audience can do see-and-treat with hysteroscopy?

Dr. Isaacson:

See-and-treat means that the initial time we see the patient on her initial visit, we will do a complete evaluation of the uterus and the, essentially, the pelvis by starting with a physical exam, and then adding a vaginal probe ultrasound to examine the adnexa and the intermuscular portion of the uterus, and then doing the vaginoscopic evaluation and possibly treatment of any pathology within the uterine cavity. And it's all done in the initial visit which typically does not take more than 30 minutes to do all 3 of those. And if there is pathology which can be treated using the small-diameter hysteroscopes, when I say small diameter, again, it's 5 to 5.5 mm or less, then we'll go ahead and treat it. So, we will treat patients who have scar tissue in the uterine cavity, or Asherman syndrome. We'll remove small polyps, we'll treat vaginal septum, and we'll treat very, very small fibroids that may be impacting fertility, not the fibroids that typically cause menorrhagia. And when we do this, we do it with no, again, no anesthesia whatsoever. No paracervical block, no tenaculum, no speculum, and if we're...most of the time the patients are not certain whether they're going to have any hysteroscope or not ahead of time, so they typically don't even take Tylenol or ibuprofen. Anything that takes longer than 10 minutes is typically not well tolerated and we take those patients, or we certainly would offer those patients to go to the operating room, instead of a see-and-treat type of procedure.

Dr. Zurawin:

One last thing I think that we touched on earlier that I'd like to just go back to which is fluid management and fluid absorption. Exclusively all the work we do now is with normal saline as a distention medium and not the glycine sorbitol or mannitol solutions that we've used in the past. So, I don't think that fluid absorption is a big consideration now, unless you really lose well over 2500 cc of normal saline. I do think that some of our newer equipment, like the morcellators, run very high volume and sometimes higher pressure, so you have to keep an eye on that. But I, personally, haven't run into hyponatremia using the techniques that you describe in the office and that I've talked about earlier with hysteroscopic morcellation. So the sodium issues and diuretics haven't really been an issue with me. Do you have anything to add to that?

Dr. Isaacson:

Well, they won't be as long as you're using saline. If you use a physiologic solution you'll never run into problems with electrolyte disturbances, no matter what you're absorption, though you do have to keep track of the total fluid absorbed, because you can get fluid overload and pulmonary edema. And this gets back a little bit to what you do in the office and what you do versus in the operating room because in the office we don't yet have any good pump system and fluid management system that's as accurate as what we have in the operating room and I think that's coming. I think in the very near future -- the CPT codes have already been changed to it. That's going to encourage more office-based procedures and it's going to make it more cost-effective for the physician and for the patient and, therefore, you're going to see new technology within the next 6 to 12 months that will be introduced that is specifically designed for office-based procedures. There's no reason these patients have to go to the operating room in which they take a day off of work and they're subjected to either regional or intravenous or general anesthesia. It's really remarkable when you do these procedures in the office that these patients get off the table, and actually within 5 minutes, just go back to whatever their normal activities would be including going back to work as well as there's no reason for pelvic rest or to delay any type of intercourse or sexual activity because there's no dilation of the cervix. So, I think this is going to really become more popular, but it's, as you've mentioned, it's disruptive technology a little bit, so it takes time to have it adopted by all the gynecologists. But I think we're getting there. One last question for you, Dr. Zurawin, not a last question, but another question for you, you mentioned morcellators and clearly we know this is a different type of morcellation that's being done from a laparoscopic morcellation. What are the cases in which you choose to use a hysteroscopic, I call them shavers now because we tend not to use the word morcellation anymore, but when would you use a hysteroscopic shaver versus a bipolar resectoscopic loop and how do you make that decision?

Dr. Zurawin:

You and I are slightly different hysteroscopists than many of the others who don't see the same kind of volume, but I think it is safe to say for all of us that every single polyp you can imagine, or type 0 or type 1 uterine fibroids, that is those that are mainly in the uterine cavity, are candidates for a hysteroscopic morcellator. The advantages are clear because mainly they're quick, there are no pieces or chips to extract, and that you don't piston the scope. Now, at the same time, if the patient has a very small polyp that can be easily removed through the operating channel of a small hysteroscope in the office, there's no reason to take them to the operating room and use any kind of anesthesia to remove them. But when you get into larger polyps, or many fibroids, where you involve extracting tissue, I think the morcellator has been revolutionary in bringing hysteroscopy and hysteroscopic operative surgery to the average gynecologic surgeon. So, using the morcellator for type 2 fibroids where they're deeply embedded into the uterus is still beyond the reach of most surgeons to do. It can be done. I've done them; you have. But I think that certainly in the beginning they need to restrict themselves to lesions, both polyps and fibroids that are entirely within the cavity.

Dr. Isaacson:

How important is it to you to remove 100% of the myoma, even if it is a type 2?

Dr. Zurawin:

Well, I think you really do need to remove 100% of the myoma, but you don't have to do it all at one time then you can bring them back a couple of weeks later and you'll find that the fibroid has extruded itself almost completely and much easier to get.

Dr. Isaacson:

No, I couldn't agree with you more. I think all the patients that have fibroids that have a substantial intramural component, we counsel the patients that it could be a 2-step procedure, just as you described. I think what's important is that we educate the gynecologist that it is not standard of care to leave the fibroid behind, or to even do an ablation over a fibroid, because there are studies out there that do show that when you leave fibroid behind, you've got about a 55% chance that bleeding will recur and certainly if you're leaving fibroid behind that's protruding in the cavity, that could easily impact embryo implantation if they're trying to conceive. So, I think one way or the other, whether you do it in one sitting or two, it's important that the entire fibroid be removed.

Well, I'd like to thank Dr. Robert Zurawin for talking with us today regarding safety and efficacy in performing hysteroscopic surgery to better improve patient outcomes.

Dr. Zurawin:

Well, you're really very welcome, Dr. Isaacson. It was a pleasure talking with you and I'm sure that our audience will enjoy everything we talked about.

Narrator:

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