Expanding Patient Options: Minilaparotomy for Hysterectomy

Covidien Energy Based Devices
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Welcome to this OR Live program presented by Covidien energy-based devices.

Good evening, and thank you for joining us. My name is Dr. Edward Lee. I'm a general OB-GYN based in Highland Park, Illinois. I practice with North Shore University Health Systems at Highland Park Hospital. I'm joined tonight by Dr. Kimberly Fillmore. She's based here in Concord, California, with Diablo Woman Medical Group.

We're here today to discuss an innovative approach to do a hysterectomy. It's called the “minilap hysterectomy.” I'm very excited to talk about this topic because I believe that this procedure incorporates everything that we know about how to do our procedures, probably the best of everything that we know to delivering a procedure that is very cost effective and patient friendly. Our agenda tonight is as follows:

I'll begin with some historical information regarding hysterectomy, and then we'll show a patient video doing a minilap procedure, as well as a patient testimonial video and field some questions at the end. As a reminder, this is an interactive presentation where you can ask questions. If you're online, you can do this by pressing the "Ask a question" button on the screen, and we'll try to address as many of these at the end of the talk.

I know we have a very diverse audience tonight, ranging from OB-GYN surgeons to patients. The majority of our discussion will be directed towards surgeons who currently perform the hysterectomy procedure; however I believe the information that we present and discuss tonight will be of value to everyone out there. To the OB-GYN surgeons in the audience, my hope is that after the presentation you will be saying, “This is something that I can do.” Many times I would have attended conferences and seminars where I've seen videos of someone doing a particularly new procedure and coming away thinking “I don't know if I'm going to do that,” or “I don't know if I feel comfortable doing that.”

Well I believe our presentation will be different. I'm confident that after this evening you will feel very encouraged to offer the minilap hysterectomy to your patients, and if you did, I think your patients will benefit greatly from that. And to the patients in the audience, I commend you for taking charge of your health-care decisions by seeking more information such as this program, and I want you to know you have options. You do not have to settle for large incisions and prolonged recoveries when it comes time to have your hysterectomy. With that, let me go into some background information regarding the hysterectomy procedure.

Hysterectomy is the third most commonly performed surgery in the United States, with approximately 600,000 procedures being performed annually. By the age of 60, one in three women will have had a hysterectomy. The American College of OB-GYN recently issued an opinion to the OB-GYN community. They state that the vaginal hysterectomy is the approach of choice when feasible. They cite certain advantages of the vaginal approach over the abdominal, such as shorter hospital stay, faster recovery, fewer complications such as fewer fibril episodes, and advantages of OR time, as well as costs.
This is not something new. About 20 years ago, the American College of OB-GYN or ACOG issued a similar opinion expressing a desire that they would like to see more vaginal surgeries being performed. They wanted to see a ratio of 70 to 30. The reason they issued this opinion was because back in 1990, approximately 73 percent of all hysterectomies were being performed as an abdominal procedure. In fact, the ratios were somewhat flipped from what they desired.

And since issues these opinions, what has changed? Actually, not that much. We continue to do the majority of our hysterectomies as an abdominal procedure, meaning with sort of the larger abdominal incision. In fact, even after expressing their opinions regarding their desire for more vaginal hysterectomies, the number of vaginal hysterectomies actually has gone down. Why is this?

Why do OB-GYNs prefer abdominal hysterectomy? Well the vaginal hysterectomy has some limitations. It is somewhat of a blind procedure, as we know, with limited exposure. Inherent with that may be some fear that will have some injury to surrounding tissue. There may be some fear of uncontrolled bleeding that we cannot later control, the inability to see other abdominal or pelvic pathology because of our limited visibility, as well as our inability to maybe treat ovarian pathology, and especially when the uterus is large; that's not something we want as far to enter into. We are very comfortable as general OB-GYNs with the abdominal procedure. We're very familiar with it. It yields us greater exposure. And if we're not that particularly trained with laparoscopic procedures, nor if we have not done a lot of vaginal surgery, we won't feel comfortable with those types of approaches, and again, we seem to go back to the abdominal procedure as our procedure of default.

And taking all that into account, taking experience and skill, for most of us, the abdominal hysterectomy is the safest way for us to perform the procedure. So there seems to be this conflict out there in the OB-GYN community. The American College of OB-GYN wishes that we did more vaginal surgeries, whereas as the general OB-GYNs are telling them, no, we feel more comfortable with abdominal surgeries.

What I think ACOG would really wants isn't particularly the vaginal approach, but they want the benefits from that approach. They would like for patients to stay in the hospital shorter. They would like for patients to return to activity quicker. They wish for patients to have less complications, shorter OR times, and in general, they want this procedure to be more cost effective. So this conflict exists, and this is where I think the minilaparotomy hysterectomy fits in. This is where this conflict may be resolved.

I believe we can achieve ACOG’s goals by using the familiar abdominal hysterectomy, and using what we know about that as an asset. We need to recognize that there are technological advances such as the LigaSure sealing device that can help us achieve these goals an also use what we’ve learned from laparoscopy and vaginal surgery. And very essential to achieving ACOG’s goal is to make a smaller incision. Okay.

We’ve learned from our laparoscopic experiences that we can perform full procedures internally. We can take out a uterus. We can do colectomies. But if we do it from a laparoscopic approach, with smaller incisions, there’s less pain, less blood loss and a quicker recovery. We should also recognize that there have been technological advances in employing these to our advantage. Sealing devices such as the LigaSure help minimize blood loss, and we don’t need as much space to be able to use these devices, and self-retraining retractors, although not as essential, are very helpful.

And finally, I want to emphasize that we are not here to try to teach you a new procedure. We want you to know what you know already. Us OB-GYNs, general OB-GYNs in the community are very familiar with the abdominal approach. You do not need to learn a new procedure. But instead of using traditional plans, use something like the LigaSure where less space is needed and we’re able to use a smaller incision. We’re very familiar already with vaginal surgery that -- we’re familiar with operating in limited spaces, and we know the techniques where we need to sort of hug the uterus to minimize injuries. Use what we know already and that's what we would like to emphasize tonight.
With that, we’d like to go into a video of a procedure performed by Dr. Fillmore.

Hello. I’m going to show you a video of the abdominal hysterectomy done with a minilap approach. If we could roll that video now. This patient came with uterine fibroids, and they were of a size that I did not feel comfortable doing it vaginally. This is a five-centimeter superpubic incision. I would encourage you to measure your incisions to see how large they actually are. I do this one finger breadth above the symphysis pubis, so I’ve drawn the line two centimeters above, be you can see I’m going a little bit lower than that. Like I said, I found one centimeter, it makes access to the pelvis it makes it easier.

This is not teaching any new technique. This is a standard stainless steel incision with a standard opening of the abdomen. Again, these are not things that are new to us as far as doing abdominal hysterectomy, C-sections, myomectomies, multiple other procedures. This is the standard technique for getting into the abdomen.

I basically use a stainless steel technique, which is something that we’re very familiar with. Again, I just make a smaller skin incision and do the same technique that we’re familiar with. Once you open the abdomen, I do recommend putting a curve clamp on the inferior aspect of the peritoneum. This helps put a self-retaining retractor in, and it helps it not slide into the space of Retzius.

We’re using an Alexis O self-retaining retractor, medium size. Many of you are familiar with the large size that are commonly used for cesarean sections here in this country. They are very cost effective. They’re not expensive, and the beauty of this is that you can enlarge the incision if you need to. You can see a clamp here on the inferior peritoneum, and we’re going to slide the self-retaining retractor into the incision and then we’re going to continue on with placing the retractor.

Again, this looks very standard if you use Alexis O retractors in C-sections, and they’re self-retaining. The good thing is that they don’t have any blades to take up extra room, so again, minimizing your incision is helpful. We use lap tapes, again, to pack the bowel out of operative field and the omentum in a standard approach. And then we’re going to show you some techniques for how to do minilap hysterectomy.

These can be done with multiple sizes of the uterus. You’re not going to be able to pull my uteri through this five-centimeter opening, but you are going to notice that one of my key techniques is to do what I call “facilitating myomectomy,” which means that I’m going to remove the fibroids to restore the anatomy of the uterus and make it smaller. This actually makes the procedure safer, because instead of trying to remove a large uterus that may be close to ureter or bladder, we’re going to restore it to a more normal size. So my first tip is to remove every fibroid you can remove to make the uterus a more normal size.

And with that technique you can actually perform hysterectomies on patients with fairly large uteri, because all you’re doing in the beginning is actually taking out fibroids. You’ll basically converting that into a two-step procedure, a myomectomy first, and then a hysterectomy.

It’s very common in doing these procedures to remove the uterus in pieces. I would not recommend trying to do this as a one-step total abdominal hysterectomy with the organ totally intact. The incision is not large enough for that and it will have higher complications. These patients are not G1 oncology patients. This procedure is not recommended for any G1 oncology surgery, and so we don’t necessarily need to remove the uterus as one whole entire piece.

We’re going to use the technology of LigaSure, which has radically changed our ability to use these smaller incisions. Instead of using a number of clamps, we’re going to use LigaSure in a technique, which I call “back clamp.” When we think about how we do hysterectomies, we always put a clamp on the uterine side to prevent bleeding before we clamp and cut the pedicle on the side that’s going to be left in the body to prevent bleeding.
You should use LigaSure in the same technique. If you put LigaSure and seal and cut only once, you’re going to have bleeding. So we don’t want to have clamps here. We want to have a clampless technique because we want to have a smaller incision, so we’re going to use the LigaSure as a back clamp.

You notice I don’t have a lot of clamps on the uterus. I have two thyroid Laheys for retraction, but I don’t have the typical Haney or Rochester PION clamps on the utero-ovarian pedicles. Those take up space. They will not allow us to do that on this minilap incision, so we’re going to need to use technology to help us, and that technology with the LigaSure Impact is really changed the way we can do this.

You’re going to see here that I’m clamping the utero-ovarian pedicle. I’m going to make my window like I normally would make. This should be very recognizable to you. And instead of just sealing and cutting here, I’m going to seal first and allow the RF energy from the LigaSure to seal the vessels on the uterine side, and then I’m going to rotate the clamp slightly laterally and then that’s the pedicle that I’m going to seal the vessels and then cut. So I’m actually using LigaSure both as a back clamp and as a clamp and a cutting device.

This will markedly reduce the amount of equipment you need. When we started to use this device, we were able to go through our hysterectomy tray and basically get rid of half of the equipment because we found that there was much of the equipment, clamps scissors, various other things that we didn’t do because LigaSure took the place of all those instruments.

What you just did, what replaced, I want to say four instruments, that’s two clamp, a pair of scissors, as well as a needle driver to drive suturing was all being performed with one device in a very effective and efficient way.

I feel very comfortable with LigaSure safety-wise as far as bleeding. First of all, the LigaSure seals the vessel in two seconds, whereas tying a suture takes nine seconds. If you have had a patient in the past, where you’ve had a pedicle where the suture LigaSure has come off, this I have not had any failures of LigaSure, and I have not had any patients to have to go back to the operating room for bleeding. So I personally feel that this is safer for controlling bleeding and controlling vessels than using the old technique of clamp, cut, and tie.

Yeah. And I don’t know if the audience has recognized this, but this is basically a regular hysterectomy. She got the round ligaments first, created the window, got the utero-ovarian. This is something that we’re all familiar with. Again, we’re trying to emphasize that we’re not teaching you a new technique, just use the smaller abdominal incision and use what technology has afforded us, which is a device that will seal and cut with not that much space needed. And I’m a big fan of the LigaSure. I think this is one of the best devices created in my medical lifetime. I think it’s actually one of the best inventions I’ve seen, and it’s helped us out tremendously in the operating room.

One advantage that you see here is that I back clamped the uterine vessels but then I’m able to turn the LigaSure around and use it to go at the uterine artery pedicles at the usual 90-degree angle. The LigaSure Impact has a curve just like you would notice the clamps that we normally would use, Haney clamps, Zeppelin clamps, whatever clamps you’re familiar with. And you’re familiar with this technique of turning the clamp around versus using it in the other manner, and the Impact LigaSure has that same capability.

You can see here that we’re, again, back clamping the uterine vessels and then doing two seals on the uterine artery pedicle. Most of you are familiar with tying -- doubly tying your uterine artery pedicle for more hemostasis. This is not any different, except we don’t have clamp and sutures. You can see how quicker this goes because we’re not having to tie and you’re not having to struggle with putting sutures down in this small hole and trying to reach your clamps. It’s a much easier procedure, and you’re going to do it very similar to the technique you already know.
I like how that device allows you to, again, use it like a clamp. You’re able to come off the cervix at a 90-degree angle and, you know, get the uterine arteries, and then you’re able to slide down the cervix in a vertical way to get the cardinals. This is, again, what we’re very familiar with already in term of how to do a hysterectomy. We’re just using this device instead of our usual clamps and suture.

The steam you see is steam from sealing vessels. It is not smoke or char like in cautery. If you’re expecting it to look black when you seal it, it won’t look black. It looks whitish, and you can see above this pedicle some whitish areas. So it can burn patients. That steam is hot. So you need to be mindful of that. And one other tip I would give is that when you use this device if you finding that it’s pulling off, you can’t pull up on this device like you can a clamp. We’re very used to clamping things and then pulling them up to suture them. This, if you pull too hard, the clamp will come off. That doesn’t mean it doesn’t work. You just need to put the clamp on and not pull on it so that it will stay where you want it to stay and seal vessels.

But this should look very familiar to you. This is not a new technique, and you can see we’re not struggling here with the tying suture. This patient had her ovaries retained, but in a number of cases where the uterus has been large, I have taken the uterus out first, and I’m able to remove the ovaries with a retro -- and if I needed a retroperitoneal dissection, you can see quite clearly. I amputate the specimen below the uterine artery.

Again, for better visualization, I have removed the cervix on all but approximately two cases. So if you’re somebody who says, “I want to remove cervix. I don’t feel comfortable doing supracervical," this procedure allows you to remove the cervix. It is not difficult. You can easily see here where the endocervical canal and uterus are, and you can proceed with your usual techniques of removing the cervix.

I will say that the Alexis O retractor, there are two medium size retractors, and one of them is for GI cases, so when you talk to your Applied Medical rep, who is the manufacturer of Alexis O, please make sure you get the right retractor. It will make all the difference in the world.

But here, again, we’re going down the sides of the endocervical canal. I will tell you at the vaginal angle I put a straight Z clamp because we have had issues with bleeding there, and I think we all feel more comfortable securing the angle with a suture and then using those for retraction to help you close the vagina. But that’s not something new, that’s something old. And so there are lots of parts of this that you should be very familiar with. The only really difference is you don’t have clamps hanging off the uterus every time we use the LigaSure. We’re using it as a back clamp, and that allows us to markedly reduce the incision, markedly improve patient’s going home.

My patients when I do this procedure are going home the same day. Some patients are going home the next day. So, again, rivaling what we wanted to create with vaginal surgery and with laparoscopic surgery by shorter recovery time, shorter stay in the hospital, less blood loss, but, again, not compromising what we’re doing and not feeling like we’re being put in a place where we feel medically uncomfortable taking out a uterus that we don’t feel by these other techniques may be safe for the patient.

Yeah. And if you’re wondering what’s the lateral spread? How comfort comfortable are we using an electrical sort of source device near things such as the ureters in this area, we’re very comfortable because the lateral spread is very minimal with this device. I want to say it’s about two millimeters, and you should be smart and do dissection when necessary, but just realize that we can -- you know, when we hug the uterus, we’re very comfortable that. It’s not spreading that much farther from where we can see. And again, that gives me a level of comfort with these procedures.

So you can see here I’m enter thing vagina and removing the cervix in the typical fashion. You can see in this case the patient had a fairly large cervix, and I had to remove it in the two different parts. But, again, not difficult.
Easy to see where I am. Not very much blood loss, and we’re doing something that we do every day without much trouble. But you see I’m doing all this through this five-centimeter incision.

If you will measure your incisions, you will not be surprised that you may be making 10, 12, 14-centimeter-incision without even really thinking about it. If you think about the size of the uterus you have to remove and the fact you don’t need clamps, you can begin to do these by measuring your incisions and then gradually going down. When I developed this procedure, I started that way, and I also will say that you must be very comfortable with LigaSure. That’s a key strategy of this.

If you’re not comfortable with LigaSure, this won’t work no matter what technique you use. So the energy source is very important, and that’s something you need to feel very comfortable with. But once you’ve got that going down on the sides of the incision, and once you measure it, I think you will be quite surprised how large the incision is and do I really need all that incision space. And in this way we can compete with the laparoscopic and vaginal surgeons for a technique that really allows the patients very similar recovery time and very similar back-to-work time and very similar hospital stay. And I think that’s what you want to be able to offer your patients. You can offer them something that says, “I can do this procedure and you can do home the next day, but I’ll do it in the manner I feel more comfortable with and I feel is safer and will take less OR time.”

And here I’m just closing the vagina. Here you can see this kinds of brings back the tediousness of sewing things and tying suture. You can see how this seems so much slower than using the Impact LigaSure, but, again, you have full visualization of the vagina. There have been a few cases where the cervix was very anterior and I could not remove the cervix, but in most cases, I would say more than 90 percent, I’m removing the cervix, and so if you’re a cervix remover, this case will not jeopardize that and you will not have to feel uncomfortable if you want to remove the cervix.

That’s been one of the issues of laparoscopic supercervical. Different practitioners have different reasons for wanting to remove the cervix. So this allows for that. If you’re a supercervical hysterectomy believer then you can leave the cervix in this procedure as well. So it allows for either technique and either approach fairly simply.

Yeah. And that incision space that you see there, you can actually move that around from side to side. You didn’t have to do that for this procedure. But there have been times where I’ve had to get the side walls of one side of the uterus and then to the other side just because the uterus was large, and that incision is actually mobile so you can shift it to one side to get better visualization. You don’t need to be able to see everything all at once. You just need to be able to see what you’re working on at that time.

This procedure has very minimal blood loss. There’s the blood collection container. You can see the small blood loss that we have, and, you know, we’re doing simple irrigation. And in these procedures, because I send patients home the same day, I do a closure that is subcuticular closure after closing the fascia in Dermabond. This allows the patient to have no dressing, no staples removed, and it cosmetically very nice for the patient. So in thinking about this kind of procedure, you want to plan ahead and instruct the patient that they’re not going to have staples or dressing, and then that this is okay and that you’re going to see them, and there should be no dressing on the incision.

Yeah. I used to do a lot of laparoscopic hysterectomies, and it’s still a very good procedure with great patient benefits, but there are times when the larger uteri took a very long time to do because of the morcellation, and this procedure has saved a lot of time with that, and I’m getting the same type of patient benefits. I’m always surprised how small the incision is at the end. I always have a little bit of doubt in the beginning of the procedure when I make a tiny incision, wondering, am I really going to be able to do this case through such a small incision. But once you start expanding the tissues and putting that Alexis retractor in, you actually get a fairly large amount of working space, and at the end, again, I’m very surprised and happy how small the skin incision is.
Patients love it. They wake up and they look down and they say, “You did it out of that?” And it’s superpubic, so here I’m using local just like we’ve learned in laparoscopic procedures to reduce pain. The patients are very pleased and it’s really in an area where you’re not going to see it. I use Dermabond to seal out bacteria. I’ve had very little problem with wound separation or wound infection. And, again, I just want to emphasize there are two Alexis O retractors, so please make sure that you pick the right one. One is for GI, and they look exactly the same. So it’s just important to notice that difference. Here is a tape measure that really proves to you it’s five centimeters at the end.

That was a great video. Thank you. We’d like to discuss some outcomes, some concrete numbers that we have. Can we, let’s see, cue the next slide. Sorry. These are some numbers from Dr. Fillmore’s patients.

Yes. I reviewed about 35 cases that I’ve done since January. These have ranged from hysterectomy to hysterectomy (INAUDIBLE) myomectomy, adnexal masses, pretty common standard age. Most people going through this procedures are in their 40s. I’ve had a range of weights, although I will tell you I’ve really tried to do patient selection, and patients that are morbidly obese, I have haven’t done many of those at the surgery center. My OR time is 66 minutes in average. The longest case I’ve don’t, which was a 425-gram uterus, was a hundred minutes.

I think you’re going to find this very comparable to what you used to with total abdominal hysterectomy. It’s not a lot different. You can remove uteruses that vary in size, and Dr. Lee will talk about those. I’ve had two cystotomies. I’ve chosen patients for this that have had three previous C-sections, so I don’t think that’s unusual. Those are both repaired at the time of the surgery.

And one thing I will say about this that’s really interesting is that if you have to make a larger incision, particularly in laparoscopic surgery and vaginal surgery, if you have to open the patient, all the equipment has to be torn down and then a new set of equipment has to be brought up and there’s a huge delay, there’s a huge cost. And with the Alexis O retractor, you can make an incision in the side of the retractor right through the plastic, and your incision will be larger, and there’s no difference in equipment. So there’s not this delay of tearing down all the laparoscopic or vaginal instruments because you have to open now and you require a whole set of different in instruments. It’s really a time savings and a huge cost savings.

Can we cue up the next slide discussing costs.

I locked at the cost per case at a surgery center and estimated the actual cost. This is not charges. But I believe these cases can be done for under $3,000 a case, which I think is very competitive and much more cost effective than the other approaches, and again, no hospital time, no stay at the hospital, shorter times in the hospital, and I think it can be done in a very cost-effective manner.

The next slide is showing my experience at our hospital. These were surgeries that I participated in. And, again, what I did was compare the minilaparotomy approach with the laparoscopic approach, which is a surgery I still do and find that very times useful. I found out that my operating time was a little bit less with the minilaparotomy procedure. I actually was able to handle larger uteri better, mostly because I didn’t have to morcellate out the uterus laparoscopically. My blood loss was comparable. And the days in the hospital was also comparable.

So laparoscopic hysterectomy, which we believe was a very minimally-invasive way to do a hysterectomy with a lot of patient advantages, I was able to achieve a lot of those goals with the minilaparotomy approach. You should know that all the patients in this particular analysis had supravaginal hysterectomies.

So back to that slide, you know, what ACOG really wants. They want shorter duration of hospital stay, faster return to normal activity, fewer fibril episodes or complications. I did not have any more complications with our minilap procedure as compared to our laparoscopic approach, shorter OR time, cost effectiveness. I would argue
that the minilaparotomy hysterectomy is able to achieve a lot of those things that ACOG wants through an abdominal procedure, and which I believe will, if we can actually have a lot of the again OB-GYNs perform this procedure, I think ACOG will get what they want in those patient benefits. Next we would like to show a video of one of -- patient testimonial video of one of Dr. Fillmore's patients.

I'm Jessica Conrad from Concord, California. I had the minilap hysterectomy summer of 2009, and it was my doctor that recommended the surgery. I had this procedure done because I was in constant pain before. From the time I was 17 I was in pain, and every year it seemed to get worse. I had endometriosis, three periods every month, and now all that's gone.

My expectations were really high. My doctor, Dr. Fillmore, said it was going to be a quick surgery. I was in and out the same day. It was only about five hours in the surgery center, and the incision was fairly small, about five centimeters. The recovery time was just a couple days. I was able to walk right away afterwards, and when I woke up from the procedure, I was after a couple of hours of really intense pain, I was in less pain than what I was when I went into the surgery.

I can compare the minilap hysterectomy to a C-section as both my boys were delivered through C-section, and the minilap is so much easier. The recovery time is a lot less. It's about two weeks maximum. With the C-sections it's about six weeks, four to six weeks, and the incision is much larger with the C-section. With the minilap, it's about five centimeters, which is half the size, and it's really fine, and it's below the bikini line, and nobody will ever see it.

After my minilap hysterectomy, I didn't have to have any hormone therapy, which I'm very thankful for. I would totally recommend having the minilap surgery to anyone who is considering a hysterectomy. It, by far, was the best choice I could have ever made, and it gave me back my life.

So I think you have seen a procedural video and a patient video, and again, we want to emphasize that this is a really simple modification of a known procedure that we think would be very applicable to many surgeons around the country, again, rivaling laparoscopic and vaginal procedures and doing what we feel more comfortable and allowing us to perform this procedure in a cost-effective manner.

Great. We would like to field some questions now that were sent in from our audience. The question here is "What is the largest size uterus you have taken with the minilap procedure?" I personally have done a uterus that was 1500 grams, and just last week we did a procedure where the uterus was 1200 grams with the minilap procedure. Both patients had reasonable blood loss and went home the next day with very little pain med requirements over night.

We sort of anticipate this question, so we have some slides here. Can you cue the slides? Okay. Great. The key with doing a very large uteri is to see the procedure as two steps. You first have to do a myomectomy. And again, oftentimes you will make this small incision and all you will see is uterine cirrhosa because the uterus is large, 18, 20-week size uterus. In that case, we understand that we have to do a myomectomy first so we morcellate. We place pitrecin in to minimize our blood loss and make an incision and start taking out fibroids.

When we do our myomectomy, I oftentimes will secure the base of those fibroids, those pedicles that feed the fibroids with the LigaSure device, again, to minimize our blood loss, and I don't need to close cirrhosa, because eventually I will take out the uterus, and it will save us some steps.

Here are some pictures of a procedure performed by Dr. Fillmore.

So, again, reduces the -- I call this is a “facilitating myomectomy,” taking all the fibroids you can possibly take out, using pitrecin to minimize blood loss will restore your anatomy and will restore your anatomy and will diminish
your risk of injury to surrounding organ. So it’s very common to make this incision and not be able to pull the uterus out of the incision, but we’re all very familiar with doing traditional myomectomies, and this utilizes that technique fairly easily.

If you can cue the slide again, we’ll show a picture of the end result of one of those procedures where we go and do a myomectomy first, take out the fibroids, and then eventually we’re able to accomplish the hysterectomy that we wanted to go after. So great.

We have another question here. “Were you able to do this minilap technique with the conventional approach, no energy?” I have actually tried this. I had a particular day where I didn’t have the energy device, and I had told the patient I would do it out of a five-centimeter incision. I did it with the clamps. And I’ll just tell you it was incredibly difficult. It can be done, but I would not recommend it. It wasn’t done because I wanted to do it that way. The clamps take up a lot of space, and so I ended up making the incision slightly larger, and it was even difficult with that. So I will say it’s possible, but I would not recommend it.

Yeah. I would not -- I have never done this procedure without the energy, I guess without the LigaSure energy device. The reason being is that you make such a small space that you don’t really have the space to articulate around you, especially with conventional sutures. You need that space where you need to turn your wrist. The suture needs to make that spin. With the LigaSure device, the only space that you need is the space for the clamp. And again, since we’re using smaller incisions, trying to achieve our goal for faster recovery, less pain, with that smaller space, I believe that LigaSure device is essential to accomplishing this procedure safely, with minimal blood loss.

We have another question. “What is the learning curve with the minilap procedure? How many cases will it take before I’m comfortable?” I guess in my personal experience, I felt very comfortable with this procedure after approximately just five cases. And the reason being is that we were not learning a new procedure. Again, we’re going to sound like a broken record here tonight, but we’re not trying to teach you something new. We want you to do the same hysterectomy that you’ve always done using the same techniques, just use a smaller incision, take advantage of what’s available with technology such as the LigaSure device, and basically do the same case, and you will find that it flows very easily from what you were doing before.

The only maybe big different is that when you encounter a very large uterus, you do need to spend the time doing a myomectomy, morcellating the uterus, and then, again, you go back to the same technique of doing a hysterectomy that you’re familiar with.

I would just comment to this that the learning curve for minilap hysterectomy really depends on how comfortable you are with LigaSure to begin with. If you’re using LigaSure already on traditional abdominal hysterectomy, then I think the learning curve for this is really very small, because, again, it’s the same technique. If you’re not comfortable with LigaSure or you’re not using it as a back clamp, then I think the learning curve may be longer.

One thing I recommend and what I did when I started this was starting with small incisions but not five centimeters. I started with eight and seven centimeters and worked down. The other thing is that I used Dr. John Crocket, one assistant for all those cases. And if you’re trying to develop something new, I think having a few people that you work with that you work consistently with makes a huge difference, because you’ve both seen the information. You’ve both trained with the LigaSure. You both know the technique of hysterectomy. And then I think you’re going to find it goes much better.

So it really depends on -- and I would do the patients that you think are easier first. It’s patient selection. Don’t pick a 20-week uterus on somebody who is 400 pounds to do the first case. I started with small uteruses, small patients, very thin and worked up. So I think the learning curve depends on how much you follow these recommendations and how comfortable you are with the energy source, because the energy source for this
makes a huge difference for how successful the case is, and if you’re going to have problems with bleeding after the surgery or damage to the organs, you need to feel comfortable with the energy source primarily. So if you’re using that already, it’s a very short learning curve.

I was using it on traditional abdominal approaches before. And you will also notice that the Impact LigaSure has a curve on the clamp, and it’s more like a clamp. The old Atlas was a straight device, and so I think the impact has made a much bigger difference in how the learning curve with this goes, because it looks just like the clamps that we always use for traditional hysterectomy.

You know what, as you bring that up, I want to talk about a question that I get often is do you trust this LigaSure device? And I have some slides ready for that question. Many people wonder, you know, can you sleep at night after not putting suture in those pedicles? In my view, this is proven technology. And in my personal experience, I have never had to return back to the operating room to go after a bleeder. And this is both laparoscopic cases, as well as the large open hysterectomies and the minilap, as well as vaginal cases.

Anywhere that I would put suture, I could consider using the LigaSure, except at what you described down all the way at the vaginal cup. And I also want to -- again, you know, studies have shown that the LigaSure out of all the other devices out there, had the highest resistance to bursting open. All of these devices that are listed here are good devices, but I really explicitly trust the LigaSure device.

As mentioned before, it has a curved sort of end, which mimics what looks like a clamp, and that’s very useful for what we like to do. And, again, we would like to emphasize this back clamp technique because it helps minimize the blood loss that you would get with the procedure.

This slide depicts a traditional hysterectomy where we would put two clamps, Haney-type clamps or Z clamps on the utero ovarian pedicle. You see I have one labeled as the back clamp. That is a clamp where we put on and we would cut in between. When you use LigaSure, it should be no different. You should use the impact to seal as the back clamp and then move your LigaSure slightly over so that you’re cutting and sealing on a different pedicle.

If you put this on as one clamp and just seal and cut, it is going to bleed. So you need to feel comfortable with this back-clamp technique. Think about how you learned hysterectomy. You didn’t learn hysterectomy with one clamp, so you will see on this photograph the whitish color from the previous seal, and then you will see the LigaSure to the lateral side, and that’s where I’m going to cut. So think about it like you’d normally do hysterectomy. Where you’d put a clamp, you’re going to seal that area first, then you’re going to put your LigaSure where you clamp and cut, where you normally would tie suture, and you’re going to use it in the same fashion. If you don’t do that, it won’t work.

Okay. We have another question here. “Did you identify the ureters?” I don’t know if this was referring to the procedure video or in general do we identify the ureters. And in all cases I do. I identify the ureters, sometimes you might not be able to see them at the beginning, obviously, with a very large uterus and the limited space that you have, but we’re trying to adhere to just what we know about anatomy and the techniques that we learned from vaginal surgery.

Just remember or recall when you try to do a vaginal hysterectomy, you try to hug the uterus with all your clamps. At that time, you may not be able to see the ureters. You may be able to palpate it, but again, you feel very safe where you hug the uterus that you’re going to avoid anything dangerous. We recommend using the same technique for this abdominal procedure. Just stay in those spaces where you know there is nothing dangerous, and at the end of the case, it’s very to identify the ureters to check for any injuries. But, again, use what you know from vaginal surgery.
We're very familiar with operating in small spaces. Again, you know, use that and apply it to the advantages that you will later give to the patients in terms of smaller incisions and quicker recovery.

If you have very large uteruses, one technique I would recommend is to take the uterus out first and take your utero-ovarians and take it out, and then you will be able to easily see the ovaries. I've had endometriomas that were stuck to the pelvic side wall. You can do a complete retroperitoneal dissection. You can find the ureter. You can dissect the ureter off the ovary. You can feel totally comfortable with where you are. And so, again, it's approach would I clamp the infundibulum pelvis if it was stuck to the side wall and I couldn't see it? Absolutely not.

So this technique, in my cases, a number of occasions I have had to take the uterus out first and then come out to take the ovaries out when I had better visualization. I think that that's probably not an uncommon technique for open cases, and it would apply definitely in this case, so if you can't see that or the ovary is adherent for whatever reason, then go with what you know, start with the utero-ovarians. You don't have to worry about the ureter there. Hug the uterus. Take the uterus out, and then you'll have much better visualization for each side wall, and then you can clamp the infundibulum pelvic and be confident. You can dissect out the ureter. You can unstick the ureter from the ovary, whatever needs to be done, and proceed on safely.

We have a question here. “With previous multiple C-sections with the lesions, what would you do perhaps different to overcome that,” maybe in reference to the complications that you may have listed in your chart there.

Yes. One of the things I would probably do differently is I would -- I've subsequently put in a three-way Foley and used irrigation with indigo or methylene blue to fill up the bladder to see where the bladder is, because it's many times not anatomically correctly located. One of the cases I refer to, I entered the bladder, entering even high into the peritoneal space. So I'm not sure in that kind of case using indigo or methylene blue would help you. But subsequently, in people with multiple C-sections I've used a three-way Foley, hooked it up to irrigation, had them fill it up, and I can see where the bladder is, and I can also then fill it up again at the end of the case and make sure there are no defects in the bladder, and I think that would help.

And we have one final question here. It seems to be a three-part question. “What's the rate of conversion? Why not lap” -- I assume that means Laparoscopy, and “Why not vaginal?” Can we cue up our slide here? This seems to be a question of asking, what’s the comparison of this procedure with other hysterectomies?

In my view, a vaginal hysterectomy should be the number one hysterectomy if feasibly possible. It does have the best historical data in terms of outcome and patient recovery. I would say that, again, statistical analysis tells us that we’re not comfortable doing vaginal hysterectomies. We prefer the abdominal approach. If you do not have vaginal surgery skills, again, this is not -- that’s not something you need to do with this procedure. There’s no new skills really. I believe you just have to do the same things that you’ve been always been doing with the abdominal approach. I believe the minilap actually gives you better exposure that the vaginal procedure and you’re better able to handle large uteri. And in term of post-op recovery, it’s very comparable.

Again, one approach is never something that you should always use for every hysterectomy. Last week I did three hysterectomies. One was laparoscopic, one was vaginal, and one was the minilap. And so when feasibly possible, we should do the vaginal hysterectomy as an approach because it has many benefits.

In comparison to the laparoscopy, I do a lot of LSHs, and I found out that the minilap is actually shorter for me to do. If you don’t have laparoscopic skills, you don’t need to learn it to do the minilap. And, in general, I believe it's better able to handle the very large uteri. In term of blood loss and recovery, I think it’s actually quite comparable. And some may argue that they would prefer the minilap scars, which is a very low scar, as compared to the laparoscopic scars, which are higher up. They may be smaller, but they're a lot more visible and exposed.
compared to a slightly wider minilap scar. And, again, I emphasize that it’s better able to handle the initial issues, in my view, with the minilap procedure, and morcellator is not needed.

In terms of the final question, “What’s the rate of conversion?” I think they’re asking, how many times do I need to extend the incision? And I would say that’s happened about five percent of the time, and even in those patients, in general, we will still continue to operate with the philosophy of sort of doing a minimally-invasive type of hysterectomy, and those patients tend to do really well, oftentimes going home the very next day.

Great. Do you have any final thoughts, Dr. Fillmore.

I would just like to thank for joining us tonight. I’d like to thank Dr. Lee and the people at Covidien for helping us with this program. I think our goal is to show a procedure that has a lot of the same techniques but is easier to learn and we hope will help you help your patients and be competitive with the other procedures but safer and have very similar recovery.

Thank you. I’d like to thank Dr. Fillmore and her patients. I’d like to thank OR Live and Covidien for continuing to make great surgical tools that allow me to help take care of the patients. To the patients that are out there in the audience, I’d like to, again, remind you that you have a choice when it comes to choosing how you’d like to have your surgeries performed. You don’t have to choose a large abdominal incision with prolonged healing time, so you do have the option to seek ways to get it done with quicker healing and better cosmesis. And to the doctors out there who are new to LigaSure, I would encourage you to try to get to learn. It’s very easy to learn. It’s very safe to use. And you will find many advantages in terms of patient benefits, as well as surgery benefits with its use.

And finally, I’d like to end by leaving you with a story that I recently heard. There was a concept developed by Harvard Business School called “Value innovation” where they took the best of everything. I like to talk about the company like Cirque Du Soleil who took the best in circus, the best in ballet, and the best in opera to create a show that achieved astronomical revenues. You know, I feel that the same concept is in this procedure.

We took the best of abdominal surgery. You’re very comfortable with it. We’re not going to fight it. We want you to continue using it as an asset. We took the best of technology with the LigaSure device, and we took the best of what we know from our laparoscopic procedures, as well as the vaginal procedures, knowing how to operate in a small space, using minimally-invasive techniques. And I think the minilap hysterectomy is the end result of that, and it’s providing, in my view, great patient benefits and great outcome.

Thank you for watching this OR Live program presented by Covidien energy-based devices. Watch and learn. This is OR Live.