Announcer: This program was made possible through an educational grant from Ethicon Endo-Surgery. Each year, thousands of women in the United States undergo hysterectomies. For many, post-operative recovery is painful, and returning to normal activity can take time. But now some new surgical techniques are changing that outcome. At Celebration Health in Celebration, Florida, Dr. Stephen McCarus is performing minimally invasive hysterectomies. The McCarus technique is a total laparoscopic procedure that eliminates the need for large incisions. This reduces pain, requires less medication for patients, and allows them to leave the hospital sooner. During the procedure, Dr. McCarus uses advanced energy systems, such as the harmonic A shears to facilitate what he says are more efficient hysterectomy procedures. During the next hour, Dr. McCarus will discuss and demonstrate this advanced technique in a live Internet webcast. You may email questions to the O.R. during the webcast by clicking the MDirectAccess button. You will also see buttons to make an appointment or request additional information and for physicians, to make a referral.

Dr. McCarus: Good afternoon. I’m Dr. Stephen McCarus. On behalf of Florida Hospital’s Celebration Health and Ethicon Endo Surgery, our sponsor on today’s webcast, I’m happy to be your host today. It’s so exciting for me to be able to show you a surgical technique that I truly believe is in the best interest in women’s health care. To provide patients with minimal-access surgery, or laparoscopic surgery, truly is a benefit. Our goal is to provide patients with, number one, with safe surgery, proven outcomes to be effective on the operation endpoint, and to allow patients to return back to what matters to them the most: to get back home, to get back to work, and to get back to normal. For the past year and a half, I have been working, trying to simplify a surgical technique that all can perform. The McCarus technique has evolved looking at better technologies, energy systems, [unknown ] access, to allow us to perform laparoscopic surgery in a truly minimally invasive way. We’ve been able to convert our hysterectomy techniques to -- 85% of our hysterectomies are done in a minimally invasive way. We believe that women’s health care needs this. We believe that women’s health care is ready for this, and we certainly believe that industry has come to task in providing us, the surgeons, with energy systems and technologies that are merging together to make it available to women all over the world to have advanced techniques with a minimally invasive way. We are happy you are with us today for this webcast surgery tutorial. We hope that this will edify your knowledge about this technique, and consumer education, as well as college education, is a priority of mine. We think that we need to work together and help each other for better outcomes for the female patient. What the agenda is this afternoon is to show a surgical procedure a total laparoscopic hysterectomy, which means removal of the uterus and the cervix, as well as a bilateral Salpingo-oophorectomy, removal of the tubes, the Fallopian tubes of the ovaries. Throughout
the narrative demonstration, if you have questions, I encourage your – encourage you to please send an e-mail. In order to do that, you will click the “M” as in “McCarus” – MdirectAccess button on your screen. We will do our very best to receive those questions and provide you with appropriate answers. We hope and encourage you to get involved with this, to use this as an educational media to edify your knowledge about surgery choices. I would like to give you the clinical information regarding the patient’s surgery. I am the chief, the Director of minimally invasive surgery here at Florida Hospital’s Celebration Health and the Director of the Center for Pelvic Health. 40% of my patients are patients from outside of the state of Florida, and with that, the information access that they use like webcasting has become an important portal for them. To look at surgery choices. This patient is a 50-year-old gravida 2 – meaning she’s been pregnant twice and actually has delivered two healthy children throughout her reproductive years. In the process of delivering babies, she had two Caesarian sections. So she never had a vaginal delivery.

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She has a uterus that is top-normal size, had no abnormalities on pelvic ultrasound such as fibroids or other anatomical problems suggesting that the hysterectomy was causing – or the hysterectomy was indicated, but her complaint is chronic pelvic pain. She has been dealing with pain for several years, has had multiple office visits, pelvic ultrasounds, viewing of the ovaries of the tubes, and has been dealing with taking birth-control pills as well as non-steroidal anti-inflammatory, and this has been a process that this patient has been undergoing for over a 10-year period. At this point, she wants resolution of pain, chronic pelvic pain. 110,000 hysterectomies are done each year in the United States for chronic pelvic pain. The patient has good pelvis support and has had a normal pap-smear history. So the root of hysterectomy for this patient in most surgical hands would be a total abdominal hysterectomy and bilateral Salpingo-oophorectomy. An abdominal hysterectomy means a large incision through the abdominal wall, and the uterus, the cervix, the tubes and ovaries would be removed through that opening or through the incision. That particular surgical approach is the most common way a hysterectomy is removed in this country. That means the patient will be in the hospital for three post-operative days requiring four to six weeks recuperation. Obviously for the patient, this may not be the best choice. A vaginal hysterectomy in a patient with minimal vaginal exposure – this patient has never had a vaginal delivery – may be a difficult technique for some. Removing the tubes and ovaries may also be challenging vaginally. So the vaginal route of hysterectomy may not be a good choice for this patient. What our objective is and what we are encouraging other physicians as well as patients to ask about is the laparoscopic approach total hysterectomy as well as removal of the tubes and ovaries. A laparoscopic total hysterectomy, bilateral Salpingo-oophorectomy. This patient happens to be a registered nurse. She works at Florida Hospital and was very educated about this choice, so in interviewing her about this, she was very supportive of a minimally invasive approach to hysterectomy. So our plan is to do this laparoscopically using trocars, or ports, that allows us to pass instruments thorough the abdominal wall, which allow us to do the operation. So I think with that in mind, why don’t we proceed with the surgical case and allow you to view the laparoscopic hysterectomy, McCarus technique. This procedure requires general anesthesia. The patient is intubated and is in a dorsal lithotomy position. A 5-millimeter trocar, which is a port, is placed through the umbilicus with a 5-millimeter laparoscope. This is a zero-degree laparoscope, and what you are watching is an anatomical examination of the abdominal pelvic cavity. We can look at the bowel. We can look at the liver and the gall bladder. We can look at the uterus, the tubes, and the ovary. The imagery that we have allow us to see structures like the ureter, which
you’re seeing moving in the video at this point. The ureter is the tube that connects the kidney to the bladder. Secondary port placement with trocars is done under direct vision. We used 10-millimeter XL bladeless trocars. You see us watching as the trocar comes into the abdominal cavity. Trocars are ports that allow us to pass surgical tools to do the operation with small incisions. I’m a true believer that exposure laparoscopically, their ability to identify structures requires a laparoscopic manipulator.

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The harmonic ace is the energy source that we use to clamp and coagulate vascular bundles. You are watching the left infundibular pelvic ligament, a vascular bundle that gives blood supply to the left ovary. You see that we can use a 5-millimeter harmonic ace, clamp, click, activate the energy, and what you’re watching is tissue coagulation. We’re able to clamp and coagulate and divide the vascular bundle without any bleeding if the instrument is used properly. From the right trocar, we have a laparoscopic uterine manipulator. We are separating and elevating the uterus. We are clamping the round ligament. We can clamp, click, activate the energy, and get homeostatic coagulation. Harmonic energy works with lower temperatures where we are not desiccating or burning out the blood supply to the tissue, but we are coagulating, and the difference tissue – the difference in the tissue is one of less tissue destruction. Now, this patient has had two previous surgeries. She had two previous Caesarian sections, and we want to be careful and make sure we can separate the bladder, which we are doing at this part of the instructional video. We are pushing down the bladder, getting the bladder off the uterus, and skeletonizing the peritoneum or opening the peritoneum so we then can get to the left ascending uterine vessels. The goal to a laparoscopic hysterectomy, first and foremost, is to get to the uterine vessels. These are the ascending uterines that we’re clamping, clicking, relaxing tissue tension, and the harmonic ace does a magnificent job in coagulating and dividing 5-millimeter-diameter vessels that supply the uterus. And the goal is to be able to do this safely for the patient with decreasing the incidence of intra-operative bleeding. So so far, you’ve been able to watch us start at the infundibular pelvic ligament, the mesovarian, the round ligament, open the anterior and posterior leafs of the broad ligament, and now we are securing the left uterine vessels using the harmonic ace as an energy system. The harmonic ace is also conducive tissue destruction, allowing us always to be able to safely our tissue. We are now working on the left lower broad ligament. These are all anatomical structures that one must safely identify as he or she is doing the hysterectomy. I’m holding up the right ovary. We’re looking for the right ureter. These are all structures that we identify prior to clamping and cutting the vascular bundles. So in the right trocar, we are placing the harmonic ace, which we’re clamping, clicking to get maximum pressure at the tissue pad. You are looking at the active blade of the harmonic ace. It allows us to watch to tissue effects of the energy source. So what this instrument has really proven for me to be effective – that it’s an excellent coagulator, a less-destructive energy system that is multitasking. If you notice that we place the harmonic down through the trocar, and we really never have to retrieve or remove the instrument until the side is completely done. We’ve started a the right infundibular pelvic ligament. We’ve secured the vascular bundles. We can move down to the round ligament, which we’re clamping as you’re watching this instructional video – the round ligament, and then we can open the anterior and posterior leafs of the broad ligament, which cover and protect the uterine artery and vein. It is important to have good tissue exposure. So the operating room systems with an excellent laparoscope to be able to see the structure well, to identify vital organs like the bowel, the bladder, the ureter. You can see we are constantly keeping the energy in our eye’s view as we work to skeletonize or to open and find
the right ascending uterine vessels. So the technique that we employ has really proven to be a step-wise, identifying-anatomy technique using three trocars – a 5-millimeter trocar at the umbilicus and two secondary 10 XL bladeless obturators using a laparoscopic uterine manipulator and one harmonic ace – we are able to do this procedure entirely laparoscopically with minimal trauma to the abdominal wall. What you’re seeing now is a skeletonization or dissection of the right uterines. You can see the harmonic is a coagulator. You’re seeing white tissue change, close the vital structures but get minimal lateral thermal spread for safe energy operating systems. Now, we are clamping the right uterines. With using the right harmonic on the right uterines, we decrease our power setting to get less vibration of the blade and more heat concentrated to the tissue because on vascular bundles, you want to secure homeostasis and less cutting speed.

We will get some back bleeding from the trauma that is placed on the uterus with our uterine manipulator. You can see the grasper is lifting up the uterus. You can see we’re right on the uterine artery on the right side, but with proper technique, meaning releasing tension on vascular bundles and allowing the harmonic to do the job, you can effectively manage large vascular bundles without intraoperative bleeding. We now are placing an endopeanut, a sponge grasper, to push back the bladder. As you know, the bladder is attached to the lower segment of the uterus. So with my left hand, I’m pushing a vaginal sponge in the vagina using an endopeanut to push the bladder up off the anterior vagina, and the harmonic now becomes a hot knife. The back edge of the active blade is tapered, or the ergonomic design of the blade allows more cutting than coagulation at this point because we want to use this as a hot knife of a scalpel. See, we’re cutting into the anterior [ unknown ] of the vagina laparoscopically. So we can – it will allows us to cut the cervix away from the cervical vaginal junction to do a total laparoscopic hysterectomy. You’re starting to notice the sponge that is placed in the vagina laparoscopically. We can see that now. So that gives us our target or our aim so we are in the proper space to decrease the risk of injury to the bladder. We now can elevate the uterus with laparoscopic uterine manipulator and block the opening so our CO2 gas does not escape, which allows us to maintain our pneumoperitoneum to complete the posterior colpotomy. The harmonic ace is placed on the vaginal mucosa, and with full power -- full power for maximum cutting speed, we cut the mucosa to create a posterior opening in the posterior vagina or posterior colpotomy. This is an easy step-wise technique that always allows the surgeon good visualization so there’s no guessing as they’re doing this technique. The cutting of the colpotomy, we’ve described, as a level-three marker, level three. The cervical/vaginal opening is a level-three component, and we now want to take our ascending uterine artery and vein, which is level one, down to the bottom part of the dissection, which is level three. The way to do that is to use the harmonic ace. The harmonic ace is likened to a Heaney clamp or a Coker clamp that gynecological surgeons use on open, traditional surgery. And remember, laparoscopy – laparoscopy is purely a means of access. We don’t want to take shortcuts or compromise outcomes just because we’re not doing a big incision. We want to identify and do the same type of operation laparoscopically as if we were doing an open case but do it without a big incision.

So what we’re doing now is taking down the left base of the broad ligament. You see the uterines are at level one. The harmonic ace is a Heaney clamp coagulator where we can clamp, click, hit Max, and let that vibrating blade jackhammer its way through the base of the broad ligament, the so-called cardinal ligament, one of the supporting structures of the cervix, and we can cut the cervix away from its attachment into the vagina. You can see this easily and how effectively the harmonic
works at this part of the operation. The interest of safety becomes important here because just to the left of where I’m working, not too far away, if the ureter, and the ureter is the tube that connects the kidney to the bladder, and we certainly don’t want to impose energy on that structure at any high level or degree. You can see now we’re looking right into the vagina laparoscopically. The left side is completely separated. So we will now pull our uterus to the left and bring our harmonic ace down the right trocar and take down the right base of the broad ligament. Remember, the ascending uterines are the vascular structures that supply the uterus. The ascending uterine are level one. What we’ve described in our journals earlier this year, this technique, which allows one to identify the structures and have a – a target as an endpoint. Level one is the ascending uterine. You can see the harmonic does a nice job coagulating and clamping medial to the vessels. We can see our endpoint is level three, the cervical, vaginal junction – and this instrument does a wonderful job coagulating, cutting, and dividing tissue, maintaining homeostasis, but does it in a very fast manner. Remember, the harmonic ace is the fifth generation design of the harmonic clamping family. This instrument is 43% faster transaction time and is a better coagulator. So now with the coagulation effect and the faster tissue effect, we can work quickly, safely, and decrease the risk of intraoperative bleeding or lateral thermal spread to adjacent structures. So in looking at the endpoint of this operation, it really is safe procedure. Safety comes first when we talk about surgery. But we want to do it quickly as possible and have good outcomes, and with this technique, we have been able to prove that in our series, where we’ve collected data looking at long-term outcomes. We’re six years out now looking at this particular operation. We are almost into the right cervical-vaginal junction. The cervix is almost completely transected from the vagina. You can see the drill technique. We can open the harmonic, activate, drill the blade into the cardinal ligament, close, and cut, and it allows us to effectively sculptor or secure tissue as we increase the speed as we work. This is the cardinal ligament. We have almost completely transected the cervix away from the vaginal attachment. Now what our task is to remove the cervix, the uterus, and the tubes and ovaries from the abdominal cavity, and there’s different ways to do that. The one way that we have found to be quick and easy from the vaginal approach, we will place a single-toothed tenaculum and clamp the cervix, and just pull it out through the vaginal canal. You can see we’re moving up vaginally with the clamp. We can click and pull the uterus, ovaries, and tubes trans-vaginally from the pelvic cavity. At this point, we’re able to maintain our pneumoperitonium with a sterile towel that we can pack the vagina or a lap pack. We can put a sponge into the vagina, or we can just leave the uterus, the ovaries, and the tubes, in the vaginal vault so we don’t leak our gas. We maintain our pneumoperitonium. So you can see that the ovaries, the tubes, and the uterus have no been removed from the pelvic cavity. We did receive a e-mail question, and I’ll try to answer that at this point.

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The question is: “What determines if a patient needs to have her cervix removed?”

In this case, we did remove the cervix. It’s a total laparoscopic hysterectomy. Patients who have abnormal pap-smear histories or abnormal pap – or abnormal cervical anatomy, we certainly want to remove the cervix. Patients who have painful intercourse or what we call dyspareunia – the cervix it’s indicated to remove. Or patients who have cervical relaxation or cervical prolapse, it is indicated to remove the cervix. So we do have set criteria as we evaluate patients. The reason we removed the cervix in this patient is because she’s a pelvic-pain – pelvic-dyspareunia – pain-with-intercourse patient. So it was not conducive to leave her cervix. As a matter of fact, the pathology report that came back after this procedure sis show pelvic endometriosis in the uterus as well as the ovaries. So we think that it was in
retrospect a good idea to remove the cervix. Now, what you’ve been watching is laparoscopic suturing techniques. We use a four-suture technique with a modified suspension. What the hope is in this 50-year-old patient is that she maintains good support. She’s sexually active. She wants to continue to be sexually active. So we want to make sure we get a good vaginal cuff closure. This is our second suture that we’ve thrown. We do extracorporeal suturing techniques. You see the trocar. The trocar is a 10-millimeter XL bladeless trocar. It has zero drag force. We are able to pull needles and suture in and out through the trocar very easily, and you’re watching us push the knot, tie the knot on the outside, but use a knot pusher to push the knot inside the pelvis to approximate – or to close the mucosa. And that is a technique that can be arduous or difficult unless you practice a lot. So it really becomes very important, the trocars you use, the needles you use, the instruments you use, and there’s a lot of ways, as surgeons know – a lot of ways to do this.

We’ve closed our cuff. We’ve monitored that there’s no bleeding. We brought it in under low pressure, and then we use what’s called TC-7 or Intercede right on our cuff, right on our vaginal cuff, and this is a material that is absorbable in 28 days. And the reason we place that is because it has been shown to reduce pelvic adhesions or the production of adhesions after laparoscopic surgery. So with that decrease, we’re able to help decrease the formation. You are watching, and you’re responding, and we certainly appreciate that. We’ve received a couple of other emails. Let me go over those, if I would. The comment is: “Are you dropping the needle through a 5-millimeter port?”

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With the curved needle, the CT1 needles – it is very difficult to get a CT1 needle through a 5-millimeter port. For those of your who are enthusiasts, this operation can be done through all 5-millimeter ports. You would use an endo knot of J-10 needle, which is and Ethicon Endo Surgery product with a straight needle that will pass down through a 5-millimeter port easily. I use secondary ports that are 10 millimeters, and that is the port where we’re passing our CT1 or curved needle easily through a 10-millimeter port. So it is important to kind of analyze your technique and what you would like to use in completing this operation, et cetera, et cetera. The next comment is: “If I have a fibroid, can this procedure still be done laparoscopically?” And the answer is absolutely. Fibroids are smooth-muscle growths that can get very large and can cause pain against adjacent structures, like the bladder or the rectum, or can cause bleeding problems, and patients who need hysterectomies because of symptomatic uterine fibroids, the exact same operation can be done regardless of size of the uterus. What’s important, though, is to make sure that you have uterine mobility, that I can move your uterus to get down to the uterine arteries because once we secure the uterine vessels, then we can cut or morcelate the fibroids to make a big uterus become small, and this is a technique that we employ frequently because most patients that have fibroids have larger uteruses and may actually be told that they are not candidates for laparoscopic surgery. And we’ve been able to show that really is not true. It does depend on physician experience and preference and mobility of the uterus. Another comment – we certainly appreciate the comments – are flying in now, and that is good. We are happy to be able to be part of this program today. “How easy is it for me to find a doctor that offers this minimally invasive or laparoscopic option?” There is a website that you can go to called www.hysterectomymyoptions.com . Let me repeat that. It’s www.hysterectomymyoptions – all one word – dot com. And the patients can get access to that site and punch in or code in your local ZIP code, and the physicians in your community that are part of the minimally invasive group that can perform these operations will show up or – otherwise, if you can’t find a physician, we are certainly – to make ourselves available to help you find one. So you can always contact us
directly. Let’s see. Okay. Here’s another question: “How close can you get to tissue without damaging it with the harmonic ace device?” That is certainly a very important question, and I’ve been doing this surgery for quite some time, and I think that is the question that – whether I’m using harmonic or any energy system – that is a very important question. With harmonic energy – you always want to be careful using any type of energy near vital structures. In pelvic surgery usually mean the bladder, the ureter – and again, the ureter is the tube that connects the kidney to the bladder – and the bowel or the rectum. And when we are near vital structures, it is at least my opinion – and I have reference to this – harmonic energy is a safer energy choice because what happens with harmonic – you have a vibrating blade that’s heating up to 100 degrees Centigrade. If I hold that blade at one spot for five seconds, I get one millimeter – one millimeter lateral spread and depth of penetration. Well, if I’m near the ureter, the bladder, or bladder, that may even be too much tissue effect. So the goal is with harmonic energy whenever you’re near the ureter, bladder, or bowel, you clamp, activate, and move the instrument. Move away from vital structures. Now, that is just the opposite of what you do on vascular bundles. So we can clamp, click, and move. We are virtually eliminating the complication risk associated with ureter, bladder, or bowel injuries.

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If you place any energy on vital structures for a long period of time – which could mean five or ten seconds, you can burn those structures. So it’s a very important question, and one we are constantly asking ourselves as we operate. The next question is: “If I have this procedure done laparoscopically, do you think I would be able to take care of my children at home sooner than with a big-belly incision hysterectomy, the way my mom had it?” There is not only anecdotal testimonials – I hear patients on a regular basis tell me how quick their recovery was, how happy they were to be able to get back to taking care of themselves and their families quickly. In general – in general, I think it’s safe to say, depending on the technique that’s used but certainly, laparoscopic technique will afford you a quicker return to normal versus the way your mom had it done, an old large incision. The laparoscopic that we’ve described using harmonic energy – which remember, is a coagulator not a desiccator – really speaks to back to normal in about one week. Now, there are variations upon patient habitus and how well they heal up just from their body, but in general, my patients are told in one to two weeks, you’re back to work. In three to four days, you’re moving around the house and are active. In a week, you can drive. So certainly, I think – and for those of you who are physicians watching, I hope you’ll send in your comments and either agree or disagree with me, but I think in general, I think gynecological surgeons that are performing laparoscopic minimally invasive techniques say within a week or two, the patients are back to normal and are functioning at about 90 to 95%. Let’s see. Here’s another question: “How many laparoscopic hysterectomies should a physician have done for a patient to feel comfortable with them as their physician or doing this operation?” There is an unspoken rule in education, and surgery is something that is an individual-taught skill. Some physicians are really quick and good at learning surgery, and others, it takes them a little bit longer, and I think it really is a fair question that a patient ask a physician, you know, “How many have you done, and what are your outcomes?” As a matter of fact, that is really part of what we call in the medical profession an informed-consent session, where a physician has described a procedure to the patient and actually has told the patient, you know, “You’re my first patient in doing this,” or, “You’re my 100th,” or, “You’re my 1,000th, and these are my outcomes.” But to answer your question, I think it is, in general, safe to say that once a physician has done 50 of these operations, they’ve worked through any shortcomings or any issues they may or may not have had throughout the operation.
They have gotten enough patient case load where they can look at their outcomes and say, “I’m doing a really good job. My technique is working. My patients are proving it to me, and I feel good about my outcomes.” And I think that’s very important, as you’re talking to your patient, that you feel comfortable with how he or she is going to perform the surgery. There’s a question: “Is the www.hysterectomymyoption.com not myoption.com?” Yes, that’s correct, it’s all one word. It’s hysterectomymyoption.com. That’s the website.

Okay, let’s see. Was there something else here? "Do you think the roomy manipulator – the roomy manipulator is helpful for pneumo-occlusion –“ and for those of you who are not sure what that means, a roomy is an acronym for the name of the type of manipulator that you can use to move the uterus, and I think it is a good occluder. The one thing I’ll say about uterine manipulators in general: if you’re using harmonic energy, you want to make sure you release the tension that some hold on manipulators in doing the operation. Manipulators cervical/vaginally put tension on tissue, and harmonic energy across vascular bundles really likes zero tension. We want to relax the tissue to let the heat go to the tissue at a heavier concentration. So any manipulator you’re able to use and you’re comfortable with it.

I think that one works as a good occluder as well, and certainly, that is something that if it helps you, use it, but if you’re using harmonic energy on uterine vessels and you’re experiencing bleeding, it may be the uterine manipulator putting tension and not the harmonic not functioning properly. “Are you sending your patients home the same day?” All our patients for laparoscopic or advanced operative laparoscopy – these are procedures that I do like total laparoscopic hysterectomies, laparoscopic myomectomies – myomectomies where you use the same type of equipment, but you’re just removing the fibroid and not the uterus – or laparoscopic pelvic floor reconstruction, patients who have prolapses and need restrictive – those are more advanced operations. All these patients are 23-hour stays. The patients are, after the operation, given pain medication. The foley catheter that’s in the bladder during the operation is removed in the recovery room. They are given clear liquids advanced as tolerated after the surgery, and then we keep all our patients in the hospital one night so we can check vital signs, let them get rest because it seems like at home, even after an operation, it’s difficult for some people to actually relax. And we do worry about post-operative bleeding and post-op infections and post-op nausea and vomiting. So we really still are supportive that the laparoscopic approach to hysterectomy, while it’s better than opening the patient due to surgery by laparotomy, we feel the patients are – do a better – it’s better – maybe it just makes me feel better than the patients are in the hospital overnight and we can see the patient the next day. If all is going well, she’s discharged home. From the same person who sent in the e-mail, her – his or her question was: “What role do you think Da Vinci robotics will play?” And for those of you who don’t know about robotic surgery, robotic surgery is not new. It’s been around for a long time where we actually use robots to move instruments and place sutures. For me, robotic surgery will not help my surgical technique. Laparoscopic suturing is a task that takes a lot of practice. Most surgeons who use robotics use that to help them throw a suture, but also, though, being fair with that evaluation, the GYN oncology group are finding that technology – and GYM oncology group are gynecological cancer surgeons – in doing very delicate, very fine dissections of opening up planes near vital structures, and I have not used robotics for that, and maybe there is some true advantage with robotic surgery. It’s very expensive. It may take you longer to do the operation, but I think the judgment or the real value of that technology has yet to be proven, and then will be something we’ll be looking at later.
Let’s see, the next e-mail question is: “Do you feel there are advantages to laparoscopic hysterectomy over transvaginal hysterectomy?” And I think that’s an excellent question, and if you look at surgical options, if you look at how we do hysterectomies, total vaginal hysterectomy is a hysterectomy that is removed vaginally. That is a wonderful operation. Data is supportive that that is a very safe, quick recovery, less complication way to do a hysterectomy, and I certainly support wholeheartedly that in the evaluation of your patient, if the patient needs a hysterectomy and you can perform that vaginally, that’s a great way to do it. But the reality is, if you look at hysterectomies in this country, 65 to 70% of hysterectomies are done abdominally with large incisions. So our goal – or my personal agenda is to eliminate the abdominal hysterectomy whenever we can. So if you can do it vaginally, that’s a great way to do it. Do it vaginally. In your assessment – because the patient has a large uterus or several previous surgeries, you’re worried about getting the ovaries vaginally or adhesions or endometriosis. So you’re going to do other things. Instead of performing that surgery abdominally, that’s the patient that we think minimally invasive hysterectomy or laparoscopic hysterectomy is a better choice. Hopefully, I’ve answered that question for you. The next e-mail that has come in is: “What is the belly-scar difference if I have the hysterectomy like my mom had versus the new way?” There is a huge difference laparoscopically as far as incisions versus a laparotomy. A laparotomy is a larger incision. It can be done at the bikini line. So a vertical incision or an up-and-down incision, and you have to cut through the entire abdominal wall. So that’s a bigger incision, which requires longer healing. Laparoscopically, you’re talking about three 5-millimeter to 10-millimeter incisions. So three small dime-sized incisions, one at the belly button, and two down by your bikini line. So the incision difference is huge. There’s less pain, quicker recovery, less scarring with laparoscopic surgery versus an open incision. Now, let’s make sure that we understand that not all hysterectomies can be done laparoscopically. Patient safety comes first. We have wonderful technologies now. The harmonic ace, we have tissue extractors, we have wonderful cameras and scopes, we have excellent suturing techniques. So the world of laparoscopy I think is ever-present and much better today than it was in 1986 or 1996, but not everybody can have laparoscopic surgery because of the anatomy. It may be too difficult to do it, and you have to open the patient up. So that’s our last choice because we think the minimally invasive approach lends itself to all these advantages that we’ve been talking about to the patient. Here’s another e-mail: “I have performed 40 to 50 and recently had a ureteral injury with the harmonic scalpel, not harmonic ace necessitating a ureteral reimplant. What makes the ace different than the last generation harmonic? You have to be extremely careful with this energy source like any other energy source.” And absolutely, I agree with that. You can have injury or complications with any energy source, even with the harmonic ace. What I think the advantage with the harmonic is – the advantage is you can open up the peritoneum. You can dissect out the ureter. You can identify structures without destroying or desiccating tissue. So the ureter – we always worry about energy near the ureter. When the anatomy is distorted or abnormal, that’s when we have to do ureteral dissections and make sure we know where the ureter is. Remember, the ureter can be tricky near the cardinal ligament, uterosacral ligament. So in doing a laparoscopic hysterectomy, I advocate taking the ascending uterines at level one – the ascending uterines. That will then keep you medial to that bundle. As you work down, the ureter will be out lateral, and you’ll decrease your risk. The harmonic ace is different than the older generation harmonic scalpel, and if you notice, we don’t really say “harmonic scalpel” anymore.
Because the harmonic-energy system is so much more than a scalpel. But the advantage of the ace versus the 5-millimeter LCS harmonic clamping instrument, its predecessor, is it’s a different blade design which – what I mean by that is it’s an unbiased blade. The energy is the same across the length of the blade. It’s a better clamping instrument, and it has more predictability in transecting and coagulating tissue. So what it allows you to do whenever you’re worried about structures is to develop a plane, create a space, identify the structure prior to employing or clamping or cutting energy. And you can still -- as you mentioned in your e-mail, you can get a complication with any energy source. You want to make sure you have an energy source that you understand. You understand the tissue effects, and you understand that “I have to make sure I know where the colon, rectum, ureter, and bladder is.”

Another comment: “What is the longest time till you identify a ureteral injury? When are you clear?” Ureteral injuries – laparoscopically, the incidence of ureteral injuries are the same laparoscopically as laparotomy. Ureteral injuries, as you know, can come in different shapes and forms. I’m always – I think a general rule of thumb is I’m always checking for holes in vital structures, especially when the anatomy is distorted or a challenge. If I’m working near a ureter in bad endometriosis cases or severe adhesion case or large uterus fibroid cases, I’m going to do a cystoscopy and look at indigo carmine and make sure the integrity of the ureter has not been compromised. If I need to, I can use a ureteral catheter. Ureteral injuries can present intraoperatively. So you got to look for them. Because if you look for them, You’re going to find them intraoperatively or delayed, a week, ten days, a month later. It varies in the time. So the idea is if you’re thinking about an injury, then try to diagnose it intraoperatively so you can fix it and not a week or two weeks or three weeks later. We have another question. These have been great questions, by the way. I hope my answers are helping you with these questions. “Is there any benefit or constraints for this laparoscopic approach for the morbidly obese patient?”

Certainly, the morbid obese patient is a challenge with any surgery, and we want to make sure we evaluate pulmonary cardiac status prior to doing laparoscopic surgery in any patient, but especially in the obese patient. The issue is that in laparoscopy, you’re in Trandelenburg, meaning your head’s down and your legs are up. And that puts a lot of pressure on the diaphragm. So those are issues that I want to make sure anesthesia’s aware of an understands. We have other things that we look at in the obese patient like IV access. Make sure you have a good IV. Respiratory postoperatively. But laparoscopy in general I’d rather do in the morbid obese patient. I would much rather use a small trocar or a port than a big incision in the obese patient. So I think – and evident by our laparoscopic bariatric programs, the world of laparoscopy is being present and utilized, and the techniques have been done in morbid patient with appropriate outcomes. So certainly, I would try that first than opening the patient up. Well, I’ve, think, answered all my e-mails. If there are no other e-mails – no other e-mails available – I hope today has been an informative session. I think this is a wonderful media to reach out to the consumer. I think more and more, it is important that we educate patients about techniques as well as our colleagues, our physician colleagues here at Florida Hospital’s Celebration Health. We have ongoing training programs for my colleagues. I’ve enjoyed working with physicians all over the country. The excitement now that we see in gynecological surgery for women’s services – the goal is – is to be able to provide our patients – female patients all over the world with minimally invasive hysterectomy and other procedures and to eliminate the need for a large incision. As your host, I’m Dr. Stephen D. McCarus at Florida Hospital’s Celebration Health. It’s been a pleasure working with you today, and good luck to you in your future.

00:54:43
Announcer: Thank you for joining us for a live Internet presentation highlighting a minimally invasive hysterectomy procedure from Florida Hospital’s Celebration Health in Celebration, Florida. If you would like more information regarding the procedure or the technology demonstrated today, please click the buttons on your screen. This program was made possible through an education grant from Ethicon Endo-Surgery.
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[ END OF BROADCAST ]