

**LAPAROSCOPIC GASTRIC BYPASS AND SLEEVE GASTRECTOMY
FLAGLER HOSPITAL AND HOLY CROSS HOSPITAL
ST. AUGUSTINE, FL AND FT. LAUDERDALE, FL
January 15, 2008**

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ANNOUNCER: This event is being sponsored by Synovis Life Technologies. Over the next hour, you'll see the premiere webcast of a laparoscopic gastric bypass and sleeve gastrectomy. The gastric bypass comes to you from Flagler Hospital in St. Augustine, Florida, and is performed by Dr. Robert Marema. The sleeve gastrectomy comes to you from Holy Cross Hospital in Ft. Lauderdale, Florida, and is performed by Dr. Michael Perez. In just moments you'll see how surgeons use Peri-Strips Dry with Veritas Collagen Matrix and reinforcement of staple lines during soft tissue repair. This exciting non-permanent biologic material is easy to prepare, provides increased resistance to leaks and rupture, allows for natural healing, and transitions into histologically indistinguishable host tissue. OR-Live makes it easy for you to learn more. Just click on the "request information" button on your webcast screen and open the door to informed medical care. Now let's join the doctors.

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ROBERT T. MAREMA, MD, FACS: Hi. Welcome to Flagler Hospital in St. Augustine, Florida. I'm Dr. Robert Marema, and I'd like to welcome you to a demonstration of Peri-Strip Dry Veritas in bariatric surgery. We're using this material made by Synovis Surgical Innovations to improve the quality of our bariatric surgery. Today we're going to be walking through a laparoscopic gastric bypass here, and that will be followed by a laparoscopic sleeve gastrectomy by Dr. Michael Perez at Holy Cross Hospital in Ft. Lauderdale, Florida. So without further adieu, I'd like to begin to talk about this operation. We've already placed our ports and taken a look around inside. We'll go ahead and switch to the laparoscopic view at this point and demonstrate what we have discovered. This, by the way, is a 48-year-old white male who has been suffering from morbid obesity most of his life. Here he has obstructive sleep apnea, hypertension, high cholesterol, and he has been a failure at multiple medical attempts at weight loss. We have the liver here and the stomach here. And let's go ahead and show you what we've discovered. We've removed some fat from up here on the stomach, the stomach has been decompressed, and we've opened up, about 6 centimeters down from the esophagus, the lesser omentum here. This is where we begin to create our gastric pouch. This opening from the top to the backside of the stomach has already been created with the Harmonic scalpel and we'll take our first firing of an Echelon 60 with gold cartridge. This Echelon 60 is inserted into the retrogastric space. This first firing is only 5 cm in length. Everything is out of the stomach, correct? Thank you. Only 5 cm in length. We place the stapler, wait the obligatory 10 seconds, and then go ahead and fire. We're not using the reinforcing material on this staple firing because the majority of this staple firing will end up being part of the gastrojejunostomy. Here we have a very mild amount of blood from the mucosa. We're just going to make sure that we don't have any further bleeding there from that mucosal edge. We're using a monopolar electrocautery here to control any of the bleeding. Here we see that there may be a vessel back here that we may want to go ahead and mobilize at this moment. We use the Harmonic scalpel to do that. This will assist in the creation of our gastrojejunostomy a little bit later. You know, Peri-Strip Dry Veritas has been around for a while. It's a very interesting material. It

happens to be a biological material that remodels or essentially is replaced by the human body as it's inside for a while. And that's a fascinating thing because essentially on later evaluation there is no difference between the native tissue and where the Peri-Strip Dry Veritas was used. I've been using it for a couple of years now and have found that what it does is it has decreased our risk of bleeding and decreased our risk of leaks in the cases that we've performed. Bougie down, please. A 32-French bougie will be passed through the mouth and into this gastric pouch. For the professionals watching this, that makes sure that we're at no risk of narrowing the gastroesophageal junction. So we see this bougie come down into the gastric pouch. We are waiting to see it appear in the operative field. And there we see its presence -- I believe. Push a little harder, please. There we go. That's fine. Now pull it back just a touch. All right. And so now we can see that that 32-French bougie occupies the majority of the width of that gastric pouch.

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We're traveling up towards the angle of Hiss here. We have secured the stapler in place, we're waiting several seconds, and we're going to fire this. As we do, we're going to note one thing, and that is the presence of the buttressing material on the staple line. And if you'll notice, it provides these tabs, which makes it a little bit easier for me to go ahead and grab the tissue without hurting it. I'd like to flip to the outside now, external camera, where we can take a look at the application of that staple material to the stapler. The buttressing material, I should say. Peri-Strip Dry Veritas comes in a cartridge that will allow for it to be placed within the stapler. Prior to placing the material, a gel is applied to it. And as the gel is applied to the surfaces, this gel allows a little bit of sticking, if you will, to the cartridge. This will be our second firing of an Echelon 60 with the gold cartridge. So the cartridge is snapped in in a usual fashion. And of course the protective orange strip is removed. And then the PSDV, Peri-Strip Dry Veritas, is applied and secured in place. And so we'll turn to the circular stapler at this point. There is two aspects to the circular stapler. This is an Ethicon Endosurgery 21-millimeter circular stapler we'll be using during the procedure. The anvil has previously been prepared by attaching it to a nasogastric tube which has been transected. The anvil has been sewn to it and the circular buttress material has been applied. If you could point that out to the camera. The material has been applied, and that will be in place as this anvil is delivered down the throat. As well we have on the shaft of the circular stapler, we have the material applied. And that, you can see in place, the material with the orange cartridge slightly exposed. You also see that we've used a camera drape as essentially a wound protector for the insertion of this through the abdominal wall. One of the nice things as well with the PSDV material is this cap that is placed over the end of the circular stapler, facilitating the insertion of the stapler through the abdominal wall. It essentially minimizes insertion force and tissue injury as this device is placed. And those we'll be using a little bit later in the procedure. If we could return now to the laparoscopic view. And we're going to go ahead while that linear cutter continues to cure and position ourselves for insertion of the second vertical firing of the stapler.

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If we take a look inside here, we're going to go underneath because I would like to take some of these adhesions here. Camera in slightly more. He does have a few adhesions back here behind the stomach. Getting rid of these retrogastric adhesions is essential for making a small gastric pouch. Camera in some more so we can get a better angle on those adhesions. This is a place where definitely too much stomach can be included, mistakenly so, in the formation of the pouch. It's also an area where there's significant vascularity and requires some careful dissection in this area. If I could have, first of all, the finger. We're going to, just as we used to do in the open surgery years ago, we're going to essentially use an esophageal retractor to create the space into the angle of Hiss. If I could have some inferior retraction now, that would be great. You'll notice how hemostatic the material is. It provides a fairly dry operative field, and that's been a real improvement in our surgery. I often tell patients that they usually -- I don't want to jinx myself here, but they usually lose

more blood getting their blood tests for surgery than they do actually during the operation. And I'll take an exposure underneath now, if I could. That's great. And I'm going to enhance the size of this opening. This is such an important part of getting a small gastric pouch. We'll take the next linear cutter, please. The Echelon 60 gold cartridge PSDV material applied.

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And we're going to, of course, want to get a good view of the insertion of this stapler to make sure that we have completely transected the stomach. And here we have visualization of the stapler extending beyond the stomach. Camera back just to show the -- okay, great - - good position there. And now again we have the tab to grab onto, minimizing the amount of tissue trauma that is required to manipulate the surgical field. We can take a close look at this now to determine if we're completely divided. And the staples extend beyond the gastric tissue, as does the PSDV. So we're just going to take the Harmonic scalpel and divide that, allowing a physical separation between these two. We'll remove this at this point and we're going to go down to the lower part of the abdomen. Just before we do that, we need to put a Penrose drain into the lesser sac. This is all part of our procedure to help facilitate the bringing up of the small bowel. This is generally inserted down here in this fashion. And you'll see the utility of that in just a minute. Now we're going to go ahead and bring the omentum up, flipping it over the transverse colon. We went down here a little bit earlier and identified the ligament of Treitz and then actually opened the transverse mesocolon into the lesser sac. Here we see the Penrose drain and how easily that that's identified within the lesser sac. We're going to now march down 45 centimeters. That's about 5, 15, 25, 35, 45. And at this 45 mark, we're going to divide the small bowel with an Echelon 60 and blue cartridge. Take a look at the mesentery for just a moment. That has good mobility, and we should be just fine there. Let's bring the bowl into here. We want to make sure we don't pass point too far into the mesentery with that stapler. It may stimulate a little bit of bleeding doing that.

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Okay. So now what we have here is we have the divided bowel. We still have the mesentery. I'll take the white cartridge Echelon 60 with a PSDV placed on it, and we're going to use this to divide the small bowel mesentery. Let's bring it in. Now, care must be taken at this point to make sure that we're dividing these vessels in essentially a radial fashion. In other words, we want to be going down towards the root of the mesentery, not too far, but we don't want to obliquely divide because that may decrease vascularity of any one area, such as this application I have right now. It's slightly off and unacceptable to me, and I need to rotate this around to get away from the mesentery over here. I tell you, it's very, very important to make sure that this part's done correctly. And I'm still not completely satisfied with this part. That's going to be better. That's at least in a radial fashion and should divide it an adequate amount for our needs. And again, we have these tabs that facilitates grasping. I'm going to turn this all over to my assistant, and I'm going to slightly mobilize this one for use at a later time because we're going to be inserting the circular stapler through this part. So I need to mobilize a little bit of mesentery of the small bowel. And that'll help us to insert that stapler later. Okay, so let's go ahead and count 75. Let's go ahead and count 75. And we're going to bypass 75 centimeters of the small bowel here. That's 10, 20, 30, 40, 50, 60, 75. Now, interestingly enough, we have found that not only does Peri-Strip Dry Veritas work well on the outside of the bowel, but it also seems to work well on the inside. So we're going to go ahead and open up our small bowel here using the monopolar electrocautery. And a [Marilyn].

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These enterotomies are just big enough to allow for the insertion of the stapler with the applied PSDV. We're going to use a blue cartridge. We're going to use a blue cartridge with the applied material...and just insert it that simply. You'll see the material sticks to the cartridge well enough that it allows for insertion in this fashion. Now, we're using it inside

the bowel, and it's interesting to note that since we started using this, we have had no intraluminal bleeds requiring transfusion. For years, we have been attaching the bowel with a single intraluminal firing and then followed by a hand closure of this area. We've found that this makes for a non-stenotic anastomosis. Actually, as many of the professionals are aware, one of the complications that we can see in this situation is the stenosis, if you will, or obstruction of this anastomosis.

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So we're doing our anastomosis here. And we've got to go ahead and finish this handsewing. We try and limit the size of this enterotomy so that we don't have too much. But what we've found is that this is probably the most efficient way to close this. It's nice to work with a patient where you can actually see inside. Sometimes we're dealing with so much fat inside that it could be very difficult to see. Today we're blessed with the ability to view. Now, some surgeons elect to do a stapled closure of the enterotomy here. That would certainly be a possibility. Some surgeons elect to do a triple staple technique where they staple in both directions. Whatever your preference for technique, I can only assure you that the use of the PSDV intraluminal has made a clear and distinct difference in our risk of bleeding. We had never had a leak at this location, thank heavens, but we did have a transfusion rate that ran around 2 percent. About 2 percent of patients would require some blood because of bleeding inside the gut. And we have been able to eliminate that for several years now with the use of this material, and I attribute it directly to that and not to surgical skill enhancement or any other thing. I've been doing laparoscopic gastric bypass since the late '90s, and the use of this material has clearly and distinctly altered our risk profile. I'm going to go with one more stitch there, please. Then we will reverse direction and finish that up.

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We're going to go ahead up top after this and finish our gastrojejunostomy. Obviously, for those professionals watching, you're probably wondering about our mesenteric defects. We'll actually come back after the program is turned over to Dr. Perez in Ft. Lauderdale and finish up the closure of the mesentery in the small bowel at the gastrojejunostomy in the transverse mesocolon and in Peterson's space, all very important areas to make sure are adequately and securely closed. We'll be using silk to do those closures. But we wanted to go ahead and demonstrate the use of the circular PSDV before we had to say goodbye. So I'm going to take a lapro tie at this point. These lapro ties save a moment or two of surgical time sometimes. They kind of take the place of a knot. There we go. And I would also like the short stitch to go ahead and attach the bowel to the Penrose drain to demonstrate how we use that. And here we see the typical staple line bleeding that we might see without the use of the PSDV. Want to just attach this here, and we'll take a lapro tie, please. Camera in. And great. Here we go. So we're going to be careful how this small bowel is placed into the lesser sac. We have to make sure that it's oriented properly. Going to reach in, elevate the disconnected stomach, and place this in here as such. Great. Let's go ahead and flip the transverse colon and omentum down back into the lower belly and then we'll go ahead and mobilize the stomach, exposing the small bowel here. We can see the small bowel lying here in the position that it should be. You can actually see it lying here in the lesser sac. You want to make sure that it's oriented as we desire.

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Okay. Focus on the pouch now. Now, here we're going to put the circular material in. If you can back the bougie out. And the Harmonic scalpel, please. Camera in. I'd like to highlight how we do this. In about the midpoint of the transverse staple line, we're going to go ahead and make an enterotomy. We'll actually use the monopolar cautery here for a moment. Is there any way we can recycle that just to use it? Can I have the Marilyn, please? And if you can bring the anvil down using that device. Let me know when we have the Harmonic again. And we're beginning to thread that down. Have you started passing it? Is the bougie out?

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FEMALE VOICE: Bougie's out. [Unintelligible.]

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ROBERT T. MAREMA, MD, FACS: All right. Slow. There. Stop, stop. All righty, and we're going to advance this down into position. Now, you see we've made a relatively small gastrotomy. Let me know when the anvil's in the back of the throat. Not caught on any tubes or anything. Excuse me. Okay, and protracting the jaw allows us to pull this device down through the esophagus and position it in the bottom of the gastric pouch. Camera in, please, to show the suture. All right. We can normally pull that out, but not today. And we can go ahead and cut the black string camera in there to get a little better visualization. Okay. Black string is cut. You should be able to pull the black string out.

00:29:02

FEMALE VOICE: All right, coming out.

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ROBERT T. MAREMA, MD, FACS: Let's divide this. I want to clean things up here, just tidy up. Now, you may notice that there was a bit of lubrication that came down with that. Interestingly enough, we've done this thousands and thousands of times, and we have not have any issues about that lubrication coming into the field. We do normally clean it up, as you're seeing here. And now we have the anvil of the circular stapler in the gastric pouch. We're going to go ahead now and open the small bowel. And we're going to create a small bowel enterotomy with the monopolar cautery here. Camera, please. Okay, great. And now we're going to take advantage of that circular stapler cath. You might want to pull the camera back just a touch so that we don't contaminate the lens, so we keep our picture. And let's -- here we have inserted through the abdominal wall with relatively minimal pressure the circular stapler. We're going to pull the cap off. You see we've tied a string to it to make it come off easier, and now camera in to take a look at this area. Triangulating the opening allows us to insert the circular stapler into the small bowel. Elevate. I'll take the Babcock, please. Now, we're creating several things here: one, a triangulation of the circular stapler, holding the bowel over the end using three instruments. This allows us to bring the spike right out the small bowel. And you see the exposed orange tab. We're going to marry those two together, and then we're going to control the orientation of the anastomosis as we close, remembering all the while that we've got the security of the PSDV inside there. We have not closed the stapler. We'll make sure that nothing is interposed or stuck between. And then we fire the stapler. We open it one full turn and then, critical to this, we reposition the grasper very close to the anastomosis just below. I'm going to then extract this by simply providing cephalad traction with the DeBakey and downward traction and rotation with the circular stapler. We're going to invert that camera drape functioning as a wound protector and then remove that from the abdominal cavity along with the cap. And then we'll just simply replace the port into this location. This allows us to transect the small bowel at this point with a blue cartridge. Let's make sure that we transect this this way. We're going to do this obliquely towards the anastomosis, preserving as much mesentery as I can and coming in about 2 centimeters from the gastro-J. I frequently expect a little bit of bleeding right here, and we'll take care of that very quickly with the monopolar cautery. Camera in, please. There we go. And this usually clears this up pretty well. I think I may have a touch more under my grasper. We'll see when I let go.

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All right. So let's take a look now, if we could, at that circular-stapled anastomosis. Camera in. Let's finish dividing that. Can I have a scissor, please? And let's transect that. Well, if we take a look at this circular-stapled anastomosis, we see that it is complete. It looks great. It's well vascularized. We can see from back and front, everything looks ducky, or whatever you want to say. We're very happy with the position of that, we're happy with the appearance of it, we're happy with everything. Well, this pretty much wraps it up from here. We've completed a laparoscopic gastric bypass. We have a few things to wind up -- for those professionals, you know what I'm speaking of -- but other than that, I'd like to sign off from Flagler Hospital and turn it over to Dr. Michael Perez in Fort Lauderdale at Holy

Cross to do a laparoscopic sleeve gastrectomy with our demonstrated product, Peri-Strip Dry Veritas from Synovis Surgical Innovations. Thank you very much for your time today.
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MICHAEL A. PEREZ, MD, FACS: Well, thank you, Dr. Marema. We're here at Holy Cross Hospital, and I'm Dr. Michael Perez. We are a bariatric surgical center of excellent, as designated by the American Society for Metabolic and Bariatric Surgery. And to date we have performed over 5,000 bariatric surgical procedures here at Holy Cross Hospital. The vast majority of those procedures have been Roux-en-Y gastric bypass, although in the past four or five years we've seen a transition from Roux-en-Y gastric bypass to procedures that are considered less invasive and less risky, like the laparoscopic adjustable gastric band, and most recently, the laparoscopic sleeve gastrectomy. In the past, the sleeve gastrectomy has really been reserved for patients that were considered too high-risk for Roux-en-Y gastric bypass and it was considered a transition operation to get them to the point to complete a gastric bypass. But we've really seen the laparoscopic sleeve gastrectomy become a very successful operation as we have narrowed the sleeve to become a more restrictive operation. And there are certain products on the market, like Synovis Surgical Innovations, Peri-Strips Dry Veritas, that allows us to perform a narrow sleeve gastrectomy with less risk of leakage and less risk of bleeding. So today we're going to perform a laparoscopic sleeve gastrectomy. We're going to take you through the procedure and show you the buttressing material that we use to make this a successful operation.

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And now turn to the camera inside the patient here. As I mentioned earlier, we really have been seeing in our practice a transition to patients asking more for procedures like the laparoscopic sleeve gastrectomy. There hasn't really been a consensus yet on the exact type of sleeve, the size of the sleeve gastrectomy that should be performed for the patients to be successful, but we do know from several series now that the narrower the sleeve gastrectomy the sleeve gastrectomy is performed, the greater chance of success for the patient. We begin the sleeve gastrectomy here. And you can clearly see the pylorus here, so I've advocated looking with endoscopy to identify the pylorus so that we can clearly see the transition from stomach to duodenum here in the presence of the pylorus. So we measure about 4 cm, and that helps maintain the innervation into the pylorus so that the pylorus can function normally after performance of the sleeve gastrectomy because you want it to function as much like a normal stomach as possible. The initial steps are to start taking these branches to the [gastric hypoechoic] vessels in an orderly fashion to fully disconnect the greater curvature of the stomach. This first part of the greater curvature here is a little bit thicker. And obviously we like to stay away from the major portion of the gastric hypoechoic vessels here.

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The initial sleeve gastrectomies were performed over about 60-French bougies, so they were a very large sleeve gastrectomy. The transition in the last couple years that has made this operation even more successful is that we've been able to produce a much more narrow sleeve gastrectomy which is going to serve to be an operation that serves the patient for a much longer period of time and that the patient can be successful longer term with a narrow sleeve. As I mentioned earlier, a buttressing material like the Peri-Strips Dry Veritas Collagen Matrix has allowed us to do that with much less risk. Because if we're giving the patient an operation that will be with them for the rest of their lives and be successful, we want to do that obviously as safely as possible. Because after all, the sleeve gastrectomy is a less risky alternative to the Roux-en-Y gastric bypass. I think we're just in the process in the next year or so with really coming up with consensus on the sleeve gastrectomy, but I am convinced that what we're going to see is a consensus that the narrower, more restrictive sleeve gastrectomy is the appropriate operation to be performing.

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Once we get this first portion and we enter the lesser sac, we can serially take down the vasculature. We do this with the Harmonic scalpel, and we have not really had any instance of any bleeding from these blood vessels. The other controversy is exactly what size bougie to be used when you get to the portion of actually creating the sleeve gastrectomy. I have transitioned to using a 32-French bougie. Some studies are starting to show that the patients do get the best benefit with a sleeve of that size. I think that the sleeve gastrectomies done around larger bougies 40 and larger are probably too large and you're seeing patients that end up having to be resleeved because of that. There's a transition point here where you get the anterior and the posterior leaf here of tissue, and we're going to separate this little bit of an adhesion that the patient has. The patient has had prior pelvic surgery and did have some intraabdominal adhesions. The patient is a 49-year-old female with a body mass index of 40 and a type 2 adult onset diabetic. We will proceed and then remove that little adhesion in a moment.

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One of the other advantages of using a buttress material when performing a sleeve is that no other additional sutures have to be placed on the stomach. You can obtain the right-sized sleeve from the very beginning and don't have to leave extra tissue to imbricate and try to get a proper sleeve size with imbricating with the sutures. And in fact oversewing staple lines in some cases has shown to increase the chance of gastrointestinal leak from these staple lines because the -- or from the suture line because the suture becomes the point of least resistance. As you approach the hilum of the spleen, in a short bit we're going to be entering the short gastric vessels. And this is another point where you have to take a little bit of care. We placed an orogastric tube for decompression at the beginning of the case and have removed that. And once we have this dissection completed, we'll be performing the sleeve. We'll place the 32-French bougie.

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This is the area where you have to be a little bit careful about the short gastric vessels and make sure that they're well cauterized with the Harmonic. We have to free up a little bit more tissue here superiorly to allow completion of the sleeve. This allows us to take the stomach and turn it over almost like a book. Some of these prior adhesions we're going to release real quickly here. By turning it up like a book, you can see posteriorly and anteriorly and judge the exact size of your sleeve. I'm just going to free up a little bit of vasculature here so that we can start performing our sleeve 4 centimeters from the designated area of the pylorus. That frees it up nicely.

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Okay. We're going to hold the stomach up and have our anesthesiologist bring the bougie in. Usually it's fairly easy if you hold the stomach up like a book to guide that bougie to where we need to. Okay. Back up the bougie a little bit. That's good there. And you can see how the bougie has turned a corner here. One of the pitfalls here of the sleeve gastrectomy is when you take this first firing. We're dealing with the thickest part of the stomach here, and it's important to have sufficient buttressing material. We're taking our first firing here with the green load of the stapler because it's a little bit thicker. And we want to be careful not to get too close up against the bougie with this first firing. The reason for this is that the stomach has a natural angle here, and if you compromise that angle right here too tight, then there's a potential for obstruction here as that angle kinks. I'm going to get a little bit closer to the pylorus to get us closer to that 4-cm mark that I had mentioned. You can see our pylorus right here. There we go. That gives us a much better initial firing. Pull that just a little bit more. There we go. Now, once again we're close up against the bougie, but you can already see this angulation that develops here. And if we get too close to that bougie, there's a potential for obstruction at that area. So we're going to take our initial firing. And you can see that the Peri-Strips Dry with the Veritas Collagen Matrix was placed on the stapler. And we'll wait about 10 to 15 seconds to allow adequate compression of the tissue. That's our first firing. We can already see the benefits of the buttress material, as we're

seeing very, very little bleeding. There will develop some bleeding over time, but we'll be able to cauterize these staple lines as necessary. Without this buttressing material, we would be seeing a lot more bleeding from the stapling. The stomach is a very vascular organ.

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I'm going to follow-up now with the gold load as the stomach starts to thin out a bit. Once again, the thickest part of the stomach is that first portion of the stomach. We typically use from five to seven firings of the stapler, and I like to turn it over like this, make sure that we're seeing our bougie in place. I think I'm going to cross. Once again, we're still a little bit in that area where you don't want to come too tight up against the bougie to prevent that angulation problem. We're seeing some little isolated areas of bleeding. I truly feel that having the buttressing material on this staple line allows you to safely cauterize these staple lines. We've been doing this for many years, both in our Roux-en-Y gastric bypass population as well as the sleeve gastrectomy patients without any danger of cauterizing these staple lines. Once again, you can see how very little bleeding we really have. And we'll just keep on transitioning. If there's any doubt about where you're at, you can turn the stomach over, once again, like a book. You can look posteriorly and anteriorly and make sure that you're making the sleeve as compressed and as tight as you want to. I've compressed the stapler, and now we'll wait to give the actual firing. That is really minimal bleeding we're seeing here when you look at the size of the blood vessels that we are really transecting in order to perform this sleeve. It really makes for a much easier operation as well to have a bloodless field like we're having here. Once you start to get some bleeding from these vessels and the whole field gets contaminated, it becomes a much more difficult operation.

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You can see that I'm grabbing these little tabs here on the staple line as well. This is another added benefit of the PSDV product. These tabs are available for grabbing the tissue so that you can manipulate the tissue and guide it into position without actually having to grab the tissue that's going to remain in the body. Now, this has served us very well on all our bariatric operations, including the Roux-en-Y gastric bypass because you'd like to manipulate the actual tissue that's remaining as little as possible. Once again, repeat it over and over again, you'll see how very little bleeding we're getting from the staple lines with this material. And we'll take an additional firing now. It may take two or three to get all the way to the top of the stomach. We try to flare out a little bit at the top. The stomach does get a little thinner at the top portion of the stomach, so in creating the sleeve we flare out at the top portion of the stomach a bit, create a narrow sleeve, and then the antrum opens up distally a little bit. Once again, look at the size of these blood vessels that have been transected. And without the PSDV here, we would have seen a lot more bleeding and spent a lot more time trying to cauterize vessels, and even the risk of postoperative hemorrhage would be much greater. I still think the greatest benefit with the buttressing material is the fact that most studies with the sleeve gastrectomy still show about a 1 percent leak rate, especially when not using buttressing material. So I think that's pretty significant still. Most people when they started performing sleeve gastrectomies felt that the leak rate was going to be very low. And one percent is still considered a significant leak rate, so anything you can do to prevent that is going to be beneficial to the patient and not to mention to the surgeon as well. I mean, we have seen excellent, excellent results with our sleeve gastrectomies. We've seen excellent weight loss that has been comparable to the Roux-en-Y gastric bypass, and we haven't had any complications of a leak in our series so far.

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I'm going to take an additional firing here, and then we'll take one more to complete the process. We're going to go a little wider here. Okay. And we should be okay with one more single firing to complete the process. This is where we're flaring out a little bit just to encompass a little bit more of the stomach superiorly where the stomach is a bit thinner.

Once again, you can see how handy these tabs are. The stomach does get a little bit more vascular superiorly as well. Having the PSDV on here really allows us a little bit more freedom to cauterize the tissue as well. You can see that we've completely transected the stomach. The PSDV -- part of it stays stapled here, and we just finish that transaction with that portion superiorly.

00:59:20

At this point we always reinspect all the staple lines to assure that there is no bleeding. We see how well-opposed the staple lines are here with the PSDV. And you can see how narrow our sleeve is. It's up against a 32-French bougie, and this is really going to give the patient the greatest chance for long-term success. I'm convinced that this is an operation that has really come to its point at this time, doing it over a 32-French bougie, and I'm convinced that the consensus will show that the more restrictive sleeve gastrectomy is going to be a good long-term surgical procedure. We can remove the bougie now. We'll remove and let the stomach collapse a little bit. That essentially completes the sleeve gastrectomy. The remaining portion of the stomach will be removed. We placed a 15-mm trocar in the patient's left upper quadrant, which is going to allow us to remove the stomach through that portion. I hope this gives you a little bit of insight into the sleeve gastrectomy and how to safely perform this procedure and certainly our experience with using the Synovis Peri-Strips Dry Veritas Collagen Matrix with great success, with very little hemorrhage and having no incidence of leak from the gastric staple line yet on our patients. There's a small area here that needs to be cauterized. And you will often see with the very large vessels coming through the staple line here that you need a little bit of additional cauterization. Once again, the stomach can be a little bit more vascular superiorly here, and occasionally we'll see a little bit more bleeding from these superior staple lines and from the vessels immediately posterior here.

01:02:56

Okay, we'll show you the full view here of the stomach status post-sleeve gastrectomy. And we're getting ready to remove the excess stomach at this point. I'd like to thank Synovis for the chance to use the PSDV and for the great success that we've had in all our bariatric surgical operations with this buttressing material. I'd also like to thank U.S. Bariatric and Holy Cross Hospital for their commitment to bariatric surgery. I hope this was of some benefit. As we start to see more and more sleeve gastrectomies performed that we will arrive at a consensus that the sleeve gastrectomy needs to be performed over a very narrow bougie to be successful and that buttressing material is really essential to eliminate that risk of leaking, especially as we get to a narrower sleeve gastrectomy. Thank you.

01:03:54

ANNOUNCER: This has been a laparoscopic gastric bypass and sleeve gastrectomy using Peri-Strips Dry with Veritas Collagen Matrix staple line reinforcement, performed from Flagler Hospital in St. Augustine, Florida, and Holy Cross Hospital in Ft. Lauderdale, Florida. OR-Live makes it easy for you to learn more. Just click on the "request information" button on your webcast screen and open the door to informed medical care. This event was sponsored by Synovis Life Technologies.

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