

Adjustable Gastric Band

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The Hospital of Central Connecticut, New Britain, CT

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Greetings, and welcome to today's webcast.
We're coming to you from operating room number four, The Hospital of Central Connecticut, located in New Britain, Connecticut.
I'm Doctor David Giles. I'm your host for the program, and I'm joined in the operating room by Doctor Carlos Barba, who will be placing an adjustable gastric band laparoscopically.
Today, we will utilize the Realize adjustable gastric band.
Before we join Doctor Barba, I have a few reminders for our audience.
First, you're welcome to post your questions that come up during the webcast in our online forum. To access the forum, simply click the forum button on this Web site. We welcome all your questions and we will try to answer them.
Second, an archive of this program will be available through the Web site.
If you would like to view the webcast again or share it with a loved one, simply return to this Web site.
Finally, a Spanish translation is being provided behind the scenes during this Webcast.
With pleasure, I welcome our Spanish-speaking audience.
The surgery you will see today directly addresses the issue of obesity.
Two-thirds of the U.S. population is overweight or obese.
Five percent, or one in twenty, is morbidly, or severely, obese.
As physicians we witness the devastating effect of obesity on individuals.

Obesity affects people in every area of their life. Economically, socially, physically. They struggle with discrimination in the work place, social relationships. Socially, they have relationships that are truncated or just not available to them.
Associates, doctors, nurses, friends, and even family treat them differently.
Clothing selections are limited, as well as mobility, physical hygiene, and seating in different venues.
But it's the health consequences of obesity that really bring us here today.
80% of diabetics are obese. Hypertension is twice as prevalent in the obese population.
Hypertension, asthma, arthritis are all more common, especially arthritis in the weight-bearing joints: the knees, the ankles, the lower back.
Sleep apnea is much more prevalent, as is psychological disorders such as depression and anxiety.
We have even been finding that cancer: colorectal cancer, breast, ovarian, cervical, prostate cancer in men, are more common, or patients who have obesity do more poorly who have these operations, excuse me, who have these cancers.
Infertility becomes an issue in obese women. Obese women have twice as many birth defects--their children have twice as many birth defects.
And pregnancy is more complicated, and labor and delivery as well.
There are over 30 health problems that are associated with obesity. And seven or eight studies now show that this can lead to earlier death.
So it's this problem that we are addressing directly with the adjustable gastric band that you are going to see placed by Doctor Barba.
So let's join Doctor Barba in the operating room. Doctor Barba, may we join you?
Thank you Doctor Giles, and good evening to everybody since this is first webcast from The Hospital of Central Connecticut inserting the Realize adjustable gastric band.
Buenas tardes para todos aquellos que nos están viendo en español también.
Before we start the procedure let me introduce you to... I have the privilege to have an excellent team this evening. I will start with our anesthesiologist, Doctor Ken Coll(iton). And Justin (Bruce), CRNA. I have also assisting me, a physician assistant from my office, Jason Ree(se). We have our scrub tech, Susan Ru(shmont), and our nurse circulator is Charlene Chihocki.
We have now today a 34-year old female that has been struggling with obesity like Doctor Giles said for a long time.
Her BMI is 35. She has hypertension and after failing all these diets and all these kinds of medical treatments, she decided to have an adjustable gastric band.

We have already the patient has just for a little orientation if we could just head the camera to the patient, just we have the patient for you to get oriented there in the Internet, the head is at this height, and the legs are down here. We have placed some marks where we will be inserting some trocars. The first step that we have to do with this patient is to insufflate the abdomen, because we are going to do this procedure laparoscopically.

And we do that with CO₂ and, Susan, if you would give me the knife please. The knife.

Some surgeons use different approaches to insert, to insufflate the abdomen. We are going to use a Verres needles in the left upper quadrant that we do in this position. And we find that in patients who are obese, it is a very easy way to approach that. Can we have the gas please?

Other surgeons may use a direct approach using a different camera for different, when one of the trocars that you are going to place. But the idea is just to start insufflating the abdomen and just to get it with a pressure of 15 mm of mercury. This is usually a very safe procedure. And we are going to just continue insufflating until we get the adequate pressure.

I don't know, David, if you want to just tell us something to our public, a little more about the adjustable band until we start placing all the trocars.

I was thinking Doctor Barba we could talk a little bit about the advance of laparoscopy. Laparoscopy has certainly become very popular in the last ten to fifteen years. And maybe we could speak to some of those advantages.

Yeah, sure, you know, so... laparoscopy for those of you is a term used for minimally invasive. We are doing laparoscopic surgeries as a minimally invasive access to things that we used to do open all the time. Everybody knows what a gall bladder is--take a gall bladder if you have some pain. Now the standard of care is to do this operation using a laparoscopic approach. We have other surgeries like hernias, we have organs removed that way, we have prostate surgery done that way. And bariatric surgery is a complex surgery, but it has been the latest frontier for the laparoscopic approach. What are the advantages? Cosmetically it is better. Pain-wise patients recover faster. And in theory they could go back to work much faster.

This procedure that we are going to do today, the patients usually could go home even the same day. Things that were unthinkable a few years ago when we used to do this kind of surgery.

I think David we are ready to put the first trocar, and we usually use the one above the belly button. Always there is a little bit of bleeding with these trocars.

Now, in a moment you are going to be placing the camera through that trocar, and I believe

<p>that the camera actually magnifies our view inside the abdomen, does it not?</p>
<p>You are absolutely correct. The view of this camera is magnified tremendously when we place this . . .</p>
<p>Now you are entering the abdomen here for the first time, correct?</p>
<p>Correct. So I don't know if we can see now past to our laparoscopic camera so they can see what we are seeing right now. Here we have a panoramic view. This is a needle that we placed into this patient, and the needle is going to be removed now by Jason. So what you are seeing right now there is the stomach. And I know that you are going to just tell in our broadcast what we are going to be doing. So while we are putting the other trocars, you can just start telling a little bit about schematically what we are going to do with this patient.</p>
<p>Sure, I would be happy to. We are going to show you a slide now that has a cartoon figure that looks very similar to what you just saw with Doctor Barba. You'll notice that the stomach is in the upper left hand part, and that that has been folded up in our schematogram, and Doctor Barba is going to do that in a moment with a liver retractor. The tube that runs behind the liver coming directly from the top is the esophagus. So food that you swallow after you chew it will come down into the esophagus and come into the stomach. That is the organ that has the arrow that is in it that moves to the left. As the food leaves the stomach it enters the small intestine. The small intestine winds its way back and forth until the food then enters the colon, toward the bottom left hand side of your picture. The colon is a little more reddish in the picture and you can see a small appendix just off the colon, which is the way that it is in, in fact, in real life.</p>
<p>So what we will propose to do today. There have been several operations for obesity. This is the operation that has until this past year been the most popular in this country. It's called a gastric bypass.</p>
<p>You'll notice that the stomach has been made smaller. It's been cut. The intestine has been cut and moved and placed a little bit differently.</p>
<p>The gastric band has the advantage that it doesn't do any cutting. You'll notice that the band is placed on the upper part of the stomach. And in fact creates two chambers within the stomach itself. The intestine has not been cut and rerouted as you saw just a moment ago with the gastric bypass.</p>
<p>And, in fact, the stomach is molded into two connected chambers as you can see on the bottom picture. And the junction, between these two, we'll call a stoma.</p>
<p>This band now will limit the amount of food that you can eat at any one time, because the food will fill the upper chamber and empty more slowly into the rest of the stomach. That upper stomach now will only hold approximately half a cup.</p>

<p>We're going to show you an animated clip with a placement of an adjustable gastric band.</p>
<p>You can see now the trocars that are being placed into the abdomen with the instruments through the trocars themselves; it's how we access the organs in the abdomen.</p>
<p>And now we're taking a view just of the stomach. We've isolated it from the rest of the organs here, the large intestines, small bowel. You can see a band now being straightened out, placed through the trocar, into the abdomen. And then it's placed around the upper part of the stomach. It is shut as the buckle is brought up through the band. We are able to move it around. Notice that there is a tubing that is attached. This will attach to a port, or a reservoir, that will eventually now be placed underneath the skin, but on top of the firm layer in the abdomen called the fascia. You can see the tubing being attached to the reservoir port and being placed there by the applicator. We'll show you this again a little bit more later. So that the final product has a band that is attached to a tubing to a port, or reservoir. And you'll see food coming down from the esophagus that is filling that upper portion, the component of the stomach, that upper pouch, and empties more slowly into the rest of the stomach. And this is, by design, to help us eat less food and achieve satiety with a smaller amount of food.</p>
<p>The adjustable gastric band has seven or eight different types of bands internationally. The Realize band is the band that we are using in this country. There are two that have been FDA approved. And it's been the most popular operation worldwide in addressing obesity.</p>
<p>Its track record now runs more than twenty years to the original Realize band that was placed in 1986 in Sweden. At that time it was known as the Swedish band. And although parts of the band have changed over time, the original band itself has not. It has remained a fairly high-volume, low-pressure band that is almost an inch wide placed around the stomach. It took a number of years before it was first placed laparoscopically, because the size of the band kept us from being able to put it in the, presented a challenge to inserting it in the abdomen to allow it to be placed laparoscopically. Our skills increased as a surgical community to the place in the early to mid-nineties where the band is now being able to be placed laparoscopically, and that's the way it is placed almost exclusively around the world.</p>
<p>David, sorry to interrupt you, but I think we are ready here to get our audience to see what we are doing here.</p>
<p>Terrific.</p>
<p>First of all, we have placed already the trocars. What you have seen here is the stomach that you were depicting in your diagram.</p>
<p>One misconception people have is that the stomach is bigger in bigger people.</p>
<p>This is a normal sized stomach. It is not the size of the stomach. It is just the way that we</p>

<p>metabolize food. That is what a lot of people in this country, we have problems with weight.</p>
<p>This is the area that we are going to place the band. You see the little bubbles here; it is probably some of the air that has gone through this area of the fat here and that.</p>
<p>Just to give you a little scheme of what we are doing, you see our retractor here in the top? This is our retractor that we have placed to separate the liver. This is one of the limiting factors in order to do this procedure laparoscopically.</p>
<p>I am just going to undo a little bit the liver you see how it falls down. So the liver is a very important organ because it just does a lot of things to detoxify, metabolize of the body, metabolize of food, some toxins, but it also protects certain things and is very vascularized. In order to do this, we have to lift the liver this way. That is why we put our patients in a two weeks of a liquid diet to try to decrease a little bit the size of the liver.</p>
<p>Now, we are going to start doing this. You see this thing beating here, this is the heart. This is normal. This is the diaphragm. And you see all this fat here is covering another important vascularized organ. You start seeing it there, that is the spleen. The spleen has an immune function when we get sick, when we get some infections, so it is important, but it is also well vascularized. The liver and spleen are protecting this area.</p>
<p>Now Jason, you are going to retract the spleen right here, and we are going to push down the spleen this way, that is perfect. We are going to go to this area that is called the angle of Hiss. This is where we are going to insert our band.</p>
<p>Right now, we are going to open it a little bit, and try to use no electricity cautery doing this procedure, because we want to just get our band and we don't want to do any damage. You can see the diaphragm right here, and we are just making this dissection. Give me the dissector.</p>
<p>So you created a window there just to the left of the esophagus, correct?</p>
<p>Correct.</p>
<p>Now, we open just a little hole. I am just going to make it a little bigger with this special instrument, in order to have our hole much wider when we want to get our tunnel underneath the stomach. This is all blunt. I am trying to make just the adequate pressure to put our hole big enough for our band.</p>
<p>This is all the dissection we will do in this area.</p>
<p>So now you can take your retractors and give me the band please.</p>
<p>And a needle driver.</p>
<p>OK. This is, I don't know if the camera can show this, let's just put some light so you can see. This is the band that Doctor Giles was showing. It has already been prepared here by Susan. And we are going to introduce it through a special trocar. We have to be very careful</p>

about introducing this because we could damage that balloon, and this a very expensive product.

OK. And Jason will finish introducing the band.

So now the band is just going completely inside the . the abdomen. .

Now the next step that we have to do is just to place the band in the proper position so when we are just going to pass it around the stomach. So now using these instruments and everything that I'm seeing is what all our viewers are seeing at home or school or wherever they are, you know, so, we are just placing the band close to the spleen, and I have to be careful about handling this balloon. This has to be in the proper position. So Jason, why don't you hold the fat down a little bit here.

Just here. That's good.

Come down, back with the camera.

So we place and we are preparing when we are passing and this is the position that I would like it, ready to go underneath the stomach. So now just let go the fat, and we will go to the pars flaccida.

Now, you see here this is all stomach and these are all blood supply from the stomach here. All this fat carries vessels. So, just press here Jason, please. And we are seeing this very translucent membrane, come in a little closer. This is what is called the pars flaccida. This band is being placed through the pars flaccida. And that is what is called the "pars flaccida technique." So we are going to open the pars flaccida. This is what you are seeing underneath the pars flaccida is part of the liver also. So this is just a cautery. We are trying to just cauterize this, to use electricity, to prevent some bleeding. Now Jason you put it here.

That's perfect. You see this pinkish, I don't know if in your Internet depending on if you have a Macintosh or an IBM, you will see this as pinkish here, and this is part of the muscle of the diaphragm. And that's a landmark that we are going to use to introduce our, to get the exit of our lap band, of the adjustable band, sorry.

The adjustable band will come out to this area and will be introduced from the other part that we just did the dissection. This is called a cross of the diaphragm. This is part of the muscle of the diaphragm that allows the esophagus to go through. Give me another smooth please.

So now, after doing a little bit of dissection, we will open the exit for our Realize band coming through this place. So, this is the area where you have to be careful because the stomach is just under, above that, and you could have a perforation. Jason, can you put it here? Just to open it a little bit more. Just move to the right side. That's perfect.

<p>So I am just doing, basically a blind dissection along this muscle until I feel that I am underneath the stomach. This is what I am just feeling right now. So I think I am ready to put my disposable dissector that is part of the kit that comes with the Realize band. So this is a special instrument. I will show you the instrument when I use, do something, could go like a right angle, and is necessary to be able to grab our band. Let's just go see again.</p>
<p>So you are sneaking behind the top part of the stomach, so to speak.</p>
<p>Correct. Jason just go here. A little bit, not much. Perfect. A little bit more. We don't want to displace our band. We are just sneaking, going behind the stomach. And now you see our dissector trying to sneak out. So I am just going to...</p>
<p>That's right in the area that you were working before.</p>
<p>Correct. Now, we just make the right angle of that instrument and it has a little bit of shape to put our suture into that and to be able to bring the band around the stomach.</p>
<p>OK. Come back with the camera please.</p>
<p>Alright. Now, I'm just going to straighten my dissector a little bit, and I'm just going to come pulling. This sometimes has to be repeated a couple of times. Hopefully, now that we are live, it could come right away. Come to the left with the camera.</p>
<p>So, you've kept this whole passageway fairly small.</p>
<p>Fairly what? Sorry?</p>
<p>Small.</p>
<p>Yes.</p>
<p>So it's a tight fit here?</p>
<p>This is a tight fit because you don't want this band to move too much.</p>
<p>Change that to a Maryland.</p>
<p>Why is that?</p>
<p>Because the band could slip down. All of the adjustable gastric bands could slip. This, the Realize band, is the widest of all. So, in theory, you will have less chance for slippage. However, it happens to all the bands.</p>
<p>Now we are going to close this band. Jason is going to just grab this suture that I have here. Easy. You have it? OK. Just going to try to get this out. Perfect. OK. Give me the needle driver please. And this is the critical part of the procedure that has gone fairly smooth. So now I am going to grab here this place, the band, so you can start pulling now, easy . . .</p>
<p>So you are going to grab that tab so you can secure the buckle. Is that correct?</p>
<p>Correct. This is just like a buckle. It has a special... I have to just get a better grip here, so</p>

before he starts pulling. Sometimes it takes a little time to grab it. And I don't want to damage the balloon, or anything in the band. OK. I think I grabbed it the way I want it. So now Jason, just pull a little bit more. Give me another needle driver please. That's fine.

I know you are working on this, but does one size fit all?

Well, the Realize band is only one size. You can let it go Jason there. OK. This is closed. If you can see, locks in? and is closed. The Realize band is one size. This has a capacity of nine cc's. We usually injected,(inject it?) and we will talk a little bit later about how we do this adjustment. But, yes, to answer your question, one size fits all. And, depending on the size of the stomach. Depending on the weight loss of the patient, we will place some more fluids to one patient than to others. Pull down Jason a little bit. Now you see this here, this is stomach. So now our band is just in the upper portion of the stomach. Now when we adjust this in the office, this is going to make like an hourglass to our stomach. So when somebody eats, he will get distended. There are some nerves that are around here that should to our brain say, "I'm full." So instead of you having five slices of pizza, you may have half, or even less. But you still feel satisfied. Because that is the problem, why we sometimes eat a little bit more than what we need to eat because we don't feel satisfied. But you see that I can move a little back and forth here the stomach. I need to keep this in place.

Yes.

So this is what I am going to do now to prevent slippage putting this stomach with this. We are going to suture this together to prevent, and we are going to put a couple of sutures as you will see in a few seconds.

So the strategy on the back side of the stomach is to keep the tunnel small, because there are a lot of tissue attachments back there. But on the front side you don't have any attachments. So you are going to create one, so to speak, with your sutures. Is that correct?

Correct. You know, that is one of the keys. Just to prevent, we are preventing, you're here, an anterior slippage. This is a type of suture that I like to use. We published some papers about this. This is just made of nylon, some type of permanent suture. And we are just going to do that. It just facilitates how we do this and how we attach this. Many surgeons use different type of sutures. You have to do whatever you are comfortable. Just show me up a little bit. And I am just going to put it into the stomach. You see this is not a complete bite. It is just partially through the wall of the stomach. And with this, we just tie inside. But this type of sutures does it pretty quick for us. This is all that we have to do. And this is permanent.

So now we are going to just put usually two to three, sometimes four, depending on how I feel that it looks, because one of the things that you don't want to do is let this band to slip.

Now people at home may be thinking, "Gosh this is just making it really tight." My colleagues... my anesthesiology colleagues, have placed a tube before to decompress the stomach. So that tube is inside in the stomach. So we are just putting the stitches and the band is over a very good sized tube so the **pass** will not be obstructed.

This is the second stitch. I think in this patient I may just use... let me see how it looks. Probably use the four stitches that I usually use.

Now the buckle you've taken off to the side.

Correct.

The buckle. Jason is just handling the buckle. He is just stabilizing the band at that point, so we are not seeing the buckle because he has it . . .

Now this you have to be careful. Just look to the left a little bit. Because I don't want to just put this needle into a vessel. Or, what is sometimes worse, into the band. Believe me that could happen. It happened to me? Of course not.

But I... yes, so, we have three stitches. And let me see if we could put another one because I see a vessel that is just creeping there. And I don't think that vessel I would like it. What I am going to do with a fourth stitch, is just do something that, because this band is now so wide, we are just going to put a stitch here in the stomach to prevent this portion of the stomach to sneak into the band, creating a herniation. Could you let it go there? OK. And then just grab it here like this.

So which portion now are you going to place that in again?

I'm going to put it here in this part of the stomach. This is closer, what we call the lesser curvature. We are going to just put the stomach together that it bunches up and it makes it difficult to get inside the band. So the patient when he loses some weight, this is one thing the patient should know. Or people should know that are looking to have this. You see how much fat we have here? This yellow thing is fat. So we all have that. But, if you are more obese, you have more of that. So if you lose weight, that also will become a little smaller. And then the band could become a little looser. And things could sneak to the top making the band, then, slip or produce certain symptoms of obstruction.

So you are saying then, since there is some fat that is incorporated inside your band, if you lose that fat, as you lose weight, there could be more play, in the band?

Yes. There could be more play. It could go down. It could just do that kind of thing.

So I want to just do this stitch that is being described by some of the originators of the adjustable gastric band to place and bunch up this part of the stomach to make this area

more difficult to create anterior herniation. So you just as I do partial thickness on the stomach, and that you will see in a second the bunch up of the whole stomach, and it will make it more difficult to get underneath.

Does that mean if, as I lose weight, I might have to have more adjustments to the band?

Well, you get to a point that you don't want to lose any more weight. So I think that usually we can talk about adjustments a little later, but the average patients need about four to five adjustments the first year. And we see that after that, the adjustments have decreased in frequency. So you see the final product in probably two to three years.

Now, just before we talk about this, this is the band, you can see that you can still put even this instrument underneath here. So, it is not very tight, but this is just the whole procedure almost complete. So we have finalized the abdominal part of the operation. Now what I want to look is just going to look for the end of the tubing here, and then we will place the port, and I think you have some interesting demonstrations that you could do in a second to show how, what we are going to do next to place the port.

Now, what if someone has fairly severe liver disease. I notice that you are right next to the liver. Will that stop them from being able to have one of these operations?

Not really will it stop them, but what you have to be, this patient goes through a whole, of a complete workup, so we go to a cardiologist, an internist, a pulmonologist, a psychologist, because they need to have... Would you hold this please?... they need to have this work before they come to see us. So if the liver is stable, I think that that would be probably enough, actually. Losing weight if those of you are having weight problems. You go to a doctor. The doctor will tell you all the time you have to lose weight. But this is a good way so it will improve all of these kind of problems. I am just going to lay the stomach over the band so you can see how this will look a little later. So I am going to pull this out. So this is just we are seeing the laparoscopic camera. You know, this is the way it will look. The liver has changed a little bit of color here because we were keeping it up. But that is completely normal. So we have finalized the abdominal part. So David, while I am preparing here the port, how to place the port, why don't you show our audience what are we going to do next.

Sure, thank you Carlos. What I am holding is one of our Realize adjustable gastric bands. This is the band itself. It is deflated, and in a straightened position. The tubing that is connected to it. And finally at the end, at the moment now, we have already attached a port, or a reservoir. And Carlos is going to be attaching this now while we have some further discussion. But it is through this diaphragm that this whole device will be accessed in the future. The diaphragm is made to withstand a number of needle punctures. And fluid can be added to the system or removed through that diaphragm with the help of a needle.

So the band itself was taken behind the stomach and then placed behind the tab and pulled until it buckled. So, the final configuration which I haven't done exactly here, well now I have, has a **balloonnness**, 360 degrees around the stomach. It's attached to the tubing, the tubing is leaving the abdomen, as Doctor Barba is pulling that out, will be attaching this port or reservoir to it, and then he'll be attaching this reservoir underneath the skin, but on top of the fascia, the tough layer that makes up our abdominal wall. Now, if I take a piece of foam here, I am going to demonstrate to you this port. The port is already now loaded on an applicator. And this is one of the nice things about this band that allows you to place this port fairly easily onto the abdominal wall. And the way that it is made is that as I partially deploy the instrument, you can see that there are four pieces of metal, or wire, that come out and engage the abdominal wall. In fact, it is not only much faster, but it is stronger, and less likely to move than other products which we traditionally, and ports, which we have traditionally used sutures to apply. So, in this case, if the foam now is our anterior abdominal wall, the fascia of the wall, we will place the port right on there, and as we fire the applicator, it should come off and leave the port, or reservoir, attached directly to the anterior abdominal wall. So this is what you are going to see Doctor Barba do here in just a minute.

Now, let me show you another band that has been placed around a piece of, kind of foam rubber material. This band is completely deflated, but this is what it looks like right now in our patient. The top part of this foam has been squeezed by a band that had six cc's added to it, or six milliliters. The band capacity is nine. So that you can see that this is how much how much even circumferential compression that you get on the top part of the stomach. Again, as you lose weight, you may need to add some more, and especially at the beginning, even if you haven't lost a lot of weight, there will be some fluid added to this band, so that it causes a modest amount of restriction of the flow of food that you have swallowed from being able to pass easily from this top gastric pouch into the rest of the stomach.

Let's check in with Doctor Barba and see how we are proceeding here. Doctor Barba?

We are ready for our audience, David. Just to let a little bit what we have been doing while you were away, you always have to fix a little things, but you know, we are just getting a little bigger that incision, the incision that we did originally, this is where we are going to put our port. This is the pouch that we have created underneath the skin fat and that will attach our port over the muscle. Now, Jason is going to just do here placing the band, the port, to the tubing and just making sure that there is no... now we have here this rubber shunt to prevent any air to go into the band and we are going to take it right now. Now this

is one of the advances I think that this company has done about the Realize band. This is the applicator that David did. Before we had this, with other bands we have to just get to sutures very deep in some of these patients.

So now, what we are going to do first is just place all of this tubing inside so we are going to just have Jason here having a little bit of retraction, give me a smooth, smooth, and let me put this just around here. And then we are going to just place the tubing all the way in... until we place our port and the applicator in. You can take that retractors. Gas please.

Now we put some gas because we want some pressure when we are just going to press this, we want some pressure from inside just to have a little more support to do this.

Now I am putting my fingers around just to make sure that this is going to be positioned just where I want it. So this will facilitate the adjustments of this patient. And that is what I am trying to just make sure that there are no problems. So I think that we are ready to deploy exactly the way that Doctor Giles just showed us.

And it's deployed. So now we just check to make sure that it is in the right place and I am very happy the way it looks.

Now we are going to put the camera inside again to the abdomen because we still have the trocars, we have to pull those trocars out. And I would like to do it under the direct vision, because there always could be a little bit of bleeding. We have a little bit of bleeding at the beginning that we control. And we are just going to see that when we pull these trocars, there is no bleeding.

For example, we have one trocar here, Jason?

You're going to pull it out while you are watching?

You see? There is no bleeding. We are going to see an area that we have initially that we put the trocars there is a little bleeding down here, we are going to make sure there is no major bleeding.

And you have some extra tubing did I see there?

You see the tubing? It's extra tubing. If you want to place this port in another position because the patient lost a lot of weight, or because the patient is skinnier, and he wants to have reconstructive surgery, many patients go after, we could put it a little bit lower.

So, everything looks in good position. We are going to just remove now the trocars that are on my side. This one that we are removing. And that looks good. And the last one, but not least. And that looks also good. There is no significant bleeding.

Terrific.

And the procedure basically has concluded and we just need to just close the sutures here.

So, is there any part of this device that you can see after you're finished with this?

Well, we will show, you know, after we close our trocar incisions with some subcuticular sutures, there will be some incisions that you see, but there is nothing of the device that you will see. I know where I placed my incisions if you could see the camera here in the abdomen, you know, I know I could feel the port here. This is where we will adjust it every time. And I know, David, that you have some animations about how we do an adjustment, so I think probably this is a good time to do that before we talk about some other things about the band. In this case...

Terrific, so why don't we go to that animation, and we'll take a look at what an adjustment process looks like.

Here is the animation. The port, or reservoir, is accessed with a needle, and some fluid is added. And as we do that, the band will expand. As the band expands, it expands towards the inside, not towards the outside. The spine of the device does not move, so that all the fluid makes the balloon smaller, which makes the opening smaller. It's as if a donut got fatter without getting any bigger. The hole in the middle gets smaller, so that now material leaves the stomach pouch slower than it did before.

I think that's a nice illustration for the way that the band actually happens, excuse me, actually works and functions.

Maybe we can talk briefly about some of the complications that will happen with gastric band surgery. We're fortunate that 85% of the time there are no complications. You have just seen us place a port and approximately two percent of the time, there is a problem with that. It may get infected. It may turn. It may twist. These are all problems that have happened historically. Gastric prolapse, or slip, is the problem that we are trying to prevent as we place the gastric band. We placed it through a tight tunnel behind the stomach. And then we sutured the stomach over the top of the band from the front side or the anterior side. Trying to prevent that slippage which has been upwards of five percent. Now this a five percent that happens over the years that it's in place. Erosion at one percent is a problem where the device actually erodes into the stomach itself. And again, Doctor Barba was careful about how he made the tunnel in the back to try and stay away from the stomach. It turns out that the layers that he was moving through have been studied carefully, so that he doesn't place the band right on the stomach itself. It lessens the chance that this is going to happen at all.

A gastric obstruction is simply that the stoma, or the outlet, between, that the band creates, is so small, that food, or materials, cannot move from the upper stomach, that stomach pouch or gastric pouch, into the rest of the stomach. It can happen if you don't chew your food well. Especially in combination with a band that is too tight, or maybe even properly

adjusted. But that your food intake, and your chewing has been inadequate to allow it to pass through.

Wound infections fortunately only happen about one percent of the time. Most of the time they are superficial, or they may be associated with an erosion.

Gastrointestinal leaks are uncommon. I would say that they are even less than one percent of the time because no part of the gastrointestinal tract is opened up during the course of this operation.

A pulmonary embolism is an unfortunate problem that starts with a clot in the leg that is called a deep venous thrombosis. It can happen after any major surgery. But an obese individual who has general anesthesia is at more of a risk than the common individual. So there are several maneuvers that we will do to prevent them. If we can prevent a deep venous thrombosis, that will then prevent a clot that could travel, and sometimes travels, to the heart and to the lungs. When that clot has travelled, that becomes known as a pulmonary embolism. That is a source of death, mortality after this operation. And for a number of programs, it may be the only death that they have ever had in their program, would be from a pulmonary embolism. It is a problem that we take seriously and we try to prevent through a number of different maneuvers.

OK. David, I think, what I think that the audience should take is that this is a major operation. This is something that it cannot be taken lightly. It is good to mention all the things. But it is a very safe procedure. In the experience sense, I think it is good to know it is safe, and that all of the things are possibilities, it is like when you take a medication, and they tell you 100 side effects it could take. But I think that the adjustable gastric band, the laparoscopic gastric band, is a safe procedure that it could be done sometimes in an outpatient setting.

One of the things is that it just a last resort for many patients that are looking for some help with the problem of obesity. I think that you could not go, you know there may be some surgeries that you want to have this type of surgery, and they will do it next week. In my opinion, I think Doctor Giles would agree with me that that is not the right approach for these patients. We have to make sure that they are prepared, they are educated, that they know what they are getting into. And this is just a process that involves a lot of commitment, that involves a lot of education. And you have to work for this. This procedure is not going to make you go and do exercises. No procedure is going to do that. Only the patient is going to be doing that. Yes, there could be some complications. You know, we have been very lucky and blessed that we haven't had many of those. But it is a potential with any procedure, not with an adjustable gastric band, not with a gastric bypass only, it

could happen with a gall bladder, it could happen with a wisdom teeth removal. So, all of the things are potential complications. The problem is that obese patients are at a higher risk because everything is more difficult. You know, you saw that this patient was easily intubated, but you didn't see that part, but that is one of the problems that they have when they just get general anesthesia. So, it is important for everybody that is seeing this contemplating this is a procedure that you have seen is being done without any editing and took us, you know, probably half an hour or a little bit more than that. But it is not something that you should take lightly. It requires a lot of thought. And it requires a lot of education. And you will have sources to know more about this procedure if you are interested at the end of this broadcast because there are certain Web sites that you could go, and definitely numbers that you could call after this procedure where we could just probably try to answer some emails or phone calls that we will receive today.

Carlos, maybe we could talk about what's the average weight loss for someone who has this surgery?

The expectations you said, David?

Yes sir. Yes.

OK. Well, this is, you know, it depends like I said, because it is just a tool. It depends how you use the tool. So, some people may use the tool very well. Eat properly. Exercise every day. And they may lose all the excess weight. Some people don't have the time. Too many problems with kids. No time, I have heard all the time, that I don't have time, I work two jobs, etc., etc., and they will not work as well. So, if you take as an aggregate, as an average, you know, it is a procedure that probably people lose over 50 percent of the excess weight as a group. But as you know as every group, these procedures are, or this average, are made up of people who lose much more and people who lose less than that. One of the things that the adjustable gastric band has an advantage over other procedures, is that it is a reversible procedure. We could take that band out if we wanted. We could switch to another procedure if it doesn't work. I like that idea because it is less invasive, less intrusive, but you know it is something that you have to take into account.

Now, if you are somebody who is 200 or 300 pounds over an ideal weight, probably you need something more aggressive. And probably this procedure may not be the best for you. That is what you have to individualize. This is not canned surgery. One don't fit all. So you have to kind of try to do that in an individual basis.

Now, what happens to this gastric band over time?

Well, that's a very good question David. You know, even the gastric bands, this one is Realize, but before it was called a Swedish, and some of the other competitors, you know,

this is just a relatively new procedure. It hasn't been there for 20 years. It was developed in the mid-nineties, and so far, we are implanting a band for the rest of your life. What will happen after 25 years? Nobody really knows. However, we think that this band should not get any complications. I have started every five years to look at endoscopies of these patients in order to make sure that there is no erosion, there is no ulceration, because having some pressure around the stomach is a potential complication. However, this band, the Realize band, has a low pressure, high volume profile which should minimize that. But these bands are made to stay. They are not made to take after five years, after you lose the weight, because there have been some studies that if you take it after you lose the weight, you will regain most of the weight back.

Is there any food that someone has trouble eating after the surgery?

Well, there is, everybody is different. So, usually the problems that they have most of the time is with things that could just get a little swollen after eating, like pasta, rice, meats are more difficult to, also, to digest. So, but, in general, they may be able to take most of the things. You have to individualize, and just adjust if ...trial and error. After a certain period of time, you are going to have to do some trial and error in order to know if the patient can or cannot tolerate it. In our office we have a nutritionist that goes over all of these potential problems. There are Web sites that people chat. And we have support groups that one thing could work, another thing could not work. There are recipes around. So there is a lot of education. But nobody is the same like the other person. So, to answer your question, there are certain things that in general it can be a little bit more of a problem. But, you should, with the adjustable gastric band, should be able to eat more or less everything, but eat less amounts. So you eat less amount, you exercise more, you eat healthier, probably the end result is you are going to lose some weight.

Now, you talk about exercise. Is there any kind of activity that you can't do once you have had one of these gastric bands placed?

Very good question, too. I think that I want my patients, I always tell them, they should do more than they used to do before. We have people that were kick-boxing. There were people that were in contact sports that they have been able to do that. So there are no actually any restrictions. If you lose weight, you are going to be able to do more and more things. And just at a higher intensity. So not everybody, because there are some people that are 65. The oldest patient that I have placed is in a woman who was 75 years old. They cannot be running a marathon, well, not most of them. But, they are able to do the type of exercise and we encourage just to tailor the exercise to whatever capacity you have.

You know, the only thing is that, you know, most of the time, that's one of the things that

cost the most to patients. Because they don't want, or they are not finding the time, to do this type of activity.

How fast do you lose the weight after the surgery?

Another good question. Like I said, everything has to be individualized. I think that the goal is that somebody lose at least one to two pounds a week. If I have a patient that loses over 50 pounds in the first year, I am happy with that. The final product you will see in two to three years. After three years, if you haven't lost more weight, that would be, the, probably the end result. So, I think that I have patients I have seen this week several patients who at a year have lost like 80 or 90 pounds. I have one that before a year has lost 100, but everybody is different. And I have to say that there are some people struggling, that after two to three years, are only losing 10 to 15 pounds, and they were looking at the reasons why. Why not? And almost always there is a component where patients could do better. But sometimes in some patients it doesn't work and you have to be honest with them and tell them well, this is not the, you are one of the 10 to 15 percent who this operation will not have the benefits that you want. We may have to try to do something else.

Once this gets put in, and it's adjusted, is it normal to vomit?

It depends how you adjust it. We have learned, and you mentioned about it, adjustment. I just want to say a few words about adjustment. The adjustment can be done in the office. Or it can be done under fluoroscopy. That means in the X-ray. We do the adjustments in the office because we find it is easier and better for the patients. Because coordinating with radiologists is a little bit cumbersome. But the thing is that we have to do these adjustments in the office. You know, we do it four or five times a year. And depending of the weight, we will do more or less adjustments in the patient. But, you know, it is an adjustment being done, it takes about two to three minutes, and we only think the adjustment will be based on two things: how much weight are you losing and how hungry do you feel. A patient can be losing more than two pounds a week. But if he feels hungry, we will give her or him an adjustment for that band.

So this band is quite efficient at producing satiety.

That's the experience. Now, we have to say that there have been some reports that after a certain amount of time, you see patients putting on some weight, but that is with any procedure. Because bad habits start coming. And if you are not going to see your physician, your surgeon, if you are not going to support groups, if you are not going to do all these other things, you will start getting bad habits. Because at work, you always see food around. It is easier not to exercise than to exercise. So, I think they are very efficient to lose weight, but it is a lifetime work. And that's something, a message I want to make sure

that those of you who are seeing this or getting interested into that, don't see this procedure as the cure of all. It has a significant effect, taking care of all the problems that Doctor Giles said: hypertension, diabetes, sleep apnea, some decreased chances of cancers. Also, there is no question joint problems, reflux, all of the things the majority of our patients that have an adjustable gastric band, or after bypass, they just get significantly better. And there have been studies showing that it is better than medical treatment. And so far, this is the best option for patients who are severely obese and now more and more the evidence for patients who are just obese. So, answering your question, yes, I think it is very efficient. I think it is just a good tool. But like a tool, you have to use it properly.

Thank you, Carlos. Let me suggest that many people have access to the Internet. And there are more resources that are available there. I am showing you three here on our slides. One is with the American Society of Bariatric Surgery which has been renamed the American Society of Metabolic and Bariatric Surgery, but the Web site is still the asbs.org. If you go to the bottom of the page, and click on patients, you'll find a BMI calculator, so you can calculate what your BMI is, as well as a history of weight loss surgery. Today we put in a Realize band. And the Ethicon division of Johnson and Johnson has a Web site that is oriented towards a Realize band and gives you more education about that in particular.

Our hospital Web site is at [thocc](http://thocc.org), The Hospital of Central Connecticut.org. And we invite you to visit there as well.

Well, I think we are about out of time. And I would like to thank our audience for joining us for what I hope was an educational and informative webcast. Special thanks to our patient without whom this whole program would not have been possible.

And David if you want to show the final thing now we have closed everything so people have an idea. This patient hopefully she will be a good healer. These are the incisions already closed by my physician assistant extraordinaire here. And they look pretty good. Hopefully, she will heal well. And, you know, she will be ready to, you know, we are going to wake her up. She has come from New York to have this operation here. And hopefully she will go either later, well later, tomorrow it will be, you know, because we are already almost seven o'clock at night here, you know, so we will just have it done, you know, so she will go home. And then we will see her in a week. And we will start adjusting this in six weeks. We want the stitches that I have placed just to heal. And then the adjustments after that will be every two months. You know, that's more or less what we do. Sometimes we do it earlier, if the patient is a little bit more anxious. So that is what we do with this patient. So I just want to thank the team. Great job, Good job. The patient has been perfect, you know. And, just hopefully it's been something informative for all our audience. And thank

you, David, for great questions and comments.
Thank you, Doctor Barba. This has been an adjustable gastric band surgery placed laparoscopically by Doctor Carlos Barba here at The Hospital of Central Connecticut, in New Britain, Connecticut. So I want to say good night to you all and thank you again.
Thank you for watching this Orlive webcast presentation from The Hospital of Central Connecticut, in New Britain, Connecticut. Orlive 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. Orlive. The vision of improving health.
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David L. Giles, MD Bariatric Surgeon
From The Hospital of Central Connecticut in New Britain, CT
Post your question in our online forum Click the forum button on your screen
Obesity Related Problems <u>Economic, Social</u> Work place Social Associates Doctors and/or nurses Friends or family <u>Physical</u> Clothing selection Mobility Personal hygiene Seating in theaters, airplanes, restaurants
Health Consequences of Obesity Diabetes High blood pressure High cholesterol Asthma Arthritis

Sleep Apnea
Psychological Disorders
Other: cancer, birth defects, infertility, pregnancy

Earlier Death??!

Carlos A. Barba, MD, FRCSC, FACS
Bariatric Surgeon

How the Realize™ Adjustable Gastric Band Helps You Lose Weight

Molds the stomach into two connected chambers
Junction between the stomach chambers is called a stoma
Limits the amount of food that can be eaten at one time
Upper stomach can only hold approximately 1/2 cup of food
Slows the flow of food, so you feel full sooner and stay full longer

Normal Stomach
Stomach with REALIZE Band

Animation Courtesy of Ethicon Endo-Surgery, Inc.

Gastric Band Surgery:

Complications

Complication
No post-op complications
Port problems
Gastric prolapse (slip)
Erosion
Gastric obstruction
Wound infection
Gastrointestinal leak
Pulmonary embolus
Mortality

National

For more resources On the internet...

asbs.org

(from the bariatric surgery society: choose "patients at the bottom)

realizeband.com

(the Ethicon site for the realize band)

thocc.org

(our hospital website)