MedlinePlus®
Trusted Health Information for You
National Library of Medicine
National Institutes of Health
ORlive
©2009 OR-Live, Inc.

Genesis to Webcast
Sleeve Gastrectomy Weight-Loss Surgery
Genesis Medical Center,
Davenport, IA
February 4, 2009

Welcome to this "OR-live" webcast presentation brought to you by Genesis Health System in Davenport, Iowa. During the program it's easy for you to learn more about the procedure, just click on the "Request information" button on your webcast screen and open the door to informed medical care. "OR-Live," the vision of improving health.

Hello and welcome to Genesis Medical Center. My name is Ron Elki, I work here at Genesis. And for the next hour or so I'll be helping to guide the discussion of the surgical procedure we're going to be showing you. It's a surgical weight-loss procedure called a "Vertical sleeve gastrectomy," and so let's get right to it by introducing our guests. Joining us is Teresa Fraker. She is the nurse manager of the Genesis Center for Bariatric Surgery. In the middle is Dr. Matt Christophersen. He's the surgeon who performed the surgery on our patient, the surgery we will be seeing. He is also the medical director for Genesis Center for Bariatric surgery and also one of the six surgeons who, together, form the Davenport Surgical Practice Group, a physician practice here in Davenport. And then farthest from me, to Dr. Christophersen's right, is our patient, or should I say Dr. Christophersen's patient, Ken Croken, who is what, seven months, about seven months now, removed from your sleeve gastrectomy?

Actually closer to six, but, yes.

Okay. Well, welcome to all of you. And before we get into kind of the nuts and bolts of the procedure, Teresa, I want to start with you to kind of give us an overview of the Center for Bariatric surgery.

Sure. We function as a multi-disciplinary care model. We set the program up deliberately that way so that we would really have an opportunity to gather all of the specialists around our patients. We talk a lot about the before-and-after care and how important that is. Obviously we need safe technically competent operations. But it's, I think, the work we help our patients do from the neck up that really matters the most in many cases. So we think that that equates to long-term success for our patients the most and really adds to the benefit long-term for them.

What else can you tell us about how you do things at the Center for Bariatric Surgery?

Well, we talk a lot about quality of life, and that's what we're focused on. And the specialists that are involved, and you'll see them listed right here, is all of these folks. I tell people over and over that my staff and the professionals that I am blessed to work with every day are collectively a whole lot smarter than I would ever hope to be because they make my job very easy, and that's really the way we designed it. And many people say, "Wow, you do this right." And I say we freely stole ideas from other people who were doing a great job, because we wanted to replicate what's best for our patients.

And our patients come in contact with every one of those people you see up there?

Correct. Yes. They are with us sometimes months before they go to the operating room, and then we're kind of in it for life with them after their procedures as well.

Okay. We'll talk a little bit about some of the, you know, special designations, et cetera, that those of you who work there have.

We're all members of our professional society, which is the American Society for Metabolic and Bariatric Surgery, or ASMBS. And ASMBS changed their name a couple years ago to really reflect the role of metabolic care of patients with obesity or morbid obesity, and that's an important piece that you see being added to the Bariatric surgical literature now in terms of reduction of type-II diabetes and/or cure of that problem. So I think what we'll see in the future is offering weight loss surgical procedures to patients who maybe are not morbidly obese for that very reason. Kathy and I are both -- Kathy is the nurse that works with us in the program. We're both certified bariatric nurses, which we felt was an important designation to offer really specialized nursing care to our patients in the program as well.

And speaking of designations, the Center itself has some very important designations having to do with the quality of the care you're giving there.

Yeah. We celebrated a big milestone for us in August of 2007. You'll see that there when we became a center of excellence through our professional society, ASMBS. And we're one of just a few facilities in our state with that designation, so that was tremendous for us and also received designation from United Healthcare, as well as Blue Cross Blue Shield, nationally. So while those are important things, feathers in our hat, if you will, it really speaks to the quality of our program.

Exactly. What about -- what are your patients -- who are your patients, I guess.

Well we have to make sure our patients follow something called "the National Institutes of Health" or NIH criteria for any weight loss surgical procedure. We offer varieties of different procedures. Dr. Christophersen will allude to that, as well as the different procedures, one of which is the procedure Ken had. But we have to make sure that patients meet criteria not only from an operative standpoint but an insurability standpoint, if you will.

And you said your patients go through a number of steps to get to the actual surgery.

Uh-huh. Uh-huh. Yeah. Lots of stuff; lots of education; lots of teaching that we do with them. And we staff all of our patients, and that's part of the role of our team is that everyone is staffed and we have all the specialties gathered around the table, because not every patient that comes to us is a good surgical candidate or a safe surgical candidate.

Right. Let's bring in Dr. Christophersen. You know, when we talk about vertical sleeve gastrectomy, you know, where does that fit in as far as the type of surgeries that are performed out there and the type of surgeries that we can get at the Center for Bariatric Surgery?

Well, Ron, in general we do classify bariatric operations in these different categories. Some are malabsorbtive predominantly. Some are restrictive predominantly. And some are combinations of restrictive and restrictive and malabsorbtive. The vertical sleeve gastrectomy is considered a restrictive operation, but it does have some metabolic effects that go beyond just pure restriction. Probably the purest form of a restrictive operation would be the adjustable gastric band. It just simply restricts the amount of food that can go in. The vertical sleeve gastrectomy does have some endocrine components by affecting some of the hormones that the stomach makes, which we feel probably decreases the appetite for a longer time than some of our other more traditional restrictive operations.

How do you determine if a patient is a candidate for a sleeve gastrectomy?

Well there are -- the vertical sleeve gastrectomy actually allows us to provide an operation to the appropriate patient that perhaps would not have been a good candidate for a laparoscopic band

placement or a Roux-en-Y. There are some risk factors or contraindications for the other procedures that would actually make that patient a good sleeve candidate.
Uh-huh.

Things like needing anti-inflammatory medications, other diseases such as Crohn's disease or other disposing factors where patients may need monitoring offal some sort, where you don't want to reroute the intestinal tract or place a foreign body in the patient like band patients would need.

Let's talk about what happens when you do a sleeve gastrectomy. What are the mechanics of this operation?

Well, basically we're creating a new stomach for the patient by not rerouting things but reconfiguring the stomach into a sleeve or a very slender, along the lesser curve. And that, in general, creates a feeling of satiety, decreases the hunger mechanism, and with smaller amounts of food, creates that satiety that these patients really desperately need. So it's really a volume thing, but it's also a hormonal thing that's being, you know, investigated around the country to see why this tends to work better than other restrictive procedures.

Let's talk about some of the advantages of this procedure over the others.

Advantages, we do not have to reroute the intestinal tract. That's one big advantage. So it cuts down on things like leakage and bleeding where we have to reconnect such as Roux-en-Y gastric bypass. There's no foreign body involved, as it is for the placement of adjustable gastric bands. For some patients, they either have a fear of a foreign body or a foreign object, and that actually can cause difficulties. That device has to perform flawlessly to maintain weight loss and to achieve optimal results. If it doesn't, we sometimes either have to remove them or have to remove them because of complications. This is all the patient's own body not rerouted but still provides that feeling of satiety and that decrease in the hunger mechanism.

And, Ken, all those things, those advantages of that surgery, those were all things that sounded pretty good to you, weren't there?

Yeah. Absolutely.

I didn't -- you know, your feelings about these things are somewhat inexplicable. But I just didn't like the idea of rerouting my digestive tract the way the Roux-en-Y does. That just didn't feel good to me. This sleeve gastrectomy, while it is certainly a serious surgical procedure and not to be taken lightly, it just seemed more appropriate and consistent. I still absorb food the way I always did. I still, you know, digest food. I still get my nutrients the way I always did, and that was very appealing to me.

Let's step back just a little bit and tell us about, you know, how you came to the decision to seek weight loss surgery.

Well I started gaining weight after college, and of course when you're younger, it's relatively easy to control that weight using diet and exercise. But as I got older, it became more difficult, and every time I'd lose 10 pounds, I'd find 15. And I had gotten to about 300 pounds when I was diagnosed with type-II diabetes, and it was really the diabetes that prompted me to take a more drastic step. I didn't feel as though diet and exercise was going to have the lasting benefits that I would need. And this procedure was remarkable. The recovery was very quick, relatively painless. You know, we don't want to pretend that this is something easy, because it isn't.

Right.

But I was out of the hospital in 24 hours. I was back to work in a couple of days. But most importantly, I was off all of my diabetes medication in a matter of weeks.

Yeah.

And in the little over six months since the surgery, I have lost a total of 80 pounds.

Wow.

And energy levels are back up. I feel fantastic.

Dr. Christophersen, is that pretty typical for a sleeve gastrectomy patient?

Well you have to understand that everyone starts at a different spot. Patients, though, in general over the first year, we expect them to lose 50 to 60 percent of their excess body weight. Most patients will be at least 100 pounds over weight, so we will see anywhere from a 50 to 60-pound weight loss over that first year. We're certainly hoping that our multi-disciplinary approach to weight loss helps augment that. This is not just about the surgical procedure but it's about the commitment to those changes, working with our dietitians, our physical therapists, as well as our surgeons to achieve optimal results, so we hope to actually do better than 50 to 60 percent, but that's certainly what's published in the literature.

And you're seeing more and more, reading about the impact that it's having on patients who have diabetes. It's, you know, becoming an operation that people are seeking strictly for that reason.

It's truly a metabolic operation. You know, across the board we're seeing dramatic changes in patients' sleep apnea control, high cholesterol, hypertension, as well as type-II diabetes, as Ken has mentioned.

Yeah. Ken, tell us about the process that you had to go through for your surgery.

Well, there is a lot of education that goes into this. Again, it's not the kind of decision you make on a whim and execute the morning after. There was a series of education classes, some psychological testing that was conducted. I felt as though the center staff had done a first-rate job of determining that if I did this I would have a positive long-term result. And nothing was left to chance or guesswork on that score. So I felt well prepared going into the surgery, and that makes a big difference.

Yeah.

You know, you feel optimistic and positive about it.

Right. That was going to be one of my questions is how well prepared did you feel? You were prepared for the surgery.

Yeah.

But, you know, as Teresa has mentioned, there is a whole slate of experts, specialists that you saw leading up to the surgery.

Yeah. And the post-surgical care is as important if not more important. Meeting with my dietitian and the staff over there has been invaluable. You know, irrespective of the size of your stomach at the end of this process, you're still responsible for your own food choices as it turns out. And so learning how to make, you know, different better choices, I'd say it's easier because of the fairly dramatic transition that your body goes through, but there is a reeducation process that goes on. And having the staff stay engaged and involved with you is invaluable.

Right. How has your life changed since you've had the surgery?

Well, I feel better. I have a lot more energy, so I feel like I am more capable now of exercise and other such things. I don't know how to articulate it beyond saying, I just feel better. And it is wonderful to be off all of my diabetes medications, my high blood pressure medicine, my high cholesterol medicines. I'm not

taking any prescription medications at all now. Now, my dietitian has me taking more vitamin pills than could choke a horse, but it's a lot better than taking all those prescription drugs.

Right. Dr. Christophersen, is it fair to say or safe to say that a procedure like this or this one in particular is a technical -- is a surgical cure for diabetes, or can we not go to that point yet?

Well, I think that's sort of an area of contention, whether you use the term "cure" when a patient comes back to you and their hemoglobin A1C, which is a measure of diabetic control, is normal, and they're on no medications, but they've had diabetes in the past. Some people would use the term "remission." But the fact of the matter is, if they're on no medications and they're A1C is normal, that's as normal as you can get. And the patient's feel cured, absolutely. Now do they need to be monitored into the future? Absolutely. They still need to have their yearly exams with their physicians, but in general, we're just happy that they're off their medications and they have excellent control.

Is it safe to say -- have you had every patient who has had one of our procedures who has had those diabetic -- who has been diagnosed with diabetes or had those symptoms, has every one of them gone away, been in remission.

We cure or go into remission better than 80 percent of our patients, meaning they are off all of their medications, you know, within a year. We monitor our results with a database, and when patients come back, it's one of the questions that we ask, and we do monitor their success. And we can confidently say 80 percent are cured or go into remission, and the other 20 percent are significantly improved. Now patients that are on a lot of injectable medications, insulin and such, they're a little bit more tough to cure, but we have had a number of patients who are so happy from going from the injectables and having to give themselves shots to taking an oral medication and have good -- and have better control of their diabetes than with all of the intensive therapy they were on before.

Yeah. Ken, are you able to eat pretty much everything that you ate prior to the surgery?

Just not as much of it, yes. That's, I think, the great advantage of sleeve gastrectomy over other procedures, as I understand them. I can eat anything I want any time I want. I just can't eat as much as I used to want. Now I get full very quickly.

Uh-huh.

And I have to be careful about the way I eat. I go for the proteins first and work my way around the plate that way. But there is no food that disagrees with me. I don't have that miserable sounding dumping syndrome that other people have talked about.

Right.

The recovery, again, has just been -- I'm reluctant to use the word "easy," but compared to some of the horror stories you've heard of other people who have struggled, you know, for years with their weight and the growing comorbidities, boy, this is something.

Yeah. Teresa, when Ken mentioned the dumping syndrome. What is that?

It happens primarily in gastric bypass patients because we reroute the small intestine, and it's typically the small bowl's response to having high sugar or high caloric load put into it. It's because of the bypass procedure that we do. So gastric bypass patients have to be very sensitive and very careful about the amount of sugar elements that they eat in their food.

And the advantage, then, of the sleeve gastrectomy. What -- Ken, I think you mentioned you have a number of vitamins to take. Is that part of the regimen after surgery, Teresa?

Yeah. Just to make sure that they don't have any long-term vitamin deficiencies or nutritional deficits as a result of surgery. And, again, a little bit higher risk with gastric bypass patients, but we supplemental the sleeve gastrectomy patients similar to gastric bypass because we don't really know the long-term effects, and we wouldn't want to run in nutritional problems with them long-term.

Right. What else is required of the patient, then, you know, after leaving the hospital, following the procedure?

Just advancement of their diet, as our dietitians recommend and, you know, really engaging themselves in an exercise program. And then we see them about every three months the first year, and then after that year hits, we kind of turn them loose to go to college I guess, if you will, And then see them annually for a set of labs that with we draw and watch them very closely.

An important part of the whole continuum of care, you think, that contact in making sure that the patients are following their instructions after the surgery?

I think it's critical. You know, we see patients that have kind of fallen off the wagon, if you will, that come back in and say it "well, I need to use my tools the right way," because don't fool yourself, these are tools. All the procedures that we do are just a tool. It's kind of alluded to that help them be successful long-term. But they have to use it in the right way and a safe way.

Can patients that have this procedure and other weight-loss procedures gain weight back at some point?

Sure. Absolutely.

Really?

Absolutely. That's why it's a tool, and it's from, you know, the neck up, you know, and the work that they need to do it long-term.

Yeah. Yeah. Ken, -- I'm sorry. Go ahead.

But it is, as Teresa said, the neck up. And those of us who have never struggled with weight don't understand the life-altering impact, the transformational impact, dropping a hundred pounds can have on somebody. You know, when people say, "How do you feel" I always say, "I feel great," and I do feel great. But it's the feelings in my head that were the big benefit. I just feel better about, you know, who I am now. Yeah, my energy is better and, yeah, I can walk and climb stairs and do all kinds of things. But it's life altering. It's not just that I can walk farther now, I feel better about me. And that's got to make working at the Center for Bariatric Surgery the best job in the world, because these folks are changing lives. And, you know, you say you can't make other people happy. Yeah, you can, and these folks do it. So thank you.

We call it the love shack.

Yeah, it sounds like it.

Well it's interesting, what Ken said. You know, a lot of times patients come to us, "Doc, I have diabetes. I have high cholesterol. I have sleep apnea. Can you help me?" Yes. This is how we're going to help you, but you have to help yourself first. But you make the commitment, we can help you. And then they start coming back, and we ask them about their diabetes and their sleep apnea, and their high cholesterol. "Oh, yeah, that's still gone. It's ancient history, but you should see what I'm doing now." I mean we get reports from people, they share, "I got on a rollercoaster with my grand kids. I haven't been on a rollercoaster in 20 years because I couldn't fit." We got a picture from a patient who went out West and took an 11-mile hike to get up to the Continental Divide and sent us a picture via e-mail to us to pass around the clinic. It becomes -- it's different, and the follow up becomes stories, "This is what I'm doing.

This is what I've been able to achieve. Thank you so much. I wouldn't have been able to do this without your help." And is very nice to have that change.

Yeah.

It's interesting, you know, you ask them, "Who did your laparoscopic gallbladder surgery four years ago," and they'll say, "I don't remember," but they won't quickly forget who did their weight-loss operation.

Yeah.

That's for sure, yeah.

I would just like to go on record as saying that no one told me I would have to get on a rollercoaster or take an 11-mile hike. So if that's required, I'm out.

Well, we're going to get to the surgery show portion of the surgery here in a minute, but before, Ken, I just want you to talk a little bit again about what you lost, you know, clothing, you know, coat sizes, pant sizes, that kind of thing.

Yeah, that's one of my favorite parts. You know, I spent most of my adult life buying anything that fit, no matter how ugly a color or, you know, just so long as it fit.

Yeah.

I've gone from a size 52-long suit to a size 46-long. I've gone from a -- I returned to my high school weight size of 34. I had been up to a 44. I've gone from double XL shirts to L., a large. Keeping up with the clothing is a complicated business, I'll tell you that.

Yeah. Perhaps one disadvantage. You got to go out and -- or, I guess if you like to shop that's a good thing.

You need to stimulate the economy.

There you go. That's right. All right. Well, let's -- Dr. Christophersen, let's take a look at the procedure here that you did on Ken.

Sure.

And we're going to roll the tape here. And just kind of take us through what you're doing, explain to us what we're seeing.

Well as you can see here, this is Genesis east operating room, Room 11. We're just getting ready to start and make incisions and make what are called trochars. Those are the plastic devices you see kind of entering Ken's abdominal wall. There I am. In the background you can see the monitors that we use. We have all high-definition monitors and cameras that allow us to see very exact details of the anatomy to allow us to do these operations safely. I'm putting in another smaller trochar. We can use very thin instruments to go in and out of the abdomen, which allow us to do the steps in the procedure that are necessary.

With me this particular day is my partner, Dr. Mike Phelps, who is also a Bariatric surgeon and works at the Center with us. We always have two surgeons performing the more complex operations such as sleeve gastrectomy. That's an advantage for our patients. We feel like it facilitates the operation and allows us to do this in a way to keep them under anesthesia only as long as necessary.

And the process of placing the trochars, I mean that's very -- that doesn't take very long at all, does it?

No. That usually takes about five to ten minutes. But it's obviously very important to have those in the correct position to facilitate the operation. Here you can see us removing some of the tissues along the stomach. We're working on a part that's called the "greater curvature." That's basically the big curve of the stomach as it goes up toward the esophagus. And we're using device called the "harmonic scalpel" that vibrates thousands of times a second to achieve hemostasis and dissection of tissues, so we're able to release that fatty tissues that you see along the stomach, which is just above their, being grasped with that instrument. There are blood vessels that run through this fatty tissue, and you have to be very careful to have good control of those small vessels.

What we do is we work our way all the way around the greater curve to release that and to control those blood vessels. To the right on the picture, we're approaching the spleen. We're about halfway to the spleen up above you can still see the liver, which we're holding up with a small retractor. And then up in the corner there, almost pointing directly up toward the diaphragm, the spleen lives up in that area, which we also have to be very cautious to avoid any kind of problems such as bleeding. And we just kind of keep working along to facility at a time mobilization of the stomach so that then, as you'll see later in this procedure, we apply a stapling device.

In this operation it's a little bit unique compared to the Roux-en-Y because we just work on the stomach itself. The sleeve procedure just reconfigures the stomach. There's no small-intestinal work that needs to be done, which then avoids potential problems such as small bowel obstructions or internal hernias, which can lead to bowel blockages and need for more surgery, you know, in the future.

The fat that's connected or attached to the stomach here I guess, if you didn't make that cut following the greater curvature, you wouldn't be able to, then, remove the piece of stomach that you're resecting; is that right?

That's absolutely correct. So this is an important part to get these attachments detached, if you will, to allow that portion to be removed, otherwise you simply would not be able to remove it and you'd risk tearing and bleeding of vessels and structures.

Okay. And this, what, takes nearly as long as the actual operation.

It's about half of the operation. And, again, very crucial that, you know, we have good visualization, that we can see exactly where we need to use these instruments so that we can have good control of these blood vessels and protect the structures that stay behind after we remove that portion of the stomach.

Again, it's interesting that while we're seeing this, you know, on your screen, that's exactly what Dr. Christophersen is looking at. He's looking at a high-def screen in the operating room and making all his moves, you know, by looking at that screen.

They're better than my TVs at home. So it's really remarkable the detail that you can see with the monitors and the cameras that we have. So it makes doing these operations, not only safer for the patient, it just allows us to facilitate the operation in a quicker manner because we're not struggling to see.

You have -- yeah, I'm sorry. You have a quote, unquote, camera operator here, one of the nurses?

We do.

Yeah.

We actually have a Bariatric team in the operating room that have been brought along slowly. Some of them have gone on site visits with us to, not only learn new procedures but to see how things are done at other institutions. And so we do have a dedicated team in the operating room, so we know, not only our scrub techs and nurses, we know their capabilities and really all of them have been with us since the beginning. And that has made the care delivered to these patients when they hit the operating room predictable, and that's what you want you want predictability not only in your equipment but in your staff.

Sure. Yeah. And you're still at work here.

Yeah. As we kind of get further up toward the top of the stomach, it can get a little more tricky, and you can see how we're readjusting and try to hold that stomach out of the way. It's vitally important as you get closer to the diaphragm that you have good visualization to really divide those tissues safely and not injure the stomach that's going to stay behind or the esophagus, or the spleen, which, you know, again is sort of covered by the fatty tissue there, but we know it's just right around the -- it's right back there.

The picture makes it look like there's a lot of room for you to maneuver around in there, but it's close quarters.

It can be a pretty small area in some occasions. You sometimes feel -- and you can see the spleen right back there. Sometimes it feels like you're operating through a frozen orange juice container. But, you know, again, it's a matter of being able to see, so you can just do a very safe operation.

Now we see, you know, the yellow fat there. Does any of that that was attached to the stomach, do you ever remove any of that.

There's really no need to. It will be removed as it shrinks.

On its own.

So that's where those 80 pounds go. All of those globules of fat that you see all shrink, and a lot of people don't realize it, there is a lot of fatty deposits on the inside as well as between the skin and the muscle. And depending on patient's anatomies that can may things very difficult. In this case in particular, there were some adhesions from a previous operation, and that's what you're seeing, some of those attachments there between the stomach and the liver, so that was -- it's important that we get those taken down. There's usually not this kind of scar tissue in this area in the upper part of the stomach, but Ken had had some previous surgery up in this area, and that did create a little more difficulty for us here that we wouldn't normally see.

Would there be any -- you said it's not necessary to remove that fat. Would there be any danger in remove it? Well it's just the other side of that fat is connected to other blood vessels.

Okay.

So it just --

It would prolong the operation.

It would prolong the operation and complicate things, and certainly we don't want to do -- create any additional difficulties or, you know, take any additional risk. We sort of stay on task, if you will.

Right. How long, generally, does this procedure take?

It takes anywhere between 45 minute and maybe an hour and 15 minutes. And again, patient's previous surgeries, patient's size, particularly does affect the operative time. Anybody who has had previous operations sometimes there is scar tissue that needs to be released so that we can see the anatomy appropriately.

Okay.

Teresa, as we continue to watch the procedure before us here, you know, a question that's been e-mailed into us is, "Do insurance companies still consider this is an investigational treatment for obesity?"

Many of them do, that's why things like, you know, consensus conferences on sleeve gastrectomy and the like in our society, Dr. Christophersen mentioned earlier, there's a lot of research going on in this area, so we're hoping to see the tide turn with that. Sleeve gastrectomy has been around, how long would you say it's studied in the literature?

Yeah. We are starting to see three-year results.

Yeah. Uh-huh.

And, you know, one of the things that it is in some cases still considered investigational. There was shorter follow-up time with laparoscopic bands placed, but yet that was embraced and endorsed and then became mainstream. So, you know, again, we do hope that this is hopefully around the corner as primary bariatric operation, that it will be approved more and more and an acceptable option.

So then it's up the insurance company whether or not they cover it?

Yes. It's based on their policy for coverage. We have an easier time getting gastric bypass procedures and bands covered, but like he mentioned, I think we're going to see the tide turn with this because you don't have the anastomotic concerns of the hook-up of the small bowl and those sorts of things. So a lot of our patients describe banding on one end of the spectrum and bypass on the other, and this is in the middle, kind of feels the safest to them.

Well it's certainly a less technical procedure than the Roux-en-Y for instance, correct?

Correct.

Uh-huh. Yes.
So we're working, again, very close to the spleen, and this is an area that we do have to take our time, be very careful to disconnect those tissues and to not pull or damage the spleen in any way. Often there's a few adhesions even further back than the part that we just took down along the greater curve, and we have to divide those, because we want the stomach to really be as free as possible and the blood supply based off of the lesser curve, which is sort of the inside curve, and you can see some of those blood vessels there on the screen feeding the stomach, and that's enough of a blood supply, along with some other major vessels that come in from below and above to keep that sleeve, if you will, alive.

Okay. Here's a question that's been e-mailed into us. "How overweight do you have to be to have the surgery? I'm thinking about the surgery and I'm 150 pounds overweight." Can you go strictly by how many pounds you're overweight?

Well, we follow the National Institutes of Health Criteria like we mentioned earlier, and typically, those state that if a patient is a hundred pounds over their ideal body weight, they're a candidate for weight-loss surgery. And so roughly just numbers, if a person wanted to see, you know, where they're at they could just calculate something called their "BMI," body mass index, and roughly, if folks have a BMI of 40 or over, they're a candidate for weight-loss surgery.

Okay. Here's another question. "Do these patients over time, then, have extra skin, you know, because you know they lose weight, and what happens to that skin." Can it be donated, for instance?

I don't know that we've had anyone donate skin.

I think there are programs to do that for different plastics programs. We don't do plastic surgery through our program.

Okay.

We would refer the patients, but it's pretty individualized, you know, whether or not plastic surgery.

In general, the more overweight someone else and the older they are, they tend to have more skin issues than, if you will, less obese or less morbidly obese, and younger patients have more elasticity in their skin. But really, a patient's -- how they carry their weight also often determines if they're going to have problem areas that they may have to see a plastic surgeon in the future to discuss options to remove some of that.

Is there any hair loss after sleeve gastrectomy?

Well you saw what Ken looked like. He had a full head of hair before.

Perhaps he's not, yeah.

No. The thought with weight-loss surgery and hair loss relates a lot to protein intake.

Okay.

But also some micronutrient intake. It is variable. There's certain pre-genetic disposition to hair loss as well. So it's something that is a common question that our dietitians are presented with. But I would say in general, we have had few patients dramatically affected and most patients, it's really, I think, more of a concern than it actually ends up being in reality.

Okay.

And as we're working with patients very closely, we're usually able to give them suggestions to improve their protein intake or to really give them a better overall diet to try to avoid some of those issues.

And you're still here doctor, at work, freeing that stomach?

Again, you know, we want to free the portion that we need, and we're working, now, toward the small intestine where the pylorus allows entry of the food into the duodenum, which is the first part of the small intestine right after the stomach, and we have to get that whole greater curve loosened up from its attachments before we're going to start the stapling portion of the procedure, and that's what you're now seeing.

The device that you're seeing going in is a stapling device that fits through one of our larger trochars, and it deposits three rows of staples on each side of a blade that then cuts. So the stapling happens and then the cutting happens, and basically you'll see after the first firing occurs, once we get it positioned, that you get two sealed sides and a cut in between. And we'll repeat that up toward the esophagus to create that very small gastric tube that makes up the sleeve.

This is instrument you're using is specifically for this type of surgery?

Actually we use these devices in many, many different surgeries. They have been a fantastic advance in the field of surgery to allow not only a procedure like a sleeve gastrectomy to be performed but other laparoscopic surgeries; colon recessions, small bowel surgery, gastric surgery. I often use them in open operations as well.

Okay.

It's provided reliability and speed to our operative procedures. Again, limiting patients to time under anesthesia is a great advantage not only for recovery but to minimize other complications such as pneumonia, pressure sores, and other things that lying very still for long periods of time can happen.

Sure. As we're looking at this, the piece of stomach that is to the right of the screen, that's what's going to be coming out; correct?

That will be the part that is removed. And right now it may be a little difficult to see, but a rubber tube is being advanced down by our anesthesiologist along the curve. And what we're trying to do is guide it along that stapler, because that is going to act as a stent or, you know, to prevent us from stapling across on or making this the too small. Because we want a standardized sleeve but also one that is relatively small in its capacity. So this tube that we have is about the size of my thumb, and it's very long. Obviously it goes all the way from the mouth, and you can see it there.

You can see it, yeah.

Just there. So we want to advance that down past where we're doing our stapling and then we're going to snug that linear stapler up to that rubber tube so that we keep that gastric sleeve open and we don't narrow it too much.

Okay. It's a good way to guide you as you work your way up the stomach.

Yes. Sometimes just visual guidance can be a little bit misleading.

Uh-huh.

This is important, too, for patient for too, because I think they see by looking on the inside like this how adherent tissues are to each other and the work that they need to do to disconnect this structure from this structure. I think people that everything floats around in there, and it's very, very interconnected, and the work that they do is very extensive, especially in light of adhesions that we saw with Ken.

Yeah.

And even anatomy books and our education materials in the center are a little bit misleading because they're cartoonish, if you will, to allow people to understand and to see the important structures, but obviously those structures look a little bit different in real life.

As we watch you continue to cut and staple here, I'll throw a couple more questions your way. One of these we touched on earlier, "How long does the surgery take?" You know, 45 minutes to --

Generally 45 minutes to an hour, hour and 15 minutes. Again, it just depends on size of the patient, as well as previous operations.

Yeah. What happens if you would have the surgery and then get stomach cancer?

Well, number one, by reducing the overall amount of stomach that's present, we would hopefully be lowering that risk slightly. But I think we would approach that as any stomach cancer. You would need to resect the cancer and then reconstruct the GI tract, if you will, probably doing a Roux-en-Y-type procedure, bringing small bowel up to the remaining stomach or to the esophagus if necessary.

Dr. Christophersen, would you talk a little bit more about the, you know, the hormonal effect of this operation and the how it appears to be deaden hunger, I guess.

Well, one of the main gut hormones that's being looked at critically is called "grelin," and grelin is predominantly produced in the portion that's removed during this operation. And there have been some interesting studies that have looked at grelin levels a year after a vertical sleeve gastrectomy, a Roux-en-Y gastric bypass, laparoscopic adjustable gastric bands, and the grelin level not only drops after this operation, but it stays low. Whereas with some of our other operations, that level slowly increases, and some investigators think that may correlate to an appetite coming back in some of our Roux-en-Y patients or band patients a year out or longer from surgery, whereas that appetite stays a little more suppressed in the vertical sleeve gastrectomy patients.

Hmm, that's an interesting part of that.

And it's unique to this procedure.

Yeah. Yeah.

So we're nearing the apex of our staple line. We only have maybe one or two more firings after this. And you can see that the part that's going to remain there is on the left side of the screen, and we're nearly through the upper stomach, and we're looking very closely at these staple lines because we're depending on these staple lines to not only seal but also to perform the healing process to allow this area to heal so that he can, you know, start eating actually the next day.

Uh-huh.

It starts with a liquid diet. So these have to be not only liquid tight but also airtight.

Okay. The fact that you're stapling on both sides, both the portion that's staying and the portion you removing, does that have to do with we don't want acids and those kinds of things to get into the cavity, abdominal cavity?

Absolutely. It just helps us to prevent contamination; bacteria and acids, which could lead to an abscess, so it allows us to not only remove this part of the stomach, but also to keep that sealed prior to its removal. So, again, the devices just really have made some of these operations possible, laparoscopic, you know, especially.

Right.

When I started to do weight-loss surgery, helping my attending surgeons during my training, we did have stapling devices but they were in there -- I don't want to say infancy, but they were certainly less complex than we have now, and they could only be utilized through open operations. So the engineering and the advancement of these devices have allowed us to now do these procedures laparoscopically.

Yeah.

Which, as you heard Ken say, a one-night stay in the hospital, home the next day; that's compared to an open operation where patients have to stay in the hospital at least three to four days, if not longer, and then deal with the recovery at home, which can be, you know, very much prolonged compared to the, you know, back to work in two to three days as he had mentioned.

An open procedure, obviously we try to avoid those to the extent we can. Are there times where you get in laparoscopically and find out, for whatever reason, that you're not going to be able to complete the operation that way?

We talk to patients about -- we have about a two-percent conversion rate, so if we believe we can do their operation laparoscopically, we're usually able to achieve that. Reasons why we might have to convert to an open procedure would be bleeding. There are other times that have been described that the anatomy just doesn't look right. It's kind of backwards or hasn't completely rotated. So there are some occasional times that we do have to open. Sometimes we do still do traditional open operations if people have had extensive surgery or they have large hernias from previous operations. It would just be very, very difficult to do a safe laparoscopic operation, and in those circumstances, they'll just do open procedures.

Working around scar tissue, that kind of thing.

Can be difficult.

Yeah.

But when we started our laparoscopic program we were very selective. Anyone with previous surgery really was only a candidate for an open operation. That has gone by the wayside as we have gained experience. Patients with previous open gallbladder operations, open colon operations, we still do offer a laparoscopic approach and are successful the vast majority of the time.

And, again, this procedure, we've been doing it at Genesis for six, seven months. Talk a little bit more about the history of it.

Well, again, this has been part of an operation, a more complex operation, which is known as the "Biliopancreatic diversion duodenal switch," where a sleeve configuration of the stomach is a part of that operation, as well as a small bowel rerouting portion. That particular operation is more complex and has some of the same difficulties that a Roux-en-Y gastric bypass has. That particular operation, then, was -- people decided to investigate it as a staged procedure. They would go in, do the sleeve first, and then after a patient had lost an amount of weight, then it became safer to go back and do the small bowel portion. That was the plan.

Well what the investigators found was patients lost the majority of their weight just within the sleeve, and some of them didn't want to have the rest of the operation performed.

Sure.

So from that, the next step was these investigators started doing this as a stand-alone procedure and started to publish their results.

Okay.

So the actual procedure itself has been done as part of a larger operation, and it's only through the investigative process has it been felt that, you know, this may be a good stand-alone procedure, and we are seeing good results.

It's evolved into its own procedure.

Exactly.

Yeah. Is the patient on liquids for a length of time after the procedure?

We typically have them on clear liquids for a while, and then they advance to a fuller liquid diet. And then they're on pretty soft foods relatively quickly after the surgery.

For a few days on the liquid, or does it depend?

Yeah. We have them on clear liquids for about 48 hours and then convert them to a full liquid diet for about a week, and very slowly advance, because obviously this is extensive amounts of work that is going on surgically.

Right.

And so we don't want to overextend the stomach, and let everything heal so.

It's a cautious progression so we avoid problems in the post-operative period. Some patients, you know, might be ready to go faster, but we still caution them that they're learning and adapting.

Relearning, yeah.

Relearning how to eat and how to approach food.

We talk about liquids. Do you use liquid at some point after you've done this procedure to check for any leakage?

Well we're about ready to go here, and what you're going to see as we remove that portion of the stomach, we're going to check our staple line very closely, and then we actually use air at the time of the operation, and we'll occlude part of this sleeve, kind of blow it up with air under irrigation fluid to check it. That's how we check it during the operation. Okay. The next day, we usually will have the patient swallow some contrast in the X-ray department and look at the new anatomy, make sure that everything looks good and is flowing through the stomach appropriately. And then we also just watch the patient very carefully clinically to ensure that they're doing okay before we let them be discharged.

Those are metal staples, are they not, that you're --

Titanium.

Titanium. Okay.

Yeah. So it's certainly safe for any future MRI imaging or--

Air travel.

Air travel.

That's a good one.

We get asked that a lot.

Am I going to beep?

Am I going to pass the metal detector; right.

And the staples really aren't even -- they're very small staples compared to your typical staple that, you know, you're going to put papers together with.

Right.

But they're basically the same, just very, very minute in size.

How long before a patient starts losing weight after this procedure?

Well everyone gains a little bit of weight from the IV, the IV fluids and the water weight associated with a little bit of swelling. But really, you know, they start losing weight immediately, you know, on discharge. And you know they're happy with the liquid diet, at least a few days, and then, you know, they advance their diet. But it's remarkable when they come back and how they describe that their hunger has left. There's not the voice in their head as they're eating breakfast telling them, you know "What are you going to have for lunch?"

Yeah.

So that part of it, it allows them to lose the weight without that gnawing hunger that they have experienced their whole life.

And you looked like just a moment ago; again, you were checking that staple line closely. Correct. We're checking the staple line here. We're putting a different smaller tube in so that we can put some irrigation fluid in as you see there, and then the anesthesiologist puts a little bit of air through the smaller tube we

had placed, and you can kind of see us pushing down on the sleeve to check and make sure that that staple line is really well sealed.

And obviously you're looking for any bubbling here.

Correct. Any bubbling is not a good sign. If we were to see bubbling, we'd put additional stitches in and then retest it. In this particular case, we had no bubbles at all with Ken, and really these staple lines are very sturdy, you know, the three-row staples, they're kind of alternating staples, so we get not only good hemostasis, we also get real good sealage. And you can even see that really blown up under some pressure.

Yeah.

And not seeing any bubbling there, and then we release the pressure there.

And then after you kind of clean up thing, I guess, and you're stitching up those small incisions where the trochars are, right?

Right. We pull that -- that portion that we resected, we pull that through one of the larger trochar sites and kind of work that through, and then, you're right, we look for any bleeding. When we're happy with that, we remove all of those little plastic cannulas and close all the incision, and we're finished.

And Ken's stay was 24 hours. That's pretty typical of this operation?

Uh-huh.

Yeah, very typical.

Okay. We have a little more time here, so we'll try to get a couple of questions in. A 23-year-old who weighs 261 pounds, 5'2", says "qualifies for gastric bypass on the lap band, but the BMI doesn't meet the requirements of the sleeve."

Well actually the sleeve -- and we showed that slide earlier -- that was in conjunction with the staged procedure, so some authors had suggested that patients with BMIs greater than 60, that this would be a safer operation than either adjustable gastric band or gastric bypass as a one-stage procedure. We actually do offer this procedure for any patient who meets National Institutes of Health criteria, so that patient would also qualify for a sleeve. It is my belief and our program's belief that this is going to be a very good one-stage procedure for patients that either aren't interested in a laparoscopic adjustable band or Roux-en-Y gastric bypass, or they have contraindications to other operations. So we don't view this any different as far as qualifying. You don't have to have a BMI just greater than 60.

All right. A viewer writes in that he's a big water drinker and wonders if he he'll have to watch how much he drinks after having a procedure such as this.

Just need to slip slowly. Volumes of water, you know, we want them drink about 64 ounce of fluid a day, and water is wonderful. So if somebody says, "I'm a water drinker, that's great." They just have to relearn that drinking process again, drinking very slowly, sipping. We tell our patients specifically not to use straws, so if they take any air down they won't distend, you know, or burp a lot from that. But, yeah, hydration is very, very important after any of the surgical procedures we do.

Can't chug it.

Yeah, can't.

What would happen?

You typically have one way of going and that's up.

Is that right"

If you drink too much, yeah.

Comes right back up at you, huh?

Uh-huh.

Yeah. It's sort of the funnel analogy.

Yeah.

You know, if you pour water through a funnel slowly, you know, in most circumstances it's going to go through.

Uh-huh.

If you try to pour it too fast, it's going to overflow.

I'm just looking over the questions. I think we've covered man of them here either in our conversation or as we have gotten them in. What kind of interest have you gotten once people have, you know, found out about this procedure?

Well, as he mentioned earlier, you know, our patients are very informed. They're on the Internet. They're investigating things. They're looking into things a lot, and so people are asking about this a lot. I remember when we were ready to get him on an airplane to go to Cincinnati to be trained for this, I thought, "Oh, my goodness, another procedure in this program." But, you know, we just really felt like it was an important option to offer to our patients, and so we feel like we're a very where he well-rounded program in the fact that we've got three procedures. As far as I know, there's not a fourth one on the horizon right now, and we'll see, you know, what the future holds.

Right. Right. Well that's all the time we're going to take for this show. We want to thank you for your interest in our vertical sleeve gastrectomy. A special thanks to, of course, to our guests for sharing their expertise and their insight with us. We hope we have been able to answer your questions and give you a good overview of just what this procedure is and the impact that it can have on those who are obese. So on behalf everyone here at Genesis, our guests, thanks for watching. So long.

Thank you for watching this "OR-Live" webcast presentation brought to you by Genesis Health Systems in Davenport, Iowa. "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. "OR-Live," the vision of improving health.