LAPAROSCOPIC COLON RECESSION PROCEDURE

MASSACHUSETTS GENERAL HOSPITAL, BOSTON, MA

BROADCAST JANUARY 14, 2004

NARRATOR
From Massachusetts General Hospital in Boston, Massachusetts, this is a live internet broadcast of a laparoscopic colon recession procedure. Viewers can send their questions to the surgeons by clicking the email button below. Dr. Charles Ferguson, general surgeon at Mass General, will be performing the procedure for the broadcast. Dr. David Rattner, chief of the division of General Surgery at Mass General, will be your host.

DR. DAVID RATTNER
Laparoscopic colon recession is used to treat current diverticulitis at a time when there’s not active infection. It’s also used to treat colon polyps that for one reason or another might not be able to be removed colonoscopically. And, also used for treatment of colon cancer.

NARRATOR
The procedure is performed through several small tubes placed through the abdominal wall. A mini telescope with a camera is also inserted into the patient’s naval. This is used to guide the surgeons, the bowel is freed from it’s attachment to surrounding structures, to allow the surgeon to remove the diseased segment of bowel through a very small incision. The bowel is then reconnected using either stapling devices, or sutures.

DR. DAVID RATTNER
The major benefit for patients from laparoscopic colon recession is the quicker recovery with quicker time to get back to normal and get back to normal activities.

NARRATOR
Now, your host, Dr. David Rattner.

DR. DAVID RATTNER
Hi, I’m Dr. David Rattner, chief of general and gastro-intestinal surgery at Mass General Hospital, and I’m delighted you could join us for this live web cast from the operating room of the future at MGH. I’d like to remind you to take the opportunity to email your questions to us
during the next hour, and we’ll do our best to answer them for you. So far, in this procedure, Dr. Ferguson has started the procedure for diverticulitis. He is going to perform a sigmoid colectomy through the laparoscope and some ports. A few words about the Mass General hospital before we get to the surgery. Mass General Hospital was founded in 1811, and it’s the oldest of the Harvard Medical School teaching hospitals. Dr. Ferguson and I are in the division of general surgery at Mass General, which has a very large experience in minimally invasive surgery. In fact, we were the first in the New England area to do laparoscopic colecystectomies, and introduced other advanced laparoscopic procedures into the areas such as laparoscopic hernia, laparoscopic anti-reflux surgery, and have an ongoing, active program in laparoscopic geriatric surgery as well as laparoscopic treatment of colon and bowel conditions. Let’s go now to Dr. Ferguson and see where we are in the procedure.

DR. FERGUSON
Hi, David. I’m here in the OR of the future. I’ve got Chris Norse, surgical resident, helping me, along with April Cheney, our circulator, and Laurie Shulman, our circulator. We started about a half hour ago. We’ve gotten a lot of the case done, and let me just show you what we’ve done so far. We’ve completely freed the left colon from it’s retroperitoneal attachments, and we took down the stomach so this way you can see. I’ve suspended the sigmoid colon from the abdominal wall, we just use some stitches to go through the abdominal wall. And, the same way with the uterus here, the tubes and ovaries. This, the area of diverticulitis was right along in this area, and this was all stuck to the back of the uterus, but we just took it down using a harmonic scalpel. And, what we’ll do next is to come and just take this last extra pedicle as you can see here, we divided the major vascular pedicle – there it is here – and we’ve freed up most of the colon so we’ll divide the pedicle and then we’ll come down and divide across the rectum down at this area then bring it up through the abdominal wall through the umbilical side and then from there we will, uh, place the stapling anvil and then assemble the stapler and do an anastomosis. So, Chris, if I could get you to hold the camera here we’ll....and let me just see the harmonic, please. ....there we go. So we’ll just come up and open this up…and then....April if you grab that 2.0 stapler I’ll be ready for that in just a sec....that’s pretty good. Okay.

DR. DAVID RATTNER
What Dr. Ferguson is showing you is the blood vessel supplying the bowel here and the blood supply to the colon is in segments and this is the last segment which needs to be divided, uh, before getting ready to remove the bowel from the abdomen and dividing the colon. This is a stapler that has different staple heights and this is the smallest staple used to divide blood vessels.

DR. FERGUSON
Look down [unintelligible]. See what we can do…and then, David, if you want to go down to the slide show at this point what we’re gonna do is just work down here and, uh, I’ve got this pretty well cleaned up – yeah, that should be fine. So we’re just gonna divide this and then we’ll pull it up to the abdominal wall....ooopsy daisy....

DR. DAVID RATTNER
Why don’t I give a few comments just sort of about the procedure in general at this point and why don’t you let us know when you are ready to transect the rest...
DR. DAVID RATTNER
The laproscopic colectomy procedure was introduced, really, in the early nineteen nineties and with improvements in instrumentation this has become easier to do and therefore it’s a little bit more widespread and a lot more has been learned about the procedure since we first started doing this in the early nineties. Well, laproscopic colectomy has some advantages over open colectomy. Specifically, these are a faster recovery, shorter hospital stay, less post-operative pain, uh, better result cosmetically – some patients you can hardly even tell they’ve ever had surgery and finally, it appears that laproscopic surgery in general carries less immunosuppression than the equivalent open operation. This may be important for cancer patients since the immune system is probably responsible for cleaning up few microdeposits and cells scattered throughout the body. Uh, even though by clinical parameters we believe the cancer to be localized. There are disadvantages to laproscopic colectomy and that’s probably why not all surgeons have embraced it. First of all, it takes longer to do a procedure laproscopically than it would to do it in open surgery. Secondly, there’s a long learning curve. You really don’t get good at this until you’ve done somewhere between fifty and a hundred of these operations and even surgeons who have done two hundred or three hundred feel they’re still learning new tricks. Uh, and lastly, it requires a team to do this. It’s not a one-man job. It really requires a good nursing support and a good assistant. Now, I’m often asked who should have a laproscopic colectomy. What are the right patients for this procedure? Um, as Dr. Ferguson mentioned in the beginning of the broadcast, large polyps that can’t be removed through a colonoscope are ideal for laproscopic resection. Commonly, these are villous tumors in the secum, for example, where the wall of the colon is very thin. Other patients might have diverticulitis such as our patient today, uh, and again, as Dr. Ferguson mentioned, timing is important. It’s very difficult to do this procedure when you have acute inflammation and abscesses but once a patient has been cooled off, surgery can be undertaken. Lastly, patients with colon cancer may be appropriate for this operation. This has been very controversial, uh, but there now is --

DR. FERGUSON
We’re just gonna go ahead and divide here – we’ve got the stapler placed across the colon --

DR. DAVID RATTNER
Why don’t we do that?

DR. FERGUSON
So we’re just gonna come right across the rectum right at the peritoneal reflection here – let’s see what that does – and we’ll need one more application.

DR. DAVID RATTNER
Now in this procedure, two ends of the bowel need to be divided. This is the first of the closures – the lower end of the bowel that Dr. Ferguson is dividing at this point.

DR. FERGUSON
A little traction on the [unintelligible]…there you go. And then rotate your light so we can see that.
DR. DAVID RATTNER
I think Dr. Ferguson right now is completing the transaction, or division, of the section of the sigmoid rectum and the colon – the lower end of what is going to be the specimen’s distal end.

DR. FERGUSON
There we go.

DR. DAVID RATTNER
We’ll be back to this area in a few minutes for the reconstruction. Now once the bowel is divided here, what Dr. Ferguson’s gonna do is to extract the specimen – this piece of bowel which has the disease in it – he’s going to extract it through the umbilical port.

DR. FERGUSON
That looks fine. If we can get the stapler right up to there. Good.

DR. DAVID RATTNER
Okay, while Dr. Ferguson does that let me say a few words about colon cancer because that’s certainly controversial. Um, originally there were some reports that this operation had unfavorable outcomes for patients with colon cancer and therefore, several large, randomized prospective trials were started. One of the largest is in the Unites States and the results are going to be released within the next month or two, I believe. There is, however, one published prospective, randomized, controlled trial which compared laproscopic and open surgery for colon cancer. It came from Barcelona and was authored by Antonio Lacey. What his group found was that for stage one and two colon cancer laproscopic and open colectomy were equivalent in terms of survival and patterns of recurrence and interestingly, for stage three they found that patients had a better survival with laproscopic colectomy than open colectomy. The numbers are fairly small and this data needs to be confirmed in other trials and so everyone is waiting with interest what the results of the United States trial are going to be. But I think it’s fair to say at this point, that laproscopic surgery for colon cancer in experienced hands – and I want to emphasis experienced hands – is a safe operation and is likely to be equivalent to open surgery. It’s very important that when treating cancer that the surgical team keeps the goal in mind that you’re trying to cure cancer, not necessarily make the smallest incision possible, and therefore experience becomes very important in getting an adequate resection and getting an adequate lymph node dissection done as well. Now some people are not ideal candidates for a laproscopic colectomy. The things that make laproscopic colectomy difficult are obesity, and multiple previous abdominal operations and one has to weigh the potential benefits versus risk of complications and difficulty if one is going to undertake a laproscopic colectomy in a very obese patient or multiple previous operations. I think we, uh, probably ought to go back to the OR. I think Dr. Ferguson’s about to extract the specimen.

DR. FERGUSON
So we’ve got the colon here and I’m just taking it right out. When we do this for cancer, we have a very complex technique for protecting the skin edges – you can release that Chris – which to keep from having tumor implantation. For diverticulitis it’s really not that crucial. So here’s our specimen. Here’s the area where the diverticulitis was here. You can see those little perforated diverticulum there and those are all traction stitches. I find that by using these little stitches, I can usually get by just with the three ports and what we’ll do is just clean up the colon here and divide it and then put the stapler together through here and a snap --
That’s great, Charlie. While you’re working away, I’m gonna take a couple of e-mail questions. Uh, the first question is whether the instruments are disposable or reposable and I think the answer today is we’re using disposable trocars, but the rest of the instrumentation is actually non-disposable. We’ve had good experience with reposable instruments as well. Uh, another question is what type of antibiotic prophylaxis do we use for this procedure. Um, in our institution we use sepazolin and metranidizol in combination. It seems to provide very good antibiotic prophylaxis. These antibiotics are given half an hour before surgery and at two doses post-operatively. All of the patients who undergo a colectomy – we do believe still in giving the patients a bowel prep and some of the surgeons use oral antibiotics with their bowel preps. Others do not. I think the literature’s clear that if you use perinatal antibiotics you don’t need to use oral antibiotics but some people still like to use both oral and perinatal antibiotics. Uh, another question is how soon can a person go back to work after this operation. This depends a little bit on the kind of work that the patient would be doing, but a professional for example, would be able to go back to work in ten to fourteen days. Someone who did more physical type of work, perhaps a little bit longer, uh, and the restriction would really be on the time required for the incision to heal such that there’s no danger of herniation. Most people feel pretty much as good as they felt prior to surgery by fourteen days after the operation and this is in contrast to open surgery, where most people take about a month or six weeks before fatigue finally relents and they really feel good and peppy again. So now, in the OR, Dr. Ferguson is just preparing the bowel to insert a half of the stapling apparatus and that will be returned into the peritoneal cavity to create the inastomosis, or junction. While he’s doing that let me just say a few more words about people who are not a good candidate for laproscopic colectomy. Patients who have a very large lesion which is adjacent to vital organs probably are best treated with open surgery. I’m going to just run through a couple of slides showing what’s going to happen next. This is actually the finished product – the sutured incision at the envilicus, measuring about seven centimeters and that’s fairly typical. This is a view of the pelvis, showing much of what we’re showing on the webcast of the rectum coming up out of the pelvis, uh…uterus anteriorly…this is the stage of the procedure we’re currently at where the rectum has been stapled across and the specimen is now removed. Um, here the specimen is exteriorized in this slide – very comparable to what we’re doing in the OR as Dr. Ferguson sutures a – what’s called a purse-string suture – in preparation for placing the anvil into the bowel, which is the stapling device and what’s gonna happen after that is we’ll go back to a laparoscopic mode and Dr. Morris will probably insert the stapling device in through the anus, transrectally up to the staple line. It has a sharp point so it can poke through, but this is removed and then the two pieces of the stapling device – the anvil and the stapler itself are joined and the bowel is brought into proximation and a double circular layer of staples is fired to create the inastomosis. This then is tested under water pressure to make sure that it’s airtight and that there’s no leak. If there is a leak, an extra suture or two is generally all that’s required to fix it. Uh, and that essentially concludes the operation. Another e-mail question that’s been sent in is how to find the surgeons who perform this type of surgery. Um, I think you’d probably look for a surgeon who’s experienced in gastro-intestinal surgery, a surgeon who is a member of SAGES – Society of American Gastro-Intestinal Endoscopic Surgeons – is probably one who has a particular interest in laproscopic or minimally invasive surgery and so that is a good credential for your surgeon to have or to be a member of what’s called the Society for Surgery of the Elementary Track. Um, and I think in most parts of the country there are a number of surgeons who can do this operation well, but those are some of the things you should be looking for. Um, some other questions…the role of the harmonic scalpel in this procedure. The harmonic scalpel is an instrument that we use to divide tissue hemostatically
and so this is used to open the peritoneum, it’s used for some of the mesenteric dissection. Uh, in other procedures it can be used to make a hole in the bowel to insert the stapler. Why don’t we just cut back to the OR for a second and Dr. Ferguson, can you explain what you’re doing right now?

DR. FERGUSON
Sure. What we’ve done is we’ve put the anvil into the colon here and so that this is what the staples form against when we fire the stapler. Maybe we should show you the other end of the stapler – then again, maybe not. Um, you’ll see it coming through. Scissors, please, Ann. And, Lori, I’m losing my earpiece.

DR. DAVID RATTNER
So what Dr. Ferguson has done is put a purse string suture in there and he’s preparing – gonna prepare the bowel to staple it together. Um, another e-mail question we received is are we removing fistulas? No, there were no fistulas in this case yet if there were a fistula, say from the sigmoid colon to the uterus, this could be dealt with laparoscopically and in inflammatory bowel disease, these can be dealt with. This particular case today is a case of diverticulitis and fortunately for our patient and also for Dr. Ferguson, there are no fistulas to deal with. Um, another question, what are the potential complications during or after the operation. I think the laparoscopic surgery carries the same risks as any other operation – the risk of bleeding, risk of infection, in this particular kind of operation – the sigmoid colon – there’s risk of damage to the uterus. Um, however, we and all other surgeons take cautions to identify the uterus so that it’s not injured, use proper technique with the stapling devices so that the division and sealing of the tissue is accurate. The right staple height is chosen and so forth…

DR. FERGUSON
Excuse me a sec. We’re just gonna – this is the colon now with the anvil in place. We’re just gonna try to drop that back in the abdomen and then we’ll replace the trocar and distend with gas and see if we can’t assemble the stapler. Here we go. So that’s back in and we’ll just push it right down like that, Chris, so it’s going right down where we want to use it. Hold up in that stitch there, please…we’ll just in a couple of extra stitches just to make it good and tight around the trocar so there won’t be an air leak.

DR. DAVID RATTNER
Just so the viewers know, the place you’re suturing – is that the umbilicus.

DR. FERGUSON
It is. Yeah, this is right just to the side of the umbilicus.

DR. DAVID RATTNER
Just to finish up on this surgical complications…laparoscopic surgery carries a lower rate of wound infection than open surgery and that’s intuitive since the incisions are smaller and…but it does carry a risk of herniation of bowel through these port sites if they’re not closed at the end of the procedure – for many years people didn’t close them and then it was discovered that you could get hernias – so now most surgeons do close their port sites. In fact there’s special devices that have been designed specifically to close the port sites easily and safely. Another question came in is the surgery considered experimental? Uh, no. I don’t think it’s really considered experimental surgery anymore. Maybe ten years ago one could have made that case, but right
Now it’s widely practiced technique and the results have been shown through numerous studies to be equivalent, if not better, in many respects than the open counterpart operation.

So, now we’re getting ready to put the trocar back into the abdomen for a laparoscopic view of the world. And, then we’ll see if we can put our patient back together again.

We’ve got another email question about the post operative care and restrictions afterwards. Let me just say that this patient, we would expect to be in the hospital probably 48 hours or so, and they’d go home eating soft food for the first few days, and then eating a diet, really without restrictions, after that. She really should be able to drive as soon as she’s off of pain killers. Walk around and go shopping, or do whatever she pleases. The main problem she’s going to have is fatigue, which is normal after an surgical procedure. But, from the surgical standpoint in terms of doing damage, she’s unlikely to be able to damage the surgery itself. And, we just tell people not to lift objects heavier than 15 or 20 pounds for two to three weeks until the pain is all gone.

There must be some surgeons in the audience, because someone has asked, “Is this an end to end anastomosis?” And, the answer is yes, it is. This is called a double staple technique. And, the end of the rectum will line up with the end of the sigmoid colon when the stapling is all finished.

Another question was how we manage the diet post operatively. And, I have to say there’s a variation from surgeon to surgeon in my group. Most of us would start on a clear liquid diet tomorrow, and let the nursing staff address the patients to solid food if the patient was taking well. Others are a little more conservative. There is experimental data, clinical data that you can give the patient regular food right away without doing any harm, and in fact there may be some benefit to doing that. So, I really think it is up to the individual physician, but our algoarhythm is to start them on clear liquids and advance them to solid food as quickly as they will tolerate it.

Another question is what’s the difference in recovery time in the same operation through a traditional incision? Again, it depends on what you define as recovery, but I would say return to work as a surrogate. Take two weeks for laparoscopic surgery, and somewhere between four and six weeks for open surgery. In terms of resumption of daily activities, that difference might be a little bit smaller, probably a week’s difference there. But, again the major benefits of this are seen about two weeks out from the surgery. We want to go back to the OR now because they’re getting ready to join the colon back to the...

DR. FERGUSON

…screen up. Yeah, I’m sorry, David. Just trying to get my screen to where I can see a little better. There we go. So, we’ve got the colon back inside. There’s the trocar with the end of the stapler coming out here. We’ve checked the mesentery to make sure there’s no twists. And, you can see, we really did take down the whole splenic structure, because that’s the structure there, sitting in the pelvis. And, now what we’ll do, can you hold the camera for me please, and we’ll just clean that out a little bit, and then advance the stapler up from the bottom, and that should be all she wrote. So, here is where we’ve divided the rectum.
DR. DAVID RATTNER
And, for our viewers, this one is going to become much more obvious when there’s a little traction placed on the rectum and the stapler comes in, it become much more clear how this is all going to fit together.

So, what we’re going to do now is to, Dr. Ferguson is going to place the stapler transanally, up to the rectal staple line, and then he’s going to use the device to poke a hole through that will allow him to join the two pieces of the EEA stapler. Again, here you can see that’s very helpful once you can have a little pressure on the rectum, that it extends up and will sit right up to the staple here in one second. See, now that the rectum here is now under tension, you can make up a circular outline of the stapling device there. That looks perfect. So, now you can see the spike of the stapler coming through.

DR. FERGUSON
Ok, can I get you to just hold the stapler for a second, April. Thank you. What we’re going to do now is we’re going to take that little white piece off of the stapler, pull it out, and assemble the stapler and fire it, and then we’ll have made our anastomosis. And, we’ll take this off, and come down here, grab this and pull it right out. There we go. Now, if we can just come back a little bit, Chris, we’ll find the other end. Then we simply assemble this.

DR. DAVID RATTNER
That’s always one of the most fun parts about doing laparoscopic surgery. Working in 3D here. Ok, so now we’ve got the stapler lined up and ready to be closed. So, a very important part of the procedure, it’s got to be just right.

DR. FERGUSON
Everything has to be just right, David.

DR. DAVID RATTNER
Well, I say this, Charlie, with all the press out with mishaps in stapling, it’s really in many cases incumbent on the surgeon to make sure he’s got everything properly aligned, he’s got the proper stapler, and that it works fine.

DR. FERGUSON
Back up the camera a little bit, Chris. There you go. See, we want to be sure that fat is not in the staple line. See how it’s right next to it. Then we just close the stapler all the way, there we go, get another good look. The ovary is right in my way, and that looks just fine. So, I think we can staple that, and we’ll just look right down here please, Chris. There you go.

DR. DAVID RATTNER
Looks good, Charlie. So while you apply the stapler, the email question here is are there lots of tissue remaining after you fire the stapler? And, what happens to tissue after firing? That’s a good question. The stapler actually does cut a donut, or circular piece of tissue from both the proximal and the dismal piece of bowel. And, what Dr. Ferguson is going to do, shortly I suspect, is to look at the tissue so it’s soft on the stapler so he has two complete donuts there.

DR. FERGUSON
There they are right now, if you can get the camera on there. There’s the one from the colon end, and that’s complete. And, here’s the one from the rectum end, and that one is complete.
So, that looks fine, but just to be completely safe, I’m just going to put a clamp across the colon, and then I’ll go below and do a sigmoidoscopy, and we’ll be sure there’s no air leakage.

DR. DAVID RATTNER
Another question, Charlie, interestingly is, have we experienced an increased rate of anastomotic leaks using the EEA laparoscopically versus open. And, I think the answer to that is no. It seems to be very much equivalent, it doesn’t seem to depend on the laparoscopic technique. It’s really the double staple technique. And, it’s identical, in every respect to what you do using this particular technique with open surgery. Would you agree with that?

DR. FERGUSON
I certainly do. Leakage, anastomatic leakage is particularly unusual. In fact, what sometimes is a problem, just as with open surgery, is doing a real low anastomosis. And, sometimes you will have a problem with stricture. Unfortunately a low anastomosis is usually low enough that it can be dilated in the office without much trouble. I may need some slack on my earpiece here.

DR. DAVID RATTNER
And, for the surgeons who might be watching, actually going lower makes it easier in some respects to get the stapler up to the area where you transected the rectum. If you’re too high up, this is, makes the procedure more difficult.

Another question is, are the resulting adhesions expected to be the same as with open surgery? No, they’re not. Laparoscopic surgery leads to very few adhesions. In many respects that’s the benefit, sometimes when you’d like a little more scarring, it doesn’t happen, but there are definitely much fewer adhesions…

Another question. While Dr. Ferguson does the sigmoidoscopy, another question that’s come in is, when performed for rectal polyps or cancer, is staging or pathology (unclear)? I think the staging, I’m not sure I understand the question, but I think the staging would be the same as if it were opened. And, generally we use a DNM classification for rectal cancer. Polyps are not malignant, so they wouldn’t be part of the (unclear). So, let’s go to the laparoscopic feed where he’s testing it now and he’s extending the rectum under pressure and under water to look for air bubbles, and that looks pretty darn good.

DR. FERGUSON
Nothing, huh?

DR. DAVID RATTNER
Nothing, not a single bubble.

DR. FERGUSON
Well, I’m right at the anastomosis, and if you’re going to get a leak, that’s when you’ll see it. Just to show that even in the OR of the future, we can still use some of the tried and true methods. This is an old fashion Richardson mortiscope. I suspect it was bought by the hospital in about 1910. It seems to work pretty well.

DR. DAVID RATTNER
It might be the one from 1811. That looks great, nice job, Charlie. So, our patient, I think, should do really quite well. That’s about as nice a set of donuts as you’d like to see. So, all
that’s left now to do surgically, is for somebody to close up the trocar sites, and then the patient will be awakened and taken to the recovery room. And, then tomorrow we’ll start to feed her and she probably can go home on Friday if all goes according to plan.

DR. FERGUSON
Now, the only thing we’ve got left is we’re going to close the trocar sites and then close the skin which we do with little dissolving sutures under the skin, so they don’t have to have stitches out. And, then we’re done. Usually start on some liquids tonight, and get the patient up and around, see how things go.

DR. DAVID RATTNER
That’s great, really nice job, Charlie. Questions, some more questions have come in. One is, do you poke through the rectum at the old staple line? And, generally you don’t want to go right through the staple line, you’d like to go a little bit anterior, a little bit posterior to it. If you go right through the staple line itself, you can actually tear the staple line that’s in the rectum outside of where the EEA would cut through it. So you really don’t want to do that. Just a little bit in front, a little bit behind.

Another question has to do with fistulas. If you have fistulas between the colon and the rectum, do you remove them? How different would the procedure be? In general, if you have a fistula, it simply is divided unless it is part of an on block section. So, if you have that fistula, say, from a terminal ileum to the right colon, and you’re going to take out the right colon because it has Crohn’s disease in it, you wouldn’t have to divide or separate the fistula. Some of the fistulas you might find only on pathologic examination after you remove an inflammatory mass involving the bowel. There are cases, though, in inflammatory bowel disease where you would separate and divide the fistula and you would remove the segment of bowel where the fistula originated from, usually that’s ileum. So, if you had a fistula from the ileum to the bladder, you’d separate the fistula, if you could identify it, on the bladder side you would put a stitch or two in it so you can remove the disease section of the small bowel that was the cause of the problem. So, it would be different than the procedure you’re seeing here today, but the same principles in terms of how you handle the blood vessels and divide the mesentery, how you put the bowel back together would still be in play. Now, the anastomosis today was done intracorporally, meaning inside the abdomen. So, there are some situations in which it’s quite easy to bring the bowel up onto the abdomen when you’re moving the specimen and do the anastomosis even by hand stitching on the abdominal wall. Again it’s sort of surgeon preference, both are accepted techniques. You can also do a different kind of staple anastomosis internally and this is done frequently for gastric bypasses.

DR. FERGUSON
Everything looks perfect. Actually let’s just go back up here. I understand that my old buddy Roger Sherman is watching this, and I’m sure that he’s mocking me. But, you can see, Rog, I did take down the entire splenic structure here. Here’s Mr. Spleen. Gone now. So, all we’ll do now is just close down the trocar sites and we’ll be done. So, let’s see if we can get that done.

DR. DAVID RATTNER
Alright, while you do that, Charlie, I’m going to answer a couple more questions. One question is how long does a surgery take? Well, as you can see we’re finished before our hour with you is over we’re going to be finished. So, this particular operation probably took about and hour and
45 minutes to two hours. It’s a little bit faster than average. On average it takes two to two and half hours for this particular kind of surgery.

Someone has written in, does the patient feel like a Mack truck ran over their stomach? Because we’re doing a lot of anatomy rearranging. Most patients have not told me that they felt like they’d been hit by a truck or that a truck had driven over their stomach the next morning. They do have some pain, it’s not, the surgery is not painless. But, the pain is often easily managed with pain pills. They do not need strong or heavy doses of narcotics. But, again there’s a great deal of variation from one patient to the next in terms of pain tolerance. This has really been an excellent demonstration of the anatomy and the technique. I wish we could broadcast the next two days intermittently to show the recovery, because I think that’s really very, very amazing when you compare it to what we’re used to with the open surgery. But, as I said before, I anticipated this patient would be able to go home in a couple of days, and probably resume normal activities within two weeks or so. She should be fairly active when she leaves the hospital.

I’d just like to thank everybody for tuning in and watching this procedure. If there are questions, please feel free to contact us at Mass General Division of General Surgery. And, we’ll try to answer your questions and do the best we can in terms of making connections that they need to be made.

NARRATOR
Thank you for watching the live laparoscopic colon repair session preformed by Dr. Charles Ferguson. Dr. David Rattner was your host. To obtain more information, make an appointment, or make a referral, please click the buttons on the player window or the web page.