

Recent Advances in Spine Surgery

Webcast

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Dr. Richard Fessler

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Introduction

Andrew Schorr:

Hello and thank you for joining us once again for joining us on our broadcast that we do every two weeks with Northwestern Memorial Hospital. I'm delighted we can do this, connect you with Northwestern experts on very significant medical topics and, as always, inspiring patients and family members quite often to help you understand what their journey was and give you some guidance for yours.

Tonight we're going to talk about recent advances in spine surgery, and, you know, spinal surgery is among the most common surgeries performed today. Happily, they've made advances because it's often very major surgery, but wouldn't it be great if they could do it in a much more minimally invasive way through scopes that they could put in without really making a big scar and a big incision? If they could do often complicated work in alleviating the problem and the pain and the disability but do that where you could be up and around much more quickly, much less loss of blood, shorter recovery, back to work and less complications.

Well, that has been happening, and you'll meet an expert physician, a neurosurgeon in who really is renowned in the Chicago area as well as far beyond. You'll meet him in just a minute. But let's talk about someone he's helped. I want you to meet Barbara Woodman. Barbara lives in Mount Prospect, Illinois, north of O'Hare, with her husband, Allen.

Barbara, you really had years of pain, didn't you, and then increasing disability. Tell us about that.

Living with Pain

Barbara:

Okay. About ten years ago or so I had been in an auto accident and I had a neck fusion, but I continued to have pain that kind of radiated down my back and into my arm and I couldn't figure out what was wrong with me. I had gone for a lot of physical therapy, and I think it was for the treatment of the neck and to get better, but my back pain that I still had wasn't getting any better.

Andrew Schorr:

And of course there you are, and you work with the curriculum in math and science at a school in Chicago.

Barbara:

Right, I'm a curriculum coordinator at a college prep school in Chicago.

Andrew Schorr:

Okay. So there you are. You live in the suburbs. You'd be going into Chicago all the time, and I imagine in any kind of academic job like that you have to stand for long hours sometimes. That must have been getting very painful.

Barbara:

It was. And I would sometimes have to sit down because my legs got too tired. I'd have again this back pain that radiated down my knee. I'd have severe cramping in both of my legs and sometimes into my feet, and my feet would kind of go spastic a little while, and it hurt.

Andrew Schorr:

Oh, my. So you started going to physical therapy, and I know you've done some swimming. And we all say, well, what can help. But the physical therapist told you it was getting worse, didn't he?

Barbara:

Right. He was the one who said to me the levels in my back were getting worse. I was also limping. I started to limp and my limp got worse. More people at work were noticing. It made me feel very embarrassed. And the physical therapist finally said to me after only a very few visits he said, If you don't get some help with this now you'll probably end up in a wheelchair. And I said to him, What do you suggest? Because I really didn't know what to do. I had tried swimming, and that would help alleviate some of my pain sometimes, but it wasn't the answer and it wasn't the cure-all. He happened to give me the name of Dr. Fessler, and as I remember also my mom had given me the name of Dr. Fessler sometime previous to that because she too was going to be going through some kind of back surgery.

Andrew Schorr:

Well, he's a renowned neurosurgeon. We're going to meet Dr. Fessler in just a minute because he became your surgeon. But this comment about being in a wheelchair, so there you are, you've only been married now to Allen 11 years. Allen is with us as well.

Allen, were you thinking of remodeling your house for your wife?

Allen:

As a matter of fact, we did. We were coincidentally remodeling our home and I could see Barbara's condition was gradually worsening and I remember hearing the words from her that she told me from her physical therapist. Unbeknownst to her, I decided one day to tell the contractor to widen all the doorways of the major improvement we were making on the home because I was convinced that we would end up having to put my wife in a wheelchair. I remember I paid the contractor a great deal extra because the doors were already in place, but we have wide doorways up here now. Thank god we don't need them.

Surgery as a Solution

Andrew Schorr:

Right. And that's the story we need to tell now, because in November of 2006, Barbara, you had surgery, and you did contact Dr. Fessler and although it was 55 miles or so from Mount Prospect it sounds like the trip was well worth it because you had a minimally invasive approach for your condition, and we'll learn about that and a whole range of spinal conditions in a minute.

But how quickly were you up and walking after this surgery where they could do it in this minimally invasive way?

Barbara:

I was up the next day, and that was just unbelievable to me. First, I couldn't believe that the doctors and the nurses were encouraging me to get up because I thought I needed some healing time first. But what I noticed was that the pain that I originally had streaming down my legs wasn't there. I didn't feel it. And of course I was on medication in the hospital, but I wasn't going through the same kinds of pain that I had before. And the fellows, Dr. Fessler's fellows who also work with him, were wonderful and encouraging. And each day I walked a little bit more with the help of the physical therapist or someone from the physical therapy department who was there.

Andrew Schorr:

So let's talk about your life today. Let's flash forward, if you will. You were back working at a school in Chicago. Tell us about what you're able to do now to get from Mount Prospect to Chicago and whether you have any pain or take any pain medicine.

Barbara:

I take no pain medicine anymore, an unbelievable thing because I had been on pain medication for many years. In fact I remember also being prescribed Vioxx, which later they pulled, and what that did was really raise my blood pressure quite a bit. But anyways, I was on no pain medication after that. At the beginning of this year

I started a new job. As I go to school I take a train and then I take a bus, I have to do some walking, I have to climb up a lot of stairs and go down a lot of stairs, all things that prior to the surgery I couldn't have done. I would have been too exhausted and would have had to pause after maybe every eight stairs or so. So there's so many new things that I can do now. Can I tell you some of those things that I've done since the surgery?

Andrew Schorr:

Sure.

Barbara:

Okay. One of the things that I've done is I've gone white water rafting. I had a guide of course with us, but I was able to do that with my daughter in Colorado. I've been kayaking with my husband. I've been able to jump rope with kids in school through a session of what we call power math that I developed for the kids. And I've begun tubing down irrigation channels in Hawaii. So these are things a person who went through some of the things and the painfulness that I had before never would have been able to do. And I can go back now and country western dance.

Andrew Schorr:

Allen, is she any good?

Allen:

Oh, she's great. She always was great, but she's probably better than ever.

Andrew Schorr:

All right. Well, let's meet the man who is head of the team who made this possible, and he really is a renowned neurosurgeon, happily now at Northwestern Memorial, Dr. Richard Fessler, M.D. but also a Ph.D. He's a very smart man.

Dr. Fessler, first of all, we'll learn more about the specific procedure, but the problem that Barbara had is the result, is this just a miracle or is this something that could be commonly expected now with the techniques you now have?

Dr. Fessler:

Well, I think Barbara's result is incredibly gratifying, and not everyone will get that good of a result. Of course, not everyone is that involved in their own recovery either. And not everyone is her age. If you get an 80-year-old person they're probably not going to go sky diving, for example. But 95 percent of the time in these operations now we can expect very good results.

Andrew Schorr:

Wow. Okay. Well, first of all, let's understand. Let's start with Barbara. What was the problem, and what could you do minimally invasively? And I want you to help us understand how you take care of her spinal problem and give her back her life?

Dr. Fessler:

Barbara's spinal problem was actually a very complicated one and one that required a good deal of discussion and decision-making because she not only had a disk problem at one level but she had scoliosis throughout her entire lumbar spine. And the questions we had to answer were could we help her with her pain by fixing only her one clearly bad level, or did we have to fix all of her scoliosis as well in order to give her a really good result. And we discussed that extensively, and I studied her x-rays and her MRIs a great deal and her physical condition, her examination. And we concluded that the majority of her pain was coming from just that one level. Just because an x-ray appears abnormal, such as the scoliosis, doesn't mean that you have to fix it if it's not causing a problem. So we decided to do a TLIF, that is a minimally invasive fusion at just the one level where we thought the majority of her pain was coming from.

What is Spine Surgery?

Andrew Schorr:

All right. So what do you do? When we talk about minimally invasive we talked about laparoscopic surgery for lots of things. Are you poking little holes and then you have little devices that go in? And then when you get inside I often think of spinal and orthopedic surgery, you sort of put some hardware in there, and I understand in her case it was sort of like a little cage of support. Tell us about what you were doing and how you could do it through such small incisions.

Dr. Fessler:

Okay. The traditional way we would do this operation is to do a midline incision in the back probably six inches long and then cut all the muscles off the spine where they attach to the spine and spread them apart so that we have complete exposure of the back of the spine. And then we would go in and we would get into the disk space through traditionally what's called a PLIF, rather than a TLIF, and clean the disk space out, put in some graphs and then put rods and screws in and then sew everything up.

In terms of fixing the problem that is causing the pain that works very well. The problem we've had is that the procedure we have to do in order to get there, that is cutting all the muscles off, frequently creates as big of a problem as we started with in the first place. So what we did was develop ways that we could get to where the problem was without having to cut all the muscles off.

And the way we do that is to visualize where the parts of the spine are that we have to work on by using either an x-ray or some of the more modern image guidance devices that give us three dimensional images of the spine which is reconstructed from a CAT scan. We use that to know where we have to go, and then we make just a small incision in the skin, in fact for her operation just three centimeters long, about an inch and a half, and we put a wire through the muscle. And then we put a series of dilators over that wire so that we spread the muscle fibers apart but we never have to cut them. And then we end up working through a tube somewhere between 22 and 25 millimeters in diameter, so roughly again an inch and a half in diameter. And we will have a camera inside that tube that we can then see what we're doing down at the bottom of the tube while we're watching it on TV.

Once we get there, the operation is very similar. We take off a little bit of bone that allows us to get into the disk. We clean the disk out, and then we put in a plastic cage into the disk space. That's meant to do two things. It's meant to hold the disk at the appropriate height so that it doesn't collapse. And while it's doing that inside the cage and around it we've got bone, and that bone is collected from the bone we removed in order to get to the disk and a compound called bone morphogenic protein. And that causes all the bones to heal together.

Then through that same small incision, again using x-rays to guide us, we can still put in the screws and the rods, but we can do it all without having to cut the muscles. So that when we've finished we've essentially accomplished exactly the same thing we used to but now all the muscles and almost all the bones are entirely normal when we finish.

Andrew Schorr:

Wow. Okay. Well, we've just gone to med school here for a minute. Thank you for understanding that, and it's a wonderful example of what minimally invasive spinal surgery can be. And of course we're going to apply this now to other diagnoses of spinal problems, understand who these sorts of approaches might be right for, who might benefit from other approaches. We'll learn all that.

Remember, this is a live webcast so you can send us an e-mail if you like with a question. Nmh@patientpower.info or give us a call to the studio and join us on the air, 877-711-5611. 877-711-5611. We're discussing recent advances in spine surgery, and we have a true expert, Richard Fessler, from Northwestern Memorial and then Barbara Woodman, who is an expert going through it, and her husband, Allen, who loves her, who supported her along the way. Much more coming up as we continue our discussion brought to you by Northwestern Memorial Hospital.

Minimally Invasive Surgery

Andrew Schorr:

Welcome back to our live webcast discussing recent advances in spine surgery. Our guest is Dr. Richard Fessler, neurosurgeon at Northwestern Memorial Hospital and his patient, Barbara Woodman, whose life was given back to her by a procedure that we just went into depth about. Might be something right for you, or there may be other minimally invasive procedures that can help. And also joining us is Barbara's husband, Allen.

Let's go back to Dr. Fessler. Dr. Fessler, let's back up from what you said was a complicated procedure to talk about how simple minimally invasive procedures can help more common spinal problems.

Dr. Fessler:

Some of the more common spinal problems we see of course are herniated disks in the lumbar spine; herniated disks in the cervical spine, that is the neck; or lumbar stenosis, which is a narrowing of the spinal canal that happens with aging. Those are probably the three most common things we see causing spine problems in young and old people. All of those operations can be taken care of now through minimally invasive surgery, and in fact they're much smaller and easier operations than the operation I described for you on Barbara. Most of the time you can go home the same day or the next morning.

Andrew Schorr:

Now, what about on the more complicated side? Where are you using this approach as well?

Dr. Fessler:

We're using it for almost everything. Some of the more complicated operations that we do, for example the one I just described for you on Barbara was a TLIF and instrumentation, but if you have for example a tumor in your vertebral body such as a metastases from cancer or if you have trauma or if you have a tumor in or around your spinal cord or if you have in fact deformity, scoliosis. I mentioned that Barbara had scoliosis, and we were debating whether we had to fix the scoliosis or could just fix the one level that she had her major problem at. At the time Barbara had her operation we were not able to do scoliosis through minimally invasive technique, but today we are. We are doing major corrections of deformity of scoliosis all through minimally invasive technique, and the impact on the patient is phenomenal.

Andrew Schorr:

Let's understand that. So I can imagine now, she was walking its next day. Her pain was gone. I had this concern when you do this sort of spinal surgery that

normally with the big incisions that you used to make you'd lose blood, maybe you'd need transfusions, and certainly when you have big, open incisions like that I would imagine there's a risk of complications, infections, things like that. Help us understand this impact and the differences.

Dr. Fessler:

Well, the impact for example on how fast the patient can get back to their normal activities is that for even fusions now they're up and walking around the next day. By six weeks they're doing very well. By three months they're pretty much back to normal. And that would be compared to being back to normal at about a year through our traditional standard operations.

For the bigger operations, things like scoliosis for example, they're still in the hospital for four or five days because it is even though minimally invasive a very big operation, but I'm seeing my patients come back to clinic at six weeks on Tylenol only for pain medicine, and that is unheard of. The other ways it impacts them are somewhat surprising to us. We did not anticipate it. Because we are using minimally invasive technique and not having a very large, open wound infection has almost been eliminated as a complication. I've had two infections in the last 2000 cases.

Andrew Schorr:

Wow.

Dr. Fessler:

It is almost unheard of to have to do a transfusion.

Surgery for Scoliosis

Andrew Schorr:

Wow. Wow. That's so neat. You know we're getting e-mail questions as we speak. I'm going to pose some to you. I want to mention to folks listening, if you want to send us a question, two ways. First way, e-mail right now, NMH Northwestern Memorial Hospital, nmh@patientpower.info. Or you're welcome to call in just like a show on the radio, 877-711-5611. 877-711-5611.

Here's a question, Doctor, we just got from Joe. "Kids with scoliosis end up with really large, ugly scars, at least traditionally. Can these kids with scoliosis benefit from minimally invasive approaches to scoliosis surgery?"

Dr. Fessler:

Yes, they can, but we're very early on our learning curve in this particular operation, and what we're looking at in terms of the scar is two things. We have two ways of doing it. One is to make a small individual scar for each place where

we have to for example put in a screw to work in our rods to do the correction. The other alternative is to make one long midline incision and then we do our dilation through the muscle. We don't have to cut the muscle. But the difference is in one case you have multiple small incisions, in the other you have one long incision, and I think cosmetically the one along incision is going to be better than the multiple small incisions.

Andrew Schorr:

Okay. But again that sort of trauma to the muscles, though, you figured out using those approaches to go through different parts of the muscle with the tubes you've described, right, rather than cutting the muscle?

Dr. Fessler:

That's correct.

Evaluating the Need for Surgery

Andrew Schorr:

Well, that's certainly an advance.

I want to understand, sir, who are candidates for surgery and how you evaluate that. You know, sometimes we've had discussions of whether back surgery for example is done too aggressively in America or in some parts of the country. Is it done too quickly. Now, Barbara had years of pain and tried a million different things. How do you evaluate when surgery is appropriate?

Dr. Fessler:

There's a number of things that go into that decision. First of all, you always want to try nonsurgical treatment first because a majority of spine problems will get better without surgery. So you really only want to consider surgery when you've tried medications, rest, physical therapy, steroid injections, maybe chiropractic manipulations. If you're overweight you've got to try losing weight first. And you if you smoke you need to stop smoking first. All of those things need to be tried before surgery.

But if those things fail there's excellent evidence in the literature now that for the appropriate patients surgery is very effective. Those are the patients that are going to become candidates.

Andrew Schorr:

Okay. But it's not something you rush into for sure.

Dr. Fessler:

Absolutely not.

Will Insurance Cover Minimally Invasive Surgery?

Andrew Schorr:

All right.

We have lots of questions that are coming in. Here's another one we've got. So we're talking about minimally invasive spinal surgery, but someone says, "Well, maybe insurance covered the tradition way. Will they pay for this?" What's your experience for that?

Dr. Fessler:

All of the minimally invasive spine surgeries are coded exactly the same as our traditional operations, so it's a wash to the insurance company. It doesn't make any difference to them whatsoever, so I've really never had a minimally invasive surgery turned down.

Andrew Schorr:

I would say actually it sounds like a good thing because if the patient is at lower risk of infection and the hospitalization for that or maybe longer hospital stays or transfusions, it's a plus for them.

Dr. Fessler:

Absolutely.

Andrew Schorr:

So it seems like it's good all the way around.

Now, how widespread are these procedures? You've really helped pave the way in this, and I know at the Northwestern now in the neurosurgery department you continue to research new and better ways of doing this. Barbara made the trek from the suburbs and maybe people come from much further away. Is every spinal surgeon or orthopedic surgeon doing this, or what is the level of expertise required? Do you need to go, let's say, to an academic medical center such as Northwestern?

Dr. Fessler:

It depends on the operation. Very few surgeons in the United States or in the world do their entire practice through minimally invasive technique. There are really only a handful that do. Many surgeons now, though, do the more common operations, for example the lumbar disks and the cervical disks and the operation that Barbara had, the TLIF, is one of the more common operations that many surgeons are doing. So those are fairly commonly available.

With that being said, not all surgeons do them yet because learning minimally invasive technique is challenging. It requires a lot of training. It's not something you can learn in a single weekend course. So the rate at which surgeons are learning it and adopting it as their preferred technique is slow.

Who is a Candidate for Surgery?

Andrew Schorr:

All right. Now, you mentioned about age. So we talked about people being evaluated and trying medications, a variety of approaches. Where does age come in, or obesity for that matter, related to whether somebody would be a candidate for minimally invasive spinal surgery?

Dr. Fessler:

Well, those have always been problems for us. With obesity, because of the extra tissue, and it's not good tissue, it's not tissue you can sew together and close a potential dead space where an infection might want to get started, surgery has always been a challenge for us. It's always been associated with a higher risk of infection, a higher risk of heart problems, with lung problems, slower time getting up. So those patients have always been a problem for us.

And also with the elderly, as we get older of course our health starts to decline, and our body doesn't take insults such as surgery as well as it did when we were 20. We looked very closely at our results with minimally invasive surgery and what we found is that in patients over 75, and my specific patient population that I looked at ranged from 75 to 99, and the obese patients that I looked at ranged in our scale from just obese to morbidly obese, that is 350 pounds, etc., we found that we can do the surgery for those patients with the same complication rate as we can for a normal weight person or a younger person who receives that operation. So we're able to extend surgical treatment options to patients who previously would not have had them as an option for their pain problems.

Andrew Schorr:

And I have one other category of patient and that is some people have you know I guess you call it comorbidity, maybe their heart isn't as good or they have diabetes. Does that rule them out from minimally invasive procedures, or does it open it up to more people like that?

Dr. Fessler:

Exactly that. It opens them up as candidates for minimally invasive surgery.

Andrew Schorr:

All right. All good information. We have so much more to talk about. This is a live webcast, so you can call in or e-mail in questions for Dr. Richard Fessler, who is a

neurosurgeon who specializes in minimally invasive spinal procedures. Just send the e-mail to nmh@patientpower.info. Many people have, so we've got lots more questions for you, Dr. Fessler.

Much more coming. We're going to get Barbara and Allen Woodman's perspective on all this. They've been listening. And they went on this journey to find a provider who was right for them, and you heard how well it's worked out. Much more coming up as we continue this webcast sponsored by Northwestern Memorial Hospital.

Andrew Schorr:

Let's continue our discussion on recent advances in spine surgery. Some of you out there are hanging on every word and filled with questions. I just want to go back to Barbara and Allen for a second.

So, Barbara, you know we heard from Dr. Fessler, and his name had come up to you from your mom and from your physical therapist, and you hear how this kind of skill in minimally invasive surgery is not universal. Would you recommend that people make the trip, wherever they need to go, to make sure that they get the best?

Barbara:

I do recommend that. I also have to say that I was very grateful that my husband was able to drive. Because often I was in so much pain a long driving trip too was a problem for me. So he would drive me all the way to the hospital to meet with Dr. Fessler and all the way home.

And the other things that I want to say too that I think is really important is that after you go through the surgery when Dr. Fessler wanted to see me we would book appointments, and he would always ask that they take an x-ray. And that was something that was so convincing to me. Because he would take the time to show me that x-ray and go through the different parts as far as was the fusion working in my back? Was everything coming together the way that it should? And seeing every single time that I went a little more growth, a little more solidity, at least it looked like, was wonderful.

Artificial Disks

Andrew Schorr:

Well, Dr. Fessler, as you said earlier it's so gratifying to hear that.

We've got lots of people asking questions, so I want to ask you a question, Dr. Fessler, about artificial disks. They've been advertised, people have read articles about them. What's your feeling about artificial disks? Do they work well, and can you as a surgeon work with them through a minimally invasive approach?

Dr. Fessler:

Oh, that's a great question. There are different types of artificial disks. First of all, there are artificial disks for the low back, and then there are artificial disks for the neck. And those are different animals. The artificial disks for the low back are an excellent technology. The disks work quite well. The problem with those disks as they are approved in the United States right now is that to put them in is a very big operation the first time. We do not have minimally invasive technique for that. And should anything go wrong with them it is a very difficult operation to try and fix it. So I am hesitant to recommend artificial disks for the low back not because they're bad disks but because the operation is not so good.

Now, in the neck there's much less demand on the disks, and there are a few disks now that are approved in the United States. The results we have so far on those disks is excellent. The operation is easy, and if you have to fix it it is again a relatively easy operation to fix. So I'm much more pleased with the current technology for the neck than the low back.

That being said, we're working diligently to figure out artificial disks for the low back that we can put in with an easier operation using minimally invasive technique, and in fact we're pretty far along in it. However, our FDA process is so slow that I'm sure it will be eight to ten years before they're approved in the United States.

Andrew Schorr:

Thank you for that. Let's go up to the neck again for just a second. Abigail from Indiana just wrote in as she was listening, "Does the new FDA-approved neck disk work well for patients in their mid 30s with neck and arm pain that is tingly? And how does that compare to surgery with plates? And which is better long term?"

Dr. Fessler:

Okay. It probably does. It's improbable to know without knowing exactly what the problem is in your neck or in the person's neck that you're describing. If it is just an acute herniated disk perhaps with or without a small bone spur in a person that age, that would be an ideal candidate for an artificial disk. The operation is essentially the same as doing a fusion with a plate. It's just that the very last thing you do different differs. You put in an artificial disk rather than a fusion and a plate.

And we can only say what our preliminary data indicate on which is going to be better. Theoretically if our neck is allowed to move normally rather than moving over a fused segment, then the levels next to that should age normally as they would and not at an accelerated rate. Our preliminary evidence, and this is evidence coming out of Europe because we've been doing in it in Europe much longer than the United States, our preliminary evidence, which is about eight years out now, suggests that that in fact is the case. And if that is the case then the artificial disk is going to be better than the fusion.

Post-Surgery Recovery and Expectations

Andrew Schorr:

All right. Lot more questions coming in.

Here's a question that comes from Steven in Detroit. I am currently one week post-op from a 2 level TLIF on L3-4 and L4-5. The surgery went really well and the only time I have any back pain is if I overdo things. The only issue that I have is that I woke up from the surgery with a partially numb right leg. The numbness starts at the knee and goes to my ankle. This numbness does affect my ability to walk correctly as my knee gives out sometimes unexpectedly. Will this go away?"

Dr. Fessler:

If you have no pain from the numbness then it is probably just from manipulating the nerve during surgery that you have the numbness, and that has a high probability of going away. If you have pain going down into the same area as the numbness then it's possible that one of the screws put in or the graft put in is irritating that nerve, and in that case that probably wouldn't go away until that is fixed. But from the way you describe it that doesn't sound like it's the case. It sounds like this was just numbness from manipulating the nerve. That's very common and that usually goes away.

Andrew Schorr:

Here's a question we got from Sarah, and it speaks to maybe what would be required if you're having big, open surgery. She writes, "I have a severely degenerates L5-S1 disk with," you're going to have to help me with the pronunciation of this, spondylolisthesis?"

Dr. Fessler:

Yes, spondylolisthesis.

Andrew Schorr:

Okay. "and will be having a PLIF. Is there a benefit to me banking my own blood before surgery?"

Dr. Fessler:

It depends on how you're going to have it. If you're discussing a PLIF, P-L-I-F, it is likely that it will be done through open technique, and if that's the case then it's probably a good idea to bank one unit, maybe two, because there is a chance that you will get a transfusion. It's not necessarily the case that you always get one, but you could get one, and in that case it's worthy banking your blood.

Andrew Schorr:

Now, a lot of people out there have had back surgery previously, and sometimes there's a need for what I think you call revision surgery or to go back in there. Can you do that in a minimally invasive way?

Dr. Fessler:

Certain kinds of surgery, yes. If for example you've had a lumbar disk surgery or a surgery for lumbar stenosis, any surgery where rods and screws were not put in, then your revision surgery can be done through minimally invasive technique. If you had a larger operation where rods and screws were used but it was done through minimally invasive technique the first time, then you could also have your revision surgery done through minimally invasive technique. But if your previous surgery used rods and screws of our older open style, those do not have the devices developed to remove them through minimally invasive technique. So in that case you'd have to have your revision done open.

Andrew Schorr:

I was wondering as I was listening, Dr. Fessler, you're renowned at this so I imagine people come far and wide. Can they come from a distance, not just Mount Prospect, and you know get your spouse to drive in the car, but really come from much father way and then are have after care happen way back home even if that's at a distance?

Dr. Fessler:

Yes, that's very common. I actually have patients coming from all over the world.

Andrew Schorr:

Okay. And then carrying forward we talked about infection, and that's always a concern. Here's a story from Laura. I gathered from what you said that this is much less of a problem, but let's listen to Laura's story for a second. She's from Chicago. She says, "I had surgery to relieve leg pain and numbness in my right leg due to lower lumbar stenosis. The surgery went beautifully well, and I was able to go home the same day. All of the symptoms were gone, but about a week later there was a surgical site infection that had done considerable damage. I stayed in the hospital for five days while three drains were placed, and the sensitivities came back. I'm now on antibiotics for six weeks. With postsurgical infections from laminectomies is it normal to have a fair amount of pain near of surgical site for a

few weeks? The presurgical symptoms remain gone, thank goodness, but this pain where they cleaned out the infection has taken its place. Will this begin to lessen?"

Dr. Fessler:

It will probably begin to lessen. Occasionally postoperative infections can cause chronic pain. That is more often a radicular pain, that is pain shooting down into the legs, because it causes the nerve roots to scar down. If the pain you have is primarily a back pain that's pain from the healing itself, and as that heals that pain usually lessens.

Andrew Schorr:

That's good to know, but the best thing I heard was you said through the minimally invasive approach the infection rate has just plummeted. So that is neat.

Now, let's talk about what expectations can be for people. Now Barbara, you know you said not everybody could jump out of airplanes or go white water rafting, but can people notwithstanding age have a real hope that they can go back to a full life.

Dr. Fessler:

By and large they can, but they do have to go into it, as you said, with realistic expectations. In my experience about 30 percent of the patients who undergo the type of operation that Barbara underwent are pain-free after surgery for most of their life. About 60 percent are much better but not necessarily pain-free. And what that means is usually on a cold, rainy day your back is going to be stiff and sore. And about 10 percent have not received the benefit that we have wish they would receive.

Now, what we've learned with that actually is statistically when we look at their preoperative and postoperative numbers they in fact are better. But when we look at that group compared to the group that says they're better the difference is that the group that says they're better is at least 30 percent better than their preoperative condition, and the group that says they're not is less than 30 percent. So it seems that for us to recognize that in fact we feel better we've got to hit that 30 percent mark. And that's our challenge now is to figure out who we can reach that in and who we can't reach it in.

Andrew Schorr:

Wow. After the break we're going to ask you about where research is headed. So you've paved new ground. You've talked a little bit about some procedures you're trying to find better ways of doing in a minimally invasive way. We want to hear where research is headed and how it can help even more people. It's all coming up as we continue our webcast. We're discussing recent advances in spine surgery, and now we're going to look into the future with Dr. Richard Fessler from Northwestern Memorial. We'll also get some further perspective from Barbara

Woodman and also, nobody goes it alone. If you're lucky enough to have a caregiver like Barbara has Allen, we're going to get his perspective as well.

Andrew Schorr:

Let's continue our live webcast discussing recent advances in spine surgery. Dr. Fessler, we got this question in from Katie, and I know you can't practice medicine over the internet. We'll see how we can help her in a more general way. She writes, "I have to have a fusion at my L5-S1 area. My herniation is 11 millimeters, and the disk is completely gone between the vertebra. My doctors says they have to go through the front and the back. He says it's because I'm so young, and it will give me a really strong back. What can I expect? How long will the recovery take?"

Dr. Fessler:

Well, that's a large operation, and as we mentioned before that's similar to the approach that is used for putting in an artificial disk. Now, you don't have to do that. This is one of the options is to do what's called a front-back operation, and it generally is associated with fairly good results. But it can be done all from the back, and that in fact is the operation that Barbara had but at a different level. It can be done through a TLIF, and that can be done open or minimally invasive.

The differences to you are that if you have a front-back operation you will be in the hospital probably five days, four to five days. You will be wearing a brace for six weeks to three months. You will not really be doing too well until about three months, and your full recovery is going to be between six months and a year.

If you have a TLIF done through an open technique your hospitalization will be three to five days, and you'll follow a similar course but probably a little bit faster than having the anterior and posterior.

And if you have a minimally invasive TLIF you will follow a course similar to what Barbara followed, and that is you would be out of the hospital in two days. By six weeks you're doing pretty well. By three months you're getting pretty much back to normal, and you don't have a wear a brace. So those are your options for that operation right now. There is no operation you have to have. It's a question of what you want to have and what you're surgeon is comfortable doing.

Getting a Second Opinion

Andrew Schorr:

Okay. That goes to the next point, and Barbara, I know you'd echo this, you'd want a minimally invasive approach. It gives you back your life, reduces complications, but not everybody does it. So it seems that there are important questions to ask and also to seek out a second opinion.

Now, what's your guidance for people, Doctor, on getting second opinions, maybe third opinions, because you don't go into surgery lightly.

Dr. Fessler:

Absolutely. I think a second opinion is always a wise thing and a third opinion if you're not satisfied with the two opinions that you have. The risk of course you run by getting multiple opinions is getting confused because you're not a medical practitioner yourself, and you really don't know what the best option is among those that are given to you. You can always ask your doctors what their experience is. How many of these have you done? What are your results? They should be able to give you those numbers and if they can't, I would worry.

The other thing you can always do is ask your regular doctor who they would recommend because they're not going to send you to a doctor that's given them bad results in the past.

Andrew Schorr:

Yeah, that's a good point. Now, just as a frame of reference, knowing you're a leader in the field, when we talk about minimally invasive procedures how many have you done?

Dr. Fessler:

I do roughly 200 operations a year, and I've been doing these for 15 years.

Andrew Schorr:

Wow. My little kid has taught me to be good at math, so that's a big number. And of course you've trained many other doctors as well in these procedures. And you talked about the infection rate, and that's something else to ask about at a hospital for sure too, right? Because we told the story of a woman who had terrible complications from surgery. Those are questions to ask as well, right?

Dr. Fessler:

Absolutely. That's right.

Andrew Schorr:

Okay. Barbara, you've been listening to this, and I want to get Allen's point of view too. What advice would you give people because, again, you were in terrible pain? People, their mind can be clouded with the pain. They just want relief, but it sounds like you didn't want to pull the trigger tool quickly with either the wrong procedure done the wrong way or with a surgeon who doesn't have a lot of experience. What would you say to people?

Barbara:

One of the things is if you have a good relationship with your own family doctor sometimes they have good recommendations. Again I happened to be lucky as far as my physical therapist and my mom just happening to mention Dr. Fessler's name.

I guess I want to ask, Dr. Fessler, is there some website that if you know you're going to need a specific type of surgery you can go and look for doctors that might do a certain approach?

Dr. Fessler:

There are a number of websites that you can check out. You can go to the professional organization's websites, like the American Association of Neurological Surgery or the American Academy of Orthopedic Surgery, and they will give you list of doctors, but they won't necessarily grade them and tell you whether they're good or not. There are a number of websites that specifically focus on spine issue, for example spine.com or back.com or spineuniverse.com. And not only will you be able to get a list of doctors that do specific procedures on those websites but they often have videos of the actual procedures, sometimes by the doctors that you might actually be seeing. So you can not only find out who you might want to see in terms of a doctor but you might actually get a very good idea of what the operation itself consists of.

Andrew Schorr:

I have a question for Allen, Barbara, just for a second. So you two have been in this together. And that is you've been in pain, he wanted his wife back, and he wanted to spin you around in country and western dancing and he wanted to go white water rafting with you. That's who he wanted as his bride, and for a long time he couldn't do that.

So, Allen, for the caregivers who often help people navigate choices and help them get to and from the doctor, help them recover, what would you say to them to help people put their heads together to make smart decisions and get hopefully relief?

Allen:

Well, that's a tall order sometimes. I can only speak for the situation specifically for myself and my wife. I watched her for years go through the agony of this, and when they took the Vioxx off the market she was in pain almost constantly after that. It's a difficult question to summarize, but I think the most important thing is to be supportive and act in any way possible to help them, encouraging them to make the right decision.

Now, Barbara was nervous of course as she went into this more seriously. I encouraged her to try and get the physical therapy and all the other ancillary things

that she tried in an effort to get some relief, but ultimately it was her decision. And all I can say is you have to offer as much encouragement. They're the one going through the pain. You're just watching it secondhand. And then do as much as you can to further that decision that they make.

Future Improvements in Spine Surgery

Andrew Schorr:

Well, it worked out well, and it sounds like you two have a great life together, and I wish you that for a long time in the future.

Want to get back to something I asked Dr. Fessler about and we really haven't covered it yet, and that is a lot of research goes on at Northwestern and you've helped paved the way. Where are you headed with all this as far as what we can look forward to that may help even more people or help in the areas, the kind of surgeries you're doing now, do them even better?

Dr. Fessler:

We're really looking at some very exciting things. We're always working on new technologies, implantable devices that will do a better job than the ones we have. And by "better job" I mean either last longer or have a lower failure rate or cause less problems at the levels adjacent to it. So we're always working on those new technologies.

But we're also working on better imaging ways to work on the spine. Rather than being exposed to radiation for example are there better ways we can image the spine to see what we have to see without giving that risk to the patient.

And then we're looking at some really futuristic things. For example we're looking at regenerating the disk rather than replacing it or removing it. And we're looking at stem cell transplantation for example for spinal cord injury. A study was done a number of years ago at the University of Florida, and there's another study coming up sometime probably within the next year, and Northwestern will be the lead site on that study to look at stem cell transplantation to repair injured spinal cord.

Andrew Schorr:

Wow. That is so cool. And I know I have done some programs with Dr. Richard Burke there who has done a lot of work with stem cell transplant. It's really incredible how your institution now has been paving the way with that. So it sounds like you're pretty encouraged and that people who have even had longstanding pain and disability, there's still hope.

Dr. Fessler:

Absolutely. We can't always fix it, but our percentages are getting better every year.

Andrew Schorr:

Well, Dr. Richard Fessler, I want to thank you for being with us. I'm delighted you're at Northwestern Memorial.

And, Barbara or Allen, anything you want to say to Dr. Fessler because he certainly changed your life.

Barbara:

He did indeed give me my life back, and I just can't thank him enough for that.

Allen:

I would just simply say that I can echo the same thing and say that you gave me my wife back, and that's more than anyone can ask for. Thank you.

Dr. Fessler:

Thank you, guys. I look forward to seeing you country western dance.

Andrew Schorr:

There you go. We're going to have a big party there in Mount Prospect.

Well, thank you so much for joining us. We want to tell you about our programs coming up. We do this every two weeks on the nmh.org website in the iHealth area. Coming up is going to be another area, not surgical but one that troubles so many families and maybe an increasing number of families as we age, and that's Alzheimer's disease. We're going to have with us Dr. Sandra Weintraub, and we're going to give you the latest in Alzheimer's. And again at Northwestern they have a special center for that, and they have a whole multidisciplinary team that helps the families as well the patients. And there's a lot of ongoing research and clinical trials, and hopefully there'll be some answers that we'll all get in that terrible condition. But that's coming up just in two weeks, April 22nd on the iHealth area of nmh.org.

As always you can hear knowledge can be the medicine of all. Now you know a lot more about minimally invasive approaches to spinal surgery. I'm Andrew Schorr. Have a good night.

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