Your Breast Reconstruction Consult: The Inside Scoop

National Webinar Transcript

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Melissa Rosen:

Good evening. I want to thank everyone for joining Sharsheret today for "Your Breast Reconstruction Consult: The Inside Scoop." My name is Melissa Rosen; I'm the director of training and education at Sharsheret. Before we begin I have a few housekeeping items to share. I want to let everyone know that this webinar is being recorded and will be posted along with a transcript on our website. Please note that participants' faces and names will not be in the recording.

You may have noticed that all participants were muted upon entry. Please keep yourself on mute throughout the call. We recommend you actually keep the screen on speaker view. This will enable you to see the presentation clearly, and you can find that option on the upper right hand corner of your screen.

We have received many, many, many impressive questions before this call, and I expect there'll be additional questions now. If you have additional questions, please use the chat box, which you can access on the bottom of your screen. We will do our very best to answer all questions and to focus on the ones that are relevant to as many people on this call as possible, but any questions not answered will be addressed privately over the next few days.

As a reminder, Sharsheret has been providing telehealth services to the breast and ovarian cancer communities for almost 20 years, and although we could never have imagined the world as it is right now, through our services we have been preparing for this moment, to continue to be there for each and every one of you. Among our many programs to help women and their families navigate different aspects of the cancer experience, I want to quickly highlight two that may be of particular interest to those of you on today's webinar. Our free Thriving Again kit is all about living healthfully, both physically and emotionally after a diagnosis. It comes with healthy living resources, including a beautiful cookbook and exercise bands, as well as the information you request on topics that are of specific interest or concern to you. Many people think of it as a survivorship kit, and it's fantastic at that stage, but it's also helpful throughout the entire cancer experience. There is a link to order your customized kit in the chat box now.

The other program I want to bring to your attention is our unparalleled peer support program. Our clinical team is happy to connect you to someone who shares your diagnosis, your stage of life and your unique concerns as well, whether they're about reconstruction or something else entirely. You can request a peer support or volunteer to become one by contacting our clinical team. Once again, that link, that email will be in the chat box.

As we move into the webinar itself, I want to remind you that Sharsheret is a national not-for-profit organization that offers support and education and does not provide any medical advice or perform any medical procedures. The information provided by Sharsheret is not a substitute for medical advice or treatment for specific medical conditions, and you should not use this information alone to diagnose or treat a health problem. Always seek the advice of your physician or a qualified healthcare provider with any questions you have regarding your condition. One final disclaimer and then we'll get to it. As part of tonight's presentation there will be body images included in the context of medical consults. Okay, let's get to it.

Today's presenters have a wealth of knowledge and unique skills. We have with us Dr. David Light. He is a fellowship trained, board certified plastic surgeon with a dual practice, focused on breast reconstruction and aesthetic surgery. Doctor Light completed his plastic surgery residency at the world renowned Cleveland Clinic. He went on to the University of Pennsylvania and Fox Chase Cancer Center to complete a reconstructive microsurgical fellowship. Dr. Light's expertise includes microsurgical breast reconstruction techniques, including DIEP flaps, surgical treatment of lymphedema, and sensory restoration of the reconstructed breast.

Dr. Light has a special interest in helping those who are either not offered reconstruction or who are unsatisfied with their current reconstruction. He performs delayed and complex revisionary breast reconstructions for patients who were previously refused both regionally and nationally. Dr. Light also performs all forms of implant based breast reconstruction. He has authored numerous peer reviewed articles and lectured on breast reconstruction nationally.

Also with us tonight is Dr. Jonathan Bank. He is also a board certified plastic surgeon with a specialty training in microsurgery. After serving in the IDF, Dr. Bank received his training and many awards for excellence from the University of Chicago, the University of Pennsylvania, and again, Fox Chase Cancer Center. Dr. Bank's areas of expertise include breast and body contouring with three-dimensional methodology, breast reconstruction and reversal of lymphedema. A particular area of interest is sensory restoration of the reconstructed breast, in which Dr. Bank has one of the longest standing experiences in America. Dr. Bank is passionate about supporting and empowering women through their breast reconstruction journey and helping them reclaim their identity after treatment. With no further ado-doctors.

Dr. David Light:

So, why don't I get started? Just because I'm going to give a brief overview of breast reconstruction. Both Dr. Bank and I reviewed a lot of the questions that came in. So we're going to try and touch on as many of those topics as possible, and we're certainly going to leave some time at the end to go through some more questions. So, I'm going to see if I can share my screen. Is that coming through?

Melissa Rosen:

Yes.

Dr. David Light:

Okay. So for any woman who decides to have a mastectomy, there's basically three options. One is to have no reconstruction at all, and that's certainly a viable option. Many of the patients that we see are coming to our office knowing that we do breast reconstruction. So we're usually talking about options such as implants or tissue flaps, but we almost always include in our discussion that no reconstruction is certainly an option, especially for a woman who is having a little bit of a difficult decision deciding which way to go.

Dr. David Light:

This is kind of a good segue into ... Do you guys see this in presentation mode or is this ...

Melissa Rosen:

Yes.

Dr. David Light:

So I wanted to touch a little bit on aesthetic flat closure, because this is ... In the past few years it's definitely gotten a lot of publicity and press. There've been articles in the New York Times, Going Flat After Breast Cancer. Some women opt not to have a breast reconstruction, but that doesn't mean that they're opting not to have an aesthetic appearance to their chest, and this basically is what aesthetic flat closure is defining.

The National Cancer Institute, the NCI, actually has on their website a definition of aesthetic flat closure, and the goal is basically to provide an aesthetic flat closure, to remove the excess skin, prevent contour deformities of the skin, and allow for a pleasant appearance to the chest wall. Some women will go on to have tattoos over those scars to camouflage them and have some body art, others don't. That's obviously another personal choice, but it's definitely an important thing to consider. Plastic surgeons get involved with aesthetic flat closures, and sometimes the breast surgeons, if they have the experience, will perform them on their own, but it's certainly an option for any patient who is unsure if breast reconstruction is right for them.

So, prior to deciding what type of reconstruction you're going to have, often the question comes up as when am I going to have my reconstruction? Most women will undergo an immediate breast reconstruction. In fact, the 2019 ASPS, or American Society of Plastic Surgeons statistics report listed 75% of all reconstructions were performed immediately, meaning at the time of the mastectomy. There are definitely aesthetic benefits to this. It allows for preservation of the breast skin and the nipple as well, which although Jonathan is going to touch on this, although there isn't always normal sensation in the nipple and areola complex, there is an aesthetic advantage, especially if the nipple and areola is in the correct position. It also can allow for completion of the reconstruction in less steps.

Now, for women who weren't offered an immediate breast reconstruction or medically it wasn't able to be performed, delayed breast reconstruction can certainly be performed, and it's basically defined as a reconstruction performed at any time following the mastectomy, and this can be 20 days later or it can be 20 years later. There's really no limit.

The one disadvantage to a delayed breast reconstruction is that there's often a shortage of breast skin. Whether the skin was removed and a aesthetic flat closure was performed, whether there was contracture of the skin, whether it was damage of the skin from radiation or possibly an infection, an implant loss. All of these are possibilities, and it usually results in the breast skin envelope having some element of contracture.

So, usually in these cases a natural tissue flap, an autologous reconstruction will be utilized to either replace or add further skin to the breast so that the breast shape has the adequate projection and we end up with a pleasant breast shape.

So let's talk a little bit about implant reconstructions, options and how they're performed. The most common breast reconstruction technique in the United States is a tissue expander implant reconstruction. Again, quoting the ASPS statistics from 2019, 67% of breast reconstructions were performed using a tissue expander implant technique. This is basically a two procedure technique. At the time of the mastectomy and a tissue expander or a temporary implant is placed in the breast. The patient then follows up for additional office visits where additional fluid is added to the tissue expander, until the desired volume is reached. Then a second procedure, which is ambulatory, is performed, where the tissue expander is removed and the final implant is placed.

The other option for an implant reconstruction is a direct implant. So in this procedure the tissue expander is skipped. We go right to the final implant, whether that's saline or silicone, and it's often dubbed a one stage reconstruction, and that can be true, although the revision rate with the direct to implant is higher than with a tissue expander implant reconstruction. So, it is very possible to have a direct to implant but still opt to have a revision procedure down the line in order to improve the aesthetics of the reconstruction.

One of the final kind of questions or decisions to make when you're considering an implant reconstruction is where is the implant going to go. Is it going to go under the muscle, which is known as a subpectoral reconstruction, or is it going to go on top of the muscle, known as a prepectoral

reconstruction? Both of these options will often use what's called the biologic mesh or an acellular dermal matrix.

I'm going to show a video clip next, which will kind of walk us through a direct to implant and demonstrate some of the steps. So I have to thank Dr. Bank for the two clips that I'm going to show tonight. He actually created them. They can be found on our website as well as his Project Reconstructed website, and they're amazing animations. So thank you, Jonathan.

So this is a direct to implant, and it's showing a inframammary fold incision. So there's a couple of options here for incision. Sorry about that. You can have a periareolar incision, you can have a inframammary fold incision. There's definitely different options for nipple-sparing mastectomy. Commonly we use an inframammary fold incision. What you see there is the acellular dermal matrix or biologic mesh going in, and the implant is underneath the mesh. That is a prepectoral reconstruction because the implant is placed on top of the muscle. If the implant was placed underneath the muscle, with the muscle covering the top of the implant and the biologic mesh covering the bottom of the implant, that's a subpectoral reconstruction.

So, let's move on to natural tissue flap reconstructions. There's been an evolution of flap reconstructions over the last few decades. Originally, we started with pedicled flaps, like the latissimus dorsi flap or a pedicle TRAM flap. What that basically means is that the tissue that is moved is kept attached to the body and it's rotated based on the blood vessels that supply that tissue. This disadvantage here is that you're limited, you'd have to move tissue that's in the vicinity of the breast, whether it comes from the abdomen or the back.

The next evolution in autologous reconstruction was the free flap. So this basically means that the tissue is freed from the body and it can be moved. So you can take tissue from the buttocks, from the back, from the abdomen. So it certainly opens up more options, but what it does require is when you detach the tissue, you have to reconnect the tissue under an operating microscope. That's a technique called microsurgery. Both Dr. Bank and I did an additional year of training at the University Of Pennsylvania in Fox Chase Cancer Center to kind of hone our technique for these procedures.

An example of a free flap breast reconstruction is a TUG flap. So the tissue is coming from the inner thighs, it's disconnected, again, moved up to the chest and the blood supply is reconnected. The newest evolution is the perforator flaps. Perforator flap is basically a free flap. The difference is that the muscle is preserved. We are basing the tissue on the blood vessels that perforate through the muscle and are entering the skin and fat. Because if you think about what a breast is, it's basically skin and fat. There's a saying in reconstructive surgery, replace like with like. So that's why a natural tissue reconstruction, especially perforator flaps, feel, look, and behave very much like a natural breast. An example of a perforator flap is a DIEP flat.

This is another one of Dr. Bank's animations, and I'm just going to go through, kind of walk you through the steps of a DIEP flap. So, what we're interested in is the skin in the lower abdomen. Usually about from the belly button down to the pubic bone, the incisions are made and the flaps are elevated. What it's demonstrating is that the rectus muscle, unlike a TRAM flap where the muscle is cut, which weakens the abdomen, with the DIEP flap we're preserving the muscle. We're only taking the perforating vessels that come up through the muscle into the skin and fat. The muscle is left behind and we're also very careful to leave the crossing nerves, which aren't depicted here, but they're tiny nerves that cross the muscle fibers, which innervates the muscle fibers and it keeps the tone in the muscle. So, you can do a DIEP flap. You can preserve the muscle, but you can still end up with an abdominal bulge if you don't preserve the innervation to the muscle, so it's something that's very important and oftentimes overlooked.

Once the vessels are completely isolated ... Sorry about that. Once the vessels are completely isolated, the flap is detached from the body and it's brought up to the breast. This is, again, showing inframammary fold incision. The breast tissue is removed and the flap is going to get inset into the breast. What I mean by inset is we actually shape the flap. There are sutures that go in the flap and around the periphery of the flap to ensure it has a little bit more of a conical shape.

What the video is just depicting here is that the artery and vein from the flap are actually being connected to an artery in the vein in the chest, again, using microsurgical techniques in order to reestablish the blood supply to that tissue. The breast skin is closed, the abdomen is closed, and the procedure is completed.

So, patients often ask us, and it was actually a question that came up as well, "What if I don't have enough fat?" So there are techniques that we can use for patients who want a natural tissue reconstruction but a single flap is not going to be enough tissue. One of those techniques is a hybrid procedure. So with the hybrid procedure, it's basically a cross of an implant reconstruction with the tissue flap. A small implant is placed underneath the tissue flap, and an implant ... I'm sorry, a small implant is placed underneath the tissue flap. What this does is the implant is adding additional volume centrally and it is adding additional projection. The tissue flap is still providing a nice warm reconstruction and it helps to conceal the implants, such as rippling that we often see with the implant reconstruction.

The other option is to use a stacked flap, which basically means using two autologous flaps combined together. This can be a DIEP flap with a PAP flap, it can be a SHAEP flap, which is an extended abdominal flaps. There's all different combinations that you can use. The trick here is that both of the blood vessels from each flap need to be reconnected, so it does require a little bit more expertise and a little bit of familiarity in setting multiple flaps at the same time.

So, what are the disadvantages and advantages of implants versus tissue flaps? The advantages is that implants have a shorter operative time and a shorter recovery, and there's no donor site scar, meaning we're not making a scar on the belly or the thighs because we're not taking tissue from anywhere. The disadvantages with implants is that there's maintenance. For example, MRIs are required for silicone implants, and I'll touch on that in a second. Implants don't last forever, there is going to be future surgery to replace those implants.

With tissue flaps, the advantage is that you get a warm, natural feeling breast. You don't have to exchange the tissue flaps, they last the lifetime, and multiple studies have shown higher patient satisfaction with tissue flaps. The disadvantage is that it is a longer procedure. The recovery is a little longer and it does require a scar elsewhere on the body.

So there are a few risks that we worry about with each one of these procedure types. With implants, we're concerned about infection. We're concerned about capsular contracture, which basically refers to excess scar tissue that can form around an implant, that when it contracts and gets thicker it causes the implant to ride up a little higher on the chest and can be uncomfortable. We're worried about implant rupture in the long-term, and breast implant associated ALCL, which I'll touch on in just a second.

With the tissue flaps the biggest concern is flap loss, meaning that something went wrong with the blood supply to the tissue, whether it was a clot in the vessel or a twist in the vessel. Many times a return to the operating room can correct that, but there are instances where it cannot. A practice that does a high volume of tissue flaps, such as ours, our flap loss rate is less than 1%. So it's a 99% success rate, but virtually nothing in surgery is 100%, so it is something that we monitor for very carefully after surgery. Fat necrosis or the fat getting firm in the flap is something that we look for, as well as abdominal bulges with DIEP flaps.

So I'm briefly just going to touch on, because multiple questions came up on this, on the new FDA guidance and recommendations for basically a warning on the implant boxes. So the FDA stated that they've got new information about risks and complications with implants. This included both breast implant associated ALCL as well as breast implant illness. They are basically providing recommendations to the implant manufacturers to incorporate a warning on the box. They altered their rupture screening recommendations for silicone implants and they also recommended that a patient decision checklist be included in the implant labeling.

So, currently now all of the implant manufacturers do produce a booklet, which we provide our patients. It includes the risks for implants, such as infection, capsular contracture or rupture, and it gives kind of a description of all of the different breast reconstruction techniques, including both implant and natural tissue reconstructions. But the FDA is looking for more. They're recommending that the following information be included for their box warnings. They want to list that implants are not lifetime devices, that the chance of developing a complication increases over time. Complications will require more surgery. That implants, more commonly textured implants, have been associated with ALCL, and that there have been reported deaths associated with ALCL. They also include a nod to breast implant illness, by saying that implants have been associated with systemic symptoms. As far as the patient decision checklist, they actually give a great example. This is the link to their website, which has the information on their recommendations for both the patient checklist and the boxed warnings. The patient checklist is actually two or three pages and it's pretty extensive. So, I would recommend checking it out. I think we're all going to be seeing it shortly if the implant manufacturers do follow these recommendations. This was actually all just published just a few days ago, September 28th, so I'm sure it'll take a little bit of time to implement, but it's all coming down the pipeline.

Last but not least, they altered their rupture screening recommendations. So previously the recommendation was to get an MRI two to three years after the implant was placed and then follow up every two years after that. They've now adjusted that to wait five to six years in a patient that is not having any symptoms before you do the first MRI or ultrasound, and then repeat that MRI or ultrasound every two or three years after that. If the patient is having symptoms, then an MRI is recommended at a earlier date to evaluate. So that's it for me now. I'm going to turn it over to Jonathan.

Dr. Jonathan Bank:

All right. Thanks a lot, David. Basically echoed exactly what any one of us discuss when we first talk to a patient in consultation. Let me just pull up my stuff.

Dr. Jonathan Bank:

You can see a black screen?

Dr. David Light:

Yes.

Melissa Rosen:

We're good.

Dr. Jonathan Bank:

I'm going to stop sharing for a second, or maybe not. So, I'll share again in a second. So again, thanks to David. Thank you Sharsheret for letting us participate in this and just enable us to teach some of you a

little bit more. A lot of you already know many things. The next topic that I'm going to touch on relates to breast sensation after a mastectomy and I'll also touch on chronic breast pain after a mastectomy or it will be after any breast surgery. Now, I'm very passionate about these two topics, so I apologize if I get too technical. My second disclosure is please don't let my enthusiasm dissuade or confuse you. These three topics represents kind of the, in my opinion, the next frontier in breast reconstruction and are by no means 100% perfected at this point. So there are a few people across the country that really are interested in these topics, and it's something that I've been interested in since basically the beginning of my career or even before I formally started it as an attending. And now I'm going to go back to ... okay. There's also sound in this, so I'll make sure it's up.

The whole issue of nerves and nerves that supply the breast was a bit of an enigma to me, and we can create beautiful reconstructions, kind of like David was talking about with autologous tissue and then in an immediate or delayed fashion, but my goal is not just to create this smiley face over here, I want it to be a smiley face that is more than just that. I'm going to pause for a second.

So, when I was a medical student, was a first year medical student many, many years ago back in the mid '90s, and I remember in our cadaver dissections, when we were just learning the basics of anatomy, they're talking about all these nerves and this and that, and I kind of didn't really believe that they existed because I couldn't really see them during the dissections early on, so I wasn't even sure that they were there. But they're definitely there, even though you can't see things. That's a pretty familiar comment these days. In the breast they definitely exist in multiple locations.

So, there are to main groups of nerves. One that comes from the central part of the chest or the medial part, and the outer aspects, and then there are other nerves kind of in the surrounding areas. They're there, and if you look for them, you'll find them. Then, if you're really looking for them, you won't stop seeing them. Then a question is, well, what do you do? So what happens during a mastectomy, the breast tissue is cut, the nerves that supply the breast tissue and the skin around it are also cut, and this can leave the breasts and chest areas numb. This is a sample of a DIEP flap or a bilateral DIEP flab. So, we take tissue from the lower belly, transfer it to the chest. Most of the skin gets shaved off and we just leave a patch of skin to monitor. We preserved the blood vessels that we later connect to blood vessel in the chest, but we also can preserve the nerves that go to the flap. Those are sensory nerves that exist anywhere in the body, in the belly or really any part of skin has nerves that go to it. That's that yellow thing, it looks like yellow spaghetti. Sometimes it looks like a white little vermicelli. So, you have to keep your eye open for them.

Now, this white extension is something that's really enabled us to take this from an esoteric maybe I can do this every once in a while to a routine part of my practice. That's called a nerve graft. It's basically a process from a donor nerve and it's been devoid of all of the cells that can cause rejection, so it's basically just a scaffold for a nerve to grow back. Now, peripheral nerves, or nerves anywhere outside of the spine, or the brain, want to grow back. They want to sprout back, and that's very important to remember. So we transfer the tissue, we connect the blood vessels, and it's just like David said, an organ and a vein, but we also can connect that nerve graft to nerves that were cut in the breast. We do same thing for both sides, we pull the skin from the top of the belly down to create one flat abdomen and one scar.

Now, what happens after a certain period of time? Nerves want to sprout back. They sprout back at about a pace of one millimeter a day. So you can figure out if you need to grow a nerve along 10 centimeters, that's 100 days, so it takes a while. It can take three months, it can take longer, and those if all conditions are perfect. But the nerves to sprout back and it can provide sensation.

Now, if you're noticing here, I only connected one nerve in this example, and there were many nerves that were cut. To connect all of them is probably not feasible, but to connect one of them is better than

none, and to be cognizant that they're nerves that may be even able to be spared during a mastectomy, that's my real goal, is to convince breast surgeons or to teach breast surgeons how to spare as many nerves as we can.

So, this is an example of a patient that I operated on probably a year and a half about. This about a year after her surgery. Now, you can see on the top of her chest, that's her native breast skin. You can see this faint line, which is a scar. Below that faint line is a patch of skin that actually cam from her belly. So it's completely disconnected and transplanted onto her chest. This is an areola, that was tattoo by our phenomenal tattoo artist, Nicole, and a nipple reconstruction that we did.

Dr. Jonathan Bank:

I asked her at some point, "So, what do you feel?" And this is what her response was. Volume up.

Speaker 4:

That's actually strong. That's medium, like superior.

Dr. Jonathan Bank:

Mm-hmm (affirmative) .

Your eyes are closed.

Speaker 4:

Top to the areola. Yeah.

Dr. Jonathan Bank:

Telling her to close her eyes.

Speaker 4:

I can't see it anyway with the mask.

Dr. Jonathan Bank:

Can't see with the mask anyway.

Speaker 4:

That's superior lateral, and that's more lateral. I feel that, and that feels to me like the edge of the areola, laterally. That feels lower down.

Dr. Jonathan Bank:

Okay, so there's no way that this large patch of skin would have sensation through remnant nerves that just sprouted on their own. This whole patch of skin is innervated by the nerve that we connected. What's very interesting to me is that even though she feels this area, towards the center of her chest, as if it was the outer part of her chest. Now, I only connected the nerve that was on the outer part of her chest. So this whole patch, is basically the brain thinks that it's connected to where this original nerve used to go. So, to me that's further proof that this actually works.

Now, like I said, you start looking for nerves, you see nerves everywhere. You start talking to patients about how they feel, which is very important to me, and you see a recurring theme that patients that

may have not had reconstruction or nerve reconstruction, even those that do, regardless of the type of reconstruction, it's fairly [inaudible 00:36:47] that they complain of pain in two or three spots. Those are spots where the nerves were cut, and those are areas where I target to reconnect the nerves, but it's not always possible.

So, I went back and I said, "What do we do?" So, this is a patient that originally had surgery elsewhere. She had implant reconstruction, and she wasn't happy with the results and wanted to switch them out with her own body tissue. She already had a tummy tuck, so that wasn't an option. So we went for another option, which is the TUG flaps or tissue from her upper inner thighs. She said before surgery, "You know, I also have this spot of pain right over here on the outer side of my chest. Can you take a look at that?" And I just know, I knew in my heart that that's an area that the nerve was cut and could be problematic. So I said, "We'll take a look."

So, this is just a quick schematic of how the TUG flap works. We again, preserve the blood vessels. We shave off most of the skin, it looks like a flying pizza, but it's not, definitely doesn't taste like it. Then we connect the with the nerves.

Speaker 5:

I had a TUG flap. Prior to the surgery I had had a reconstruction already with breast implants placed, and I had a persistent pain to the left side of my breast. I tried to address it with previous surgeons and they just said, "Give it time. It'll go away." Kind of brushed me off. Then I came searching for another breast surgeon, came upon Dr. Bank, and told him about this pain that I was experiencing. It was persistent pain, it was 24/7. If I had a rough day at work and it was more physical, the pain got worse. Dr. Bank said that he would address it in surgery. I showed him exactly where it was prior to the surgery, and at this point at my postop that particular pain is gone. Yes, I have tenderness from the surgery itself, but that pain that I was feeling is gone.

Dr. Jonathan Bank:

So, that's one success story. That's definitely not always the rule, but that's definitely the goal. We're creating a little bit of an effort to-

Speaker 5:

Yes, I have tenderness from the surgery itself, but that pain that I was...

Dr. Jonathan Bank:

... try to address that in a more systematic fashion, and you can read a little bit more about it on our website. The goal is really to systematically address pain with physical therapy, with pain management, with regional anesthesia, and if we need to with surgery. So this is her immediate results just a few days after surgery. Notice the absence of the nipples, and just to kind of top it, finish this all off, this is how we actually reconstruct the nipple prominences by origamiing the skin that we transferred or any skin that's around and kind of fold it up and make it look like a nipple prominence and then we can tattoo the areola later on. Some results are hard to tell from the original.

So, all these videos came from a little project that I did. It shows, well, it's related to a art project related to women that have breast cancer, and these are just animations of the surgical art that goes behind these procedures. So, you can see more of that on one of our websites. That's it.

Melissa Rosen:

Thank you so much. Those were both so interesting. You actually answered quite a number of the questions we received, but we have more, don't worry. I would love to ask as many as I can, and whoever feels it's the most appropriate, please feel free to respond.

So, one of the questions was, does reconstruction of either kind or both kinds put a person at higher risk of a reoccurrence or does it make it harder to detect a reoccurrence?

Dr. David Light:

You want to take that, Jonathan?

Dr. Jonathan Bank:

Sure. So the first part was ... Can you just repeat the first part?

Melissa Rosen:

Does it put somebody at higher risk for a reoccurrence and perhaps more likely ... Does it make it harder to find a reoccurrence, to test it?

Dr. Jonathan Bank:

As far as we know, breast reconstruction, and there are many, many studies that have looked at this because first, we want to do no harm and not cause any problems. So, there is no evidence that breast reconstruction promotes breast cancer in any way. There were some concerns that there is a component usually during some kind of a touch up where fat is taken, is suctioned from one part of the body and then transferred to the breast, and there was some concern that that may cause a hormonal regional, sort of local change in the breast, but that has not borne out to show any truth to it. I will say that with certain types of reconstruction, particularly with the flaps and even with the implants, specially with fat grafting, there can be areas of scarring, areas of what we call fat necrosis where there can be little lumps and bumps, and those can be a little bit confusing to whoever is palpating or is feeling things and notices a lump, and obviously everything is heightened and very concerning. So it can lead to more tests and more concerns, but those typically don't with breast cancer.

Having said that, there are situations where having some sort of reconstruction may mask a recurrence if the recurrence occurred in an area that's hidden by a flap or by an implant. So if the recurrence was say behind an implant on the chest wall, or on the muscle or deeper, you may not be able to palpate it regularly or easily. For that reason it's important to continue to get checked every few months in the beginning and definitely annually later on. That may include additional imaging studies like MRIs and so on.

So, there are some situations where there's such a high risk of recurrence that a reconstruction may plan to be delayed. I know in Europe that's still quite popular. The trend here is because that's fairly rare, that's the exception to the rule and not the rule.

Melissa Rosen:

Thank you. Somebody who has an autologous reconstruction still gets mammograms?

Dr. Jonathan Bank:

No, no more mammograms, but physical exam for sure. If there's anything suspicious, ultrasounds, MRI, CAT scans sometimes. I think the main take-home message is after things have settled from surgery,

after about three months or so, six months, you have to continue to self exam and learn your new normal. If there's anything concerning or anything that changed, that would warrant for an investigation.

Melissa Rosen:

Okay, thank you. Are any of these or all of these options, reconstruction options, available to someone who is dealing with metastatic disease or is that not an option?

Dr. Jonathan Bank:

You want to take that, David?

Dr. David Light:

Yeah. It really depends. I mean, the kind of textbook or reflexive answer is that metastatic breast disease oftentimes they're not having a mastectomy. If you have metastatic breast disease you're going on to have chemotherapy, hormonal therapy, so there may not be the candidacy to even have a mastectomy that would require a reconstruction. Not all metastatic disease is the same. A single bone metastasis is not the same as a metastasis to liver, or lung, or brain. There are certain instances where surgery may still be performed and the patient may still be a candidate for reconstruction. So it's not a hard no, but usually not a candidate.

Melissa Rosen:

Okay.

Dr. David Light:

And just to comment on the question that Jonathan answered, it's important to remember, regardless of the reconstruction, breast cancer originates in the breast gland. So, if you have a recurrence after a mastectomy, it's going to happen along the periphery, meaning in the fat that may have been left behind, there's a few breast cells that are left behind, or along the chest wall. So, if you have, obviously it wouldn't recur in a silicone implant, that's pretty easy to figure out, but there is often a concern that if I have, for example, a autologous reconstruction, a DIEP flap, can my breast cancer come back in the DIEP flap? And the answer to that is no, because it's abdominal skin and fat. There is no breast tissue there for your breast cancer to recur in. So regardless, the recurrence always occurs along the periphery of the reconstruction.

Melissa Rosen:

Thank you. Someone asked about a procedure I've heard about that wasn't mentioned, which is the Goldilocks procedure. Can you talk to that? Does that still happen? Is that too new? How is it different?

Dr. David Light:

Jonathan.

Dr. Jonathan Bank:

Sure. So, the Goldilocks procedure is kind of nor here nor there in terms of reconstruction, so the name kind of comes from that. It's best offered to women that have very large ptotic or hanging breasts that for one reason or another don't want to have a formal reconstruction with an implant or a flap, or can't

for medical reasons, but prefer not to completely go flat. When going flat, you saw in some of the picture, basically just a flat chest. Sometimes in the very large patients, to remove all that extra skin the scar ends up being so long it almost wraps around halfway of the body or more. The advantage of the Goldilocks is you basically take patterns of tailoring the skin that are similar to a breast reduction. Once the breast is removed, you're essentially left with a large floppy envelope of skin and fat without breasts. What we do is we basically fold that skin over on itself. We shave the outer later of the skin, we keep the inner layer and fold it underneath the area of skin that we want to keep.

So, sometimes we can get a reasonable amount of volume, like a B cup or a large A cup, if there is truly a lot of skin, but even in the smaller ones I find that it has its advantages because rather just having a long flat scar, it gives the semblance of a breast, at least in the two-dimensional or like two and a half dimensions. So if one would look at oneself in the mirror, we see a breast. It may not be very voluminous, but it's better than nothing.

There are disadvantages to it because as opposed to using a flap or an implant that gives the volume and can sort of tent up the skin, with the Goldilocks the skin just will scar down as it will, and that's virtually impossible to control surgically immediately. It can be addressed secondarily, releasing the scar and maybe even putting an implant later or just using fat grafting, just sprinkling some fat to break up that scar.

So, we use that. It's a really minimal recovery and I think it's a good option that's overlooked, but also has its disadvantages.

Melissa Rosen:

Can you do nipple reconstruction with that?

Dr. Jonathan Bank:

Absolutely. For a nipple reconstruction all you need is skin that you fold up, just like I showed. Alternatively, the option of what we call a 3D nipple tattoo is there, and it's excellent. We're very fortunate to have an extraordinarily talented straight up artist that can do these things that just look like 3D nipples and they fade much less than what I can tattoo. So more and more women are asking that, and it's definitely an option for the Goldilocks.

Melissa Rosen:

Thank you. So as you were answering that you said that Goldilocks can sometimes be used if someone doesn't want a formal reconstruction or isn't a candidate medically. So, what would prevent somebody from being a candidate for either type of reconstruction or any reconstruction whatsoever?

Dr. David Light:

So, I mean, I think Jonathan mentioned it before. There's the motto in medicine is do no harm. So the first thing that you kind of have to assess is what's the overall health of the patient. Someone who has uncontrolled diabetes, someone who has a coronary history and may have had a coronary artery bypass or a stent in their heart, all of these things are very concerning. So, we really have to kind of weigh what's appropriate. For those patients the longer the general anesthetic, the increase the risk. So someone that, for example, may have a cardiac history we're certainly not going to embark on a six or seven hour DIEP flap. It's going to be a shorter procedure or possibly no procedure at all.

The other risk factors that we often look for any kind of surgery, especially implant surgery, is smoking, diabetes, history of radiation, steroid use are all kind of negative factors as far as wound healing, and certainly things that we're concerned about going into a procedure.

Melissa Rosen:

So, can you talk for another moment about history of radiation specifically? Because many of the women who you are working with, I assume, have a history. With someone who has a history, do you recommend one type of reconstruction over another, or it's an individual thing?

Dr. David Light:

So, radiation essentially affects the blood supply to the skin, it causes an arteritis. So with decreased blood supply, you have an increase chance of wound healing complications. It's delayed healing. So not only do you have an issue with the blood supply to the skin, but you also have a contracture of the tissue. The tissue gets a little bit fibrosed, it gets atrophic or thinner. So the concern with breast reconstruction is not only wound healing afterwards, and obviously if there is a wound healing issue with an implant and you develop an exposure of the implant, that's a way for bacteria to get in and it increases your chances of an infection and an implant loss.

The other thing that we worry about with implants and radiation is something called capsular contraction, which I mentioned before. The more traditional data, in fact, the data that all of the implant companies provided to the FDA in order to get approval, they all listen a capsular contracture rate with their implants of somewhere around 10 to 12%. There's multiple studies that have shown that when you radiate a implant, that capsular contracture rate can go from 10 to 12% up to as high as 30 to 40%. So it's a much higher rate of capsular contracture, and these are grade three to four capsular contractures, meaning that either there is a visual difference, you can actually see that one breast looks different than the other. Again, the implant tends to ride up a little bit higher on the chest, it's firmer. The skin tightens up and contracts around the implant, and in a grade four capsular contracture it's actually uncomfortable for the patient.

So, in our practice when we see a patient with a history of radiation or we know that they're going to go on to radiation, usually that's the one time that my recommendation for an autologous reconstruction is more significant. If you come to me and you have no comorbidities, you're young, you're healthy, whether you choose a DIEP flap or an autologous reconstruction, a tissue flap reconstruction, it's really up to you. We go through the risks and benefits for each and it's the patient's choice on what they think is best for them. But radiation, there's enough downsides with implants that it really warrants a nod to using your own tissue.

Melissa Rosen:

Thank you. So let's move on to nipple sensation. There were definitely a lot of questions about that, as it's the new frontier. Several people asked, you talked about it being done with autologous in flap surgery. Can it be done with somebody who has an implant and can it be done with someone who wants an aesthetic flat closure?

Dr. Jonathan Bank:

So, let me just-

Dr. David Light:

Yes to all.

Dr. Jonathan Bank:

What?

Dr. David Light:

I said yes to all.

Melissa Rosen:

Oh, good.

Dr. Jonathan Bank:

Oh, yes and no. So, when we talk about nipple sensation, that's almost a very unique kind of sensation. It could be slightly different than the areola and the surrounding skin, because the nipple it has maybe fibers that are more erogenous in nature versus the surrounding skin that is in general maybe more protective in nature. So, we're starting with protective. We'd hope to get to the other component, but you can't exactly tell what's going to bear out with that particular case.

I guess that I'd start doing it more with flaps because there's a natural nerve to connect to. With the implants it's a bit more of a complex question. So I have started doing that. I connect the nerve endings, and again, the nerves want to sprout. So they'll sprout through this connector and I believe that if we tell them where to go, they should find the right spot. It's more than wishful thinking, I believe, because there are some studies that mainly come from the motor nerve, like the nerves that actively fire your muscles, but there is more kind of basic science models that are trying to create the same for sensory nerves. This just gets way too technical. I will say that there are a few people across the country that are interested and are doing this. They so far report good results. I am doing it in the context of implants for too short of a time to say one way or the other, but I will say that I think that there's almost no downside to doing it. In fact, there is an upside. The downside probably is only costs, that typically if it's approved by insurance, which it typically is. That's the downside, a financial one.

The upsides is if you go back to the example of the lady that had implants and we swapped them out for her own tissue, in her case where she was pinpointing the pain, I found that the nerves were actually clipped, because nerves travel with blood vessels. The blood vessels bleed during surgery, so you put a little clip or tie them off, or you do something to stop the bleeding. If you're not looking for the nerves, you're going to get the nerve too. Nerve wants to resprout, the nerve is going to resprout into something that's blocking it. If it's a metal clip, it has no chance of overcoming that. If you reroute that nerve somewhere, connect it to another nerve that'll helpfully go to the target that we want, that's great. If you can't do that, I think you can at least reroute it into healthy tissue that will allow it to grow and not create a problem, which is called a neuroma. In that case actually I sampled the edge of that nerve that was cut, and the lab said neuroma. So I think not doing that we might be ... There's an opportunity to do something better.

Melissa Rosen:

Okay, thank you. We don't have so much more time. Just to let everybody know we're going to answer questions until just about 9:15, so let's keep moving. We have some questions specifically about flat closure. So, a couple of people wanted to know if they've already had an autologous reconstruction or if

they have surgery and have a flat closure. Let's just start with the first one, excuse me. If they have an autologous reconstruction and are not happy, can they then choose to do flat closure?

Dr. David Light:

Sure.

Melissa Rosen:

It's not-

Dr. David Light:

A reconstruction, even autologous reconstruction, can be removed and the skin tailored so that there is a flat closure.

Melissa Rosen:

Okay. How about the opposite? If somebody thought they wanted a flat closure but really isn't happy, is there an option for either adding implants or doing some sort of flap reconstruction?

Dr. David Light:

Yes. I mean, that would basically fall under the category of a delayed reconstruction. The only issue is that the goal of an aesthetic flat closure is not to have excess breast skin, so the excess breast skin is removed. So you can imagine now trying to do a reconstruction with a relatively tight breast skin envelope, we need to do something to increase the breast skin so that a implant or natural tissue reconstruction can fit under the breast skin and provide that basically the volume, and the shape, and the projection so that you have a breast, a breast mound. So that can either be done by placing a tissue expander in if the patient wants to go the route of a implant reconstruction, or more commonly will either do a hybrid procedure where a natural tissue reconstruction is done either with an implant or just a natural tissue reconstruction by itself. Again, the advantage of using the patient's own tissue is you're taking the skin. For example, if it's a DIEP flap, you're taking the abdominal skin, you're bringing it up to the breast.

If you were having an immediate reconstruction, the majority of that breast skin, if not all of it, would be ... Of that abdominal skin from the flap would be buried under the breast skin. But now because there's a lack of breast skin we're going to save that abdominal skin to replace the breast skin, allowing you to have a little bit of a shape and laxity. If the abdominal tissue is enough to provide that, the volume that you need, then you're done. If it's not, then you add an implant to it, and that can be a DIEP flap with an implant, that can be more traditionally a latissimus flap was done with an implant, but all of these are basically techniques that go from having very little breast skin but still being able to perform a breast reconstruction successfully.

Melissa Rosen:

Thank you. So we have some questions about discomfort, and you both addressed that a little bit. So, one of the questions is about that iron bra feeling. That feeling that whether you have reconstruction or not you're so tight across your chest, what can be done about that? Then also can the same things that can be done about that, would those also be helpful in improving sensation overall?

Dr. Jonathan Bank:

So, there are a lot of factors that can contribute to that tightness feeling. Now, the traditional way of doing implant reconstruction was by placing the implants underneath the chest muscle, the pectoralis muscle. So that muscle, being a muscle, always wants to contract, and that can contribute to that tightness feeling, because it always feels like, that's probably one of the main causes for tightness. Another cause can be scar tissue that forms around the implant, that's called a capsule. It forms 100% of the time, but in 10 to 20% of the time it can be problematic and cause capsular contracture. That's when the capsules actually shrinks and cause tightness, and there are grades of grading that. There are ways to address that. Sometimes the capsule gets so tight and hard that it actually calcifies. So when we go in and operate it, it's almost like removing a dinosaur egg. I can't believe that that does not cause some kind of tightness.

With my biased views of the world and the nerves, I think that anytime you stretch the nerves, that can cause some kind of pain and tightness and so on. My point is there are a lot of factors, and you have to kind of decipher which one is the leading cause over here. Obviously radiation, like David mentioned, can contribute to all of that by affecting pretty much every layer that the radiation touches, from the skin down to the chest wall. So, things to address it will emanate from the causes. If there's an implant underneath the muscle it can be removed, and a fresh implant can be placed above the muscle. Now time after the mastectomy has occurred, now it's safer to put an implant directly underneath the skin, and we do additional manipulations to reduce the chance of the capsule occurring, like that tissue matrix that we saw in the implant animation. We think that that can help reduce the capsular contracture. Then again, by putting the muscle back to where it belongs, most women really say that they feel 100% different. That's called the prepectoral conversion, and the same thing can be done with a flap instead of the implant.

Melissa Rosen:

So what about non-surgical options, where it's an issue but not an issue that requires a surgical intervention? Do things like stretching, and massaging, and cupping help these kinds of situations?

Dr. Jonathan Bank:

I think so, to an extent. Again, if you have the diagnosis to what caused it, then you'll tell her the appropriate treatment. In that little animation where I tried to show a bit about the whole breast relief, the concept is to approach things in a systematic way. So definitely physical therapy to help release the chest muscles, and there can be all kinds of secondary effects like a frozen shoulder. You just start going down this pathway that's really hard to emerge from. Definitely physical therapy, and I'm not a physical therapist. I can't tell you all the modalities, but that's definitely something that can be done. Sometimes other things like targeting areas that are painful that can be a relief without surgery, that's an option. Somebody in the questions asked about a medication called zafirlukast, that's something that's used to treat asthma every once in a while, and it's been shown in certain situations to help more prevent or sometimes reverse capsular contracture, but that's really in the early stages. It's not something we prescribe regularly, but that's another option.

Melissa Rosen:

Thank you. Let's shoot for two more questions. So one of them is about implants and the recall, and there are a couple of questions, which I'm going to kind of meld into one. So, if somebody does have implants, is there a concern about saline or just the silicone ones, and if somebody does have implants,

how often should they be checking to make sure they're intact? Then finally with the implants, if somebody has a recalled implant, what is your recommendation? So that's three for one. Sorry.

Dr. David Light:

So the first ... Can we go back? Would you mind repeating the first one?

Melissa Rosen:

Okay, yes. So are we concerned about saline implants as well as silicone implants?

Dr. David Light:

So both the saline and the silicone implant have a silicone shell. This was actually one of the other things brought up in the new FDA publication, is that they want a more specific description of what an implant is made of as well as some of the ingredients and some of the hard metals and whatnot that can be found into them. So they're really getting quite specific. It's important to remember that both a silicone implant and a saline implant have a silicone shell. The difference is what's inside. So a saline implant is obviously saline, isotonic saline, it's a sterile fluid, whereas the silicone, modern silicone implants, we're into our fourth and fifth generation implants, are filled with a cohesive silicone gel, meaning that it's not a liquid. If you cut these implants in half you can hold the two halves together and the silicone is not going to, it's going to leak out. It's more like a Jell-O consistency.

So we need to have concern about both. As far as monitoring, the rupture screening has changed a little bit. We can now, and this is for silicone implants, because you don't need screening for a saline implant. If a saline implant pops, your body will begin to reabsorb that saline. You'll see a decrease in your breast size and it alerts you that something is wrong, and either an ultrasound can be performed to confirm that, usually it's just clinical exam and you go back to the operating room to have that ruptured implant removed and a new one placed.

The issue with the silicone implant is because it's a cohesive gel, if the shell cracks you often cannot tell that on physical exams. So it requires an MRI, is really the most sensitive test. Oftentimes-insurance companies deny MRIs, so we have to start with an ultrasound. If the ultrasound is inconclusive we then move on to an MRI. It used to be that the MRIs were performed three years after the implant was placed, and then two years after that, every two years after that. The new recommendation is to wait five to six years after the implant is placed and then every two to three years after that.

Melissa Rosen:

Okay. Do you have a recommendation for people who have the recalled implants?

Dr. David Light:

So there are three implant manufacturers in the US, three primary ones. Sientra, Mentor, and Allergan. So the Allergan BIOCELL implants were the ones that were recalled, the BIOCELL is the name of the Allergan texturing. The reason why they were recalled is because there was statistically a higher association with these implants with ALCL, which is basically a low-grade lymphoma that is usually contained within the capsule of the implant, and it is definitely more highly associated with textured implants. It happens to be that out of the three implant companies, their texturing process are all different, and the Allergan implants had the highest rate. So they voluntarily recalled their implants. The FDA recommendation right now, if you have one of these implants is not to remove it, is just to continue to monitor it if you don't have symptoms. We routinely have patients come in that were notified that

they have a BIOCELL Allergan textured implant and just opt to have it removed. They just from a piece of mind standpoint feel like they just don't want to go through life with it in, which I can understand. The recommendation is not to do anything, but patient has the right to choose.

Melissa Rosen:

Thank you. Okay, so last question, and Dr. Bank, I'm going to ask you to do something very difficult. I think this is a great question to end on, but I'm going to ask you to stick as close as possible to a yes or a no because we're running short on time. For somebody who carries a mutation and knows that eventually they want to have a mastectomy and a reconstruction. The question is, it seems that there's been major advancements in the last decade, many of which you've talked about, which make it a good time to achieve a reasonable cosmetic effect. The question is, is there anything expected or coming soon that will drastically alter or improve surgical outcome where a person who doesn't have an emergent situation might want to wait a little bit?

Dr. Jonathan Bank:

Surgeons are very conservative people. To adapt a new technique or a new approach is not something that happens rapidly. It's like a decade. So that's my short answer.

Melissa Rosen:

Okay. No, that's a good answer. It's related, so I'll just as very quickly. Somebody asked twice, if somebody has an old style reconstruction and they're not having problems, do you recommend just because of wear and tear to get an updated type? No, okay. All right, thank you.

Dr. Jonathan Bank:

Unless there is a problem or is having surgery for another reason.

Melissa Rosen:

Got it, okay. Just a couple minutes after I promised we would end. I want to thank Doctors Light and Bank so much for sharing their expertise. I am sure it was as fascinating for all of you as it was for me. I want to thank our sponsor for today's webinar, The Siegmund and Edith Blumenthal Memorial Fund. There will be a poll coming up on your screen, just one quick question. If you could take that, and then in our chat box is a link for a very brief evaluation. Please take a moment to fill it out because evaluations really do inform future programming.

My final reminder is that Sharsheret is here for you and your loved ones during this time to provide emotional support, counseling, other programs designed to help you navigate through the cancer experience, and all are completely free, private, one-on-one. Our number, which will be in the box, 866-474-2774 and you can also email us at clinicalstaff@sharsheret.org. You are our priority. Your health, your wellbeing, and we'll get through this together. Want to let you know that if you've missed a past webinar, all of the recordings are on our website, which is also where you will find information about our coming webinars in the next weeks and months. Thank you again to the doctors, thank you to everyone who joined.

Dr. David Light:

Thank you for having us.

Melissa Rosen:

We wish you all the best. Have a good night.

About Sharsheret

Sharsheret, Hebrew for “chain”, is a national non-profit organization, improves the lives of Jewish women and families living with or at increased genetic risk for breast or ovarian cancer through personalized support and saves lives through educational outreach.

With four offices (California, Florida, Illinois, and New Jersey), Sharsheret serves 150,000 women, families, health care professionals, community leaders, and students, in all 50 states. Sharsheret creates a safe community for women facing breast cancer and ovarian cancer and their families at every stage of life and at every stage of cancer - from before diagnosis, during treatment and into the survivorship years. While our expertise is focused on young women and Jewish families, more than 15% of those we serve are not Jewish. All Sharsheret programs serve all women and men.

As a premier organization for psychosocial support, Sharsheret’s Executive Director chairs the Federal Advisory Committee on Breast Cancer in Young Women, Sharsheret works closely with the Centers for Disease Control and Prevention (CDC), and participates in psychosocial research studies and evaluations with major cancer centers, including Georgetown University Lombardi Comprehensive Cancer Center. Sharsheret is accredited by the Better Business Bureau and has earned a 4-star rating from Charity Navigator for four consecutive years.

Sharsheret offers the following national programs:

The Link Program

- Peer Support Network, connecting women newly diagnosed or at high risk of developing breast cancer one-on-one with others who share similar diagnoses and experiences
- Embrace™, supporting women living with advanced breast cancer • Genetics for Life®, addressing hereditary breast and ovarian cancer
- Thriving Again®, providing individualized support, education, and survivorship plans for young breast cancer survivors • Busy Box®, for young parents facing breast cancer
- Best Face Forward®, addressing the cosmetic side effects of treatment
- Family Focus®, providing resources and support for caregivers and family members
- Ovarian Cancer Program, tailored resources and support for young Jewish women and families facing ovarian cancer • Sharsheret Supports™, developing local support groups and programs

Education and Outreach Programs

- Health Care Symposia, on issues unique to younger women facing breast cancer
- Sharsheret on Campus, outreach and education to students on campus
- Sharsheret Educational Resource Booklet Series, culturally-relevant publications for Jewish women and their families and healthcare Professionals

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