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Breast Reconstruction: Exploring Your Options

February 24, 2008
Karen M. Horton, MD, MSc, FRCSC

LANITA MOSS:

My name is Lanita Moss, and I am one of the co-founders of the Young Survival Coalition [http://www.youngsurvival.org] and the current president. I'm very honored to have that position because I live my life these days thinking of what I can do to honor all of you. You energize me. You energize our organization, our board of directors, to make sure we keep thinking about programs we can provide and how we can help you through your journey. So if there are any comments or anything, let us know. Give us your feedback.

I have the opportunity here to introduce Karen Horton. She is a board-certified plastic surgeon and reconstructive microsurgeon practicing in the Pacific Heights area of San Francisco. She is trained in reconstruction of the breast following breast cancer using microsurgical techniques, and she has extensive experience with the DIEP flap, the SIEA flap and the TUG, which is the inner-thigh flap, for immediate and delayed reconstruction following mastectomy.

Dr. Horton is designated as a fellow in plastic surgery at the Royal College of Physicians and Surgeons of Canada. She has presented numerous clinical papers at national and international scientific meetings in plastic surgery and has been featured in prestigious registries for outstanding professionals, such as Strathmore's Who's Who in Medicine and Healthcare and America's Who's Who in Medicine. Dr. Horton is going to give her presentation, and we'll have a question-and-answer session afterward.

KAREN M. HORTON, MD, MSc, FRCSC:

Thank you very much. (Applause) Thank you, and welcome. Thanks for having me here, and thanks for attending on the very last session. I'm going to talk to you about breast reconstruction, which is what I do for a living. Why did they choose me? I'm a doctor. I am originally from Canada, born and raised in Toronto. (Laughter) Other Canadians? Welcome.

I got my medical degree. I did extra training after plastic surgery in reconstructive microsurgery. Microsurgery is surgery that involves reconnecting blood vessels and sometimes nerves under the microscope. Microsurgery is used to replant fingers that have been cut off. I use microsurgery for breast reconstruction, and you'll learn about that today.

I also did a master's in cancer science research – not breast cancer, but leukemia research. Things have sort of come full circle. I am the daughter of a surgeon who did mostly breast cancer work, and now I am doing breast cancer reconstruction. Currently I live in San Francisco. I moved to San Francisco, and my heart is there, and I'm there to stay. I'm one member of a very unique, all-women plastic surgery practice. We thought we were maybe the only ones in California. It turns out we're the only ones in the United States and maybe the world. Our practice focuses on breast cancer reconstruction. All of us perform it. I'm the only microsurgeon in the practice.

I'm going to have a couple of references for you. Have a look at our Web site [http://womensplasticsurgery.com]; it's a really good resource. I'm also going to give you my e-mail address at the very end. I welcome you to record it and contact me directly. I'm also going to give you another website to look up information about breast implants. Breast reconstruction is important, as I said. It's what I do for a living. It's a major focus of my practice. I also do other types of plastic surgery, but breast reconstruction makes up about 50 percent of my practice, and it will continue to as I go along in my career.

What we're going to talk about today is single-stage immediate breast implant reconstruction. This is something that's relatively new that does not involve the use of tissue expanders. We're going to talk about nipple-sparing mastectomy, which is an option for some women, and also microsurgical breast reconstruction. If you have questions, obviously we're going to have time at the end, but if you have something burning just put up your hand. I don't mind being interrupted. We should make this as interactive as possible.

Why do we reconstruct the breast? We know that breast reconstruction technically isn't reconstructing a breast. It's reconstructing a breast mound, and it reconstructs the breast form after it's removed for disease. The function of the breast is lost forever, so a breast reconstruction will not be able to breastfeed, and it never feels the same way as a breast. A lot of women don't really appreciate the fact that there are changes in sensation and that there's permanent loss of erogenous sensation. You will not re-achieve that with breast reconstruction. There are other emotional, sexual and spiritual issues related to losing a breast.

Breast reconstruction is important, because we've learned that by restoring a breast form and by re-creating symmetry, we can help to reestablish many things that are really difficult to measure: body image, self-esteem, feeling feminine, feeling complete. One functional thing is that you can permanently throw away your prosthesis. Women who have a delayed reconstruction, like this lady, who may be wearing external prostheses in their bra, they can get rid of them forever. Breast reconstruction is important. That's why I do it, and that's why you're here to learn about it.

The goals of breast reconstruction are fourfold. We want to re-create the breast form considering aesthetics. We want it to look as good as possible. We want it to be symmetric with the other side. We want the breast reconstruction to have longevity. You're going to be around for a long time; we want your breast reconstruction to last forever as well, with minimal morbidity. Morbidity means giving up function, as opposed to mortality, which is death. We don't want any morbidity if we don't need it, and function equals muscle.

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Many of the techniques that I'm going to talk to you about today do not involve the use of any major muscles of the body. (Laughter) Our goal is not to create something like this. One of my Canadian friends sent this to me soon after I moved to the U.S., and I thought it was hysterical. Most women aren't going for this. Some are, and that's okay. But most women just want to be normal, natural, back to the way they were.

Breast reconstruction can be divided into a number of categories. The first category is timing. It can be done either immediately, meaning at the same time as the mastectomy, or delayed, which means any time in the future. The advantage of an immediate reconstruction is that we can usually save all of the breast skin and sometimes the entire breast envelope.

In immediate breast reconstruction, all we need to do from a reconstructive point of view is replace the breast contents with something else – either an implant or the body's own tissue. We always try to get patients as soon as we can to do reconstruction at the same time: one operation instead of two, and it's usually a quicker reconstruction. Delayed reconstruction means anytime in the future. Some women, unfortunately, are not offered reconstruction at the time of their cancer diagnosis, and some women aren't ready for it. That's okay, too.

The difference is that, as you saw in the first pictures I showed, the skin of the chest wall, even if there is a lot of breast skin left over, contracts down. So in a delayed reconstruction, we either need to expand that skin by putting a tissue expander underneath, or replace the skin with tissue from the body. That's the major difference. I'll have a lot of photos at the end, and you will see the difference between immediate and delayed reconstructions.

The other category, as I mentioned, is replacing the breasts with either an implant or the body's own tissue. Using an implant is called alloplastic reconstruction. "Alloplastic" just means a foreign body. Implants have some advantages. One is that it's usually a shorter operation, as opposed to doing a flap. A flap is using the body's own tissue. It's usually a shorter recovery from the initial surgery, and there is usually just a scar either on the breast or sometimes under the breast. However, implants have some disadvantages, and we'll talk more about this.

The major risk with implants is something called capsular contracture, which is hardening of the implant. It's actually scar tissue forming around the implant. Anytime you put a foreign body in the body, the body sees it as foreign, and it will form scar tissue around it, whether it's a pacemaker or a hip replacement or a breast implant. That's a normal process that the body does. However, when we put a breast implant in the body, we don't want that scar tissue to form too tight. There are certain things we can do to prevent that. One is having antibiotics around the time of surgery, because we know infection can increase the risk of capsular contracture.

We use drains because we know that fluid around the implant also can increase the risk of capsular contracture. We also, especially in our practice, do a very aggressive massage technique after surgery – about two or three weeks after surgery, we start this. It continues for the rest of your life. There are certain things we can do to prevent scar tissue from forming around the implant. However, it can be inevitable. It's one of the major problems with implants. They can also get infected; they can rupture; they can leak. We'll talk more about that.

Implants have a less natural shape to the breast. An implant, especially under just skin and sometimes a little bit of muscle, is always going to look like an implant. Because of that, we usually recommend augmenting the other breast if the other breast is going to be left alone. Also, radiation increases the risk of some of these complications, so if you've had a mastectomy and have been radiated, we usually don't recommend putting an implant underneath that contracted skin. In that case, we usually recommend doing a flap. However, if you need a mastectomy, and you have an implant reconstruction and then it gets radiated, that's usually okay. We'll talk more about that.

The other method of reconstruction is called autogenous. "Alloplastic" is foreign body; "autogenous" means using the body's own tissue. That's called a flap. The advantage of doing a flap is that it's a permanent reconstruction. It's your own body. It's soft. It's warm. It's living tissue. It grows with you, it shrinks with you, and it ages with you. And it lasts forever. As I mentioned, a flap is indicated following radiation in most instances. The reason for that is even if you have radiated tissue, when you bring in new tissue from another part of the body, it brings with it a new blood supply and it helps to counteract many of the radiation effects.

Some of the disadvantages of flaps – no method is perfect; otherwise, I'd be talking to you about the one perfect method. A flap will create what's called a donor site. You need to donate tissue from one part of your body to transplant it to the chest area, so that means additional scars. It's another surgical site, so you not only have a wound in the chest area; you also have a wound somewhere else. It's a longer surgery, and it's a slightly longer recovery time. However, it's only one recovery versus possible other surgeries with implants. It's a risk-benefit ratio. There is no technique that is perfect for everyone, and that's why I'm here to tell you about all the options.

Traditionally, implant reconstruction involves two stages. This is the way I learned to do it, and this is the way most plastic surgeons do it. In the first stage, a tissue expander is inserted. A tissue expander is essentially a deflated balloon, and it's slowly expanded over a period of usually up to three months. Then there is usually a period of overinflation where you want to stretch the skin even more, up to 30 percent, and it causes sort of a grapefruit-on-the-chest appearance. It can be uncomfortable. Then, in a second operation, the tissue expander – which is not designed to be in permanently – is removed, and a permanent implant is placed. It often requires multiple operations to achieve a result that looks okay.

What I'm going to talk to you about is called single-stage implant reconstruction. This involves the use of an implant that is designed to stay in permanently. It has a removable port that is similar to a chemo port in that it's attached into the implant, and you can inject into it and fill the implant after surgery. Usually it's one major surgery, meaning at the time of the mastectomy, the implant is inserted. It's inflated a little bit – not all the way, because you don't want the skin to heal under any tension.

Usually, a week or so afterward, when the drain is removed in the office, we inject through the port a little bit more saline until the breast is all the way full. This enables preservation of the natural breast shape. As I mentioned, for immediate reconstruction, if we can preserve the shell of the breast, all we need to do is fill it with an implant. Our goal, again, is natural breasts. (Laughter) We don't want to cause a period of deformation. In implant reconstruction, the goal is a natural result.

Some of the new ideas in breast implant reconstruction are single-stage reconstruction, as I've mentioned, and considering the fourth

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dimension. The fourth dimension is a combination of time and movement with gravity. We've also moved away from completely submuscular placement. The implants that we're using right now –

WOMAN:

Explain submuscular.

KAREN M. HORTON, MD, MSc, FRCSC:

Submuscular is placement of the implant completely under the muscle. Often, tissue expanders are placed totally under the muscle. The muscle, unfortunately, constricts where the implant lies, and it can cause a half-dome shape. Usually, implants are placed only partially under the muscle, and sometimes we place the implants not under the muscle at all. The advantage of having muscle over an implant is sometimes a little bit of extra padding. However, we don't like to put them completely under the muscle, because this is not a normal breast shape. Again, our goal is a natural reconstruction.

WOMAN:

Can I ask you something?

KAREN M. HORTON, MD, MSc, FRCSC:

Yes?

WOMAN:

Along those lines, is the placement of the implant important as far as detecting future breast cancer appearance?

KAREN M. HORTON, MD, MSc, FRCSC:

No, it's not. After a mastectomy – and I can't answer this completely because I'm not an oncologist – usually the monitoring is either clinical monitoring, meaning by feeling, or monitoring via MRI. After a mastectomy, most of the breast tissue is removed. Usually, mammograms are not indicated. But say someone has a cosmetic breast augmentation; you can still do mammograms. The mammogram technician needs to know that there is an implant in place. They do a special technique called the Eklund displacement technique where they push the breast tissue off the implant so the X-ray beams can shoot through it.

So, to answer your question, no, implants do not affect breast cancer monitoring. But there are some special techniques that have to be performed, and the mammogram technician should know that there's an implant in place. They should be told that.

These are the implants we use. Again, they're filled with saline, and here is the little port. The reason we use saline is that saline enables us to adjust the volume of the implant. Another good thing: When women come to see me, I ask them, what's your bra size now or what was it, and how would you like to be? We have a magic wand, and if we can wave it, do you want to be bigger, smaller, higher, lower – because with breast reconstruction, this is supposed to be a positive experience. It's horrible that you have cancer, and you go to your oncologist and your surgical oncologist and you talk about all of the bad stuff. When you come to my office, all we talk about is how you look and how you feel. This can even be fun.

These implants enable you to have control over your final volume. I usually tell my patients after we've filled up a little bit, go out and either buy a bra that you really want to fill out, buy a bra, have a tight T-shirt on, and our goal will either be to fill that bra or to go back to your previous bra. That way you have control over the final size. It usually is really fun.

Again, we put it either only partially under the muscle – and that enables natural droop at the bottom – or sometimes not under muscle at all, depending on how thick or thin the skin is. Muscle is just there for protection, so if the skin is thin, we don't want the implant to be able to come through the skin if there is a problem with healing.

WOMAN:

When you just get regular augmentation, does it go under the muscle?

KAREN M. HORTON, MD, MSc, FRCSC:

Some plastic surgeons put it under the muscle; some don't. I don't put regular implants under the muscle. The reasons for that are multiple. When an implant is under the muscle, every time you flex your pectoralis muscles, the implant will move. It tends to be a little bit more painful. It tends to be a little bit bloodier. The recovery is a little bit longer. With time, as your breast tissue ages, it can droop and sort of fall off the implant, creating a whole other set of problems. So I usually put them just under the breast tissue, but there are many plastic surgeons who do it that way, and it's just a matter of preference.

WOMAN:

Why is that different then with reconstruction?

KAREN M. HORTON, MD, MSc, FRCSC:

With reconstruction, all the breast tissue has been removed, and you only have a skin layer of skin and fat. As much tissue as you can grab over your sternum is as much tissue as you would have covering the implant. If you have a lot of padding, then it may not be as big a deal. But many women don't have a lot of padding in this area, so you want the extra layer of muscle as basically another barrier between the outside world and the implant. It's usually just for wound healing.

Traditionally, if a skin-sparing mastectomy is done, that means the nipple and areola are removed. It results in a scar that is transverse, across the breast. In this case, we put the implant partially under muscle for a little bit of protection. We want a little layer of muscle right underneath the incision so that if there are other wound-healing problems, which can happen in anyone – wound-healing problems can be a little more common if there's radiation, if there's diabetes, if people are smokers, and sometimes it's just bad luck. If there is a wound-healing problem, we want a little layer of muscle between the implant and the outside world. The port is placed also underneath the skin, but subcutaneously, so you can feel it. It's there temporarily. This is where we put the implant in most instances, if we cannot save the nipple and the areola.

If there is a lot of ptosis, or droop, to the breast, sometimes we'll design a mastectomy so that when you close the skin, you get a lift. That's why I say, "How would you like to be?" I wouldn't mind being a little smaller or perkier. We can do that. In that case, the incisions are a little bit different. There is one vertically that goes down to the fold, and there is usually another incision in the fold, similar to a breast reduction. In this case, again, it's partially under muscle.

Sometimes we can do a nipple-sparing mastectomy. This is something that has been around for a while. It was performed pretty frequently about 30 years ago, but the techniques were not as good in terms of saving the blood supply to the nipple, so a lot of times the nipples and the areolas died, even though we tried to save them. Nowadays, the surgical oncologists are getting really good at understanding plastic surgery-types of techniques, meaning they know how to preserve a good blood supply to the nipple and the areola.

In selected patients, meaning women who are seeking a prophylactic mastectomy because they have a very positive family history of breast cancer, or women who have had breast cancer on one side and choose to have the other breast removed as well – they are candidates for nipple-sparing mastectomy. In women who have DCIS, which is noninvasive cancer, or in women who have a small tumor – small is relative, but if it's at least 2 centimeters away from the nipple and the areola, sometimes we can save it. In this situation, the incision we use is underneath the breast, similar to a breast augmentation.

In this situation, it's a pretty long incision because the surgical oncologist needs to get his or her entire hand in. I work with one woman who has pretty small hands, so the incisions aren't that long, but she basically removes the entire breast tissue from underneath the breast. In this situation, we put an implant in the exact same space where the breast tissue was, meaning on top of the muscle, and close. The results can be really, really good. This is not for everyone, but it's something that's relatively new. I'll show you some pictures of results.

This is a lady who has had a biopsy and requires a mastectomy. She has had a skin-sparing mastectomy. In this case, the incision is very long. This is not the usual type of incision. Usually, we like to have it far away from the. . .and we like it in an area where it's not going to show in most clothing. Here she is at two weeks. She's had the implant inserted; she's fully inflated. Here she is at six months. She's had her nipple and her areola reconstructed, and she looks great. If you look closely at her pre-op picture, she has a pretty natural, normal-appearing breast. Down here, she's had a balancing augmentation on the noncancer side to improve symmetry. We usually recommend, if we're putting an implant on one side, that we put a small implant on the other side, because our goal is symmetry.

Here's another example. This is my youngest patient currently. She's 26 years old. She's a nurse. Here she is at one week. She went out and bought this bra. She had always considered having a breast augmentation, and here she is at a week. She looks great. Unfortunately, she needed chemotherapy. Here she is four months later. She's finished her chemo. With these implants – I mentioned that they're saline – once we have fully inflated the saline, sometimes we choose to switch to a silicone implant.

Silicone implants do have some advantages over saline. Saline can ripple more. It can be a less natural result. It can be a bit more palpable, meaning we can sometimes feel it a little bit more, whereas silicone implants have more of a gel-like consistency and can look and feel more natural. She chose to have the saline implants removed – if you look closely, you see she's also been augmented on the other side – and replaced with silicone implants. Unfortunately, she also needs radiation, so we're going to wait six weeks after her chemotherapy and then six months after her radiation before we do the next stage, which is constructing a nipple and an areola.

Here's another patient who chose to be augmented. She needed bilateral mastectomies. They were skin-sparing, meaning we could not save the nipple and the areola. Here she is. She's in her late 50s, and she's thrilled. She has always wanted augmentation. She's significantly augmented. That was her goal. (Laughter) She's happy.

This is a case of bilateral, meaning both sides, nipple-sparing mastectomy and immediate implant reconstruction. You don't see any scars. That's because the incisions are underneath the breast. If you look closely, she has a little bit of asymmetry, meaning if you draw a line from one nipple areola over to the other side, this one is about 2 centimeters lower than the other one. Sometimes we do additional balancing procedures at the same time, things that you might not notice but that I notice. We've also done a little bit of a lift. There's a little scar here. We've lifted up one nipple and areola to match the other one. This is a great result. She looks awesome. This is what we go for in everyone. We don't always achieve it, but this is our goal. Question?

WOMAN:

In this example, is the implant on top of the muscle, as opposed to underneath?

KAREN M. HORTON, MD, MSc, FRCSC:

Correct. The implant is on top of the muscle. The implant is sitting right where the breast tissue was.

WOMAN:

I have a question. Does the skin hold the implant in place?

KAREN M. HORTON, MD, MSc, FRCSC:

Yes.

WOMAN:

No worries that it's going to just kind of start floating all over the place?

KAREN M. HORTON, MD, MSc, FRCSC:

No – just like the skin holds the breast tissue in place.

WOMAN:

Who would have thunk it? (Laughter)

KAREN M. HORTON, MD, MSc, FRCSC:

It is pretty amazing. Question in the back.

WOMAN:

If you spare the nipple, do you still have sensation?

KAREN M. HORTON, MD, MSc, FRCSC:

No. However, very interestingly, the nipple is still innervated, not from a sensation point of view. "Innervated" means it has a blood supply. If you stroke it, it will often contract, which is really cool. But no, you do not have erogenous sensation. You have light touch, and you have deep pressure. But you do not have the erogenous sensation, because all of the nerves – it's actually the T4 nerve that travels underneath the fourth rib that comes out to the nipple and the areola – have been removed, so you don't have that same sensation. Question?

WOMAN:

On the previous screen you said you did the implant and switched out the implant six weeks after chemo.

KAREN M. HORTON, MD, MSc, FRCSC:

We like to wait at least six weeks after chemo and at least six months after radiation.

WOMAN:

For the nipple?

KAREN M. HORTON, MD, MSc, FRCSC:

For any other surgery after, because chemo, as you know, is an insult. Radiation is also an insult. We like to have the tissue in the body recover, so we waited. This is four months after her chemo, four months later. It's after chemo, and we did the next surgery six weeks after she finished her chemo.

WOMAN:

I had the expander put in at the time of my mastectomy, and I finished chemo two weeks ago. Three weeks after chemo, which will be next week,

I'm getting the implant put in. Then I'm going to start radiation two-and-a-half weeks after that.

KAREN M. HORTON, MD, MSc, FRCSC:

I usually wait six weeks. It also depends on how well you are. If you're well enough to undergo surgery, then go for it.

WOMAN:

My numbers and everything are okay.

KAREN M. HORTON, MD, MSc, FRCSC:

Yeah, as long as your numbers, meaning your white blood cell count, and as long as you're feeling up to it.

WOMAN:

After radiation, if there are any problems with the capsulating, the contraction, what could they do after that? What are your options?

KAREN M. HORTON, MD, MSc, FRCSC:

If there is scar tissue, we can go in surgically and remove the scar tissue. If it happens once, it doesn't mean that it's going to happen again. If there are recurrent problems with implants, you could always have the implant removed and switch to a different type of reconstruction, like a flap. That's always an option. Question?

WOMAN:

Good morning. If a woman has a single mastectomy and then has augmentation on the other side, does she normally lose sensation in that nipple as well?

KAREN M. HORTON, MD, MSc, FRCSC:

No.

WOMAN:

If it happens, can it ever come back? Or is it the pressure of the implant or [inaudible]?

KAREN M. HORTON, MD, MSc, FRCSC:

Usually, after breast augmentation, sensation is intact. It's usually exactly the same as it was before. After mastectomy, the nerves are removed permanently; after an augmentation, usually the sensation is not affected at all.

WOMAN:

If she decides to go smaller and takes those implants out and goes smaller, what happens? Is the skin –

KAREN M. HORTON, MD, MSc, FRCSC:

Often the skin will be stretched out, so we usually recommend a tuck of the skin or a breast lift at the same time.

WOMAN:

Thank you.

WOMAN:

Hi. I was told to wait completely after radiation to have any kind of reconstruction. Is that something that you hear of very often?

KAREN M. HORTON, MD, MSc, FRCSC:

I hear it often. As I mentioned, I'm from Canada. In Canada, we operate as we see fit. People don't practice medicine worrying about lawsuits, so we would do reconstruction all of the time before radiation, and the results are usually fine.

WOMAN:

I sort of feel like I missed out on an opportunity to have something beginning. I don't know if anybody else had that same –

KAREN M. HORTON, MD, MSc, FRCSC:

Possibly. Every situation is different. It may have been your tumor. There may have been a need to start radiation immediately, or it could have just been the judgment of the people who were doing your care.

WOMAN:

Thanks.

KAREN M. HORTON, MD, MSc, FRCSC:

There's no right or wrong answer. This is another example of bilateral nipple-sparing mastectomy. I'm going to get to your question. I just want to point out that, as we talked about blood supply, plastic surgery is all about blood supply. If there's a good blood supply, it will heal. If there's not so good a blood supply, things don't heal properly. Sometimes with nipple-sparing mastectomy, the nipple can undergo a period of what we call ischemia where it doesn't have good blood supply. Here this nipple is blue. Usually they recover.

Here's a lady who also wanted to be significantly augmented, and the nipple underwent a period where it was purple, but it recovered. We try to save the nipple. Worst-case scenario: It doesn't survive and we just have to, in the office, remove it, so you're left with a little areolar circle, and then we reconstruct the nipple the good old-fashioned way that I'll get to in a second. Question?

WOMAN:

Yes, I was going to ask if you had pictures of reconstruction, like delayed reconstruction. Also, what are your thoughts about the use of AlloDerm?

KAREN M. HORTON, MD, MSc, FRCSC:

We have many delayed reconstructions coming up. Most of them are flaps. Most of the reconstructions we do with implants are immediate. Fortunately, we get these women right away. As I mentioned, often with a delayed reconstruction, we don't want to put in a tissue expander and expand it up. We'd rather do a flap. In our practice, we're lucky enough to have the general surgeons trained to refer to us right away. Very often, I'll see a woman the day that she found out she has cancer, which is great for her. She doesn't hear everything I'm saying, so she comes back for quite a few visits so she can process it all. But most of the delayed reconstruction pictures you're going to see are flaps.

This is another immediate reconstruction. Again, she's had a balancing augmentation on the other side. She's had her nipple and her areola reconstructed. These are some pictures from one of my associate's books. Her name is Dr. Loren Eskenazi. She has a couple of books out. One of them is called Reconstructing Aphrodite. It's a number of black-and-white photos of women with breast reconstruction that are done very beautifully and artistically. This is another reconstruction – nipple and areola reconstruction, a balancing augmentation and a lift, which answers your question. She had quite a bit of droop. She wanted to be fuller, but in order to tuck the extra skin, we've done a lift. If you look closely, there is a scar around the areola, a scar down to the fold and a small scar in the fold.

We've talked about the long-term issues with implants. On average, the implant companies say you may need another operation every ten years or so. That's not to say that at ten years, like tires, you have to get them changed up. But in your lifetime, if you have implants, you're going to need additional surgeries. Implants don't last forever. In your lifetime, you're going to need additional operations. As we've mentioned, with muscle movement, they can move a little bit.

There is the risk of infection, even down the road, ten years after your implants. Every time you get your teeth cleaned, for about 30 minutes or so after any procedure that involves bacteria of the nose or mouth, you can have bacteria in your blood, so we always recommend prophylactic antibiotics – one dose of antibiotic just before a teeth cleaning or any procedure, the same as if you had a prosthetic heart valve or hip replacement. It's lifelong maintenance.

WOMAN:

Oral antibiotics [inaudible]?

KAREN M. HORTON, MD, MSc, FRCSC:

Yeah, just one dose of oral antibiotic. With weight gain, weight loss, the fourth dimension, as you age, the implant is going to basically stay in place, so often we need to do additional procedures later in life. Question here?

WOMAN:

Hi, I had a question about insurance and maintenance on the implants. Is that usually covered by insurance?

KAREN M. HORTON, MD, MSc, FRCSC:

Yes. By law in the United States and most countries, you are entitled to breast reconstruction of your choice. You are entitled to a balancing operation on the other side. You are entitled to any revisions of your breast reconstruction forever. Not all plastic surgeons take insurance, so that's sometimes an issue, but you are entitled to it, period.

WOMAN:

I was wondering that, if ten years later I was going to have to have another surgery and it was going to cost me $3,000.

KAREN M. HORTON, MD, MSc, FRCSC:

You can have whatever you want. If you don't like your type of reconstruction, you can change to a different type of reconstruction.

WOMAN:

Fantastic. Thank you.

KAREN M. HORTON, MD, MSc, FRCSC:

As your physician, I'm your advocate. Whatever you want to do – I go to town with the insurance companies. I fight for you. Question here, and then there is another one over there.

WOMAN:

Before my question, just so I can comment on what I've heard and been told about delay with radiation on the breast, as to why: I was told two years. Most women, I hear, are told one, because the breast, the skin and, if you had a lumpectomy, the tissue can make changes up to two years. So your result, you may think it looks one way, and then a year or two goes by and it looks different. You might not be happy with that. That's why I've been told to wait. I'm not trying to scare anyone, if they've done this. If you do nipple sparing, I was told that that's not recommended because the nipple is so prone to breast cancer.

Do you have any comments on that? When I talk to people who are newly diagnosed or trying to figure out what reconstruction option they're going to go to, I don't want to be giving them the wrong information. But that's a huge red flag for me and one of the reasons why that is not something I'm considering. Why keep something if it's so prone – even after the breast tissue, if you did get the mastectomy – to have the cancer come?

KAREN M. HORTON, MD, MSc, FRCSC:

Those are both good points. To address your first point, I say six months, because after radiation, there is an acute phase of radiation damage, kind of like a really bad sunburn every day. It takes at least six months for that swelling, trauma, edema – which is sort of tissue swelling – to go down. Six months is the earliest. Some surgeons are more comfortable with one year, two years. After about six months from the acute phase of radiation, you enter the chronic phase.

We always say, "Radiation is a gift that keeps on giving," meaning there is permanent scarring of the very small blood vessels in the skin. That's why there is an increased risk of wound-healing problems. There is sort of a firm, woody consistency to the skin. Sometimes there can be hyperpigmentation, or darker coloring. Six months is arbitrary; it really depends on the surgeons' level of comfort and when they want to go back in.

For your second point, again, I am not the one who makes the decision about whether we can keep the nipple; it's an oncologic decision. But the surgical oncologists I work with have to be comfortable with it, meaning it either has to be a prophylactic mastectomy, a noninvasive tumor, or a tumor that is far away from the nipple and the areola. Technically, what they do during the surgery is remove all of the breast tissue, then actually evert – meaning turn inside out – the nipple. They core out the contents of the nipple, so it's just basically the skin. They send that off as a separate specimen. If they have any concerns, they will send it for immediate analysis, which is called frozen section, where they stain it under the microscope and look at it. If there's any concern about any abnormal cells, they take it right then and there.

If there is going to be a recurrence, you can either see it, because it's in the skin, or you need an MRI to detect it, because it's deep in the chest wall. It's not a decision that I make. Again, I always leave it up to the surgical oncologists. They're the ones who have the conversations about cancer and risk and percentages.

WOMAN:

I just didn't know if you knew about the risk, or if anybody is gathering numbers on whether there are women who have kept the nipples for a nipple-sparing mastectomy and if they have recurred even [inaudible].

KAREN M. HORTON, MD, MSc, FRCSC:

The risk of recurrence, I believe, is less than 1 percent. There are a number of papers out there. It's being looked at currently by some of the surgeons I'm working with as well.

WOMAN:

So that 1 percent is with nipple sparing, not the mastectomy small percentage of recurrence?

KAREN M. HORTON, MD, MSc, FRCSC:

I think it's in all cancers. It's the same for nipple sparing and non-nipple sparing. I don't think it changes the risk. Question over here? Then we have to move on to flaps.

WOMAN:

If the original alloplastic reconstruction, if the saline implant was under the pec muscle, can the woman be reconstructed later?

KAREN M. HORTON, MD, MSc, FRCSC:

Definitely.

WOMAN:

And have the implant just under the skin and not under the muscle?

KAREN M. HORTON, MD, MSc, FRCSC:

You bet. We do that all the time. (Cheering) I'll show you some pictures. The question was if you have an implant and if it's either partially under the muscle or totally under the muscle and if it looks terrible and if it contracts, can you have the reconstruction changed? Yes. You can have the muscle lifted up and put back down as long as there is enough padding. If there are chronic problems with the implant, you can have the implant removed, and you can have your reconstruction changed to a flap. I have a couple of pictures of that.

WOMAN:

What do you mean by "padding"?

KAREN M. HORTON, MD, MSc, FRCSC:

Padding means skin and fat over the top of the implant. If the skin is very, very thin, and if the muscle has healed to the skin in such a way that it's dangerous to separate them, dangerous for blood supply, you cannot always do that. But it is possible, and it depends on your situation; it depends on your body. Why don't we have two more questions, and then we'll move on.

WOMAN:

Hi, I also had a mastectomy, a single mastectomy on my right breast. I went through chemo, and I had the tissue expander. Then I had reconstruction. I guess they switched it with a silicone implant. He told me he didn't use AlloDerm, and the implant is like under my arm almost, and it's flat. It doesn't protrude. I paid for this out of my pocket. I already paid him almost $8,000. I have insurance, but somehow the insurance didn't reimburse me because he wasn't in network. I'm not quite sure how that works. Now I'm going for radiation. I'm not happy with the results right now. And now I have to go for radiation, and I'm just wondering what do you recommend I do? He doesn't do flaps, and I've already given him $8,000.

KAREN M. HORTON, MD, MSc, FRCSC:

Come to San Francisco. (Laughter) It sounds like the pocket is too large. That's why it sounds like it's falling.

WOMAN:

It's like under my arm.

KAREN M. HORTON, MD, MSc, FRCSC:

It sounds like the pocket is too large. We need to close the space and make the pocket smaller. You need to wait at least six months after you finish your radiation to go back in, and you need to find a surgeon who's in network or takes your insurance.

WOMAN:

Do you do that? Do you take insurance?

KAREN M. HORTON, MD, MSc, FRCSC:

I take all of the insurances.

WOMAN:

You take all of the insurances?

KAREN M. HORTON, MD, MSc, FRCSC:

Come to San Francisco. We'll talk later. AlloDerm: I'm sorry I forgot to answer the question about AlloDerm. AlloDerm is a product that is basically dermis. There are two layers of skin: the epidermis that you can see – the skin – and the dermis, which is underneath. AlloDerm is a product that is human cadaver dermis, meaning it's donated from people who have passed away. It's processed so that it doesn't have any antigens, and it doesn't carry the risk of transmission of any diseases. Some surgeons will use it as an extra layer of padding.

I tend not to, meaning I don't need to, meaning that with the surgeons I work with, the skin of the mastectomy doesn't die usually. They leave a really good blood supply. I personally choose not to use it because I don't need to. Also, it's a foreign body, and when you're putting another foreign body in the body at the same time as an implant, it can, theoretically, increase the risk of infection. I don't use it because I don't need to, but many surgeons do, and they can have really good results with it.

WOMAN:

I had a question building on the submuscular question earlier. I'm at the nine-year mark, so I'm thrilled that I can go back in and have another option if I tend to blow up or whatever happens to these implants. But you commented after that and referred to flap. I didn't know if that's your preferred method after a submuscular, or would you just go on top of the skin completely? Or do I have both of those options to look at?

KAREN M. HORTON, MD, MSc, FRCSC:

If you have an implant, and if you want to have the implant removed, and if you want to change to a flap, I always lift the muscle up, put it back down, re-create the normal anatomy and put the flap underneath the skin. We can do that no matter how thick or thin the skin is, because a flap is healthy tissue. Even if that wound were to separate or even if there was a wound-healing problem, I don't care, because it's your own body underneath. It's very different.

WOMAN:

Wonderful, thank you.

KAREN M. HORTON, MD, MSc, FRCSC:

That brings us into autogenous tissue reconstruction. "Auto" means using the body's own tissue. The donor site is the area where we take the tissue from. There are many different options, and usually we use either the abdomen or the inner thighs. A flap is a piece of tissue that has its own blood supply that's alive; it's vascularized, as opposed to a graft. A skin graft, bone graft, that's just a piece of tissue that you lift from one place to another and hope it will pick up a new blood supply. A flap has its own blood supply, so it's living.

A free flap is when we physically transplant tissue from one part of the body to another. Everybody understands the concept of an organ transplant, meaning there is a block of something, an organ. In microsurgery, it's a block of tissue, an artery going into it, a vein draining it. You cut the blood supply and transplant it to another part of the body. You find an artery and a vein, and you hook up the blood vessels. That's a free flap, and this is what we're going to be talking about.

When do we use your own tissue? We use your own tissue if you've had radiation already, if there's a high chance that you might need radiation. If there's a choice, we usually like to do a flap. If you've had an implant reconstruction and it's failed, meaning it's a disaster and you hate it, or you've had recurrent problems or you just don't like it for whatever reason, we can always change to a flap.

And patient preference: I have a lot of women who come from all over the United States because I'm one of few surgeons who actually do these operations. The reason why not many surgeons do it: You need special training in microsurgery. The surgeries are technically difficult; they're hard to

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do, but they're also very challenging. Most plastic surgeons are not in this just because they want to help people. They're usually in it for the money, and free flaps don't pay very well. However, they're important, and they're an excellent reconstruction; that's why I do them.

A couple of other definitions: a pedicled flap as opposed to a free flap. Pedicled flap uses the muscle as the carrier. One example is a latissimus dorsi flap. Another example is the pedicle TRAM flap. These surgeries sacrifice a major muscle of the body just to get the tissue where you want to go. They use the muscle as a carrier for the blood supply. They leave a big scar, and they permanently remove a muscle. This is an athlete. She had a latissimus dorsi flap, and for some reason it failed, so she still needed a DIEP flap. I choose not to do this operation. I'm not saying it's a bad operation. Often you need some muscle, but the problem is that with this operation, number one, you're sacrificing a major muscle, and you still need an implant – so you kind of have the worst of both worlds. I don't do this operation because I'm a microsurgeon and I don't need to take the muscle.

The abdominal tissue that we use for breast reconstruction is the same tissue that you throw away in a tummy tuck. Corollary to that, you have this type of reconstruction and you get a tummy tuck, which is great. This is a tissue that we take. The pedicle TRAM flap is another option. It's not a bad option, but it's one that I choose not to do. It takes this abdominal tissue and uses one of the rectus abdominal muscles as a carrier for the blood supply. It leaves a permanent deficit in your abdominal wall, so you have permanent loss of this muscle. This is an important muscle. You need it for resting tone. You need it for abdominal wall competence. The risks of taking this muscle are weakness. If you have a bilateral reconstruction using TRAM flaps, you will never get from a lying-down position to a sitting-up position again without rolling over and using your arms. You'll never do a sit-up again.

The other muscles in the area – external oblique, internal oblique – will hypertrophy a little bit, but they don't replace these ones. You lose your resting tone; you can have a bulge, and you can have a hernia like this lady. This is one of my patients who had a TRAM flap elsewhere. She needed her other breast reconstructed, so we took her inner-thigh tissue, and we needed to do a hernia repair. The TRAM flap is not bad. It's a really good reconstruction in that it takes the abdominal tissue, but there are potential complications from taking the muscle. Not everybody has this, but there's a big risk. That is why I use microsurgery to transplant the tissue.

Here I am with my partner. Most microsurgeons work in a team, and I work with Dr. Rudy Buntic. His website is microsurgery.net [http://microsurgery.net/]. That's for some information in addition to my website. As I mentioned, microsurgery is surgery that is done under the microscope to reconnect blood vessels and sometimes nerves. It requires special training in microsurgery, special equipment and special monitoring of the circulation of the flap afterward. I do all of my microsurgical operations at one particular hospital in San Francisco where microsurgery was born 40 years ago, and the nurses who are monitoring the flap afterward have been doing microsurgery longer than I've been alive, some of them. It's a great skill. Question?

WOMAN:

If you need to do a bilateral DIEP, let's say, and you don't have enough fat in the sort of stomach area, can they do liposuction to augment the DIEP from other areas?

KAREN M. HORTON, MD, MSc, FRCSC:

If you don't have enough abdominal skin and fat to reconstruct your breast, we can either go to a different donor site, like the inner thigh, or we can transplant the skin and whatever you have, and we can augment a flap. We usually don't use fat grafting; we usually use a small implant under the flap. You can put an implant under a flap. The results of that are much like a cosmetic breast augmentation. The risk of capsular contracture is lower, the risk of problems are lower, and the results are very similar to – you're just projecting the flap forward, and that can be a good option. We do do that sometimes.

The donor sites that we used, as I mentioned, include the abdomen, and the flaps are either called the DIEP or the SIEA. There is something called a free TRAM flap, but I don't do it because, again, there is no reason to take the muscle, so why take the muscle? Or the inner-thigh flap, and that's called the TUG flap, and I'll talk about those two flaps.

DIEP stands for deep inferior epigastric artery perforator. This is the blood supply that supplies this tissue. The DIEP vessel is the major blood supply to the tissue. It's the same skin and fat as a TRAM, same skin and fat as a tummy tuck, but it does not sacrifice any muscle or the anterior rectus sheath, which is the tight sinewy layer over the top of the muscle – like on a steak, it's the gristle. You need that as well for strength.

Recovery is faster than a TRAM, because muscle hurts. Any time you have a charley horse or you have any surgery that involves muscle, it really hurts. With a DIEP flap, most women go home, three to five days on a couple of Vicodin a day or just Tylenol. It's absolutely amazing. Much less pain; faster recovery than any surgery that involves muscle.

WOMAN:

You stay in the hospital for three to five days?

KAREN M. HORTON, MD, MSc, FRCSC:

Stay tuned. I will answer your questions. In DIEP, "P" stands for perforator, and a perforator flap is a flap that just contains skin and fat. There's no muscle in the breast. There's no need to put muscle in there. This is the deep inferior epigastric artery. It sends off these little perforating blood vessels that travel through the muscle to supply the overlying skin and fat. All we need is skin and fat and blood vessels, and that's all we take. It's based on this artery, the deep inferior epigastric artery. It comes off the external iliac artery, and it branches into a medial row close to the midline and a lateral row close to the outside of perforators. Here are one, two, three perforators. We take this abdominal skin and fat based on this blood vessel.

Diagrammatically, this is the difference between a TRAM flap, which takes the skin and fat based on the muscle, versus a DIEP flap, which traces the blood vessels down through the muscle, and it takes it as a transplant just based on the blood vessels. Don't worry – I'm not going to have any gory pictures, only diagrams. (Laughter)

Diagrammatically, this is how we do it. We start at the side; we lift up the tissue. Here you can see we're separating the rectus abdominis muscle. We have one, two, three perforators in a row, and we're teasing apart the muscle fibers to trace the blood vessels down. But we leave the muscle intact, and we also leave all the motor nerves that supply power to the muscle intact. We just separate the muscle, we get the blood vessels, cut them, close the fascia, and we're done. What we're left with, turned upside down, is the DIEP flap.

Here is the skin and fat. We cut around the belly button, so the belly button is still there. When

we close, we need to make a new hole for it. Here we have a single-sided transplant. If we're doing a bilateral reconstruction, both sides, let me just isolate the blood vessels on the other side, cut it in half: half here, half here. The amount of the flap that we use for reconstruction depends on the size of the opposite breast, if we're trying to match it or how large or small a breast would you like to have. As long as we have enough tissue here, we can design a breast reconstruction and then balance the other side with an augment, a reduction or a lift. As I mentioned, if we're doing a bilateral reconstruction, we just isolate the blood vessels on each side, split it in half, and we have two flaps.

Next, we need to find blood vessels in the chest to hook up to, and we hook up to the internal mammary artery and vein. These are blood vessels that travel on both sides of the sternum. To access them, we need to remove a small piece of rib cartilage. You don't miss this cartilage. We don't do anything with it. We send it to the pathology lab; they look at it under the microscope. It doesn't affect your breathing or cause any pain. But we need to remove the cartilage to access these blood vessels.

Next, under the microscope, we bring the flap up to the area and sew it together, the artery to artery and vein to vein. We do this under the microscope. We use sutures that are thinner than my hair; you really need a microscope to see them. This is where you need two microsurgeons. We do this as a team. We use small jeweler forceps, and we do this under the microscope. We have our anastomosis, it's called. We've hooked up the blood vessels; we have a new blood supply. We close the donor site.

As I mentioned, you do have a tummy tuck incision. You have a tummy tuck removal of tissue. Something that we're starting to offer is the full tummy tuck. The tummy tuck, part of it is removing the excess skin and fat, but the other part of a tummy tuck is the internal corseting sutures to bring together all of the tissue on the inside. In some patients who have a lot of separation of the rectus muscles, either from multiple pregnancies or from weight gain, we sometimes offer the full tummy tuck closure, for an additional fee, because it's kind of a cosmetic part of the procedure. You do get the tummy tuck scar, and you do get the removal of the tissue, and sometimes you can get the full tummy tuck. As I mentioned, we bring out the belly button through a new incision, so you have a scar that goes from hip to hip and a scar around the belly button, and then whatever scars result in the breast area. You will see some photos.

Next, we inset the flap, and this would be the scars resulting from a delayed reconstruction. We shape the flap intraoperatively, and we set up the back of the operating room table to see how everything looks. We often do a balancing procedure at the same time – a reduction or a lift. We want it to look as good as possible before we leave the operating room. As I mentioned, in a delayed reconstruction, if the tissue is all contracted down, if it's radiated, we often remove much of the radiated chest wall tissue and use the abdominal skin and fat to create a breast mound.

In a delayed reconstruction, there is much more of the skin showing from the belly. If you've had stretch marks down there, if you have moles, they might end up here. In an immediate reconstruction, we often bury the entire flap underneath your own breast skin. Again, you'll see in some photos. As I mentioned, in a skin-sparing mastectomy, if the nipple and the areola have been removed, we only need a small patch of skin showing from the tummy. This is what the scars would be like with our new circulation to the flap.

WOMAN:

Is it at the bikini line?

KAREN M. HORTON, MD, MSc, FRCSC:

We have it as low as possible. Again, I'll show you one picture, coming up. Funny story.

Advantages of the DIEP: We preserve the rectus muscle; we preserve the anterior rectus sheath; less pain than a TRAM; zero risk of hernia bulge weakness. That's why I do this instead of the TRAM.

WOMAN:

Why doesn't everybody do DIEPs?

KAREN M. HORTON, MD, MSc, FRCSC:

If they're not a microsurgeon – you need to be a microsurgeon to do the DIEP flap.

WOMAN:

So it's just not an access [inaudible] they couldn't access [inaudible].

KAREN M. HORTON, MD, MSc, FRCSC:

Correct. There is something called the SIEA flap. The superficial inferior epigastric artery is another blood vessel that can supply this tissue. Only 30 percent of people have it. We always look for it, and if it's there, sometimes we can take the same abdominal skin and fat based on these blood vessels. They have to be there, and they have to be big enough to use. The difference is that whereas the DIEP vessels travel through the muscle and come up and supply the tissue, the SIEA vessels go right into the tissue. So theoretically, we could take the same vessel without even going through the muscle.

In reality, if the SIEA vessels are there, we say, great, we have option number one. Then we look at the DIEP vessels, we say, great, we have option number two. Then we sequentially clamp off one system and look at what the blood supply is. We clamp off the other system and look at what the blood supply is, and we take whichever one is better, because the best blood supply to the tissue means zero complications, meaning wound-healing complications, fat necrosis, firm areas.

WOMAN:

Do you check the blood vessels during surgery? Or do you do some type of imaging?

KAREN M. HORTON, MD, MSc, FRCSC:

During surgery. There are studies right now looking at CT, MRI, ultrasound – ways to look at the blood vessels beforehand. That might be helpful in terms of a map or knowing what to expect, but it's really expensive. Most insurance companies don't want to pay for it. They're basically just doing those studies at university, because it's academic interest. But we look at them live. We want to see that they're big. We want to see them pulse. We want to see what the perfusion is, meaning we want to see what the real, live blood supply is. We look at them just with our eyes.

WOMAN:

In my research for plastic surgeons, I've had some say I do the DIEP flap, but if I get in there and I don't see what I want, I revert to a TRAM.

KAREN M. HORTON, MD, MSc, FRCSC:

I don't need to do that, because I have the luxury of having a really, really good microsurgical partner. As a team, we've never needed to resort to a TRAM. I think it's a matter of comfort – surgeon comfort – usually.

WOMAN:

When you're talking to plastic surgeons, how do you find that information out without it becoming too awkward? What's the right type of question to ask?

KAREN M. HORTON, MD, MSc, FRCSC:
Ask if they revert to a TRAM.

WOMAN:
If they do, just say why? Ask why?

KAREN M. HORTON, MD, MSc, FRCSC:
No, not really. We've talked about a balancing procedure for the other breast. We usually do it at the same time, and that can be a reduction, a lift, sometimes an augmentation. Then we do a nipple reconstruction, usually three to six months later. This is how we reconstruct a nipple. It's very cool. These are flaps as well, but these are local flaps, meaning skin and fat we lift up from the breast itself. We rearrange them to make a nipple prominence. It's not a nipple. It doesn't feel like a nipple, but it looks like a nipple. So when you're wearing a tight tank top or a bathing suit or evening gown, when the eye falls on the breast, there's something there. It's a really nice finishing touch.

For the areola reconstruction, we usually do a medical tattoo. I say "medical tattoo" because we use medical-grade pigments. I do the tattooing. We do it in the operating room, sometimes in the office. Again, it's a really, really nice finishing touch. There are other methods for areola reconstruction that involve skin grafting. I tend not to do that because it's another scar somewhere else, and when you transplant skin from one part of the body to another, it doesn't always heal with the same pigmentation that it had before. This is a really nice icing on the cake, finishing touch. I always recommend doing this, and 100 percent of my patients go through with their second stage. Question?

WOMAN:
I have a couple of quick questions. One is do you ever do the sort of …

KAREN M. HORTON, MD, MSc, FRCSC:
No.

WOMAN:
No? Okay. Is there a reason for that? You just don't feel you need it because you could check the blood supply during the surgery?

KAREN M. HORTON, MD, MSc, FRCSC:
I think you're talking about the delay procedure, and that's not usually done in the DIEP flap. Sometimes it's done in a TRAM flap. Because the deep blood vessels are the prominent blood supply to this area, sometimes before a TRAM flap, which takes this blood supply, which is the less significant blood supply, some surgeons will go in and cut the deep vessels first, hoping that these blood vessels will dilate up. Again, I don't do the TRAM flap, and I don't do that procedure.

WOMAN:
My other question is what's the surgery time for a DIEP? Okay, we'll get to that. I'll retract the question.

KAREN M. HORTON, MD, MSc, FRCSC:
(Laughs) It's coming.

WOMAN:
The other question is the failure rate for the DIEPs. Is that something you'll go into as well?

KAREN M. HORTON, MD, MSc, FRCSC:
Yes, it's coming. For the sake of time, I think I'm going to finish this, and then why don't we have all of the questions at the end. I think it's great that this is interactive, but I know we're getting a little bit short on time.

This is how we do the nipple and the areola. How do we decide which donor site to use? As I mentioned, we usually use the abdomen. Why? It's usually in abundance, especially after having kids or just with regular weight gain. It has similar consistency to breast tissue. A breast is soft and squishy; so is abdominal skin and fat. As a bonus, you often get a tummy tuck, so it's usually a no-brainer. However, it may be unavailable for certain reasons.

A woman could have had a flap done before from the tummy, or she could have had a tummy tuck before, or she could have had liposuction before. Again, that's controversial. I have done a few DIEP flaps on women who had had liposuction before. It just depends on how much fat is still there. There could be insufficient tissue for the reconstructive needs, meaning there is a large breast and there is not very much fat there. In that case, we usually go to the inner-thigh flap.

The inner-thigh flap is usually available, meaning it's usually in abundance or you usually have enough tissue if you don't have enough tummy tissue. In my practice, this has replaced other types of reconstructions, like from the back or from the buttocks. There is a flap from the buttocks called the SGAP flap or the IGAP flap. It's usually the superior, "S," or inferior, "I," gluteal artery perforator. It's the same concept as the DIEP flap, except it's taken from the bum. I don't like that flap because it involves starting prone, meaning on your tummy, then flipping you over intraoperatively, then doing the mastectomy, then getting the blood vessels out. Meanwhile, the flap that you've taken is sitting on the back table with no blood supply.

Also, the quality and the consistency of buttock tissue, even if you have a squishy, jiggly butt, is firmer. It's not as soft and squishy, whereas abdominal and inner-thigh tissue is. Also, the DIEP flap is a tummy tuck. The inner-thigh flap is a thigh lift. There's no cosmetic surgery operation that takes a chunk out of the middle of your butt. (Laughter) The scarring and the resultant shape is not that good, so I don't do this. It's a good operation, and I've done a few, and it's just, technically, it literally is a pain in the butt. The blood vessels are really short, and I don't do it, but it is available as another line reconstruction.

The inner-thigh flap is also called the TUG flap. I don't like the name "TUG," but it stands for transverse upper gracilis. "TUG flap" is easier to say than "inner-thigh flap." It's a crescentic flap that takes skin, fat and some of the underlying muscle. Now, I've talked a lot about not sacrificing major muscles. I need to explain why we need to take a little bit of muscle in this case, and it's the same distribution as a cosmetic thigh lift. In this case, a portion of the gracilis muscle is taken together with the tissue, and it's taken for a couple of reasons. One reason is that the perforators, the anatomy of the blood vessels that travel through the muscle, are not reliable, whereas in the DIEP flap, I never have to take a bit of muscle, because the perforators are always there, and they're reliable, and they're big, and we can count on them.

Anatomic studies, both live studies and cadaver studies, where they inject the blood vessels and look at them afterward through an X-ray, have shown that the blood vessels are not reliable, and it's not safe just to take blood vessels. You have to take a piece of muscle to ensure that you get all the blood vessels that travel to the tissue.

Also, the gracilis muscle is a tiny little strap muscle. The only species that uses it is a cheetah.

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Humans don't need this. You have your adductor longus, your adductor magnus – that's the machine at the gym where your thighs go toward the center. The gracilis is only 3 to 4 centimeters in width, and you can sacrifice it. We sacrifice it all the time. We take the gracilis muscle as an innervated muscle transplant if someone has facial paralysis. We take the whole gracilis muscle, transplant it to the face and hook up the nerve under the microscope to achieve a smile. If someone has lost the ability to flex or extend or has a wound around the ankle, and if we can't fix it any other way, we transplant the gracilis muscle with the nerve to restore function.

We know that if we take the whole muscle, you never miss it. In this case, we take a piece of the muscle. I hope I've explained why we need to take it and why it's okay just to take a little bit. There is no functional consequence to gracilis muscle harvest, and in this case we only take a little bit to ensure a good blood supply.

Here we take the flap, and what's really cool is that because it's a crescent, we can cone it, and it makes a really nice breast shape. In this case, we do all the same steps: hook up the blood vessels under the microscope, remove much of the skin, bury it underneath the flap. What it is even cooler is when we take the flap and cone it, we create what's called a standing cone. If any of you have had surgery before, the little corners or dog ears at the end of your incision are annoying, or corners or dog ears here. We use this dog ear to make a nipple, so it's a one-stage reconstruction. We can make a nipple and an areola right away. Because the skin of the inner-thigh area is pigmented a little bit darker, we often don't need to tattoo afterward, so it's really cool. We do a layered closure of the donor site, and you get a scar that is visible in a bathing suit or underwear, but not in short shorts or a tennis skirt, similar to a thigh lift.

Advantages of the TUG flap: There's really good flap projection; there's good flap volume. There's no functional consequence of taking part of the gracilis muscle. You get the benefit of a thigh lift. You are lying flat throughout surgery, so we can operate with two teams. The breast surgeon is up here. I'm down in the thigh area with my microsurgical partner, then we can tag team. So it's two-team reconstruction, and the scar position and the quality are favorable and often hidden, but not all the time hidden.

Preoperatively: no smoking, period. You need to quit smoking if you're a smoker. I will operate on smokers if I have to, but I prefer that you have quit for at least six weeks. Good nutrition, stable weight. At least six weeks after chemo, at least six months after radiation. As I've mentioned, it's okay to do a flap before radiation. Based on my experience in Canada where we would do it all the time, we know that if you radiate a flap, it might shrink a little bit and it can shrink up to 20 percent. If we know there's going to be radiation, we often make the flap about 20 percent bigger, knowing that it might shrink. If it doesn't shrink, we can always liposuction and decrease the volume, but it's usually about perfect.

In the hospital where I work, we have the luxury of an intensive care unit for monitoring of the flap circulation. All of our patients spend the first night in the ICU, not because they're sick, but because we have these microsurgical nurses who are one-on-one care to make sure there's good circulation to the flap. If there is going to be a problem with the microsurgery with the circulation, it usually happens in the first 24 hours. After the first night in the ICU, if everything looks and feels good, you transfer to the regular floor and continue your recovery.

You're up sitting, usually the night of surgery. You're up walking the next day, or day two for the slugs, and we get the steel-toed nurse out to get them out of bed. I want my patients up walking on day one. You shower while you're still in hospital with all of your drains in. There's usually a drain in the breast area and two drains in the abdominal area. You practice all of the activities in hospital that you're going to be doing when you're home, with nurses helping you, so that when you go home you know how to do everything.

My patients are usually in the hospital three to five days, and they go home when they're bored, when they're like, "Okay, yeah, I can do this at home." As I've mentioned, they go home with the drains in the donor site usually. The breast drains are usually out. They go home on a couple of Vicodin a day, a couple of days of antibiotics, and they're good to go. It's just healing after that.

What are the risks and complications? To answer your question about how long this takes: for one side, usually three to five hours, two sides six to ten hours. It's a relatively long surgery. My surgical times are a bit shorter than some others because I have a great microsurgical partner, and we do this one to three times a week. Everybody in the hospital knows what we're doing, and it's almost like clockwork, so our times are low. Every person is different; the anatomy could be different. So if you had this surgery and your surgery was six hours for one side, it doesn't mean anything went wrong; it just means your anatomy was a little different.

The main risk of being under anesthesia for that long is blood clots in the legs. To prevent that, we have you wearing the tight white T.E.D. stockings, compression hose, and the pumps on the legs. That keeps the blood circulating while you're asleep. They're on you before you go to sleep, during the whole operation, when you wake up and until you're up walking around three or five times a day. None of my patients has ever had a blood clot.

Risk of infection is also very low. Risk of bleeding, having a hematoma, which is blood collection underneath the skin, or needing a blood transfusion are all very rare – less than 1 percent. Most of the blood loss is from the mastectomy, and that's surgeon-dependent. For three or four surgeons I work with, if patients ask, "Do I need to donate my own blood ahead of time?" I say no. There's one surgeon I would say, "Donate your own blood ahead of time." It's surgeon-dependent, meaning the general surgeon. We don't lose as much blood at all, because we're doing everything under the microscope or our microscope glasses, and every blood vessel we come across, we either save or clip very delicately. We don't lose a lot of blood.

We've talked a little about what's the major risk. The worst thing that could happen is a problem with the circulation to the flap. In my practice, the risk of that happening is 1 to 2 percent. It's never zero. In the literature, it's probably 5 to 10 percent. If there is a problem with the circulation to the flap, meaning a clot forms in either the artery or the vein, there's problems with blood getting to the flap or problems with blood draining the flap.

If that were to happen, we would detect it right away, because we have a number of monitoring techniques. Our nurses are great at clinical monitoring, meaning they can look at a flap and see what's happening. But we also have some internal monitors that measure the blood flow. Those monitors are working until you go home.

We would go back to the operating room as an emergency and see if we could fix the problem. Our save rate is around 80 to 90 percent. At last count, it was 260 of these flaps that I've done, and I've lost three flaps. It's horrible if that happens.

354 West Lancaster Avenue | Suite 224 | Haverford, PA 19041
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Fax: (610) 645-4573
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When you lose the flap, that means there's a problem with the circulation that you cannot fix and you need to take the flap away. That means we don't have a breast reconstruction. It's a bummer not only for the patient but for me, but we get through it together.

At that point, we have a number of decisions we can make. We usually take a little break, take a couple of days. We can either take a break permanently or try it again another day. We can do a different flap, like the inner-thigh flap, or we can put in an implant to hold the space, either temporarily or permanently. As I mentioned, problems don't happen often, but they can happen. Sometimes it's just a fluke, or sometimes there is a blood-clotting disorder that we didn't know about beforehand, and we work women up for that. That's sort of the worst thing that can happen, but it's never a threat to your life, and it's never a threat to your health. It's just a bummer if that were to happen.

Delayed healing, if you're a smoker, diabetic or recently recovering from chemo or radiation, and scars: Scars are genetic. I will show you some pictures of nice scars, and I'll show you some pictures of horrible scars. If you're the type of person who scratches your arm and forms a big scar, you're probably going to form big scars everywhere. That's genetic, unfortunately.

The drains come out when they're putting out less than 30 cc in 24 hours, which is pretty standard. The breast drains are usually out before you go home. The abdominal or the thigh drains are usually in for one or two weeks. If you're the person who has a lot of fat, you make a lot of fluid. Women who have really big bellies or really big inner thighs, I warn them, "Your drains might be in for three or four weeks." That's just a function of how much fluid you make.

I see my patients regularly, and as I mentioned, I see a lot of women from out of town. For women who are traveling from another state, I encourage them to stay in San Francisco for two weeks total. We keep them in hospital for the first five days, or longer sometimes, so they don't have to pay for a hotel. There is a hotel that is affiliated with our hospital that has pretty good rates. Two weeks in town, and they usually come back and see me at about three months or so for their next stage.

At six weeks, you can go back and do whatever you want physically. If you want to start training for a marathon or go back to the gym or a climb a mountain, you can do that at six weeks. Many of my patients have confided in me later that they started yoga and Pilates at three or four weeks, and that's fine. They were fine. A lot of postoperative recovery is common sense. If it doesn't hurt and you think you can do it, try it. At six weeks, you can do whatever you want.

Then, the second-stage procedure – nipple and areola reconstruction and any other finishing touches we might need to do – is an outpatient procedure, meaning in and out the same day. We usually do that at three to six months. The reason we like to wait that long is we want the flap to assume its natural droop, its shape, gravity that's involved, before we decide where we're going to put the nipple.

Pictures, and then questions at the end. Here is a lady who needs one mastectomy and reconstruction. These are her favorite underwear, so to answer the question about how do you design it: We can do a designer scar often. She said, "These are my favorite underwear. I wear them every single day. All my swimsuits are cut the same way. Can you please hide the scar in my underwear?" She actually brought her underwear with her to the preop holding area, and I did the markings with her in her underwear, and we successfully achieved the scar in the underwear.

Here is after her first stage. This is an immediate reconstruction, skin-sparing mastectomy. There is a little patch of skin showing from her belly where the nipple and the areola was, and here she is after her nipple and her areola reconstruction. The scar is completely covered by the nipple and the areola tattoo. She has her scar around her belly, a scar from hip to hip. She is tanning, and I tell all my patients to please stay out of the sun or wear sunblock on your scars if you're a tanner. Scars, when they're healing, pick up more sun, and the melanocytes, the pigment cells, want to make more pigment, so her scars are darker and she doesn't really care. Anyway, she looks great. This is a great reconstruction, and we didn't need to do anything to her other breast.

This is a delayed reconstruction. This lady is in her early 70s. There is no age limit for this procedure. As long as you're fit enough to undergo surgery, you're fit enough to have this reconstruction. You see the difference. She's had a mastectomy, radiation, chemo. You see the tissue is contracted. She has hyperpigmentation; it's darker. In this case, we have transplanted skin and fat, and we've created a breast mound. Here's her mastectomy scar, but we've removed all this skin below. We've done a nipple and an areola reconstruction.

This is something I usually like to touch up at the second stage. She doesn't care, but this scar is a little stretched out. She has these little corners, dog ears, which are really common. These are the types of things that I usually recommend doing at a second stage, little touchups. She doesn't care. She's on the beach, she's wearing her bikini, and she's happy. She didn't want any other surgery. This is an example of a delayed reconstruction; I hope you can appreciate the difference between the two.

This is another delayed reconstruction. It's six weeks. I show all my potential patients pictures of scars when they're healing: big, bright-red scars. Her drains have just come out. The drains in the abdominal area come out in the pubic hair area. You can see the difference between radiated skin and flap skin. She makes big, red scars, and we knew that beforehand based on her other scars. Already, in a bra, she has symmetry. You can see how the nipple and areola reconstruction is really going to be icing on the cake.

We do all different shapes and sizes. This is a lady who's had three kids. She has a humongous abdominal pannus, as we call it when it's overhanging. She has had one mastectomy, and she chose to have another mastectomy. We've done one delayed reconstruction and one immediate reconstruction. She has kind of funny-shaped breasts to begin with, and we haven't changed the shape of the breast. We have just changed what the breast skin is filled with. But you can see, even for somebody big like this, we can get the scar hidden down low.

She was very proud of this picture. She asked me to take a picture of it, and I said, "Sure, as long as I can use it to show." You see what a difference the abdominal donor site can be for some women. She didn't even hear about her breast reconstruction; she's so happy with her tummy. (Laughter) She hasn't come back. She's from Ireland, so she hasn't come back yet for her nipple reconstruction. She's just enjoying going to the beach in Ireland.

This is a lady who had an implant in before and it failed. It got infected. It had to come out. This lady is in her 60s. She stands like this because she has a hip replacement on one side. Anyway, this is to show that we can do a flap later. We've changed her reconstruction from the implant, which had been deflated and removed. In this case,

we made the reconstruction a bit bigger, and we did a bit of a lift on this side. The reason for that is she wasn't sure how big she wanted to be. She sort of hemmed and hawed about it, so we made the flap bigger.

Subsequently she said, "No, I actually think I want to be a little bit smaller." So we did a bit of liposuction to debulk this side. You can see what the donor site can achieve. Most women, when we review their pre- and postop photos, they're like, "Oh, my God. I don't remember looking like that." (Laughter) She's also very happy, almost more happy, with her tummy.

This is a lady who makes bad scars. She had a really big mastectomy scar that four years later was still red and itchy. We knew we were going to have some scarring issues with her. Here she is. We did a delayed reconstruction. We've done her nipple and her areola reconstruction, and the scars are still red. This is something we can't control, but in her we at least anticipated it. You can also see that the results with the abdomen are amazing. She had the internal corseting stitches done. We did the full tummy tuck on her. She asked about it; she was a good candidate for it because she'd had four children. She had a lot of separation of her rectus muscles, so we did the full tummy tuck on her, and you can see what a great effect it is.

This is another lady who's had one immediate reconstruction and one delayed reconstruction. We also did the tummy tuck closure on her. She also makes big scars. This is a lady who has a submuscular tissue expander in. You can see what I mean when it's completely under the muscle. It's constricted in all areas. She had this tissue expander inserted 11 years ago, and she never went back to have it replaced because, she said, "Well, if this is it, why do I want anymore surgery?" She found me and said, "Is it possible for you to take this out and replace it with a flap?" I said, "Of course." Her goal was to match the other side, and you can see the difference.

We've taken the tissue expander out. We've lifted up the muscle; we've put it back down. We've re-created her anatomy, and we have made a breast reconstruction that matches the other side. We often leave a little skin patch like this because we're going to use this tissue later to make a nipple and an areola, but also sometimes we need to leave a little patch to expand the area. She was very constricted, so we need to make sure there's enough space. She's also in her late 60s, and the main difference – we were talking before about whether you can take the expander out. When we put the muscle back down, here she is contracting her pectoralis muscles. Before and after, she's contracted her pectoralis muscles, and she's lost that mobility. She's lost her party trick. (Laughter) She says she can't do it anymore.

Sometimes we incorporate a breast reduction into it. This is a 32-year-old lady who chose to have bilateral prophylactic mastectomies, bilateral DIEP flaps. She wanted a breast reduction, so we incorporated a breast reduction into that, so her breasts are smaller. She's all but eliminated her breast cancer risk.

As I mentioned, sometimes we do a flap, then we radiate it, then it shrinks by 20 percent and it's perfect. Here's a lady before her nipple reconstruction, a lady who knew she needed radiation and chose to have the flap first. If you look closely, the flap is a little bigger than the other side, and we anticipated shrinkage. She had really bad radiation burns. She did really well.

And the inner-thigh flap: Here's another lady, BRCA positive, who chose to have bilateral prophylactic mastectomies, and here she is with her inner-thigh flaps. We've done an immediate nipple and areola reconstruction, and because the tissue is pigmented a little bit darker from the inner-thigh area, she has her nipple and her areola reconstruction done at the same time. Here she is at six weeks.

Here's another lady who had bilateral prophylactic mastectomies and the inner-thigh flap. Again, some people make big scars. She makes big scars. You can see she didn't really need the thigh lift, but her inner thighs are never going to touch again. She wears the little skinny jeans, and she's really happy as well. You can see she didn't have enough abdominal tissue, and that's why we used her inner-thigh tissue. Here are the scars from the front. These are scars at two months, so they're still red; they're still healing. We used to take the drains out down here, but now we take them out up here, so we don't have this extra little drain site anymore. From behind, you can barely see them.

In summary, you all know about breast cancer. I don't need to tell you about breast cancer. We've talked about why breast reconstruction is important, and these are some of the latest advances in breast reconstruction. Not all plastic surgeons offer all of these. Some of the other techniques we've talked about are not bad techniques, but in my practice I choose not to do them. That doesn't mean they're lesser types of reconstructions. As I mentioned, breast reconstruction can be a positive experience. My goal is to just give back and to try to make this somewhat enjoyable for you, and often we can achieve other goals at the same time, in terms of aesthetic goals.

Breast reconstruction is an individualized procedure. There is no one procedure that's right for everyone. Everybody has a different situation in terms of their cancer treatment. Everybody has a different body, different body habitus, different aesthetic goals about what they would like to achieve. The right reconstruction takes into account all of those factors.

I just want to say thank you for having me here. These are some pictures from last night. I had a chance to go out with some of the people here. (Applause) We had a good time – and some people had a really good time. (Laughter) Sorry. We had to put it in. My e-mail, and I encourage everyone to take it down, is khorton@womensplasticsurgery.com. Contact me directly. Come to San Francisco. I would love to see any or all of you. I take all of the insurances. Find a caregiver who takes your insurance; there are going to be some. This should not be a huge out-of-pocket expense for you. I'm here as your resource, regardless of whether you want to come to California. I'm happy to answer questions anytime. Thank you very much.

WOMAN:

Sorry, this is sort of like a list of questions. The first two – I'm curious – are for our audience. Number one is how many women here have already had reconstruction? I want to see hands now. How many women already have a reconstruction? Leave your hands up. How many like it, like yours? Because I'm trying to evaluate whether I should do it. (Laughter) You like yours? It looks like it's a very low percentage.

The next three questions are for you. The first one, is do you have women for whom you absolutely do not do reconstruction, which means there's a high risk of recurrence, cancer? The second one is, after reconstruction, do you have patients who never have to wear a bra again or they still wear a bra? The third one is the waiting period. How long after your complete radiation, like, say, five, six or even ten years, can you do reconstruction? Is there an expire limit of how long a woman can wait? Thank you.

KAREN M. HORTON, MD, MSc, FRCSC:

Last question first: There's no limits. In my practice, I like to wait at least six months after radiation, but you can have reconstruction 50 years later. There's no limit. Who do I not want to operate on? I don't want to operate on smokers if I don't have to. If reconstruction is elective, meaning if it's delayed or if it can wait, I like patients to quit smoking for six weeks. I always tell them I'm going to test their urine for cotinine, which is a breakdown product of nicotine. Nicotine is the culprit, so that means no nicotine patch, no nicotine gum. You have to quit cold turkey, and there are some medications that can help with cravings.

I don't want to operate on smokers, and I don't want to operate on people who are too sick to undergo surgery. That can mean someone who has recently had a heart attack, or someone with really poorly controlled diabetes or really poorly controlled blood pressure. Someone who is not taking care of her health. If she's not going to take care of her own body and if she's not safe to undergo surgery, it's risky. In terms of someone who has a really bad cancer, someone who has metastatic cancer, if she wants a breast reconstruction and is healthy enough to undergo surgery, I've done lots of breast reconstructions on women who unfortunately pass away a couple of years later. But they have a breast reconstruction while they're still alive; it's important for their quality of life.

Your other question, what was the second one? Oh, a bra. You don't have to wear a bra if you don't want to wear a bra. A lot of my women never want to wear a bra again. Cool. We have postop bras that are really comfortable. They're called sleeper bras. We offer them to patients afterward when they're healing, if you need a little pad or if you need any type of dressing while you're healing. It's sometimes nice; you don't need any tape.

But a lot of my women never wear a bra, and I have this one patient who's really funny. The lady I showed you who had bilateral prophylactic mastectomies and the breast reduction incorporated, we did her nipple reconstructions, and she loves her nipples so much, she's a little bit odd about it. She will order pizza and answer the door in a little tank top and just watch the guy staring at her nipples. (Laughter) She's so proud of her nipples. Next time she comes to the office, I'm getting a picture of her in her tank top. So, no, bras are completely optional.

WOMAN:

I've been told that I'm definitely not a candidate for any kind of flap, although I plan on coming to see you to find out more, but I have a question about an implant. Did I understand correctly that you do implants on top of the muscle?

KAREN M. HORTON, MD, MSc, FRCSC:

Correct.

WOMAN:

Even in the case of a delayed, where you're going to have to stretch the skin?

KAREN M. HORTON, MD, MSc, FRCSC:

For delayed reconstruction, we usually do a flap.

WOMAN:

So, if somebody is not a candidate for a flap, possibly, of any kind.

KAREN M. HORTON, MD, MSc, FRCSC:

Almost everyone is a candidate for a flap. You may not have a lot of tissue. In that case, if you only have a little bit of tissue, and if you want a little bit more projection, sometimes we'll do a flap to get a bit of padding and put a little postoperatively adjustable implant under the flap. Then, about two weeks after surgery, we expand until you say "good." We often do a flap and an implant at the same time – if we know we need padding and skin and we don't want to undergo a period of tissue expansion, and we have an implant that will just project the flap forward like a breast augmentation.

WOMAN:

An expandable implant?

KAREN M. HORTON, MD, MSc, FRCSC:

Yeah, a postoperatively adjustable but permanent implant.

WOMAN:

I also want to clarify, in the case where you do flaps, you're pretty much a DIEP, SIEA. That's pretty much what you're doing, just that, most of the time, when you are doing a flap?

KAREN M. HORTON, MD, MSc, FRCSC:

Yeah. Mm-hm.

WOMAN:

Okay, thanks.

WOMAN:

I wanted to thank you, because there are not many plastic surgeons doing the perforator flaps. When I went to go get reconstruction, I was told I was going to get expanders and implants and nobody else did it. I keep researching, and you didn't pop up when I researched and asked about insurance. I went down to New Orleans, and there is a group down there.

KAREN M. HORTON, MD, MSc, FRCSC:

Mm-hm. Yeah, I know them.

WOMAN:

I ended up getting a GAP flap.

KAREN M. HORTON, MD, MSc, FRCSC:

I didn't mean to say the GAP flap is bad.

WOMAN:

Yeah, I mean, I love it. I absolutely love it. I actually had a little bit of a deficiency, so I actually have a DIEP flap, too. I have them both to compare.

KAREN M. HORTON, MD, MSc, FRCSC:

Wow.

WOMAN:

But thank you very much.

KAREN M. HORTON, MD, MSc, FRCSC:

Thank you.

WOMAN:

They don't do the TUG, so I'm sure they would ...

KAREN M. HORTON, MD, MSc, FRCSC:

Although they've started. They did one.

WOMAN:

Did they?

KAREN M. HORTON, MD, MSc, FRCSC:

They're learning.

WOMAN:

I do know when they do the GAP flap, there is one surgeon who does the mastectomy, and they don't lay the GAP aside. Literally two surgeons do it, and then they do it at the same time.

KAREN M. HORTON, MD, MSc, FRCSC:
Yeah, they're starting to do it in the lateral position.

WOMAN:
But thank you very much.

KAREN M. HORTON, MD, MSc, FRCSC:
That's great.

WOMAN:
Thank you for doing it.

KAREN M. HORTON, MD, MSc, FRCSC:
Thanks for sharing your experience.

WOMAN:
I'm in a minority with my YSC group as far as your surgical option to get rid of your cancer, lumpectomy/radiation. I did a lot of research. I didn't realize that I wouldn't be as thrilled, so to speak, with the result from my lumpectomy. So, now that I'm exploring my reconstruction options. I really would like an implant. There aren't that many people who are doing it. A lot of doctors don't even want to touch you with a ten-foot pole.

But the women who have had radiation with a lumpectomy or even with a mastectomy, there really hasn't been the failure, so I'm not sure why it's – I mean, I understand all of the reasonings with the capsular contracture and if the body is going to reject it. But I'm not seeing that in the percentage, even though it's a small percentage, of women who have actually found a surgeon to do that. I hate the fact, because I really don't want to do a flap, that if I recur, that might be one of my only options later on. I don't like that, and I also don't like the fact that I'm kind of just supposed to suck it up, the fact that my boob is totally messed up now, and that I can't do that because nobody wants to.

KAREN M. HORTON, MD, MSc, FRCSC:
I do that operation all the time. One thing I didn't talk about is breast reconstruction after a lumpectomy. We've only talked about mastectomies. I do reconstruction after lumpectomies all the time. If you've had a lumpectomy and radiation, and if you have a significant amount of breast tissue, sure, we can put an implant underneath that. It's different from having all of your tissue contracted down on your chest wall.

I do reconstruction after lumpectomy all the time. Sometimes we do a breast reduction. Sometimes we do a lift to rearrange things so that it looks better, a balancing operation on the other side. Sometimes we put an implant in. There is a slightly increased risk of capsular contracture, infection, all that, but as long as we don't need to stretch the tissue very much, most women do fine. I do those reconstructions all the time.

WOMAN:
Now, if you had sagging ...

KAREN M. HORTON, MD, MSc, FRCSC:
We do a lift.

WOMAN:
Because I'm a 34D, and I've been sagging since I started getting my breasts, lucky me. For me, not being a medical expert, I don't think I would need to be expanded. Is that true?

KAREN M. HORTON, MD, MSc, FRCSC:
Probably not.

WOMAN:
Like if you were sagging and you got –

KAREN M. HORTON, MD, MSc, FRCSC:
You might just benefit from a lift on both sides.

WOMAN:
But all the scarring and all of that, and then it still doesn't fill in the big divot that you have in your breast.

KAREN M. HORTON, MD, MSc, FRCSC:
Sometimes just rearranging the breast tissue can take care of that. If you're happy with the way you fill out a bra, meaning you can rearrange yourself in a bra and you're happy with the volume, then you don't need an implant. If, in a bra, you still want a little bit more projection, then we would want to do a lift, rearrange the tissue, but put a small implant in to project things forward to give you a little bit more volume.

WOMAN:
Okay, thanks.

KAREN M. HORTON, MD, MSc, FRCSC:
It sounds like either one could be an option for you.

WOMAN:
Where is the best place to look for a microsurgeon? Do you have a Web site, or do you recommend anyone? Because coming to San Francisco is not an option for me.

KAREN M. HORTON, MD, MSc, FRCSC:
Where are you?

WOMAN:
Portland, Oregon.

KAREN M. HORTON, MD, MSc, FRCSC:
I've operated on ten women from Portland. There's nobody in Portland, so they come to San Francisco.

WOMAN:
I can't afford it, so I'm just trying to find the best place to look.

KAREN M. HORTON, MD, MSc, FRCSC:
There are options. The American Cancer Society has funds to assist. I can't tell you any more about that; I don't know about it. But come see me afterward. I have a name and a phone number of one of my Portland patients who got assistance financially, and she's not allowed to talk about it to me, but she might tell you. She came for a DIEP, and she did really well. Her name is Diane. I'll give you her number.

WOMAN:
Thank you.

WOMAN:
Hi, thank you. This is one of the best workshops I've been at this weekend.

KAREN M. HORTON, MD, MSc, FRCSC:
Thank you. (Applause) . . . I'm sorry we went late, but I'm not that sorry, because, as I said, I'm here for you guys. I flew from Hawaii, by the way. I was on vacation. I came from Hawaii; that's why I'm so tanned. I cut my vacation short. My husband is not very happy about that, but he's back in San Francisco. I'm here for you.

WOMAN:
I have three questions. I was wondering if you could comment on the implants, the gummy, 410s, that are being studied, and the difference between those and what's available.

KAREN M. HORTON, MD, MSc, FRCSC:

The gummy bear implant is a product that has been available in Europe and Canada. I've used it in Canada. It's called the gummy bear implant because it's a silicone gel, but it's a little bit more cohesive, meaning there's less water in it. Whereas a silicone gel flows – it's sort of a corn syrup consistency – the gummy bear implant is just like a gummy bear. If you were to cut a gummy bear in half, you'd have a head here and a tail here – the same thing with a gummy bear implant.

It's firmer, it tends to be shaped, often, and it's often textured. When you put it in, texturing an implant causes scar tissue to adhere to it, so it doesn't move, and the shape creates a breast reconstruction. However, it also doesn't move, regardless of where your body position is, and it's firmer. Personally, I'm not that crazy about them, and I've used them.

For some women, you need them. For women who are very, very thin, or who don't have a lot of padding, for whatever reason, you don't have to stick a sphere on their chest. You want something with a little more shape. For women who have congenital deformities, like Poland syndrome – there are other types of reconstructions that I do – I specifically want to use that implant because of its properties. For most reconstructions, I choose not to use it. It's not really on the market right now; it's coming. Based on my experience, it's a bit too firm. It can also rotate.

WOMAN:

I've heard mixed reviews. Thank you. The other question is how does weight gain and weight loss affect either kind of surgery, implants or flaps?

KAREN M. HORTON, MD, MSc, FRCSC:

Good question. Many people say, "Oh, well, I always gain weight in my breasts," or, "I always gain weight in my tummy." Not really. You tend to gain and lose it everywhere. Some women are worried, "Oh, if I have the DIEP flap, and if I gain weight in my tummy, am I going to have a humongous breast?" No. It tends to be everywhere. If you have significant weight gain and weight loss, your entire body shape will change, but it doesn't usually make a big difference.

WOMAN:

I've been losing weight and wondering if I should continue to lose it before I have my surgeries.

KAREN M. HORTON, MD, MSc, FRCSC:

I tell my patients that as long as you are at a place where you feel comfortable undergoing surgery, meaning you feel that your weight is stable, and it usually is, then it's safe. I never tell patients they need to lose weight. I never tell patients they need to gain weight, because most people's bodies have a set point, meaning regardless of how much you diet or exercise, whether you're trying to gain or lose, your body kind of wants to be at a certain weight. Usually, that's where people are at.

WOMAN:

I've lost 30 pounds, and I'd like to lose another 20. I'm still moving along.

KAREN M. HORTON, MD, MSc, FRCSC:

If you think that's a goal you're going to achieve in a time that goes with when you want to have your reconstruction, by all means, go for it.

WOMAN:

I'm an eight-year survivor.

KAREN M. HORTON, MD, MSc, FRCSC:

Congratulations.

WOMAN:

Yay! (Laughs) I just found out last year I have the BRCA, so these are going to be prophylactic, and I've always had huge breasts, and I'm very thrilled to be much smaller.

KAREN M. HORTON, MD, MSc, FRCSC:

If you think that's a goal you're going to achieve, if your reconstruction is elective and you can fit it in with what works for you, go for it.

WOMAN:

Maybe just wait a little longer.

KAREN M. HORTON, MD, MSc, FRCSC:

You have to do reconstruction at a time that feels right for you.

WOMAN:

I'm nervous now that I have this BRCA thing, but I have had my little girls out.

KAREN M. HORTON, MD, MSc, FRCSC:

As long as you're having monitoring.

WOMAN:

Yeah. My other question – and if this is too personally based, you can redirect me and I can talk to you later. I'm eight years out. I get the BRCA diagnosis. I've seen four plastic surgeons who all say different things.

KAREN M. HORTON, MD, MSc, FRCSC:

That's because there's no right answer.

WOMAN:

Some of them don't really know a lot about breast reconstruction, to be quite honest.

KAREN M. HORTON, MD, MSc, FRCSC:

You should see somebody who does.

WOMAN:

Yeah, I found two who did. Even though I was radiated, they felt I could do the implants.

KAREN M. HORTON, MD, MSc, FRCSC:

Yeah, probably.

WOMAN:

Eight years out.

KAREN M. HORTON, MD, MSc, FRCSC:

If you don't need to stretch the skin.

WOMAN:

But we want to remove the skin because of the BRCA, so they were saying I couldn't do skin sparing.

KAREN M. HORTON, MD, MSc, FRCSC:

I disagree with that. I think you should see a surgical oncologist who's very experienced with breast reconstruction, who knows about breast reconstruction, and also BRCA.

WOMAN:

I live in Colorado, and there is nobody who does any of the flaps.

KAREN M. HORTON, MD, MSc, FRCSC:

I have patients from Colorado who come to San Francisco.

WOMAN:

My other concern that they're telling me about the flap procedures is that I also have multiple sclerosis.

KAREN M. HORTON, MD, MSc, FRCSC:
It doesn't matter, as long as it's not flaring at the time of surgery. I have operated on five women with MS.

WOMAN:
They said, "You don't want to be under anesthesia that long."

KAREN M. HORTON, MD, MSc, FRCSC:
I disagree, but you would have to clear that with your neurologist and make sure that they feel it's safe for you to undergo surgery.

WOMAN:
What about cholesterol levels?

KAREN M. HORTON, MD, MSc, FRCSC:
It should be well controlled.

WOMAN:
Does that affect your –

KAREN M. HORTON, MD, MSc, FRCSC:
Good question. If you have high cholesterol, it doesn't increase the risk of clotting. If you have had multiple miscarriages, blood clots in your legs before or problems with blood clotting, you should probably see a hematologist to make sure you don't have a blood clotting disorder. Usually, women know that. That's the only thing that –

WOMAN:
Somebody said to me, "Your veins would have too much fat in them and you would fail."

KAREN M. HORTON, MD, MSc, FRCSC:
No.

WOMAN:
Not necessarily?

KAREN M. HORTON, MD, MSc, FRCSC:
Not related.

WOMAN:
Great.

KAREN M. HORTON, MD, MSc, FRCSC:
But good question.

WOMAN:
Thank you very much.

KAREN M. HORTON, MD, MSc, FRCSC:
Thank you.

WOMAN:
Hi, I had a right-side mastectomy. I want to have the double DIEP procedure. If I do the nipple sparing in my remaining breast, do you think that would be a good idea because they could match it? How well can you match an existing nipple rather than just having two new ones thrown on?

KAREN M. HORTON, MD, MSc, FRCSC:
We can't match nipples really, really well. Whether you're a candidate for nipple sparing – one thing I didn't mention – also depends on the size and shape of the breast. If your nipples are pointing toward the floor, that's probably too long of a distance. We can do a nipple-sparing mastectomy if there is not a lot of droop to the breast. If you have a lot of droop, if we're going to want to tuck the skin to make a smaller and more projecting breast mound, sometimes we have to remove the nipple and the areola. We can make nipples and areolas that look very, very good and very similar to the other side. It really depends on your breast size and shape whether that's reasonable to do.

WOMAN:
Thank you.

KAREN M. HORTON, MD, MSc, FRCSC:
I'd have to examine you.

WOMAN:
I won't make you do that.

WOMAN:
Hi, I do have factor V Leiden deficiency. We found out about two years ago that I have a clotting disorder. I've never had a clot, and I'm heterozygous, which is, my vascular guy says, about 4, 3 percent risk.

KAREN M. HORTON, MD, MSc, FRCSC:
You have one gene; you don't have both genes?

WOMAN:
Right. He said that from his standpoint, as long as I was put on Lovenox after surgery for about five days, he was fine with having the DIEP done. I'm meeting with a microsurgeon Friday in Cleveland.

KAREN M. HORTON, MD, MSc, FRCSC:
Oh, great. Who are you seeing?

WOMAN:
Dr. Bernard. I haven't talked with him yet. I need to find out how many he's done. Have you ever done anybody like that?

KAREN M. HORTON, MD, MSc, FRCSC:
We have talked about doing one lady, and it was prophylactic, and at the last minute she decided she wasn't going to have the mastectomies. She was BRCA positive and also factor V Leiden. We talked to her about it at length. We had her see a hematologist. We were okay with it; she was okay with it. We all accepted that there was going to be increased risk. Then she decided she was going to wait. She was going to have her mastectomies before kids, and she decided to have children. I might see her again in the future. It's really rare, and I think you're doing all the right things.

WOMAN:
Yeah, because I am bilateral, so it will be a post – I'm already done, delayed.

KAREN M. HORTON, MD, MSc, FRCSC:
As long as you know what the risk is, go for it.

WOMAN:
And he said I've been on the pill for years.

KAREN M. HORTON, MD, MSc, FRCSC:
Nothing bad might happen.

WOMAN:
I had two children, been on the pill. I went through cancer. I had a port. He said, "All of those things, you would have had a clot already." The second question is: Is there a website where we can check out the qualifications of the microsurgeons in our area? I think we only have two or three in Cleveland.

KAREN M. HORTON, MD, MSc, FRCSC:
Good question. Somebody asked that before. There is the American Society of Reconstructive Microsurgery, ASRM [http://www.microsurg.org/index.html]. They list all of the members. Not all of the members do breast reconstruction, and not all microsurgeons

are members. So, no, we don't have a unified front yet. But you can e-mail me and I can tell you if I know the person you're thinking of seeing, because we all know each other. I can tell you whether they do lots or whether they don't.

WOMAN:

There's a DIEPsisters.com [http://diepsisters.com/].

KAREN M. HORTON, MD, MSc, FRCSC:

Yeah, there's diepsisters.com. That's a great site as well. Just Google "DIEP." Yeah, DIEP Sisters is a good site, and there are other forums, but you're welcome to contact me.

WOMAN:

They should have done at least over 100, correct?

KAREN M. HORTON, MD, MSc, FRCSC:

I think they need to do them regularly. Some people starting out may not have tons and tons, but they may be doing them often. You don't want to see somebody who's done four. You want to find out what their success rate is. Again, the success rate is never going to be 100 percent. I've had three failures. Failure means the flap, not the patient. Stuff happens; everybody is different.

WOMAN:

Thank you.

KAREN M. HORTON, MD, MSc, FRCSC:

By the way, I want to say that this is a great forum. I know everybody likes to ask their question one-on-one, but I think everybody is benefiting from this, so thank you for asking your questions in front of everyone.

WOMAN:

First I have to say, I think you're one of my favorite speakers of the entire weekend.

KAREN M. HORTON, MD, MSc, FRCSC:

Oh, thank you.

WOMAN:

My question has to do with the inner-thigh flap. I'll explain my situation, and then we can go from there. I was just diagnosed this summer with DCIS. It was 3 millimeters, not centimeters. Being so pale, fair skinned, the radiation, we discussed with various oncologists, it's okay that I skip out on that. I'm 41 and want to get pregnant. Everybody said go ahead and have the baby; you can do tamoxifen later. Great. That's the plan right now. I have had spider veins since my early 20s. They've gotten worse in the past couple of years. My husband, who's an endocrinologist, is like, "They're only going to get worse." So I'm holding off on –

KAREN M. HORTON, MD, MSc, FRCSC:

Spider veins?

WOMAN:

Spider.

KAREN M. HORTON, MD, MSc, FRCSC:

Spider veins or varicose veins?

WOMAN:

Spider, but there are a lot of them. I've seen them getting worse, and I've seen more come up. I'm like, "Hey, that's new." To me, it's annoying. I feel this tightness in here. I had seen a consultation and seen somebody about it. When you talk about the inner-thigh flap, I'm thinking, if I ever needed reconstruction, what would be my situation. A ton of spider veins: probably a non-event?

KAREN M. HORTON, MD, MSc, FRCSC:

Spider veins are little dilated blood vessels right underneath the skin. If you have very thin skin or if you have skin that the sun shines through easily, they can be more visible. They're completely unrelated. The tiny little blood vessels that are spider veins are completely unrelated to the blood vessels that we want to use for microsurgery, so it wouldn't make it better or worse.

WOMAN:

It's not an issue? Not an issue.

KAREN M. HORTON, MD, MSc, FRCSC:

It wouldn't affect it.

WOMAN:

Thank you.

WOMAN:

Hi, I have a few questions. Should I just kind of rattle them off?

KAREN M. HORTON, MD, MSc, FRCSC:

Why don't we do one at a time, because I won't remember.

WOMAN:

Do you have a preference of DIEP flap, thigh flap?

KAREN M. HORTON, MD, MSc, FRCSC:

It really depends on your body habitus. If you've got lots here, and you would like your tummy to be flatter, we should take that. I didn't show all my pictures. I have a lot of personal trainers who are buff and have rock-hard abs, but they have thighs. In them, it's a no-brainer. It really depends on how much tissue you have … what's your body fat distribution, how large a breast we want to reconstruct, and we go from there. Sometimes we have all of the options in the world. Then we decide together.

WOMAN:

I have consulted with a plastic surgeon. I live in Alaska.

KAREN M. HORTON, MD, MSc, FRCSC:

I have a patient from Alaska, too.

WOMAN:

You do? They don't do microsurgery in Alaska.

KAREN M. HORTON, MD, MSc, FRCSC:

No, no.

WOMAN:

She was talking about doing the DIEP flap and sending me to Seattle for that. She showed me a bunch of pictures and talked about different options. The thing she talked about was that my radiated skin is not going to stretch to the amount that I want. I have a double mastectomy. She talked about doing a DIEP flap and implants and showed pictures that kind of, for lack of a better description, looked like a quilt.

KAREN M. HORTON, MD, MSc, FRCSC:

I know exactly what you're talking about.

WOMAN:

It kind of looked like a patchwork. Is that as good as it's going to get if you don't have the skin –

KAREN M. HORTON, MD, MSc, FRCSC:

No. In that situation, as I explained and as I showed in some pictures, we usually remove much of the radiated skin and use the really nice, soft, healthy skin to make a breast reconstruction.

WOMAN:
And just replace the whole thing?

KAREN M. HORTON, MD, MSc, FRCSC:
That cushioning or that quilt appearance is when you try to stuff a big flap in contracted skin.

WOMAN:
And adding pieces of skin, it looked like.

KAREN M. HORTON, MD, MSc, FRCSC:
Yeah, that's sort of making stuff up. I don't do that.

WOMAN:
Silicone versus saline?

KAREN M. HORTON, MD, MSc, FRCSC:
Silicone is great. I love silicone implants. They're soft. They're smooth. They're safe. Oh, the other website I said I was going to mention that I forgot is breastimplantanswers.com [http://breastimplantanswers.com/]. There are two major implant companies: Mentor and Allergan. Breastimplantanswers.com was put forth by Allergan. The implant companies both have good implants. I really like that website because it tells you all about silicone, the science of silicone, the studies. Silicone is safe, but you can take my word for it, or you can read about it. I encourage all of my patients to do homework.

When someone comes to see me, I say, "Here is what I'm going to tell you, but I want you to research silicone," if that's what we're talking about. I always give my patients three names and phone numbers of some of my patients who have had that surgery, and I want them to talk to them. We have our own sort of internal network in my office of patients teaching each other what it was like for them. Look up more about silicone. I think silicone is great.

I didn't talk about silicone that much today, because when I do an immediate implant reconstruction, we have to use one that is adjustable. Only saline is adjustable. Silicone is a fixed volume, and you don't want to put in the full-size implant at the time of surgery, because when you close the skin, you don't want it to be under any tension. We want you to be a little bit deflated at the time of surgery, and then we continue inflating after surgery. But silicone is great. It's safe. It was only off the market for cosmetic breast augmentation. It has always been available for you, for breast cancer reconstruction.

WOMAN:
Why did it go off the market for cosmetics?

KAREN M. HORTON, MD, MSc, FRCSC:
Lawyers. The United States is a very litigious country.

WOMAN:
But it's [inaudible] that it's been safe?

KAREN M. HORTON, MD, MSc, FRCSC:
It is safe. At the time that the FDA took it off the market, it was because the implant companies, unfortunately, didn't have all of the numbers to prove that it's safe. They had to take a break, collect all of the numbers and then say, "Okay, here. Here's all the data." Then the FDA said, "Okay." It was never taken off the market in Europe. In Europe, 99 percent of women who have cosmetic breast augmentation have silicone. In Canada, it was only taken off the market sort of temporarily, but I used it during my whole training. Most women, about 85 percent, who have breast augmentation have silicone.

Reconstruction, again, is a different story. The implant that I talked a lot about – the postoperatively adjustable saline implant – in about 75 percent of my patients, once they achieve full size, we take those implants out and switch to silicone because it's just such an amazing product.

WOMAN:
So much better. One last question: I don't know that pregnancy is an option for me, like, I think, any of us. But if it is, and I were to have had a DIEP –

KAREN M. HORTON, MD, MSc, FRCSC:
You can get pregnant and nothing changes. Your scar might stretch a little bit.

WOMAN:
That's what I wondered about, the whole tummy tuck. Do you end up bulgy or –

KAREN M. HORTON, MD, MSc, FRCSC:
If you were planning on getting pregnant, and if we were going to do a DIEP flap on you, we probably wouldn't want to do the corseting. But you could have your kids, and then if you had stretching of your muscles, we could corset you later.

WOMAN:
Thank you so much.

KAREN M. HORTON, MD, MSc, FRCSC:
That's the only thing. About three or four of my patients have gotten pregnant after a DIEP flap.

WOMAN:
It's fine?

KAREN M. HORTON, MD, MSc, FRCSC:
Nothing changes. They have stretch marks afterward. Their scar might be a little bit stretched, but they would have had that anyway. It does not affect your ability to get pregnant.

WOMAN:
Thank you so much.

WOMAN:
Hi, I want to thank you for cutting your vacation short.

KAREN M. HORTON, MD, MSc, FRCSC:
Oh, you're welcome.

WOMAN:
And also for staying, for the amount that you are, because this truly has been far and away absolutely the best workshop that I've attended so far.

WOMAN:
Absolutely.

KAREN M. HORTON, MD, MSc, FRCSC:
Thank you.

WOMAN:
I will e-mail you to find out if there are surgeons who do your kind of work in my area, which is –

KAREN M. HORTON, MD, MSc, FRCSC:
Where are you?

WOMAN:

Columbus, Ohio. Not too many that I know of.

KAREN M. HORTON, MD, MSc, FRCSC:

Nobody off hand.

WOMAN:

I could go to Cleveland, possibly, but that would be the closest. My brother lives in San Francisco, however. Here's my real question: You mentioned before that you would want somebody to come and stay for two weeks.

KAREN M. HORTON, MD, MSc, FRCSC:

Two weeks total.

WOMAN:

For the whole procedure. What about the before consultation portion?

KAREN M. HORTON, MD, MSc, FRCSC:

Usually, patients fly in for a Friday consult, stay the weekend and see the sights or whatever. It's really interesting. People e-mail before and say, "Oh, [I've lived forever in] Alaska; I'm coming." Or Kansas, Atlanta. I have had a few women who just show up. I'm looking at their information and it says, like, Arkansas. I'm like, oh, my God, you just came from Arkansas. "Yeah, I just got off the plane." They just fly in for their consultation and leave. Let us know ahead of time, and we can arrange stuff for you as well.

WOMAN:

This may seem crazy, but would it be possible to combine the consultation and the next week do surgery? If I felt very, very confident about our relationship and –

KAREN M. HORTON, MD, MSc, FRCSC:

We need usually four to six weeks to square everything up with your insurance company. However, Mary Pasache is my patient coordinator. She's my boss, essentially. She organizes my life, and she's amazing. She does all of the preauthorization, all of the letters. We have to get Dr. Buntic's office involved, because he's my co-surgeon. She arranges everything, and she's currently coordinating with about three or four different women. I don't even know where they're from, but they're from a different state.

As long as we get everything approved on paper, it is possible to fly in, do your consult and then do surgery. If you want, I can give some names: one patient from Phoenix, another one from Alaska and another one from another city that we did that for.

WOMAN:

Is there anything in particular you recommend when I go home to e-mail you?

KAREN M. HORTON, MD, MSc, FRCSC:

E-mail me photos, the photos that you saw. Neck-down from the front with your hands resting on your bum. Quarter turn, full turn, quarter turn, full turn. Then inner thigh if we need to see that, too. That's all.

WOMAN:

Thank you.

WOMAN:

I almost didn't come to this presentation, because I had already been reconstructed and reconstructed a second time, but I've learned so much.

KAREN M. HORTON, MD, MSc, FRCSC:

Thank you.

WOMAN:

Your results are so far superior, and I live in New York. I did a prophylactic bilateral and did my original reconstruction at [Memorial] Sloan-Kettering [Cancer Center]. Then I did reconstruction two years later with what I thought was a very fantastic plastic surgeon, but seeing the results that you've achieved and the information you're giving everyone, it goes so far beyond the results that I saw from these doctors and the information. Thank you so much for coming. It's super.

KAREN M. HORTON, MD, MSc, FRCSC:

Thank you.

WOMAN:

My question for you – I have three very quick ones. Nationwide, what's the percentage of women who elect to reconstruct versus those who never reconstruct?

KAREN M. HORTON, MD, MSc, FRCSC:

It is very embarrassing to say, but fewer than 30 percent of women have reconstruction. [Editor's Note: Few statistics exist on how many women get breast reconstruction; estimates vary between 20 percent and 40 percent of women affected by breast cancer.]

WOMAN:

Thank you.

KAREN M. HORTON, MD, MSc, FRCSC:

It amazes me. This is just information; this is second-hand information. I went to a talk, and somebody else told me that. I was like, "What?" Of the women who come see me, 99 percent of them have reconstruction. Only a few women who come and learn say, "No, it's not really for me." They're usually women who are in their late 70s, and they just kind of wanted to know, and then they're okay with it. In the world, 30 percent have reconstruction. Why? I think a lot of it is that maybe they're not offered it. They're told, "You have to wait a year or two years," which is total B.S. Or access – they may live in an area where it's not available.

Of the women who have reconstruction, something like 80 to 85 percent have implants. Fewer than 1.3 percent have microsurgical reconstruction, which, again, blows my mind. Of all the women who come see me, it's probably 50/50: 50 percent microsurgery, 50 percent implants. Again, I can offer everything, which is great. It's sort of like a one-stop shop in our office. My other associates do reconstruction as well, but they generally only do implants or they do the TRAM; they don't do microsurgery. Now that I'm in the practice, they don't do the TRAM. All of the microsurgery comes to me. Again, in my practice it's about 50/50, because everybody has a different body type and different personal situation.

The good thing about having an implant for reconstruction is that you have all your options open, and for whatever reason, if you choose to have the implants removed, as long as you have enough donor tissue, you can always switch to a flap. For some women who have a really bad cancer and need their surgery, like, tomorrow, I can do an implant reconstruction tomorrow. I can't do a flap tomorrow. It takes a little bit longer, and there are insurance negotiations, and it's a lot of hassle to

organize a flap. So sometimes we'll do an implant, even though we know we kind of want to do a flap in the future, because she needs surgery right away because of her cancer. You have all your options, which is nice.

WOMAN:

That's great, because hearing what you said today makes me think, okay, super. There's still hope.

KAREN M. HORTON, MD, MSc, FRCSC:

I see a lot of women who come later, and they have their reconstruction changed to a different type.

WOMAN:

Great. You also mentioned aggressive massage technique. Is it possible to get that information or to e-mail you and receive that information so I can try to do that at home?

KAREN M. HORTON, MD, MSc, FRCSC:

Definitely. I think we have an area on our website [http://womensplasticsurgery.com/postop_massage.html]. We have a little video you can get from our website [or] . . . we have a DVD we can mail to you. You would just call my office, talk to whoever answers the phone. Say that you saw me and you'd really like the DVD on massage, and we can mail it to you.

Basically, you just massage the hell – you squeeze so hard that you want your fingers to touch. The implant goes way up here, falls down. We get you to roll on an exercise ball, you know those big exercise balls. Buy one. They're like $8. Buy the biggest one you can. Roll on it back and forth, side to side, using your whole body weight. We get women to do that forever. Five minutes a day, each side total. Some women do five minutes all at once at the end of the day when they're relaxed, after the bathtub or whatever. Some women do it every time they sit on the toilet. Some women do it in the car when they're driving. Some women do it if they're watching TV, every time the commercial goes on.

WOMAN:

You can do that even if the implant is under the pec muscle?

KAREN M. HORTON, MD, MSc, FRCSC:

Yes.

WOMAN:

Wow. Then is it possible to e-mail you more detailed, specific questions?

KAREN M. HORTON, MD, MSc, FRCSC:

Definitely.

WOMAN:

Thank you.

KAREN M. HORTON, MD, MSc, FRCSC:

Thank you.

WOMAN:

Hi. Have you heard of June Chen in Utah?

KAREN M. HORTON, MD, MSc, FRCSC:

Mm-hm.

WOMAN:

Do you know of any other microsurgeons also in Utah?

KAREN M. HORTON, MD, MSc, FRCSC:

There was Marga Massey, who left.

WOMAN:

Yes, people loved her.

KAREN M. HORTON, MD, MSc, FRCSC:

I believe June Chen is the only one there. Dr. Massey is sending me some patients from Utah, so I don't think so.

WOMAN:

Do you know, has June Chen done a lot of these procedures?

KAREN M. HORTON, MD, MSc, FRCSC:

She's starting to.

WOMAN:

Or is she kind of in the starting, beginner –

KAREN M. HORTON, MD, MSc, FRCSC:

She's starting to. I can't tell you how many, but she's definitely focusing her practice on it.

WOMAN:

My last question is: I had reconstruction years ago with an expander and then a permanent implant. At that time they did a nipple reconstruction, and it's terrible. They took the skin from the inner thigh, and it's too big. It's too high. I hate it. I'm wondering, is it possible to fix it?

KAREN M. HORTON, MD, MSc, FRCSC:

Yes, definitely.

WOMAN:

Is the only way to fix it to take all that tissue away and bring in new tissue?

KAREN M. HORTON, MD, MSc, FRCSC:

It depends how high it is. It's much easier to lift the nipple up than to lower it.

WOMAN:

So you'd have to lift my real breast to match?

KAREN M. HORTON, MD, MSc, FRCSC:

It depends. I would have to either examine you, or if you want to take a picture, you can e-mail it to me, and I can see. Sometimes we can modify. If an areola is too big, we can definitely make it smaller. If it's way too high, it's difficult to lower it. Sometimes we just scrap it and start fresh. Sometimes we can modify things.

WOMAN:

"Scrap it" means you'd cut it out and put new skin there?

KAREN M. HORTON, MD, MSc, FRCSC:

No, we would remove it. We would make a new nipple and then tattoo an areola. I don't do skin grafting for areola reconstruction because the healing isn't always guaranteed. You don't know what sort of pigment it's going to take up, and it creates a donor site somewhere else. We always do a medical tattoo, which we can match very well to the other side. All my patients, we choose the pigment together. We have a little color wheel. There are all different skin tones, and we choose a pigment that either matches their other breast or their previous breast, if they have photos, or that looks good with their coloring.

WOMAN:

Okay, great. Thank you.

WOMAN:

Hello. I'm both sides of the spectrum – oncology RN and breast cancer survivor. I'm in the process of tissue expansion, and I didn't know if I had the submuscular or subpectoral, other than that I can do tricks.

KAREN M. HORTON, MD, MSc, FRCSC:

Yeah, so they're under the muscle.

WOMAN:

Would it be possible, once he did do the permanent implants, to ask him for the subpectoral to allow for the natural droop after the –

KAREN M. HORTON, MD, MSc, FRCSC:

Submuscular and subpectoral are essentially the same thing. The muscle that it's under is the pectoralis major. They're essentially the same thing. I think, when you say "submuscular," it usually is referring to totally under the muscle. "Subpectoral" usually means partially under the muscle. Your surgeon would definitely be able to make the bottom part of the breast not under the muscle to achieve a little bit more droop. Technically, they would be able to. Have they done it before and are they comfortable? I can only speculate.

WOMAN:

So just ask him if he can do like a subpectoral?

KAREN M. HORTON, MD, MSc, FRCSC:

Ask them, and if they're comfortable doing that, great. And if they're not comfortable doing that, come to San Francisco.

WOMAN:

Any Tennessee microsurgeons?

KAREN M. HORTON, MD, MSc, FRCSC:

No, none that I know of.

WOMAN:

Hi, thank you for your presentation. I have seen a plastic surgeon who, from my research, I understand does the DIEP procedure. Is there any reason –

KAREN M. HORTON, MD, MSc, FRCSC:

What's the name?

WOMAN:

Dr. Paul Smith at [H. Lee] Moffitt [Cancer Center] in Tampa.

KAREN M. HORTON, MD, MSc, FRCSC:

Hmm, don't know him.

WOMAN:

Maybe my research is incorrect, but that's what I understood.

KAREN M. HORTON, MD, MSc, FRCSC:

I know the big names, and I know people who go to the microsurgery meeting and present their research. I'm sure there are many surgeons out there who either don't go to the meeting or don't publish, so I just don't know them.

WOMAN:

Would there be any reason for myself – it would be delayed bilateral reconstruction – any reason why you would choose a TRAM flap over the DIEP reconstruction?

KAREN M. HORTON, MD, MSc, FRCSC:

No. If there's a microsurgeon available, you can have the DIEP.

WOMAN:

I'm from here. Anybody locally whom you know of?

KAREN M. HORTON, MD, MSc, FRCSC:

No.

WOMAN:

No? Okay, thank you.

WOMAN:

I think I'm the finale here. From what I heard, you were the only seminar I took, and I guess I'm the lucky one that you're the best one so far.

KAREN M. HORTON, MD, MSc, FRCSC:

Thank you.

WOMAN:

I sent you an e-mail. My organization is called My Hope Chest, and we deal with –

KAREN M. HORTON, MD, MSc, FRCSC:

Oh, yes, I got it. Thank you.

WOMAN:

You were on vacation, so I'm glad to know that I got to see you. We deal with the uninsured, and we provide free surgeries. We're the only organization in the country. We'll talk more about that later. I'm just going to ask you a couple of questions based on things people ask me. Then I'll e-mail you or chat with you on the phone, if that's all right. A nipple redo – they all heal differently, and sometimes they heal away. Can they be redone again?

KAREN M. HORTON, MD, MSc, FRCSC:

Yes, definitely. Yeah, when we do nipple reconstruction, we know that when we rearrange the tissue, when it heals, it's going to shrink. It shrinks by 30 to 50 percent. We know that. If it shrinks to nothing, we can definitely redo it.

WOMAN:

Perfect. The next question is the encapsulation. It sounds like I must have missed that, that you recommend doing that. Our surgeon didn't recommend doing that. Just for myself, I'm encapsulated now under my own tissue. I can just basically have that removed?

KAREN M. HORTON, MD, MSc, FRCSC:

You can have what's called a capsulectomy, which is removing the scar tissue, making the space larger. That's a surgical procedure, day surgery. You usually need a drain. The drain will be in for as long as it needs to be, up to a week. You need antibiotics, and you're going to need to massage aggressively afterward.

WOMAN:

Why would they recommend not doing that? Is that a man thing? It was a male surgeon, and he said, "We don't recommend massaging."

KAREN M. HORTON, MD, MSc, FRCSC:

I don't know. I really don't know. . . . You're the first I heard of it. I don't know why surgeons don't use drains. I don't know why surgeons don't have you on antibiotics. I don't know why surgeons say you don't need to massage, other than maybe they like the look of grapefruits, I don't know – or they don't see their patients postop. We do.

WOMAN:

I don't know. It was odd, and I wish I wouldn't have listened to it.

KAREN M. HORTON, MD, MSc, FRCSC:

I tell my patients, I want to see you every year. I see all of my patients every year, mostly for a social visit, but I want photos. All plastic surgeons want follow-up photos. I want to make sure everything still looks and feels good. I may be able to detect a capsule, whereas they might not.

WOMAN:

Right, and that makes a lot of sense. Delayed reconstruction – the same results as immediate reconstruction? Women should know that. They can wait and get the same results or not?

KAREN M. HORTON, MD, MSc, FRCSC:

The difference is the skin, the amount of skin. In a delayed reconstruction, the skin is contracted, so you either need to stretch it out with an expander or replace it with a flap.

WOMAN:

Even the process, they can still get a really good reconstruction, whether or not they wait?

KAREN M. HORTON, MD, MSc, FRCSC:

Oh, yeah, definitely.

WOMAN:

Whether it's years or whatever? Because mine was over two years.

KAREN M. HORTON, MD, MSc, FRCSC:

Yes, there's no limit.

WOMAN:

Can insurance prohibit the type of reconstruction?

KAREN M. HORTON, MD, MSc, FRCSC:

No.

WOMAN:

From your microsurgery choice.

KAREN M. HORTON, MD, MSc, FRCSC:

By law. They try all the time.

WOMAN:

They do?

KAREN M. HORTON, MD, MSc, FRCSC:

All the time. I have so many fights going right now.

WOMAN:

This is a statewide or a nationwide law?

KAREN M. HORTON, MD, MSc, FRCSC:

All insurance companies are idiots. I hope nobody here is in the insurance industry, but I hate them. They're horrible. They're scammers. They're uneducated. They don't know anything about microsurgery. They don't know anything about what we do. But, as breast cancer survivors, you have a lot of power behind you. You have political force behind you. I tell all my patients, call the media, call your mayor, call the papers, call your press. Make a huge stink, and I'm behind you 100 percent. But make a stink.

WOMAN:

Do you know if that's just in your state that they can't deny it?

KAREN M. HORTON, MD, MSc, FRCSC:

In the country.

WOMAN:

It is? Okay. I'll get the rest to you later. Thank you so much for what you're doing.

KAREN M. HORTON, MD, MSc, FRCSC:

Thank you.

[END OF TRANSCRIPT]