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00:00.000 --> 00:13.900 Support for Yale Cancer Answers comes from AstraZeneca, providing important treatment options for patients with different types of lung, bladder, ovarian, breast, and blood cancers. More information at astrazeneca-us.com.

00:13.900 --> 00:53.100 Welcome to Yale Cancer Answers with doctors Anees Chagpar and Steven Gore. Yale Cancer Answers features the latest information on cancer care by welcoming oncologists and specialists who are on the forefront of the battle to fight cancer. This week, it is a conversation about breast cancer care with Dr. Danielle Bertoni. Dr. Bertoni is a Surgical Oncologist specializing in the treatment of breast cancer and breast disease at Yale School of Medicine. Dr. Gore is a Professor of Internal Medicine and Hematology at Yale and Director of Hematologic Malignancies at Smilow Cancer Hospital.

00:53.100 --> 00:53.700 <vGore>So, you are a breast surgeon, is that correct?

00:53.700 --> 00:53.800 <vBertoni>That is correct.

00:53.800 --> 01:03.500 <vGore> How did you get interested in that? It seems like it can be a mutilating field, at least in the old days, right?

01:03.500 --> 01:37.500 <vBertoni> That is true. In the old days it was deforming for women and not something I would have wanted to be doing back then, but I think we have come a long way in terms of how we treat breast cancer and how conscious we are of how we are affecting a woman's body and a woman's sense of self with what we are doing. I first realized I wanted to be surgeon, and I have had many members of my family who have been touched by breast cancer, most of which are breast cancer survivors, thanks to the excellent care they received.

01:37.500 --> 01:42.900 <vGore> So just so I understand this, one has to become a general surgeon first?

01:42.900 --> 01:44.700 <vBertoni> Yes, that's true.

01:44.700 --> 01:51.600 <vGore> And taking care of breast cancer in the old days used to be part of general surgery. Is that still the case?

01:51.600 --> 03:14.500 <vBertoni> I think there are still many general surgeons who do breast cancer surgery, but the shift is definitely trending away from that. One of the reasons for that is really the crux of breast cancer care is that it is a multi-disciplinary approach to care where you really have to know as a breast cancer surgeon about some of the other disciplines, so breast cancer treatment includes three primary large categories when it comes to the medical treatment, and one of those is breast surgical oncology, which is what I do, and the other two are breast radiation oncology and medical oncology. And you have to work together as a team with those other specialists, and I think in order to really do that well, you need to understand where they are coming from and what their goals are and what they think about when they treat patients. So, you

do a 1-year fellowship to specialize in breast surgical oncology, and during that fellowship, we actually spend a month on medical oncology rotation, and a month on radiation oncology. We actually even do a month in breast pathology. So, we see what they are doing with our specimens and how they are kind of defining some of the things they tell us in their reports. So, we get a lot of experience across disciplines, and I think it is really important to have all of the disciplines come together and have a sort of discussion about each patient in terms of the best overall treatment plan for them.

03:14.500 --> 03:25.00 <vGore> Is that training then separate from what would be considered a surgical oncology fellowship, is breast cancer surgical oncology particular training or a subset?

03:25.00 --> 03:58.900 <vBertoni> It is a separate fellowship. So, you can do a surgical oncology fellowship and within surgical oncology, they do get trained in breast surgical oncology, but most people who train in surgical oncology, it is longer fellowship, it is 2 years, and those people tend to go into pancreas surgery and sort of bigger operations -- liver surgery, different things. Some of them do breast as well and they do get significant exposure to breast in that fellowship. But breast surgical oncology is its own specialized fellowship in addition.

03:58.900 --> 04:05.700 <vGore> And then, gynecologic surgical oncology is also separate right?

04:05.700 --> 04:15.500 <vBertoni> Yeah. That's a whole separate thing as well. And some OB/GYNs, there are some breast surgical oncology fellowships in the country that accept people who are OB/GYN residency trained into the breast fellowship.

04:15.500 --> 04:15.700 <vGore> Because they can do surgery already?

04:15.700 --> 04:30.400 <vBertoni> Exactly. Most of them are filled by general surgeons, most of the spots in the country. But there are some that take breast surgical oncology fellowships after OB/GYN residency.

04:30.400 --> 05:21.300 <vGore> Well, that has come a long way since I was in medical school. First of all, in those days, there was still quite a number of patients getting modified radical mastectomy. As a matter of fact, most, because lumpectomy and radiation versus modified radical mastectomy that was a clinical trial back then, or I am not sure if it had even yet come to clinical trial, that was certainly published after I had been in medical school. So, in my surgical rotation as a medical student, I remember being involved with mastectomies, and that has come a long way now. I am pretty sure there was not all these special, sub-specialized training for breast surgeons, I don't think.

05:21.300 --> 05:24.900 <vBertoni> No definitely not. It has definitely been a more recent development in the field.

05:24.900 --> 05:35.900 <vGore> So, walk me through how a patient gets to

you. The patient self-refers because they feel a lump or is it usually more down the road when they actually have a diagnosis of cancer?

05:35.900 --> 07:26.800 <vBertoni> So, it sort of depends. There are some regional differences in referral patterns and how patients make it to us. I can tell you, here in Fairfield County, sort of how it goes. Generally, they are referred to us by either their primary care physician or an OB/GYN, occasionally by a breast radiologist, that is less common. And typically what happens is, they either feel a lump or they complain of a breast symptom - nipple discharge, some skin rash, something that seems out of the ordinary. Sometimes, they go and get their mammograms and ultrasounds, and they do not have a breast complaint, but they just get their screening once a year and that shows something abnormal and that report gets them back to either their primary care, OB/GYN, whoever is ordering that test and then they usually refer that patient to us. In some places, the primary care is an OB/GYN, who will then order a biopsy if it is recommended. Most of the biopsies done in this stage are done by breast radiologists, who are also fellowship trained, who specialize just in breast imaging. And in some places, they go get their biopsy first and then only if the pathology shows something that requires intervention do they get referred to a breast surgeon, but in Fairfield County, I would say more commonly they get sent to us before they have the biopsy by their OB/GYN or primary care to kind of discuss the abnormal mammogram or ultrasound results and what the recommendations are. So, that is probably the most common way, through something abnormal found on their imaging, and then there are the women who have a complaint or a symptom in their breast and those will again sometimes get sent directly to us from the primary care OB before they have any imaging and sometimes they will go to imaging first and then get sent to us.

07:26.800 --> 07:33.500 <vGore> Is it always worse if somebody actually feels a lump compared to finding something on mammogram or is it not like that?

07:33.500 --> 07:58.900 <vBertoni> I would say, nothing is 100% and it depends, but typically, things found on screening mammogram do tend to be smaller. There are things that are so small that we cannot feel typically. So, they are smaller. Sometimes, they are just calcium deposits on a mammogram. So, they do tend be found at an earlier stage when they are found on screening mammogram versus when someone feels something, but that is not 100%.

07:58.900 --> 08:01.700 <vGore> Right and people do not need to panic just because they feel something?

08:01.700 --> 08:07.200 <vBertoni> No. Often times, even when you feel something, they are still very early, treatable, curable breast cancers.

08:07.200 --> 08:09.300 <vGore> And many things that people feel may not be cancer right?

08:09.300 --> 08:19.900 <vBertoni> Exactly. There are many things, especially

in younger women that are not cancer, do not become cancer, they are not precancerous that happen in the breast that cause lumps and bumps.

08:19.900 --> 08:31.300 <vGore> Do all patients who have breast cancer require surgery, is surgery always part of it?

08:31.300 --> 08:42.800 <vBertoni>For the most part, yes. It is rare that surgery is not a part of it, and typically the people who end up not going to surgery are people who have very advanced stage for breast cancer.

08:42.800 --> 08:44.200 <vGore> Where it is spread already?

08:44.200 --> 09:28.900 <vBertoni> Exactly. The purpose of surgery is for what I call local control of disease, so to remove what is there, find out the true - what we call pathologic stage is, so the size of the tumor, if it has spread to the lymph nodes, and then radiation comes in to prevent it from coming back just in the local area. But the other part of breast cancer treatment is what we call the systemic treatment, so that sort of goes to the whole body system and that is medication that goes to the whole body to all the cells in the body to prevent the cancer from coming back somewhere else in the body. And so, if it is already spread, then surgery is often not indicated unless there is a symptom.

09:28.900 --> 09:42.500 <vGore> Well, does everyone require the systemic treatment with either hormones or chemotherapy, or are there patients who are cured we think with local treatments?

09:42.500 --> 10:02.100 <vBertoni> Majority of patients are going to get some kind of systemic therapy, not necessarily chemotherapy but often, so the common type of breast cancer is estrogen positive and that means that estrogen in our body feeds the cancer cells and pretty much anybody who has an estrogen positive breast cancer will be recommended to take anti-estrogen therapy.

10:02.100 --> 10:05.000 <vGore> Estrogen blockers?

10:05.000 --> 10:17.100 <vBertoni> Yeah, estrogen blockers exactly. And there are some exceptions to that rule. But most patients will require at least that.

10:17.100 --> 11:05.700 <vGore> So, you know, I remember back in the 80s I am going to guess, way before your time, there was a big movement to take breast cancer out of the closet if you will and one of the President's wives, I think it might have been Betty Ford, one of them had breast cancer, one of the first ladies and then there was an actress who wrote a book 'First You Cry', a really famous blonde actress I remember and so there was a lot of stuff which really sort of emphasized the tremendous psychological toll that a new diagnosis of breast cancer had on patients then. Is that still the case?

11:05.700 --> 12:12.700 <vBertoni> That is still the case, and I think that is again where that multidisciplinary approach to care and having that focus comes in, and that is where I think breast cancer centers are really putting everything together. We have an integrative medicine center and I think part of that is that focus on the psychological, emotional toll that a breast cancer diagnosis has on a

patient even when it is stage I and curable or stage 0. And the impact that has on a woman. And in integrative medicine we have anything from psychologists and psychiatrists where they have groups for patients at different levels for different types of cancers, they have massage therapist, acupuncturists, all these things I think do more to tap into that psycho-emotional aspect of care. We also have 2 clinical social navigators that again are there for that psychological, emotional support and to provide additional services to the women because I think it really affects everything, not just their physical well-being but also their mental well-being.

12:12.700 --> 12:19.700 <vGore> And similar services might be found at other multidisciplinary centers right?

12:19.700 --> 12:19.900 <vBertoni> Exactly.

12:19.900 --> 12:27.400 <vGore> But it is important to realize I guess that your feelings of awfulness are pretty common?

12:27.400 --> 12:29.100 <vBertoni> Yes, very common.

12:29.100 --> 12:48.300 <vGore> Again, back in the old days, I hate to sound like this old guy, but it is true, I think there was a lot of resistance to lumpectomy and localized treatments because in that emotional state, the woman just says, I just want it off, I just want to get it out. Has that changed?

12:48.300 --> 13:24.300 <vBertoni> That has changed and the pendulum is definitely shifting sort of away from that, away from recommending that in all women and now, I think we really try to let it be a woman's choice, but we try to make sure the women are well informed as to the impact both psychologically and physically of the choice of which type of operation they will have as well as the implications in terms of cancer treatment. So, what we know from multiple large clinical trials is that both breast conservation we call it, which is a lumpectomy with radiation and mastectomy are equal cancer treatment for the breast cancer.

13:24.300 --> 13:24.400 <vGore> Equally good?

13:24.400 --> 13:48.800 <vBertoni>Equally good cancer treatment. And the risk of local recurrence, which is the cancer coming back in the breast or the lymph nodes is the same for a mastectomy or for a lumpectomy with radiation, it is about 3%, 1-3%. And so, with that in mind, we try to make sure that women are well informed and well educated about the fact that they are equally good cancer treatment.

13:48.800 --> 14:00.900 <vGore> We are going to take this up, it is a very important topic, after the break, but right now we need to take a short break for a medical minute. Please stay tuned to learn more about breast cancer care with Dr. Danielle Bertoni.

14:00.900 --> 14:19.600 Medical Minute Support for Yale Cancer Answers comes from AstraZeneca, the Beyond Pink Campaign aims to empower metastatic

breast cancer patients and their loved ones to learn more about their diagnosis and make informed decisions. Learn more at lifebeyondpink.com.

14:19.600 --> 14:57.400 This is a medical minute about colorectal cancer. When detected early, colorectal cancer is easily treated and highly curable. And as a result, it is recommended that men and women over the age 50 have regular colonoscopies to screen for the disease. Tumor gene analysis has helped improve management of colorectal cancer by identifying the patients most likely to benefit from chemotherapy and newer targeted agents resulting in more patient-specific treatments. More information is available at YaleCancerCenter.org. You are listening to Connecticut Public Radio.

14:57.400 --> 15:41.200 <vGore> Welcome back to Yale Cancer Answers. This is Dr. Steven Gore, and I am joined tonight by my guest, Dr. Danielle Bertoni. We have been discussing breast cancer care, in particular the surgical part of multidisciplinary team approach if I got that right. So, Danielle, before the break you were talking about patient-centered choice and about lumpectomy with radiotherapy versus a mastectomy. Could you give us some feeling for how that discussion goes, assuming that it is a cancer that is appropriate for either modality, what kind of things do you tell the patient and her family, I guess her husband or partner?

15:41.200 --> 16:09.700 <vBertoni> I just start with explaining to them the differences in the operations and the difference in recovery. You know, the lumpectomy is outpatient surgery - go home the same day, the recovery is really about 1-2 weeks max, women do very well and recover very quickly from that. I explain to them what the radiation is and what that entails, and I find there is a lot of misconceptions about breast radiation. I think people think back into kind of the old days.

16:09.700 --> 16:10.800 <vGore> Cobalt machines.

16:10.800 --> 16:47.000 <vBertoni> Yeah exactly, and also just different types of cancers that get radiation when you are getting pelvic or abdominal radiation or throat radiation, it is very different. Radiation is really a localized treatment in the breast and the breast is sort of an external part of the body. So, a majority of the radiation beams are outside of the body and going really into the breast and the lymph node area, and so the side effects are very localized and most women tolerate it well and women think that they are going to lose their hair and get sick from radiation, but that is not true either. It does not cause you to lose your hair, it does not cause you to get sick and women often work through radiation, exercise, sort of live very normal lives.

16:47.000 --> 16:48.800 <vGore> It still makes people tired and stuff like that right?

16:48.800 --> 19:14.800 <vBertoni>It can make them tired exactly. So, it is mostly more like a sunburn to the skin and then some women report some evening fatigue with radiation, but I would say that is even pretty mild. Most

women really tolerate it well, they drive themselves, and the radiation treatments are very short and you do not feel anything while they are happening. And so, I usually try to explain to women that it is pretty well tolerated, it is not without its potential side effects like anything we do, but it is reasonably well tolerated, and then the mastectomy on the other hand is you have to be hospitalized for 1-2 days, we discuss the various options for reconstruction or to have no reconstruction of the breast, so rebuilding the breast, a plastic surgeon can build them a new breast at the time of surgery when we remove the breast, but that is in the hospital for 1-2 nights, requires drains that you have to go home with for anywhere from 1-4 weeks and it is really more like a 4- to 6-week recovery depending on the type of reconstruction and a bigger reconstruction could even be an 8- to 12-week recovery. So, it is a much bigger operation, has more risks because it is more surgery. So, I usually discuss the pros and cons just in terms of what does the surgery entail and the recovery and then everybody wants to know about whether the cancer will be treated equally with either option and that is where I usually try to make sure they are really well informed and understand that lumpectomy with radiation is considered equal to a mastectomy in terms of how good it is of a cancer treatment and that even with a mastectomy there is a risk of recurrence in the chest tissue as well as the lymph nodes and that risk is about 1-3%, which is similar for lumpectomy with radiation. Some women if they have a mastectomy, they will not need radiation at all, some will still need radiation after mastectomy. Sometimes, we can predict that before surgery, sometimes we do not know until we get that final result from surgery, but there are some things we know, ductal carcinoma in situ which is stage 0 breast cancer typically does not require radiation after a mastectomy. So, occasionally women will just say for whatever reason, they absolutely do not want radiation, that is just something that they emotionally, psychologically whatever belief or value they have and so sometimes that will push them towards mastectomy.

19:14.800 --> 19:29.500 <vGore> What about the cosmetic effects? Is there a preference or better outcomes cosmetically with a simple mastectomy where there is reconstruction versus a lumpectomy and radiation, or does that really depend on the cancer?

19:29.500 --> 20:10.500 <vBertoni>It really depends more on the patients and their body and their breast size and the location of the cancer in their breast. And so, that is something we take into consideration. For some women, we tell them we could do a lumpectomy but cosmetically I do not think it will look good. And so, some women care and some don't. And that plays into it. Some women just want the shortest, fastest recovery, get me back to my life, it is equal cancer treatment fine, and some women care more about how it effects their body image, how they feel about themselves, and I think those are very important valid things to take into consideration. So, when we examine a woman and talk to them about their options, we do address the cosmetic outcome with both options.

20:10.500--> 20:24.600 <vGore>Do you find that women consult their partners a lot about this, a little about this or it is really about how the woman feels about their body and I am not putting any value here, I am really just kind of curious.

20:24.600 --> 21:24.000 <vBertoni> Yeah, I think it is definitely variable. I think everybody's relationships and partners are different. Most partners come and say whatever you want, I just want you alive, but you know, you always see different dynamics in different relationships and there are some women who I am sure even if the partner says do what you want, in their mind they are thinking about that. I think it is normal and natural that that is potentially something that is going on in their mind as they are making decisions, but I would say most women are just very scared and they just want to live. Some women chose mastectomy for that reason that they are just so anxious about getting their mammograms going forward that every year when they have to go, they are just going to be so anxious and really it has such a psychological and emotional impact on them after they go through that, and some women are fine; you know, they just accept that the risk is low and that is why they get their mammogram to make sure and they are comfortable with it.

21:24.000 --> 21:26.100 <vGore>So the women who have had mastectomy, do not require mammograms?

21:26.100 --> 21:50.000 <vBertoni> Right. So, once you have had a mastectomy that breast does not require any imaging going forward. We do see them and examine them every 6 months for the first couple of years and then once a year they should see a breast cancer doctor whether it is medical oncologist, breast surgeon. I mean their variabilities in practice on how doctors handle that, but typically we like to see them pretty much for life to examine them.

21:50.000 --> 21:54.000 <vGore> But the opposite breast still needs attention in terms of screening right?

21:54.000 --> 21:56.000 <vBertoni> Yes.

21:56.000 --> 22:05.800 <vGore> And the prosthesis, which is placed I assume some kind of prosthesis for the reconstruction, does that need attention at all?

22:05.800 --> 23:19.400 <vBertoni> So, that is I think a more controversial area, and so some women get reconstruction with an implant or prosthesis and some get what we call flap or autologous reconstruction and that is where they take tissue from their own body, most commonly from their tummy area, to rebuild a breast and yes tummy tuck at the same time exactly. They can also take from the buttocks, the thighs, there are many places. The most common though is from the abdominal or the tummy area. So, when you have an implant in there, there is some extremely low incidence of implant-associated lymphoma that you can get. It is extremely, extremely, extremely rare and it is something that you just need to be aware of it. It is one of the reasons we still see these patients forever, so if there is any complaint, any change, you know that we can identify

that. They say that the implants themselves should be replaced every 10 years, it is called an implant exchange and a new one should be put in and there is some risk of rupture of an implant, again also pretty low risk, but they say they should be replaced every 10 years. Not all women do that.

23:19.400 --> 23:26.900 <vGore> And in this implant that is made from the abdominal fat, is that done at the time of primary surgery as well?

23:26.900 --> 23:29.300 <vBertoni>Yes, typically it is.

23:29.300 --> 23:39.900 <vGore> And what about the nipple, I mean for some people the cosmetic impact of not having a nipple I imagine might be significant?

23:39.900 --> 25:18.400 <vBertoni> So with the nipple, you know I look at it more from an oncologic perspective, meaning cancer risk and I would say, again this is an area of controversy in the field and there is a lot of research done on it. I would say what it is swinging towards now is that from a cancer-risk perspective, as long as the cancer is not extending into the nipple, that you can keep the nipple. However, the other perspective that the plastic surgeons will have is a cosmetic perspective and it has more to do with the way that the breast is shaped before surgery and where the nipple is on the breast versus where you want it to be after surgery. And the risk of sort of what we call nipple necrosis, which is the blood flow getting cut off to the nipple and then the nipple sloughing off. So, if they think someone based on their body habitus or breast shape is going to be higher risk for what we say losing the nipple, then they will not recommend saving the nipple. So, it is kind of a two-prong approach and one is just in terms of the cancer and I would say many if not most women are candidates for nipple-sparing mastectomy from a cancer safety perspective. We always biopsy right behind the nipple during surgery to make sure there are no cancer cells. And if there does end up being on the final pathology, we may have to go back and remove the nipple, but from a cancer perspective, many women are candidates, but it sometimes becomes more of an issue from a cosmetic perspective and how is it going to look and can we have the nipple on the right location on the new breast without risking losing the nipple.

25:18.400 --> 25:24.200 <vGore> So, is there a way to move the nipple in that case or is there a way to reconstruct another nipple?

25:24.200 --> 25:56.300 <vBertoni> Yeah some people do what is called a free nipple graft where they remove the whole nipple and then put it back on in the right place and that is a higher risk of that nipple necrosis sort of sloughing off, but there have also been many studies reported with very good outcomes with that and the other option is to remove it at the time of surgery and then they rebuild a new nipple. So, they usually take skin from somewhere else, sometimes they will take part of your other nipple so that you get that coloration and rebuild it. And then, there is also 3D nipple tattooing now, which is excellent and it is really usually done by tattoo artists.

25:56.300 --> 25:57.600 <vGore> You are kidding?

25:57.600 --> 26:05.700 <vBertoni>They do the best 3D nipple tattooing yes. And actually the 3D nipple tattooing is amazing, it looks really, really good.

26:05.700 --> 26:09.200 <vGore> How do they make the third dimension?

26:09.200 --> 26:38.000 <vBertoni>I don't know. That is a question for the tattoo artist. I just see pictures and patients who have it. And it is pretty impressive. One of the things after a mastectomy is that we are cutting nerves to the skin and you do lose that sensation on the skin and the nipple even with the flap which looks very natural, the feeling is very different. So, it really as you said earlier, a cosmetic thing, it is how it looks.

26:38.000--> 26:40.500 <vGore>It is not serving as an erotic center anymore?

26:40.500 --> 26:42.000 <vBertoni> No, not at all.

26:42.000 --> 26:46.700 <vGore>And probably the woman's feeling about the breast as an erotic thing has changed also?

26:46.700 --> 26:49.600 <vBertoni> Yes definitely.

26:49.600 --> 27:23.500 <vGore> There was a really interesting meme on Facebook or something in the last couple of years, a woman who had had bilateral mastectomies, had this amazing bikini tattoo and she was all over the internet because it was such a beautiful thing and it really was quite beautiful, I am not a tattoo guy at all, but I mean I have to say in terms of her claiming her new body and she did not have a tattooed breast, she just had this beautiful bikini tattooed multi-color and have you seen that?

27:23.500 --> 27:26.700 <vBertoni> No, I have to look it up.

27:26.700 --> 28:02.400 <vGore> Look up for tattoo bikni, it was pretty cool and it was all about this empowerment of saying I am okay this way, but I imagine not all people can be like that so easily. You keep mentioning the lymph nodes and I wanted to come back to that because you know back in the old days again, a lot of people had these really awful surgeries where the armpit area was really dissected and they ended up with these terrible swelling problems that are really deforming. So, does everyone need to have their lymph node biopsied, how does it work?

28:02.400 --> 30:02.500 <vBertoni> Yeah. So, I would say I agree the greatest morbidity from breast cancer surgery is really related to the lymph nodes and something called lymphedema, which is swelling, heaviness, difficulty using the arm on the cancer side and that really comes from lymph node removal. So, lymph nodes are these little kidney bean shaped things I call them under the armpit that sort of filter and drain fluid both from the breast and the arm, and if breast cancer leaves the breast, the first place it goes is to these lymph nodes. So, fortunately, some brilliant person discovered a way to figure out which lymph nodes were draining the breast so that we could check only those lymph nodes and it is called the sentinel lymph node biopsy and that identifies the first lymph nodes that are draining the fluid that leaves the breast. So, there

are about 10-20 lymph nodes in the armpit and like I said, some drain the arm and some drain the breast and some drain both, there is some crossover. So, in order to identify which lymph nodes are the ones that are most likely to have cancer cells in them, we injected dye into the breast, that the lymph nodes again recognize as something that does not belong, so they filter that dye out. And most people have 2 or 3 of these sentinel lymph nodes, these key lymph nodes in the armpit that drain the breast, some people have 1, some people have 5 or 6. When we go into the armpit, we remove the ones that have the dye in them. We have a special machine that can tell us if there is dye in the lymph nodes and we just remove all the lymph nodes that have the dye in them, like I said it is between 1 and 5 or 6, and those go to pathology and they check them to see if there is cancer in them. Not everybody need that procedure, so if you have stage 0 breast cancer, that ductal carcinoma in situ, then we believe there is no chance of the cancer spreading to the lymph nodes because by definition it is in situ, so it cannot leave the breast.

30:02.500 --> 30:03.900 <vGore> It has not invaded?

30:03.900 --> 30:18.900 <vBertoni>It has not invaded exactly. So, those patents if they have a lumpectomy do not require checking the lymph nodes. The risk of lymphedema with that sentinel lymph node procedure, we are only removing a few of the lymph nodes is about 5-7%.

30:18.900 --> 30:19.000 <vGore> Oh but not 0?

30:19.000 --> 30:41.000 <vBertoni> But not 0 because you are removing lymph nodes, exactly. So, it is still there. It is rare that we see it, but it is still there. In some patients, we have to remove all of the lymph nodes in the armpit, all 10-20, that is called an axillary lymph node dissection and in those patients the risk goes up to 15-20%. So, it is much higher.

30:41.000 --> 31:07.900 Dr. Danielle Bertoni is a Surgical Oncologist specializing in the treatment of breast cancer and breast disease at Yale School of Medicine. If you have questions, the address is canceranswers@yale.edu and past editions of the program are available in audio and written form at YaleCancerCenter.org. We hope you will join us next week to learn more about the fight against cancer here on Connecticut Public Radio.