LIVING BEYOND BREAST CANCER
LBBC.ORG

Fertility and Pregnancy: Pre- and Post-Treatment Options

Elizabeth S. Ginsburg, MD

OPERATOR: Greetings, ladies and gentlemen, and welcome to the Living Beyond Breast Cancer webinar. At this time, all participants are in a listen-only mode. A brief question-and-answer session will follow the formal presentation. If anyone should require operator or technical support during the conference, please press "star, zero" on your telephone keypad.

As a reminder, this conference is being recorded.

It is now my pleasure to introduce your host, [Ms.] Elyse Spatz Caplan. Please go ahead.

ELYSE SPATZ CAPLAN, MA: Thank you [operator], and welcome, everyone, to Living Beyond Breast Cancer's December teleconference, "Fertility and Pregnancy: Pre- and Post-Treatment Options." We sincerely appreciate everyone who's taken some time out of their busy day to join all of us for today's important program. As [our operator] mentioned, my name is Elyse Spatz Caplan, and I'm the director of programs and partnerships at Living Beyond Breast Cancer. I'm very pleased to serve as the moderator for today's program. Some of the things you'll learn more about today are the role of fertility planning in decision-making when newly diagnosed with breast cancer; how to determine your fertility status and some options [for making that determination]; and also some of the types of specialists [to] … involve in your care.

Just a few upcoming program notes, and then we'll get moving with the program: Living Beyond Breast Cancer's next webinar. … I would [also] like to let everybody know we're rephrasing [a] term: … [our teleconferences] in 2013 will be called "webinars." It seems that webinar is the term that's more commonly used today, because so many people participate online. Our programs are still accessible by phone, for those who would prefer to dial in.

The next webinar … [is] January 9. It's our annual update from the recent San Antonio Breast Cancer Symposium. … Our next national conference is our C4YW, our annual Conference for Young Women that some of you may have attended in past years. We're excited to be, for the first time, on the West Coast, in Bellevue, Washington, which is outside Seattle, on the East Side. So, just to let everyone know, registration is open and travel grants and fee waivers for registration are still available. For that program, please check out [the C4YW website]. We have our own website for the conference. Also, to register or learn more about the webinar coming up next month, log onto LBBC's website.

One other program note, in terms of resources and support for women of all ages and all stages of breast cancer: Our Survivors' Helpline, a toll-free peer-support telephone service, [is … now available] five days a week. For people who want to call and speak to a woman who has gone through an extensive training, [and connect with a person] who has had breast cancer or is living with metastatic breast cancer, we are answering calls live, Monday through Friday, 9:00 a.m. to 5:00 p.m. Eastern time. At all other times you can leave a message, and a volunteer will call you back within 24 hours, and often a much shorter time period. For those of you who want to write down the telephone number, which I'll mention again at the end of the program, the Survivors' Helpline is (888) 753-LBBC or 5222, [or you can submit our online form] to request a call. Again, don't hesitate to call for vital peer emotional support. …

… Let me tell you a little bit about our featured speaker and then we'll move into the presentation. Today's featured speaker is Dr. Elizabeth Ginsberg, who is medical director of the assisted reproductive technologies program at Brigham and Women's Hospital, and a staff physician at the Dana-Farber Cancer Institute. Dr. Ginsburg has 17 years of experience with in vitro fertilization, and she has published extensively on predictors of IVF success. More than a decade ago, she became interested in fertility issues in people with cancer, [as well as] survivors, and has been actively involved in research on these topics. She also has a research background in the study of menopause. Her clinical practice now includes women newly diagnosed with breast cancer, as well as people years from treatment who have fertility and hormone deficiency concerns.

Please welcome Dr. Elizabeth Ginsberg.

ELIZABETH S. GINSBERG, MD: Thank you. Now, let's see if the slides will open. I designed this to be, hopefully, mostly interactive. I'm going to whiz through some slides here to give an overview of what we're thinking about when we're talking about fertility, and what it really means.

The first slide, hopefully, if you have your computers on, is a graph that shows the number of follicles in an ovary. A follicle is a small cystic structure, each of which contains an egg. We believe that women are born as infants with all the eggs they ever have. As they go through life, the eggs undergo an atresia process. The eggs shrivel up and go away.

Each month, when a woman ovulates, about 200 eggs … [begin] a maturation process. Only one actually ovulates. The other eggs are no longer viable. As you can see, there's a drop-down in this line, so that the fertility starts declining more rapidly in the mid-30s. [At that age-range, for women] … the loss of eggs is more rapid.

What happens for women who are undergoing chemotherapy is that there's even more rapid loss in the number of eggs, due to the effects of primarily cyclophosphamide, which is one of the agents that some of you may have taken. The other [item] of note … is the fact that — particularly when speaking about breast cancer, because of the need to make sure that you're years-out from treatment — there's a loss of eggs that is incurred from just waiting to get the go-ahead, to be able to become pregnant.

Again, cyclophosphamide is an alkylating agent. Again, these are the agents that have the best documented effect on the loss of eggs. But the number of eggs that are lost, and the overall effect on fertility, really depends on how old the woman is. If you think about that previous slide, if you're in your early 30s or late 20s, there are still a lot of eggs there. Even if you lose a good number, there will still be a fairly large number of eggs left in the ovaries. Most likely, the menstrual period will be regular.

As women go into the late 30s and early 40s, the effect is much more significant at those ages. Again, clicking back to that previous slide, there's a much more dramatic loss of eggs in the 30s and 40s. At those ages, we're really much more worried about the effect of chemotherapy than at the younger ages.

This is a slide that we use in a lot of talks, just showing that the likelihood of continuing to have periods — it sounds a little backwards — the likelihood of still having periods is very much related to the age at which a woman goes through chemotherapy. On the bottom dotted green line, for women who are [older than] 40, the likelihood of having periods is fairly low. Only about 20 percent of women are still having periods after chemotherapy. That's, again, because the number of eggs in the ovaries is already low at the time the chemotherapy started.

If you look at the other age groups, most women in the younger age groups, [younger] than 35, still have regular periods. One of the interesting things is, if you see the beginning of those curves, it looks like some women don't have periods during chemo. That's a stress effect on the ovaries. The vast majority of women in their 30s who don't have periods during chemo will get them back, especially if they're [younger] than 35.

One of the tricky things for women who are past their chemotherapy is that it's hard to know what the menstrual status is. We know that if you don't have periods during chemotherapy, it doesn't necessarily mean you're in menopause. It can take up to a year to get periods back. But once periods come back, it doesn't necessarily mean that you're fertile, either, because I have a practice full of women with infertility [who still have] regular periods. There are other reasons — aside from having had exposure to chemotherapy and having fewer eggs — that cause infertility. Having had chemotherapy doesn't necessarily make you infertile. But having periods doesn't necessarily mean that you're fertile, either.

We also know that the duration … between … end-of-treatment and … time-of-pregnancy increases the likelihood of infertility. That happens when women take tamoxifen, because by definition, if you're taking tamoxifen … it [means] you're … [avoiding] pregnancy. … For women who have estrogen receptor-negative breast cancers, who aren't taking tamoxifen, oncologists generally will allow conception about two years out from diagnosis or treatment completion, if all is going well. … When women have estrogen receptor-positive tumors, typically the recommendation is to try to get five years of tamoxifen on board, because large-scale studies showing lower recurrence rates.

How do we know? If I [have] a patient who has had chemotherapy, or is planning chemotherapy, and she wants to know how her ovaries are working, there are various tests that can be done to tell what your ovarian-reserve is. Again, these tests don't tell you if you're going to be fertile, or if you're currently fertile. It says you have a good number of eggs, or you don't. There are a variety of tests that are certainly all over the Internet, and that are used commonly in clinical practice. One of the best tests is anti-Müllerian hormone (AMH). This is a hormone secreted by cells that are inside the follicles, little cysts that the eggs develop in, that sit in the ovaries secrete this hormone. It can be checked in your blood. It can be done really any time in the menstrual cycle. There's a little bit of variability, but [it] doesn't typically make the level normal if it would be abnormal.

Typically, we believe that a level of less than 0.9 is a low level. This is from data looking at in vitro fertilization outcomes. We do know that women who have low AMH levels are much less likely to have good responses to fertility drugs, and are much less likely to become pregnant because of that. If they actually do fertility treatments and make embryos, then the likelihood of becoming pregnant is really related to their age, not so much the AMH anymore. AMH is a very good predictor of response to fertility medications. It's a good predictor of ovarian reserve. To a certain extent, women who do have low AMH levels have a higher risk of having infertility, once they do start trying to become pregnant.

Another test that can be done is an actual follicle count. It's just an ultrasound done on menstrual cycle day two, three or four. The little cysts in the ovaries that contain resting eggs are measured. We'd like to see at least six follicles that are three to 10 millimeters in diameter. This can be done, really, in a gynecologist's office, if you're around the country and not near a fertility practice.

Other tests that you may read about: You can also do a test for follicle-stimulating hormone (FSH). This is a hormone made by the pituitary gland, which is a gland at the base of the brain. It stimulates eggs to mature in the ovaries. We know that, again, if there's a high FSH, it means that your pituitary has to send a lot of signals to get you to ovulate every month. That is a worse prognostic sign. We like to see the FSH low, less than 10. We also like to see the estrogen production at that time in the cycle less than 50.

But, again, I want to reiterate that these are not tests that are going to tell you whether you can or [cannot] get pregnant. They're very good tests to tell us if you have infertility — how you're going to respond to fertility medication. But, again, having one of these tests done, and thinking that it's going to tell you [definitively] that you will or [will not] … be able to get pregnant — [that] is not actually [going to happen].

This is just more — a diagram, again, just showing that FSH also tends — the likelihood of pregnancy goes down the

higher the FSH is. Again, that is because a high FSH correlates with lower numbers of eggs, and lower likelihood of response to fertility medications in IVF patients.

The other thing from a fertility standpoint, again, that I was talking about before and I want to reiterate, is that age *is* a problem. It's particularly a problem in women with breast cancer, who may [wait] … longer [than most women] before … [getting pregnant] … because of the use of tamoxifen. The reason why it's harder to get pregnant at older ages is partly because there are fewer eggs in the ovaries. But it's also partly because the percentage of eggs that are chromosomally normal — here on this slide it was aneuploidy. Aneuploidy means chromosomal abnormalities. As a woman ages, those eggs have been in the ovaries since birth. They develop chromosomal abnormalities with increasing age. The vast majority of chromosomally abnormal eggs are just *not* going to create a pregnancy. If they do, it's a pregnancy that's much more likely to result in miscarriage.

Still, when you get pregnant, it's much more likely, even if you're [at the age of] 40, that the baby is going to be normal. But part of the reason why we see more infertility at higher ages is that … a high percentage of the eggs are abnormal. These abnormal eggs are just much less likely to create a pregnancy, even if you're ovulating every month.

If you've had breast cancer, what's the likelihood of becoming pregnant? There are a lot of … poorly done studies … out there suggesting that five to 15 percent of women who've had breast cancer report pregnancies. The problem with these studies is that they don't tell you how many women were trying to get pregnant and quite a lot of women in these studies were of older ages, and not at ages you would expect people to be trying to become pregnant.

Ann Partridge, [M.D., MPH], an oncologist at Dana-Farber where I'm affiliated, has all her research in young women with breast cancer. [She] did a survey study, and she found that 57 percent of women who were specifically trying to conceive after treatment, who were in her survey population, were successful: So a better than 50 percent chance of women in their 30s being able to become pregnant after treatment — including chemotherapy, I might add. [That means] having had chemotherapy in this young population was not something that meant that you would *not* be able to become pregnant.

The other thing I always like, to put this in a framework, is that the likelihood of infertility in the general population is about 15 percent. That means that after, in Dr. Partridge's study, 57 percent of women were able to become pregnant without difficulty. It's 85 percent in the general population. Certainly the likelihood of infertility is higher but, again, not predictable by any tests that we have.

For women who are trying to get pregnant, the other thing that I think it's important to know is that since we do think the duration of time the ovaries are going to be working normally is lower if you've had chemotherapy — we think the average age of menopause is going to be earlier — it's important to make sure that when you're trying to become pregnant, that you're having intercourse when you need to. Ovulation typically happens 14 days before the next period. It's tough to know exactly when to have intercourse, especially if you have cycles that vary quite a bit. Having intercourse every other day, starting in the middle two weeks of the menstrual cycle, makes sense. For women with a 35-day cycle, that woman is probably ovulating on day 21. Having some idea of what your menstrual cyclicity is can be very helpful, in terms of knowing when to have intercourse.

… I already reviewed some of this. … For women with breast cancer, the thing that contributes to having problems becoming pregnant in cancer survivors, aside from age, [is] tamoxifen. [While taking tamoxifen, doctors advise that you avoid getting pregnant, due to risks to the fetus, and that advice] will increase the age at which you are … [cleared by your doctor] to get pregnant. The other thing that's been shown in studies, that sometimes physicians and even patients are just worried about whether the pregnancy could change the cancer recurrence. Some patients voice concerns that chemotherapy could mutate their eggs, or sperm in men, or that the children may be more likely to have cancer. … None of these are true, particularly pertaining to the health of children after chemotherapy or radiation therapy. There's no evidence at all that having had chemotherapy in any way makes a baby

more likely to have any problems — except, of course, if the woman is BRCA-positive. Then she has a 50 percent chance of transmitting that gene to her children.

From the standpoint of recurrence, and becoming pregnant and having a recurrence, there's no evidence that pregnancy increases the likelihood of having your breast cancer come back. The problem with these studies … is that oncologists say to some women, "We think you have a good prognosis. You should be fine to get pregnant." [Then to] other women, they say, "I think it's not a good idea [to get pregnant]." One of the problems is there is some selection-bias in … which women are told that [it's] likely safe to become pregnant, and which ones aren't. There may be differences in the populations who went ahead to become pregnant, compared to those who didn't become pregnant, because obviously we can't randomize women to become pregnant or not. People want to, or they don't.

What they do show, though, is that for women who do have recurrences, the cancers may be at a more advanced stage. … There are probably a couple of reasons for this. One is that the breasts are really full and lumpy after a delivery, so it's very hard to feel anything. Mammography and even MRIs aren't as accurate in someone who [has] recently delivered. Certainly breastfeeding will delay the ability to … [detect] a recurrence. In general, oncologists aren't very happy about women wanting to breastfeed after breast cancer, particularly if they're not that many years out, because of the difficulty in continuing to monitor the breasts.

What are ways to increase the likelihood of future pregnancy? I'll just briefly talk about this, because I don't know … [the] status of the women listening to this. … When we see women who've been diagnosed with breast cancer prior to any type of chemotherapy, or before starting tamoxifen, we of course assess the risk for infertility. Some women have already experienced infertility. If we know that there's going to be an increased risk of infertility — which by definition women with breast cancer have, because you're going to be older [by] the time you can try to become pregnant — then the treatments that we offer typically are embryo cryopreservation, freezing embryos, or freezing eggs for women who are single.

There is also some evidence — and that's not on this slide — that using a medication called Lupron, which suppresses the ovaries during chemotherapy, may slow down the rate of loss [for] eggs. The problem with using this Lupron medication is that it does cause side effects. It causes pretty severe hot flashes, which can be problematic, particularly if you're not feeling very well from the chemotherapy.

I would say the majority of women we see choose to either freeze eggs, or [freeze] embryos. What's required with IVF treatment is that you need to be willing to use sperm, because we're doing in vitro fertilization. We're fertilizing eggs before storing them. It takes about two weeks to stimulate the ovaries. We use the same FSH hormone that the pituitary gland makes, in injected form, to stimulate multiple eggs [and] mature in the ovaries. In women who are estrogen receptor-positive, we'll also use the breast cancer drug Letrozole, because that keeps the estrogen levels at sort of normal low levels. The treatment also requires frequent transvaginal ultrasounds and blood testing to track the development of maturing eggs in the ovaries.

The other thing that we also don't have much evidence to say, and I always tell patients this, is we don't really know what the effect on breast cancer is of doing this two-week treatment. There's one study that looked at a couple of hundred women who opted to freeze eggs or embryos before going ahead with their breast cancer treatment, and compared them to women who decided not to freeze eggs or embryos. At two years out, there was no increase in recurrence risk. Clearly I think more studies are needed before we would say, for sure, that it's a safe treatment.

… This is just a schematic diagram of what it looks like when we do an egg retrieval procedure. There's a vaginal ultrasound. I drew a circle on this ovary because actually the ovaries get pretty big when they're stimulated. The picture, on the top right, shows follicles. The dark circles are follicles. The little line there is a needle. This procedure is done with an intravenous anesthetic. It takes about 10 minutes. But we do consider it a minor surgical procedure. It takes several hours, because you need to come in early, have the procedure done, and then recover before going home again.

For women who opt to freeze unfertilized eggs … it's the same process. The same medication process is used. In the future, when the eggs are thawed, they need to be fertilized. We don't know how many embryos, how many usable fertilized eggs there are going to be until the future. We expect about 80 percent of these eggs to be able to fertilize, in the future. When the embryos are replaced in the uterus, this is done as an outpatient procedure. A very small tube just deposits an embryo or embryos into the uterus, and does not require anesthesia.

For women who do go through menopause from their chemotherapy, or age takes its toll and there are very few eggs left in the ovaries — even if some women are still having menstrual cycles, some women have very few numbers of eggs, and in the context of infertility, donor egg treatment is very common. In the United States right now, about 1 percent of all deliveries, all babies born, are from IVF. And about 5 percent of those are using donor egg. It's something that comes up in the general population way more commonly than it does due to cancer treatment. It just happens that women don't have as many eggs as would be ideal from the standpoint of becoming pregnant.

If menopause occurs, donor egg is just as much of an option for women who've had cancer as women who haven't. The likelihood of pregnancy is exclusively related to the age of the donor. The age of the woman who is carrying the pregnancy doesn't matter — we call the woman who carries the pregnancy recipient — because the uterus does not appear to age. It's obviously important to be medically healthy. Women who are planning pregnancy, if they've had chemotherapy, need to have an echocardiogram to make sure there hasn't been any negative impact of the chemotherapy on the heart function, because the heart's very important in terms of making sure that blood circulation through the body, and through the placenta, is good.

When donor egg treatment is used, we expect about 50 percent of the embryo transfers to result in a live birth, and 80 percent of the donors stimulated; because usually there's more than one batch of embryos available for the egg donor — the young woman who goes through the ovarian stimulation. For most IVF programs, ours included, we like women to be [younger] than age 50 when they become pregnant. We do have a cutoff of the 50th birthday. You need to be [younger] than 50 in order to use donated eggs. Again, the pregnancies from donated eggs would go the same way as a pregnancy from non-donated eggs, with the difference being that if the donor is a 22-year-old, we would not have the same concerns about Down Syndrome that we would have as if a woman was getting pregnant with her own eggs, at age 38 [or older]. The younger the egg, the lower the likelihood of any kind of chromosomal or other abnormality related to aging.

Those were all the prepared slides I had. I just wanted to put up some resources. That's my email [address], if anybody has some questions they don't feel comfortable asking [publicly]. … The contact person at the Brigham is Brittany Hammond [(617) 732-4222].

Resolve is a very helpful organization for women who do experience infertility. It's a national support organization. They have very good resources.

The bottom site is Fertile Hope. They have a program called Sharing Hope, which many hospitals contract with, to provide discounted infertility services for women with cancer, or men with cancer.

I think I can take any questions that people have.

ELYSE SPATZ CAPLAN, MA: That's great, Dr. Ginsberg. Thanks so much for providing that very detailed overview of fertility, and a lot of the things that women need to be thinking about or further understand and discuss with their healthcare providers. …

Right now, I'd like to turn it back to … [our operator] to let folks know how they can get into the question queue by phone and online. Thank you.

OPERATOR: Thank you. Ladies and gentlemen, we will now conduct our question-and-answer session. If you would like to ask a question, please press "star, one" on

your telephone keypad. A confirmation tone will indicate your line is in the question queue. You may press "star, two" if you would like to remove your question from the queue.

ELIZABETH S. GINSBERG, MD: There are a couple of questions up there. Do I answer them verbally, or do I type somewhere?

ELYSE SPATZ CAPLAN, MA: … You could answer them verbally.

ELIZABETH S. GINSBERG, MD: OK. So, the first —

ELYSE SPATZ CAPLAN, MA: I was going to say, so if you would like to start with questions that you see, that would be great.

ELIZABETH S. GINSBERG, MD: OK.

ELYSE SPATZ CAPLAN, MA: I would just ask you to read the question.

ELIZABETH S. GINSBERG, MD: Sure. The first question is: Have you had any patients who decided to take an IVF cycle three years after chemotherapy? We have. Typically, our recommendation is that — we always defer to the oncologist first. If the oncologist feels that it's OK to become pregnant, three years out, five years out, we would be willing to do that.

Typically, our patients will try to become pregnant on their own. If the concern is that embryos were not frozen beforehand, and the question really is, "Well, gee, I didn't freeze embryos beforehand. I do need to wait five years. Can I freeze embryos three years out?" most of the oncologists aren't very happy with stopping the tamoxifen at that point, in order to freeze embryos. I would say it's potentially possible.

If you had an AMH level checked … that's the best predictor we have of whether you would be likely to respond to fertility medication. [At that point], we would … know if it would be a reasonable thing to [stop tamoxifen and freeze embryos]. If the AMH level was good, there's no technical reason why we wouldn't be able to do it. But, again, we would need to defer to the oncologist about whether they were comfortable with taking a several-week break in treatment in order to do the IVF treatment.

The next question is: What does it cost to store frozen eggs? Does insurance cover the cost? Good question. Creating the eggs is the expensive part. Storage isn't that expensive. The costs vary greatly around the country. In our program, it [costs] $5,600 [and that covers the cost] to create the frozen eggs, freeze them, and [store them for] the first year. … For women who meet the Fertile Hope guidelines … the hospitals will discount the services. [For Fertile Hope recipients], the Brigham [fee] in that situation [is] … $3,700 for everything: the stimulation medications, the ovarian monitoring, the egg harvesting procedure, and … egg … storage for a year.

The long-term storage varies greatly, program to program. I would say anywhere to probably $400 to $1,000 a year is fairly typical storage cost. There are some long-term storage facilities that are cheaper. It's usually fairly expensive to ship the embryos to them. There's one called New England Cryogenic [Center] in our area of the country. The inventory fees are high, to get the eggs or embryos sent there, but then their annual storage costs are fairly low. There are a lot of different places around the country [where] frozen eggs [and] sperm can be sent.

The third question is: How long does it take for tamoxifen to leave the body, before trying to get pregnant? Most oncologists want you to take three months off, after the last tamoxifen pill, before trying to get pregnant. That gives plenty of room for [the tamoxifen] to completely leave your system. Tamoxifen is similar to the old hormone DES, so there are concerns that if a woman were to get pregnant with tamoxifen in her system, it could potentially cause some birth defects. A three-month break is generally recommended before trying to become pregnant.

ELYSE SPATZ CAPLAN, MA: Dr. Ginsberg, I'm just going to insert, having just returned from the San Antonio Symposium, and the research that was presented on longer duration or 10 years of taking tamoxifen — I wonder if

… you've received questions about that from women who were anticipating completing tamoxifen therapy [and are now looking at another five years of tamoxifen]. …

ELIZABETH S. GINSBERG, MD: Actually, I saw a patient this morning. What's happening in my practice is because, I think — the oncologists are reasonable. They know that having a family is very important. What I'm seeing in the patients that I've [spoken with] … so far, just [recently], I saw somebody this morning, and the plan is to become pregnant at five years, and then potentially after delivery go back on the tamoxifen. That's how they're handling it because, again, we don't want you pregnant, from an OB/GYN standpoint, we don't want women pregnant in their 50s.

ELYSE SPATZ CAPLAN, MA: Right.

ELIZABETH S. GINSBERG, MD: I think you want to have your family when you're young enough to really enjoy them, feel good, have a lot of energy and so on. I think there is going to potentially be a tradeoff.

ELYSE SPATZ CAPLAN, MA: Right. That sounds like — and I've heard that from other oncologists talking about … discontinuing [tamoxifen] to achieve that pregnancy, or attempt to become pregnant and then perhaps restarting [the medication] afterwards. It sounds like a pretty popular opinion that we're hearing. Thanks for addressing that.

ELIZABETH S. GINSBERG, MD: Sure. The other thing, for women who do have eggs or embryos frozen, is I have — not infrequently — women who really do need to stay on their tamoxifen for five years, and don't want to wait that long. [So they] actually have another woman carry the pregnancy for them. That's called using a gestational carrier. That's done commonly for infertility treatment, because some women, unfortunately, don't have normal uteruses and can't carry pregnancies, or [they may] have other medical problems that make them unable to. [It's] something that's also a possibility.

ELYSE SPATZ CAPLAN, MA: I think the takeaway is that there's more than one way to do it. That's a good thing, that there are some options … women [can] be discussing with their physicians.

ELIZABETH S. GINSBERG, MD: Absolutely.

The next question is: Is it possible to harvest eggs once tamoxifen [and] Lupron have been started? The short answer is, "yes." But, again, we always think it's important to defer to your oncologist, because your oncologist will have a very good sense for what tumor-type you have, how aggressive they expect it to be, and whether they're very worried about you, or not very worried about you. In situations where the oncologists have — they think you should be on the treatment, but they're not terribly worried about the aggressiveness of the tumor you have, some of the oncologists are comfortable with that. That's something that really needs to be done on a case-by-case basis, and also depending on how old you are as well.

What's the cost to have the frozen embryos implanted? Varies program to program, generally somewhere between $2,000 and $2,500 is the average cost. When the embryos are replaced in the uterus, there's monitoring. You can do this two different ways. We can put women on estrogen and progesterone. Even if the tumor is estrogen receptor-positive, we use estrogen and progesterone, because when you're pregnant, there are very, very high levels of estrogen and progesterone on board. At that point, if your oncologist is comfortable with you getting pregnant, you're going to be exposed to high levels of estrogen and progesterone. That's just part of pregnancy. We try to mimic the way the ideal uterus behaves by putting women on estrogen followed by progesterone. A few days after progesterone is started, the embryos are placed through the cervix into the uterus.

There are some programs that will do natural cycle replacements, where you're not on any hormones, and they have to track when the egg actually ovulates. The disadvantage of that is that some menstrual cycles will not have very good uterine-lining development. So there's a likelihood that these cycles are cancelled, where you are prepared that you're going to have an embryo or embryos replaced in the uterus but, in fact, the treatment is stopped because the uterus isn't developing normally, the lining isn't developing normally. That sometimes happens. Because that can

be quite frustrating, and frankly expensive and time consuming, we like doing a prepared uterine cycle, because it, I think, has the best efficacy.

The next question is: How would I find a surrogate woman to carry my embryo? Thanks. You're from New York — very important point. In New York, you are not allowed to pay anyone to be a gestational carrier. In New Jersey, it's completely illegal to have a gestational carrier at all. There are many, many agencies that will help you recruit a gestational carrier.

If you have embryos already frozen, the program that generated them will be able to help you find a carrier, either by referring you to a local agency, or they may actually have a recruitment service internally. Many of the programs in New York City, I know, do recruit carriers and donors internally. In Massachusetts where I am, everybody uses agencies. So there is some regional variation.

The other thing that's important to know is that if you do find someone to carry frozen embryos, it's very important to have a reproductive attorney review a contract that's between the two of you. We require a contract even if somebody's sister is carrying the pregnancy for them, because it's so important that the carrier and you are on the same wavelength, in terms of what decisions are made for the pregnancy. What about if an amniocentesis is recommended? What's going to happen if there's a question about whether to do a C-section or not? All the things that come up during the course of a pregnancy, where decisions have to be made — [those things] need to be really hammered out in advance. Would a pregnancy termination be done if the pregnancy looked like it was abnormal?

All these things need to be sorted out in advance. A reproductive attorney would be able to do this. There's an excellent reproductive attorney in Washington, DC, who's written a lot. [Her] name [is] Susan Crockin. If you look online, she's a very, very good resource, both for legal documentation and also in terms of steering people to recruiters [who] are reliable, and would be able to help … find [pregnancy] carriers.

The next question is: "Is the 10-year duration to take tamoxifen [considered] a medical fact?" [This person is] … at three years, [and says], "stopping tamoxifen and getting pregnant again was not an option with my oncologist, unless I took three years of Lupron in addition to tamoxifen."

That's interesting. You'll be 41 in January. So that's tricky. What your doctor did — just to give everybody some background, what tamoxifen does is it blocks estrogen receptors in the breast. It does not make your blood-estrogen level zero. What this woman's oncologist did was give Lupron also, because Lupron will make the estrogen-level zero. I think the oncologist's thinking was, well, if I really get the estrogen-level zero in her blood and block the receptors in the breast, then I'm pretty much more comfortable with stopping early.

Age is a very important factor. I think that if your three years are up in January, it would be great if you could stop, … from a fertility standpoint. But I think it would be very important to get an AMH-level done. Again, an AMH-level that's low doesn't mean you can't get pregnant. But if it's undetectable, it tells you that there's really been a very, very significant impact of whatever treatment you've had on the ovaries, or you were born with very few eggs. I think before deciding to stop treatment early, it's nice to get some idea of how the ovaries are working, because we do know that even when women are trying to become pregnant on their own, the likelihood that [they're] going to have difficulty is higher if the AMH-level is very low.

I think, certainly, before stopping treatment, you'd need to talk to your oncologist about it. Also, having an AMH-level checked, I think, will help give you an idea of how the ovaries are working now.

Again, there's a big difference in the ability of women to become pregnant at 41 versus 42, and 42 versus 43. It's not that everybody at 41 or 42 is infertile, but the likelihood of infertility really increases a lot with each year after age 40. I think this is a serious conversation to have with your oncologist.

ELYSE SPATZ CAPLAN, MA: Thank you so much for running through a lot of the questions submitted online.

ELIZABETH S. GINSBERG, MD: Sure. …

ELYSE SPATZ CAPLAN, MA: We'll just wait just a second, and see if any additional questions come in online or by phone. I think what I'm seeing here is we did have some questions coming in by phone, but perhaps you already answered them [by] … running through the questions that were already submitted. We always like to see that, when that happens.

I think we'll go back to the Web. There is definitely one longer question. I'll try to summarize that, Dr. Ginsberg, for you to address: "Do you feel like there's a bit of a gray area between fertility specialists and oncologists?"

I guess some people are concerned about getting that green-light regarding attempting to become pregnant. Is there any other specialist that can help a woman make a decision to become pregnant, to go ahead and try to achieve a pregnancy?

ELIZABETH S. GINSBERG, MD: That's a really good point. I think there are very different — oncologists have many different attitudes. Some oncologists see very few fertile-aged women, and in general they're very uncomfortable — my experience is that they're sometimes very uncomfortable doing something that isn't proven to be OK in a clinical trial. There is never going to be a clinical trial of pregnancy, ever.

I think if you're in a quandary and your oncologist is saying they're "not so sure," that's a situation where a second opinion makes a lot of sense. Does your organization have lists of oncologists that like seeing young women?

ELYSE SPATZ CAPLAN, MA: …We don't tend to [list oncologists with that preference] … but I think we do know that [they do exist], because our [annual] conference for young women … attracts specialists … interested and … experienced in caring for young women diagnosed with breast cancer.

ELIZABETH S. GINSBERG, MD: … My general take — and I think this is true for any medical problem — is that if you're not getting a straight answer, or you're getting nebulous answers, then I think a second opinion from another oncologist makes a lot of sense. Certainly Dana-Farber has oncologists [who] deal with a lot of young women. Most large cancer centers will.

ELYSE SPATZ CAPLAN, MA: That's typically what — when we get inquiries of that type at Living Beyond Breast Cancer, we'll refer most people back to a comprehensive cancer center that may have a program similar to the program that you have.

ELIZABETH S. GINSBERG, MD: Right. The University of Pennsylvania certainly does. Sloan-Kettering in New York. Dana-Farber in Boston. They're all over the country. But pretty much all of the large cancer centers now work fairly closely with fertility specialists. Most of them now have oncologists that are specifically interested in this patient population. That's not the case, especially if you're getting care in a community hospital. There are excellent oncologists in community hospitals. It's just that they may not have that much exposure to … younger women.

ELYSE SPATZ CAPLAN, MA: We do have a question by phone, so I think we'll move into that question before we start to wrap up.

ELIZABETH S. GINSBERG, MD: Sure.

OPERATOR: Once again, to ask a question on the phone, please press "star, one."

ELYSE SPATZ CAPLAN, MA: It looks like that person kind of popped off the line. Once again, Dr. Ginsberg, I think you may have answered her question. We always like to see that, when the questions disappear, and everything else is working fine technically.

With that said, I'm wondering, maybe we'll wrap up a few minutes early. I don't see any other questions coming in online. I'm wondering if you have any closing remark that perhaps you didn't cover in your slides, that you think would be a good takeaway for our listeners today?

ELIZABETH S. GINSBERG, MD: Yes. If you're at the point where your oncologist has OKed you to get pregnant, I do like ovulation-predictor kits. You can buy them in CVS, [and other pharmacies]. It will … tell you exactly when you're ovulating, so there's no guesswork involved.

The other thing is that most pregnancies happen within three to four months of trying to become pregnant. We don't label someone as having an infertility problem until they've been trying for six months to a year, depending on how old you are. But if someone's really waited a long time to be able to become pregnant, and it hasn't happened at four months, I actually do recommend having your husband get a sperm-count done, and thinking about getting some other testing done, too. … It's always a shame if people wait a whole year only to find out fallopian tubes were blocked, or the sperm count is very low, and they actually needed fertility treatments, aside from anything having to do with the breast cancer. I do think getting a jump on that, if you've waited a long time to get pregnant, makes sense.

ELYSE SPATZ CAPLAN, MA: I think that's great practical advice for people to remember, of course.

Thanks again, Dr. Ginsberg. I … Again, for peer emotional support, our [Survivors'] Helpline is (888) 753-LBBC or 5222. Someone is standing by Monday to Friday, [9 a.m. to 5:00 p.m. EST] to answer your calls live.

For those of you who may not be registered for our conference for young women, that we do in partnership with Young Survival Coalition, the weekend [for that event] is February 22 to 24, 2013, outside Seattle, in Bellevue, Washington. We do have a workshop on fertility and pregnancy every year. If you want even more information, there is a conference opportunity coming up.

With that, Dr. Ginsberg, thanks again. I hope you have a good rest of the week. Thanks to all of you who took out some time to join us today.

ELIZABETH S. GINSBERG, MD: Thank you. And good luck, everybody. Take care.

[END OF TRANSCRIPT]