Cancer Genetics 101 with

Talia Donenberg, MS

Dr. Alejandra Perez

Dr. Kristin Rojas

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Brianna Schwarz:

Good evening. Good evening everyone. I want to thank you for joining Sharsheret today for Cancer Genetics 101: What You Need to Know Before Testing.

Brianna Schwarz:

I'm Briana Schwarz, Sharsheret's Florida Regional Director, and while Dr. Kallos was unable to join us this evening, tonight we will be learning from some of the top experts in the field: Talia Donenberg, Dr. Alejandra Perez, and Dr. Kristin Rojas. They will share how genetics and lifestyle impact breast and ovarian cancer screening and treatment, and what you need to know before genetic testing.

Brianna Schwarz:

We are grateful to tonight's webinar sponsors: Sylvester Comprehensive Cancer Center, AstraZeneca, Basser, Eisai, GSK, Merck, and Seagen. It is thanks to their support that we are able to continue to provide our series of webinars throughout the pandemic.

Brianna Schwarz:

Whether you are a Sharsheret supporter or you are joining us through one of our partner organizations.... JScreen, the Minkoff Center, the Sarnoff Center, the Victor Center, and Yodeah ... we welcome all of you to tonight's program. Stay tuned at the end of the webinar to learn more about the work of these incredible partner organizations.

Brianna Schwarz:

Before we begin, a few housekeeping items. Today's webinar is being recorded and will be posted on Sharsheret's website along with a transcript. Participant's faces and names will not be in the recording. If you would like to remain private through the webinar, you can turn off your video and rename yourself, or you can call into the webinar. Instructions are in the chat box now for both those options.

Brianna Schwarz:

You may have noticed that all participants were muted upon entry. Please keep yourself on mute throughout the call. If you have questions, put them in the chat box, either publicly, or click on Sharsheret in the chat box to submit a private message. We received many questions in advance of tonight's webinar and anticipate many questions in the chat box. We will do our very best to answer all the questions, but anything not answered tonight will be addressed by email over the next week.

Brianna Schwarz:

We recommend you keep your screen on speaker view. This will enable you to see the presenter while she is speaking. You can find this option in the upper right hand corner of your screen.

Brianna Schwarz:

Sharsheret has been providing telehealth services to the breast and ovarian cancer communities for 20 years, and the past year and a half has not changed that. We continue to be there for each and every one of you. As we move into the webinar itself, I'd like to remind you that Sharsheret is a national, not-for-profit cancer support and education organization, and does not provide any medical advice or

perform any medical procedures. The information provided by Sharsheret is not a substitute for medical advice or treatment for specific medical conditions. You should not use this information to diagnose or treat a health problem. If you have any questions that are specific to your medical care, we recommend that you speak directly with your medical provider. Always seek the advice of your physician or qualified health provider with any questions you may have regarding a medical condition.

Brianna Schwarz:

Before we hear from tonight's presenters, I'd like to introduce Nancy, a Sharsheret caller, to briefly share her personal experience with genetic testing and counseling with us. Nancy?

Nancy:

Hi there. Thanks so much. So my story starts... I'm 32, I am Ashkenazi Jewish, and a BRCA1 previvor. In December I advocated for myself to get genetic testing after my mom had gotten it and had been bugging me for a couple of years. Essentially, my family has a long line of ovarian cancer history and a little bit of breast cancer history.

Nancy:

And so I went in, got my test done in January, got my results back in February, and essentially once I got my results back I wanted to see all the different doctors that I could, that they advised me to, and so that included a pancreatic specialist, breast and gynecologic oncologists, and then also part of BRCA1 mutations have dermatologic malignancies as well, like melanoma.

Nancy:

And so the first one I went to, I went to a pancreatic specialty appointment; that was the easiest appointment by far. They told me if I don't have any family history of pancreatic cancer, that I don't need to worry. So, great.

Nancy:

So then I went to my breast surgeon/oncologist appointment and there they talked about the statistics and the options of either active monitoring or an increased surveillance, or preventative surgery. And it was also where I learned of the staggering statistic of my risk ... and people with BRCA mutations ... getting breast cancer in my lifetime of 50 to 90 percent.

Nancy:

And all of these are not smushed into one week, like months and months at a time. But then I went to my gynecologic oncologist appointment, and based on what he was advising, what I wanted, he and I talked about having a full hysterectomy by the time I was 35 to 37, no later, because my earliest ovarian cancer relative was around mid-forties. And then also continuing to screen with six months transvaginal ultrasounds and CA-125 markers.

Nancy:

Well naturally, I don't think anybody wouldn't be overwhelmed, so I was overwhelmed and I started googling, but caveat, I'm a veterinarian and so I don't want to go down a Google rabbit hole. So I

googled for support groups and found a couple. I found BRCAStrong, The Breasties, Sharsheret, and landed on Sharsheret first. One, because they seemed to fit the most, but two also I'd heard of them back in October. My mom had heard of them, told me about them, and never in my wildest dreams did I think that I would have it be so relevant to me so soon. But also I designated them as my November Small Business Charity of the Month for the bread business that I have. So I had already had that connection.

Nancy:

So the first person I reached out to was Peggy, who is the genetic counselor, and she was so helpful, even in the early on stages. She made me feel like I had support, like I knew what I was doing going into this, all my options, without ever meeting her or knowing her beforehand. And then after that, she sent me some material to read up on for myself, and also I got to utilize the peer support network and got to talk to somebody, not only to gain insight but talk to someone in my almost exact similar situation, so same mutation, almost same age, same questions about a surgery that she had had, because I was looking into preventative surgeries.

Nancy:

And all that was super helpful. And so, there are various routes you can take, but due to my scanxiety, I basically have elected and have proceeded to go forward with a preventative double mastectomy with flap reconstruction. That will happen in October of this year. That's kind of my short story.

Brianna Schwarz:

Nancy, thank you so much for sharing and for utilizing Sharsheret services, and being open with talking to us tonight. Thank you.

Brianna Schwarz:

So this evening, we are honored to be joined by a team of terrific professionals from Sylvester Comprehensive Cancer Center: genetic counselor Talia Donenberg, breast oncologist Dr. Alejandra Perez, and breast cancer surgeon Dr. Kristin Rojas.

Brianna Schwarz:

We're going to begin tonight with remarks from Talia Donenberg, who is a board certified genetic counselor who has specialized in the field of cancer genetics for 24 years. She was the first genetic counselor in South Florida, and initiated the Cancer Genetics program at the University of Miami 21 years ago, providing counseling for all inherited cancer syndromes. Along with colleagues, she has researched and published on hereditary breast cancer gene founder mutations in breast cancer patients in the Caribbean islands. Her interests include tumor genomics and precision medicine applications, for both germline and tumor mutations. She is bilingual and counsels in both Spanish and English.

Brianna Schwarz:

So Talia, thank you for joining us this evening. It's a pleasure to see you. Take it away.

Talia Donenberg:

Okay. So let me just get everything I need. Okay. Thank you so much for having me. I have been referring patients to Sharsheret for a very, very long time. I've heard wonderful things, and not just for Jewish patients, so I utilize Sharsheret as a resource for all my patients who are in need.

Talia Donenberg:

I'd like to talk a little bit about what I think is important for patients to know as they're coming into the testing process, and this is kind of split between patients who are unaffected and looking for their risks, and also patients who are affected by cancer.

Talia Donenberg:

So we get referrals both from physicians who are more in the primary care area, and also from physicians who are treating cancer patients, or who have just diagnosed patients.

Talia Donenberg:

So I think we're also coming into an era where a lot of patients are being tested prior to coming in to see us. And that's a very different scenario than we're used to. Most genetic counselors start by pretest education and counseling, so it's a little bit different for me too, because I'm now meeting patients who have had genetic testing already. Sometimes they do or don't know their results, so I don't always anticipate what's going to come up when I see patients. Sometimes I don't know whether they've had results, I don't know whether they know their results, so it's a bit of a surprise. But if I were to say to somebody, "This is what I would like you to know before genetic testing," so here it goes.

Talia Donenberg:

The advice I would give is to know your family history. Now, nobody just knows it. Sometimes you have to research it. So the questions to ask are what to look for in your family history: who has had cancer, what type of cancer in each individual, what are the ages at diagnosis, and what is the primary site of the cancer? So not where did it spread to, but at what age did it start, at what age was the person diagnosed, and what primary site of cancer, where was the origin, the organ of origin? And how closely is that relative related to you? So whether it's a first degree, second degree, third degree, but basically name the relative: is it a mother, father, aunt, uncle, paternal aunt, paternal uncle, et cetera?

Talia Donenberg:

The next thing that is important is to know has anybody in the family had genetic testing before? Especially if a patient is not affected with cancer and is coming in to know their risks, that is a really important thing to know. So if there is cancer in the family, and the person's interested in knowing their risks, and if the family member has had cancer, it is really very helpful to have genetic testing results on hand from that family member. If there is a strong family history and family members have had testing and there is a positive test result, we really want to know that. Not only do we want to know the cause of the cancer in the family, but the specific mutation in the family. That will help us identify what the risk is, what the percentage of risk is to the person, but it will also identify what kinds of cancer the person is at risk for.

Talia Donenberg:

So we can determine if the family member is third degree family member or second degree family member whether there's a 12.5 percent risk of inheriting the mutation, whether it was a 25 percent chance, whether it is a 50 percent chance of inheriting the mutation. And we know exactly what to look for as well.

Talia Donenberg:

Now we still want to take the entire family history because there's always another side of the family: so the side where the cancer is coming from, where there is the mutation, and then the other parent, with the other side of the family. So we're not going to ignore the other side of the family.

Talia Donenberg:

So it is always very important to talk to your relatives and see if there's any genetic testing done, and to have a copy, to see if that relative is willing to share a copy of their mutation. Now in some cases, the family members don't speak, or it's a little bit difficult to share information in a family, and that's certainly understandable, so we can't always have everything ready. But we do recommend as much discussion as we can, as possible.

Talia Donenberg:

Okay. Another thing to understand before you undergo genetic testing is you do have the right to genetic counseling: even if it's not offered to you, know that there is genetic counseling available. Testing should not be rushed. A lot of times it is rushed and that is to the patient's benefit, of course, for many reasons, for reasons that include treatment. And of course, we do want to put treatment first in circumstances where the patient can benefit from making decisions. And that is really important nowadays, not only for surgical decision making when a patient's newly diagnosed, but also for chemotherapy and options of medications.

Talia Donenberg:

So while it is really important to have genetic testing as soon as a person is diagnosed, it is also important to really understand what you're being tested for, what the pros and cons are of genetic testing. And not really so much of the cons, but what the benefits and the limitations are of the test itself, because there are some limitations and it is helpful to know what you're being tested for, how many genes are involved, and we'll talk a little bit more about that.

Talia Donenberg:

A person can always opt for a stat appointment, and there's always ways to get through the system: even if it doesn't look like there are appointments available for six months, there's always ways to talk to your doctor and get your doctor to talk to the genetic counseling crew. We have telemedicine available at University of Miami, so if you can't get a person to person appointment, you can ask for telemedicine. We have those availabilities within a couple of days, and there are also telemedicine online services through several different private companies, so that can be accessed as well.

Talia Donenberg:

Another thing to understand is that not all breast cancer is hereditary. Only about five to 10 percent of breast cancer results from an inherited single gene mutation, so this is the minority. Now I'm saying five to 10 percent; really in the Ashkenazi Jewish population, it's more like 12 percent. So the statistics are a little bit different, depending on your ethnic background. But by and large, the majority of breast cancer happens because of the aging process and because of chance alone. As we get older, our risk of breast cancer increases, and a lot of breast cancer that we have in our families is primarily age-related or just by chance. So a lot of women do tend to overestimate their risk of breast cancer. And when they come in for risk assessment, we go over the family history, we go over the ages at diagnosis, and we go over patterns in the family. And a lot of women are pleasantly surprised to understand that their risks are not as high as they originally thought.

Talia Donenberg:

So how many genes are actually known to predispose to breast cancer? There are a lot of different gene panels available now, but there are really only 15 or up to 20 guideline-based genes. When I say guideline-based genes, I mean these are genes that have evidence-based information in the medical literature, that are proven to be genes that increase a person's risk to develop breast cancer when they are mutated: so when there is an alteration that stops the gene from functioning, that has been related to increased breast cancer risk. So I don't care how big your multigene panel is, how many genes you get tested for, it's not going to give you more information about hereditary breast cancer.

Talia Donenberg:

But as long as you do have information on about 15 to 20 genes, of course, depending on the genes, but most laboratories do focus on those genes for hereditary breast cancer panels, then you're pretty safe. It is assumed that there are more hereditary breast cancer genes, but we don't know them all right now. So current testing, we can't find all the breast cancer genes. Current testing also does not find all the mutations that are present, but we figure we have a very good idea: from today's testing, we can probably find at least 90 to 95 percent of mutations in the current genes. So our technology is very, very good ... it's not 100 percent ... for the genes we know about.

Talia Donenberg:

New methodology is coming up and is clinically available by some labs. Other labs are coming around, and very soon we'll be all up to date with most laboratories. They're adding on not just the DNA analysis but all the labs are adding on what we call RNA analysis. So RNA is a way of finding mutations that are sort of hidden in the DNA. And if you test negative or your family members test negative for mutations, you can also ask about RNA analysis.

Talia Donenberg:

Okay. So what happens if you test negative? Well a negative test result doesn't mean you will never get breast cancer. A negative test result doesn't mean you're not at increased risk. We base a lot of our counseling on the family history, and really genetic testing may be only one part of a comprehensive breast cancer risk assessment. So we base it on family history, we base it on your medical history, on your menstrual history, on your reproductive history. There are now some models that we can use that

are called polygenic risk models, so breast cancer risk can be due to not only a specific gene but also combinations of genes that are inherited from mom and dad together.

Talia Donenberg:

I'm running out of time. I'll try this quickly. So breast cancer genes also have varying levels of risk. BRCA1 and 2 are known as the highest risk genes, but mutations in some of the other breast cancer genes that we know of may have more moderate level of risks. So it is important to understand that if you test positive, which gene you're positive for, and what are the risk ranges. For the risk ranges, we have different options for early detection and risk reduction, and these should be discussed in detail with your doctors. Risk for additional cancers may be increased, depending on which gene is involved in your family.

Talia Donenberg:

In addition to negative and positive results, there are uncertain variants that can result from a genetic test. Basically uncertain variants are considered inconclusive results, and we don't act on these results. We don't make medical management recommendations and we don't test unaffected family members for uncertain variants.

Talia Donenberg:

I think I'm all set here, so I'll pass this on to our doctors.

Brianna Schwarz:

Thank you, Talia. That was very informative, well said. Thank you so much. One thing you mentioned was appointments for genetic counseling, and I just want to give a little plug to let everyone know that Sharsheret's genetic counselor, Peggy Cottrell, is available to speak over the phone with anyone who has questions, can make an appointment with her, and to speak with her about their genetic questions as well.

Brianna Schwarz:

I see that we are receiving many questions in the chat box. We will have question and answers, thank you Deborah, at the end of hearing from all of our speakers.

Brianna Schwarz:

Our next presenter is Dr. Alejandra Perez, a breast oncologist at Sylvester Comprehensive Cancer Center. Dr. Perez is an associate professor of medicine at the Miller School of Medicine and triple board certified in internal medicine, hematology, and oncology. She's the medical director of the Braman Family Breast Cancer Institute at the University of Miami's Sylvester Comprehensive Cancer Center in Plantation, Florida. She works with a multidisciplinary team of breast cancer experts with the goal to address each aspect of breast cancer care, including access to state of the art FDA-sanctioned clinical trials, precision treatment approaches, breast cancer plastic and reconstruction surgical services, as well as addressing the physical, emotional, spiritual, and nutritional needs of patients. Dr. Perez practices an evidence-based approach to treatment, and participates in clinical trials that may deliver access to emerging technologies and treatments that may be more effective than those currently available. She

has been primary investigator on numerous clinical trials that address the prevention and treatment of breast cancer.

Brianna Schwarz:

Dr. Perez, it's always an honor to see you. Thanks for joining us. The floor is yours.

Dr. Alejandra Perez:

Thank you, Brianna. I thank you all for the opportunity.

Dr. Alejandra Perez:

So as a breast medical oncologist I get to see two types of patients. I get to see the patient that was diagnosed with breast cancer, they come to us: sometimes they already have genetic testing and they come with that information, or sometimes they come without any genetic testing and we have to do that first assessment to see if they meet criteria for genetic testing, and we refer to genetic counseling. Sometimes we do it ourselves, depends on the setting. But every patient is counseled on the risk and benefits, and what we need to know about that type of cancer.

Dr. Alejandra Perez:

The other type of patient that we see is the patient that comes to us, sometimes with already knowing that they have a mutation, a BRCA mutation, CHEK2, PALB2, different types of mutations, and they come to us for a risk assessment so we can guide them. Or they come because they have a strong family history, because we do have what we call a high-risk program. These are for patients that don't have breast cancer, but they think they're at an increased risk for whatever reason, usually it's family history. So we go over the family history, and again, we determine if they need genetic testing. We work with our colleagues in the genetics department to do all the counseling, and then we decide what kind of surveillance program is good for those patients.

Dr. Alejandra Perez:

So when we have a patient that is high risk, let's say they were diagnosed with a BRCA mutation, or again, many other genes: ATM, CHEK2, Li-Fraumeni, we have many others. So let's say we have a patient that comes with a BRCA mutation. We sit down with them and we develop a plan. And that plan is very different for every single patient. It depends on the age, it depends on family history, it depends on a lot of different factors.

Dr. Alejandra Perez:

And we're going to be discussing several things. We're going to be discussing if surgery is appropriate for that patient ... and the next speaker is a surgeon, so I'm going to let her talk about the surgical options. We discuss what we call chemo prevention ... is medications that we have access to: tamoxifen, other class of drugs aromatase inhibitors ... to see if can decrease the risk of developing breast cancer in the future. We talk about surgery options, surgical options, chemo prevention.

Dr. Alejandra Perez:

We talk about imaging. We decide if the patient needs a mammogram with an ultrasound, maybe an MRI alternating with a mammogram every six months. We look at other technology. We have now contrast-enhanced mammogram that is newer technology that we have available at Sylvester. So we decide also what kind of imaging is needed for that patient, and then we also talk about lifestyle.

Dr. Alejandra Perez:

Lifestyle changes are extremely important. We know that keeping a healthy weight, no smoking, low alcohol intake, exercising every day, all of those things are extremely important to decrease the risk of breast cancer, and we have other members of the staff that help us with that. We have nutritionists, we have exercise physiologists: it's a whole team approach to seeing how we can decrease the risk.

Dr. Alejandra Perez:

So that's the patient that comes to us, to the high risk program, and we will decide what's the best treatment for that patient so we can decrease the risk of developing breast cancer, and other cancers as well. We talk a lot about BRCA because it's more common, but we also have other genes that can increase the risk of colon cancer, gastric cancer, skin cancer, melanoma, other cancers. So we also work with our colleagues in GI, to get those screening colonoscopies, to get all the testing needed. Pancreatic cancer, like Nancy mentioned before, so we also have programs to address that. That's the high risk (patient.)

Dr. Alejandra Perez:

Then we also see the patients with breast cancer. And again, sometimes they come with genetic testing already done, and sometimes they don't. So we determine the need for genetic testing, we get that information.

Dr. Alejandra Perez:

If the patient has a mutation, we look at management. Is that going to affect the management of that particular patient? So we do have drugs that are now approved for patients with advanced breast cancer that are BRCA positive. We have a class of drugs called the PARP inhibitors. So if we look at patients that present to us with advanced breast cancer, metastatic breast cancer, and they have a BRCA mutation, we also have some information on PALB2, we have medications that work for those patients.

Dr. Alejandra Perez:

And we've done clinical trials comparing the PARP inhibitors ... there are two that are approved right now, olaparib, talazoparib, and we've done clinical trials comparing those medications that are just oral drugs, pills, compared to chemotherapy, to standard of care, and they've shown to be better with less side effects. So those medications are FDA approved and we use them. They're also FDA approved for ovarian cancer, but we use it a lot in patients with breast cancer.

Dr. Alejandra Perez:

Also in patients with early stage breast cancer, in the last oncology meeting that we had in June from the American Society of Clinical Oncology (ASCO), there was a very important study presented looking at

patients with early stage breast cancer that are BRCA positive. When they completed the treatment for breast cancer, they were given a year of olaparib, one of these PARP inhibitors, and they also showed a decreased risk of recurrence in those patients that took this medication, in selected patients that we consider at high risk of recurrence. So we have these options available for patients.

Dr. Alejandra Perez:

Also, we have many clinical trials. At Sylvester, we have a study called the TAPUR study, that looks at patients that have germline mutations, so the ones that determine the family history and the risk in the family. But we also test the tumor for genetic abnormalities, what we call genomic testing, and we have clinical trials that can target those specific mutations. And we can treat patients with advanced breast cancer that way. There's a clinical trial right now that is using immunotherapy with a PARP inhibitor.

Dr. Alejandra Perez:

So again, we have a lot of options, and that's why it's very important for the medical oncologists to really understand the genetic makeup of the patient, the tumor, to see what risk we have there, and to see how to treat it, because for the first time we have drugs that can really target those genes. And that's a lot of progress in this field.

Dr. Alejandra Perez:

In patients that already have breast cancer, we can tell a lot about the biology of the tumor, also related to these mutations. So for example, we know that patients that have the BRCA1 mutation are more prone to develop tumors that we call triple negative breast cancer, which is an aggressive form of breast cancer, and we have ways of treating those tumors that are triple negative. We add different chemotherapies to the standard of care. Now we're adding another chemotherapy that is called carboplatin that we know increases your chances of responding well to chemotherapy, and it's usually those patients with the triple negative breast cancer that we see most commonly in patients that are BRCA1 positive. BRCA2 we see more in the patients that have tumors that are estrogen positive, so again, it tells us a lot about the biology of the tumor and ways to treat this.

Dr. Alejandra Perez:

This is a quick summary, because we get seven to 10 minutes. I'm sure you're going to have more questions, but again, we divide those patients into high risk and patients with breast cancer, and that information is equally important for both of those groups because we can really tailor this approach, and it is a multidisciplinary approach: I work with the surgeons, with the nutritionist, with the exercise physiologist, with the genetic counselors. It's a multidisciplinary approach to see what's the best plan for you, because for some patients maybe surgery is appropriate, but for some other patients it's not, and it's a very personal decision, and we work with the patient to make sure they're comfortable with that decision, and we are on top of things. And we're going to be seeing those patients every six months if they don't have cancer, or more frequently if they have cancer. And we tailor the treatment according to the genetic makeup.

Dr. Alejandra Perez:

So I'll stop there, Brianna, and then we can take more questions.

Brianna Schwarz:

Thank you, Dr. Perez. Our next speaker is Dr. Kristin Rojas. Dr. Rojas is a fellowship-trained breast cancer surgeon with a passion for comprehensive wellness in women's cancer care. She treats patients with benign and malignant breast disease, and is the founder of the Menopause Urogenital Sexual Health and Intimacy, otherwise known as MUSIC program, at Sylvester Comprehensive Cancer Center at the University of Miami, a program for women experiencing the sexual side effects of cancer treatment. Her research focuses on opioid-sparing initiatives in breast cancer surgery and addressing the sexual side effects of cancer treatment.

Brianna Schwarz:

Dr. Rojas, thank you for joining us this evening. Take it away.

Dr. Kristin Rojas:

Thank you so much for having me. I'm thrilled to be here, and I also just want to highlight all the amazing work that your group does by putting together an event like this; like, I saw almost 100 people on earlier. It's just so important to get this information out.

Dr. Kristin Rojas:

I also want to give a shout-out to my colleagues that came before me and just say it's such a pleasure to be able to work with true experts in the field, knowing that we're at a place where we're actually doing the trials looking at specific patient populations like BRCA positive women and men, and what treatments work best for them. So just wanted to start with that.

Dr. Kristin Rojas:

I am a breast cancer surgeon, but I see patients who are already diagnosed with breast cancer or who are at high risk for breast cancer, either with or without a genetic mutation. As some of my other colleagues already spoke about earlier, sometimes patients come to me with the diagnosis of BRCA or another similar gene, like PALB2, CHEK2, ATM among others, or P53. And sometimes they have breast cancer, and then we later find out that they have a BRCA mutation, or something similar.

Dr. Kristin Rojas:

So I want to talk a little bit about just surgically how I manage these patients, kind of the talk I give to patients. Now usually this is about an hour long talk, but I'm going to give you the Cliff Notes version. So let's imagine a newly diagnosed BRCA patient, BRCA1 or 2, without a history of breast cancer. So the way I frame this conversation is ... I also forgot to mention that I am also a board certified gynecologist, so I do kind of get to wear both hats when I have these conversations, in that I talk to women about their breast cancer risk and how to reduce that risk, but also for the prevention surgeries, I am able to do those risk reduction surgeries for ovarian cancer as well, and sometimes even at the same time.

Dr. Kristin Rojas:

So, for a newly diagnosed BRCA patient without a history of breast cancer, thinking of her ovarian cancer risk. I'm going to start here because we have less wiggle room with how we manage the risk for ovarian cancer. Depending on whether you're BRCA1 or BRCA2, we recommend that you do have your fallopian

tubes and your ovaries removed by the time you're either 35 or 45, and I'll tell you when I recommend each.

Dr. Kristin Rojas:

It's important that we remove both the fallopian tubes and the ovaries because the fallopian tubes are probably the source of a lot of ovarian cancers and we consider them kind of the same entity. This is not the same thing as a hysterectomy, which is removal of the uterus, which is kind of optional in this setting.

Dr. Kristin Rojas:

So removal of the fallopian tubes and the ovaries in a woman who's BRCA1 or 2 positive significantly decreases the risk of ovarian cancer, by like 90 to 95 percent. I'm going to talk a lot about risk reduction surgeries; we can never say preventive surgeries because there's always a small risk. No matter how good your surgeon is, I can never make that risk zero, and that's why it's so important to stay plugged in with your healthcare providers and your cancer experts.

Dr. Kristin Rojas:

So removing the fallopian tubes and ovaries also known as a BSO, or bilateral salpingo-oophorectomy. For BRCA1 patients, we recommend that at around age 35, or you can defer that a little bit if you are still having children and in fact planning your family. If that's the case, we recommend you do every six months a pelvic ultrasound and a blood test for CA-125.

Dr. Kristin Rojas:

If you're BRCA2 you can actually, according to the guidelines, defer a little bit later, and that's because the risk of ovarian cancer with BRCA2 is a little bit lower and tends to happen later in life. And so we typically say around the age of 45 for BRCA2.

Dr. Kristin Rojas:

Now there's really not a lot of wiggle room with removing the tubes and ovaries. I really actually try to strongly recommend that for my patients, if not today, then thinking about it in the future because the problem with ovarian cancer is it's the most lethal gynecologic malignancy. Women diagnosed with ovarian cancer are diagnosed later in later stages, there's less we can do for them. It's a completely different animal than breast cancer, which we often diagnose very early. And so I really try to convince patients to start thinking about when they want to do this.

Dr. Kristin Rojas:

We also take into account their family history, so if they have a lot of family members with ovarian cancer maybe in their thirties, we might consider it. Or no ovarian cancer; we can kind of adjust those risks based on the individual patient.

Dr. Kristin Rojas:

Another important thing to know is if even if you're not old enough to have your ovaries and fallopian tubes removed, if you have a BRCA1 or 2 mutation, you can actually reduce your risk of ovarian cancer

by taking birth control pills. So a lot of people think that by taking birth control pills it increases your risk of breast cancer. It's a complicated and very controversial discussion, but taking birth control pills actually does decrease your risk of ovarian cancer by about 30 percent. So if you're younger, not thinking about removing your tubes and ovaries yet, this is a really helpful tool that can decrease your risk of ovarian cancer. And it's okay to take, even if you still have both your breasts and you have not undergone a mastectomy.

Dr. Kristin Rojas:

So that's how I think about removing the tubes and ovaries. For my patients that do remove their tubes and ovaries between age 35 and 45, that does put you into what we call a surgical menopause. The average age of menopause in the United States is 51, 52. So when we put you into menopause early, it can mean symptoms like hot flashes, vaginal dryness, sexual dysfunction among others. And so a common misconception is that we can't give you a little bit of hormone back to improve your quality of life, but we actually can. Even if you have not had a mastectomy, we can give you a little bit of hormone back to help preserve your bone density, decrease your cardiovascular risk, and just help you feel better all around, because sometimes that transition right after having your fallopian tubes and ovaries removed is pretty tough. And those are in patients who don't have a diagnosis of breast cancer. That's the ovaries.

Dr. Kristin Rojas:

Now I'm going to talk about how I manage patients with regards to risk reduction for breast cancer. As my fabulous colleague spoke about before, she can offer ... Dr. Perez ... medications to decrease the risk of breast cancer in patients who have a BRCA1 or 2 mutation, or who are really high risk for other reasons. So that's the endocrine therapy for the risk reduction aspect.

Dr. Kristin Rojas:

But from the surgical aspect, even though we don't have a lot of wiggle room with ovarian cancer, for breast cancer I really do kind of like to have a longer discussion and leave this up to the patient. We don't mandate that you have to have a bilateral mastectomy. It's a big surgery, and so I like to make sure my patients understand what that means, and oftentimes it's not a decision that we need to make right now. It's something that we can think about: again, have you meet with my plastic surgeon to talk about reconstruction options, and kind of talk to other women who are maybe in a similar situation, but usually not a decision we have to make right this second.

Dr. Kristin Rojas:

Now there are certain women who, with a BRCA1 or 2 mutation, have a lot of breast cancer in their family at a young age, and for those patients if the thought of having an MRI and needing a biopsy would make them absolutely crazy with anxiety, those are the patients who really probably would do better with surgery instead of what we call high risk reading, which is an alternating mammogram or an MRI starting at the age of 30.

Dr. Kristin Rojas:

So normal risk women, we say mammogram every year starting at age 40; high risk women, BRCA1 and BRCA2, you start an annual MRI at age 25 and then at age 30 you start to alternate that with a

mammogram. We don't like to mammogram women younger than 30 because we don't like to give any doses of radiation to those patients at a young age, but MRIs actually don't have radiation. They work by a magnet, and so we can start those at age 25.

Dr. Kristin Rojas:

A lot of you wrote in about: why do I need to know if I have a BRCA mutation if I don't have kids, or should my kids be tested? And this is what I always tell patients. Most of the time, we don't like to test specifically ... and Talia can probably speak to this more ... adolescents and young adults because we don't really know what all the psychological effects of knowing that they have a BRCA mutation are in that age group. We really don't intervene until they decide to start having a family or if they're at age 25, which is when we would start to screen them. And so that's something to think about when you have kids and how to approach testing them.

Dr. Kristin Rojas:

Even if you personally don't have children, it's important to know your gene mutation status because of all the reasons I've talked about: being able to not only screen for cancer, because we know that if we catch it early, your treatment is less aggressive, not only from the type of treatment that Dr. Perez has to give you, it may mean the difference between needing chemotherapy and not needing chemotherapy. From my perspective, it may mean the difference between doing a really aggressive surgery in your underarm or doing really minimal surgery in your underarm. So catching the diagnoses early is super important and that's one of the reasons that I advocate for women who have a strong family history to be tested. But that being said, it is a personal decision.

Dr. Kristin Rojas:

So by doing a bilateral risk-reducing mastectomy, I can decrease the risk of breast cancer by about 90 to 95 percent. It's still important to stay plugged in with your breast cancer specialist. They can screen you every year to make sure that you're not developing any other complications, or the very, very, very low risk of developing breast cancer after a mastectomy. We can offer immediate reconstruction with our plastic surgeons at the same time. We now can also offer newer techniques for mastectomy, including nipple-sparing mastectomy, different ways to reconstruct the breast that may or may not include an implant, or taking tissue from another part of your body. And so there's really a lot of options. I'm compressing this long talk into a very short period of time, so that is what I wanted to say about risk reduction.

Dr. Kristin Rojas:

To summarize: ovarian cancer, we do want you to remove your tubes and ovaries at a certain age, depending on whether you are BRCA1 or BRCA2. Removing both breasts, having a bilateral mastectomy, really is a personal decision, usually not an urgent one, and is a complicated decision with a lot of different options, so it can significantly decrease your risk of breast cancer, but is more flexible in terms of our recommendation. So that's my summary, and hopefully that got the message across.

Brianna Schwarz:

Incredible. Thank you so much. Thank you to all of our speakers. Lots and lots of information. I might actually watch the recording of this so that I can go back and hear again some of the information you shared.

Brianna Schwarz:

Like I mentioned in the beginning, we've received a ton of questions in advance, and I know I'm getting questions in to me in the chat box. I know our presenters are as well. So we have a lot to cover, and we want to get through as many as we can before our program concludes, but if we don't get to your question tonight, do not fret. You can reach out to Sharsheret and one of our social workers or our genetic counselor will get back to you, and connect with you about how to get those answers. So our email address to connect with our team is going to be in the chat, but I do want to go through some of the questions that came in advance of the presentation that we haven't covered yet.

Brianna Schwarz:

The first question I'm going to pose to Talia. If you test negative for an Ashkenazi panel, do you need to test further? And also, can you talk about guidelines for testing men for mutations? It's a two part question.

Talia Donenberg:

Okay, so if you test negative for an Ashkenazi panel. Nowadays we are not so much focusing on just testing with an Ashkenazi panel, and that is because the new technology, which is called Next Generation Sequencing, is quite exciting. It gives us the ability to test a whole bunch of genes at the same time, which we were not able to do with direct sequence analysis, and it is also a lot less expensive. So for $250 at most laboratories, we can test for a whole bunch of genes at the same time. So we don't necessarily have to just test for specific mutations in BRCA1 and BRCA2, but can just select a test for a panel of genes, so it makes it a lot easier. We can add additional genes and we're not bound by just starting with three mutations. That doesn't necessarily mean we're going to find a whole lot more, but we don't have to be bound by testing in stages, which we used to be.

Brianna Schwarz:

Thank you.

Talia Donenberg:

Second question that you slipped in there was about men. So men would need to meet the same guidelines as women, same family history guidelines, basically. Men who are affected with cancer, we do look out for men with breast cancer, men with high risk prostate cancers, and men with pancreatic cancer in the case of hereditary breast cancer families.

Brianna Schwarz:

Thank you. Dr. Rojas, we had a woman write in before. She says that she is a survivor of stage zero HER2 positive estrogen positive DCIS. She had lumpectomy, six weeks of radiation, and five years of tamoxifen. Her initial genetic testing in 2013 was negative for BRCA1 and 2, and she also has a strong family history of breast cancers in family members who also tested negative for BRCA1 and 2. Her

question is: have there been any new genes for breast cancer like hers since 2013? And we've done a lot of talking about BRCA, I'm just wondering if we could just mention some of the other genes as well that are connected with hereditary cancer.

Dr. Kristin Rojas:

Yeah, definitely. I don't know how old this patient is, but I'm assuming since she was tested for BRCA1 and 2 at her time of her diagnosis that she met criteria by her age and her family history, so we do recommend that those patients get retested, as Talia would probably recommend, for not only BRCA1 and BRCA2 but other high to moderate penetrance genes. And so by doing one of those multigene panels, especially if she has a really significant family history, that's probably what I'd recommend.

Dr. Kristin Rojas:

The other moderate penetrance genes ... and moderate penetrance means that the risk of breast cancer is still higher compared to the general population, but it's not as high as BRCA1 and 2. Those include genes called PALB2, which is a gene that works close to the BRCA2 gene; it actually means the partner and localizer of BRCA2. And another one is called CHEK2, ATM, P53, and some other lower penetrance genes.

Dr. Kristin Rojas:

But for those specific genes, it's a little bit more controversial about whether those patients should have risk-reducing bilateral mastectomies. And for those patients we really do rely on our genetic counselors to do a more individualized risk assessment, or we take into account their specific family history and what age their family members were diagnosed.

Dr. Kristin Rojas:

I don't routinely mandate that those patients have a bilateral mastectomy for the same reasons I said before. It's a big decision and it's a big surgery, but I do like for those patients to see my colleagues, like Dr. Perez, be plugged into our high risk screening programs, like alternating mammogram and MRI, if they're opting to defer a bilateral mastectomy.

Dr. Kristin Rojas:

In fact, the American Society of Breast Surgeons, I believe, just came out with a recommendation to try to convince patients not to have a bilateral mastectomy for some of the genes that have a lower risk of breast cancer.

Dr. Kristin Rojas:

It's important to know that some of those other genes, though, do have an increased risk for other types of cancer, like gastric cancer, pancreatic cancer, ovarian cancer, and in the case of P53, soft tissue sarcomas among others. And so really, really important for them to be plugged into a place that has experts that can see you and give you your individual risk assessment.

Brianna Schwarz:

Thank you. Dr. Perez, this question is for you. You touched on this a little bit, but testing positive for a BRCA or any genetic mutation affects current treatments. Can you talk a little bit about how the screening process and how testing positive would affect their chemo or radiation schedules?

Dr. Alejandra Perez:

Yes. So in terms of chemotherapy, it depends on what setting. So is this patient, does she have early breast cancer or metastatic breast cancer? The treatment options are very different. Let's say the patient presents with early stage breast cancer, yes knowing that the patient has especially a BRCA mutation will make me look into other drugs like I mentioned before: carboplatin, some types of chemotherapy that we know these patients with BRCA mutations are more sensitive to.

Dr. Alejandra Perez:

Also, it depends of course on the type of tumor. We still go to the basics in pathology: is it a triple negative breast cancer, estrogen positive, HER2 positive, HER2 negative? All of those things that of course we always assess. So yeah, the chemotherapy depending on the type of tumor can be very different. That's early stage breast cancer.

Dr. Alejandra Perez:

Metastatic breast cancer, we do have the option of giving these patients PARP inhibitors. That's this class of drugs that are used in patients that are BRCA positive. We do have some data in patients that are PALB2 positive as well, but in patients with metastatic breast cancer, we use it instead of chemotherapy with better quality of life, and better results in general. So yeah, that's also very important.

Dr. Alejandra Perez:

And the other thing that is key is participation in clinical trials. According to the mutation we know if the patient can benefit from certain drugs, or is a candidate for a clinical trial, so that's extremely important.

Dr. Alejandra Perez:

Radiation, the question of radiation is also very important because there are some genetic mutations that we try to avoid radiation. So for example, patients that have ATM mutations we try to minimize radiation, or patients that have Li-Fraumeni, P53 mutations, we try to avoid radiation because the risk of other cancers are increased, so sarcomas related to radiation, things like that. So yeah, knowing that information is also going to be important for the radiation oncologist to make those decisions.

Brianna Schwarz:

Absolutely. Thank you. And for those of you who are able to look at the chat, I know that Dr. Rojas has answered some of the questions that were in there about birth control reducing your risk, and also there's information about IVF, in vitro fertilization, and how that might play a role. That could be a whole other webinar in and of itself.

Brianna Schwarz:

So I have one more question for Talia. Can you talk a little bit about how genetic testing may affect someone's opportunity to apply for health insurance, or life insurance, or disability?

Talia Donenberg:

Okay. We have a federal law called the GINA Act that protects against discrimination for group health insurance, and this was passed in 2008. We have now Florida state laws that are passed very recently to prevent discrimination from genetic test results in life insurance. So I think we have very good plans, very good laws in place. I don't typically talk about that unless a patient asks about it, because in my 20 something years, I haven't really seen it.

Talia Donenberg:

The main reason to have genetic testing is for early detection and prevention, and there have been studies that show that people who avoid genetic testing because of some fears that may be not entirely founded, they're putting themselves at risk.

Talia Donenberg:

I personally feel that's dangerous, but there are a lot of resources that are out there that can focus on these topics. And these resources come from the NHGRI, National Cancer Institute, and you can find also in Florida state statutes the new life insurance law and GINA Act, which is our federal law. But also through Sharsheret I would imagine you can gear patients towards somebody who can discuss that in more detail. I think probably Peggy can as well, since I'm not very well versed in it.

Brianna Schwarz:

Fair. And yes, we have people calling in ... the doctors are all from Sylvester Comprehensive Cancer Center, which is in the University of Miami here in South Florida ... but we have callers from all over the country, and so if you do have questions about the GINA Act or the GINA law or any questions about insurance eligibility, again you can call us, and we're happy to answer those questions.

Brianna Schwarz:

We are out of time, so I am so grateful to all of the doctors. And again, anyone whose questions, because we did have many that were submitted before this evening and some that have come in tonight that were not answered, so the information to get those questions answered is in the chat box.

Brianna Schwarz:

As we wrap up, I just want to thank Dr. Perez, Dr. Rojas, and Talia Donenberg for educating us this evening. Remember everyone that this webinar is being recorded, and the transcript and recording will be available on our website in the next couple days.

Brianna Schwarz:

I know that our panel answered many questions, and I'm sure our participants feel more knowledgeable after hearing these presentations, so please again reach out to Sharsheret for your specific questions that need to be addressed, and we are happy to get back to you.

Brianna Schwarz:

In the chat box now is a brief evaluation survey. It is a link in the chat. Evaluations really do inform future programming here at Sharsheret, so please fill it out, and we appreciate your feedback.

Brianna Schwarz:

I also want to thank our sponsors again for tonight's webinar: Sylvester Comprehensive Cancer Center, AstraZeneca, Basser, Eisai, GSK, Merck, and Seagen.

Brianna Schwarz:

And I also, before we end, I want to introduce you to tonight's program partners and the work that they do.

Brianna Schwarz:

JScreen has a state of the art saliva test, which analyzes BRCA genes and over 60 other cancer susceptible genes to determine your genetic risk for different types of cancer. You can get tested from the comfort of your home with a telehealth genetic counselor included.

Brianna Schwarz:

The Minkoff Center for Jewish Genetics provides education and screening to Jewish people to empower them to make informed decisions regarding their health. They offer free genetic counseling and highly subsidized or free screening for hereditary cancer mutations, as well as recessive prenatal gene mutations.

Brianna Schwarz:

The Norton and Elaine Sarnoff Center for Jewish Genetics is a community resource for education about hereditary cancers and Jewish genetic disorders. Based in Chicago, the Sarnoff Center offers a recessive disorder screening program for Jewish and interfaith couples in Illinois, and access to expertise for community members across the country.

Brianna Schwarz:

The Victor Center offers genetic counseling and screening for Jewish genetic diseases throughout the state of Florida, nationally, and internationally. The Victor Center works in partnership with healthcare professionals, clergy, and the community to create awareness about the need for screening for more than 200 diseases that are currently in the Jewish population and other ethnic groups.

Brianna Schwarz:

And Yodeah, whose mission is to educate the Jewish community about hereditary cancer, genetic mutations, and encourage all Jews to get tested whether through clinical grade kits sent to their home, which can be ordered through Yodeah's website, in-person events, at their doctors or genetic counselors.

Brianna Schwarz:

So thank you to our community partners. That's a lot of people and a lot of organizations, so thank you so much for joining us this evening and partnering with us to share this important information.

Brianna Schwarz:

We'd love for everyone to stay connected with Sharsheret via social media, where we post about events like this one, program updates, and fun ways to get involved, so please follow us on Facebook. I know you're on your computer, you can do it right now, or on Instagram, where our handle is @Sharsheretofficial.

Brianna Schwarz:

And please remember that Sharsheret is here for you and your loved ones. Sharsheret provides emotional support, mental health counseling, and other programs designed to help you navigate through the cancer experience. All are free, completely private, and one-on-one. Our number is 866-474-2774 and you can email us at clinicalstaff@sharsheret.org. Our social workers and genetic counselor are available to everyone. You are our priority, so please feel free to reach out.

Brianna Schwarz:

And finally, I want to let you know that we have several exciting webinars on a wide range of topics planned over the next few months. We have a webinar coming up next week on August 3rd about lymphedema and cording. We have a signature Shalom, Shabbat happening on August 20th, and coming in October, Sharsheret's first ever Sharsheret Summit will offer national webinars, encourage local programs, and provide opportunities for recognizing Sharsheret and breast cancer awareness month. Please check our website regularly to see what topics are coming up. The link is in the chat, and you can also access the recordings and transcripts of all our past webinars right there on our website.

Brianna Schwarz:

So thank you again for joining us tonight, and I look forward to hopefully seeing you all again soon.

About Sharsheret

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

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

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

Sharsheret offers the following national programs:

The Link Program

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

Education and Outreach Programs

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

Disclaimer

The information contained in this document is presented in summary form only and is intended to provide broad understanding and knowledge of the topics. The information should not be considered complete and should not be used in place of a visit, call, consultation, or advice of your physician or other health care Professional. The document does not recommend the self-management of health problems. Should you have any health care related questions, please call or see your physician or other health care provider promptly. You should never disregard medical advice or delay in seeking it because of something you have read here.

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