BRCA, Breast Cancer and Ovarian Cancer Screening, and the Health Disparities that Increase Risk in the LGBTQ+ Community

National Webinar Transcript

June 27, 2024

Presented by:

This program was made possible with support by:

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Jenna Fields:

Thank you so much everyone for being here today. Welcome to BRCA, Breast Cancer and Ovarian Cancer Screening, and the Health Disparities that Increase Risk in the LGBTQ+ Community. I'm Jenna Fields. I'm the Chief Regional Officer at Sharsheret. My pronouns are she/her, and I'm based out here in California where our experts are joining us from today.

For those of you who don't know about Sharsheret, we help people facing breast cancer and ovarian cancer, as well as those at elevated genetic risk for those cancers through free, confidential, and personalized support and resources. We provide cancer and cancer genetics health education throughout the country, and we offer virtual programs throughout the year, which you can access through our online catalog.

I really want to make sure that I share today that our Sharsheret genetic counselor is also on this call. So if you have any follow up questions after today about cancer genetics, please know that she is a resource for you throughout the year through our free confidential and virtual programs. We do offer virtual programs every week here at Sharsheret. You can access our online catalog through the link in our chat. You can also see upcoming webinars, including tomorrow's Shalom Shabbat program, which is a rest and reset. It's a quarterly program where you can experience Shabbat with other cancer thrivers. That's tomorrow at 12:30 Eastern, 9:30 Pacific. And my colleagues are putting the registration in the chat so you can join us tomorrow.

Before we begin, this webinar is being recorded. Participants' faces and names will not be in the recording as long as you remain muted, and it will be posted and shared with you within the next week, including a transcript. And if you do want to remain private, you could turn off your video, rename yourself, or call in through the instructions in our chat box. You are muted, and please keep your mute on throughout the call.

We are going to do a Q&A. But as our speakers are talking, please feel free to start putting your questions in the chat. I will go through them and make sure we get to as many questions as possible. I do ask that you keep your questions broad so our experts can answer questions everybody can learn from.

I want to thank our incredible sponsors, the Basser Center for BRCA, Cedars-Sinai, Daiichi Sankyo, and Pfizer Oncology, plus the synagogues and community organizations around the country who shared this webinar with their communities.

Just a medical disclaimer for all of you, Sharsheret is a national not-for-profit cancer support and education organization and does not provide any medical advice, perform any medical procedures. The information shared tonight is not a substitute for medical advice or treatment for a specific medical conditions. You should not use this information to diagnose or treat a health problem. And always seek the advice of your physician or a qualified healthcare provider.

We are going to begin tonight's webinar with a personal story to help shed some light on this topic. I'd like to now introduce TaraColleen Macatee, who's going to share her story.

TaraColleen Macatee:

Hi, everyone. First of all, I wanted to say thank you to Sharsheret for allowing me to share my story and be a part of tonight's webinar. We named it breast cancer as a lesbian, embracing identity, love, and resilience. In this deeply personal blog post, I wanted to share my journey of facing breast cancer as a lesbian. Breast cancer does not discriminate, and I encountered a range of emotions from fear and uncertainty to strength and determination.

Through the ups and downs, the challenges and triumphs, I hope to shed light on the unique experiences and perspectives that come with navigating both a cancer diagnosis and the

complexities of my sexual orientation. It is my intention to inspire and provide support to others who may find themselves on a similar path.

The moment I discovered a lump in my breast and the subsequent journey of seeking medical advice, receiving a breast cancer diagnosis, and grappling with this life-altering news, I was filled with fear, disappointment, but also resilience. My partner, Sue, was by my side every step of the way. I was diagnosed with bilateral breast cancer with lymph node involvement and needed a double mastectomy. Because I was under 50 years old, I was encouraged to get genetic testing, and it was discovered that I have a gene called MSH6, which predisposed me to certain cancers, breast cancer not being one of them. I was also diagnosed later that same year, very shortly after, with uterine cancer from the MSH6.

My diagnosis came during the second year of COVID-19. So much as Sue wanted to be with me during my appointments, she wasn't allowed in person, so she joined me by phone. And even on the day of my surgery, she wasn't allowed to be by my side, which was devastating.

Cancer can deeply impact intimate relationships, and being a lesbian added an extra layer of complexity to this aspect of my journey. I remember wondering if Sue would still love me and my body without my natural breasts. I hadn't yet figured out if I was going to do immediate reconstruction, DIEP flap, aesthetic flat closure, delayed reconstruction. It was all really too much to process at the time.

But just as I am not only a lesbian, and that's just one part of who I am, having breast cancer was just one part of who I am, and it doesn't define me. I'm an educated, witty, strong woman, and this diagnosis didn't change any of that. Being a lesbian has been an integral part of my existence for the last 17 years. I know breasts are important in most sexual relationships, but for Sue and I they were extremely important and part of our intimacy. And all I could think of is how would I ever be the same after this diagnosis and after my double mastectomy.

I remember at this point I was really stressed and I realized I needed help, and I found it through Sharsheret. I reached out and received a call from a Sharsheret social worker. I remember the first night I was literally sitting in my car in our driveway. We talked for over an hour. Her voice was kind and calming. I cried, sometimes uncontrollably. She encouraged me, and she really made me feel understood. She embraced my entire identity, my cancer, me being a lesbian, me being a mother, and supported the whole me. One conversation with her changed my entire perspective. I knew I had allies and my Sharsheret social worker was definitely one of them.

A week or so later, I received a huge box filled with all sorts of resources from my entire family. It was truly amazing. Sue and I were in awe of the dedication that Sharsheret puts into their resources, and even for my twin boys.

Sharsheret stayed connected. Amy checked in and continued to support me and my family and has truly been a resource, even today. She called to give me a pep talk before today. I have many friends in the LGBTQ+ community that supported me but never went through breast cancer, so having people who understand the diagnosis really empowered me. By embracing my identity, a lesbian with breast cancer, I was able to create a strong foundation for fortitude and self-advocacy throughout my treatment journey.

This year, I am happy to say I'm celebrating three years post double mastectomy. The medications I am on still take their toll, but fighting cancer is not easy. My journey has been one of strength, love, and resilience. And hopefully by sharing my story I aim to break barriers, provide support, and foster a sense of community for others who may be navigating a similar path. Together, let us embrace our identities, find support, and navigate the challenges with courage and unwavering love. Thank you.

Jenna Fields:

Thank you so much, TaraColleen, for sharing your story with us. I know it's never easy to speak publicly, and you spoke so beautifully, so thank you.

TaraColleen Macatee:

Thanks.

Jenna Fields:

It's now my pleasure to introduce our first expert, Dr. B.J. Rimel, who began her career at Cedars-Sinai in August 2011 to work on gynecologic oncology clinical trials. Dr. Rimel's research interests focus on barriers to clinical trial and the use of digital processes to improve access and comprehension of clinical trials. Dr. Rimel is the gynecology surgeon for the Cedars-Sinai transgender program and is also the medical director of the Cancer Clinical Trials Office. As a reminder, we have our Q&A at the end of the presentation, but please feel free to put your questions into the chat as we go. It's now my pleasure to introduce Dr. Rimel.

Dr. B.J. Rimel:

Thank you so much for that introduction. I'm going to quick share my screen. Hopefully that looks the way it's supposed to. I can't see you guys any longer, so I hope that that's working well.

Okay. Thanks for this opportunity to speak with you all. I'm going to, in the next 15 to 20 minutes or so, talk a little bit about the disparities in cancer care prevention and screening that LGBTQIA+ populations experience, talk a little bit about where the data is pointing us, some opportunities for improvement, and hopefully to dispel some myths and be available for questions.

Disparities in cancer screening, prevention, and treatment affect an enormous number of people as a part of our community in the LGBTQ+ community. I'm going to just come right out and say it at the beginning, I am a member of this community. I am a gynecologic oncologist, and I focus on those assigned female at birth. I work in both the LGBTQ+ community but also in the transgender community. My expertise is primarily in folks who are assigned female at birth, so that I would be neglecting a little bit folks who were assigned male, but happy to answer questions at the end of that hour if there are things I can be of service.

I thought we would start with something that is one of my favorite pictographs. This is the genderbread person, and it's used to sort of help explain or categorize some of the complex intersections that we experience between the intersections of sexuality, gender, identity, expression, biological sex. And for the purpose of today's discussion, we're really going to focus on biologic sex assigned at birth and the organs that may develop cancer in our lifetimes. I may use the term women when the data has only captured that as the variable, but I'll try to be as specific as possible to include those with the uterus versus those with ovaries, ovaries versus those with both and try to characterize the data that I'll discuss.

Cancer prevention versus cancer screening. Screening is designed to detect precancerous change before it becomes cancer, and the detected change then needs a treatment so that we can prevent the cancer. Prevention is designed to eliminate or reduce the root cause of cancer. For example, prevention in lung cancer often centers around reducing smoking or stopping smoking, which is the root cause of many lung cancers. Screening is designed to find early lung cancers to treat them before they become big cancers or even become cancers at all.

I'm often asked this question: "What role does sexuality and gender play in cancer? How could it possibly matter what my sexuality or gender experience is in life?" I would say that this is highly important as, in a word, we experience as human beings, biases based on our past experiences, our cultural norms, or how we are perceived in the world. It's important to recognize that these biases exist. They exist for ourselves, within our own interactions, and also for others.

Here's some examples. I don't think I probably need to tell this audience that LGBTQIA+ populations are vulnerable, but I wanted to give an example that historically underrepresented groups, including this group, are at risk for being left out of screening due to several barriers, for example barriers to cervical cancer screening. Many underserved populations are less likely to be screened, and there are several reported reasons for lower screening rates in LGBTQ+ communities, including confusion about who should receive these screenings, fear of pelvic examinations or sensitive examinations, psychologic barriers, medical mistrust, and concealment of sexual identity or sex assigned at birth.

Fear of discovery and fear of examination is so powerful that many folks will elect to avoid any gynecologic care at all, and they have good reason to be fearful. One of the reasons why folks are fearful is that if you see on the left, these are the 2019 statistics from the US FBI on hate crimes, and the third-largest group being targeted is the sex and gender minority population. That includes folks whose sexual orientation is non-hetero and folks whose gender identity differs from their sex assigned at birth. This fear can be eased by creating a safe and evidence-based place for all persons to receive care, and one way to do that is to avoid making assumptions.

For example, it's important to recognize that the data demonstrate that screening in lesbian and bisexual women for cervical cancer, for example, is much less. In a very large survey of young lesbian and bisexual women, only 70% of those that have undergone a Pap test in the last three years. We would hope this number to be much closer to a hundred percent. It turns out that Pap testing was more significantly common in those patients who disclosed their orientation to their provider, suggesting that medical mistrust played a role in this and that being able to have a confidential relationship with their provider was allowing patients to feel more comfortable being screened.

It also is important to notice that Pap testing was significantly less common in women who identified as lesbian. It's unclear from this study if that's because women who identified as lesbian felt they did not need to be screened because they were not at risk or their providers thought they were not at risk. And both of those are actually false.

So how do we talk to our doctors about cancer screening, especially for part of a group of people that is historically marginalized and has difficulty perhaps in engaging in this topic, which has been taboo in certain cultures for a long time? One of the ways is to do an organ inventory, to discuss with your doctor the organs you were born with, recognize what organs you might have now, if you've undergone previous surgery, such as a mastectomy or a hysterectomy, and recognize what organs may be gone and you no longer need screening for. Then, what are your biologic risks? What kinds of medications, hormones, hormone replacements might you take, and what effect might that have on the screening that's required?

Family history is also important for both male and female relatives. We know that all of our genetic material is transferred from our male and female parent, and our genetic risks may be different depending on what our parents and grandparents experienced, and it's important to talk about family history to reflect those risks.

Then, there are some also risk factor history based on activities and whether or not a person's had, for example, HPV vaccination, which is the vaccination that is a cervical cancer prevention.

But recognizing that there may be risk factors such as a lifetime number of partners that increase the risk of HPV acquisition during one's life and proper screening would need to be applied in that situation. These are all the things that we want to be able to talk to our doctor about.

Another area that's important to recognize when we talk about cancer screening is the role of genetic mutations. I've used BRCA 1 and 2 as some examples because these are really powerful mutations that can increase a person's risk of breast cancer, ovarian fallopian tube cancer. Obviously those are specific to people who were born female. But for pancreatic cancer, this is equally distributed in both sexes assigned at birth.

We know that BRCA 1 and 2 affects approximately a million individuals in the United States, and that knowledge of this mutation can improve our cancer screening and prevention ability by allowing us to intervene early or conduct certain activities to avoid getting a cancer. If we do these things by cancer screening and prevention, we can decrease both the incidence, morbidity, and mortality of cancers. And it's also cost-effective, so we want to protect our resources financially.

Particularly in the population that identifies as Jewish, we recognize that about 1 in 40 women of Eastern European Jewish ancestry have a BRCA mutation, but mutations also exist in many other populations. Here in Los Angeles, we know that there are founder mutations in our Korean populations, our Latinx populations, and in our Black populations. We know that these mutations increase the risk of early onset breast and ovarian cancer and other cancers like prostate and pancreas.

I thought that this graph is particularly helpful in understanding how prevention and screening works and changes by age. I thought I would overlay some famous LGBTQ folk on top of the pictures that are traditionally put here. But basically, as we age, these genetic mutations increase our risk, and over time, over a person's lifetime, these risk changes. Our screening intervals or prevention strategies may change based on the age of the person that we're talking about.

When it comes to gynecologic cancer screening, whether a person has BRCA or not is really important, but there are lots of different parts to the female reproductive system, and so you only have to screen what you have. I should note that not everything has a screening test. We'll talk about for GYN cancers what has a screening test and what doesn't.

For gynecologic cancers, we have ovarian, fallopian tube, and primary peritoneal that are treated similarly. Then, we have endometrial or also called uterine cancers, cervical cancer, vaginal cancer, and vulvar cancer. For ovarian cancer, unfortunately, at this moment, no effective screening test exists. There are still things that we do for people that are at very high risk, such as BRCA-positive folks, and this means that it's really important that we get BRCA testing for those at risk. Genetic counseling is really important for this. I just want to reemphasize that Sharsheret has free genetic counseling and anyone can take advantage of that.

Screening and prevention strategies really exist for those who have mutations in high risk genes or high risk family histories. But for the average risk person, we don't have effective screening tests.

Moving on to uterine or endometrial cancer, no screening test exists, but there are early warning signs for uterine cancer that there really aren't for ovarian cancer. The most consistent and most commonly documented sign or early warning sign of a uterine cancer is bleeding after menopause. Vaginal bleeding is expected to cease after the menopause. In fact, the definition of menopause is no period for a year. Any bleeding after menopause needs to be checked out

with a gynecologist. We have strategies for testing whether or not that is from a benign or malignant condition.

Pre-menopausal women, so those who are still having menstrual periods, or anyone who's on testosterone with a uterus with irregular bleeding should also be examined for any potential for uterine cancer or a pre-cancer. It should be important to note that a family history of colon cancer or uterine cancer and other family members can be a risk factor for endometrial cancer, and it's just really important that we see our providers and get checked out.

Cervical cancer is something that's also an important and most screenable and preventable cancer. The most important thing we can do for ourselves and for our children right now is HPV vaccination. Approximately 96 to 99% of cervical cancers are specifically related to HPV infection. HPV is everywhere. It can be sexually transmitted, and most commonly is, but there are other non-sexual transmissions that are possible.

We know that we've had a great screening test since the 1940s, Pap testing, so that's a Pap smear or Papanicolaou test. We now, since 2014, have something called high risk HPV testing that allows us to actually see if somebody has the HPV virus, which is even more sensitive and specific for cervical cancer risk than a Pap test. This combination of strategies allows us to prevent cervical cancer.

One of the myths of cervical cancer, especially in the LGBTQ community, is that we can reduce/eliminate risk of HPV transmission by barrier methods. Condom use or female condoms do not prevent HPV. HPV can be transmitted from skin-to-skin contact, from mouth-to-genital, hand-to-genital contact, pretty much any contact. HPV is a fairly hearty virus and can stick around on those surfaces, and it's really important that we recognize that and consider HPV vaccination for all those who are eligible and screening and prevention strategies with Pap testing and HPV testing.

One of the other myths that leads to a lot of disparate care in the LGBT community, especially in lesbian women, is that there is this common feeling that lesbian women who have sex exclusively with women won't have HPV or can't contract HPV, but we know that that's not true because skin-to-skin transmission occurs. In a large study of 624 lesbian women with Pap testing, 1.7% had evidence of HPV infection in those with exclusively women partners compared to 3.7% in those who'd ever had a male partner.

This study also included 674 women who reported sex exclusively with women and no male partners, and there was actually a pre-cancer risk of 1.3%. So we know that there are skin-to-skin transmission, that that HPV that's transmitted can actually have a pre-cancerous change, which we call CIN3. That's of a percentage where we would want to intervene. That's a little more than one in a hundred women.

Cervical cancer screening includes anyone with a cervix. Born-female folks who still have a uterus should get a Pap test or primary HPV testing. Their physician and staff education, which is my job here at Cedars, is to help make sure that folks are comfortable getting their screening tests and that the screening tests we're offering matches with the patient's gender identity and comfort level with these sensitive exams.

We all have screening needs when it comes to GYN cancers for those with cervix, ovaries, or uterus. Everyone with a cervix needs a screening test. Ovarian cancer, we don't have an effective screening test for, but anyone who's BRCA positive with ovaries can get screening. And for uterine cancer, thank God we have early warning signs, such as vaginal bleeding, that should not be ignored. And physicians, especially gynecologists or gynecologic oncologists like myself, are available to intervene and do appropriate testing. Just want to thank you very much from Los Angeles, and I'll close with that.

Jenna Fields:

Thank you. Thank you so much, Dr. Rimel. That was so much wonderful information. It's now my pleasure to introduce Dr. Farin Amersi. Dr. Farin Amersi is the Associate Professor of Surgery, Vice Chair of Surgical Education, Program Director of General Surgery Program, and the chair of the cancer committee at Cedars-Sinai. She completed her general surgery training at UCLA Department of Surgery in 2004 and her fellowship in surgical oncology at John Wayne Cancer Institute. She holds many leadership positions nationally, including past president of Southern California Chapter of American College of Surgeons, and has authored over 160 publications, and focuses her research in breast cancer screening and hereditary predisposition of cancer. Thank you so much, Dr. Amersi.

Dr. Farin Amersi:

Thank you. Perfect. Thanks very much for that kind introduction. What I'm going to do over the next 15 minutes or so is to really talk about breast cancer risks in transgender persons, screening, gender-affirming surgery, and the impact of future breast cancer risk, the risks of breast cancer with BRCA mutations, and then screening guidelines in mutation carriers.

Jenna Fields:

Dr. Amersi, I'm just going to interrupt for one second. It looks like we're seeing-

Dr. Farin Amersi:

Sure.

Jenna Fields:

... your next slide accidentally.

Dr. Farin Amersi:

Okay. Thank you. Are you still seeing my next slide?

Jenna Fields:

That's perfect. Now we just see one.

Dr. Farin Amersi:

Great. Great. All right. What Dr. Rimel very eloquently talked about in her presentation that there are disparities in cancer-specific outcomes among sexual and gender minority populations, and this is really because they have an increased cancer risk, they have late stage presentation, they have decreased access to care, they face discrimination and stigmatization. And there's really evidence to show that this poor patient-provider communication that often results in diminished quality of care. There is data to support that there is a possible increased risk of cancer related to hormone therapies that are often prescribed during gender-affirming care.

In regards to transgender females and cancer risks, there have been small studies that have suggested that prolonged estrogen exposure due to the use of exogenous estrogen and anti-androgen therapies may increase the risk of developing breast cancer in transgender females when you compare these with rates observed in cisgender males. There's a Dutch study that

has shown there's a fourfold increased risk of breast cancer development in transgender females undergoing hormone therapy when compared with cisgender males.

In terms of transgender males and cancer risks, testosterone can be converted into estrogen. The evidence isn't that great, but there is some studies that have shown that. And this may have a stimulatory effect on breast tissue and future breast cancer.

There's a recent study that showed 23 transgender males who developed breast cancer while undergoing hormone therapy. The median age of diagnosis was 42 years, so young. It was within 4.5 years of exogenous testosterone use, so it occurred anywhere between 2.5 to 11 years of getting exogenous testosterone. Most of these presented with a palpable breast mass, and 39% of the patients were found to have breast cancer incidentally at the time of top surgery.

I'm now going to switch and talk about trans female and breast cancer screening. We do know that they undergo their medical intervention, so they do get exogenous estrogen. There's also surgical interventions, so augmentation mammoplasty, so implants and lipofilling, and that's what I'm going to cover in terms of these patients.

In terms of trans female, as they're getting exogenous estrogen, breast tissue can develop similar to cis female. There are large studies that have shown in trans women who identify the median age of breast cancer has been around 51 years of age.

Now, in terms of what trans females go through, they can get augmentation by direct injection with either silicone, mineral oil, liquid paraffin, there's petroleum jelly, and they should be screened with MRIs given the often cancer-like experience that presents on mammography in these patients.

If you look at this slide, in the very first one, this is a mammogram of someone who's undergone silicone injections. As we can see, it's really hard to tell if there's cancer here because of all the silicone deposits. This is why breast MRI can be much more helpful because the mammogram shows multiple speculated lesions, so much harder to see. So MRI's really good, and ultrasound can more accurately let us know what these lesions are that are in the breast.

In regards to breast cancer screening, breast tissue tends to be dense and routine mammogram can be sufficient for those that don't undergo silicone injections. This is a mammogram of a 61-year-old transgender woman treated with estrogen and spironolactone for over 10 years. You can see that the screening mammogram shows heterogeneously dense breast similar to a cis female, so they tend to develop breast tissue similar to a cis female.

What I do want to talk about in terms of augmentation, breast implants alone do not confer an additional need for screening in this patient population. Breast implants in and of itself do not affect the ability to see things through in terms of mammograms.

In terms of screening guidelines for trans women, there's really no criteria out there. Many of the societies have come up with their own criteria. The US Prevention and Task Force has not come up with any criteria at all, so it's really institutions that have come up with their own guidelines. These are the guidelines that many of us use from the American College of Radiology that's been published that gives us screening guidelines for trans women.

The average risk, this is age greater than 40 and less than five years of hormonal therapy. There's no imaging needed. An average risk means there's no family history of breast cancer in the family or no mutation carriers in the family. Age greater than 40 and greater than five years of hormone therapy, you should consider yearly mammography. If they're high risk, high risk is anyone that has a higher risk of more than 25%. At age 25 to 30 with less than five years of hormone therapy, consider yearly mammography. And if they've been on hormone therapy for more than five years, they should be getting mammograms every year.

I'll switch gears now and talk about breast cancer screening in trans males. We do know that as part of their transition, they get exogenous testosterone. This could mean [inaudible 00:33:00] with gels, injections, patches. And despite the theoretical risk of conversion of androgen to estrogen, there's really not a lot of data to support this. The largest study that's been published out there quotes a risk of about 5.9 cases of breast cancer for a hundred thousand persons per year.

In terms of surgical interventions, and this is where my role comes in in our gender-affirming surgery program for patients that do undergo masculinization chest surgery and then are found to have either high risk lesions or cancer in their specimens and how do you follow them, there's really three options for chest surgery for top surgery.

The first is obviously someone who undergoes a reduction mammoplasty. There's a significant amount of breast tissue left. This is something that the surgeons need to be very aware of when someone is being considered for top surgery to really make sure that there's a risk assessment done in the family. Are there family members with breast cancer? Should this person undergo genetic testing? Because you wouldn't be offering somebody a reduction mammoplasty or a subcutaneous mastectomy where you leave a significant amount of breast tissue and then find out that they're actually a BRCA mutation carrier or carry another high-risk gene. Instead, they should under be going a risk reducing mastectomy for high risk patients, especially because those patients have very minimal breast tissue left behind and you don't need to do any further screening. Those that undergo subcutaneous mastectomy or just a reduction, there's still a significant amount of breast tissue left. Then the question becomes how do we follow them if for some reason they're found to have a mutation later on.

In terms of top surgery, there have been cases of breast cancer in trans men after gender-affirming top surgery, and there is often residual breast tissue left in this patient population. That's really where patients are referred to me at our high-risk breast program is how do you follow them moving forward? Because they've already had top surgery, there's residual breast tissue left behind, they're found to either have early breast cancer or, more importantly, sometimes found to have atypia, which is a marker for future risk of breast cancer, and how do you follow them moving forward?

Those that do undergo gender-affirming top surgery, there are still risks of breast cancer still remain. So if you notice a palpable mass, this should really be worked up. If you undergo a breast reduction only, then routine screening is indicated because there is a significant amount of breast tissue left behind for that.

So what are the guidelines from the American College of Radiology in terms of screening for trans men? Someone who's at average risk, no family history, no high-risk mutations in the family, age greater than 40, they get yearly mammograms if they've had no chest surgery. If they've had bilateral mastectomies, there's no further imaging recommended. If they're intermediate risk, meaning they're tested for a mutation and they're found some of the mutations have only about a 25% risk of breast cancer or just have a strong family history of breast cancer but no genetic mutation identified, if they're older than 30, they should be having a yearly mammogram and consider ultrasound or breast MRI. If they've undergone bilateral mastectomies, there's no need for further imaging.

If they're high risk, so for instance, if they're found to have a BRCA mutation, they're aged between 25 and 30, they should be getting yearly mammograms and a breast MRI. We usually do this every six months, so they get a mammogram once a year and an MRI every year spaced out at six-month intervals. But if they undergo bilateral mastectomy, there's no imaging needed, but they should be at least examined once a year and undergo chest examinations.

I'm now going to talk about inherited genes and breast cancer. These are risk factors for breast cancer in cisgender women. I really want to focus specifically on mutation carriers. In terms of BRCA mutation, we do know BRCA mutation increases the risk of breast cancer more than any other factors out there. That includes people who've been on hormone replacement therapy, started menstruating early, go into menopause much later, have a family history of breast cancer. BRCA mutations in and of itself increase the risk of breast cancer more than any other risk.

In terms of inherited risks, less than 15% of cancers are inherited. Cancers that may be caused by inherited gene mutations are either colon cancer, breast, ovarian, prostate, and uterine. This is when patients who refer to us, we talk to them, we really get an extensive family history for us to decide should we be doing genetic testing on them or recommended for genetic testing.

In terms of genetic testing and genes, there are multiple genes that can increase the risk of a single cancer. For breast cancer, we know a lot about BRCA 1 and 2, but there are other genes that can increase your risk of breast cancer as well. PTEN, PALB2, CHEK2 have also been associated with an increased risk of breast cancer.

There are multiple cancers that can be associated with a single gene. For instance, BRCA has been associated with breast ovarian. BRCA 2 is breast, ovarian, pancreatic, and prostate cancer. In addition, the TP53 gene has a risk of multiple cancers, your breast, ovarian, stomach, colorectal. That's where the genetic piece can overlap.

In terms of breast cancer mutations and the risk of breast and ovarian cancer, Dr. Rimel showed this in a table already. For patients who are BRCA mutation carriers, there's a risk of up to 50% by the time they're 50 years of age. And by the time they're 70, the risk is about 87%.

Why this is important, when someone's undergoing surgery or being considered for any surgery, including top surgery or comes in for a breast mass and gets worked up and found to have breast cancer, when they're found to have a BRCA mutation, it's important to counsel them because they are at increased risk of a second cancer. That's why for patients who are BRCA mutation positive, we do talk to them and counsel them about having bilateral mastectomies because they're at risk for up to about 27% of developing a brand new breast cancer within five years. So, it's important to counsel them on what kind of surgery they should be having.

In addition, by the time they're 70, so if they're diagnosed with a breast cancer in their forties, by the time they're 70, their risk of a second cancer is up to about 64%. In our practice, and I know at Sharsheret it's the same, if someone's been diagnosed with breast cancer in their forties and then presents later with a second breast cancer, not a recurrence but a second brand new breast cancer, it's important that they undergo genetic testing.

What about BRCA mutation risks in men? In general, breast cancer is extremely rare in men, less than 1%, but if you do carry a mutation, the risk is about 8% of developing breast cancer. In addition, there's a risk of prostate cancer. It's about 13% in the general population. And for BRCA mutation carriers males, the risk of prostate cancer is about 20%. There's risks of other cancers when you're BRCA mutation positive, specifically BRCA 2. There's a risk of pancreatic cancer and there's a risk of melanoma as well.

I do want to just very briefly talk about other high risk mutations that do confer an increased risk of breast and other cancers, specifically PALB 2 that has up to a 40% risk of breast and pancreatic cancer. Li-Fraumeni has a 50% risk of breast cancer. There's a CDH1 that has a risk of gastric and breast cancer. There's other genes that have been identified that do cause breast cancer in addition to other cancers as well, and it's important when it comes to counseling patients to really discuss what the risks of breast cancer are in addition to other cancers and not forget to remind these patients that they do have to get screened for the other cancers.

In terms of surveillance for female BRCA carriers, they begin breast exams at the age of 18, twice a year starting at the age of 25, and they get a mammogram and breast MRI starting at the age of 25 years of age.

What about surgical management? What do we offer them? I'll focus specifically on the breast portion of this. In general, when they feel it's appropriate for them to undergo mastectomies and when... We usually counsel them when it comes to other patients, other members of their family, and when they develop breast cancers, when we really start talking to them about risk reducing prophylactic mastectomy, which has really been shown to decrease the risk of breast cancer to really 1 to 2% at this point.

In terms of male BRCM mutation carriers and medical management in terms of breast cancer surveillance, because we know they're at increased risk of breast and prostate cancer, it's clinical breast exam twice a year, and then mammography at baseline, and annual if for some reason they do have gynecomastia or they have quite a bit of glandular breast tissue. In terms of prostate cancer surveillance, the recommendation is for them to get a PSA test yearly and to get a digital rectal exam by their providers yearly.

In conclusion, there are several organizations that have released screening guidelines for transgender persons, but there's really a lack of consensus and optimal screening regimens. What I've shown you is really just one society that's come up with guidelines for providers to kind of follow in terms of managing patients. There's been no formal recommendations by the American Cancer Society or the United States Preventative Task Force for breast cancer screening at all in transgender persons.

The risk of breast cancer development in trans individuals is different compared to that of the cisgender population, and specifically because they do have a prolonged exposure to hormones that may increase the risk of breast cancer development. It's important to discuss breast cancer screening with your healthcare provider.

Also, it's important to discuss genetic testing if you have a family history suggestive of inherited mutation, especially if you're undergoing top surgery because the right surgery has to be done. If you are a mutation carrier, you shouldn't be having just a subcutaneous mastectomy because there'll be quite a bit of breast tissue left behind, which still puts you at risk of breast cancer in the future. Thanks very much, and I will be happy to address any questions.

Jenna Fields:

Thank you so much, Dr. Amersi, and I know Dr. Rimel, if we can put you back up on the screen as well. We do not have any questions in the chat. Anyone is available to direct message me if you like with a question. I'm seeing applause in the chat though, so that's very nice.

I'm going to just go to some of the questions that were submitted in advance. One of my own, Dr. Rimel, you had talked about how there's currently no good screening for ovarian cancer, but that your BRCA-carrying patients should seek out screening. Can you talk about what the screening opportunities are for patients even when there isn't a good screening recommendation out there right now?

Dr. B.J. Rimel:

Sure. Happy to. It's still somewhat controversial. The National Comprehensive Cancer Network this year removed ovarian cancer screening as an option. The previous ovarian cancer screening options were transvaginal ultrasounds, so ultrasounds looking at the ovaries from a vaginal perspective every six months, and a blood test called CA125. This combination screening process with an exam by a trained provider done every six months really had a

positive predictive value of less than 15%. So it really isn't good screening, but it's what we have. For many folks with BRCA mutations, they're continuing to engage in that, and we still offer it for folks with BRCA 1 or 2 mutations, even though it's not great testing.

Jenna Fields:

Dr. Amersi, you did put in your slides information about prostate cancer screening, about the CA125, as well as a digital rectal exam. We did get a question about that in the chat, but I do want to make sure that that was addressed in your slides earlier [inaudible 00:46:16].

Dr. Farin Amersi:

Yeah. I see the question from Linda about my 27-year-old. So Linda, in terms of response to that question with a BRCA mutation in the family, so BRCA 1 tends to not be associated with prostate cancer. But if you do have a family history of prostate, ovarian, and breast cancer in terms of what to do about your 27-year-old, the recommendation is really to start screening at 50. You don't have to start screening earlier than that. Most of the prostate cancers that are seen in patients who are BRCA carriers tend to be above the age of 50, so usually in the fifties and sixties. The recommendation is to do PSA testing yearly and then a digital rectal exam by your provider once a year, so not more than that. And it's usually recommended starting at the age of 50.

Jenna Fields:

We got another question regarding some talk online about trans men, discussing testosterone therapy and ovarian cancer risk. Is there any data out there, Dr. Rimel?

Dr. B.J. Rimel:

Yeah, that's a great question. There are three papers that looked at the androgen receptor, so testosterone binds to the androgen receptor, and whether or not the androgen receptor's presence on ovarian cancer suggested that testosterone use might be associated with an increased risk of ovarian cancer. The answer appears to be no, it is not. All three of these studies were somewhat conflicting in the sort of presence or absence of androgen receptor on ovarian cancers. But what was pretty clear is that we are not seeing a high rate of ovarian cancers in folks who've been maintained on testosterone for many years, and so it does not appear, at least at this moment, that there is an increased risk.

Jenna Fields:

Great. Thank you so much. We have here, "I'm a psychotherapist, work in the LGTQ-affirming practice. Information to know from a psych onc perspective or sexual therapy perspective based on your comments today, but some key pointers in talking with people about some of these issues."

Dr. B.J. Rimel:

That is really broad. I think that to just to do two general comments. One, disentangling sexuality and sexual practices from gender and gender expression can help us as providers understand what the patient is really trying to communicate. I find for me I ask a lot of very specific questions when I'm trying to help understand what my patients are doing sexually, what they want to be doing sexually, and who they want to be doing it with. That helps me understand and better be clear about what the risks might be. If we're thinking about HPV, for example, whether

or not people are engaging in anal intercourse, whether or not they're engaging in other types of sex, play with toys, I need to know these things so that I can help better counsel them.

For my cancer provider hat... So I have patients that are experiencing cancer treatment. Their questions are often centered around, "What is my sex life going to be after this surgery or after this treatment?" Again, those same specific questions are about what do you like to do, what do you want to be doing, who do you want to be doing it with, and trying to disentangle all of those things together by asking very specific questions that I need to be open and comfortable with.

Jenna Fields:

We got a question about fertility preservation. Dr. Rimel, I don't know if this is in your scope or not. I'm going to ask it, but you can say no, which is, "Does fertility preservation... Is it impacted at all by someone who might be transitioning or..." Just want to make sure I get the question right. It was pretty broad. It was for any folks who have breast ovarian cancer risk and are also LGBTQ. Does the recommendation for fertility preservation change?

Dr. B.J. Rimel:

I don't think it does. Fertility preservation for mutation-positive folks or folks transitioning is about timing and future goals of fertility, right? If you're interested in preserving gametes for genetic children because you're going to take some hormones that are going to diminish your ability to retrieve those gametes later, then fertility preservation is super important before, obviously, ovaries or testicles are removed, because we can't get them back, but also before starting some of the hormone therapies, because it's just a lot easier to get those eggs or sperm out and preserved before that transition happens. Sometimes that's not possible. And in that case, we have strategies to extract eggs and/or sperm depending on the situation for folks who've been on hormone therapy for transition. The same would apply for our BRCA-positive, cisgender folks who are just thinking about timing and risk of future malignancies. There are opportunities for fertility preservation that are available for folks either prior to having a diagnosis of cancer or after.

Jenna Fields:

Wonderful. Thank you. Dr. Amersi, this question is for you. If you could speak to the ethical question of a trans woman, a male-to-female patient, who's BRCA positive and they're seeking estrogen therapy in terms of weighing cancer risk versus quality of life and gender-affirming care.

Dr. Farin Amersi:

I would tell you that... And we do go through this quite a bit with even in cisgender patients who have a high risk of breast cancer and are taking hormonal therapy and concern about their future risk of breast cancer. I would say it's weighing their quality of life. I think that's the big thing.

BRCA patients are being followed very closely, so they're monitor very closely with mammograms and breast MRIs. If we were to find something earlier just because of the potential risk with exogenous hormone use, I would tell you it's really a discussion that we have quite a bit in terms of quality of life. I would say that it's a discussion you have with your provider and do what's best for you. But, we do follow them extremely closely, and quality of life is really important to address.

Jenna Fields:

Wonderful. Just one last question as we run out of time. Someone asked, "What's something I can do as an ally, family member, and friend of people in the LGBTQ+ community who are high risk?" Someone who is looking to help and be supportive in this context.

Dr. B.J. Rimel:

I would say some of the most impressive allies I have come across are those who are willing to go to sensitive exams or sensitive tests with their friend or buddy and be there, just sort of stand with them, sit with them, wait with them, advocate for them, maybe ask a question, with the permission of your friend, that maybe is difficult for that person to ask. I've been very impressed with folks who just because of their lived experience feel more comfortable being there to stand with them. I think that's just wonderful.

Dr. Farin Amersi:

Yeah, I agree with what Dr. Rimel said. I think advocacy and being there for the difficult conversations or examinations, it's nice to have somebody there to be your ally. I think also just encouraging trans patients who are not getting the care that they should be if they are BRCA carriers or have a high risk, have multiple cancers in their family or multiple members with cancer in their family, to encourage them to make sure that... They do have a lot of mistrust in providers and making sure that they're getting the screenings that they need to. You want to find things before their cancer and just making sure that you're an ally from that standpoint of making sure that they're getting the care that they need.

Jenna Fields:

I would add, with sensitivity, sharing this webinar recording today for any allies who are on and learning about this for the first time. Thank you so much for your expertise and thoughtfulness in today's webinar. I'm really grateful to you both. If I could ask everybody to take a minute to fill out the evaluation survey that we're going to link in the chat box. Evaluations really do help inform our future programming, so thank you so much for taking a minute to fill it out.

I also just want to remind everybody that our genetic counselor, Peggy, who's on today in the chat, is available if you have any follow-up questions about your own personal hereditary risk for cancer and genetic mutations that might impact you and your family. And our social workers are also here to provide support for you as you go through your cancer journey. Please don't hesitate to contact us. My colleagues are going to put our contact information in the chat as well.

I really want to thank again our incredible sponsors, the Basser Center for BRCA, Cedars-Sinai, Daiichi Sankyo, and Pfizer Oncology, plus the synagogues and community organizations around the country who share this webinar with their communities. You can access all of our recordings and transcripts, including this one, which will be available within the next week. Really, just thank everyone again. Thank you so much for being here. We hope to see you tomorrow morning for our Shalom Shabbat.

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 270,000 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 20% 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 sits on the Federal Advisory Committee on Breast Cancer in Young Women, Sharsheret works closely with the Centers for Disease Control and Prevention (CDC), and participates in psychosocial research studies and evaluations with major cancer centers, including Georgetown University Lombardi Comprehensive Cancer Center. Sharsheret is accredited by the Better Business Bureau and has earned a 4-star rating from Charity Navigator for four consecutive years.

Sharsheret offers the following national programs:

The Link Program

Peer Support Network, connecting women newly diagnosed or at high risk of developing breast cancer one-on-one with others who share similar diagnoses and experiences

- Embrace™, supporting women living with advanced breast cancer
- Genetics for Life®, addressing hereditary breast and ovarian cancer
- Thriving Again®, providing individualized support, education, and survivorship plans for young breast cancer survivors
- Busy Box®, for young parents facing breast cancer
- Best Face Forward®, addressing the cosmetic side effects of treatment
- Family Focus®, providing resources and support for caregivers and family members
- Ovarian Cancer Program, tailored resources and support for young Jewish women and families facing ovarian cancer
- Sharsheret Supports™, developing local support groups and programs
- Education and Outreach Programs
- Health Care Symposia, on issues unique to younger women facing breast cancer
- Sharsheret on Campus, outreach and education to students on campus
- Sharsheret Educational Resource Booklet Series, culturally-relevant publications for Jewish women and their families and healthcare Professionals

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