

Let's Talk About Men:

Hereditary Cancer Risk and What it Means for You and Your Family

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Presented by:



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Elana Silber:

Good evening, everyone. Thank you so much for joining us tonight. Sharsheret, the national Jewish breast and ovarian cancer community, and thank you for joining us for tonight's special webinar. Let's talk about men; hereditary cancer risk and what it means for you and your family. My name is Elana Silber, and I am the CEO of Sharsheret. I want to start tonight with thanking our very generous sponsors for tonight's program. The department of Urologic Oncology at Hackensack Meridian Health, the Basser Center for BRCA, Eisai, GSK, Merck, Seagen, the Max and Anna Baran, Ben and Sarah Baran, and Milton Baran Endowment Fund of the Jewish community foundation of Los Angeles, and the Siegmund and Edith Blumenthal Memorial fund.

Also, we are very grateful for this many organizations that have partnered on tonight's program. Really emphasizing the importance of this subject matter for this evening. Thank you to AnCan Cancer Support Community, the Federation of Jewish Men's Clubs, FORCE, JScreen, the Male Breast Cancer Coalition, Men of Reform Judaism, the Minkoff Center for Jewish Genetics, the MSK CATCH program, and the Sarnoff Center for Jewish Genetics.

Please note that tonight's webinar will be recorded, and we will post it on Sharsheret's website, along with a transcript. Your faces, as the participants, will not appear in the recording, nor will your names that appear on your Zoom box, appear on the recording. You can remain confidential. We received many, many questions in advance of tonight's program, and we are going to incorporate them into the conversation. But if at any point during the presentations, you have a question, a general question, you can type it into the chat box, stay muted. We have a lot of people on the call tonight. So, stay muted, type it into the chat, and we will do our best to address it by the end of the evening.

If you have very specific questions, medical questions, we encourage you to reach out to your healthcare professional. Just a reminder, and maybe for those of you who are new tonight, Sharsheret services, and programs like tonight, have always been delivered remotely for the last 20 years, pre-COVID. I'm pretty proud that in the last two years, we've actually enhanced our efforts and are providing support and education remotely from anywhere in the country, anywhere in the world. We know that tonight we have people from all across the world joining us.

As we move into the webinar itself, I just want to remind you again, Sharsheret is a support and education organization. We do not provide medical advice. We do not perform medical procedures. What you hear tonight is not a substitute for medical advice or treatment, or anything for a specific diagnosis or health condition. Again, always seek the advice of your physician, or medical health provider, with any questions regarding a medical condition. This is a good starting point to do something proactive for your health.

We're going to start tonight's program with a personal story. We know that we learn really important information from the experts out there. We also know that we learn from other people who are like us. We learn from their stories, they inspire us, and they also make complicated things just a little bit easier to understand. So, tonight we're very fortunate to have Brad Hertz with us. Brad has served as president of the California political attorney's association. He's a frequent lecturer and author in the area of political and election law, and has served on several nonprofit boards.

In 2018, Brad unexpectedly learned that he carries a BRCA2 genetic mutation. Later, he learned that his three adult children also carry the genetic mutation. Brad now splits his time between practicing law and being a men's health advocate, especially with regard to BRCA and other genetic mutations. I'm going to turn the floor over to Brad. Please join me in welcoming Brad.

Brad Hertz:

Thank you very much. It's a pleasure to be here. In 2018, I learned that I carry the BRCA2 gene mutation when, on a whim, I completed a direct-to-consumer genetic test, mostly to learn about my ancestry. The discovery was not only a surprise, as no one in my family had the kinds of cancer associated with BRCA, but it was also life changing. During the same time period, my wife of 30 years, who is not BRCA positive, was diagnosed with breast cancer. Specifically, invasive lobular carcinoma, and needed a double lumpectomy and radiation.

Once I knew my wife was in the clear, I immediately started learning everything I could about BRCA, and Sharsheret was an extremely valuable and supportive resource. I'm honored to be a Sharsheret volunteer, and to be helping with the expansion into the men's health area. I immediately became concerned about what my BRCA mutation would mean for me and for our three adult children, including our 27 year old son, if they had the mutation.

I felt a tremendous sense of responsibility to help them deal with whatever challenges they would face if they inherited my mutation. After more than a year of discussion with my wife and our doctors, including our geneticist, and because our oldest daughter was approaching 30, we decided to tell the kids about my situation. The Sharsheret publication, "How do I tell my children about my cancer gene mutation?" was very helpful in this regard.

As my son and I had lunch and talked about various issues, including his involvement in [inaudible 00:06:12], and his recent testing to see if he was a Tay-Sachs carrier, I told him I needed to discuss a health situation. I then said, "I don't have cancer, but I do have an increased risk of cancer because I carry the BRCA2 gene mutation." This has become a signature line I use to kind of break the ice around the BRCA talk, and it's somewhat serious, but also somewhat lighthearted.

I think at that point he would've preferred a dad joke. His first concern was for me, and what BRCA meant for me in terms of my health and wellness, and

longevity, and then asked if he should get tested. We talked about the pros of knowing versus not knowing, the knowledge is power versus ignorance is bliss debate. A BRCA mutation is something no parent wants to pass on, but that's exactly what happened. As Elana mentioned, all three of our kids, in their twenties, decided to get tested, and all three tested positive. So much for the 50-50 odds of passing on the gene.

I not only needed to focus on my own health with frequent monitoring for prostate, breast and pancreatic cancer, as well as melanoma, but then now to do everything in my power to help our son and our two daughters, stay healthy. As unfortunate as this all may sound, a BRCA mutation is neither a death sentence, nor a guarantee that any of us will ever get cancer. As we work together to process our new normal, our family has grown even closer. At age 58, I've scaled back my work as an attorney to devote more attention to my health, my family's health, and to battling BRCA on both a micro and macro level.

Our son took the news in stride, did some research and said he wasn't going to worry about it for now, but he wanted me to take better care of myself in terms of diet and exercise. He did say however, that when he decides to have kids, he would want the embryos to be BRCA free, to prevent BRCA from being passed on to future generations. And if my wife and I could provide financial assistance with the In Vitro Fertilization and screening process, he would really appreciate it. He also said, "Don't worry, dad, if anything happens to you or mom, I'll be there for my sisters."

We do our best to seize the day and live as if we don't have time bombs inside of us. We try to find the humor in the unusual situations we find ourselves in, and we appreciate every day that we are previvors and not patients. I hope cancer doesn't find me, but if it does, I want to be as prepared as possible, by detecting it early and being in fighting shape, so I'll be more likely to beat it. Knowing that my kids have the mutation, gives me another reason to take better care of myself, and make even more of an effort to be there for them. Even though I'm just beginning my BRCA journey, I've already met hundreds of dedicated people whose work I admire and whose goals I share.

As a man with a BRCA mutation, I have been welcomed into many support groups, including one called the BRCA Brotherhood, which I found to be incredibly helpful and inspirational. I wouldn't characterize it as misery loves company, but there is a bizarre in the trenches feel, for my son and me, knowing that we have a 32% chance of developing prostate cancer compared to 12% for the general population, and a 10% risk of pancreatic cancer compared to 1.5% for most men. Add to that, a 7% risk of male breast cancer compared to 0.1% of the non BRCA population. The phrase, "Carpe diem," takes on a whole new meaning.

I didn't go looking for BRCA, but since it found me and my family, I'm going to do all that I can to meet it head on, and to help others through education, advocacy, research, and every other way I can. Thank you for letting me share tonight.

Elana Silber: Brad, thank you so much for sharing so personally, inspiring us and making so many of us, on the call tonight, feel less alone as we grapple with these issues. I want to remind everyone, there is a transcript. I know you [inaudible 00:10:42] a ton of the data points, and they're all really important and they will be available on transcripts. So, Brad, thank you for sharing, and thank you for the good work you're doing for our community and helping to save lives. Not only your own family, but really caring for community going above and beyond, so thank you. We really appreciate it.

Brad Hertz: Thank you.

Elana Silber: Now, we're going to move forward to the experts that we have this evening. We are very fortunate to have with us, two well-known and well respected medical professionals from Hackensack Meridian Health with us tonight. We have Dr. Robert Alter, who serves as the co-division chief, division of GU Oncology at the John Theurer Cancer Center at Hackensack Meridian health. We have Dr. Michael Stifelman, who serves as Chairman and Professor of Urology at Hackensack university Medical Center, Hackensack Meridian School of Medicine at Seton Hall. He is also the Director of Urologic Oncology, and the Director of Robotic Surgery at Hackensack Meridian health.

Thank you so much for coming on tonight, and just throwing it out there, that it also is Movember, a movement to raise awareness about men's health issues. So, we are very timely to have these men with us. Just to round it out, we also had a genetic counselor on staff, anticipating that we may get deep into genetics here, Peggy Cottrell. She is a certified genetic counselor who is at Sharsheret, and she consults with men, women, and families, to answer individual questions about family history, genetic mutations, and risk for hereditary cancer. We are going to post and we are... We should be posting Peggy's contact information into the chat box. She's a resource for everyone here. You can reach out to her and find a time and to speak with her after tonight's presentation.

So, thank you all for joining us for this conversation. I'm calling it a conversation because that's what it's going to be. We hope to make this interactive, so that you can learn the most from tonight's conversation. So, the way it's going to work tonight is I'm going to ask some questions, and doctors are going to come up with the answers. But I'm going to start and answer my first question, because when we came out with this webinar a couple of months ago, the first question I got from people was, "Why is Sharsheret, an organization that supports women and families facing breast cancer and ovarian cancer, hosting a

men's health webinar? Is this still your department? Why are you guys doing this?"

So, the answer is that, when it comes to hereditary cancer, which very much affects women facing breast and ovarian cancer, that's not the end of the story. It also affects men. This is not the Jewish women's issue when we talk about BRCA and other genetic mutations, this is a Jewish family issue. It's a Jewish community issue, and it even extends beyond the Jewish community. So, the answer is we're going to focus a little bit on genetics. The genetics that we see associated... The cancers that are associated with these genetic mutations are prostate cancer, thus the doctors who have an expertise in neurology, melanoma, pancreatic cancer, and male breast cancer.

I think we're going to start with... The first area of focus is understanding your risk, so Dr. Stifelman, I'm going to turn to you. Can you just give us the general population's risk for prostate cancer?

Dr. Michael D.: Sure. Before I start, I just do want to thank you, Elana, and the rest of the team at Sharsheret, for bringing this to the forefront and to attention. It's such an important topic, and I hope your wives are here listening with you, because I think sometimes when you have couples together, they hear things better and we get better execution. I believe your question was, "What's the general risk for prostate cancer?" Different numbers are out there. I think Brad said 18%, some of us had 12%, 20%, but really it's about 18%. One in eight men, in their lifetime, will deal with prostate cancer.

Elana Silber: Can you explain how you stratify prostate cancer, and why that stratification is so important?

Dr. Michael D.: I think that is probably the most important take-home message. One of the most important take-home messages tonight. Prostate cancer is not binary. It's not, "Oh, I have prostate cancer and it's all the same." It's a spectrum. What we do is, using the pathology report, what these cancer cells look like under the microscope, PSA, what their prostate... Their PSA antigen was at the time of diagnosis. Sometimes we use MRI. Sometimes we use somatic genetic malformations, as well as hereditary malformations. We take all this information that we get when we diagnose someone, and we put them into one of five categories, very low risk, low risk, intermediate risk with favorable, non-favorable, and then finally, high risk.

Why that's so important is, it really dictates on how we treat that patient. For those very low and low risk patients, we often do nothing. We just want to just use active surveillance. That's really the best option for them. Whereas for those intermediate high risk patients, we're going to need to be more aggressive. So, understanding that stratification is really the first step to understanding the disease, and how to manage it.

Elana Silber: You talked about average risk and then you mentioned high risk. What are the factors that make a man high risk? Is there a relationship with age? We've heard that. What makes someone high risk?

Dr. Michael D.: It's really not age so much. It really has to do with the cancer cells themselves, what they look like under the microscope. It has to do with what their PSA was at presentation. So, for example, someone with Gleason or a great grouping, four and five, those are a very high abnormal looking cancer cells, that makes them high risk. Someone with a PSA over 20, at time of presentation, that makes them at high risk. Someone with BRCA2 actually also puts them at a higher risk, because we know those cancers tend to be more aggressive, and there's some somatic genes as well that we look for to see if someone is more apt to be high risk. So, it's a consolation of different information that helps us stratify that.

Elana Silber: What are the chances of being a carrier of a genetic mutation that puts someone in that high risk category? What is a chance of carrying that mutation?

Dr. Michael D.: It's relatively low. I'll probably refer it to Bobby for that exact number, but I think it's about... The general population is probably around one or 2%. I think for the Ashkenazi Jew it goes up to about five or eight... 5% or so. So, it's still relatively low, but when we find and we take a really good family history, and we recognize that they have that potential for risk or having potential for the BRCA gene, BRCA2 specifically, we want to look for that and we want to test for that, because that does go into the equation on treatment options.

Elana Silber: And we've talked about a number of different genetic mutations, different cancers, so when someone comes to you and they've been diagnosed with prostate cancer, is there any reason to do genetic testing or screening for other cancers? What do you recommend?

Dr. Michael D.: I think it's really important, not everyone understands this, there's something called somatic genetic testing, and then there's hereditary genetic testing. Those are two very different areas and really very, very different. So, in terms of somatic genes, those are things that happened that help form the cancer. That means it happened in the cells of your body, this genetic abnormality occurred. You're not going to be able to pass it on to your children, it just happened to you, and your cancer has these somatic mutations in it. When we look and find certain somatic mutations that happen to your cancer cells, that dictates if they're going to be more high risk.

Then there's the hereditary. That's stuff that's passed on generation after generation. That's a different test. We use different tools. To use that, it's typically a blood test, sometimes a saliva test. For that, those can get passed on generation to generation. Those also, many times, will confer an increased risk for having more aggressive cancer, as well as an increased risk for developing into cancer, and for your children to develop one of the four cancers

mentioned. For men, it's really prostate, it's number one, pancreas, melanoma, and obviously for women its breast.

Elana Silber: I'm going to turn a little bit towards Dr. Alter as we dive into the hereditary genetics piece. So, just to remind everyone, I don't even know if everyone on the call tonight... Dr. Alter knows. What is a BRCA, B-R-C-A mutation, and what are other genetic mutations that just people should recognize their names? Maybe they can mention it when they go to the doctor, just give us like the two second version of what a BRCA mutation is.

Dr. Robert S. A...: Well, first of all, thank you, Elana, for having me included in this program, and to the whole [inaudible 00:20:17] as well. So, BRCA really just stands with Breast Cancer. It's an abbreviation of the word. There's two genes. There is your BRCA1, BRCA2, which is breast cancer gene one and breast cancer gene two. These are genes that produce proteins that help repair damaged DNA in your body. It's like an automatic repair mechanism. If any of these genes are mutated, the DNA damage cannot be corrected or repaired correctly. As the damage accumulates, these cells become more prone to forming cancer.

As Dr, Stifelman said, there are pretty much two sets of mutations. Germline, again, just repeating what he said. Germline is just really... It's inherited. That means the mutation is in every cell of your body. So, that's why you can do a blood test, you can do a cheek swab or Saliva test. It just is everywhere. That has a direct genetic predisposition, so that'll be handed down to children by a 50% chance. Then there is somatic, which is **not** an inherited process. Something that you are not born with, so it is present just in that organ itself.

So, if some people have a somatic mutation and they do a blood test and it comes back negative, the implications that they don't have prostate cancer is false. So, again, a lot of these kits [inaudible 00:21:31] and depends on... We can talk about that later, but ultimately it comes down to doing the right study, and there are several companies that have excellent studies in looking at, not only somatic, but germline mutations. I think that's quite important when it comes down to who performed these tests as compared to using direct consumer studies.

So, it truly is this mutation that forms the risk of cancer, and as Dr. Stifelman was saying, the risk can vary. BRCA2 is a much more aggressive tumor than BRCA1. BRCA2 has been proven to be an aggressive tumor. It happens in men who are younger ages. And actually, there was a study that was performed, it was presented, I think two years ago, that actually transformed how we screen patients. It used to be BRCA had no implications in regards to early screening for prostate cancer in men. And the study, which I think accrued more than... Actually close to 3000 patients, 20 different countries, ages 45 to 59, and identified people who are BRCA1 and BRCA2 compared to control.

They realized that patients with BRCA2 have a significant risk, so much so, that it changed the screening for patients with prostate cancer... Sorry, for patients for prostate disease, down from age of 50, then initially down to 45. In this study, if you have BRCA2, they would recommend that you actually have prostate cancer screening at the age of 40. But it really is trying to identify the mutation which identifies the risk, and then the ripple effect about how one acts upon those risk factors.

Elana Silber: So, we're talking about this mutation and knowing that you have a mutation, but what about families that have a strong family history, but they test negative for genetic mutations?

Dr. Robert S. A...: It ends up being that if you have a mutation in the family, and you test negative, we call that a true negative. That means the risk of getting cancer by BRCA is nonexistent. You have the same risk of developing cancer as you would have the general population. So, I think that's an important test to do, but that all falls into the play of having a family history of patients who are BRCA positive. If there's an unknown... Some people who just automatically get testing on their own, 23andMe, other tests, and they get BRCA tested, and they do not know what their family history is. So, let's say someone has no family history of cancer, BRCA or not, and they get themselves tested and they're negative, you still don't know if they're just a true negative, or if they're just an unpredictable, as they would say, and therefore they can still pass that gene on to the family members, genetically.

But if you test positive from a family who tests positive, it has some deleterious effects. The concerns, of course, are you yourself. Testing positive does not mean you will develop cancer. Testing positive means you potentially can't develop cancer. It cannot tell you whether you will or when you'll develop cancer, but it has a positive effect on the people around you. Obviously, first and second degree relatives. Family history is very important when you speak to them, and I think the geneticists we'll definitely talk about that.

But when it comes to the effect it has upon you, obviously the 50% transmission to your next generation, and then what effect it has to your siblings in regards to now putting them at a knowledgeable point that they now have to be concerned about, they are themselves at risk. We always say, if one actually tests themselves, and they are negative, you should still test, if you can, the previous generation, your parent, to see what they are as well, to see what kind of risks are for your children as well as for your siblings.

Elana Silber: I don't know if you mentioned this, but is there a certain age a young man should consider genetic screening, if they know that they have a parent who carries a BRCA gene, kind of like in Brad's situation? Is there a minimum-

Dr. Robert S. A...: Yeah, so right now, the recommendation is at the age of 40. By identifying the risk factors, you can actually justify doing it younger. They actually say you

should be done 10 years younger to when the previous person has had prostate cancer. Someone has a prostate cancer in your family and was diagnosed the age of 42, then you should be getting test at the age of 32. They're trying to have a push now about having people tested between the ages of 18 and 25. It's controversial. This has to be definitely discussed with the geneticist. I'd say, you definitely need to have pre and post counseling prior to having that study done.

I think that even going to a healthcare provider, the final answer may not be known, and now truly important, anyone who's going to consider doing it a younger age, to have a geneticist discuss... Because it's not just about BRCA, you have to talk about other conditions. We mentioned there's a Lynch syndrome, there's a Li Fraumeni syndrome. There are other symptoms that are associated with other conditions. In addition to prostate cancer, we always assume BRCA1 or BRCA2 is going to be prostate, and BRCA2 is mostly with male breast cancer as well. We didn't talk about that yet. Pancreatic cancer and melanoma, but there can be some association with some colon cancers as well.

It depends on the other syndromes, but BRCA1 and BRCA2 are usually not associated with colon cancer. But again, I think that people just testing out their ethnicity and what their energy genetic makeup may be. Be cautious about the implications about doing a study that... What do you do with the information once you know it? I think that's where healthcare providers can help, but I really think geneticists can be of significant importance.

Elana Silber: Yeah. I want to bring in Peggy for a second, just because I know we'll spend a lot of time and we are talking about hereditary cancer tonight, but for everyone on the screen, I want them to understand Peggy. I know there's a certain statistic of how many cancers that are diagnosed can be actually tracked to a specific genetic mutation. What is that percentage of cancers that are being diagnosed that are associated with the genetic mutation? How many are not? Just so that people on the call understand.

Peggy Cottrell: Well, there are cancer that are related to the genetic mutations, that we can identify, that are inherited. Like the ones we've been mentioning, prostate, male breast, pancreatic, melanoma, but sometimes cancers are running in a family and they're related to mutations that we don't know how to look for yet. So, if we see someone has a strong family history and the genetic testing is negative, then it's really important to follow them and screen them carefully as if it's possible that there's something inherited there, not just in case.

Elana Silber: But is it true? I've heard only five to 10% of cancers diagnosed really are associated with a genetic mutation we know. So, that means that 90% of cancers that are diagnosed cannot be attributed, today, to a specific mutation. Is that true?

Peggy Cottrell: Right. Most people who get cancer don't have anything inherited that's causing it. It's happening mostly for reasons we can't explain. There are risk factors

associated with exposures, with lifestyle factors, but a big part of it is chance, so anyone can get cancer.

Elana Silber: Right.

Peggy Cottrell: Totally.

Elana Silber: I want you to put that out there so that... This calls for everybody out there. I also wanted to shift gears just for a minute, and then we're going to get back to screening for cancer and the signs and symptoms. But before we do that, Sharsheret is an organization that focuses a lot on the psychosocial issues related to being diagnosed, or carrying a genetic mutation. These are very serious issues and family issues. So, Dr. Stifelman, I wonder if you can give us some insight on this emotional piece. Are there any tips or... There are people definitely on the call tonight who may have young adult sons, and want to know how to start this conversation with their family. I know Brad gave his perspective. Are there tips or things that people can do to have this conversation? It's hard.

Dr. Michael D. ...: I think in all honesty, Brad probably could give us the best insight because he's gone through it. I think he did a phenomenal job. The way he explained it, the way he brought his kids one by one, went over what it means, had the information at hand, explained to them when we should start testing. It's really not ignoring it or putting your head in the sand, but really confronting it head on. So, I really would just echo what Brad did, which is it is very emotional, but I think when you come armed with the information that Sharsheret can provide you, and you present that information in a sort of non-biased non-emotional way, I would say that would be my advice to do it.

It's been said a hundred times, just because you're BRCA2, if you're going to go to Las Vegas, you're going to win 75% of the time that you're not going to breast cancer, or prostate cancer, so that's pretty good odds. The odds are still in your favor, but it also means that we can't ignore it, and we need to start testing earlier than we would've for others. So, that, in a nutshell, would be my advice.

Elana Silber: Okay, and-

Brad Hertz: I can speak to that a little bit. I think a lot depends, of course, on the age of the kids and the maturity level of the kids. I kind of interviewed my children after the process, like how could we have done it better? They ended up finding out at different times, and they were troubled by that because we asked like for example, our son, to not tell his sisters quite yet, because he kind of figured it out, because he is very involved in Jewish issues.

Anyway, upon retrospect, they said, "We would've wanted you to tell all of us together, and we would've wanted you to get right to the point and not do a lot of editorializing. Be very factual and then be quiet, and let us ask questions. And

if we didn't want to ask questions right then and there, let us deal with it and come back and ask questions later." So, I thought that was very mature, and they didn't have any resentment or jump off a cliff, or any of the things we worried about. They handled it really well, and hopefully that's a credit to them, but I think most kids would.

Elana Silber: Right. No, I appreciate that, and obviously, every family is very individual. Peggy speaks with hundreds of people every year, and families, and setting up calls, so this is a resource that anyone can take advantage of. Everything is free. Everything's confidential. Everything's convenient from your home, so I encourage anyone who's struggling with the right background situation, conversation, we have a lot of experience with that. We also have a resource that Brad referred to in the beginning, but these are conversations that you can turn to Sharsheret to help you have them.

Dr. Michael D.: So, Elana, I'm going to go off topic for a second if that's okay.

Elana Silber: Okay. That's a little scary just because you know Sharsheret sticks to its time, but go take a risk. Let's see what happens.

Dr. Michael D.: I actually want to ask this question for Peggy, because I get this question a lot and that is, where should I have my genetic testing done? Is doing a genetic test from 23andMe, or from one of those other commercial sites, as good as going to a genetic counselor, having it done through a hospital lab or through, industry lab? What do you recommend, Peggy?

Peggy Cottrell: We definitely recommend that people use a genetic counselor for their testing. The type of testing that's done at 23andMe or Ancestry is certainly interesting if you want to find out about ancestry, or long lost relatives, but it's not really a medical grade test. Even those sites will tell you that any health information you learn from them has to be confirmed by a medical grade site. But there are some... Sometimes people want to do a test without meeting with a genetic counselor, and there are some quality tests that are available. There's what's called consumer initiated testing, which can be done at Invitae, at Color and at JScreen. I've often been recommending JScreen these days. They have a very good price right now for people to get a comprehensive medical grade test done. So, if people would like to pursue something like that, they can certainly be in touch with me. We have a coupon code right now with JScreen that makes it very affordable.

Dr. Michael D.: So what you're saying is number one choice would be do it through a genetic counselor. Number two is, if you're not going to do that, do it through JScreen or medical grade, and really the least favorable choice is just going out and doing a 23andMe, or Ancestry.

Peggy Cottrell: Right.

- Dr. Michael D.: Okay, thank you.
- Peggy Cottrell: Because 23andMe is going to miss most of the inherited mutations that are there. It's only looking at founder mutations in the Ashkenazi population in BRCA1 and two, so it's going to miss so much of what could be identified [crosstalk 00:34:56].
- Dr. Michael D.: Great. Great take-home message. Thank you, Elana, for letting me jump in.
- Dr. Robert S. A...: And I agree with that because, not only that, but also, what do you do if you're a consumer, you do a test by yourself and you get the results and you hold on it? I mean, at that juncture, you should be educated enough to share that, not only with the geneticist and definitely your primary healthcare provider, but with family. I just wonder if people panic when they get the results and then shut down. We've seen that in one of our patients, and again, we have excellent geneticists at the John Theurer Cancer Center, so I mean, it's easy just to hand it to people who are professionally recognizing that it's just not one disease, it's not just one gene, that there's a whole effect that has to be done. And I think the family history is quite important.
- Elana Silber: Yeah, that's the message that we send all the time, and I'm really happy that you did break from the tight schedule that we have though. That's really important. Peggy also can share more information about accessing genetic testing, affordable, accurate, and reliable genetic testing, along with the important conversations, because these are complicated results and they don't just affect you. They affect your entire family. So, these are important.
- Okay, we're going to move into this screening for cancer. We talked about screening for genetics. We're going to also talk about screening for cancer and signs and symptoms, because this is practical, let's pay attention, what we can do today, tonight, tomorrow.
- Dr. Michael D.: Sure.
- Elana Silber: Dr. Stifelman, I'm going to start with you. What are the routine prostate screening recommendations for men at average risk, versus those who are at high risk? I think you kind of mentioned some of them, so you can just remind us.
- Dr. Michael D.: What's incredible is that this is actually controversial, that there are organizations that have come out and actually have gone as far as saying, we should not be screening for prostate cancer. That has been somewhat reduced in terms of the messaging. Really, what we are told and what I'm going to tell you is that, it's a conversation that you have to have with your primary care doctor or your urologist, "Should I even be screened? What does that mean, being screened? What do I do with that information?" A short answer is 55 to 75, or 55 to 70. Like average men should be getting screened at age 55, and if

you haven't gotten prostate cancer about 70. If you're really healthy, probably 75, you can stop and no longer worry about it.

But there are some of the governmental agencies that have even gone as far as suggesting that we don't need to screen, it's not worth it. We have found, in the last five years, actually it's been 10 years since that information's come out through the defense force task force, that we've actually seen an uptick, a significant rise in high grade prostate cancer. So, I would push back on that and I would recommend everybody, every men get screened starting age 55, if you have a history, or you're a high risk for prostate cancer. So, if you're an African-American man, if you have a strong family history, even without the BRCA2 gene, if you have a BRCA2 gene in your family, or you have a BRCA2 gene yourself, then I would get screened age 40. That's when we recommend it.

So, 40 for high risk of getting cancer, 55, if you aren't general population. Screening involves two things, it involves a blood test, which is a PSA, and it involves a rectal exam. Those go hand in hand. You shouldn't do one without the other. I know not every man wants to hear that, but that is really what the recommendation is, because there are times we find bad back cancers just by palpation, not by PSA. So, that's the screen recommendations, that's when you do it when you're young, and those are the two tests that you should be getting done when you start screening.

Elana Silber:

Okay, and Dr. Alter, can you go over a little bit of the symptoms for... Well, we're talking about prostate cancer, right? The most common cancer for men. Maybe the other ones we could touch upon also, but what are the symptoms, and at what point do we pick up the phone and call the doctor?

Dr. Robert S. A...:

Well, I would say the symptoms could be no symptoms whatsoever, which is unfortunate, but it can be urinary issues. It could be having blood in the urine. It could be blood in the semen. It could be pain. Unfortunately, sometimes people first get recognized of the cancer after it's already started to travel to adjacent lymph nodes. Dr. Stifelman probably sees his patients on a routine basis. I usually see them after they already been diagnosed. But the urinary symptoms are usually what can lead to it, but sometimes it's just more urinary difficulty. Again, as the prostate enlarges, the urine stream gets somewhat a bit more decreased, and they just have a decreased stream, increasing urinary frequency, waking up at night and going to the bathroom just because they're not emptying their bladder well.

It may be as subtle as that. There's a lag time. Dr. Stifelman can tell you this about when these symptoms first be initiated, to when they first present to their primary care physician, and then eventually to a urologist. But the symptoms may just be mild and then fleeting, as compared to being persistent. Again, sometimes they're very symptomatic, which then goes back to if you've identified that there is a hereditary concern when screenings should happen sooner.

Dr. Michael D.: And just to sort of add to that a little more color maybe. Again, I hope everyone's okay with this, this late at night. If you think of the prostate like a walnut or like an orange, most of the cancers happen on the outside, on the periphery. The urethra goes right through the Walnut, right through the middle. So, BPH, which stands for Benign Prostate Hypertrophy, benign condition but the prostate starts growing. That disease, that prostate tends to cause symptoms, frequency, urgency, having difficulty, urinary... Doctor Alter said.

Whereas cancers of the prostate, because they're on the outside of the prostate, the majority of time, 80, 85% of the time, those often don't have any symptoms. It just happens to be, they have a combination of prostate cancer and BPH, but the prostate cancer itself, especially in the localized early detection, which is what we always strive to diagnose them with, have very little... Often will have no symptoms at all. Same for breast cancer or even kidney cancer. Those cancers were found incidentally. They were found because you went and got your mammogram, or you got an ultrasound for your gallbladder and you found something on your left kidney. It's really, when they become advanced, when they become metastasized, do they start to present with symptoms. That's when Dr. Alter, unfortunately, sees many of those patients. I happen to see them, luckily, much, much earlier.

Dr. Robert S. A...: Elana, let me jump up and say that, when we talk about patients who are BRCA positive, I think sometimes that may lead to it. I mean, we sometimes talk to patients about hereditary cancer testing. First of all, a patient themselves have, let's say prostate cancer, we would then have them do BRCA because they still may be at risk of developing another BRCA associated cancer, like breast cancer, pancreatic cancer, or melanoma. So, a person's personal history, that would lead to more testing. If you have a family history or by ancestry, if you have one or greater close relatives who have breast cancer before the age of 50, anytime you have ovarian or pancreatic cancer, or metastatic breast cancer, obviously it leads to increasing more BRCA testing and identifying.

Your family history of BRCA positivity leads to more testing. If you have greater than two close relatives who had either prostate or breast cancer, first, second, or third cousins, this puts anyone at risk as well. Then Ashkenazi Jews definitely have more of a link. That can easily be... There was actually an article I read that, if you're between the ages of 18 and 25, and you have a grandparent who's Ashkenazi, you could even justify getting yourself BRCA tested, which again, I would say is an article, not the standard of care. But I think all these screening tools would be able to sometimes identify these patients with prostate cancer risk, as compared to having prostate cancer itself.

Elana Silber: Yeah, and I think that's an important point that we try to share that when men go to the doctor, and they have to share their family cancer history, that they should also be including the female cancers that females and their families have had that can identify. Sometimes they think that they just have to know their

males, their family history, but also breast cancer and ovarian cancer can increase their risk for other cancers. So, just want to put that out there.

I know we're getting close on time and I'm mindful of everyone's schedule, so I want to get to some... A couple of things, I know there're questions about pancreatic cancer that is more complicated with screening than prostate cancer. I don't know if we'll get to it tonight, but we're certainly going to have information going forward, about the other cancers that Dr. Alter mentioned, that are very much associated with these cancer genetic mutations, like pancreatic cancer and melanoma, and male breast cancer. We will get to those at a future date, but questions [crosstalk 00:44:30].

Dr. Robert S. A...: I can cover that. I can cover that in two sentences.

Elana Silber: So then do it. Go.

Dr. Robert S. A...: For any risk, if you have a BRCA positivity, see a physician, close monitoring, healthcare providers and doing PSAs. [crosstalk 00:44:43] but you should be seeing the dermatologist nearly for the risk of melanoma. [crosstalk 00:44:51] pancreatic cancer. There's an issue of endoscopic ultrasounds being... Gastroenterologists, again, spoken to them, and if you have BRCA positivity, men should get mammograms starting at the age of 40 or 45. I mean, it still is the same risk that you have, that women have if you're BRCA positive. So, I think it just sort of... We have to recognize that men can get mammograms the same way women get mammograms.

The difference about men is that men cannot go for MRIs as women can do. It's not as sensitive. There's no real prophylactic surgery that men can undergo if they identify that they're BRCA positive. There's no real medication one can take to prevent it, as there are for women with breast cancer. So, I think to summarize, being in touch with the primary care physician, let them identify. There are guidelines that one can abide by. The National Comprehensive Cancer Network has submitted guidelines that we should be partaking in. There are clinical trials as well, if you wish to partake in that in regards to genetic screening. I think these are important ways of just really communicating the information to your physician.

Elana Silber: Yeah, and then Sharsheret has resources on clinical trials and other things, and I know that we are going to try to open up. I know a lot of people are asking me behind the scenes, if we're going to have time for Q and A, which I know is the best part of the event. I'm happy to stay on a little bit longer, if the experts on the screen we'll address some of the questions. If they get too specific, we won't get to them. But right before we get to the Q and A, I want to talk about next steps. I mean, there are two things I really want to talk about, advances in treatment for prostate cancer, but I don't know if we'll have time for that. Is there something specific, new, coming down the pike that people should know

about a new treatment in prostate cancer? Or is there nothing new to report on tonight? But if there's something new, we want to be able to tell everybody.

Dr. Michael D. ...: I'll jump into the local treatment, localized treatment for prostate cancer, and I'm sure Bobby will hit some of the really exciting treatments that are coming out for advance. I think the thing that's most exciting is our use of active surveillance for prostate cancer. It's the no treatment. It's identifying patients who don't need treatment and stop treating them because they just don't need it. It's not going to hurt them. To me, that's the most exciting thing that's come out, Elana, in the last five or 10 years, is this big push and understanding that active surveillance for men is a very good option for those low and very low risk prostate cancer patients.

In terms of some local therapies, we've gone a long way with stuff called vocal ablation, meaning we're just treating part of the prostate, sort of like a lumpectomy versus a mastectomy. We have the specific patients that we can offer that to, it's not for everyone. Then finally, in terms of the surgical approaches, we've gotten this operation down to basically making one incision, the size of your thumb, in your belly button and doing the whole thing robotically through a one inch incision. We're getting some really, really good results. Also, we're using some regenerative medicine techniques to help with functional outcomes as well.

So, I think there's a tremendous amount of exciting things happening at the John Theurer Cancer Center, and the Urologic Oncology department at HMH, literally leading the way in pioneering a lot of this. Bobby.

Dr. Robert S. A...: Thank you. I would say the good old fashioned hormonal manipulation, hormone therapy to suppress prostate cancer, similar to how women get treated with breast cancer. There are chemotherapy agents as well, not too many as compared to other diseases. I guess the newest advancement is something else presented in June at the oncology meetings, something called Lutetium PSMA 617, which actually delivers a beta particle radiation to a prostate binding target. The targets, the markers expressed by tumors in combination with a radioactive isotope, and this approach to the targeted delivery of radiation to the tumor and disease surrounding micro environment, while limiting toxicities to the surrounding healthy tissues.

The data that was presented shows improvement in postponing progression of cancer and improving overall survival, which is a tremendous step in our... I guess it's been relatively [inaudible 00:49:06] prostate cancer therapies. Again, moving forward now using radio isotopes, I think in a [crosstalk 00:49:14].

Dr. Michael D. ...: It is fine.

Dr. Robert S. A...: Yeah, it seems very effective.

- Dr. Michael D.: I mean, I want to just restate what he said, maybe in layman's terms, because that was a lot of information, but I just want you to sort of understand what Bobby said. We are getting to the point where we have the ability to give basically nuclear medicine, radio isotope that you inject into your arm, that only goes to prostate cancer. That's the only place it touches. Then we connect that radio isotope, a drug, to kill the prostate cancer. I mean, if we're not talking about futuristic medicine and patient-centric medicine, I don't know what else is... We're getting to the point where we can target those cancer cells through these specialized nucleotides, and put drugs onto them to kill them. That's amazing. That, to us, I know for Bobby too, is extremely exciting and we look forward to the research that's coming out on that.
- Elana Silber: Okay. Thank you for the clarification and the emphasis on the importance. This is good information. Again, just a reminder for everyone, we're going to have a transcript. I think people walking away from the program tonight want to know what next steps are, so if we had to say a couple of things that people can do tonight, maybe a certain question to ask their doctors, or certain things they should be looking out for, each one of you, if you can give us one or two like, "Do this right away." That would be really helpful. Be proactive about their health.
- Dr. Michael D.: Bobby. We're going to start with Bobby
- Dr. Robert S. A...: Proactivity. I think we have to try to recognize what we can actually do. So, if we're born with the genes we have, I think we have to embrace them, but I think we have to try to be healthy in how we take care of ourselves. I think, first of all, seeing a physician on a regular basis, I think it may be esoteric and redundant, but I think it's quite important. Eating healthy; fruits, vegetables, no saturated fats, and try to limit the amount sugar you have. No smoking, if you're smoking, please stop smoking. I think you're harming yourself and other people around you. If you get a drink, limit the amount that you're drinking. Moderate to vigorous exercise on a daily basis, I think can improve it.
- I think these are always... If I tell you this is about a cancer talk or just about a good old general passion medical talk, there really is nothing better to do in regards to improving your health than just those basic examples. But to talk about how to improve a specific disease fashion, that I don't have the advice on. I would simply say to you, whatever you do and you have guilt about, try not to have guilt.
- Dr. Michael D.: I would just add three other things to that. Number one, is obesity. It goes along with everything that Bobby said, but obesity clearly has a link to prostate cancer. When you have obesity, you basically... It's a tug of war between your body and the cancer cells, and the cancer cells always win. They're getting all the nutrients and they're going to grow more, so that is something really important to be careful of. Number two, these are three things that are being

looked at. This is not for prime time, but these are three different medications that are being looked at, that may reduce the risk.

Again, may, this is not FDA approved in any way, but they're looking at using very low doses of Metformin, using Lipitor, and certain vitamins, to help reduce the risk. But again, those are our experimental and they have not come out. I think the most important thing is just having a conversation with your physician, and telling them that you want to be proactive. I'm hoping you are, that's why you're here, and you want to start testing for prostate cancer because it's the number one killer of men. Number one cancer death of men is prostate cancer. So, based on your risk stratification, you want to start that testing either at 40 or 55, and you want to be proactive. I think if you do those things, that's your best shot.

Elana Silber: Thank you. I've seen a ton of questions coming into the chat. A lot of them were included in the presentations. I know that there was also a lot of connections between people on the chat, which we actually love, and it's a great opportunity to connect with the community. I just want full disclosure, there's a lot of information in the chat that's conflicting, contradictory, and not necessarily from healthcare professionals. So, just a reminder that if you have a question and really specific, and you want additional information, you can reach out to us. You can speak to Peggy and, or speak to your doctor. Do not rely on the chat. People are very passionate and we so appreciate that. The information you're sharing is important. This should be a springboard for conversation and not take in as medical advice.

I just want to really put it out there because I'm excited about the participation, but want you to do the right thing. So, that's the one thing... That's my takeaway. Do not take this chat with you as your medical decisions. You take it and take it to your doctors and ask the questions, or reach out to us. We can also share that. There were a lot of questions that came in. I turn to my team and say, "Do we stay on or we end it?" I just think there are just so many questions out there. I don't know if you've had a chance to look at them. I think that there's a lot of specific things and I really don't even know where to start. So-

Dr. Michael D. ...: So we've got 10 minutes, Elana, pick five questions. Let's do it.

Elana Silber: Okay. So, of course I have to scroll down in my chat, because it's just [crosstalk 00:54:53].

Dr. Michael D. ...: Unless anyone else, Peggy's looked through it, or maybe Brad.

Elana Silber: No, Peggy is [inaudible 00:54:57] along the way, which has been awesome, so thank you, Peggy. There was one thing that someone asked that I really don't know the answer to, and this is for Dr. Stifelman. Can you answer what the 4K

test is as opposed to PSA? Did you say that and I missed it or is that something [crosstalk 00:55:14]?

Dr. Michael D. ...:

No, we didn't. One of the things that urology is trying to do is determine who actually needs a biopsy, because PSA is... This is going to take me longer than two minutes. PSA is sort of a misnomer. It's been called Prostate-Specific Antigen. It has nothing to do with an antigen. It's a protein that your prostate makes, and it actually has a function to basically liquefy semen. So, it's just a protein, and lots of things can raise your PSA. Infection can raise your PSA. Just having a big prostate can raise PSA. Ride a bicycle extensively for a period of time. Many, many things can raise it, so in an attempt to better clarify when a PSA is bad, from badness or because of just BPH, we've come up with other tests and other techniques. One of those is 4K.

It uses both PSA and something called Kallikreins they look at, which also has a higher risk being associated with prostate cancer. That's a good test. I typically use that only on patients who've had a negative biopsy, but continue to have an elevated PSA after that, but there're different ways of using it. There's a company called [FI-score 00:56:27], which you could use it. There's PSA density, PSA velocity, but all of these different tests are designed to try to help the urologist decide who actually needs a biopsy or not. That's, again, a conversation that you're going to need to have with your physician, based on a lot of different parameters.

Right now I can't say one is 100% better than the other, but they are all designed to try to make PSA more specific. We're doing some very exciting work actually at Hackensack. Again, it's not, not ready for prime time. We're using something called exosomes of the prostate cancer, and using that and seeing if we can find that in the blood or the urine to be more accurate for prostate cancer. Have more high specificity and sensitivity. I think I answered the question, but if not, reach out to Sharsheret, we'll try again.

Elana Silber:

The other thing is also, if you have questions for the doctors, you can also send them to us and maybe we can get some of them answered afterwards. There are two that keep coming in over and over again, privately to me. The first one, I even think maybe it's for Peggy, actually. We talked a lot about genetic testing and being eligible, and getting it for affordable prices, but what about insurance? Is there any issue with health insurance, life insurance? I saw someone posted in... I think, to get your life insurance before you test. Can you talk a little bit about the risks for our insurance if we test... If we screen for mutations?

Peggy Cottrell:

Yes. So there is a law in place called GINA, which is Genetic Information Nondiscrimination Act, and that really protects almost all people from having discrimination in their health insurance. So, if you test positive for a BRCA mutation, your insurance can't say, "Oh, now we're not going to cover you for breast cancer," or for something along those lines. But other kinds of insurance

like life insurance or disability, or long term care are allowed to ask questions about your health before they give you a policy.

So, if you are going to have this kind of testing done, you could consider getting your insurance ducks all lined up, so that you don't run into a problem afterwards. Now it's important to mention that genetic information is not just the results of a genetic test, but it's also family history. So, if you've talked about your family history with your doctor and that gets reported into the insurance company, that could be used against you as well. It's important to remember to get insurance when you're healthy.

Elana Silber: That's life insurance. We're not talking about the-

Peggy Cottrell: Life insurance. Life insurance. Absolutely.

Elana Silber: Okay. Someone put in the chat, what is CyberKnife treatment? That's not-

Dr. Michael D.: Rob. Bobby.

Dr. Robert S. A...: It's pretty much directed radiation therapy. There are many different ways of giving radiation therapy for prostate cancer. Old fashioned way of doing seed implantations and external beam radiation therapy, which was successful but relatively toxic to surrounding tissues. They've now moved on to something called IMRT or Intensified Modified Radiation Therapy, which is a more of a direct radiation therapy, where the radiation beam is pretty much like peeling skin off an onion. It's that good. The next generation is Tomotherapy, which sort of re-calibrates where the disease is on a daily basis.

Then there's proton therapy, which is using protons instead of photons. Then CyberKnife is really using more of, again, a better treatment, better directed therapy in a shortened course. So, rather than doing radiation therapy over eight to nine weeks on a five days a week basis, it can be done over five days, intensified therapy... Actually, it's five treatments out five days. I apologize. But again, it should limit toxicity as well, and at the same time too, it limits the patient's, I guess, time that they have to spend in the radiation suite, as well as times of office visits. It gives them a little bit more flexibility in quality of life outside the radiation oncologist.

As to which device may be better, a shorter beam, external beam being archaic at this point, there is a modest difference between all the different radiation techniques. Every time these questions get posed to myself, I really defer those questions to the radiation oncologist who are significantly brilliant when it comes down to answering those questions, and some sites offer some treatment options and some don't, so a lot of times you may hear that they recommend one just because that's only recommendation that they have at their center as compared to other centers, which may have the option of others. In which case, I think that speaking to radiation oncologists, are a wealth of

information, but the ultimate approach is localized therapy, minimal toxicities, with a long term cure.

Elana Silber: Okay. There's a question about a biopsy procedure. What's the probability of actually missing a cancerous area versus... I don't know if this is [crosstalk 01:01:36].

Dr. Michael D. ...: I'm going to take that one because this is something we do really well at Hackensack Meridian Health. To be very transparent, I don't do the biopsies for prostate cancer. My partners do, and they do a lot of them, and they're really good at it. So, one of the things that we've learned is that, prior to any biopsy, we get an MRI. We get a three phase MRI on a really good machine with experts reading it. What that does is it gives us, often, a guide of where we should be targeting. So, what we used to do is just place a probe next to the prostate, and just sort of hit the prostate randomly in 12 different spots and sort of hope for the best.

Now, what do is we get an MRI, and anyone who has any abnormality in MRI, we target that area specifically because there's significantly higher risk that we'll find it in that area. Then on top of that, we will do the random biopsies. So, what that does is, number one, it helps us find the bad cancers and the ones that need to be treated. Number two, when we find the good ones, the good cancers, those lower grade cancers, we know with really good accuracy, we don't need to worry about those. We can put those patients on active surveillance. The technique is called MRI fusion guided biopsy. We are very big proponents of that. Most academic centers are. We've got the newest technology to do that, and I think that's really the way I believe, and this is my opinion, biopsy should be done in 2021.

Elana Silber: Okay.

Dr. Robert S. A...: I agree, especially-

Elana Silber: We're getting close to 2022 also, right?

Dr. Robert S. A...: Yeah. I'll just say, especially in this setting of doing active surveillance, I think that you really want to make sure that if you're going to be doing biopsies once a year, monitoring the PSA as well as patient symptoms, you really want to make sure that if you're going to have one shot, you want to be aiming as a sniper as compared to a buckshot. So, I really think the MRIs are an important step in making sure the patients are appropriately monitored in the after surveillance setting.

Elana Silber: Okay. I think we're going to wrap it up. But again, I want to emphasize that Sharsheret, this is not a one and done. We will be bringing more of these informational webinars. We're bringing resources. We have videos. We're working on this. This is an initiative and we're not going away. We are here for

you. We are here for your family. I just want to wrap it up by saying huge thank you to Brad for sharing his story so personally. I know in the chat, someone said the patient experience, and Dr. Stifelman confirmed it. Brad's experience really taught us a lot. I want to thank Dr. Stifelman, Dr. Alter. Thank you, Peggy, for sharing your expertise this evening, and Peggy for taking charge of the chat. There was lot of really good questions that you were managing at the same time.

I want to thank our generous sponsors, the department of Urologic Oncology at Hackensack Meridian Health, our lead tonight, the Basser Center for BRCA, [inaudible 01:04:42], GSK, Merck, Seagen the Max and Anna Baran, Ben and Sarah Baran, and Milton Baran Endowment Fund of the Jewish Community Foundation of Los Angeles and Sigman and Edith Blumenthal Memorial Fund. I really want to thank all of our partners who came on. A lot of you came from those emails they were sending out. We so appreciate your time, and we so appreciate your collaboration. We'll continue to work with you to educate our community.

We're putting an evaluation link into the chat. I know we've been very active on the chat. Don't stop now. Let's go into the evaluation. Your feedback is so critical as we launch this new effort to educate men in our community and beyond. So, take a minute, it's going to impact... You can actually access resources straight from the evaluation that will be helpful, informative life saving, life changing. We really want your feedback. There's actually a raffle for an Amazon gift card, just putting it out there, holidays coming, can't hurt to have an Amazon gift card.

We're pushing it. We're pushing the evaluation, so please, please let us know what you think. We're not going to get you back in a room together anytime soon, not this week anyway. So, click now, you'll be able to continue listening to me, don't worry. You can still fill it out at the same time. So, tonight, we did have a full focus on prostate cancer, thus the doctors of urology, but we are continuing the conversation. We'll keep you up to date on new information. We also, in our efforts in the community we have now... Are establishing a men's leadership council. Many of you came on the call tonight. Thank you.

We are working together with the council, leading the way to save lives through education. We're working on a resource, actually, a printed resource that will be distributed to doctors all across the country, and organizations, and communities, with a lot of what we've discussed tonight, and really easy ways to share information and learn. You can pre-order that resource through the evaluation that I'm pushing you to fill out. Finally, just really remember that Sharsheret is here for you and your family, men and women. We provide emotional support, mental health counseling, financial subsidies for non-medical services. We help you navigate the cancer journey. That journey can start before cancer, during cancer, or even after diagnosis into the survivorship years.

Everything we do is customized. It's about you. We don't fit the program to... We make our programs to fit your needs. Everything is confidential. Everything is free. Everything is convenient. Our number is, toll-free, 866-474-2774. It's going in the chat. You'll get a copy of the transcript when we send out a recap email. It will also be posted on our website. It's on our YouTube channel. Everything you can't find you can pick up the phone and call us, we'll tell you how to get it. Really, don't hesitate to reach out. Many people reach out to Sharsheret, don't even know why they're reaching out, but we can help.

We'll figure out what you need. You don't have to do this alone. Sharsheret is here for you. We're a community. We're going to save lives. We're going to improve lives. We're going to do it together. So, thank you to our experts. Thank you to our community, and to really... Everyone, have a great night. Thank you.

Dr. Robert S. A...: Thank you.