

**Living with Cancer & COVID-19:
Vaccine Update with Top Oncologist Dr. Ruth Oratz**

National Webinar Transcript

January 4, 2021

Presented by:



This webinar was made possible with the support of:

The Siegmund and Edith Blumenthal Memorial Fund

Eve:

Good evening, everybody. Thank you so much for joining us for our latest cancer and COVID-19 medical update this evening. Tonight, we will be learning from Dr. Ruth Oratz about cancer and COVID-19. Dr. Ruth Oratz will share the latest information and updates on what we now know about COVID-19 and the current vaccines that are available. We are grateful to tonight's webinar sponsors, the Siegmund and Edith Blumenthal Foundation. It is thanks to their support that we're able to provide this series of webinars throughout the pandemic.

Eve:

Before we begin, a few housekeeping items. Tonight's webinar is being recorded and will be posted on the Sharsheret's website, along with the transcript. However, participants' faces and names will not be in the recording. But if you would still like to remain private, you can turn off your video and rename yourself, or you can call into the webinar and instructions have been put in the chat box now for both of those options.

Eve:

You may have noticed that all participants were muted as you entered. Please keep yourself on mute throughout the call. If you have any questions, please put them in the chat box, either publicly or click on Sharsheret in the chat box to submit a private question. We did receive many questions in advance of the webinar, and we anticipate many more questions coming through the chat box. And we will do our very best to answer all questions. Any questions not answered this evening will be addressed by email over the next week.

Eve:

We recommend that you keep your screen on speaker view. This will allow you to see Dr. Oratz's at this presentation. And Dr. Oratz, you can find this option in the upper right-hand corner of your screen right now. As a reminder, Sharsheret has been providing telehealth services to the breast and ovarian cancer communities for almost 20 years, and the pandemic has not changed that. We continue to be there for each and every one of you every day.

Eve:

As we move to the webinar itself, I also want to remind you that Sharsheret is a national not-for-profit cancer support and education organization. And we do not provide any medical advice or perform any medical procedures. The information provided by Sharsheret this evening or any evening is not a substitute for medical advice or treatment for specific medical conditions. You should not use this information to diagnose or treat a health problem. And if you have any questions that are specific to your medical care, you should address those with your qualified healthcare provider about your medical condition.

Eve:

And now this evening, we are so honored to be joined by Dr. Ruth Oratz. Dr. Oratz is an oncologist at NYU Langone in the Perlmutter Cancer Center, where she has been since she completed her residency in internal medicine and fellowship in medical oncology. As a medical oncologist, Dr. Oratz specializes in treating people who have all stages of breast cancer, as well as those who have an increased risk of developing cancer. Dr. Oratz is also a member of Sharsheret's medical advisory board. And without further ado, Dr. Oratz.

Dr. Ruth Oratz:

Thank you Eve. It really is my pleasure to be back with Sharsheret this evening, and to speak with you in 2021, the beginning of this new year, about what's new since we started all of this back last spring in 2020. It has been a very long year. The COVID-19 pandemic has swept across our country, has swept across the world, and has impacted us in ways that we could never have anticipated. And I think for a lot of us, there has been some anxiety, some fear. There's been a lot of isolation, changes in our everyday life, changes in our work lives. And also changes in our health and medical conditions as a consequence of this. We are living with the toll that this pandemic has taken on our personal health, on our national health, and also all of the economic problems and other issues that have come from it.

Dr. Ruth Oratz:

But since early spring of 2020 when I first spoke with you about what this virus was about and what the pandemic meant, we really have made a lot of progress. We understand much more about the COVID-19 virus, about the illness that it causes. And you've been hearing recently about some new mutations in the virus that are making it perhaps more transmissible and maybe some differences in severity of disease. But our treatments are much better. The way we understand the illness has certainly improved dramatically.

Dr. Ruth Oratz:

And also over this past year, scientists and researchers have been working around the clock, truly around the clock not only to develop treatments, but to develop effective vaccines for prevention. And this is what we're really hopeful about in 2021.

Dr. Ruth Oratz:

The COVID pandemic in 2020 for cancer patients, for their families, and for all of their caregivers has been disproportionately a very big problem. We know that cancer patients who are under active treatment or have more advanced stages of disease are somewhat more likely to become infected by COVID and perhaps to suffer from serious consequences of the disease. But we also know that it may be a much greater problem to forego cancer treatment, because of the fear of getting COVID. So we have to balance those concerns.

Dr. Ruth Oratz:

For individuals who have cancer and are undergoing treatment are concerned about the risk getting COVID or who actually become infected. And we have many of our patients who have had COVID, it's very important that you stay in touch with your primary care team and with your cancer care team about how to coordinate and optimize your treatment plan for any of these conditions.

Dr. Ruth Oratz:

So in general, I think for people who have a cancer diagnosis and are concerned of course as we all are about COVID, there are sort of two different strategies. The first is to take all of the appropriate precautions you can to prevent getting sick. And we really cannot let up on the public health measures that we're hearing from all of our epidemiologists and health authorities. Please, please, please still be careful. Maintain social distance, wear a mask, wash your hands frequently. Please do not socialize with people outside of your immediate household. Because right now, we're almost at that brink of coming out of this, of getting over the edge. And still there are a lot of infections out there, and people still getting sick to this day. And this morning, one of my patients called me, she and her husband now both

just got sick. So please, please, please hang in there for these next few weeks or months until we can get vaccines to everyone. 2020 has been very difficult. It's going to get better, but don't get sloppy now.

Dr. Ruth Oratz:

So with that said, let's turn a little bit to some of the more specific issues about COVID, COVID and cancer, and then ultimately the vaccines. Who's most susceptible to getting a serious complication from COVID? We know many people have been infected, and the vast majority of people do get better. They might have a week, or two, or three of being sick, and they recover. Some people get very serious illness. And what we've learned is that maybe people who have other underlying health conditions maybe more prone to serious illnesses. People with insulin dependent diabetes, underlying lung problems including lung cancer. But also emphysema, chronic bronchitis, people who have lung infections or are cigarette smokers may be more susceptible to the pulmonary complications of COVID.

Dr. Ruth Oratz:

People who have very weakened immune systems. And these are people who perhaps have serious cancers of the blood like leukemia, or lymphomas, or multiple myeloma, or have had a bone marrow transplant. Their immune systems really are quite weakened, and they may be more susceptible to COVID.

Dr. Ruth Oratz:

For people who have a history of breast or ovarian cancer, yes, we certainly don't want you guys to get sick. But you don't necessarily have a much higher risk of serious complications. People who are on active chemotherapy or immunotherapy, or some other treatments which may affect the blood counts probably need to be a little bit more cautious. And we certainly want to be careful, but I think this is not the same level of risk as some of these other conditions. Age is a risk factor both for getting COVID and for having complications. So for our older population, we also want to pay a lot of attention.

Dr. Ruth Oratz:

For people who have a diagnosis of cancer over this last year, what we have learned because we did it is that it is safe and important for you to continue your cancer treatment. Interrupting diagnostic and therapeutic interventions for cancer, not a good idea. So we really have worked together with our national and international organizations, the cancer centers around the world, the American Society of Clinical Oncology, and our epidemiologist from the CDC and the National Cancer Institute have really helped us. Our cancer clinics, the doctors, nurses, pharmacists, the support staff who work with us really have figured out how to implement safety procedures to keep you safe when you're coming into the clinic. And all of you I'm sure have already been through some of these screening questions and feel like if one more person asks me one more time if I've had these symptoms. But it is important because we can filter out people who might be sick and prevent them from coming in and infecting others.

Dr. Ruth Oratz:

We have COVID-19 testing protocols for people who are about to undergo procedures. Like surgery, or radiation, or a starting a new chemotherapy or immunotherapy protocol. And we've innovated some new solutions to help patients modify their treatment protocols for cancer if we think that might be putting them at significant risk for a COVID complication.

Dr. Ruth Oratz:

Make sure that if you're undergoing treatment, that you speak with your oncologist and your care team about the details of your cancer treatment, to make sure that it is appropriate and safe for you. So I'd like to really turn to the vaccines because this is what is on all of our minds right now, and what we've been waiting for quite honestly for the past nine months. As soon as this virus broke out and we realized the pandemic sweep of it, we knew that the only way we would get control beyond these public health measures is what we've done historically in the past, which is vaccine programs. We have eradicated polio, and smallpox, and measles, and now children get vaccinated for chicken pox. And we all get our tetanus booster shots. We take this for granted. But I certainly remember as a little girl that viral illnesses were a scourge. Measles, German measles, chickenpox were terrible illnesses for children. They don't really get those anymore.

Dr. Ruth Oratz:

The same with this COVID-19 virus. This virus is a coronavirus. It's in the class of viruses of the common cold, which is what makes it so easy to contract, but of course a much more severe illness. And like influenza, this virus also is going to stay around. There was a tremendous influenza pandemic in 1918. We got past that, but every single year, flu comes back. And every single year, we encourage people to take a flu shot. Take that flu vaccine. It will give you a lot of protection against the strains of flu that we're predicting will be prevalent for that coming season.

Dr. Ruth Oratz:

Right now, we have two vaccines that have been approved for use in the United States to prevent COVID-19 infection. And you've heard about these vaccines. One is manufactured by Pfizer, the other by Moderna. And we have several other vaccines coming and will be online I think in the next couple of months from other pharmaceutical companies. We're waiting for the final clinical trial results and FDA approval.

Dr. Ruth Oratz:

In general, the way vaccines work, whether it's the COVID vaccine, the flu vaccine, the polio vaccine, the way that vaccines work is to teach your immune system to recognize and then fight against what we consider a foreign invader if you will, the virus or the bacteria that causes illness. There are many different ways that we can construct a vaccine. And in the case of the coronavirus, what we've learned about this virus is that what allows the virus to get into our cells and to make us sick is something called the spike protein. And really it's a spike. I mean, imagine that you have the virus, you've seen these pictures I think. And then there are all these little spikes sticking out on the surface of the virus. Those are proteins that actually clam onto our cells, and let the virus get inside and make us sick. We've learned that if we can train the immune system to recognize those spike proteins and mount a response against it, that we can prevent the virus from causing illness.

Dr. Ruth Oratz:

The two vaccines that are currently available work by a very novel method. This is the first time we've had vaccines that are working by what we call this messenger RNA, mRNA. Previously up until now, the vaccines that we've given have used either a weakened form of a virus or a killed form of the virus. And we inject that into the person. And then the immune system sees those proteins, those antigens, and makes an immune response. But now these new viruses, these new vaccines use mRNA. We've extracted the message that codes for the spike protein, and we've put that into the vaccine. So when we give this new vaccine, we're not giving the actual protein. We're giving the messenger for the protein.

Dr. Ruth Oratz:

That messenger RNA gets into our cells. We start producing actually in our own bodies, lots of spike protein. And then our immune systems see that spike protein and say, "Wait a minute. You don't belong here." And the immune system recognizes it and mounts this very strong response. It's a very, very smart and effective way to build a vaccine.

Dr. Ruth Oratz:

The clinical trials that were done over the past year have shown that these vaccines are more than 94% effective in preventing illness if someone is exposed to COVID. You're not 100%, but 94% is still, I think it's an A-plus.

Dr. Ruth Oratz:

It takes about two weeks for the body to make a good immune reaction to the vaccine. Primarily with antibodies, which are these proteins against the spike protein. But also, there are other components to the immune response, and it takes a little bit of time for our own immune systems to mount that response. At least two weeks.

Dr. Ruth Oratz:

We know that to get our best response from the vaccine, so far, we have to give two injections. The first one for Pfizer, three weeks later is the second shot, for Moderna four weeks later. And then it's about 14 days after each injection to get the maximum response. We think that after the first shot, you get about 50% good immunity. After the second shot of the vaccine, you get to that 94%.

Dr. Ruth Oratz:

Right now, these two companies are working like crazy to churn out doses of vaccine. We actually have a lot of doses of vaccine. Unfortunately, as you've also heard in the news, it's taking a little bit longer and we've run into some snags as we're trying to roll out implementation of administering the vaccine. This is being done on a state-by-state basis. We're hoping that in the coming weeks with our transition in the government, that there will be more oversight from the federal government and more assistance to the states in implementing programs for getting vaccines into the arms of people.

Dr. Ruth Oratz:

I can tell you that we are prioritizing by phase the way the vaccine is being given. And as you know, the first phase was to immunize frontline healthcare workers, and emergency services, and essential workers. And most of the states have really done a pretty good job in getting that going and getting people immunized. And then once we get through that phase one, we're working in phase two Jews, which is our older population and patients who have serious medical conditions. Including cancer patients. Cancer patients have a very high priority in receiving COVID vaccine.

Dr. Ruth Oratz:

So what about all of you, and what about all of us? Who's going to get the vaccine and when are we going to get it? I think that I can only speak for New York City and my own institution. We are really hoping to roll this out and get to patients as quickly as possible in the first quarter of 2021.

Dr. Ruth Oratz:

In general, we are recommending that all breast cancer patients take the COVID vaccine. There may be some individual circumstances about your own particular situation or your treatment that may influence the timing of when you get vaccine or whether you should not get it at all. That's really something you do. Each and every one of you need to discuss this with your medical team.

Dr. Ruth Oratz:

But again, in terms of prioritization and according to the CDC guidelines, cancer patients will be part of the next wave of phase two vaccination. And we really hope that's going to begin in this first quarter, February, March.

Dr. Ruth Oratz:

I want to just talk specifically about some of the treatments which you may be concerned about. Again, for people who are actively on chemotherapy where you know there are some fluctuations in the blood counts. On immunotherapy or on other treatments which may lower the blood counts or impact the immune response, please discuss with your medical care team the timing of when it's appropriate for you to get the COVID vaccine.

Dr. Ruth Oratz:

For people who have just been recently diagnosed with cancer, before you begin treatment, it might be ideal if we have the time to wait for you to get vaccine first. And then you'll certainly have a good immune reaction and have some protection before you get into that involved treatment plan. But if you need to start your treatment plan right away, please go ahead and start your treatment.

Dr. Ruth Oratz:

If you're currently on treatment, one of the guidelines you can think about and talk to your team about is if you're getting chemotherapy on a cycle, let's say it's every two weeks, or three weeks, or four weeks, the best time to get the vaccine would be a week after your chemotherapy or immunotherapy treatment. In other words, let the body process that chemo for a week. And then get the vaccine, the same way we time the flu shot quite honestly. So there'll be some variations case-by-case, but this might give you a little bit of a guideline if you're talking to your doctor.

Dr. Ruth Oratz:

In terms of side effects from vaccine, certainly they're very mild, especially from the first injection. At the injection site, a little bit of pain. Some muscle achiness, because the vaccine has to be given deep into the muscle. So your arm will be sore for a day or two. Some people feel tired, a little headachy, maybe some achiness. I think after the second injection, it's more likely to have more side effects, a little bit more of a reaction. Because that immune response is going to be stronger. So you could anticipate after that second injection headache, muscle aches and pains, maybe some chills. Possibly low grade fever. And again, that pain in the arm. But none of these side effects so far seem to be serious or seem to interfere with cancer treatments.

Dr. Ruth Oratz:

Serious allergic reactions are very, very rare. And if you are someone who has had an allergic reaction to a medication, or in particular to a vaccine, please be sure to discuss this with your doctor before you get the COVID vaccine.

Dr. Ruth Oratz:

What is it that we don't know about these vaccines? We're not really sure if the vaccine can protect against what we call asymptomatic cases. You still might be able to get COVID into your nose, into your throat, into your body. It may not make you sick. But you could be carrying the vaccine. And what we also don't know is if you're carrying ... I mean, carrying the virus. And if you're carrying the virus, can you transmit it to other people.

Dr. Ruth Oratz:

So far, we do not have information that vaccination prevents transmission. We know that it prevents you from getting sick if you've had the vaccine. But if you're walking around with COVID in your nose, could you spread it to someone else? We don't know.

Dr. Ruth Oratz:

So what that means is even if you've received two of those vaccination shots, until we get the level of virus down in our communities, we are all going to have to continue with the somewhat inconvenient, but not impossible program of keeping social distance, wearing our masks, washing our hands, and not socializing too much.

Dr. Ruth Oratz:

Finally, we don't really know for sure how long the protection from the COVID-19 vaccines will be. Will it be three months, six months, a year, 10 years? We don't really know yet. It seems that for the people who were in the clinical trials last summer, that six months later, they're still doing well and they still have good protection. And we hope that we at least get a year plus out of these vaccines. We may need booster shots going forward into the future, but we just don't have that information yet.

Dr. Ruth Oratz:

So I'm going to stop here. I know we have lots and lots of questions. I'd like to kind of keep this evening for us informal, and answer as many of your questions as you have.

Eve:

Thank you. Thank you so much, Dr. Oratz. So jumping into the questions, I know that you have talked about the vaccine and about COVID. But you touched on the new mutation of COVID-19. And do we know if the vaccine is effective on that mutation?

Dr. Ruth Oratz:

Yes, we do [Eve 00:25:02]. And actually, the vaccine is effective in preventing illness from these new mutations of the COVID vaccine.

Eve:

Great, great. And I know that you again have mentioned the two brands, so there's Pfizer and Moderna. Is there a preference perhaps related to being a cancer survivor or cancer patient, between the two brands?

Dr. Ruth Oratz:

At this time, we're really not seeing any difference in efficacy or safety from the two different vaccines. And we think either one is fine. You may have heard the main difference has to do with really a distribution issue and which one has to be frozen at a lower temperature. So we're preferentially sending Pfizer vaccines to major medical centers and facilities that have those deep freezers. Moderna will go more to clinics and places that can't maintain that very cold temperature. But they're both very, very effective and equal.

Eve:

Great. And with the vaccines, there has been discussion with the Moderna vaccine specifically about swelling for those with facial fillers. So the question has come up, does that same concern exist with those with breast implants from reconstruction?

Dr. Ruth Oratz:

That's really a great question. I can't tell you we have any data, because I don't think in the clinical trials, they collected that data. Although there must've undoubtedly been some women who had breast implants who were participants in those clinical trials.

Dr. Ruth Oratz:

I think there's a difference. I think first of all, the number of people with facial fillers who've had reactions is very, very small. But theoretically, my thinking about this is that the implant is very different than the filler. The filler is injected as a free agent under the skin. The implant is contained in a capsule. It's a completely closed in, contained system in the body. And I don't know that vaccine would have access to that tissue at all. Right? Unless there's no rupture in the capsule of the implants. So I don't think it's analogous, but we just don't have any specific data. My sense is that it would be safe.

Eve:

Okay. You talked about allergies and those related to the vaccine, and how there have been some allergic reactions. If somebody has had allergic reaction let's say to chemotherapy or allergic reaction to other vaccines, perhaps eggs or other related sort of known vaccine allergens, should they be concerned about these vaccines?

Dr. Ruth Oratz:

I think whenever we're talking about allergies, we need to be very specific. What was the allergic reaction to? First of all, was it an allergic reaction or was it just a hypersensitivity reaction, which sometimes happens with certain chemotherapy drugs. The egg allergy in the flu vaccine is not relevant for these vaccines, because we're not using that technology. So there are no egg proteins in the COVID vaccines. There is a carrier molecule in the COVID vaccines, the polyethylene glycol type chemical. So people who have sensitivity to that which is rare, but there are some people who have that, should talk to their doctors about whether they should get COVID vaccine or not. Being allergic to [inaudible 00:28:50], not a problem. Being allergic to penicillin, not a problem. So these are allergies that do not cross-react with the components in the COVID vaccines. But if you are concerned about your allergy history, review it with your physician, go through the details of what your allergic reaction was, what the agent was that you were allergic to. And then we'll have to investigate to make sure that that's not a component of the vaccine before we administer it.

Eve:

Thanks. And just to go back to the face filler swelling question, there was a follow-up question in the chat box which is, "If somebody gets Botox for migraine prevention," is that what you mean by face fillers or is-

Dr. Ruth Oratz:

No, Botox is not a face filler. Botox is actually a muscle relaxer. And it is given for many, many medical conditions. Including migraine, including trigeminal neuralgia, certain neurologic conditions, even some bladder conditions. So we use Botox medicinally not infrequently. It's used cosmetically to reduce wrinkling because it relaxes the muscle and doesn't cause as much tension in the muscle. It is not a filler. Fillers are the agents that plump up the skin. They're a little bit different.

Eve:

Got it. And many of our callers who have had radiation as a result of breast cancer have had radiation in their chest area, which has given them the indication that that might have an impact on their heart or lungs. Should somebody who has had radiation for breast cancer treatment be concerned specifically about COVID and the lung interaction, or about the vaccine?

Dr. Ruth Oratz:

So radiation therapy for breast cancer really does not impact the lungs or the heart in a significant way. A long time ago, 30 years ago when they gave radiation treatment, it was very, very different. And there was much more lung included in the radiation field. The treatment was given through and through the body, front to back. We don't do that any longer. Radiation now is given in these what we call tangential beams coming in sideways. So we really, really do this very elaborate planning to avoid hitting the lungs and the heart.

Dr. Ruth Oratz:

For the most part, people who have had radiation treatment for breast cancer do not have any damage to their heart or lungs, and should not be concerned that this is either a risk factor for more serious complications from COVID, and certainly not a contraindication to getting the vaccine. If you're currently on radiation treatment, then we probably would wait until you finished that treatment. And a couple of weeks later, than administer vaccine just to get the best reaction from the vaccine.

Eve:

Okay. And many of the questions that we've had are about whether it's safe for patients currently undergoing chemotherapy or radiation or other types of treatment to get the vaccine.

Dr. Ruth Oratz:

So radiation is usually a time limited course of treatment. Two weeks, three weeks, four weeks, five weeks. So we probably could wait until you're done with radiation. Chemotherapy of course goes on depending on the stage of the disease and what you're getting chemotherapy for. It could be going on for several months or even longer. So it may not be practical to say wait until you're done with all of your chemotherapy. And that's where timing in those chemotherapy cycles to get best vaccine response is something you should discuss with your individual oncologist. So that's going to vary from individual to individual based on their treatment regimen.

Eve:

And for those who ... right now, we know we need two doses of the vaccine. How important are the dates of those distance of the two dates as they might match up with your chemotherapy or other treatment schedule?

Dr. Ruth Oratz:

Yeah. There's a little bit of leeway, but not a lot. So for Pfizer, we really want it to be within 19 to 21 days to get the best reaction from the second shot. But if it's on day 18 or day 22, it's not going to be a disaster. And the same with Moderna. It's more or less 28 days, so that 25 to 30 day window. So there are a few days on either side of that. And I think that most treatment schedules can accommodate that.

Eve:

Okay. And if somebody has already had COVID and is also a cancer survivor, should they still get the vaccine?

Dr. Ruth Oratz:

Yes. Yes. Many of our patients have had COVID, and most of them have done just fine. They've gotten better and have not had serious complications. Thank goodness. But yes, you should get the vaccine. Even if you have antibodies when we check your blood test, we don't know how protective those antibodies are. We don't know how long they last for. And we do know that it is safe to give the vaccine to people who have had COVID. So yes, yes, yes.

Eve:

Okay. And many, I think everybody around the world is right now concerned about what does it mean to be immunocompromised? So we know that in different areas, the classification of when somebody might get vaccinated is based on their immunocompromisation status. Can you address, in the context of cancer care, what does that mean to be immunocompromised? Is it when you're under treatment or as a survivor forever?

Dr. Ruth Oratz:

Certainly not forever. Oh, absolutely certainly not forever. So the vast majority, let's talk about our breast cancer patients. The vast majority of our breast cancer patients even if they had chemotherapy or radiation at the beginning of their treatment and then are later on, one year, two years, five years, 10 years, 20 years post-diagnosis, they are not immunocompromised. They're fine. No problem.

Dr. Ruth Oratz:

If you are still actively on treatment, either at the early stage of diagnosis or later on if you're back on treatment, you're on chemo, or you're getting radiation, your immune system will be somewhat compromised. I think it depends what drugs you're getting, the dosage, and so on. And that's where you need to talk to your individual oncologist about, "Okay, what does this mean for my immune system?"

Dr. Ruth Oratz:

But by and large, the regimens we use in breast cancer are not dramatically lowering the immune system. They impact it somewhat. I think as I mentioned earlier, people who have the hematologic malignancies, lymphoma, leukemia, multiple myeloma are in a little bit of a more serious problem in terms of being immunocompromised.

Dr. Ruth Oratz:

For people who have had organ transplants, kidney transplants, liver transplants, those people are taking drugs to suppress the immune reaction against their transplanted organ. That may be a special case that you have to talk to your transplant team and your doctors about.

Eve:

Okay. And then we have many questions specifically about vaccination and the vaccine. Of course, if one person in a household is immunocompromised and is pushed up on the list of getting vaccinated, but the rest of their household has not been vaccinated, what precautions should the vaccinated individual take or not within the household with unvaccinated individuals?

Dr. Ruth Oratz:

So as I said, for the next year vaccine or no vaccine, we're wearing masks, we're staying apart, we're washing our hands, we're being really careful. I think until we get a critical number of people in our communities vaccinated. And depending on whose data we're looking at, that's going to be between 60 and 80% of the population. That's a lot of people have to get vaccinated before we can go back to that hanging out together without masks thing.

Eve:

But if one was already living in the same household with those individuals.

Dr. Ruth Oratz:

You still have to be careful, right? So let's say one person is vaccinated. That person may not get sick, but you might still be able to spread vaccine to other people in the family. And we still don't want the virus flying around the house. The vaccine is not 100% protective. It's 94% protective. So I would say be careful, err on the side of caution until we get through this. It's going to be a few more months, but we'll get there.

Eve:

Yes. And you mentioned what it means to be an mRNA vaccine versus a live virus vaccine. Does this vaccine have live virus, and are mRNA vaccines safer than those with live virus?

Dr. Ruth Oratz:

Yeah. So the COVID vaccine does not have any virus particles in it. Not live virus, not attenuated virus, not dead virus. There is no virus in this vaccine. Unlike the flu vaccine which is attenuated virus or the Shingrix shingles vaccine or other vaccines, all of those vaccines have some component of viral particles. This is a really new technology. What we're doing is injecting the message that instructs our bodies to manufacture that spike protein. So when we're making that protein in our own bodies, we're only making a little tiny piece, a little tiny protein that sticks out of the surface of the virus. But it's actually not coming off the virus itself. So in some ways, this may be much, much safer.

Dr. Ruth Oratz:

There are other vaccines in development. There's one vaccine that is going to use viral particles and vectors. There's a DNA vaccine that is going to be packaged inside another virus, the adenovirus. So we

have some other technologies, other platforms that are coming forward. But right now, the two vaccines that are approved are both the mRNA vaccine. We think they're really safe.

Eve:

Okay. And in terms of safety, are both vaccines safe for cancer survivors?

Dr. Ruth Oratz:

Yes.

Eve:

And what about somebody who is currently on aromatase inhibitors?

Dr. Ruth Oratz:

So the hormonal therapies like tamoxifen or aromatase inhibitors do not impact the immune system. Your immune system is completely the same, normal, no problem. You can take the vaccine.

Eve:

Great. And was there testing of the vaccine on those who are immunocompromised or otherwise on chemotherapy or radiation?

Dr. Ruth Oratz:

No. The clinical trials included patients who are 18 years and older. So we don't have data yet in children. Those studies are coming. So 18 and older, basically healthy individuals. But some of those people were certainly cancer survivors.

Eve:

And-

Dr. Ruth Oratz:

Let me just interrupt, not people actively on chemotherapy or radiation. But we have a big experience, historical experience of giving vaccines like the shingles vaccine, like the flu vaccine, like the measles vaccine to people who are on chemo. So we know how to do that.

Eve:

And is there any concern that the vaccine itself could cause cancer in those who receive it down the line? And related to that, does the fact that it is an mRNA vaccine have any impact on one's DNA?

Dr. Ruth Oratz:

Let me answer the second question first, which is no. So the mRNA does not in any way get into our DNA? It would be a complicated biology lesson, but I'll try to make it simple. DNA is inside the nucleus inside the cell. So it's really protected inside the cell. It's like in its own capsule. It's very difficult to get to the DNA. Messenger RNA is outside of the nucleus. It's floating around in the cytoplasm of the cell. When DNA codes for a protein, it makes messenger RNA. The messenger RNA then instructs the machinery of the cell to make the protein. This vaccine is giving mRNA. It doesn't mix up with our DNA at

all. And it's just sending that message. It's giving the code of instructions that says, "Okay. Turn on the machinery, turn on the factory, make the spike protein."

Dr. Ruth Oratz:

In terms of long longterm, well we don't have long long-term data. We have six months of data on this. So I can't tell you for certainty what's going to happen 20 years from now. But I can tell you that before these vaccines were manufactured and before they were developed in the laboratory, there's been lots, and lots, and lots, and lots of work on understanding how mRNA functions in the cell, and how we could develop this technique for stimulating the immune response. So I feel very confident that it's safe. I took it. So I was really glad to get that first shot.

Eve:

Wow. And there has been some discussion about vaccine safety in women of childbearing age. Can you speak to that?

Dr. Ruth Oratz:

So the vaccine clinical trials included men and women above age 18. So certainly women of childbearing age. We don't have data yet for women who are pregnant. So if you are pregnant or contemplating pregnancy in the short term, discuss with your obstetrician the timing of when you should get vaccine. I would say if you're pregnant, probably wait until the baby is born. You've waited this long. A few more months of being careful is probably safest.

Eve:

And what if somebody has lymphedema? Can they get the vaccine in that arm?

Dr. Ruth Oratz:

No, I wouldn't give an injection into an arm where there is already lymphedema. We want to make sure that the vaccine is absorbed well. So first of all, you want to give it into the ... so you know you're getting really deep into the muscle. And we also don't want to cause any problems in an arm that already has lymphedema. It can be given in the opposite arm. It can be given in the top of the thigh or in the glute. So lots of places we can give the injection.

Eve:

And there was a question that if somebody is currently or has finished treatment, but their blood counts have not gone back to normal yet. And they haven't had chemo for many months, but they're still monitoring their blood counts. Should they receive the vaccine now or wait for their levels to go back to normal?

Dr. Ruth Oratz:

I think it's going to vary from individual to individual. So if you have that question, look at your blood test results, review them with your doctor, and then figure out is it okay to get the vaccine, or should you wait a little bit longer?

Eve:

And if a patient is on a medication which is three weeks on and one week off, how would they be able to do the Pfizer vaccine at 28 days? The two doses, 28 days apart.

Dr. Ruth Oratz:

So again, it depends what that medication is. Whether it's a medicine like the CDK4/6 inhibitors that we use. Palbociclib which is Ibrance, or ribociclib. So again, speak to your doctor. They may make an adjustment in your treatment schedule. You may skip a few days in one cycle or delay starting the next cycle by a few days. There are ways that we can figure that out. So speak to your care team about the specific medicine you're on, what your schedule is, and then we can accommodate getting those doses into you safely.

Eve:

Okay. And what is the recommendation about getting the COVID vaccine for those who had metastatic breast cancer in the bones?

Dr. Ruth Oratz:

That's a very specific question. And I think that for people who have metastatic cancer, they should really discuss with their doctors the timing of vaccine based on their treatment program. And I think by and large, it's safe. But you need to work out the timing with your doctor.

Eve:

And for those who are immunocompromised, whether it's on active treatment or otherwise, are they able to build immunity with the vaccine? Or is there immunocompromised status impacting the ability to even build that immunity?

Dr. Ruth Oratz:

Again, this is going to be on a case-by-case basis. I think we'll still see good immune responses. They may not be as robust as in people not on active treatment. But for the most part, and I'm thinking about the vast majority of treatments we use in breast cancer. For the most part, people should be able to mount a reasonably good immune reaction to this vaccine. It's so effective that even if you don't get to that 94%, you'll get some protection.

Eve:

And if a patient contracts COVID-19, are they able to still go for their regularly scheduled chemotherapy?

Dr. Ruth Oratz:

That depends how sick you are. If people test positive for COVID and they're asymptomatic, we still are recommending isolation and quarantining. We don't want people who have active infection coming into the cancer center because we don't want to infect everybody else. So quarantine is still very important. Once you clear the virus and hopefully you're asymptomatic or had a case that you've recovered from, then we still want to wait a period of time to make sure you're well, and then resume treatment or start. So that's going to be a discussion for each person to have with their doctor. As I said, I mean I got a call this morning from somebody who just found out that she was positive. Bur right now, she's still

asymptomatic. I've had other patients who've had COVID with all different severity of illness. So we've adjusted treatment based on that.

Eve:

Great. And I know you mentioned leukemia earlier as one of the types of cancers to be in mind. If somebody has a blood disorder like leukemia, are there any contraindications for the vaccine?

Dr. Ruth Oratz:

You really need to speak to your individual doctor about that. It depends how active the disease is, what treatments you're on, what other illnesses might be involved. That's a little bit too specific for me to answer this evening.

Eve:

Are there conditions or types of treatment right now that would put a pause in administering the vaccine right now?

Dr. Ruth Oratz:

Well there are some treatments, some conditions where we would say hold off, don't get vaccine immediately. As I mentioned, people who are undergoing radiation therapy would probably finish that course of radiation before getting vaccine. And there might be some other circumstances where we would say, "Hey, wait a second. Don't do this right now. Let's see where we are in a few weeks or a few months."

Eve:

And when you answered the question about lymphedema, you mentioned that there are other places that one could get the shot. Let's say in the thigh or the glutes. Is that less effective or equally effective as getting it in the arm?

Dr. Ruth Oratz:

Equally effective. It's just easy to give it in the arm. You don't have to get all undressed, right? So we're trying to get good throughput. Everybody just pulls up their sleeve and gets a shot. But it's no problem. We can give it in other locations.

Eve:

Okay. And a further follow-up to that. If somebody had one or multiple lymph nodes removed during a mastectomy, is that considered a concern for getting the vaccine in that same arm?

Dr. Ruth Oratz:

That's a great question. For the most part in the last 10, 15 years of breast cancer surgery, we've been removing a very small number of lymph nodes. And I would say no, there's not a problem. But as we always tell our patients, preferentially use the other arm. Why take a chance? We don't want you to get any swelling, or infection, or bruising on the side where you had lymph nodes removed, even if it was just one or two. So I would just avoid that arm if you can. You have lots of other sites on the body that would be safe to give the injection.

Eve:

Great. And just one or two more questions. Does the vaccine cause the same type of inflammatory response as immunotherapy does?

Dr. Ruth Oratz:

No, no, no. Not at all. Not at all. The kind of immune reaction we get from the vaccine is two-fold. The first immune reaction is the production of antibodies. And the antibodies circulate in our blood. And when we get an infection, they can sort of glom onto the infectious agent and try to neutralize it. And then the second kind of reaction is what we call cell mediated immunity, where the other immune cells in the body get turned on. And then it's a whole cascade of an immune reaction to try to eliminate whatever it is that's causing the illness, the virus, or bacteria or what have you.

Dr. Ruth Oratz:

Immunotherapy is a very different kind of treatment. It's working through the immune system. But it's not stimulating the same kind of immune reaction. And also, the targets are very different. So immunotherapy is somewhat specific and it's targeting, the same way that these vaccines are specific. The COVID vaccine will protect against COVID, but it's not going to protect against the measles. So the immune reactions are sort of specific and targeted to the agent that they're developed for.

Eve:

And then if treatment is over for a patient, who is still considered a cancer patient versus a survivor, especially as they're answering questions on a survey for local vaccine related prioritization?

Dr. Ruth Oratz:

Yeah. That's an important question. I think if, again, let's use the breast cancer example. I would say if you're more than five years out from your breast cancer diagnosis, even if you're still taking hormonal therapy, some people are on that for longer. Certainly if you're off any treatment at all and you're just being monitored, I would say you can just say that you have a history of cancer, but you're not an active cancer patient. If you're actively on chemotherapy, radiation, or immunotherapy, you're actively under treatment. Then I would say you are currently a cancer patient on treatment.

Dr. Ruth Oratz:

And for people on tamoxifen or aromatase inhibitors, yes I mean technically, you're still taking anti-cancer treatment. But you're not immunocompromised. We're not considering you in a super high risk category. But if that's going to get you on a list to get the vaccine and you want to list it, sure. Yeah.

Dr. Ruth Oratz:

There's going to be a lot of negotiating the waters of how people are going to get their vaccines, and how quickly this is going to roll out. So I don't know that there are going to be such fine line divisions about this. I don't know how granular they can get in identifying who's who. So what we're doing at my institution is contacting people through MyChart application, which is the patient portal application. I think they're going to be able to see what someone's diagnosis is, but I don't think they're going to dig into the chart and say, "Well, what year were you diagnosed, and what treatment are you on?" And to that level. I think it's going to be more of a general categorizing of patients. We haven't gotten specific details about how that's going to work yet, so I can't really fill you in on that.

Eve:

Okay. And I'm just going to give two more questions, and then we will conclude. And just so everybody knows, any questions that weren't answered this evening that have come through the chat or were submitted in advance, we will follow up with you about those questions individually. For those who are previvors and may have a genetic predisposition to cancer, does that have any impact on vaccine priority?

Dr. Ruth Oratz:

No.

Eve:

Okay. And last, but certainly not least, who should a patient follow up with about getting the vaccine? Would that be administered through their oncologist office, or through a different physician's office, or in some other way?

Dr. Ruth Oratz:

So right now, vaccine distribution is happening on a state-by-state basis. In New York state, our priority has been to distribute vaccine through hospital systems. Not through doctor's offices, not through private doctor's offices. And even within the hospital, it's not up to individual physicians to decide who's getting the vaccine or who's not. So I can't write the order and say, "Come to NYU and get a shot." It's not going to work that way. It will be through the main hospital system as they prioritize and get through patients. So even when they were immunizing staff, the priority was to start with the inpatient staff in the ICU, on the COVID wards, in the emergency room. And then work their way through everybody who's face to face in exam rooms with patients. So I think it's going to be the same thing with our patient population. They'll set up a way to prioritize and then work through based on the medical record.

Dr. Ruth Oratz:

We're contacting people through the patient portal, and we haven't started contacting patients yet. But as I said, we're hoping to start doing that within the first quarter of 2021. Patients will receive a message that says, "You can make an appointment for your vaccine." And we are asking people to respond very quickly. So if you get this invitation for a vaccine, you have to schedule it within five days. It's not like I want to come in three weeks. It's come now, or you're going to go to the end of the queue and we'll come back to you. Because this is something that is really high priority, and a lot of people want it.

Dr. Ruth Oratz:

Different states are doing things differently. In Florida, there's some distribution through communities, through where the senior citizens are living. So that's a community-based effort. Other states are going through doctor's offices. It's really variable across the country. We're all hoping that there'll be a little bit more uniformity and a little more guidance about how we can do this effectively. Because as I said, we need to get 70 to 90% of the population. 90% is a lot. But if we can get to 70, 80, 85%, we'll have good herd immunity in America. That's a big effort. And we need a lot of who can do that.

Dr. Ruth Oratz:

CVS is going to be a really big part of the vaccine distribution program. They are onboard and ready to go as soon as we get the green light from the state that we can start reaching out to people in the community. They can make appointments and come into CVS the same way they do for flu shots. They're really set up to do this. So there'll be a lot of different programs for administering vaccine. We just don't have all of that information yet.

Eve:

Okay. And thank you, Dr. Oratz. As I mentioned, I know we weren't able to get through all of the questions that have come through. But we will be addressing those in follow up after the webinar. So do not be concerned. We will reach out to you.

Eve:

I want to thank you Dr. Oratz immensely for educating us this evening. I know you answered so many of our questions, so many of my questions. And I'm sure that all of our participants this evening feel more knowledgeable just after hearing your presentation, more comfortable with what we're facing right now.

Eve:

And I would like to ask everybody to take a moment to fill out our brief evaluation survey that should be linked in the chat box right now. Our evaluations really do inform future programming, so thank you for participating. And we would love for you to stay connected with Sharsheret via social media, where we post about events like these, program updates, and other ways to get involved.

Eve:

I again want to thank our sponsors for this evening. The Siegmund and Edith Blumenthal Memorial Fund. And please never forget that Sharsheret is here for you and for your loved ones during this time. Sharsheret provides emotional support, mental health counseling, and other programs designed to help navigate you through your cancer experience. All of our programs are free, completely private, one-on-one. And our number is (866) 474-2774. And you can also email us at clinicalstaff@sharsheret.org. Our social workers and genetic counselors are available to each and every one of you, and you are our priority. So please never hesitate to reach out. And we're all going to get through this together.

Eve:

Finally, I do want to let you know about several webinars that we have coming up on a wide range of topics over the next few weeks. I wanted to let you know that this Thursday, we have Sharsheret's national book club on the seventh at 8:00 PM Eastern 5:00 PM Pacific where we will discuss Ali Rogan's best-selling book *Beat Breast Cancer Like a Boss: 30 Powerful Stories*. Even if you have not read the book, please feel free to join us. The link is in the chat box as well. And next week on January 12th at 10:00 AM Pacific, 12:00 PM Central, and 1:00 PM Eastern, we will have a webinar on chemo brain discussing common problems post-chemotherapy including changes in memory, focus, finding the right words, or names and multitasking. Please also check back at our website regularly to see what other topics we have coming up. And you can also access recordings and transcripts of all of our past webinars on our website as well. The link has been attached. And thank you for joining us. We are so glad that you were able to be with us tonight. And again, one more thank you to Dr. Oratz. We really appreciate all of your information and awareness this evening. And thank you again.

Dr. Ruth Oratz:

Thank you Eve. And my best to all of my friends at Sharsheret. Stay healthy.

Eve:

Thank you. You too.

Dr. Ruth Oratz:

Bye everyone.

About Sharsheret

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

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

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

Sharsheret offers the following national programs:

The Link Program

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

Education and Outreach Programs

- Health Care Symposia, on issues unique to younger women facing breast cancer
- Sharsheret on Campus, outreach and education to students on campus

- Sharsheret Educational Resource Booklet Series, culturally-relevant publications for Jewish women and their families and healthcare Professionals

Disclaimer

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