

## Personalized Medicine for Breast and Ovarian Cancer

Webcast

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### **Introduction**

#### **Andrew Schorr:**

Hello and thank you for joining us once again. I'm Andrew Schorr broadcasting live from Seattle, my home base, although I was treated for leukemia at M. D. Anderson in Houston and maybe you too are listening in from far and wide to expertise that comes out of the number one cancer center, M. D. Anderson in Houston. Anyway, I am very excited to do this program discussing personalized medicine today because that's what they're doing now in leukemia, I was diagnosed with, and that is chronic lymphocytic leukemia. It's also applied to breast cancer and ovarian cancer. We're going to talk about that. And they're learning how it may apply to other cancers, hopefully all of them.

Think back, maybe when you were growing up. Somebody was diagnosed with cancer, friend or family member, somebody down the street, and they said, well, what kind of cancer do they have and how large is the tumor and has it spread, etc., and we kind of talked about it just physically, if you will. But now we think of it in some additional ways, and M. D. Anderson has helped lead the way. First of all, we think about the genetics of the person who has the cancer. Then we think about the biology, and I mean at the molecular level of the person who has the cancer. They don't just have breast cancer but they have a certain biologic time. Then we say, okay, if we give this person medicines, which medicine, and how do they metabolize it.

Think about it. Even if you drink coffee, some people can drink coffee late at night and they don't have trouble going to sleep. If I have coffee at four o'clock in the afternoon, I can't sleep. What's the difference? So we are different. We're the same in many ways, but we're different. So that's the topic for today's M. D. Anderson Patient Power program is personalized medicine and how M. D. Anderson is leading the way, and should you choose to get care there what research they're doing and how this knowledge can help.

So now I'm in Seattle, right, Pacific time. Now we're going to go all the way over, what time is it here in Seattle. It's five after five. We're going to go to about four in the morning to Tel Aviv, Israel to reach into vacationland and connect you with someone who is normally from Houston who was treated for breast cancer at M. D. Anderson, but she's on vacation with her family visiting grandma and grandpa, and that's Sonia Molad-Einstein. Sonia, thank you for staying up very late to be on our program.

**Sonia:**

Good evening, Andrew. No problem. It's nice to be with you.

**Sonia's Story**

**Andrew Schorr:**

Yeah, thank you. I'm sure the kids are in bed long ago. Everybody is sleeping. Sonia, I understand that two years ago, you were just 35 years old on your trip to visit relatives back in Israel, and you had felt a lump after breastfeeding Ben, who I know is three and a half but I guess he was about two then. And you had checked with the doctor, had a biopsy, mammogram, all that, and went off to your trip to Israel, you get a call. And what was the news they gave you on that trip to Israel?

**Sonia:**

The news three years ago was not good. The news was that I had ductal carcinoma, which means that I had breast cancer then, and I had to fly back immediately to Houston for the recommended immediate surgery by one of the surgeons that I spoke with, actually the one who took the biopsy. And I did schedule that surgery. I flew back to the States immediately, and at that point we wanted to get second opinion and a third opinion and then probably spoke with about 30 different surgeons and oncologists and different specialists in the cancer treatment area. We knew that we were in the capital of cancer treatment, Houston, and we knew that that capital is being led by a facility called M. D. Anderson. So this was a place that definitely was on our plans to visit.

**Andrew Schorr:**

Right. Let me pick up the story from there. I don't know that everybody talks to 30 practitioners, but a big precept of Patient Power is to first of all check with experts and maybe more than one to make sure that you understand all your options. So you went to M. D. Anderson, and they did not say rush in and have surgery. They said, We want to propose some medical therapy, some drug therapy first, right? I think what they call neoadjuvant treatment. You did have that. How did that work out?

**Sonia:**

That's correct, and that actually made so much sense to me because really considering the fact that you will be able, or actually the doctors will be able to follow the treatment and to see what's happening with the tumor that I had made perfect sense that those medications should not be given after all the tumors are out of your body but it should be before when you can really look at what happens with the tumors and how the medication is treating you.

**Andrew Schorr:**

And they shrunk those tumors. And I know you did have surgery, so you did have a mastectomy on the left side and lymph nodes and radiation. But the drug therapy did a big job. So now here we are two years later. You're back in Israel and hopefully celebrating good health. Am I right?

**Sonia:**

Yes, absolutely. Celebrating health and I knew that the medications were working. I took Herceptin and Taxol in the beginning, which didn't really give me much side effects, any side effects, but only after the first treatment I felt that that lump was already gone and I knew that the medication was working, and I knew that there was something that was targeting that specific tumor because I didn't see anything. I didn't see any hair loss. There was no loss of appetite or any tingling or any other side effects that was described in the books that you get with chemotherapy. But I felt that the medication was working.

**Andrew Schorr:**

Okay. Well, there is a lesson, folks in what we're talking about with Sonia. And she mentioned a drug called Herceptin. We're going to use that as an example because when Herceptin first came out, I think it was about ten years ago now, I lose track of time, it was one of the first targeted therapies for a sub type of breast cancer. We're going to learn all about that with an expert from M. D. Anderson. But I just want to remind you, remember we used to say, So you are diagnosed with breast cancer. One woman's breast cancer is the same as the next woman's breast cancer, the next woman's - guess what? Not true. Now let's get the straight scoop.

Sonia, bear with us a minute. We're going to meet one of the experts at M. D. Anderson, one of the leaders in the study of research related to personalized medicine for cancer care, which is where we are already doing in some cancers, certainly that was an example with Sonia and where we're headed with others, and that's Dr. Gordon Mills. He's an M.D., Ph.D. He's chairman of the department of molecular therapeutics. He's also the director of the Kleberg Center for Molecular Markers at M. D. Anderson. And this is what they do, studying genetics, studying the biology of various cancers, breaking it down to all these different sub types and studying you and the way you may make use of certain medicines so that hopefully your cancer can be cured or your cancer can be made chronic, like I think it's been made in my leukemia case. Go on with your life.

Dr. Mills, thank you so much for joining us.

**Dr. Mills:**

It's a pleasure.

## **HER: Human Epidermal Growth Factor Receptor**

Dr. Mills, so okay, this idea of personalized medicine. Let's carry Sonia's story a little further. So we use this term Herceptin. What does that mean? When we talk about sub types of breast cancer, this "HER," what does that mean? And how does that open up the window of targeted, less toxic therapy?

### **Dr. Mills:**

Well, let me first say hello to Sonia. It's a delight to hear from you and I am thrilled that you're doing well.

### **Sonia:**

Thank you.

### **Dr. Mills:**

The story in breast cancer that has turned out to be very exciting is that the type of breast cancer that Sonia had, what we used to call ductal breast cancer, we thought was one type of cancer and one disease, and all of the patients received the same type of therapy. Over the years we found out that it looked like there were two types of ductal cancer, one that had the estrogen receptor, the receptor for the female hormones, and we started using drugs that would treat that type of receptor bearing tumor, drugs like tamoxifen, drugs that worked fairly nicely. But we didn't have much knowledge about the other type, the nonestrogen receptor type. And there appeared to be two groups of patients, both of whom had really disease that was quite nasty.

What we found a few years ago, I guess about the ten years ago when you were talking about Herceptin, is that there was another type of breast cancer, one that had the HER-2 receptor. Now HER represents the human epidermal growth factor receptor family. It was originally epidermal growth factor discovered because it had things to do with how skin behaved but we very rapidly found after those initial studies that this family of receptors is important for many of the things that cells in the body do, and very importantly they're frequently abnormal, increased in amount or changed a bit in their structure in cancer and in the case of HER-2 quite commonly in breast cancer patients.

The introduction of Herceptin, which is an antibody that binds to HER-2 and makes it decrease in amount, makes it go away, has been absolutely remarkable. It really has been exciting in that this went from being the worst type of breast cancer in terms of overall outcomes for patients to one where we really had a treatment that worked, and patients now are frequently like Sonia where things come out beautifully. So this is a total change for us. And really we're looking now at three major types of breast cancer: the ones that I mentioned earlier that had the estrogen receptor; ones that have HER-2 on their surface, and for both of those we

have a targeted therapy that has great activity and limited side effects; and a third type that we actually just call triple negative, it's not the other two, that we're beginning to get better treatments for.

## **Individualizing Care**

### **Andrew Schorr:**

Now, what are the lessons here for other cancers, ovarian or even leukemia. I know that my leukemia, and have all my buddies down there at M. D. Anderson, Dr. Keating, Dr. Wierda, Dr. O'Brien, other specialists in CLL, where they've broken down that leukemia, and I know there are others to different sub types, and I know I believe that's happening maybe you're making progress in ovarian. Tell us where this is headed, this understanding from breast cancer, maybe leukemia and the lessons learned there.

### **Dr. Mills:**

I think the biggest lesson is that as you mentioned at the beginning of the show we used to treat patients based on where their tumor started pretty well all the same way. If you had an ovarian cancer everybody got the same treatment. If you had a breast cancer everybody got the same treatment. And we made progress doing that. Patients did better overall. But within each tumor group there were patients that did well, patients who did not as well and then patients where their tumor just simply didn't respond. And we had no way to deal with that and no understanding of which patients were in which group and more importantly what we should do for those patients specifically.

And what we now know is that cancer that starts in any tissue, an ovarian cancer or breast cancer, are probably many different diseases, and if we can understand those diseases and break them up into smaller groups we can both determine how the patient is going to do and what might be the best or at least a better treatment for that patient. The idea of individualizing our care to what's going on in the tumor and to taking each tumor type and classifying them into smaller and smaller groups where we have better and better treatments.

### **Andrew Schorr:**

Okay. We're going to talk much more about that as we continue our live webcast.

Now, for those of you listening if you're with us live around the world, you can give us a call and ask questions of me, you don't really need to ask questions of me, Sonia certainly, from Israel who stayed up late but most importantly Dr. Gordon Mills, who is the chairman in this area leading the way in studying molecular markers leading to hopefully personalized care for cancer, to cure it, and if we can't cure it to make it chronic and at such low level you just go on with your life. Much more to come.

**Andrew Schorr:**

Welcome back to our live M. D. Anderson Patient Power webcast. Andrew Schorr here, as I am every two weeks. Every two weeks we've got a new program with you sponsored by M. D. Anderson, connecting you with an expert and invariably an inspiring patient. On this program we're discussing personalized medicine for breast and ovarian cancer. Lessons learned that translate to leukemia. We're going to talk about lung cancer. We're going to talk about brain cancer.

Now, our inspiring patient this time is a breast cancer survivor who was treated for that sub type of breast cancer, HER-2/neu, that was the biology of her breast cancer tumors just at age 35. Now she's 37, doing well. Back in Israel visiting her husband's family. Sonia, I'm sending you coffee over the internet here do you feel okay at four in the morning there?

**Sonia:**

Thank you, Andrew. I'm actually drinking my tea with milk and getting ready to go to sleep after this webcast.

**Andrew Schorr:**

Okay. Thank you. You were listening to Dr. Mills as well, and he's talking about the learnings that have been going on at M. D. Anderson. What would you say to people listening about making sure that they get the personalized care that's right for them?

**Sonia:**

I think it's amazing what M. D. Anderson has to offer. I have to tell you that all during that time that I was taking my chemotherapy so many things changed. Things improved. Things that I noticed are being changed. This truly is one of the best, it's the best facility for cancer treatments in the world. As far as personalized medicine, I know that what was tested with my biopsy or the core biopsy where they removed a piece of the tumor and they tested for so many different factors, I knew that all the medications or the formula that I was given I know that it was exactly targeted for my kind of cancer. The therapy that I took was Taxol and Herceptin followed by FEC, and I hope you will not test me on spelling those out for you.

**Accessing Personalized Care**

**Andrew Schorr:**

No. No, I won't. Thank you. Well, let's go back to Dr. Mills.

So, Dr. Mills, cancer therapy is a moving target fortunately with all the clinical trials at M. D. Anderson that you're trying to move that along. How widespread is this understanding of this personalized approach? Because Sonia went different places, and she didn't always hear the same story. If cancer therapy is progressing, if

cancer research is progressing, I know you're helping lead the way there but this philosophy about personalized medicine, how far along are we, just universally how far along are we with it at M. D. Anderson?

**Dr. Mills:**

I think that the medical community and I think more and more patients are embracing the concept that personalized therapy is the approach that we need to do if we're going to make major progress. The challenge I think, as you note, is that M. D. Anderson Cancer Center and many of the other major cancer centers in the United States and around the world are moving ahead at a very rapid rate to improve the way we treat patients and particularly how we individualize care for patients. That approach moves a little more slowly into the general community and into application to patients outside of the major cancer centers. So basically the patients in the community get very good care, but it's usually what was thought to be best a few years ago. And patients who have unique things going on or unique opportunities, and Sonia is a perfect example where being in a major cancer center can make a difference. She received truly state-of-the-art care, and, as you're hearing, it's working.

**Clinical Trials**

**Andrew Schorr:**

Now, this is my story, and I love to retell it. So I'm from Seattle. There was no specialist in my form of leukemia around here. I went to Houston where I had never been before, never been to M. D. Anderson, really didn't know it until I was diagnosed with cancer, and it was daunting walking into really the most major cancer center in the world when I'd never thought about cancer much before. But I definitely connected with specialists, and what happened for me is what is offered for many patients, and that is the opportunity to be in a clinical trial. The treatment I had is what most people with my sub type of chronic lymphocytic leukemia have now around the country, if not around the world.

So let's talk about looking at personalized care, including in that, Dr. Mills, clinical trials because in some areas, like with Herceptin, approved therapy for a sub type of breast cancer that's becoming more standard practice. But in other areas that you're investigating some of those more targeted, personalized approaches are still in research but might be available as part of a clinical trial. Is that correct?

**Dr. Mills:**

Yes. And I think that as we move forward there are really going to be several types of clinical trials. And one of those is where we're looking at brand new drugs and brand new ideas, and that's for patients where nothing else is working. And that type of a clinical trial is very important. We learn a lot, we help people, and that's where the first Herceptin trial was done. The first treatment of patients who had an abnormality in HER-2 were enrolled in those types of trials.

There is also I think a new type of trial that is happening, and that's where we're trying to figure out how to best treat particular patients with the drugs that we have. Whether the dose is right, whether there's better ways of doing it. Or again in the case of breast cancer, which patients should receive this neoadjuvant therapy that we heard about for Sonia or whether they should receive other types of therapy. So we're really asking how to improve what we're doing rather than how to change it.

And in both of these approaches the idea of molecular markers, of looking at the tumor in exquisite detail, and some of the studies we do now look at a million different things about the tumor and try and determine based on what's going on specifically for that person what is the best treatment. So we have a number of different types of clinical trials, all of them are aimed at improving what we do for cancer patients. And really the improvements that we've had, the remarkable ability to say now that more than half of all patients will persist without tumor, that they will do well, that we really are making an impact comes from patients who did enroll in clinical trials.

### **Factors Determining Your Personalized Treatment**

#### **Andrew Schorr:**

Right. They're true heroes. Well, I'm happy if I could help at all along the way, and I know I got great care while I was in a clinical trial for sure. So thank you so much to Alice, the research nurse, Dr. Keating and all the folks at M. D. Anderson who made that possible for me.

Dr. Mills, let me understand these variables. So my genetics are not the same as yours or the next person exactly. We have a lot of similarities being human beings, but there are some differences, not just our hair color or other things but the way we're set up maybe for risk for cancer. And then there are the different types of cancer we may develop. And then we talked about this metabolizing of medicine. So are those three variables you've been looking at a lot? Help us understand that and what else you look at.

#### **Dr. Mills:**

Well, in the Kleberg Center for Molecular Markers we have several different types of approaches that we're taking. The first one, and that is in collaboration with many other people at the M. D. Anderson Cancer Center and elsewhere, particularly our epidemiology department, is we're trying to identify patients who are at risk for developing cancer or elevated risk for developing cancer either because of their own genetic makeup or to their lifestyles or life exposures. And the idea being that if we can identify those patients who are at higher risk we can focus our efforts on those who are most likely to benefit from this. And those efforts range from discussing lifestyle changes, cancer prevention studies or screening studies to ask

whether we can pick up any cancer that happens at an early enough stage that it can be cured by surgery alone or cured easily as compared to a much more advanced cancer. So we want to know who is at risk of developing cancer and how to identify it and diagnose it early.

For those individuals who develop cancer there's really three types of things that we're very interested in. And the first we've been talking about tonight which is to identify those patients who are going to benefit most from a particular type of drug or a particular type of treatment. In some cases it's even who doesn't need treatment other than surgery alone. So in breast cancer we have some new molecular marker tests in the community that identify a group of patients that we used to give chemotherapy to and we no longer need to. We know that the hormonal manipulation with drugs like tamoxifen or tamoxifen is enough, and they don't need chemotherapy. So we take away treatment that's just not needed any more. So we're looking how best to manage patients.

And then with that, again a story that relates to what Sonia told you, is we're looking to ask very early on whether our drugs are working so that we can continue therapy in patients where the drugs are working and change where it's not. And Sonia talked about receiving Herceptin and Taxol before she had surgery, and then at surgery we knew whether those drugs had worked or not. The tumor was completely gone. If there'd still been some tumor there we might have done a different type of treatment.

Now, we have some other approaches that use imaging rather than obtaining the tumor, and some of those are turning out to be truly remarkable. In another disease called GIST, it's a type of tumor that occurs in the lining of the bowl, primarily in the stomach, that tumor has again a new targeted therapy that is remarkable. A disease that really had no effective therapy at all to where we have the vast majority of patients who have the marker targeted by this drug are responding and doing extremely well.

We have an imaging test now called PET that within 72 hours we can test after we start the drug and ask whether the patient is going to respond or not. And if within the 72-hour period the patient isn't responding we know to change them to other alternatives that we now have. So we can start to not only individualize what drug the patient receives but very quickly to ask whether that drug is working.

Now, the last area which you mentioned is this idea of pharmacogenomics. Every person is different, and up to now we've been talking about the person's cancer, but it's just as important that we remember we're not treating a cancer, we're treating a patient with cancer. So we want to tailor our drugs to each person so that we get the best dose and that dose is one which will have an effect on the

tumor with the least toxicity for that patient that's possible. And in some patients we have drugs that just simply we know are going to be incredibly toxic and we should never use them. We have other alternatives, and we just wouldn't give them those drugs.

And then we have some other drugs that we're now learning that the dose that we normally give is just too low for those patients, and we have to increase the dose and tailor the dose to the patient. And you gave a very nice analogy with coffee. Everybody is different, and something as simple as coffee we metabolize differently, we handle differently based on our own genetic makeup, not the makeup of the tumor.

**Andrew Schorr:**

Well, I hope listening, again, not only have we thought in years past one size fits all related to cancer, but there's still some places where it's relatively unsophisticated, not a cookie cutter approach, but oh, you have this, you have that, this is what we do. You can hear from Dr. Mills who's helping lead the research in personalized medicine at M. D. Anderson, that's not the way they think about it on many levels.

We're visiting with Dr. Gordon Mills, who is chairman of the department of molecular therapeutics, an expert in personalized medicine. And also we have with us breast cancer, I almost don't want to say survivor. She's going on with her life, vacationing in Israel, Sonia who is normally from Houston. We'll be right back with much more of Patient Power sponsored by M. D. Anderson Cancer Center.

**Andrew Schorr:**

Thank you for joining us tonight. And Sonia, thank you for staying up late. How is the tea and milk? Keeping you awake, making you comfortable there?

**Sonia:**

Yes, I'm very comfortable. Thank you. My biological clock is still on Houston time so I'm perfectly fine.

**Genetic Testing**

**Andrew Schorr:**

Okay. All right. Well, we're going to ask you more in a minute.

Now, Dr. Mills, I love listening to our little commercial breaks on M. D. Anderson webcasts, and they were just talking about something you mentioned about the genetics center and understanding a patient's individual genetics and cancer risk. We got an e-mail question from Sarah in Houston, and she says, "I know a certain part of personalized medicine is based on genetics. I have breast cancer in my family, but I'm scared to get genetic testing because I don't want to face insurance discrimination if the result is a positive one. Is this common? What are my rights?"

So I know there was new federal legislation that was signed by President Bush just a month or so ago about protection about genetic testing and the result. Some people, I'm sure you've encountered them, are worried about knowing. So what would you say about that, understanding your genetic risk and maybe this concern about insurance too?

**Dr. Mills:**

Well, I can start off. I actually helped organize and write the genetic confidentiality bill here in Texas when I headed the genetic cancer program here at the M. D. Anderson Cancer Center, so that was one of the jobs that I did before I took over the molecular markers program.

**Andrew Schorr:**

Good for you.

**Dr. Mills:**

And both the law that is in place in Texas and now the federal law are very aggressive in their protection of patients from genetic discrimination. And that's not just in terms of health insurance but that covers employment, it covers professional licensing, it covers a number of other processes. We believe that patients today are extremely well protected by the legislation that is in place, and indeed there really have been no clear cases that anyone has been able to show evidence for genetic discrimination. And there's been a number of reasons for that. One of those is that the companies that are involved in insurance don't want there to be a perception that this is a problem.

The question that comes up for someone who has a family history in terms of what they can and can't learn, the first thing that I would suggest is that you come to M. D. Anderson or any other center that has a genetic counseling clinic that can give you the information that you need. That initial visit will be confidential. There will be no need for testing at the visit. That's not what we do per se.

What we do is we provide advice to the individual that will let them know what they would or would not learn from genetic testing. And with that information in mind the patient can make or the person can make an informed decision with the information of what they would learn from testing or would not learn from testing and decide what is right for them and what's right for the rest of their family because anything that influences one individual really influences the whole family. And so in many cases we don't do genetic testing because we're not going to change the person's lifestyle or treatment or management, and other cases after discussion the individual decides that this is information that will help them. And there is this concern amongst many people around health insurance, employability and others, but we really have seen no evidence that this is a significant or major problem.

**Andrew Schorr:**

Okay. Thank you for that answer. Also, I want to thank you, first of all, the work you've done in Texas and really as a foundation for the national legislation, and it calms some people, I think, your response there. Let's take it further. What I was diagnosed with leukemia and then came to M. D. Anderson, I remember that day when they took like ten tubes of blood, had a bone marrow biopsy, and then I know it went in through pathology and all this analysis, and as Sonia mentioned it related to a sample of her breast tumor being analyzed. So what do you do? How do you work up our individual situation? I know there's a tremendous amount of testing that goes on. In some cases the knowledge of our particular cancer situation you have drugs to apply to it. Others are in development. Others are yet to be developed. What happens with our profile? I know there's a lot of testing that goes on to know our cancer situation better.

**Tumor Behavior**

**Dr. Mills:**

All of the people that come to the M. D. Anderson Cancer Center are asked when they come in if we can take a small amount of their tissue for research purposes, and that only happens after all of the material that's needed and all of the testing that is done for clinical care, but we ask if we can have a bit of the tumor to learn from so that by looking at tumors from patients that have interesting outcomes or important outcomes, from studying large number of patients or by asking a very specific question of are there different types of breast cancers, are there different types of leukemia so that we can learn.

And the things that we learn are exactly what you suggested. One is how to determine what that tumor is going to do. Is it going to be one that we need to be aggressive because it's a poorly behaving tumor? Is it one where we can be much more conservative because it's going to be well behaved?

And then the next step is understanding why that happens. And one those studies done by a group that is now here at M. D. Anderson and another group at UCLA, Denny Slamon, actually identified that HER-2, this protein that we've been talking about on breast cancer, was something that played a role in why some breast cancers didn't behave well. Once we knew that, people went out and attempted to develop ways to target that abnormality. So we had a marker, we knew what was going on, we knew it was important, so we needed new drugs.

And there are two types of ways to target HER-2. The first of those is the antibody, the Herceptin antibody that we've been talking about. We now have small molecules, drugs that also block the activity of HER-2 and they are going or are in

clinical trials, and actually they're looking very exciting. So we have yet a new approach in our armamentarium for this one particular abnormality that we know is important.

When we look at other cancer types we find very similar stories. People went in and studied those cancers in exquisite detail. We look at what happens at the DNA level. We look at a million different things on these tumors. We look at what happens at the next level of producing what happens in the cell, the RNA and then finally the protein that determines how cells behave. And we're able to analyze those in ways today that we weren't able to five or 10 years ago. We really now let the patient and the patient's own tumor teach us what is important.

And once we know that then the next step as I mentioned with the story with HER-2 is to make drugs that will fix those problems. We call them targeted therapies. And we now have targeted therapies that are working in many different diseases. And the estimate today is that there are over 200 of these targeted therapy drugs in clinical trials right now with up to a thousand more in line to get into clinical trials over the next four or five years. So we really have this opportunity by understanding what is going on in the tumor, understanding why it's a cancer to go in and target that specifically. And, as Sonia said, in many cases that is much less toxic and much more effective.

**Andrew Schorr:**

Sonia, I don't know if you're a religious person, I'm sort of religious, and I think we're blessed, you and I, that we could be diagnosed with specific cancer types where there were drugs that are already available to target. Do you ever think about that? If you had had the HER-2/neu earlier there wouldn't have been that drug, so you developed that type of cancer at the right time and then went to the right place.

**Sonia:**

Yes, absolutely. It's a blessing. I mean obviously it's not a blessing to get sick of cancer but it's a blessing to know that there is somebody working on the specific area of finding medication for different kinds of cancers. When I was diagnosed I was told that, Oh, your case, you're one of the 80 percent of all cancers. It's very easy. Don't worry. You don't need to be at M. D. Anderson. Anybody can take care of your breast cancer because it's just so common. Everybody has ductal carcinoma. But when I went to M. D. Anderson I really understood that there's something more specific. There's more to it. It's not just ductal carcinoma. There is much more to the story, and then there's treatment and solution to these problems.

**Andrew Schorr:**

Yeah, and happily there you are in Israel and the kids are playing with the grandparents and you're enjoying your summer.

We're going to take another break. We'll hear more from Sonia who joins us at, what, now way after 4 a.m. in the morning. Thank you so much, Sonia, for doing that. We'll be back with Dr. Gordon Mills from Houston where it's not quite so late, dinner time. And thank you so much for sticking with us folks as we learn about really the new frontier of cancer care, personalized medicine with M. D. Anderson helping lead the way for our country and for the world in its fight against cancer. We'll be back with more of our live webcast right after this.

## **Where to Start**

### **Andrew Schorr:**

As I said earlier, we do this every two weeks on the M. D. Anderson website. On July 1st our next program is with Dr. Christopher Wood. We're going to be talking about the advances in the treatment of kidney cancer. So if you know someone affected by kidney cancer, worried about it, it's in the family, please join us July 1st, same time.

And remember, all our replays are available at [mdanderson.org/patientpower](http://mdanderson.org/patientpower). You get to see my nice little picture there with headsets, and then the whole team, the library of programs with eminent M. D. Anderson experts and always people like Sonia who have gotten great care and want to talk about it. And we appreciate Sonia staying up late while she's on vacation in Tel Aviv.

Dr. Mills, we got an e-mail question in from Jeff in Plano, Texas. And he writes in, "I live outside of Dallas and have recently been diagnosed with lung cancer, and I'd like to get a personalized approach for my care but I don't know how to begin. So how does someone advocate for personalized care and how do they find it?"

### **Dr. Mills:**

Okay. So the M. D. Anderson Cancer Center has a spectacular clinical trial program right now called The Battle program, which is really looking at how to personalize lung cancer care. And it's really cutting edge. It is very far ahead in designing how we do these types of trials.

Now, not everyone is close enough to the M. D. Anderson Cancer Center to come, and many people want to stay near where they live to be treated, and my advice is pretty straightforward. And that is take a look in your area. There will be a number of what are called NCI-designated cancer centers, and you can find that by going to [nci.gov](http://nci.gov), or I'm certain if you simply search that under Google it will come up. All of the cancer centers that are on that list are really top quality, have incredible physicians and are really leading the way in how we improve patient care and patient outcome. So while I can say that M. D. Anderson gives great care and

there are areas where we clearly are leading the way, the other cancer centers, the other major centers around the country are doing very, very important studies also. We're not the only place that's doing things great.

**Andrew Schorr:**

You've got your Kleberg Center for Molecular Markers, though, trying to make these discoveries. How exciting a place is this? How busy a place is it? If I came up to your floor there what would it look like as far as the effort to try to unlock these secrets?

**Dr. Mills:**

Well, you're going to see about a hundred people scurrying back and forth, working very hard. By the way, it's about eight o'clock here and I'll tell you that probably half of them are still here tonight. They're really driven to make this happen. So researchers around the world are trying to move these forward. We've had the opportunity through support of the institution and support from the Kleberg Foundation and many other individuals who've donated to M. D. Anderson in terms of funds to move this forward.

The Saberioon Family is one that should be highly acknowledged in that the building that we're in is the Gita and Ali Saberioon Building for Molecular Markers. They've made it possible to put together what I would call, and I've think we've heard around treating patients here, this is a dream team, an incredible group of people and particularly extremely bright young kids who are going to make the difference in the future. When I say "kids" I'm really talking about people who are well trained, well on their career but what they bring to the table is the excitement and the enthusiasm of someone who says I can do something and make a difference. They're here for that reason and, they really intend on making a difference.

**Looking at the Future**

**Andrew Schorr:**

Well, our hats are off to them as cancer patients and families touched by cancer. I'll make one other comment. I'm 57, so I'm getting to think everybody is a kid to me, Dr. Mills.

So let me ask you a crystal ball question. So you're the head of that department. You're seeing all of the stuff going on. We've talked about this concept of personalized medicine for cancer care. We talk about it in my case, in Sonia's case, we can talk about some other cancer examples. We've talked about the research going on in lung cancer. How real is this proliferating through cancer, and what do you think the time line is to have an even bigger footprint in cancer?

**Dr. Mills:**

Okay. I think that I can comfortably say that we are going to see more and more personalized care for cancer patients. We're actually going to see it in many other diseases, but I think we're going to see it fastest and most effectively in cancer. We'd love to get to the point where we have the right drugs, the right treatment and the right management for every individual as an individual. But I think what we're going to see in the next five to ten years, and you're asking me to use a crystal ball which really is dangerous, I think Yogi Berra said that it's very hard to predict the future and very dangerous, that we really are going to move to this slowly but that we will get there and we will have more and more individualized therapy. So instead of one group of breast cancer we now talk about three groups of breast cancer. We have a story that is just emerging that says there is yet a fourth type that we need to take care of and deal with inside of what we used to call ductal breast cancer.

We also have other stories going on here with what were once thought to be rare and difficult to manage types of cancer, where we're learning enough about them to find new ways and new treatments. So basically we're getting further and further along that path of delivering on the promise of personalized medicine. We're certainly not at the end of the path. I would say we're at the beginning of the path, and it's going to be how we do make a big impact over the next five to ten years.

**Andrew Schorr:**

Okay. Now, Sonia, you've been listening in Tel Aviv on vacation there. Everyone else is asleep. What would you say to people, whether they're in Houston, in your neighborhood or anywhere where they're hearing this, as far as them advocating so that they get the best care for them? You went to great lengths to get information before you made a decision. What would you say to empower other people so that to the extent it's available they get the personalized care that's right for them?

**Sonia:**

I would just say that everybody should seek another opinion and should not only listen to one doctor or even two or even three. Only three opinions are not enough. You should get a lot more, especially when they're talking about such a disease that it sometimes gets different courses and it may become difficult to manage. And like Dr. Mills said, this is not just ductal carcinoma or ductal breast cancer. There are different types and sub types. And leading facilities such as M. D. Anderson can really show the way and lead medicine in this regard.

I would encourage people just to do their exams and watch their health and take action early. And I was one of the fortunate people that I caught my lump pretty early in development, and this was treated successfully at M. D. Anderson.

**Andrew Schorr:**

Yes, it was. And there you are and you've got Ben and an older child as well.

**Sonia:**

Ethan, yes.

**Andrew Schorr:**

Ethan and Ben. Well, all the best. I want to wish you a good night's sleep. Tell me if I get this right. I think they say in Hebrew, they say *laila tov*.

**Sonia:**

*Laila tov*, that's correct. Very good.

**Andrew Schorr:**

Okay. So we're going to say *laila tov* to Sonia. And thanks to your family for letting us have mom in the middle of the night, but I know you're very thankful for the care you got at M.D. Anderson.

And Dr. Gordon Mills, you're leading that department. The folks are working late. I want to thank you. And will you pass on for all of us at Patient Power and I know all of our listeners who listen to our programs, talking about tens of thousands of people, how indebted we are to you because we really are for the whole team there and for the institution and for the contributors that support you. Thank you, sir.

**Dr. Mills:**

Thank you.

**Andrew Schorr:**

Okay. I am just so gratified.

Now, remember, in two weeks we are going to have our next webcast, and that is going to talk about advances in a specific cancer type, kidney cancer. We'll learn if there's sub types of that as we visit with Dr. Christopher Wood. Remember that we have this whole library, and it's really unmatched. You're not going to find it anywhere else with experts, with inspiring people like Sonia, world experts like Dr. Gordon Mills. It's all there for you in the Patient Power section of M. D. Anderson. Elsewhere on the website are knowledge about trials. Use that information because I like to say knowledge can be the best medicine of all.

All the best to you. Get the personalized care you or a loved one needs. Have a great summer. From Seattle I'm Andrew Schorr. You've been listening to Patient Power sponsored by M. D. Anderson Cancer Center. Good night.

Please remember the opinions expressed on Patient Power are not necessarily the views of M. D. Anderson Cancer Center, its medical staff or Patient Power. Our discussions are not a substitute for seeking medical advice or care from your own doctor. That's how you'll get care that's most appropriate for you.