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00:00:00.076 --> 00:00:21.384 Announcer Funding for Yale Cancer answers is provided by Smilow Cancer Hospital. Welcome to Yale Cancer answers with the director of the Yale Cancer Center, Doctor Eric Winer. Yale Cancer Answers features conversations with oncologists and specialists who are on the forefront of the battle to fight cancer. Here's Doctor Winer.

00:00:21.461 --> 00:00:53.423 Eric Winer Today, we're talking about a slightly different topic. We're talking about cardio oncology or what's sometimes called Onco-Cardiology. A growing field focused on keeping the heart healthy during cancer treatment because, in fact, as you will hear, some of our cancer treatments have an impact on heart function. And of course, some people with cancer have underlying cardiac disease. And so we often need to reach out to our colleagues in cardiology.

00:00:53.500 --> 00:01:12.346 Eric Winer Joining me for this topic is Doctor Sarah Hull Doctor Hull is an associate professor at Yale School of Medicine, and she's also the cardiology course director, meaning she's very involved in medical education. She also has an interest in bioethics, and maybe we'll touch on that later on.

00:01:12.423 --> 00:01:15.076 Sarah Hull Thank you so much for having me. I'm really excited to be here.

00:01:15.153 --> 00:01:44.769 Eric Winer We were talking before the show and Sarah was telling me how much she loves cardiology and managing hypertension and doing that in patients who have cancer. So you're a clinical practice puts a special focus on cardio ecology. And in fact, my understanding is that is really your entire outpatient practice focused on people with cancer who have underlying cardiac problems, who develop cardiac problems from cancer.

00:01:44.846 --> 00:01:54.576 Eric Winer Can you just define this, this field a little bit for the listeners so they understand where it fits into, cancer care solutely.

00:01:54.653 --> 00:02:25.153 Sarah Hull So, that's a great question because it is a field that I think is can feel difficult to define because it's so vast. And it really encompasses everything from the screening of cardiovascular risk factors prior to initiating cancer therapy, to the optimization of preexisting cardiac disease, prior to initiating cancer therapy, to surveillance and monitoring of patients while they're undergoing cancer therapy.

00:02:25.230 --> 00:02:56.230 Sarah Hull To look for the evidence of developing heart disease or worsening of the control of certain cardiovascular risk factors to, really a growing focus on survivorship or that the care of patients after they've completed cancer treatment, because cardiovascular disease is actually a very common, in these patients, they're typically they're often at higher risk of cardiovascular disease than patients who, hasn't had cancer because there are a lot of shared risk factors for cancer and cardiovascular disease.

00:02:56.423 --> 00:03:19.461 Sarah Hull And they're also two very common entities, in the United States and around the world. But the great news is, you know, even though that that sounds daunting, the great news is there's so much that we can do for cardiovascular disease. So, you know, if you come and see us early and often, we can we can often really get a handle on things before they, they sort of manifest themselves clinically.

00:03:19.461 --> 00:03:22.307 Sarah Hull If we get, if you catch them in the preclinical phase.

00:03:22.384 --> 00:03:38.884 Eric Winer Yeah. There's shared risk factors or something that I hadn't ever really thought about. But there are actually, as I think about it, quite a few. Of course, there's smoking, there's obesity, there's diabetes. And I suspect there are others too.

00:03:39.076 --> 00:04:10.653 Sarah Hull Absolutely. So, so the standard American diet, which unfortunately has way too much red meat and ultra processed food and does not, have enough, fruits and vegetables, whole grains, nuts, beans and seeds. Indeed. About it's estimated that about 95% of Americans don't eat enough fiber, you know, and fiber exclusively comes from plants. So we know predominantly golf, this whole food plant based diet reduces your risk significantly of cancer and cardiovascular disease.

00:04:10.653 --> 00:04:29.230 Sarah Hull And eating a lot of red meat, an ultra processed foods puts you at higher risk. Another risk factor is environmental pollutants, which can cause inflammation and other dysfunction in a lot of or OCS, such as oxidative stress in other organ systems. And those are some common mechanistic pathways for both cancer and cardiovascular disease.

00:04:29.384 --> 00:04:51.615 Eric Winer Are there certain types of treatments that, impact heart health? And, maybe you can tell us a little bit about those. You know, in the past, we focused mainly on certain chemotherapy drugs, which thankfully are given less commonly today, although they're still given. And then we have the whole range of, new targeted therapies.

00:04:51.692 --> 00:05:23.615 Sarah Hull Most of the types of cancer therapy will give us some examples, that that can affect the heart. So you know, of course, with traditional chemotherapies that are sort of systemic and have broader effects, we often think about anthracycline such as doxorubicin, which are used to treat a number of different cancers, breast cancer for example, and something which logic malignancy is just to name a few, that can weaken heart muscles leading to a condition called cardiomyopathy, which if becomes clinically relevant can lead to heart failure.

00:05:23.615 --> 00:05:54.769 Sarah Hull With a lot of the targeted therapies, we can see cardiomyopathy and also an increased risk for hypertension, particularly for the Jef inhibitors. But other targeted therapies as well, can lead to these, or they can increase the risk of blood clots in some cases with radiation therapy that can lead to some delayed effects, often through, fibrosis or kind of the

stiffening and hardening of different tissues ranging anywhere from arteries to heart muscle to the the sac around the heart called the pericardium.

00:05:54.769 --> 00:06:28.384 Sarah Hull And then sort of newer therapies, immunotherapy, which works by, as you know, of course, unleashing the body's immune system against cancers that can also, unfortunately, sometimes unleash the immune system against any other organ system in the body, including the heart, and can lead to heart inflammation where which is called myocarditis. So, you know, we have to be very vigilant with a number of different therapies because, you know, and certainly not every cancer therapy, in these broader umbrella is, is, is associated with cardiovascular toxicity.

00:06:28.423 --> 00:06:44.807 Sarah Hull Many of them can be. And so that's why we like to sort of be be very careful in our screening and in our monitoring and surveillance of these patients so that if something does develop, we can catch it quickly, and hopefully reverse it or treat it before it becomes a big problem.

00:06:44.884 --> 00:07:09.769 Eric Winer Yeah. You know, thankfully the the classic drug Adrian Mason, which we used to use in breast cancer treatment very commonly we use we still use, but we use much less frequently than we used to. And we're all trying to use it even less. I will say as an ecologist, every time someone has a cardiac complication, it's something that scares me a great deal.

00:07:09.769 --> 00:07:33.807 Eric Winer And I had a patient who had inflammation in her heart from immunotherapy not long, though, and she completely recovered. But it was quite frightening to me, which she came in with a heart rate of 150. And, you know, clearly was having symptoms. And you all were extraordinarily, helpful in getting her through all of that.

00:07:33.807 --> 00:07:35.615 Sarah Hull I'm so glad.

00:07:35.692 --> 00:07:46.307 Eric Winer So who is most at risk of these cardiac complications? I mean, I can guess the preexisting cardiac problems must put somebody at higher risk.

00:07:46.500 --> 00:08:13.730 Sarah Hull Yeah. So, you know, we know more about that with some therapies than with other therapies. For example, the risk of, of developing cardiomyopathy. Or, you know, we can start with traditional chemotherapy and targeted therapies that seems to be really increased by poorly controlled cardiovascular risk factors, particularly hypertension or high blood pressure. But sometimes others too, such as, diabetes or high cholesterol.

00:08:13.730 --> 00:08:19.384 Sarah Hull And so getting those risk factors under control can really reduce the risk of cardiac effects from these medications.

00:08:19.615 --> 00:08:25.846 Eric Winer And even age contributes it in terms of cardiac issue with Adrian Mace, it sure.

00:08:26.000 --> 00:08:46.230 Sarah Hull And so of course, you know again I, I often try to focus on the modifiable risk factors. But to your point there are some non modifiable risk factors as well. And and age is one of those. So you're absolutely right. But you know there are many risk factors that we can modify. And and again that's a real cornerstone of, of our practice.

00:08:46.269 --> 00:09:14.076 Sarah Hull That being said, with immunotherapy we still need to learn more. I think it's harder for us to predict who might be at higher risk. And then, you know, there's also the separate question of even if someone isn't at higher risk per se, someone with preexisting cardiac disease may have less tolerance to develop an existing hit. So it's kind of if they if they're already starting out with some heart abnormalities, they may not be able to tolerate, additional harm to their heart than someone who has a totally normal heart going into it.

00:09:14.076 --> 00:09:25.692 Sarah Hull So, so it's helpful for us to know what their cardiac status is before starting, even if that doesn't increase the risk per se, it may increase the consequences if they were to experience cream toxicity.

00:09:25.769 --> 00:10:06.653 Eric Winer And sort of related to that. You know, for years we said that when we treated patients with Adrian Mason, that at least soon after receiving treatment, the vast majority of patients were following. And then we've learned, and the data aren't perfect, that years and years later that at least based on large population studies, that people who had Adrian Mason in the past or at higher risk for cardiac complications 20, 30, 40 years later, and I think it's just a reminder that we have to be very careful with cancer therapy or any therapy in terms of late side effects.

00:10:06.730 --> 00:10:29.346 Sarah Hull Right? I think that's absolutely true. But again, I think it's hard, like you mentioned, that the data aren't perfect. But once again, there's so many shared risk factors for cancer and cardiovascular disease. And you know, in the United States, in particular, you know, sort of the baseline American lifestyle is is not a particularly healthy one. I know I keep coming back to this, this this really is a passion of mine.

00:10:29.346 --> 00:10:59.692 Sarah Hull And I actually think it's sort of a moral obligation of us as physicians to really be clear that, you know, in a we need to advocate for more public health, systemic changes that make healthy lifestyles the path of least resistance, because right now they're the path of most resistance for most people. So I'm certainly not saying it's all on the individual, on individuals to make better choices, but it's on us really, as the experts to get the information out there so we can change policy in a way that makes it easier for people to live healthier lives.

00:10:59.692 --> 00:11:21.423 Sarah Hull I mean, heart disease is common regardless. And so and the reason I underscore that is that I, you know, I don't want patients. I sometimes I think patients can feel almost scared to start a certain therapy. If there's a concern about cardiotoxicity and what I usually

say to them and their oncologist is, you know, of course there's some patients who are going to be extraordinarily high risk, and it doesn't make sense.

00:11:21.423 --> 00:11:46.307 Sarah Hull But if an oncologist feels very strongly that, you know, certain therapy is going to confer a much better prognosis for the patient from an oncology standpoint, usually, you know, we have the ways we have both treatments and monitoring protocols to help them get through these treatments so that their heart stays healthy and they get their cancer treated. And so, you know, I really think that that we have to be very vigilant.

00:11:46.384 --> 00:11:54.346 Sarah Hull But we also, you know, need, need to not let that hold us back from giving patients the best possible treatments for their cancers.

00:11:54.384 --> 00:12:25.461 Eric Winer And just before we break, I just want to touch on one other cardiac toxicity that I think we've really talked about, that I think is sometimes confusing to patients. But and these are rhythm disturbances. So, you know, with some of our therapies we get cardiogram to look at the baseline rhythm and exactly how the cardiogram looks in terms of the space between certain, curves on the, on the cardiogram.

00:12:25.461 --> 00:12:26.692 Eric Winer What's all that about?

00:12:26.884 --> 00:12:48.384 Sarah Hull You know, when we think about rhythm disturbances, kind of the most canonical example that comes to mind is, is the bruit nib or the group of Bruton tyrosine kinase inhibitors a type of targeted therapy. And and those can increase the risk of atrial fibrillation, which is, an abnormal rhythm, that can increase the risk of stroke and other cardiovascular complications.

00:12:48.461 --> 00:12:50.846 Eric Winer Use this cute interval.

00:12:50.846 --> 00:12:51.307 Sarah Hull Yes.

00:12:51.500 --> 00:12:53.769 Eric Winer Gation. What's that about?

00:12:53.807 --> 00:13:17.500 Sarah Hull It can be a little bit difficult to explain in large terms, but you know, essentially it that that is the result of changes in currents across ion channels that causes a prolonged repolarization or kind of resetting of the heart electrical signal after it contracts. And sometimes when there's that delayed repolarization, it can make the heart more prone to certain very dangerous arrhythmias.

00:13:17.500 --> 00:13:37.307 Sarah Hull And that's why we watch for that. Not because that in itself is a problem, but can increase the risk for other rhythm problems down the road. Although a lot of times with things as simple as like making sure someone's potassium and magnesium are corrected when those are low, can really help to, to fix that. And other times we just may need to withdraw other agents that may be contributing to that problem.

00:13:37.307 --> 00:14:02.769 Eric Winer Yeah. No, it's it's it is so complicated

because, you know, as a cardiologist, you have to worry about being both an electrician and a plumber, among other things. And they're really very separate. We're going to have to take a brief break. We'll be right back. Again, I'm with my. Yes, doctor Sarah Hull, who is a cardiologist and an expert in cardio oncology.

00:14:02.846 --> 00:14:31.769 Announcer Funding for Yale cancer answers comes from Smilow Cancer hospital using genetic testing to identify cancers before the onset of symptoms, when the disease is most easily treated or cured. More about smile cancers screening and prevention program at Smilow Cancer hospital.org. The American Cancer Society estimates that nearly 150,000 people in the US will be diagnosed with colorectal cancer this year alone.

00:14:31.846 --> 00:15:03.115 Announcer When detected early, colorectal cancer is easily treated and highly curable, and men and women over the age of 45 should have regular colonoscopies to screen for the disease. Patients with colorectal cancer have more hope than ever before, thanks to increased access to advanced therapies and specialized care. Clinical trials are currently underway at federally designated comprehensive cancer centers, such as Yale Cancer Center and its Smilow Cancer Hospital to test innovative new treatments for colorectal cancer.

00:15:03.192 --> 00:15:23.576 Announcer Tumor gene analysis has helped improve management of colorectal cancer by identifying the patients most likely to benefit from chemotherapy and newer targeted agents, resulting in more patient specific treatment. More information is available at Yale Cancer center.org. You're listening to Connecticut Public Radio.

00:15:23.615 --> 00:15:55.461 Eric Winer This is Eric Winer again with Yale cancer answers. I'm here tonight speaking with Doctor Sarah Hull, a cardiologist who has a particular interest in cardio oncology. That is the complications that arise with cancer treatment complications. Hard complications, and also involves the care of people who have coexisting cardiac disease and cancer. I just want to ask you how you got interested in all of this.

00:15:55.538 --> 00:16:04.346 Eric Winer And I know you have a, personal interest in cancer, and maybe you could just touch on when you first got exposed to cancer.

00:16:04.500 --> 00:16:22.576 Sarah Hull Sure. So, I was first exposed to cancer when I was nine years old, and my mother was diagnosed with breast cancer. You know, fortunately, it was stage one, and she had an excellent prognosis. And indeed, she did very well. And that and that cancer never recovered.

00:16:22.576 --> 00:16:28.807 Eric Winer And tell us about what? How she educated you about what was going on with her. Because I love this.

00:16:28.807 --> 00:16:46.269 Sarah Hull I learned about cancer staging when I was nine years old. At the kitchen table. You know, when I first found out that my mom had cancer, I really equated that with a death sentence, which I think

is probably not uncommon for a nine year old child to think. And no one really talked to me about what was going on.

00:16:46.269 --> 00:17:04.115 Sarah Hull And. But when my mom came back from the hospital, she sat me down and explained what the different stages of cancer were and that she had stage one and it was the best kind. And that meant that, you know, she had a very high chance of what she said. Cure. Now, you know, I know we call that remission, but basically that that she would be successfully treated and survive.

00:17:04.115 --> 00:17:26.884 Sarah Hull And that's exactly what happened. And that was a really early lesson for me in the importance of clear and thorough communication and and really patient education and family education at times. And I really taken that lesson to heart. Pun kind of intended, as a cardiologist, and as a physician in general, I would say. And then, you know, fast forward to my residency program in internal medicine.

00:17:27.000 --> 00:17:41.153 Sarah Hull I really enjoyed the rotations when I was taking care of cancer patients. I just really connected with those patients. But intellectually, I was most interested in cardiology. You know, as we discussed, I love treating hypertension. I love imaging the heart.

00:17:41.384 --> 00:17:42.769 Eric Winer You got to combine it all.

00:17:43.038 --> 00:18:07.576 Sarah Hull Exactly, exactly. And then one of my mentors, actually in fellowship had started the cardio oncology program at Yale. And so that was my first exposure to it. And and once I did that in my fellowship, I was hooked. And I really knew that that was the perfect combination of, you know, giving like providing the cardiac care that I was so passionate about and also taking care of cancer patients that I really felt connected to based on my experience with my mother.

00:18:07.653 --> 00:18:28.038 Eric Winer Well, and I have to say, I agree with your mom about cure because we we do cure a lot of people and while we can never absolutely guarantee it, in most cases for somebody with very early stage breast cancer, we can tell them that it's very, very likely that they're not going to have to deal with this again.

00:18:28.115 --> 00:18:50.269 Eric Winer So it's really the case that she was cured. Maybe we can get back and talk a little bit about, some additional issues related to the heart and cancer. So what are some of the warning signs of heart complications that patients might experience? And might relate to their oncologists that would lead to a referral?

00:18:50.346 --> 00:19:18.500 Sarah Hull Sure. The symptoms of heart disease, as is the case with many disease states, can be quite varied. But warning signs or symptoms that I would want to know about would be things like chest pain, difficulty breathing, palpitations, or a sensation of your heart skipping beats or racing or beating irregularly, significant lightheadedness and dizziness

or fainting, trouble breathing, lying flat or sleeping, leg swelling or sort of sudden unexplained weight gain.

00:19:18.730 --> 00:19:38.000 Sarah Hull Those would all be signs and symptoms concerning to me of potential heart disease. Although I should note that a lot of heart disease early on can be asymptomatic and risk factors as well. Or sometimes things happen so slowly that patients don't even realize they're having symptoms because they adjust their their lifestyles such that they don't experience those symptoms.

00:19:38.000 --> 00:19:45.653 Sarah Hull So I think screening even for asymptomatic patients, when they're at higher risk is really critical rather than waiting until symptoms start.

00:19:45.730 --> 00:19:59.615 Eric Winer And so maybe we can talk about the patients who are at higher risk. So for such a patient, what are what are the steps that they can take before treatment. Maybe to minimize any risk.

00:19:59.807 --> 00:20:21.230 Sarah Hull Depends on the treatment and also depends on what are the risk factors that they have. And so that really we you know for high risk patients we really do recommend referral to a cardio oncology specialist to sort of assess that risk, which includes, you know, careful history, physical exam, EKG, which typically have a very low threshold to order an echocardiogram or a heart ultrasound as well.

00:20:21.307 --> 00:20:47.653 Sarah Hull And then, you know, if they haven't had their cholesterol checked, we check that, we check their blood pressure. And it really, you know, again, we identify what those risk factors are and then we'll treat those accordingly. As I mentioned earlier, I think lifestyle intervention is extremely important in both health maintenance and disease prevention. But I will say that in patients who are about to undergo potentially cardiotoxicity chemotherapy or other cancer treatments, because we want to get their risk factors controlled pretty expeditiously.

00:20:47.846 --> 00:21:07.384 Sarah Hull In those cases, I often do tend to reach for medication sooner, recognizing that if they if patients feel like they don't want to be on, on medication and definitely for heart disease or risk factors that, you know, we can plan to try to get them off of those medications after they're finished with their cancer therapy, with more lifestyle intervention.

00:21:07.461 --> 00:21:25.769 Sarah Hull But sometimes, especially if, if once they start undergoing cancer therapy, patients don't always feel like exercising, sometimes their appetite is poor and they don't necessarily feel like eating a lot of healthy foods. And we really just need to prioritize enough caloric intake and enough protein intake. We need to make sure that we're not making perfect the enemy of the good.

00:21:25.769 --> 00:21:53.307 Sarah Hull And so every patient is different. We have to take each patient's context into account. The patient has recently completed cancer therapy and now wants to kind of shrink down their medication

regimen. I'm going to counsel that person very differently than someone who's about to start chemotherapy, whose blood pressure is not well controlled. And so often it's a combination of medical therapy and lifestyle intervention, depending on the patient's context and also the patient goals, values and preferences.

00:21:53.461 --> 00:22:17.576 Sarah Hull Some patients are very motivated and have, you know, the resources to really make lifestyle changes. And some patients don't have either motivation or resources. And it's really hard for us to put ourselves into other people's shoes. So we have to meet patients where they are, but we also have to make sure that we're providing the best protection possible, and patients aren't making the best decisions unless they're really informed decisions.

00:22:17.576 --> 00:22:27.576 Sarah Hull And so it's, you know, ultimately all of the decisions are up to patients. But it's up to us to make sure that we're informing them of all the potential risks of all and benefits of all of the different options.

00:22:27.576 --> 00:23:16.000 Eric Winer Back to your interest in education and your mother's education of you and your education of medical students. So we're in the era of precision medicine and targeted therapies. And personalized treatment. To what extent do you think we have or will have better predictors of who really develops complications? And here. I'm talking about the possibility of of genetic predictors, not necessarily cancer genes, but genes that, you know, our whole genome, to understand you know, whether I might be more at risk of getting one complication than another.

00:23:16.230 --> 00:23:19.423 Eric Winer Is that anywhere close to being reality?

00:23:19.461 --> 00:23:46.538 Sarah Hull So, you know, I have to confess that, as you know, I am not a basic scientist, so. I mean, you're my. So I may not be the very best person to answer this question. I think that obviously we're making some progress in that domain. But I will say, and I'm showing my hand a bit here. I think it's a very American thing, this idea of like, we we love the idea of personalized anything.

00:23:46.538 --> 00:24:15.615 Sarah Hull We love things that are individualized. And, and, and I understand that, of course, we want things that are tailored to us. And I want that too. I'm American, and I like it when things are customized just for me. So I'm not saying that in a critical way, but I think that it's sometimes when there's so much focus on that, we do we I worry sometimes that we lose sight of the things that actually, like save a lot of lives.

00:24:15.730 --> 00:24:17.153 Eric Winer And are good for everyone.

00:24:17.153 --> 00:24:39.769 Sarah Hull And are good for everyone. Exactly. A rising tide lifts all boats. So, you know, vaccines, eating fruits and vegetables, living in a place that isn't where you're not exposed to pollution, getting a good education like those are things that are really good for everyone. And, you know, a really well documented to decrease, you know, adverse health outcomes.

00:24:39.769 --> 00:25:10.615 Sarah Hull So and to be fair, I'm not a public health specialist either. I'm just a cardiologist. But we know that these things make a difference. And we know that patients struggle with them when, you know, we live in an environment where those are often a lot of those factors are beyond our control. So as much as I do think it's important for us to, you know, continue to pursue personalized options, I think it's equally valid and important, if not more so, you know, to to invest in public health infrastructure and education.

00:25:10.807 --> 00:25:30.538 Sarah Hull That really underscores things that help all of us, regardless of our genes. You know, everyone benefits, you know, with, again, the few rare exceptions, people with certain allergies. But virtually everyone benefits from being vaccinated, being educated, getting physical activity and eating more fruits and vegetables and less red meat.

00:25:30.538 --> 00:26:01.576 Eric Winer I couldn't agree with you more. I do hope that with the combination of, using the electronic medical record to gather health data and artificial intelligence and the explosion of knowledge within the basic science, is that eventually we will have, for some people, better predictors of who's at most risk. But that doesn't mean that everyone shouldn't pursue all of the things you talked about.

00:26:01.615 --> 00:26:27.307 Eric Winer I mean, I think it's just so very important. So, if somebody is undergoing monitoring for a cardiac problem, and I realize that that monitoring could be different depending whether it's an electrical problem or, or more of a pump problem. But for somebody who's at risk for a cardiomyopathy where there could be heart failure, what's monitoring look like?

00:26:27.384 --> 00:26:47.192 Sarah Hull So, you know, I'll sort of take the example of maybe the highest risk patient because I think that's sort of what you're getting at. And the reason I say that is sometimes lower risk patients, some of the data are beginning to suggest that maybe we can pull back on the monitoring a little bit, because excessive interactions with the health care system can take a psychological toll on patients.

00:26:47.192 --> 00:27:13.884 Sarah Hull But for high risk patients, what that usually looks like is a combination of it office visits for exam, EKG, blood pressure check, those sorts of things. And then for really our highest risk patients, in some cases we may do if they're getting therapy every three weeks or every six weeks, we may do a limited echocardiogram before each treatment dose just to make sure there's been no further decrement in their heart function.

00:27:14.038 --> 00:27:39.269 Sarah Hull Often we'll check, a blood test to look for, biomarkers, or indicators of, heart injury or stretching of the heart muscle that might show a sort of ace or pre-clinical evidence that, the heart maybe isn't doing as well as as we hoped. And so it's often a combination of hands on care, ultrasound, blood tests, and, and the like.

00:27:39.346 --> 00:27:44.076 Sarah Hull But that's in the highest risk patients. Not everybody needs that for every therapy, of course.

00:27:44.153 --> 00:28:05.115 Eric Winer Well, that is hugely helpful. Listen, we're going to have to wrap up. I want to say it's been incredibly enjoyable for me to talk to you, for me, to exposed me to a new field. And I think you've actually convinced me and probably many of our listeners, that there's a lot we can do to both improve our lifestyles.

00:28:05.192 --> 00:28:28.653 Eric Winer And when it comes to cardiac disease related to cancer treatment, it's probably a lot we can do to help both monitor and and in many cases prevent it. And I'm certainly going to be using the services of of cardio oncology for my patients, maybe more than I have in the past. So I'll be talking to you all again, next week.

00:28:28.653 --> 00:28:30.384 Eric Winer And Sarah, thank you so much.

00:28:30.576 --> 00:28:32.346 Sarah Hull Thank you. It's been a real pleasure.

00:28:32.384 --> 00:28:57.384 Announcer Doctor Sarah Hull is an associate professor of medicine and cardiology at the Yale School of Medicine. If you have questions, the address is cancer answers@yale.edu and past editions of the program are available in audio and written form at Yale Cancer center.org. We hope you'll join us next time to learn more about the fight against cancer funding for Yale Cancer answers is provided by Smilow Cancer Hospital.