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00:00:00.076 --> 00:00:21.576 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.

00:00:21.653 --> 00:00:54.538 Eric Winer Today we're talking about testicular cancer, and maybe a little bit beyond that as well. But April is testicular Cancer Awareness Month, and joining us today is my colleague Doctor Michael Hurwitz. Mike is an associate professor of internal medicine and medical oncology here at the Yale School of Medicine. He also runs our fellowship training program, and we may talk a little bit about medical education along the way here.

00:00:54.615 --> 00:01:15.846 Eric Winer He has spent, over 20 years treating patients with cancer, largely focused on patients who have kidney cancer, bladder cancer, prostate cancer, and finally, testicular cancer. Our subject tonight. Mike, welcome to Yale cancer answers. It's great to have you join us.

00:01:16.000 --> 00:01:18.000 Michael Hurwitz Thanks a lot.

00:01:18.076 --> 00:01:38.807 Eric Winer So, given the fact that, April is testicular cancer awareness month, let's let's start there. This is a disease that, affects both young men and older men. Tell us a little bit about, patterns you see in the epidemiology of of testicular cancer. Yeah.

00:01:38.846 --> 00:02:01.346 Michael Hurwitz So testicular cancer we think of really is more of a disease of younger men. Actually, the majority of men who have this actually, not just men, it's really teenagers up to young men. So really, between about the ages of 15 and 25, this is kind of the most common time. And there are. Can I can.

00:02:01.346 --> 00:02:22.461 Eric Winer I just stop you there for one second? Do we know why that's the case? Like what is it about being that age? Is it related to the, you know, the going through puberty in the years after that, that somehow leads to growth and the growth of abnormal cells?

00:02:22.538 --> 00:02:46.000 Michael Hurwitz I do not think we know the answer. But what I do know, is that, is that, in fact, testosterone, which is, you know, one of the major hormones produced as you become an adult when you go through puberty has actually been reverse associated with testicular cancer. That is, people who would take extra testosterone, like a lot of weightlifters do this.

00:02:46.000 --> 00:02:52.615 Michael Hurwitz I'm not saying it's a good idea, but people do it. That's actually been associated with less autistic, older cancer. Really? Yeah.

00:02:52.769 --> 00:03:01.807 Eric Winer Wow. Okay. It's not. So, it's a disease that people between 15 and 25, to a large extent. And then isn't there a peak

later on?

00:03:02.076 --> 00:03:26.538 Michael Hurwitz Right. So I was going to say something about that. So it turns out that testicular cancers for the most part, 98% or something of them are what are called germ cell tumors. And they're called that because they're really, cancers. What are germ cells? You know, the things that that make sperm and that comes in like two major categories, something called seminal seminars.

00:03:26.615 --> 00:03:49.038 Michael Hurwitz And kind of an everything else category, which is often a mixed tumor, sometimes including some enormous. But the reason you get these mixtures is because these are the cells that can become anything in the body, right? They will. These are the cells that normal cells become sperm. These are the things that will create everything. So you get these mixtures of things with the mixed germ cell tumors.

00:03:49.038 --> 00:04:07.153 Michael Hurwitz Those are the ones that are really commonly almost the only one. I shouldn't say that. Those are the ones that are almost always 15 to 25 an age. The seminaries are the ones that have a second peak when they're older, in the sort of 60 year old range. Even then, most of them numbers are amongst younger people.

00:04:07.153 --> 00:04:08.153 Michael Hurwitz But but yeah.

00:04:08.230 --> 00:04:20.653 Eric Winer In seminaries, if I remember from my, education, seminaries are far easier to treat than than the these mixed tumors.

00:04:20.730 --> 00:04:22.884 Michael Hurwitz They are they have that is correct.

00:04:23.153 --> 00:04:32.000 Eric Winer Better prognosis overall or at this point, the prognosis is so good for everyone that it's probably with treatment hard to distinguish that.

00:04:32.000 --> 00:04:41.192 Michael Hurwitz Yeah, that was actually the point I was going to make. You're exactly right. The prognosis is very, very good for the vast majority of these tumors. But seminaries are even better than non seminaries.

00:04:41.192 --> 00:04:47.653 Eric Winer That and with seminaries sometimes you can not use chemotherapy.

00:04:47.769 --> 00:05:10.115 Michael Hurwitz That's right. And in fact even with non seminaries sometimes you don't have to use chemotherapy if you catch it early enough, which is in a way the the big take home message. Because, you know, unlike a lot of the cancers, the that the two of us see when we're on let's say consult or something like that, you know, something like lung cancer, you don't know it's there.

00:05:10.192 --> 00:05:34.730 Michael Hurwitz But pancreatic cancer, you're not going to know it's there because you can't feel it. You can't see it. Whereas

in the testicle you actually can, much like, you know, sometimes in a breast, as you know so well with a testicular cancer, one of the things is that the way we often find that the way we usually find them is that a man notices something, he does a self examination and notices that one of the testicles is now misshapen.

00:05:34.807 --> 00:05:49.269 Eric Winer Do you think that in in finding testicular cancers, it's that people are doing self-exams or people just come across these things because we all to some extent touch parts of our body?

00:05:49.346 --> 00:06:09.500 Michael Hurwitz I think it's the latter. I think it's, you know, you look, you can't help it. You're, you're you're underwear's fitting differently. You're you're washing yourself. You're like, wait a minute. This is just not what I'm used to done. You know, people usually notice it. There is something that's worth pointing out, which is very unusual, but maybe not so unusual, especially in teens.

00:06:09.576 --> 00:06:17.730 Michael Hurwitz We usually catch them later, because teenage boys are not as likely to point out when something is abnormal for for a lot of reasons. Right?

00:06:17.807 --> 00:06:28.730 Eric Winer These are cancers that do arise in in young men. But, if you look at all young men, testicular cancer is still very unusual, very rare.

00:06:28.730 --> 00:06:34.461 Michael Hurwitz And most of the time when there is something abnormal, it's not usually a cancer. Usually it's something else.

00:06:34.538 --> 00:06:37.307 Eric Winer And what are the other things that it can be?

00:06:37.384 --> 00:06:58.807 Michael Hurwitz So the other things that it can be are something called vera Cassio, which is where sort of for whatever reason, there's a blockage in the fluid that goes around the testicle, and you can get a big fluid pouch in there. Sometimes there are anatomic abnormalities that can result in the, the testicle twisting, and that can also lead to swelling and pain, actually.

00:06:58.884 --> 00:07:02.615 Michael Hurwitz So those are usually the more common things actually.

00:07:02.692 --> 00:07:24.307 Eric Winer So let let let's walk through the course of treatment. So a man has a lump a biopsy is done. It turns out to be cancer. So then I my sense is there's sort of two different approaches depending on whether it's a seminar or not. As a general rule. And what are those approaches.

00:07:24.384 --> 00:07:58.192 Michael Hurwitz So I would say two things about that. One is that because we cure these so often, we have moved on from general approaches to incredibly specific approaches because we it's so well studied and we we always want to do exactly what everybody else does, because there's a way to do this where we get it right. The second thing I would say is that unlike a lot of other cancers, we usually don't biopsy if we find a lump in the testicle

and you do imaging of it, and it actually looks like it's going to be a cancer, you just take it out.

00:07:58.269 --> 00:08:06.038 Michael Hurwitz And the reason is that biopsies often we worry that and this is not true. I should point out from most other cancers.

00:08:06.115 --> 00:08:07.730 Eric Winer That you worry about biopsies spreading the.

00:08:08.000 --> 00:08:09.461 Michael Hurwitz That's correct. But we worry about bribes.

00:08:09.538 --> 00:08:21.153 Eric Winer And yeah, that's that. In fact, I was not aware of that. The imaging is good enough so that most of the time you can differentiate a cancer from a non cancer without doing a biopsy.

00:08:21.230 --> 00:08:37.461 Michael Hurwitz That is right. The imaging it depending on the characteristics of it. There are rare circumstances where you might want a biopsy and it's not done the way we think. A biopsy is putting a needle in the testicle we actually do is you have to go in through, what's called the inguinal canal and do a biopsy. Intra testicular.

00:08:37.500 --> 00:08:41.230 Michael Hurwitz This is again for the surgeons. Not I'm no expert on this.

00:08:41.307 --> 00:09:03.269 Eric Winer So. Okay. So a man, has an abnormal finding in his testicle. The imaging is done. It's shown likely to be a cancer. And the the testicle is removed. And just while we're on that, men can continue to function normally as men with one testicle versus two.

00:09:03.346 --> 00:09:42.769 Michael Hurwitz Absolutely. However, depending on the circumstances, you might do sperm banking beforehand, which we do. But but for some people. But yes, in general not an issue because you have to and then once we take it out, we're going to look at it under the microscope, assess what type of cancer it is. And furthermore, usually again, depending on what we see, we will do something like a Cat scan of the abdomen to see if there is spread, because the cancers of the testicle spread into, sort of the part of the pelvis that the rear part of the pelvis called the retroperitoneal most commonly.

00:09:42.846 --> 00:10:12.192 Michael Hurwitz So we look there and if we don't see anything abnormal there, then based on the features that we see of the tumor, we decide whether you need more therapy. Many, I would say most men, 80 to 90%. When you take it out, you are done. That is the treatment. That's all you need. But there is a small subset where either it looks concerning under the microscope, or it has invaded into parts of the testicle that we don't expect to invade to what we say we should do something more.

00:10:12.269 --> 00:10:16.000 Eric Winer And that's true both of seminal and non seminal was.

00:10:16.000 --> 00:10:38.461 Michael Hurwitz That's right. And classically versus for non something either you'd get a very small dose of chemotherapy or they would take out what are called the lymph nodes in that area in the retroperitoneal. And the lymph nodes are the lymph vessels are these vessels that we have in our body kind of like blood vessels. And they carry immune cells.

00:10:38.461 --> 00:10:48.230 Michael Hurwitz But it turns out that other cells can travel in them and go on to these sort of way stations along them called lymph nodes. And so we take those out because that's where the cancer most frequently goes.

00:10:48.230 --> 00:10:58.461 Eric Winer And okay, so let's imagine someone chooses have surgery. They take out these lymph nodes. A few of the lymph nodes have cancer in them. Does that spare someone from getting chemotherapy.

00:10:58.538 --> 00:11:10.269 Michael Hurwitz Under the right circumstances? It does. If there are a lot if there's a lot of cancer, then in addition to that, you get some chemotherapy, but you get less than you would have had you only done chemotherapy in that sense.

00:11:10.269 --> 00:11:22.230 Eric Winer And when you talk about sort of a small amount of chemotherapy, it's not so much that the doses are small. It's that the course of therapy is short.

00:11:22.230 --> 00:11:28.384 Michael Hurwitz Exactly. It's 1 to 2 courses versus 3 to 4 courses.

00:11:28.461 --> 00:11:59.346 Eric Winer So, our listeners may not be aware of this, but testicular cancer was, was studied a great deal actually at Indiana University now probably 40 plus years ago. And it was really at that time that it became a cancer. That was one of the very first cancers, even in advanced forms, was able to be cured with chemotherapy because it is exquisitely sensitive to some of our drugs.

00:11:59.423 --> 00:12:18.076 Michael Hurwitz Yeah, it's a mark. The whole story is remarkable. Every probably every until just knows this man's name. His name is Lawrence Einhorn. And he began developing these treatments at the National Cancer Institute back in the 60s, brought us Indiana and really did amazing things there. And that's why we care almost everybody. A lot of it was it is doing now.

00:12:18.076 --> 00:12:41.615 Eric Winer I mean, it was this very, very funny situation where, you know, in the state of Indiana, there was more testicular cancer because people would travel there to, to, to see him is he's a really remarkable guy. I know him and and he's been a sort of a giant in the cancer field. But, what he did back then was do a series of clinical trials.

00:12:41.615 --> 00:13:02.500 Eric Winer They'd really defined back then how we would take care of patients. And it's come obviously, that much further. It's,

it's it is truly, remarkable. And for the patients who have seminaries, they more often times don't end up needing to get any sort of chemotherapy.

00:13:02.576 --> 00:13:22.653 Michael Hurwitz So some of them is. Yeah, in general, they're not as aggressive. Again, depending on what you see under the microscope, there is a possibility that they will need a little bit and something new is that now we often do surgery, which we never used to do for, for seminarians. But now it's been shown to, to work actually quite well.

00:13:22.846 --> 00:13:40.038 Eric Winer And just to wrap up this first half, I guess the message is if somebody has a lump in their testicle, it needs to be evaluated. They shouldn't be terrified by it, because almost all of the time it's going to be something that they're going to go on and lead a pretty normal life afterwards.

00:13:40.115 --> 00:13:45.653 Michael Hurwitz Absolutely. Most time it won't be cancer. And even if it is cancer, we're going to care that the vast majority of the time.

00:13:45.730 --> 00:14:02.153 Eric Winer All right. Well, we're going to take a brief break. Again, this is Eric Winer, and I'm here with my guest, Doctor Michael Hurwitz, and associate professor of internal medicine, and medical oncology at Yale School of Medicine.

00:14:02.230 --> 00:14:21.538 Announcer Funding for Yale Cancer Answers comes from Smilow Cancer Hospital, now providing care at 15 locations throughout Connecticut and Rhode Island to bring personalized treatment and world class expertise to patients closer to where they live. Learn more at SmilowCancerHospital.org.

00:14:21.615 --> 00:14:52.307 Announcer The American Cancer Society estimates that more than 65,000 Americans will be diagnosed with head and neck cancer this year. Making up about 4% of all cancers diagnosed when detected early. However, head and neck cancers are easily treated and highly curable. Clinical trials are currently underway at federally designated comprehensive cancer centers, such as Yale Cancer Center and Smilow Cancer Hospital, to test innovative new treatments for head and neck cancers.

00:14:52.384 --> 00:15:20.153 Announcer Yale Cancer Center was recently awarded grants from the National Institutes of Health to fund the Yale Head and Neck Cancer Specialized Program of Research Excellence, or SPORE to address critical barriers to treatment of head and neck squamous cell carcinoma due to resistance to immune DNA damaging and targeted therapy. More information is available at YaleCancerCenter.org. You're listening to Connecticut Public Radio.

00:15:20.230 --> 00:15:47.769 Eric Winer Welcome back to the second half of Yale Cancer Answers. This is Eric Winer, and I'm here with Michael Hurwitz, associate professor in medical oncology at Yale School of Medicine and an expert in testicular cancer. And we've just been talking about testicular cancer. But,

Mike is also an expert in many things. So we're going to also talk now about something called cellular therapies.

00:15:47.846 --> 00:16:15.423 Eric Winer So the immune system has, of course, become very interesting to people who do cancer research and turns out to be something we can manipulate to, help cure more patients. And, of course, one of the types of drugs that have been used in the past decade are these antibodies against a specific protein that are thought of as immunotherapy.

00:16:15.500 --> 00:16:28.461 Eric Winer But we're not going to talk about that. And I want to talk to you a little bit about cellular therapy and what kind of treatment approach that is and where we use it.

00:16:28.538 --> 00:16:54.653 Michael Hurwitz Cellular therapies are exactly what they sound like. It's it's what we do is we take usually we take immune cells out of a patient, and we going to put them back into that patient, and then we manipulate them in some way to make them kill off the cancer better. Specifically, usually we use something called T-cells. And T-cells are part of your immune system that recognize sometimes they recognize cancers as foreign.

00:16:54.730 --> 00:17:25.384 Michael Hurwitz And the most common approved cellular immunotherapy is something called car T cell therapy. And the T cell, as I said, is something that recognizes things that are foreign. And sometimes they they recognize cancer as foreign. And then those T cells are like the Death Star. They really will go and destroy things as they see us foreign. However, there are ways that the cancer cells basically protect themselves from recognition by these T cells.

00:17:25.461 --> 00:17:45.615 Michael Hurwitz So in Car-T cells, what you do is you take these T cells out and we put something into them. And not only does it recognize the cancer, but when it recognizes the cancer, it very powerfully turns the T cell on to kill mode. So we take regular T cells out of a person. We put this thing into them called a car, which is nothing like a car.

00:17:45.615 --> 00:18:07.461 Michael Hurwitz Car is actually stands for chimeric antigen receptor, which is very jargony. And then that car allows the T cell to recognize specific features of cancers. And when you put all those a lot of cells back into a person, it often kills them. And the really successful ones so far have been in lymphomas and leukemias and myeloma.

00:18:07.500 --> 00:18:14.423 Eric Winer Are there situations where a person's own T cells actually function and on their own kill the cancer?

00:18:14.500 --> 00:18:36.269 Michael Hurwitz Absolutely. The what we believe is that little cancers are developing actually quite frequently, and many of them are being taken care of by the immune system before we ever recognize that there's cancer. And then even when there are more substantial cancers, in some diseases, for example, we've seen what are called spontaneous regression, where the cancer just goes away.

00:18:36.461 --> 00:18:54.884 Michael Hurwitz This was noted in melanoma, as it was noted in kidney cancers in the past. And that just means that the immune system, almost certainly at some point hit a trigger and got rid of it. There are other examples where spontaneously larger tumors are gotten rid of by the immune system that we have. It can happen in breast cancer.

00:18:54.884 --> 00:18:58.269 Michael Hurwitz It can happen in lung cancer, but not super frequently. Here's what we have to do.

00:18:58.384 --> 00:19:13.038 Eric Winer I think of the the T cell in these situations as being like a Pac-Man and going around and gobbling up. The cancer cell and with Car-T cells, you're super charging that Pac-Man.

00:19:13.115 --> 00:19:38.384 Michael Hurwitz Yeah. You're you're supercharging. So. So the way that a normal T cell recognizes and kills a cell is that it's got something called a T cell receptor, and we have something like ten of the 14 different things that T cells can recognize. We have lots and lots of them. However, the the interaction between the T cell receptor and what it recognizes is on the surface of, of its, of its target cell is actually not that strong.

00:19:38.461 --> 00:19:48.192 Michael Hurwitz Whereas with the car, what we've done is we put like superglue on the end of it. And then when it's bound, it just signals the T cell to kill, kill, kill, kill, kill. So it's much more powerful.

00:19:48.269 --> 00:19:55.076 Eric Winer And does the car vary from tumor type to tumor type and patient to patient?

00:19:55.153 --> 00:20:15.076 Michael Hurwitz Absolutely. So many of the successful ones are aimed at B-cells, which is another part of the immune system. But it they also can form cancer just like any cell can form a cancer. So many leukemias most of them are from B cells. Many of them most of lymphomas are from B cells, myeloma is from a B cell like thing.

00:20:15.076 --> 00:20:39.192 Michael Hurwitz And all of them have a protein on their surface called Cd19. So many of these products target something called Cd19. In myeloma, there's something that they make, something called BCmA. We target those in kidney cancer, though it's experimental that there's something called CD 70 on the surface of those kidney cancer cells. And there's a Car-T against that. So it just depends on what those cells make.

00:20:39.192 --> 00:20:48.884 Michael Hurwitz And there is a whole industry trying to find out things that are on the surface of various cancer cells that we can use as targets.

00:20:49.038 --> 00:21:15.076 Eric Winer And most of this to date has been done in the setting of, as you mentioned, lymphoma. Leukemia is other such diseases of the blood for solid tumors, tumors like breast cancer and lung cancer. These are still very much in the investigational stage. And is there a reason why it's harder to target, T cells against these solid tumors?

00:21:15.115 --> 00:21:40.500 Michael Hurwitz I would say there are two really major reasons, though. People might disagree with me that there are more reasons. But the two major reasons are. One is that as a general rule, tumors of the blood are not as mutant, and they don't mutate as rapidly. Why is that significant? Because any cancer cell can basically lose any feature and keep going.

00:21:40.653 --> 00:21:58.807 Michael Hurwitz It figures out a way. So, for example, I told you that in leukemia lymphomas, they all make this thing called Cd19. And that's what is recognized by the T cells. If they start making Cd19. The T cells won't do anything to them. In solid tumors, it's much easier for them to lose any particular feature. That's one big issue.

00:21:58.846 --> 00:22:18.230 Michael Hurwitz The second big issue is that small tumors are exactly what it sounds like. They're solid. It's a big mass of cells, but it's not one cell, one cell type. It's a big mass of cells. And there dead parts the middle of it. And there are parts that it's very hard to get to other cells. And there are blood vessels kind of running through those blood vessels are abnormal.

00:22:18.307 --> 00:22:33.307 Michael Hurwitz And so it's very hard to get to all of it. And the environment in those cells is a bit of a wasteland for immune cells. Is very toxic to them. So to get them to function well and to kill effectively in the in those tumors is very hard.

00:22:33.384 --> 00:22:40.423 Eric Winer Do you think that there's there going to be successful clinical trials in these in this area for solid tumors?

00:22:40.500 --> 00:22:59.307 Michael Hurwitz I do. So for one thing, there is one out there for a sarcoma. For synovial sarcoma. So that has been approved and it works. And then one of the things you can do, we said that what they do is they take these cells out of your body, and they actually put in the gene upon a piece of DNA that codes for that car.

00:22:59.500 --> 00:23:22.115 Michael Hurwitz Well, it turns out you can put in a lot of other things. So now they're putting in genes that make them survive better in the toxic environment. They're putting in genes that only target them to certain environments, only turn them on in those environments. There's a huge amount of very interesting engineering that scientists are doing to make these cells kind of super killers and super effective and by the way, safer.

00:23:22.192 --> 00:23:24.538 Michael Hurwitz So yes, I'm hopeful.

00:23:24.615 --> 00:23:51.076 Eric Winer Yeah. You know, this is this brings up a point that I've made several times on, on this show, which is that, of course, the secret to coming up with better treatments is the science behind them. And you know what? What medicinal chemists and, people who, can engineer drugs to be different and to be more specific for patients.

00:23:51.076 --> 00:24:07.346 Eric Winer What they can do is just phenomenal

these days. And that really is ultimately going to be the answer, because we're going to need more and more therapies that not just target the tumor specifically, but also take into account the patient that the tumor exists.

00:24:07.423 --> 00:24:16.538 Michael Hurwitz Yeah, I couldn't agree more. And it's astounding what what people have done now. I mean, it's amazing the engineering they're doing now. This it's it's almost science fiction like. Yeah.

00:24:16.653 --> 00:24:31.500 Eric Winer And finally last question about, these cellular therapies. These are not necessarily so easy for someone to receive. There are some side effects, of course, and maybe you could just comment on that briefly.

00:24:31.576 --> 00:24:48.807 Michael Hurwitz That's exactly right. So first of all, before we give people these, these cells, even though they're their own cells, we actually give the chemotherapy to remove a lot of the immune system. That's there, because we want the cells that we put in not to have things getting in their way. And so that's first getting a lot of chemotherapy.

00:24:48.807 --> 00:25:10.461 Michael Hurwitz And then when you put immune cells into the system to do something that normally immune cells work in one part of the body, because you have an infection in one part of your body, or when you turn on, the immune cells throughout your entire body, it's quite a ruckus. And the result being that people get fevers, your blood pressure can drop.

00:25:10.500 --> 00:25:33.153 Michael Hurwitz You can get short of breath. It's very it's very, it gets very intense. And because of that, people are treated for this in the hospital. And that that can go on for, believe it or not, up to 30 days. And so two things to point out. One, yeah, it's serious. And you need people who really know what they're doing and teams that know what they're doing to treat this to.

00:25:33.153 --> 00:25:56.615 Michael Hurwitz It's really done at large centers, and you're in the hospital for part of it. And three, you're supposed to actually stay near that hospital or within an hour, for the next 30 days. And you're supposed to have someone with you. So it's complicated, not just from a medical standpoint, but this is hard for for people who may not have, you know, the money and the time.

00:25:56.769 --> 00:26:04.653 Michael Hurwitz And I think a lot with a lot of these type of therapies, they're going to be really important issues. We have to think about about getting care to all of our patients.

00:26:04.730 --> 00:26:28.269 Eric Winer Well, you know, it raises the point that the more complicated our therapies get, both in terms of requiring family members and requiring time off from work and requiring a little more education on the part of the the patient, because they have to manage so much of this themselves. There's just the potential for disparities in cancer outcomes to grow.

00:26:28.346 --> 00:26:35.384 Eric Winer Because, you know, while it may be straightforward for one person to get a therapy like this, for someone else, it's very different.

00:26:35.538 --> 00:26:36.230 Michael Hurwitz Absolutely.

00:26:36.307 --> 00:27:05.769 Eric Winer I in the last two minutes, I just want to completely shift gears and talk about your role as the fellowship director for fellows in medical oncology and hematology. And specifically, I just want to ask about how you think we need to train people to be future cancer doctors, and how that might be different today than it was when you and I trained.

00:27:05.846 --> 00:27:10.730 Eric Winer Not that we trained at the same time, but 20 and 30 years ago.

00:27:10.807 --> 00:27:34.423 Michael Hurwitz Yeah. So I think it is very, very different. I think what hasn't changed, by the way, is being a doctor still being a doctor? I think when we did it, seeing patients understanding what they're going through, that's all the same. And my hope is that that will always be the same. What what is different is the amount of information to know is absurdly large.

00:27:34.500 --> 00:28:00.346 Michael Hurwitz But at the same time, there are kind of infinite tools to to get that information, and they're going to have to do stuff that we never had to do. They're going to have to integrate a lot of information very rapidly, in ways that we sort of didn't have to, and, and that's, I think one of my main, it's what I think about a lot, how to do that, how to get them to that place.

00:28:00.423 --> 00:28:28.807 Eric Winer Yeah. No, it's really challenging because they they need to have all the humanistic skills that we hope that all of our colleagues have. It's been a pleasure speaking with you. I've been speaking with Michael Hurwitz, a associate professor of medicine in medical oncology at Yale School of Medicine. Testicular cancer expert, cellular therapy expert, and director of our fellowship program.

00:28:28.884 --> 00:28:33.038 Eric Winer Mike, it's been really a pleasure having you here. I enjoyed it a lot.

00:28:33.115 --> 00:28:34.461 Michael Hurwitz Thanks so much for having me. It's been great.

00:28:34.653 --> 00:28:38.423 Eric Winer And to our listeners, have a good week. Be back next week.

00:28:38.500 --> 00:28:57.269 Announcer If you have questions, the address is CancerAnswers@yale.edu. And past editions of the program are available in audio and written form at YaleCancerCenter.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.