How Close Are We to a Cancer Cure?

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NBC's Dr. Nancy Snyderman and a panel of cancer experts discuss the progress of cancer research and what is being done to find a cure.

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Transcript

How Close Are We to a Cancer Cure?

NATALIE MORALES, anchor:

This morning on TODAY'S DAILY DOSE, we wrap up our special series called CONFRONTING CANCER TODAY. It was back in 1971 when President Richard Nixon first declared a war against the disease.

Former President RICHARD NIXON: The time has come in America when the same kind of concentrated effort that split the atom and took man to the moon should be turned toward conquering this dread disease.

MORALES: So 38 years later, where do we stand on the war and how close are we winning? Dr. Nancy Snyderman, as you know, is NBC’s chief medical editor. Dr. Len Lichtenfeld is with the American Cancer Society and specializes in general oncology. Dr. Susan Love is a breast cancer expert. And Dr. Eric Horwitz from Fox Chase Cancer Center is an expert in prostate cancer.

Good morning. Nice to have all of the experts here...

Dr. SUSAN LOVE (President, Dr. Susan Love Research Foundation): Good morning.

Dr. ERIC HORWITZ (Fox Chase Cancer Center): Good morning.

Dr. LEN LICHTENFELD (American Cancer Society): Good morning.

MORALES: ...in studio with us. Thanks so much.

Dr. NANCY SNYDERMAN reporting:

Thanks.

Dr. HORWITZ: Thank you very much.

MORALES: So to that question, Nancy, where do we stand in the war on cancer?

SNYDERMAN: I think we have to take a step back, Natalie, and take the word "war" out of it, because it's really a series of battles. You know, when I was a young pediatric resident, we started to see leukemia’s cured. And some tumors, we know, are far from that. So if you look at individual battles, in
just 30 years...
MORALES: Mm-hmm.
SNYDERMAN: ...we've made phenomenal strides. The problem is we lose about 150,000 Americans
every day to some kind of cancer, so we tend to think the threat is sort of always around the corner for us.
MORALES: Right.
SNYDERMAN: So the reason we've asked these extraordinary people here today is to break through
some of the knowledge that a lot of us don't have.
MORALES: Second leading cause of death in America.
SNYDERMAN: Right.
MORALES: And quickly climbing to probably be number one after heart disease.
SNYDERMAN: And one of the questions always is, you know, since we have cells that are rapidly
dividing in our bodies--and, Susan, I would like you to ask--answer this first, what makes a tumor start
and, you know, what--some cells die, some cells go crazy.
Dr. LOVE: Mm-hmm.
SNYDERMAN: Some things become normal cells, others go on to be really rabid.
Dr. LOVE: Well, you know, one of the things that we're starting to realize is that it's not just the cancer
cells. So a cancer cell is a cell that has mutations that screw up its ability so that it can divide without
stopping and invade other territories. But it's not just having the abnormal cell, it's got to be in an
environment that is conducive to it doing--for it doing its damage. So you can have cells that look really
crummy, but if they're in the right nice, normal environment, they can be under control. And then if you
put them in a cancer environment, they act like cancer. So it's really, it's sort of like taking a kid out of a
bad neighborhood and putting him out in the country and with--away from the gangs and the drug
pushers...
MORALES: Right.
Dr. LOVE: ...and they'll behave differently, same kid. So we need to look at both what makes the cells
cancer and what promotes them and makes them want to grow.
MORALES: And do we know, Dr. Lichtenfeld, what turns regular cells in our body into, all of a sudden,
cancer cells?
Dr. LICHTENFELD: Well, we've learned a lot, but the bottom line is there's still so much more we have
to know about.
MORALES: Mm-hmm.
Dr. LICHTENFELD: You know, one of the things that's really happened over these past almost 40 years
is we've really developed the infrastructure of understanding what makes a cancer cell a cancer cell, you
know, what really--you know, where the changes within that cell, what happens to the genes, how those
genes affect how a cancer behaves. And the really terrific news is that, as we've learned all this...
MORALES: Mm-hmm.
Dr. LICHTENFELD: It's taken us a long time; but, as we have learned this, we've been able to target
those changes in order to help patients...
MORALES: Mm-hmm.
Dr. LICHTENFELD: ...if not be cured of cancer, turn cancer into more of a chronic disease.
SNYDERMAN: Well, it's interesting that you bring up the word target, because, Eric, I'd like to direct this to you. You know, we typically think surgery, chemotherapy, radiation, some combination thereof.
MORALES: Right.
SNYDERMAN: But talk to me about this targeted idea of treatment.
Dr. HORWITZ: Well, I think that where cancer care is going is taking the more traditional treatments--radiation, surgery, chemotherapy—and combining it with a more customized or individualized treatment. As we've learned much more about the biology of cancer, we've now been able to design certain molecules, certain agents to use in combination with the more traditional treatments to attack an individual person's cancer. So I think you're--we're going to--we're taking this direct knowledge that we've learned now over the last 30, 40 years...
MORALES: Mm-hmm.
Dr. HORWITZ: ...and, you know, taking each person as an individual, not just say, 'Oh, you're a whole person with prostate cancer, you're a person with breast cancer, it's all the same.' It's not all the same, it's all different. Each cancer is unique and different, and even within each person the cancer behave differently. And I think that's how we need to...
MORALES: Dr. Love, you wanted to...
Dr. LOVE: Well, I was going to...
MORALES: You're the breast cancer expert, he's the prostate expert, so speaking more broadly on the treatments in the field.
Dr. LOVE: Well, what's--yeah. And what's interesting is that now it's not going to matter so much whether it's prostate or breast cancer.
MORALES: Mm-hmm.
Dr. LOVE: It matters what kind of--what the molecular biology is. So at the--at the cancer meetings that were just over, we found that one of the breast cancer drugs, Herceptin, actually works for some stomach cancers who have the same molecular biology as some breast cancers. So it's going to less be what organ it is and more what's the molecular biology, the molecular signature of the cancer in terms of targeting the treatment.
MORALES: And...
SNYDERMAN: And--I'm sorry, Natalie. That makes me sort of real think about this family history idea.
MORALES: Right.
SNYDERMAN: The genetics idea, because we start to see families where there's a history of prostate disease or prostate cancer, breast cancer, colon cancer. So to any of you guys, how do we start to break down the fact that these might be related genetically? Or where's the immunological hitch in all of this?
MORALES: Hm.
Dr. LICHTENFELD: Well, the interesting fact is that about--we know today that about 5 percent of cancers are caused by some genetic thing we're born with.
MORALES: Mm-hmm.
Dr. LICHTENFELD: And many of them are affected, whether the genes may sort of be there, but then
they are affected by environmental causes and what have you. We, you know, when we started this many, many years ago, when Dr. Love and myself were a little bit younger, we didn't know anything about the genetic...

SNYDERMAN: We didn't say anything about you, Eric, I just want you to know.

Dr. HORWITZ: No, I appreciate that.

Dr. LICHTENFELD: He's a little younger. You know, but hindsight, we didn't understand the gene. We knew about genes, but we didn't understand them. Now we're at a point where we can actually map the gene, not only the gene of the cancer, but the gene of the person. And we're going to learn in years to come, in not too distant future, be able to map genes.

MORALES: Mm-hmm.

Dr. LICHTENFELD: We will understand much more about those genetic triggers and be able to tell people, predict if they're going to get cancer, and we'll be able to find those cancers at a much earlier stage than we can today.

MORALES: Why are some types of cancer...

SNYDERMAN: Wait, Susan's shaking her head no.

MORALES: Yeah. No, you disagree?

Dr. LOVE: Well, I think that--I think we've got to be careful about going too far that way because you could know every gene in lung cancer and if you didn't do the big studies you wouldn't know that smoking caused it.

Dr. LICHTENFELD: Well...

Dr. LOVE: So it's a combination of the molecular biology and doing studies where you really look at people's lifestyle and what are the things out in the environment that then make the cancers grow?

MORALES: And this may seem like a basic question but why are some cancers more curable than others?

SNYDERMAN: Eric:

MORALES: Dr. Horwitz:

Dr. HORWITZ: It's a--it's a combination of factors. Some of them because traditionally some cancers get discovered earlier than other cancers.

MORALES: Mm-hmm.

Dr. HORWITZ: It's just easier to find them. For me, as clinician who treats all the time, it's much easier to cure a cancer that's smaller rather than bigger.

MORALES: Mm-hmm.

Dr. HORWITZ: So that's the first thing. Others...

MORALES: I'd imagine it depends on the organ, too.

Dr. HORWITZ: Exactly.

MORALES: Or the part of the body.

Dr. HORWITZ: Again, prostate cancer and PSA, which is the blood test that's used to detect prostate cancer and it's also used to follow people who've been treated, and PSA is always in the news, and it's been in a lot recently.

MORALES: Mm-hmm.
Dr. HORWITZ: It's a really valuable tool. Most cancers don't have a tool like that. And there's certainly pros and cons to that tool. But again, you don't, you know, prostate cancer has...
MORALES: Same thing with mammographies. Exactly.
Dr. HORWITZ: Exactly. Like you say, mammography.
MORALES: Mm-hmm.
Dr. HORWITZ: So, and other cancers, certain lung cancers, certain abdominal cancers, it's just really difficult to find them...
MORALES: To catch them in the early stages.
Dr. HORWITZ: ...until they're too big.
Dr. LOVE: Yeah.
SNYDERMAN: I'd like to...
Dr. HORWITZ: And it's much more difficult to treat.
SNYDERMAN: We know where we've come over the last 30 to 40 years. But I'd like you guys to tell me something I don't see coming in the future that would just knock my socks off when it comes to where we're going in cancer diagnosis and treatment. Let's start with you, Len.
Dr. LICHTENFELD: Well, I'll tell you something that knocked my socks off when I heard about it a year or two ago, and that was the concept of being able to blood test in your home, putting it in an envelope, sending it to the lab and having them come back and tell--say to you, `You have cancer.' That really is a pretty amazing thought...
MORALES: Yeah.
Dr. LICHTENFELD: ...and will change the way we think about cancer and think--the--we will have previvors. We'll have people who are diagnosed before, you know, they ever get cancer. And that's something I thought was really fascinating.
SNYDERMAN: And really quickly, Susan, and then Eric.
Dr. LOVE: And that, of course, scares me to death, that we'll have previvors.
MORALES: Mm-hmm.
Dr. LOVE: And that, of course, scares me to death, that we'll have previvors.
MORALES: Yeah.
Dr. LICHTENFELD: Yes.
Dr. LOVE: Because then we'll be putting all these drugs on them that may--they may or may not need. I mean, I think, you know, the big thing is to figure out what causes it and then prevent it.
MORALES: Mm-hmm.
Dr. LOVE: And, you know, as you know, we launched it here, we're doing this Army of Women to really focus on what's the cause of breast cancer and how to prevent it, and every woman can sign up to be part of the answer. Because it's all great to know that you're a previvor or start you on drugs.
MORALES: Mm-hmm.
Dr. LOVE: But it would be better to be vaccinated and never get it in the first place.
MORALES: Eric:
Dr. HORWITZ: I think two things. Certainly from a prostate cancer point of view, one of them is really being able to identify who doesn't actually need to be treated for cancer.
MORALES: Mm-hmm.
Dr. HORWITZ: That, in fact, we don't actually have to treat all cancers. That being said, prostate cancer is a cancer that kills men and it needs to be treated. I think the thing that we're going to find out down the road is that the treatments that we're doing now will keep getting better, but there's going to be another treatment that we haven't even thought of that will, in fact, be the thing that can really take care of a specific cancer.