WEBVTT

00:00:00.000 --> 00:00:03.180 Funding for Yale Cancer Answers is NOTE Confidence: 0.9372886 00:00:03.180 --> 00:00:06.200 provided by Smilow Cancer Hospital. NOTE Confidence: 0.9372886 00:00:06.200 --> 00:00:08.375 Welcome to Yale Cancer Answers NOTE Confidence: 0.9372886 00:00:08.375 -> 00:00:10.115 with Doctor Anees Chappar. NOTE Confidence: 0.9372886 $00:00:10.120 \longrightarrow 00:00:11.925$ Yale Cancer Answers features the NOTE Confidence: 0.9372886 00:00:11.925 --> 00:00:13.369 latest information on cancer NOTE Confidence: 0.9372886 $00:00:13.369 \rightarrow 00:00:15.207$ care by welcoming oncologists and NOTE Confidence: 0.9372886 $00:00:15.207 \rightarrow 00:00:17.337$ specialists who are on the forefront NOTE Confidence: 0.9372886 $00:00:17.398 \longrightarrow 00:00:19.036$ of the battle to fight cancer. NOTE Confidence: 0.9372886 $00:00:19.040 \rightarrow 00:00:20.954$ This week it's a conversation about NOTE Confidence: 0.9372886 $00:00:20.954 \rightarrow 00:00:23.109$ the care of patients with myeloid NOTE Confidence: 0.9372886 $00:00:23.109 \rightarrow 00:00:25.144$ disorders with Doctor Lourdes Mendez. NOTE Confidence: 0.9372886 00:00:25.150 --> 00:00:27.262 Dr. Mendez is an assistant professor NOTE Confidence: 0.9372886 $00:00:27.262 \rightarrow 00:00:29.312$ of medicine and hematology at the NOTE Confidence: 0.9372886 00:00:29.312 --> 00:00:31.198 Yale School of Medicine, where Dr. NOTE Confidence: 0.9372886

 $00{:}00{:}31.198 \dashrightarrow 00{:}00{:}33.746$ Chagpar is a professor of surgical on cology.

NOTE Confidence: 0.9159893

00:00:35.310 --> 00:00:37.334 Dr. Mendez, maybe we can start off

NOTE Confidence: 0.9159893

 $00{:}00{:}37{.}334 \dashrightarrow 00{:}00{:}39{.}664$ by you telling us a little bit more

NOTE Confidence: 0.9159893

 $00:00:39.664 \rightarrow 00:00:41.628$ about yourself and what it is you do.

NOTE Confidence: 0.9159893

 $00{:}00{:}42.510 \dashrightarrow 00{:}00{:}47.667$ So I'm a hematologist and in the last years

NOTE Confidence: 0.9159893

 $00{:}00{:}47.670 \dashrightarrow 00{:}00{:}50.673$ the patients we care for has expanded

NOTE Confidence: 0.9159893

 $00{:}00{:}50{.}673 \dashrightarrow 00{:}00{:}52{.}954$ to include individuals who have

NOTE Confidence: 0.9159893

 $00:00:52.954 \rightarrow 00:00:55.730$ something we're calling pre disease

NOTE Confidence: 0.9159893

 $00{:}00{:}55{.}730 \dashrightarrow 00{:}00{:}58{.}530$ and also clonal hematopoies is.

NOTE Confidence: 0.9159893

 $00{:}00{:}58.530 \dashrightarrow 00{:}01{:}02.010$ So our team includes my physician

NOTE Confidence: 0.9159893

 $00:01:02.010 \dashrightarrow 00:01:04.330$ colleagues who are hematologists,

NOTE Confidence: 0.9159893

00:01:04.330 $\operatorname{-->}$ 00:01:09.130 also very dedicated Aprn's and nurses,

NOTE Confidence: 0.9159893

 $00{:}01{:}09{.}130 \dashrightarrow 00{:}01{:}11{.}938$ as well as an incredibly talented

NOTE Confidence: 0.9159893

 $00{:}01{:}11.938 \dashrightarrow 00{:}01{:}13.810$ and dedicated research team.

NOTE Confidence: 0.9159893

 $00{:}01{:}13.810 \dashrightarrow 00{:}01{:}15.970$ And we provide approved treatments,

NOTE Confidence: 0.9159893

 $00:01:15.970 \rightarrow 00:01:19.135$ but we're also very much involved in

- NOTE Confidence: 0.9159893
- $00:01:19.135 \rightarrow 00:01:21.235$ clinical trials and investigations

 $00{:}01{:}21{.}235 \dashrightarrow 00{:}01{:}24.870$ as well as in trying to make

NOTE Confidence: 0.9159893

 $00:01:24.870 \longrightarrow 00:01:27.445$ new discoveries in the lab,

NOTE Confidence: 0.9159893

 $00{:}01{:}27{.}450 \dashrightarrow 00{:}01{:}29{.}823$ both the wet lab as it's called

NOTE Confidence: 0.9159893

 $00:01:29.823 \longrightarrow 00:01:31.250$ and in the dry lab.

NOTE Confidence: 0.9159893

 $00:01:31.250 \longrightarrow 00:01:34.522$ So we work together to care for

NOTE Confidence: 0.9159893

 $00:01:34.522 \rightarrow 00:01:36.106$ existing patients and try and

NOTE Confidence: 0.9159893

 $00:01:36.106 \longrightarrow 00:01:37.728$ move the needle in our field.

NOTE Confidence: 0.9282241

 $00:01:39.290 \longrightarrow 00:01:41.460$ So let's get through a bit of

NOTE Confidence: 0.9282241

 $00{:}01{:}41{.}460 \dashrightarrow 00{:}01{:}43{.}316$ the vocabulary so you can help

NOTE Confidence: 0.9282241

 $00{:}01{:}43.316 \dashrightarrow 00{:}01{:}45.304$ to define some of the terms and

NOTE Confidence: 0.9282241

 $00{:}01{:}45{.}374 \dashrightarrow 00{:}01{:}47{.}486$ the kinds of patients you treat.

NOTE Confidence: 0.9282241

 $00:01:47.490 \longrightarrow 00:01:50.794$ For example,

NOTE Confidence: 0.9282241

 $00:01:50.794 \longrightarrow 00:01:52.210$ what are myeloid disorders?

NOTE Confidence: 0.9351339

 $00{:}01{:}53.130 \dashrightarrow 00{:}01{:}56.946$ So if we take one further step back and

 $00:01:56.946 \longrightarrow 00:02:00.294$ we talk about the blood and the different

NOTE Confidence: 0.9351339

 $00{:}02{:}00{.}294 \dashrightarrow 00{:}02{:}02{.}570$ cell types in that are in the blood,

NOTE Confidence: 0.9351339

 $00:02:02.570 \longrightarrow 00:02:04.410$ there are three main types.

NOTE Confidence: 0.9351339

 $00:02:04.410 \longrightarrow 00:02:05.810$ There are white blood cells,

NOTE Confidence: 0.9351339

 $00:02:05.810 \longrightarrow 00:02:07.210$ there are red blood cells,

NOTE Confidence: 0.9351339

 $00{:}02{:}07{.}210$ --> $00{:}02{:}09{.}450$ and there are platelets.

NOTE Confidence: 0.9351339

 $00:02:09.450 \longrightarrow 00:02:14.240$ And the white blood cell family further

NOTE Confidence: 0.9351339

 $00:02:14.240 \rightarrow 00:02:18.020$ can be subdivided into myeloid cells

NOTE Confidence: 0.9351339

 $00{:}02{:}18{.}020 \dashrightarrow 00{:}02{:}21{.}698$ and lymphoid cells as two subcategories.

NOTE Confidence: 0.9351339

 $00:02:21.700 \longrightarrow 00:02:24.580$ And the myeloid cells,

NOTE Confidence: 0.9351339

 $00{:}02{:}24.580 \dashrightarrow 00{:}02{:}27.394$ I call them first responders because

NOTE Confidence: 0.9351339

 $00{:}02{:}27{.}394 \dashrightarrow 00{:}02{:}31{.}305$ their role is to come to the site of

NOTE Confidence: 0.9351339

 $00{:}02{:}31{.}305 \dashrightarrow 00{:}02{:}35{.}520$ infection or the site of an injury as

NOTE Confidence: 0.9351339

 $00{:}02{:}35{.}520 \dashrightarrow 00{:}02{:}39{.}424$ the first representation of the immune

NOTE Confidence: 0.9351339

 $00:02:39.424 \dashrightarrow 00:02:43.276$ response to that kind of insult.

NOTE Confidence: 0.9351339

 $00:02:43.276 \rightarrow 00:02:48.544$ And so these cells can become abnormal and

- NOTE Confidence: 0.9351339
- $00:02:48.544 \rightarrow 00:02:50.908$ if the abnormality is profound enough,

 $00:02:50.910 \longrightarrow 00:02:52.590$ they become cancerous.

NOTE Confidence: 0.9351339

 $00{:}02{:}52{.}590 \dashrightarrow 00{:}02{:}57{.}002$ And so then we refer to them or

NOTE Confidence: 0.9351339

 $00:02:57.002 \rightarrow 00:02:59.462$ these these conditions as myeloid

NOTE Confidence: 0.9351339

00:02:59.462 --> 00:03:01.430 diseases or myeloid neoplasms,

NOTE Confidence: 0.9351339

 $00:03:01.430 \rightarrow 00:03:04.270$ they're basically myeloid cancers.

NOTE Confidence: 0.9310512

 $00:03:05.360 \dashrightarrow 00:03:07.112$ And then you mentioned a couple

NOTE Confidence: 0.9310512

 $00:03:07.112 \longrightarrow 00:03:08.743$ of other phenomena that you've

NOTE Confidence: 0.9310512

 $00:03:08.743 \dashrightarrow 00:03:10.359$ started treating more recently.

NOTE Confidence: 0.9310512

 $00:03:10.360 \longrightarrow 00:03:11.680$ Can you tell us a little

NOTE Confidence: 0.9310512

 $00:03:11.680 \longrightarrow 00:03:12.560$ bit more about those?

NOTE Confidence: 0.9310512

 $00{:}03{:}14.296 \dashrightarrow 00{:}03{:}17.240$ Yes, and I think I should just briefly mention

NOTE Confidence: 0.9310512

 $00{:}03{:}17{.}240 \dashrightarrow 00{:}03{:}20{.}817$ about leukemia before I go into the

NOTE Confidence: 0.9310512

00:03:20.817 --> 00:03:24.000 more recent predisease category.

NOTE Confidence: 0.9310512

 $00{:}03{:}24.000 \dashrightarrow 00{:}03{:}30.100$ So leukemia refers to a growth of

 $00:03:30.100 \longrightarrow 00:03:32.813$ abnormal cells in the blood and

NOTE Confidence: 0.9310512

 $00{:}03{:}32{.}813 \dashrightarrow 00{:}03{:}35{.}704$ it can be further divided as a cute

NOTE Confidence: 0.9310512

00:03:35.704 --> 00:03:38.238 leukemia and as chronic leukemia.

NOTE Confidence: 0.9310512

00:03:38.240 --> 00:03:42.392 So acute leukemia is termed that

NOTE Confidence: 0.9310512

 $00{:}03{:}42{.}392 \dashrightarrow 00{:}03{:}46{.}176$ way because it needs really rapid

NOTE Confidence: 0.9310512

 $00{:}03{:}46.176 \dashrightarrow 00{:}03{:}49.050$ attention because it refers to really

NOTE Confidence: 0.9310512

 $00:03:49.050 \longrightarrow 00:03:51.700$ uncontrolled production of cancer cells

NOTE Confidence: 0.9310512

 $00:03:51.700 \rightarrow 00:03:55.411$ in the bone marrow and then they

NOTE Confidence: 0.9310512

 $00{:}03{:}55{.}411 \dashrightarrow 00{:}03{:}58{.}240$ can also spill over into the blood.

NOTE Confidence: 0.9310512

 $00{:}03{:}58{.}240 \dashrightarrow 00{:}04{:}02{.}440$ Chronic leukemias are on the other end of

NOTE Confidence: 0.9310512

 $00:04:02.440 \longrightarrow 00:04:05.758$ the spectrum and the term we use is indolent,

NOTE Confidence: 0.9310512

 $00:04:05.760 \longrightarrow 00:04:08.208$ which refers to the fact that

NOTE Confidence: 0.9310512

00:04:08.208 --> 00:04:12.240 they are kind of a slow process,

NOTE Confidence: 0.9310512

 $00:04:12.240 \rightarrow 00:04:15.686$ something that usually we address

NOTE Confidence: 0.9310512

 $00{:}04{:}15.686 \dashrightarrow 00{:}04{:}18.301$ over months and maybe sometimes

NOTE Confidence: 0.9310512

00:04:18.301 -> 00:04:21.560 even years or can just observe.

- NOTE Confidence: 0.9310512
- $00:04:21.560 \longrightarrow 00:04:26.186$ And myeloid diseases can be chronic

00:04:26.186 --> 00:04:29.302 myeloid neoplasms or chronic myeloid

NOTE Confidence: 0.9310512

 $00:04:29.302 \rightarrow 00:04:32.970$ leukemias or there is acute myeloid leukemia.

NOTE Confidence: 0.9310512

00:04:32.970 --> 00:04:36.462 Our group actually also cares for

NOTE Confidence: 0.9310512

 $00{:}04{:}36{.}462 \dashrightarrow 00{:}04{:}38{.}116$ acute lymphoblastic leukemia,

NOTE Confidence: 0.9310512

 $00:04:38.116 \longrightarrow 00:04:41.314$ which is that other subfamily of

NOTE Confidence: 0.9310512

 $00{:}04{:}41{.}314 \dashrightarrow 00{:}04{:}45{.}154$ white blood cells that I was talking

NOTE Confidence: 0.9310512

 $00{:}04{:}45{.}154 \dashrightarrow 00{:}04{:}48{.}130$ about within the white blood cells

NOTE Confidence: 0.9310512

 $00{:}04{:}48.130 \dashrightarrow 00{:}04{:}50.832$ and the as distinct from the first

NOTE Confidence: 0.9310512

 $00{:}04{:}50.832 \dashrightarrow 00{:}04{:}53.328$ responders which are the myeloid cells,

NOTE Confidence: 0.9310512

 $00:04:53.330 \longrightarrow 00:04:54.650$ the lymphoid cells,

NOTE Confidence: 0.9310512

 $00{:}04{:}54{.}650 \dashrightarrow 00{:}04{:}57{.}730$ we call them the smart cells because

NOTE Confidence: 0.9310512

 $00{:}04{:}57{.}814 \dashrightarrow 00{:}05{:}00{.}926$ they learn and they adapt specifically

NOTE Confidence: 0.9310512

 $00{:}05{:}00{.}926 \dashrightarrow 00{:}05{:}04{.}831$ to infections and potentially also

NOTE Confidence: 0.9310512

 $00{:}05{:}04.831 \dashrightarrow 00{:}05{:}08.053$ to abnormal cells like cancer cells.

00:05:08.060 --> 00:05:11.708 So that brings us to a different

NOTE Confidence: 0.9310512

 $00:05:11.708 \rightarrow 00:05:14.972$ condition that's more recently been

NOTE Confidence: 0.9310512

00:05:14.972 --> 00:05:18.627 recognized that I called predisease

NOTE Confidence: 0.9310512

 $00{:}05{:}18.627 \dashrightarrow 00{:}05{:}20.820$ and clonal hematopoies is.

NOTE Confidence: 0.9310512

 $00{:}05{:}20.820 \dashrightarrow 00{:}05{:}24.444$ And really this is a new entity that

NOTE Confidence: 0.9310512

 $00{:}05{:}24{.}444{\:}-{>}00{:}05{:}27{.}731$ was only recently codified meaning NOTE Confidence: 0.9310512

 $00{:}05{:}27.731 \dashrightarrow 00{:}05{:}30.536$ made part of our classification

NOTE Confidence: 0.9310512

 $00:05:30.536 \dashrightarrow 00:05:33.770$ systems formally in the last year.

NOTE Confidence: 0.9310512

 $00{:}05{:}33.770 \dashrightarrow 00{:}05{:}37.688$ And it reflects our fields recognition

NOTE Confidence: 0.9310512

00:05:37.688 --> 00:05:42.082 that there is a condition that precedes

NOTE Confidence: 0.9310512

 $00{:}05{:}42.082 \dashrightarrow 00{:}05{:}45.730$ myeloid neoplasms but also other blood NOTE Confidence: 0.9310512

 $00:05:45.825 \rightarrow 00:05:49.149$ cancers called clonal hematopoiesis.

NOTE Confidence: 0.9310512

 $00{:}05{:}49{.}150 \dashrightarrow 00{:}05{:}52{.}783$ And it bears some of the genetic

NOTE Confidence: 0.9310512

 $00:05:52.783 \rightarrow 00:05:56.406$ fingerprint of the full blown blood cancer.

NOTE Confidence: 0.9310512

 $00:05:56.406 \longrightarrow 00:05:58.746$ But it's at the very,

NOTE Confidence: 0.9310512

 $00:05:58.750 \rightarrow 00:06:00.736$ very early stages.

00:06:00.736 --> 00:06:04.389 It's the first hint in some ways

NOTE Confidence: 0.9310512

 $00:06:04.389 \longrightarrow 00:06:06.720$ of an abnormal cell and in the

NOTE Confidence: 0.9310512

 $00:06:06.800 \rightarrow 00:06:09.125$ overwhelming majority of people it

NOTE Confidence: 0.9310512

 $00:06:09.125 \longrightarrow 00:06:12.070$ will never become a blood cancer.

NOTE Confidence: 0.9310512

 $00{:}06{:}12.070 \dashrightarrow 00{:}06{:}14.509$ But we do know that taken as a whole,

NOTE Confidence: 0.9310512

 $00{:}06{:}14.510 \dashrightarrow 00{:}06{:}17.492$ there's about an 11 fold increased

NOTE Confidence: 0.9310512

 $00{:}06{:}17{.}492 \dashrightarrow 00{:}06{:}20{.}990$ risk of developing a blood cancer if

NOTE Confidence: 0.9310512

 $00:06:20.990 \dashrightarrow 00:06:24.590$ there is this predisease condition

NOTE Confidence: 0.9310512

 $00{:}06{:}24.590 \dashrightarrow 00{:}06{:}26.750$ called clonal hematopoies is.

NOTE Confidence: 0.9310512

 $00{:}06{:}26.750 \dashrightarrow 00{:}06{:}29.242$ The rate of developing a blood cancer

NOTE Confidence: 0.9310512

 $00:06:29.242 \rightarrow 00:06:32.430$ is very low, less than 1% a year,

NOTE Confidence: 0.9310512

 $00{:}06{:}32{.}430 \dashrightarrow 00{:}06{:}34{.}450$ well below that actually.

NOTE Confidence: 0.9310512

 $00{:}06{:}34{.}450 \dashrightarrow 00{:}06{:}38{.}730$ And so the challenge in the field

NOTE Confidence: 0.9310512

 $00:06:38.730 \longrightarrow 00:06:41.618$ is to identify those individuals

NOTE Confidence: 0.9310512

00:06:41.618 --> 00:06:45.886 that are at high risk of developing

 $00:06:45.886 \longrightarrow 00:06:49.774$ a blood cancer down the line.

NOTE Confidence: 0.9310512

 $00{:}06{:}49{.}780 \dashrightarrow 00{:}06{:}53{.}434$ And we are learning about what

NOTE Confidence: 0.9310512

 $00:06:53.434 \rightarrow 00:06:57.500$ distinguishes people who have that high risk,

NOTE Confidence: 0.9310512

 $00:06:57.500 \rightarrow 00:07:01.724$ but we're very much still in the midst

NOTE Confidence: 0.9310512

 $00{:}07{:}01.724 \dashrightarrow 00{:}07{:}05.000$ of defining who they are and what

NOTE Confidence: 0.9310512

 $00:07:05.000 \dashrightarrow 00:07:08.424$ the risk factors for progression are.

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 $00{:}07{:}08{.}424 \dashrightarrow 00{:}07{:}14{.}178$ We also know that this predise ase condition

NOTE Confidence: 0.9310512

 $00:07:14.180 \rightarrow 00:07:20.298$ increases the risk of dying of mortality.

NOTE Confidence: 0.9310512

 $00{:}07{:}20.300 \dashrightarrow 00{:}07{:}23.516$ And surprisingly when this

NOTE Confidence: 0.9310512

 $00:07:23.516 \rightarrow 00:07:27.536$ entity was first being described,

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 $00{:}07{:}27.540 \dashrightarrow 00{:}07{:}29.871$ it was found that it seems to

NOTE Confidence: 0.9310512

 $00:07:29.871 \dashrightarrow 00:07:32.820$ be due to cardiovascular disease.

NOTE Confidence: 0.9310512

 $00{:}07{:}32.820 \dashrightarrow 00{:}07{:}36.930$ And the increased risk of clonal

NOTE Confidence: 0.9310512

 $00:07:36.930 \longrightarrow 00:07:38.446$ hematopoiesis on cardiovascular

NOTE Confidence: 0.9310512

 $00{:}07{:}38{.}446 \dashrightarrow 00{:}07{:}41{.}337$ disease is on the order of other

NOTE Confidence: 0.9310512

 $00:07:41.337 \rightarrow 00:07:44.280$ very well established risk factors

- NOTE Confidence: 0.9310512
- $00:07:44.280 \longrightarrow 00:07:46.116$ for cardiovascular disease.

 $00:07:46.120 \longrightarrow 00:07:48.759$ So this has become a part of

NOTE Confidence: 0.9310512

 $00:07:48.759 \longrightarrow 00:07:49.890$ our counseling when

NOTE Confidence: 0.93283564

 $00{:}07{:}49{.}970 \dashrightarrow 00{:}07{:}52{.}796$ someone is found to have clonal

NOTE Confidence: 0.93283564

 $00{:}07{:}52.796 \dashrightarrow 00{:}07{:}55.209$ hematopoies is about the need to

NOTE Confidence: 0.93283564

 $00{:}07{:}55{.}209 \dashrightarrow 00{:}07{:}57{.}444$ assess for other existing risk

NOTE Confidence: 0.93283564

 $00:07:57.444 \longrightarrow 00:07:59.866$ factors and to optimize management

NOTE Confidence: 0.93283564

 $00:07:59.866 \longrightarrow 00:08:02.996$ of those other risk factors.

NOTE Confidence: 0.9291825

 $00:08:04.210 \longrightarrow 00:08:06.758$ So that all sounds really exciting that

NOTE Confidence: 0.9291825

 $00:08:06.758 \rightarrow 00:08:09.369$ you find this precancer as it were.

NOTE Confidence: 0.9291825

 $00:08:09.370 \longrightarrow 00:08:11.750$ And we know that in a number

NOTE Confidence: 0.9291825

 $00{:}08{:}11.750 \dashrightarrow 00{:}08{:}12.770$ of other malignancies,

NOTE Confidence: 0.9291825

00:08:12.770 --> 00:08:15.410 for example breast cancer, skin cancer,

NOTE Confidence: 0.9291825

00:08:15.410 --> 00:08:17.414 colon cancer, cervical cancer,

NOTE Confidence: 0.9291825

 $00:08:17.414 \rightarrow 00:08:20.420$ we have these preinvasive kind of

 $00:08:20.502 \rightarrow 00:08:22.926$ diseases that we can screen for

NOTE Confidence: 0.9291825

 $00{:}08{:}22{.}930 \dashrightarrow 00{:}08{:}25{.}390$ often times we find them early

NOTE Confidence: 0.9291825

 $00{:}08{:}25{.}390 \dashrightarrow 00{:}08{:}28{.}288$ and that allows us to treat them.

NOTE Confidence: 0.9291825

 $00:08:28.290 \rightarrow 00:08:31.048$ So in the case of clonal hematopoiesis,

NOTE Confidence: 0.9291825

 $00:08:31.050 \dashrightarrow 00:08:33.090$ I guess the same question applies.

NOTE Confidence: 0.9291825

 $00:08:33.090 \rightarrow 00:08:35.934$ I mean how do we know who gets it?

NOTE Confidence: 0.9291825

 $00{:}08{:}35{.}940 \dashrightarrow 00{:}08{:}38{.}140$ Can we screen for it?

NOTE Confidence: 0.9291825

 $00{:}08{:}38{.}140 \dashrightarrow 00{:}08{:}40{.}364$ And is there anything that we can do

NOTE Confidence: 0.9291825

 $00{:}08{:}40{.}364 \dashrightarrow 00{:}08{:}42{.}530$ that can stop it from progressing

NOTE Confidence: 0.9291825

 $00:08:42.530 \longrightarrow 00:08:44.455$ to full blown myeloid leukemia?

NOTE Confidence: 0.92829514

 $00{:}08{:}45{.}340 \dashrightarrow 00{:}08{:}48{.}778$ So those are exactly the questions

NOTE Confidence: 0.92829514

 $00{:}08{:}48.778 \dashrightarrow 00{:}08{:}53.116$ of the moment for this condition.

NOTE Confidence: 0.92829514

00:08:53.116 $\operatorname{-->}$ 00:08:56.905 And the simple answer is that we

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 $00{:}08{:}56{.}905 \dashrightarrow 00{:}08{:}59{.}820$ do not screen for this condition

NOTE Confidence: 0.92829514

00:08:59.820 --> 00:09:03.282 because we don't have any proven

NOTE Confidence: 0.92829514

 $00:09:03.282 \longrightarrow 00:09:05.590$ or validated interventions and

- NOTE Confidence: 0.92829514
- $00{:}09{:}05{.}682 \dashrightarrow 00{:}09{:}08{.}634$ in fact we're still defining who

 $00:09:08.634 \dashrightarrow 00:09:12.724$ would need an intervention at all.

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 $00:09:12.724 \longrightarrow 00:09:16.604$ So currently this is really

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 $00:09:16.604 \rightarrow 00:09:19.380$ found incidentally as a part

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 $00:09:19.380 \longrightarrow 00:09:21.380$ of other genetic testing.

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00:09:21.380 --> 00:09:24.994 For example, if someone has one, you know,

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 $00:09:24.994 \rightarrow 00:09:28.480$ a solid tumor as you were mentioning

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 $00:09:28.480 \rightarrow 00:09:31.840$ and underwent genetic testing for that.

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00:09:31.840 --> 00:09:33.216 And there's different kinds,

NOTE Confidence: 0.92829514

 $00:09:33.216 \rightarrow 00:09:35.280$ some that would be more directed

NOTE Confidence: 0.92829514

 $00:09:35.339 \rightarrow 00:09:36.747$ at characterizing the genetics

NOTE Confidence: 0.92829514

 $00{:}09{:}36{.}747 \dashrightarrow 00{:}09{:}38{.}155$ of the solid tumor.

NOTE Confidence: 0.92829514

 $00:09:38.160 \longrightarrow 00:09:39.456$ Whereas other people get

NOTE Confidence: 0.92829514

 $00:09:39.456 \longrightarrow 00:09:41.076$ referred if they have a,

NOTE Confidence: 0.92829514

 $00:09:41.080 \rightarrow 00:09:42.134$ for example,

00:09:42.134 --> 00:09:45.823 a family history of breast cancer or

NOTE Confidence: 0.92829514

 $00{:}09{:}45.823 \dashrightarrow 00{:}09{:}48.180$ ovarian cancer to genetic counseling.

NOTE Confidence: 0.92829514

 $00:09:48.180 \longrightarrow 00:09:50.430$ And then there's genetic testing

NOTE Confidence: 0.92829514

 $00{:}09{:}50{.}430 \dashrightarrow 00{:}09{:}53{.}224$ to see if there's an inherited

NOTE Confidence: 0.92829514

 $00:09:53.224 \longrightarrow 00:09:56.564$ risk for developing cancer.

NOTE Confidence: 0.92829514

 $00:09:56.564 \rightarrow 00:10:00.900$ And in the course of such genetic testing,

NOTE Confidence: 0.92829514

 $00:10:00.900 \longrightarrow 00:10:03.960$ there can be the incidental

NOTE Confidence: 0.92829514

 $00{:}10{:}03{.}960 \dashrightarrow 00{:}10{:}07{.}646$ finding of a genetic mutation that

NOTE Confidence: 0.92829514

 $00{:}10{:}07.646 \dashrightarrow 00{:}10{:}10.776$ best fits with this condition,

NOTE Confidence: 0.92829514

 $00{:}10{:}10{.}780 \dashrightarrow 00{:}10{:}13{.}356$ this predisease, clonal hematopoiesis.

NOTE Confidence: 0.92829514

 $00:10:13.356 \longrightarrow 00:10:17.220$ But we don't screen for it.

 $00{:}10{:}19{.}740 \dashrightarrow 00{:}10{:}24{.}458$ If someone has unexplained low blood counts,

NOTE Confidence: 0.9264701

 $00{:}10{:}24{.}460 \dashrightarrow 00{:}10{:}29{.}542$ then we do increasingly send a

NOTE Confidence: 0.9264701

 $00{:}10{:}29{.}542 \dashrightarrow 00{:}10{:}33{.}630$ panel of genetic testing that has a

NOTE Confidence: 0.9264701

 $00{:}10{:}33.630 \dashrightarrow 00{:}10{:}38.190$ capacity to identify this condition.

NOTE Confidence: 0.9264701

 $00{:}10{:}38{.}190 \dashrightarrow 00{:}10{:}40{.}998$ But if some one does not have low blood

 $00{:}10{:}40.998 \dashrightarrow 00{:}10{:}42.670$ counts, if the blood counts are normal,

NOTE Confidence: 0.9264701

 $00:10:42.670 \longrightarrow 00:10:47.115$ we don't send off such testing to

NOTE Confidence: 0.9264701

 $00{:}10{:}47.115 \dashrightarrow 00{:}10{:}49.178$ screen for clonal hematopoies is.

NOTE Confidence: 0.9264701

 $00{:}10{:}49{.}178 \dashrightarrow 00{:}10{:}52{.}510$ And here I should specify the clonal

NOTE Confidence: 0.9264701

00:10:52.588 --> 00:10:55.774 hematopoies
is itself can be further

NOTE Confidence: 0.9264701

 $00{:}10{:}55{.}774$ --> $00{:}10{:}58{.}614$ subdivided into those cases where NOTE Confidence: 0.9264701

 $00:10:58.614 \rightarrow 00:11:01.498$ there is a blood count abnormality,

NOTE Confidence: 0.9264701

 $00:11:01.498 \rightarrow 00:11:05.110$ like low red blood cells called anemia,

NOTE Confidence: 0.9264701

 $00{:}11{:}05{.}110$ --> $00{:}11{:}08{.}950$ low white blood cells called leukopenia NOTE Confidence: 0.9264701

 $00:11:08.950 \rightarrow 00:11:11.870$ or low platelets thrombocytopenia,

NOTE Confidence: 0.9264701

 $00{:}11{:}11{.}870 \dashrightarrow 00{:}11{:}14{.}790$ and that's called secus.

NOTE Confidence: 0.9264701

00:11:14.790 --> 00:11:18.094 It's a very long name clonal cytopenia

NOTE Confidence: 0.9264701

 $00{:}11{:}18.094 \dashrightarrow 00{:}11{:}20.104$ of undetermined significance and if

NOTE Confidence: 0.9264701

00:11:20.104 --> 00:11:21.589 it's incidentally found in someone

NOTE Confidence: 0.9264701

00:11:21.589 --> 00:11:23.668 who has low normal blood counts,

NOTE Confidence: 0.9264701

 $00:11:23.670 \longrightarrow 00:11:26.335$ then it's called CHIP, clonal

- NOTE Confidence: 0.9264701
- 00:11:26.335 --> 00:11:28.467 hematopoiesis of indeterminate potential.
- NOTE Confidence: 0.9264701
- 00:11:28.470 --> 00:11:31.521 So the goal in the field is of course
- NOTE Confidence: 0.9264701
- $00{:}11{:}31{.}521 \dashrightarrow 00{:}11{:}35{.}630$ for those individuals that seem to
- NOTE Confidence: 0.9264701
- $00:11:35.630 \rightarrow 00:11:40.446$ have high risk features to ultimately
- NOTE Confidence: 0.9264701
- $00:11:40.446 \rightarrow 00:11:43.676$ develop effective interventions to
- NOTE Confidence: 0.9264701
- $00{:}11{:}43.676 \dashrightarrow 00{:}11{:}46.506$ halt the progression to cancer.
- NOTE Confidence: 0.9264701
- $00:11:46.510 \longrightarrow 00:11:49.666$ But we're still very much at
- NOTE Confidence: 0.9264701
- $00:11:49.666 \longrightarrow 00:11:52.226$ the beginning of that effort.
- NOTE Confidence: 0.9264701
- 00:11:52.226 --> 00:11:55.238 It's a very exciting effort however,
- NOTE Confidence: 0.9264701
- 00:11:55.240 --> 00:11:55.920 because
- NOTE Confidence: 0.9130767
- $00{:}11{:}58{.}000 \dashrightarrow 00{:}12{:}00{.}148$ this condition can develop
- NOTE Confidence: 0.9130767
- $00{:}12{:}00{.}148 \dashrightarrow 00{:}12{:}02{.}490$ into something called MDS,
- NOTE Confidence: 0.9130767
- $00:12:02.490 \longrightarrow 00:12:04.680$ myelodysplastic syndrome or
- NOTE Confidence: 0.9130767
- 00:12:04.680 --> 00:12:07.600 even acute myeloid leukemia.
- NOTE Confidence: 0.9130767
- $00{:}12{:}07.600 \dashrightarrow 00{:}12{:}12.040$ And these conditions can have
- NOTE Confidence: 0.9130767

 $00:12:12.040 \longrightarrow 00:12:14.285$ really outcomes that are

NOTE Confidence: 0.9130767

 $00:12:14.285 \longrightarrow 00:12:16.770$ not what we would want five

NOTE Confidence: 0.9130767

 $00:12:16.770 \longrightarrow 00:12:18.566$ year survival rates in the case

NOTE Confidence: 0.9130767

 $00:12:18.566 \longrightarrow 00:12:21.170$ of a ML that on average are 30%.

NOTE Confidence: 0.9130767

 $00{:}12{:}21{.}170 \dashrightarrow 00{:}12{:}24.836$ And so it would be very desirable

NOTE Confidence: 0.9130767

 $00{:}12{:}24.836 \dashrightarrow 00{:}12{:}29.290$ to be able to cut that off at

NOTE Confidence: 0.9130767

 $00:12:29.290 \longrightarrow 00:12:32.315$ the pass so to speak and that's

NOTE Confidence: 0.9130767

 $00:12:32.315 \rightarrow 00:12:36.410$ really a major hope in our field.

NOTE Confidence: 0.9253555

 $00{:}12{:}38{.}090 \dashrightarrow 00{:}12{:}40{.}340$ So for patients who have

NOTE Confidence: 0.9253555

 $00{:}12{:}40{.}340 \dashrightarrow 00{:}12{:}41{.}690$ this premalignant condition,

NOTE Confidence: 0.9253555

 $00{:}12{:}41.690 \dashrightarrow 00{:}12{:}44.441$ we don't screen for them because there

NOTE Confidence: 0.9253555

00:12:44.441 --> 00:12:46.850 isn't an intervention that can prevent

NOTE Confidence: 0.9253555

 $00:12:46.850 \longrightarrow 00:12:49.166$ it from becoming an invasive cancer.

NOTE Confidence: 0.9253555

 $00:12:49.170 \longrightarrow 00:12:51.408$ But is there any merit to

NOTE Confidence: 0.9253555

 $00:12:51.408 \longrightarrow 00:12:52.527$ following these patients?

NOTE Confidence: 0.9253555

 $00:12:52.530 \rightarrow 00:12:54.420$ So let's suppose they incidentally

- NOTE Confidence: 0.9253555
- $00:12:54.420 \longrightarrow 00:12:56.856$ were found to have a genetic

 $00:12:56.856 \longrightarrow 00:12:58.728$ mutation on another panel.

NOTE Confidence: 0.9253555

 $00:12:58.730 \longrightarrow 00:13:00.977$ And so we know that they're at

NOTE Confidence: 0.9253555

 $00{:}13{:}00{.}977 \dashrightarrow 00{:}13{:}03{.}268$ increased risk of getting clonal

NOTE Confidence: 0.9253555

 $00:13:03.268 \rightarrow 00:13:05.146$ hematopoiesis and subsequently

NOTE Confidence: 0.9253555

 $00{:}13{:}05{.}146 \dashrightarrow 00{:}13{:}07{.}650$ developing full blown myeloid leukemia,

NOTE Confidence: 0.9253555

 $00:13:07.650 \longrightarrow 00:13:08.638$ let's say.

NOTE Confidence: 0.9253555

 $00{:}13{:}08.638 \dashrightarrow 00{:}13{:}12.096$ Is there any value to following these

NOTE Confidence: 0.9253555

 $00{:}13{:}12.096 \dashrightarrow 00{:}13{:}15.648$ patients more more frequently to try to

NOTE Confidence: 0.9253555

 $00{:}13{:}15{.}648 \dashrightarrow 00{:}13{:}18{.}760$ discover the leukemia when it develops?

NOTE Confidence: 0.9253555

 $00{:}13{:}18.760 \dashrightarrow 00{:}13{:}21.154$ If it develops at an earlier stage,

NOTE Confidence: 0.9253555

 $00:13:21.160 \longrightarrow 00:13:23.519$ maybe we can treat it more effectively,

NOTE Confidence: 0.9253555

 $00:13:23.520 \longrightarrow 00:13:25.640$ particularly given the fact that

NOTE Confidence: 0.9253555

 $00{:}13{:}25.640 \dashrightarrow 00{:}13{:}27.336$ this condition is associated

NOTE Confidence: 0.9253555

 $00:13:27.336 \longrightarrow 00:13:29.238$ with such a poor prognosis?

 $00:13:31.920 \longrightarrow 00:13:34.035$ That's an excellent question and

- NOTE Confidence: 0.93768674
- $00{:}13{:}34.035 \dashrightarrow 00{:}13{:}37.023$ the short answer is that we are

00:13:37.023 --> 00:13:39.520 following some of these individuals

NOTE Confidence: 0.93768674

 $00:13:39.520 \longrightarrow 00:13:42.073$ in clonal hematopoiesis or sometimes

NOTE Confidence: 0.93768674

 $00:13:42.073 \rightarrow 00:13:44.338$ they're called chip clinics now.

NOTE Confidence: 0.93768674

 $00:13:44.340 \longrightarrow 00:13:49.505$ And that is as you're kind

NOTE Confidence: 0.93768674

 $00{:}13{:}49{.}505 \dashrightarrow 00{:}13{:}52{.}620$ of all uding to, to track

NOTE Confidence: 0.93768674

 $00:13:52.620 \rightarrow 00:13:55.056$ how things change or don't change.

NOTE Confidence: 0.93768674

 $00{:}13{:}55{.}060 \dashrightarrow 00{:}13{:}58{.}096$ The complication is that in most

NOTE Confidence: 0.93768674

00:13:58.096 - 00:14:00.460 patients, probably more than 90%,

NOTE Confidence: 0.93768674

 $00:14:00.460 \longrightarrow 00:14:02.460$ what we're detecting we think

NOTE Confidence: 0.93768674

 $00:14:02.460 \longrightarrow 00:14:04.268$ is an age-related phenomenon.

NOTE Confidence: 0.93768674

00:14:04.268 --> 00:14:06.788 It's the blood system changing

NOTE Confidence: 0.93768674

00:14:06.788 --> 00:14:09.949 as people age because this is a

NOTE Confidence: 0.93768674

 $00{:}14{:}09{.}949 \dashrightarrow 00{:}14{:}11{.}914$ a fairly frequent condition

NOTE Confidence: 0.93768674

 $00{:}14{:}11{.}914 \dashrightarrow 00{:}14{:}14{.}952$ in older individuals and a rare

- 00:14:14.952 --> 00:14:16.976 condition in young individuals,
- NOTE Confidence: 0.93768674
- 00:14:16.980 --> 00:14:19.460 let's say less than 40
- NOTE Confidence: 0.93768674
- $00{:}14{:}19{.}460 \dashrightarrow 00{:}14{:}21{.}940$ compared to 70 or older.
- NOTE Confidence: 0.93768674
- $00:14:21.940 \longrightarrow 00:14:23.540$ And so we are starting,
- NOTE Confidence: 0.93768674
- $00{:}14{:}23.540 \dashrightarrow 00{:}14{:}25.718$ to follow these
- NOTE Confidence: 0.93768674
- $00:14:25.718 \rightarrow 00:14:28.300$ patients as I mentioned and particularly
- NOTE Confidence: 0.93768674
- $00:14:28.300 \longrightarrow 00:14:31.120$ those who have low blood counts,
- NOTE Confidence: 0.93768674
- $00:14:31.120 \longrightarrow 00:14:33.586$ but it's not because we're ready
- NOTE Confidence: 0.93768674
- $00{:}14{:}33{.}586$ --> $00{:}14{:}36{.}716$ to offer them an intervention.
- NOTE Confidence: 0.93768674
- $00:14:36.720 \longrightarrow 00:14:41.465$ Although clinical trials for
- NOTE Confidence: 0.93768674
- $00:14:41.465 \longrightarrow 00:14:45.190$ the combination of low blood
- NOTE Confidence: 0.93768674
- $00:14:45.190 \longrightarrow 00:14:48.160$ counts and this finding
- NOTE Confidence: 0.93768674
- $00:14:48.160 \longrightarrow 00:14:49.640$ of a genetic fingerprint
- NOTE Confidence: 0.9329083
- $00{:}14{:}52{.}280 \dashrightarrow 00{:}14{:}56{.}180$ that overlaps with the net genetic
- NOTE Confidence: 0.9329083
- $00{:}14{:}56{.}180 \dashrightarrow 00{:}14{:}58{.}780$ fingerprint of myeloid cancers.
- NOTE Confidence: 0.9329083
- $00:14:58.780 \rightarrow 00:15:01.260$ When those two things coincide and seek us,

- NOTE Confidence: 0.9329083
- $00{:}15{:}01.260 \dashrightarrow 00{:}15{:}03.860$ then there are clinical trials
- NOTE Confidence: 0.9329083
- $00:15:03.860 \longrightarrow 00:15:05.700$ and interventions that are under
- NOTE Confidence: 0.9329083
- $00:15:05.700 \rightarrow 00:15:07.172$ development for these patients.
- NOTE Confidence: 0.9329083
- $00{:}15{:}07{.}180 \dashrightarrow 00{:}15{:}10{.}372$ So we have a clonal hematopoies is clinic
- NOTE Confidence: 0.9329083
- $00:15:10.372 \rightarrow 00:15:13.180$ here at Yale where we're doing just that.
- NOTE Confidence: 0.9329083
- $00:15:13.180 \longrightarrow 00:15:14.828$ We're following these patients
- NOTE Confidence: 0.9329083
- $00:15:14.828 \longrightarrow 00:15:18.052$ and the goal will be to offer a
- NOTE Confidence: 0.9329083
- $00{:}15{:}18.052 \dashrightarrow 00{:}15{:}20.200$ subset of them clinical trials as
- NOTE Confidence: 0.9329083
- $00{:}15{:}20{.}200 \dashrightarrow 00{:}15{:}23{.}684$ a part of the effort to learn and
- NOTE Confidence: 0.9329083
- $00:15:23.684 \rightarrow 00:15:25.898$ to change the disease course.
- NOTE Confidence: 0.93652546
- $00{:}15{:}27{.}800 \dashrightarrow 00{:}15{:}29{.}534$ Terrific. Well, we're going to take
- NOTE Confidence: 0.93652546
- 00:15:29.534 --> 00:15:31.678 a short break for a medical minute,
- NOTE Confidence: 0.93652546
- $00{:}15{:}31{.}680 \dashrightarrow 00{:}15{:}33{.}864$ but after the break, I'd like to learn NOTE Confidence: 0.93652546
- $00{:}15{:}33{.}864 \dashrightarrow 00{:}15{:}35{.}785$ more about the research that's been NOTE Confidence: 0.93652546
- $00{:}15{:}35{.}785 \dashrightarrow 00{:}15{:}37{.}759$ going on to potentially help these
- NOTE Confidence: 0.93652546

 $00:15:37.815 \rightarrow 00:15:39.599$ patients with myeloid disorders,

NOTE Confidence: 0.93652546

 $00{:}15{:}39{.}600 \dashrightarrow 00{:}15{:}41{.}480$ particularly in honor of

NOTE Confidence: 0.93652546

 $00{:}15{:}41{.}480 \dashrightarrow 00{:}15{:}43{.}360$ Blood Cancer Awareness month.

NOTE Confidence: 0.93652546

 $00:15:43.360 \rightarrow 00:15:44.940$ Please stay tuned to learn

NOTE Confidence: 0.93652546

 $00:15:44.940 \longrightarrow 00:15:46.520$ more with my guest Dr.

NOTE Confidence: 0.93652546

 $00{:}15{:}46{.}520 \dashrightarrow 00{:}15{:}47{.}600$ Lourdes Mendez.

NOTE Confidence: 0.93652546

00:15:48.600 --> 00:15:50.615 Funding for Yale Cancer Answers

NOTE Confidence: 0.93652546

00:15:50.615 --> 00:15:52.630 comes from Smilow Cancer Hospital,

NOTE Confidence: 0.93652546

 $00{:}15{:}52.630 \dashrightarrow 00{:}15{:}54.206$ where their hematology program

NOTE Confidence: 0.93652546

 $00{:}15{:}54.206 \dashrightarrow 00{:}15{:}56.176$ offers diagnosis and treatment of

NOTE Confidence: 0.93652546

 $00{:}15{:}56{.}176 \dashrightarrow 00{:}15{:}58{.}150$ blood cancers including lymphoma,

NOTE Confidence: 0.93652546

00:15:58.150 - 00:16:00.289 leukemia, and myeloma.

NOTE Confidence: 0.93652546

 $00:16:00.289 \longrightarrow 00:16:03.194$ More at smilowcancerhospital.org or

NOTE Confidence: 0.93652546

00:16:03.194 --> 00:16:05.868 e-mail Cancer Answers at Yale dot Edu.

NOTE Confidence: 0.9094017

00:16:08.190 --> 00:16:09.978 Breast cancer is one of the

NOTE Confidence: 0.9094017

00:16:09.978 --> 00:16:11.590 most common cancers in women.

- NOTE Confidence: 0.9094017
- 00:16:11.590 --> 00:16:12.931 In Connecticut alone,

00:16:12.931 --> 00:16:15.166 approximately 3500 women will be

NOTE Confidence: 0.9094017

 $00{:}16{:}15{.}166 \dashrightarrow 00{:}16{:}17{.}677$ diagnosed with breast cancer this year.

NOTE Confidence: 0.9094017

 $00:16:17.680 \longrightarrow 00:16:19.180$ But there is hope thanks

NOTE Confidence: 0.9094017

 $00:16:19.180 \longrightarrow 00:16:20.080$ to earlier detection,

NOTE Confidence: 0.9094017

00:16:20.080 --> 00:16:20.920 noninvasive treatments,

NOTE Confidence: 0.9094017

 $00:16:20.920 \longrightarrow 00:16:23.440$ and the development of novel the rapies.

NOTE Confidence: 0.9094017

 $00:16:23.440 \longrightarrow 00:16:25.056$ To fight breast cancer,

NOTE Confidence: 0.9094017

 $00{:}16{:}25.056 \dashrightarrow 00{:}16{:}27.076$ women should schedule a baseline

NOTE Confidence: 0.9094017

 $00:16:27.076 \longrightarrow 00:16:29.018$ mammogram beginning at age 40 or

NOTE Confidence: 0.9094017

 $00:16:29.018 \rightarrow 00:16:30.994$ earlier if they have risk factors

NOTE Confidence: 0.9094017

 $00{:}16{:}30{.}994 \dashrightarrow 00{:}16{:}32{.}758$ associated with the disease.

NOTE Confidence: 0.9094017

 $00:16:32.760 \rightarrow 00:16:34.460$ With screening, early detection,

NOTE Confidence: 0.9094017

 $00{:}16{:}34{.}460 \dashrightarrow 00{:}16{:}36{.}160$ and a healthy lifestyle,

NOTE Confidence: 0.9094017

 $00{:}16{:}36{.}160 \dashrightarrow 00{:}16{:}38{.}320$ breast cancer can be defeated.

 $00:16:38.320 \longrightarrow 00:16:40.320$ Clinical trials are currently

NOTE Confidence: 0.9094017

 $00:16:40.320 \longrightarrow 00:16:42.320$ underway at federally designated

NOTE Confidence: 0.9094017

00:16:42.320 --> 00:16:44.050 comprehensive cancer centers such

NOTE Confidence: 0.9094017

00:16:44.050 --> 00:16:46.367 as Yale Cancer Center and Smilow

NOTE Confidence: 0.9094017

00:16:46.367 --> 00:16:48.450 Cancer Hospital to make innovative

NOTE Confidence: 0.9094017

 $00{:}16{:}48{.}450 \dashrightarrow 00{:}16{:}50{.}450$ new treatments available to patients.

NOTE Confidence: 0.9094017

 $00:16:50.450 \rightarrow 00:16:52.940$ Digital breast homosynthesis or 3D

NOTE Confidence: 0.9094017

00:16:52.940 --> 00:16:55.430 mammography is also transforming breast

NOTE Confidence: 0.9094017

 $00{:}16{:}55{.}503 \dashrightarrow 00{:}16{:}57{.}711$ cancer screening by significantly

NOTE Confidence: 0.9094017

 $00:16:57.711 \rightarrow 00:16:59.367$ reducing unnecessary procedures

NOTE Confidence: 0.9094017

 $00:16:59.367 \rightarrow 00:17:01.970$ while picking up more cancers.

NOTE Confidence: 0.9094017

00:17:01.970 --> 00:17:04.274 More information is available

NOTE Confidence: 0.9094017

 $00:17:04.274 \longrightarrow 00:17:05.421$ at yale cancercenter.org.

NOTE Confidence: 0.9094017

00:17:05.421 --> 00:17:08.847 You're listening to Connecticut Public Radio.

NOTE Confidence: 0.9094017

00:17:08.850 --> 00:17:09.210 Welcome

NOTE Confidence: 0.9379666

 $00:17:09.210 \longrightarrow 00:17:10.890$ back to Yale Cancer Answers.

- NOTE Confidence: 0.9379666
- 00:17:10.890 --> 00:17:12.780 This is Doctor Anees Chagpar and
- NOTE Confidence: 0.9379666
- 00:17:12.780 --> 00:17:14.630 I'm joined to night by my guest,
- NOTE Confidence: 0.9379666
- $00{:}17{:}14.630 \dashrightarrow 00{:}17{:}15.803$ Doctor Lourdes Mendez.
- NOTE Confidence: 0.9379666
- $00{:}17{:}15{.}803 \dashrightarrow 00{:}17{:}18{.}149$ We're discussing the care of patients
- NOTE Confidence: 0.9379666
- $00:17:18.149 \longrightarrow 00:17:20.177$ with myeloid disorders in honor
- NOTE Confidence: 0.9379666
- $00{:}17{:}20{.}177 \dashrightarrow 00{:}17{:}22{.}147$ of Blood Cancer Awareness Month.
- NOTE Confidence: 0.9379666
- $00:17:22.150 \longrightarrow 00:17:23.310$ And right before the break,
- NOTE Confidence: 0.9379666
- 00:17:23.310 --> 00:17:24.414 Doctor Mendez,
- NOTE Confidence: 0.9379666
- $00:17:24.414 \longrightarrow 00:17:27.726$ you were telling us about this
- NOTE Confidence: 0.9379666
- $00:17:27.726 \longrightarrow 00:17:29.881$ phenomenon of clonal hematopoiesis
- NOTE Confidence: 0.9379666
- $00:17:29.881 \longrightarrow 00:17:33.854$ and how this is a novel kind
- NOTE Confidence: 0.9379666
- $00{:}17{:}33.854 \dashrightarrow 00{:}17{:}37.598$ of discovery of what is
- NOTE Confidence: 0.9379666
- 00:17:37.598 --> 00:17:39.470 essentially a premalignancy,
- NOTE Confidence: 0.9379666
- $00{:}17{:}39{.}470 \dashrightarrow 00{:}17{:}45{.}010$ a predisease that leads to myeloid leukemias.
- NOTE Confidence: 0.9379666
- $00:17:45.010 \longrightarrow 00:17:47.010$ So a couple of questions.
- NOTE Confidence: 0.9379666

 $00:17:47.010 \longrightarrow 00:17:49.218$ Given the fact that we're still

NOTE Confidence: 0.9379666

 $00:17:49.218 \longrightarrow 00:17:50.690$ learning about this disease,

NOTE Confidence: 0.9379666

00:17:50.690 --> 00:17:53.133 can you shed some light on some

NOTE Confidence: 0.9379666

 $00{:}17{:}53{.}133 \dashrightarrow 00{:}17{:}55{.}369$ of the research that's going on

NOTE Confidence: 0.9379666

 $00{:}17{:}55{.}370 \dashrightarrow 00{:}17{:}58{.}106$ into it and and perhaps into

NOTE Confidence: 0.9379666

00:17:58.106 --> 00:17:59.930 myeloid leukemias as well?

NOTE Confidence: 0.932743

00:18:01.290 --> 00:18:04.050 Absolutely. So in terms of

NOTE Confidence: 0.932743

 $00:18:04.050 \longrightarrow 00:18:06.810$ the research in this space,

NOTE Confidence: 0.932743

 $00{:}18{:}06{.}810 \dashrightarrow 00{:}18{:}09{.}630$ it's of great interest to kind

NOTE Confidence: 0.932743

 $00{:}18{:}09{.}630 \dashrightarrow 00{:}18{:}13{.}386$ of define what is the natural

NOTE Confidence: 0.932743

 $00:18:13.386 \longrightarrow 00:18:14.969$ history of this condition.

NOTE Confidence: 0.932743

 $00{:}18{:}14.969 \dashrightarrow 00{:}18{:}15.848$ So what happened,

NOTE Confidence: 0.932743

00:18:15.850 --> 00:18:18.170 meaning what happens over time,

NOTE Confidence: 0.932743

 $00{:}18{:}18{.}170 \dashrightarrow 00{:}18{:}20{.}480$ when does this start and

NOTE Confidence: 0.932743

 $00:18:20.480 \longrightarrow 00:18:22.930$ how long is it present?

NOTE Confidence: 0.932743

 $00:18:22.930 \longrightarrow 00:18:26.530$ Before maybe we can detect it,

 $00:18:26.530 \rightarrow 00:18:31.010$ or before it becomes a blood cancer,

NOTE Confidence: 0.932743

 $00{:}18{:}31.010 \dashrightarrow 00{:}18{:}35.610$ a myeloid neoplasm, for example?

NOTE Confidence: 0.932743

 $00:18:35.610 \longrightarrow 00:18:38.562$ And one of the things that has

NOTE Confidence: 0.932743

 $00{:}18{:}38{.}562 \dashrightarrow 00{:}18{:}42{.}090$ been reported by scientists who are

NOTE Confidence: 0.932743

 $00{:}18{:}42.090 \dashrightarrow 00{:}18{:}44.650$ studying clonal hematopoies is is

NOTE Confidence: 0.932743

 $00{:}18{:}44.650 \dashrightarrow 00{:}18{:}48.015$ that the best estimations are that

NOTE Confidence: 0.932743

 $00:18:48.015 \rightarrow 00:18:51.165$ in probably the majority of cases,

NOTE Confidence: 0.932743

 $00:18:51.170 \rightarrow 00:18:55.105$ this condition is present for decades,

NOTE Confidence: 0.932743

 $00{:}18{:}55{.}105 \dashrightarrow 00{:}18{:}59{.}410$ maybe 30 years before it's actually detected.

NOTE Confidence: 0.932743

00:18:59.410 --> 00:19:03.050 Which is really, I think in my mind,

NOTE Confidence: 0.932743

 $00{:}19{:}03.050 \dashrightarrow 00{:}19{:}08.076$ startling to think that the roots

NOTE Confidence: 0.932743

 $00{:}19{:}08{.}076 \dashrightarrow 00{:}19{:}11{.}980$ of a cancer could go back so far.

NOTE Confidence: 0.932743

00:19:11.980 --> 00:19:12.992 But again,

NOTE Confidence: 0.932743

00:19:12.992 --> 00:19:16.460 I think it's worth reiterating

NOTE Confidence: 0.932743

 $00{:}19{:}16.460 \dashrightarrow 00{:}19{:}20.020$ that this is a pre disease.

 $00:19:20.020 \rightarrow 00:19:23.260$ Maybe that's one of the best ways to call it, NOTE Confidence: 0.932743 $00{:}19{:}23.260 \dashrightarrow 00{:}19{:}26.396$ because in some ways it and in most NOTE Confidence: 0.932743 $00:19:26.396 \rightarrow 00:19:29.998$ people it's probably a reflection of NOTE Confidence: 0.932743 $00:19:29.998 \rightarrow 00:19:34.388$ aging more than a condition that has NOTE Confidence: 0.932743 00:19:34.388 --> 00:19:37.298 any significant pre malignant potential. NOTE Confidence: 0.932743 $00:19:37.300 \rightarrow 00:19:40.716$ So even though I spoke about the fact NOTE Confidence: 0.932743 $00:19:40.716 \rightarrow 00:19:43.461$ that there's an elevenfold increased NOTE Confidence: 0.932743 $00:19:43.461 \rightarrow 00:19:46.724$ risk of a hematologic malignancy, NOTE Confidence: 0.932743 $00:19:46.724 \rightarrow 00:19:50.054$ I also mentioned that probably NOTE Confidence: 0.932743 $00:19:50.054 \longrightarrow 00:19:53.805$ in 90% of individuals this NOTE Confidence: 0.932743 00:19:53.805 --> 00:19:56.097 is not going to NOTE Confidence: 0.93404955 00:19:58.680 --> 00:20:01.680 lead to a significant risk of NOTE Confidence: 0.93404955 $00{:}20{:}01{.}680 \dashrightarrow 00{:}20{:}04{.}998$ a blood cancer and that the NOTE Confidence: 0.93404955 00:20:05.000 --> 00:20:06.878 risk of developing a blood cancer, NOTE Confidence: 0.93404955 $00:20:06.880 \rightarrow 00:20:09.076$ the annual risk, is under 1%. NOTE Confidence: 0.93404955 $00:20:09.080 \longrightarrow 00:20:10.480$ That's taken as a whole.

 $00:20:10.480 \longrightarrow 00:20:14.344$ So really

NOTE Confidence: 0.93404955

 $00:20:14.344 \rightarrow 00:20:16.728$ maybe one of the main challenges is

NOTE Confidence: 0.93404955

 $00:20:16.728 \rightarrow 00:20:19.043$ separating out the high risk from

NOTE Confidence: 0.93404955

 $00:20:19.043 \longrightarrow 00:20:22.181$ the low risk individuals and so

NOTE Confidence: 0.93404955

 $00{:}20{:}22{.}181 \dashrightarrow 00{:}20{:}26{.}370$ there's a lot of effort to understand,

NOTE Confidence: 0.93404955

 $00{:}20{:}26{.}370 \dashrightarrow 00{:}20{:}30{.}330$ to have to collect groups of these cases

NOTE Confidence: 0.93404955

 $00{:}20{:}30{.}330 \dashrightarrow 00{:}20{:}35{.}460$ across academic institutions and to

NOTE Confidence: 0.93404955

 $00:20:35.460 \rightarrow 00:20:38.850$ to understand what types of mutations,

NOTE Confidence: 0.93404955

 $00:20:38.850 \longrightarrow 00:20:41.890$ how much of that mutation,

NOTE Confidence: 0.93404955

 $00{:}20{:}41.890 \dashrightarrow 00{:}20{:}46.290$ what kind of other traits and

NOTE Confidence: 0.93404955

 $00:20:46.290 \longrightarrow 00:20:48.648$ in the blood count, for example.

NOTE Confidence: 0.93404955

 $00{:}20{:}48.650 \dashrightarrow 00{:}20{:}52.618$ How do these things fit together to

NOTE Confidence: 0.93404955

 $00{:}20{:}52{.}618$ --> $00{:}20{:}55{.}754$ associate either with a very low risk NOTE Confidence: $0{.}93404955$

00:20:55.754 --> 00:20:58.767 situation or a higher risk situation?

NOTE Confidence: 0.93404955

 $00{:}20{:}58.770 \dashrightarrow 00{:}21{:}02.081$ So some of the efforts in terms

 $00:21:02.081 \longrightarrow 00:21:04.062$ of potential interventions for

NOTE Confidence: 0.93404955

 $00{:}21{:}04.062 \dashrightarrow 00{:}21{:}06.452$ those individuals who are higher

NOTE Confidence: 0.93404955

00:21:06.452 --> 00:21:08.890 risk are using designer drugs,

NOTE Confidence: 0.93404955

 $00:21:08.890 \rightarrow 00:21:12.821$ which we also call targeted drugs which are

NOTE Confidence: 0.93404955

 $00{:}21{:}12.821 \dashrightarrow 00{:}21{:}15.985$ already in use for example in leukemia.

NOTE Confidence: 0.93404955

00:21:15.990 --> 00:21:18.042 So in CML,

NOTE Confidence: 0.93404955

 $00{:}21{:}18.042 \dashrightarrow 00{:}21{:}22.183$ we use a class of medications called IDH

NOTE Confidence: 0.93404955

 $00:21:22.183 \rightarrow 00:21:26.348$ inhibitors that target IDH mutations.

NOTE Confidence: 0.93404955

 $00{:}21{:}26.350 \dashrightarrow 00{:}21{:}32.065$ And so this is going to be a forthcoming

NOTE Confidence: 0.93404955

 $00:21:32.070 \longrightarrow 00:21:35.616$ strategy that's going to be tested in

NOTE Confidence: 0.93404955

 $00:21:35.616 \longrightarrow 00:21:38.746$ patients who have high

NOTE Confidence: 0.93404955

 $00:21:38.746 \longrightarrow 00:21:40.624$ risk clonal hematopoiesis.

NOTE Confidence: 0.93404955

 $00{:}21{:}40.630 \dashrightarrow 00{:}21{:}43.622$ There's also another mutation

NOTE Confidence: 0.93404955

 $00:21:43.622 \longrightarrow 00:21:47.362$ in both clonal hematopoiesis and

NOTE Confidence: 0.93404955

00:21:47.362 --> 00:21:49.990 myeloid cancer is called TET 2,

NOTE Confidence: 0.93404955

 $00:21:49.990 \rightarrow 00:21:52.470$ and it has a cofactor,

- NOTE Confidence: 0.93404955
- $00{:}21{:}52{.}470 \dashrightarrow 00{:}21{:}54{.}924$ vitamin C And so there's another

 $00{:}21{:}54{.}924 \dashrightarrow 00{:}21{:}57{.}550$ clinical trial that's going to test high

NOTE Confidence: 0.93404955

 $00{:}21{:}57{.}550 \dashrightarrow 00{:}22{:}01{.}070$ doses of vitamin C and when I last checked,

NOTE Confidence: 0.93404955

 $00:22:01.070 \longrightarrow 00:22:04.640$ there's also going to be a clinical

NOTE Confidence: 0.93404955

 $00:22:04.640 \longrightarrow 00:22:08.050$ trial even checking whether

NOTE Confidence: 0.93404955

 $00{:}22{:}08.050 \dashrightarrow 00{:}22{:}12.150$ something like metform in may have

NOTE Confidence: 0.93404955

 $00:22:12.150 \longrightarrow 00:22:15.450$ some potential to change the natural

NOTE Confidence: 0.93404955

 $00:22:15.450 \longrightarrow 00:22:17.292$ progression of this condition.

NOTE Confidence: 0.93404955

 $00{:}22{:}17{.}292 \dashrightarrow 00{:}22{:}19{.}889$ So there are lots of things being

NOTE Confidence: 0.93404955

 $00{:}22{:}19{.}889 \dashrightarrow 00{:}22{:}22{.}444$ planned and underway and lots of

NOTE Confidence: 0.93404955

 $00{:}22{:}22{.}444 \dashrightarrow 00{:}22{:}24{.}762$ collaborations that we are also

NOTE Confidence: 0.93404955

 $00{:}22{:}24.762 \dashrightarrow 00{:}22{:}28.145$ participating in to do 2 things kind

NOTE Confidence: 0.93404955

 $00{:}22{:}28.145 \dashrightarrow 00{:}22{:}30.580$ of simultaneously, to continue to

NOTE Confidence: 0.93404955

 $00{:}22{:}30.678 \dashrightarrow 00{:}22{:}34.234$ learn about the basic biology and the,

NOTE Confidence: 0.93404955

 $00:22:34.240 \longrightarrow 00:22:35.644$ as I was saying,

 $00:22:35.644 \rightarrow 00:22:37.399$ natural history of these conditions.

NOTE Confidence: 0.93404955

 $00{:}22{:}37{.}400 \dashrightarrow 00{:}22{:}40{.}800$ And also at the same time based as

NOTE Confidence: 0.93404955

 $00:22:40.800 \longrightarrow 00:22:44.014$ we learn things in real time to

NOTE Confidence: 0.93404955

 $00:22:44.014 \rightarrow 00:22:46.021$ pull from even existing therapies

NOTE Confidence: 0.93404955

 $00{:}22{:}46.021 \dashrightarrow 00{:}22{:}48.955$ and see if for people who are who

NOTE Confidence: 0.93404955

 $00:22:48.955 \rightarrow 00:22:50.119$ are at high risk,

NOTE Confidence: 0.93404955

 $00{:}22{:}50{.}120 \dashrightarrow 00{:}22{:}52{.}542$ we can start to have them benefit

NOTE Confidence: 0.93404955

 $00:22:52.542 \longrightarrow 00:22:54.639$ from what we already know.

NOTE Confidence: 0.9237752

 $00{:}22{:}56{.}000 \dashrightarrow 00{:}22{:}58{.}440$ So that sounds really exciting.

NOTE Confidence: 0.9237752

 $00:22:58.440 \longrightarrow 00:23:00.170$ The other thing that

NOTE Confidence: 0.9237752

 $00:23:00.170 \longrightarrow 00:23:01.861$ we often think about is,

NOTE Confidence: 0.9237752

 $00:23:01.861 \rightarrow 00:23:03.968$ you know when you were talking about

NOTE Confidence: 0.9237752

 $00:23:03.968 \longrightarrow 00:23:05.819$ this being a genetic condition,

NOTE Confidence: 0.9237752

 $00:23:05.820 \longrightarrow 00:23:10.097$ so you can find mutations very

NOTE Confidence: 0.9237752

 $00{:}23{:}10.097 \dashrightarrow 00{:}23{:}12.239$ often these days we hear about

NOTE Confidence: 0.9237752

 $00:23:12.239 \rightarrow 00:23:14.498$ things like CRISPR and gene editing.

 $00{:}23{:}14.500 \dashrightarrow 00{:}23{:}17.156$ Can you talk a little bit more about

NOTE Confidence: 0.9237752

00:23:17.156 --> 00:23:19.344 what exactly those are and if they

NOTE Confidence: 0.9237752

 $00{:}23{:}19{.}344 \dashrightarrow 00{:}23{:}21{.}819$ have any role to play in this space?

NOTE Confidence: 0.94193125

 $00:23:22.460 \longrightarrow 00:23:25.156$ I'm glad you bring up the point

NOTE Confidence: 0.94193125

 $00{:}23{:}25{.}156 \dashrightarrow 00{:}23{:}27{.}138$ about mutations and genetics.

NOTE Confidence: 0.94193125

00:23:27.138 --> 00:23:32.138 So it I think it's worth spending a few

NOTE Confidence: 0.94193125

 $00{:}23{:}32{.}138 \dashrightarrow 00{:}23{:}35{.}270$ seconds to distinguish inherited genetic

NOTE Confidence: 0.94193125

 $00{:}23{:}35{.}270 \dashrightarrow 00{:}23{:}39{.}830$ changes or mutations or variants from

NOTE Confidence: 0.94193125

 $00{:}23{:}39{.}830 \dashrightarrow 00{:}23{:}43{.}030$ acquired during someone's lifetime.

 $00{:}23{:}45.660 \dashrightarrow 00{:}23{:}48.750$ The condition I've been talking about,

NOTE Confidence: 0.94193125

 $00{:}23{:}48.750 \dashrightarrow 00{:}23{:}50.762$ I'm referring to mutations

NOTE Confidence: 0.94193125

 $00:23:50.762 \rightarrow 00:23:53.277$ that occurred during a person's

NOTE Confidence: 0.94193125

 $00{:}23{:}53{.}277 \dashrightarrow 00{:}23{:}56{.}496$ lifetime and not changes that were

NOTE Confidence: 0.94193125

 $00:23:56.496 \rightarrow 00:23:59.304$ inherited from someone's parents.

NOTE Confidence: 0.94193125

 $00:23:59.310 \longrightarrow 00:24:01.548$ So just to make that distinction,

NOTE Confidence: 0.94193125

 $00:24:01.550 \longrightarrow 00:24:04.026$ we do have information,

- NOTE Confidence: 0.94193125
- $00:24:04.026 \longrightarrow 00:24:05.883$ increasing information in

 $00{:}24{:}05{.}883 \dashrightarrow 00{:}24{:}08{.}550$ myeloid diseases as a whole,

NOTE Confidence: 0.94193125

 $00{:}24{:}08.550 \dashrightarrow 00{:}24{:}12.134$ that there are people who are born

NOTE Confidence: 0.94193125

 $00:24:12.134 \rightarrow 00:24:14.980$ with a susceptibility to myeloid

NOTE Confidence: 0.94193125

 $00:24:14.980 \longrightarrow 00:24:18.910$ diseases and really to blood cancers.

NOTE Confidence: 0.94193125

 $00:24:18.910 \longrightarrow 00:24:21.633$ So that field is really gaining

NOTE Confidence: 0.94193125

 $00{:}24{:}21.633 \dashrightarrow 00{:}24{:}24.291$ more and more momentum and we

NOTE Confidence: 0.94193125

00:24:24.291 --> 00:24:27.970 now know that also true of

NOTE Confidence: 0.94193125

 $00{:}24{:}27{.}970 \dashrightarrow 00{:}24{:}31{.}218$ clonal hematopoesis where there are

NOTE Confidence: 0.94193125

 $00{:}24{:}31{.}218 \dashrightarrow 00{:}24{:}37{.}756$ places in our genome in our DNA that

NOTE Confidence: 0.94193125

 $00{:}24{:}37.756 \dashrightarrow 00{:}24{:}40.596$ are associated with an increased

NOTE Confidence: 0.94193125

00:24:40.596 --> 00:24:43.700 risk for clonal hematopoesis.

NOTE Confidence: 0.94193125

 $00{:}24{:}43.700 \dashrightarrow 00{:}24{:}48.215$ And then to your question about these

NOTE Confidence: 0.94193125

 $00:24:48.220 \longrightarrow 00:24:52.224$ technologies that were first

NOTE Confidence: 0.94193125

 $00:24:52.224 \rightarrow 00:24:57.730$ used in the laboratory to change

 $00:24:57.730 \rightarrow 00:25:01.210$ genes like you were referring to

NOTE Confidence: 0.94193125

 $00{:}25{:}01{.}210 \dashrightarrow 00{:}25{:}04{.}630$ CRISPR editing tools that are now

NOTE Confidence: 0.94193125

 $00:25:04.630 \rightarrow 00:25:06.902$ commonly used in experiments.

NOTE Confidence: 0.94193125

 $00{:}25{:}06{.}910 \dashrightarrow 00{:}25{:}11{.}628$ So these to my knowledge are not

NOTE Confidence: 0.94193125

 $00{:}25{:}11.630 \dashrightarrow 00{:}25{:}14.588$ part of the kind of first

NOTE Confidence: 0.935169

 $00{:}25{:}16.880 \dashrightarrow 00{:}25{:}18.866$ round of intervention so to speak

NOTE Confidence: 0.935169

 $00{:}25{:}18.866 \dashrightarrow 00{:}25{:}20.680$ or clinical trials that are

NOTE Confidence: 0.935169

 $00:25:20.680 \rightarrow 00:25:22.400$ planned for clonal hematopoiesis.

NOTE Confidence: 0.935169

 $00{:}25{:}22{.}400 \dashrightarrow 00{:}25{:}25{.}740$ But they are being applied

NOTE Confidence: 0.935169

 $00{:}25{:}25{.}740 \dashrightarrow 00{:}25{:}29{.}640$ in other blood diseases.

NOTE Confidence: 0.935169

 $00:25:29.640 \longrightarrow 00:25:33.890$ And it it is very tantalizing to

NOTE Confidence: 0.935169

 $00{:}25{:}33{.}890 \dashrightarrow 00{:}25{:}37{.}285$ imagine that at some point they could

NOTE Confidence: 0.935169

 $00{:}25{:}37{.}285 \dashrightarrow 00{:}25{:}41{.}516$ be applied as a precision tool to fix

NOTE Confidence: 0.935169

 $00{:}25{:}41{.}520 \dashrightarrow 00{:}25{:}45{.}560$ this acquired genetic abnormality and

NOTE Confidence: 0.935169

 $00{:}25{:}45{.}560 \dashrightarrow 00{:}25{:}49{.}010$ stop progression to a blood cancer.

 $00{:}25{:}53{.}705 \dashrightarrow 00{:}25{:}57{.}274$ When we think about the

00:25:57.274 --> 00:26:00.010 preconditions clonal hematopoiesis, NOTE Confidence: 0.923413 00:26:00.010 --> 00:26:02.852 one of the nice things that you NOTE Confidence: 0.923413 $00:26:02.852 \longrightarrow 00:26:05.469$ were mentioning is that NOTE Confidence: 0.923413 $00{:}26{:}05{.}469 \dashrightarrow 00{:}26{:}08{.}097$ trying to think about the rapies that NOTE Confidence: 0.923413 $00:26:08.097 \longrightarrow 00:26:11.634$ are relatively non-toxic that can NOTE Confidence: 0.923413 $00:26:11.634 \rightarrow 00:26:16.350$ potentially slow or even prevent NOTE Confidence: 0.923413 $00:26:16.350 \rightarrow 00:26:19.870$ progression to fullblown leukemias. NOTE Confidence: 0.923413 00:26:19.870 --> 00:26:22.158 Can you talk a little bit about some NOTE Confidence: 0.923413 $00{:}26{:}22.158 \dashrightarrow 00{:}26{:}24.458$ of the research and work that's been NOTE Confidence: 0.923413 $00:26:24.458 \rightarrow 00:26:27.590$ going on in terms of leukemias themselves? NOTE Confidence: 0.923413 00:26:27.590 --> 00:26:30.432 I mean are we making any progress NOTE Confidence: 0.923413 $00:26:30.432 \longrightarrow 00:26:33.147$ on the research front in terms of NOTE Confidence: 0.923413 $00:26:33.150 \rightarrow 00:26:35.955$ more targeted therapies for these NOTE Confidence: 0.923413 $00:26:35.955 \rightarrow 00:26:38.760$ kinds of leukemias whether that's NOTE Confidence: 0.923413 $00:26:38.845 \rightarrow 00:26:40.965$ with the precision drugs NOTE Confidence: 0.923413 $00:26:40.965 \rightarrow 00:26:43.642$ that you were talking about or

- NOTE Confidence: 0.923413
- $00:26:43.642 \rightarrow 00:26:45.298$ even things like immunotherapies.

 $00{:}26{:}46{.}900 \dashrightarrow 00{:}26{:}51{.}139$ So thank you for the question because

NOTE Confidence: 0.9351354

 $00:26:51.140 \longrightarrow 00:26:53.499$ as I mentioned at the very beginning,

NOTE Confidence: 0.9351354

 $00{:}26{:}53{.}500 \dashrightarrow 00{:}26{:}55{.}772$ this is a time of a lot of

NOTE Confidence: 0.9351354

00:26:55.772 --> 00:26:58.160 optimism in our field for myeloid

NOTE Confidence: 0.9351354

 $00:26:58.160 \rightarrow 00:27:00.260$ diseases and for acute leukemias.

NOTE Confidence: 0.9351354

 $00:27:00.260 \longrightarrow 00:27:04.652$ Our toolbox has really increased in the

NOTE Confidence: 0.9351354

 $00:27:04.652 \rightarrow 00:27:08.162$ last several years and it's becoming

NOTE Confidence: 0.9351354

 $00{:}27{:}08.162 \dashrightarrow 00{:}27{:}12.022$ more complex in a good way in terms NOTE Confidence: 0.9351354

 $00:27:12.022 \rightarrow 00:27:14.724$ of decisions as to how to approach

NOTE Confidence: 0.9351354

 $00:27:14.730 \longrightarrow 00:27:16.290$ the treatment of these conditions.

00:27:18.110 --> 00:27:20.385 We are seeing improvements and

NOTE Confidence: 0.9351354

 $00{:}27{:}20.385 \dashrightarrow 00{:}27{:}22.810$ outcomes for patients as a result

NOTE Confidence: 0.9351354

 $00{:}27{:}22.810 \dashrightarrow 00{:}27{:}25.846$ of these of this increased toolbox

NOTE Confidence: 0.9351354

 $00{:}27{:}25.850 \dashrightarrow 00{:}27{:}30.850$ and that really those gains are

NOTE Confidence: 0.9351354

 $00:27:30.850 \longrightarrow 00:27:34.632$ on years of of research on the

- NOTE Confidence: 0.9351354
- $00:27:34.632 \rightarrow 00:27:37.850$ molecular biology of these conditions.

 $00{:}27{:}37{.}850 \dashrightarrow 00{:}27{:}42{.}914$ And to give an example of something

NOTE Confidence: 0.9351354

 $00:27:42.914 \longrightarrow 00:27:46.194$ that's exciting in the other

NOTE Confidence: 0.9351354

00:27:46.194 --> 00:27:48.906 type of acute leukemia and acute

NOTE Confidence: 0.9351354

 $00:27:48.906 \longrightarrow 00:27:51.430$ lymphoblastic leukemia in a subtype

NOTE Confidence: 0.9351354

00:27:51.430 --> 00:27:53.581 called pH positive BALL,

NOTE Confidence: 0.9351354

 $00{:}27{:}53.581 \dashrightarrow 00{:}27{:}56.767$ there's a lot of discussion about

NOTE Confidence: 0.9351354

 $00:27:56.770 \longrightarrow 00:27:59.130$ the potential of chemotherapy free

NOTE Confidence: 0.9351354

 $00:27:59.130 \longrightarrow 00:28:01.490$ treatment now and that's

NOTE Confidence: 0.9351354

 $00{:}28{:}01{.}564 \dashrightarrow 00{:}28{:}04{.}000$ one thing that we're very excited

NOTE Confidence: 0.9351354

00:28:04.000 - 00:28:06.676 about is the potential to spare

NOTE Confidence: 0.9351354

 $00{:}28{:}06.676 \dashrightarrow 00{:}28{:}09.106$ our patients the side effects

NOTE Confidence: 0.9351354

 $00:28:09.106 \longrightarrow 00:28:10.564$ of traditional chemotherapy.

NOTE Confidence: 0.9351354

00:28:10.570 --> 00:28:13.465 But we're also very involved as

NOTE Confidence: 0.9351354

 $00:28:13.465 \longrightarrow 00:28:17.066$ a field and in Yale in testing

 $00{:}28{:}17.066 \dashrightarrow 00{:}28{:}19.994$ ways to modulate the immune system

NOTE Confidence: 0.9351354

00:28:19.994 --> 00:28:22.730 against myeloid diseases and against

NOTE Confidence: 0.9351354

 $00{:}28{:}22{.}730 \dashrightarrow 00{:}28{:}24{.}846$ acute leukemia in particular.

NOTE Confidence: 0.9351354

 $00:28:24.846 \longrightarrow 00:28:29.136$ And so that's a cause for a lot

NOTE Confidence: 0.9351354

 $00:28:29.136 \longrightarrow 00:28:31.960$ of optimism and excitement.

NOTE Confidence: 0.9299148

00:28:32.520 --> 00:28:33.916 Dr. Lourdes Mendez

NOTE Confidence: 0.9299148

00:28:33.916 --> 00:28:35.661 is an assistant professor of

NOTE Confidence: 0.9299148

00:28:35.661 -> 00:28:37.109 medicine and hematology at

NOTE Confidence: 0.9299148

00:28:37.109 --> 00:28:38.839 the Yale School of Medicine.

NOTE Confidence: 0.9299148

 $00:28:38.840 \longrightarrow 00:28:40.828$ If you have questions,

NOTE Confidence: 0.9299148

 $00{:}28{:}40.828 \dashrightarrow 00{:}28{:}42.771$ the address is canceranswers@yale.edu,

NOTE Confidence: 0.9299148

 $00{:}28{:}42{.}771 \dashrightarrow 00{:}28{:}45{.}477$ and past editions of the program

NOTE Confidence: 0.9299148

 $00{:}28{:}45{.}477 \dashrightarrow 00{:}28{:}47{.}822$ are available in audio and written

NOTE Confidence: 0.9299148

 $00{:}28{:}47.822 \dashrightarrow 00{:}28{:}48.746$ form at yale cancercenter.org.

NOTE Confidence: 0.9299148

00:28:48.746 --> 00:28:51.194 We hope you'll join us next week to

NOTE Confidence: 0.9299148

 $00:28:51.194 \rightarrow 00:28:53.058$ learn more about the fight against

 $00{:}28{:}53.058 \dashrightarrow 00{:}28{:}54.910$ cancer here on Connecticut Public Radio.

NOTE Confidence: 0.9299148

00:28:54.910 --> 00:28:57.526 Funding for Yale Cancer Answers is

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00:28:57.526 --> 00:29:00.000 provided by Smilow Cancer Hospital.