WEBVTT

00:00:00.000 --> 00:00:02.020 Support for Yale Cancer Answers

NOTE Confidence: 0.8594627

 $00:00:02.020 \longrightarrow 00:00:03.636$ comes from AstraZeneca,

NOTE Confidence: 0.8594627

 $00:00:03.640 \longrightarrow 00:00:06.461$ the beyond pink campaign aims to empower

NOTE Confidence: 0.8594627

 $00:00:06.461 \longrightarrow 00:00:08.418$ metastatic breast cancer patients and

NOTE Confidence: 0.8594627

 $00:00:08.418 \dashrightarrow 00:00:11.146$ their loved ones to learn more about their

NOTE Confidence: 0.8594627

 $00:00:11.212 \longrightarrow 00:00:13.567$ diagnosis and make informed decisions.

NOTE Confidence: 0.8594627

 $00:00:13.570 \longrightarrow 00:00:18.274$ Learn more at lifebeyondpink.com.

NOTE Confidence: 0.8594627

 $00:00:18.280 \longrightarrow 00:00:20.065$ Welcome to Yale Cancer Answers

NOTE Confidence: 0.8594627

00:00:20.065 --> 00:00:21.136 with your host

NOTE Confidence: 0.8594627

00:00:21.140 --> 00:00:22.930 Doctor Anees Chagpar.

NOTE Confidence: 0.8594627

00:00:22.930 --> 00:00:24.885 Yale Cancer Answers features the

NOTE Confidence: 0.8594627

 $00:00:24.885 \longrightarrow 00:00:27.291$ latest information on cancer care by

NOTE Confidence: 0.8594627

 $00{:}00{:}27.291 \dashrightarrow 00{:}00{:}28.831$ welcoming on cologists and specialists

NOTE Confidence: 0.8594627

00:00:28.831 --> 00:00:31.674 who are on the forefront of the battle

NOTE Confidence: 0.8594627

 $00{:}00{:}31.674 \dashrightarrow 00{:}00{:}33.662$ to fight cancer. This week, in honor

 $00:00:33.670 \longrightarrow 00:00:35.460$ of Breast Cancer Awareness Month

NOTE Confidence: 0.8594627

 $00:00:35.460 \longrightarrow 00:00:37.250$ it's a conversation about breast

NOTE Confidence: 0.8594627

 $00{:}00{:}37.250 \dashrightarrow 00{:}00{:}39.040$ cancer with Doctor Lajos Pusztai.

NOTE Confidence: 0.8594627

 $00:00:39.040 \longrightarrow 00:00:40.915$ Doctor Pusztai is a professor

NOTE Confidence: 0.8594627

00:00:40.915 --> 00:00:42.790 of Medicine in medical oncology

NOTE Confidence: 0.8594627

00:00:42.860 --> 00:00:44.768 at the Yale School of Medicine,

NOTE Confidence: 0.8594627

00:00:44.770 --> 00:00:46.918 where doctor Chagpar is a

NOTE Confidence: 0.8594627

00:00:46.918 --> 00:00:48.350 professor of surgical oncology.

NOTE Confidence: 0.87699646

00:00:49.350 --> 00:00:51.261 Maybe we can

NOTE Confidence: 0.87699646

00:00:51.261 --> 00:00:53.889 start off by talking a little bit

NOTE Confidence: 0.87699646

 $00{:}00{:}53.889 \rightarrow 00{:}00{:}55.629$ about breast cancer yesterday,

NOTE Confidence: 0.87699646

 $00:00:55.630 \longrightarrow 00:00:56.680$ today and tomorrow.

NOTE Confidence: 0.87699646

00:00:56.680 --> 00:00:58.346 Many of us,

NOTE Confidence: 0.87699646

 $00{:}00{:}58.346 \dashrightarrow 00{:}01{:}00.278$ especially now in October are

NOTE Confidence: 0.87699646

00:01:00.278 --> 00:01:01.908 talking about breast cancer.

NOTE Confidence: 0.87699646

00:01:01.910 --> 00:01:04.010 It's certainly a very common malignancy,

 $00:01:04.010 \longrightarrow 00:01:06.460$ but tell us a little bit about

NOTE Confidence: 0.87699646

 $00:01:06.460 \longrightarrow 00:01:08.548$ how common it is and

NOTE Confidence: 0.87699646

 $00:01:08.550 \longrightarrow 00:01:09.938$ how deadly it is.

NOTE Confidence: 0.86687833

00:01:11.590 --> 00:01:14.103 I think it's most appropriate to

NOTE Confidence: 0.86687833

00:01:14.103 --> 00:01:17.161 start with the good news, the good

NOTE Confidence: 0.86687833

00:01:17.161 --> 00:01:19.490 news for breast cancer patients is

NOTE Confidence: 0.86687833

 $00:01:19.490 \longrightarrow 00:01:21.602$ that the survival rates have improved

NOTE Confidence: 0.86687833

 $00{:}01{:}21.602 \dashrightarrow 00{:}01{:}24.868$ by 40 to 50% over the past 20 years.

NOTE Confidence: 0.86687833

 $00:01:24.870 \longrightarrow 00:01:27.090$ There are 50% more patients that survive

NOTE Confidence: 0.86687833

 $00:01:27.090 \longrightarrow 00:01:29.299$ breast cancer than 20 years ago.

NOTE Confidence: 0.86687833

 $00:01:29.300 \longrightarrow 00:01:31.140$ And about 85% of

NOTE Confidence: 0.86687833

 $00{:}01{:}31.140 \dashrightarrow 00{:}01{:}32.612$ newly diagnosed breast cancer

NOTE Confidence: 0.86687833

 $00:01:32.620 \longrightarrow 00:01:35.210$ patients will never die from their disease,

NOTE Confidence: 0.86687833

 $00:01:35.210 \longrightarrow 00:01:37.786$ which we could paraphrase as being cured.

NOTE Confidence: 0.86687833

 $00:01:37.790 \longrightarrow 00:01:39.998$ The probability of survival of course,

 $00:01:40.000 \longrightarrow 00:01:41.233$ vary by stage.

NOTE Confidence: 0.86687833

 $00:01:41.233 \longrightarrow 00:01:43.699$ And in stage one breast cancer,

NOTE Confidence: 0.86687833

 $00:01:43.700 \longrightarrow 00:01:45.770$ which is the most frequently diagnosed

NOTE Confidence: 0.86687833

 $00:01:45.770 \longrightarrow 00:01:48.853$ stage of breast cancer due to the broadly

NOTE Confidence: 0.86687833

 $00:01:48.853 \longrightarrow 00:01:50.493$ availability of mammographic screening,

NOTE Confidence: 0.86687833

 $00:01:50.500 \longrightarrow 00:01:52.508$ the survival rates are

NOTE Confidence: 0.86687833

 $00:01:52.508 \longrightarrow 00:01:55.018$ even higher and above 90%.

NOTE Confidence: 0.86687833

 $00:01:55.020 \longrightarrow 00:01:56.910$ In Stage 4, disease

NOTE Confidence: 0.86687833

 $00{:}01{:}56.910 \dashrightarrow 00{:}01{:}58.422$ survival still remains elusive,

NOTE Confidence: 0.86687833

00:01:58.430 --> 00:02:00.776 but patients live many years longer

NOTE Confidence: 0.86687833

 $00:02:00.776 \longrightarrow 00:02:03.360$ than they used to 20 years ago.

NOTE Confidence: 0.86687833

 $00:02:03.360 \longrightarrow 00:02:04.120$ Yeah, it's

NOTE Confidence: 0.88930136

00:02:04.120 --> 00:02:05.188 certainly good news,

NOTE Confidence: 0.88930136

00:02:05.188 --> 00:02:08.548 and I think that women now more and

NOTE Confidence: 0.88930136

00:02:08.548 --> 00:02:11.320 more are beginning to realize that

NOTE Confidence: 0.88930136

00:02:11.320 --> 00:02:12.832 just getting breast cancer

 $00:02:12.832 \longrightarrow 00:02:14.722$ is not a death sentence,

NOTE Confidence: 0.88930136

 $00:02:14.730 \longrightarrow 00:02:16.900$ but I want to take one step

NOTE Confidence: 0.88930136

 $00:02:16.900 \longrightarrow 00:02:19.729$ back and talk a little bit about

NOTE Confidence: 0.88930136

00:02:19.729 --> 00:02:21.545 something that you mentioned,

NOTE Confidence: 0.88930136

 $00:02:21.550 \longrightarrow 00:02:23.992$ which is how the survival rates

NOTE Confidence: 0.88930136

 $00:02:23.992 \longrightarrow 00:02:26.430$ have improved and one of the

NOTE Confidence: 0.88930136

 $00:02:26.430 \longrightarrow 00:02:28.620$ things that has helped in that

NOTE Confidence: 0.88930136

 $00{:}02{:}28.620 \dashrightarrow 00{:}02{:}31.002$ is screening and in October

NOTE Confidence: 0.88930136

00:02:31.002 --> 00:02:33.122 we're all talking about, get

NOTE Confidence: 0.88930136

00:02:33.122 --> 00:02:34.938 your mammogram, get screened.

NOTE Confidence: 0.88930136

 $00:02:34.940 \longrightarrow 00:02:38.216$ Many women

NOTE Confidence: 0.88930136

 $00:02:38.216 \longrightarrow 00:02:40.783$ they'll come up to me

NOTE Confidence: 0.88930136

 $00{:}02{:}40.783 \dashrightarrow 00{:}02{:}43.275$ and say I get my mammogram every

NOTE Confidence: 0.88930136

 $00{:}02{:}43.362 \dashrightarrow 00{:}02{:}45.876$ year and I got breast cancer.

NOTE Confidence: 0.88930136

 $00{:}02{:}45.880 \longrightarrow 00{:}02{:}48.232$ Can you talk a little bit about

00:02:48.232 --> 00:02:49.837 the difference between screening

NOTE Confidence: 0.88930136

 $00:02:49.837 \longrightarrow 00:02:51.969$ or secondary prevention versus

NOTE Confidence: 0.88930136

 $00:02:51.969 \longrightarrow 00:02:53.035$ primary prevention?

NOTE Confidence: 0.8559525

 $00:02:54.830 \longrightarrow 00:02:57.483$ Yeah, so of course it's a shock

NOTE Confidence: 0.8559525

00:02:57.483 --> 00:02:59.969 for any individual to be diagnosed

NOTE Confidence: 0.8559525

 $00:02:59.969 \longrightarrow 00:03:01.933$ with cancer, but among Kansas,

NOTE Confidence: 0.8559525

 $00{:}03{:}01.933 \dashrightarrow 00{:}03{:}04.159$ Briskin series is actually one of

NOTE Confidence: 0.8559525

 $00:03:04.159 \longrightarrow 00:03:06.737$ the most highly treatable and curable

NOTE Confidence: 0.8559525

 $00{:}03{:}06.737 \dashrightarrow 00{:}03{:}09.320$ diseases and then a mammogram picks

NOTE Confidence: 0.8559525

 $00:03:09.320 \longrightarrow 00:03:12.015$ up cancer is actually a success of

NOTE Confidence: 0.8559525

 $00{:}03{:}12.015 \dashrightarrow 00{:}03{:}13.566$ the mammographic screening story.

NOTE Confidence: 0.8559525

 $00{:}03{:}13.566 \dashrightarrow 00{:}03{:}15.506$ So mammographic imaging is more

NOTE Confidence: 0.8559525

 $00:03:15.506 \longrightarrow 00:03:17.942$ sensitive than any self examination or

NOTE Confidence: 0.8559525

00:03:17.942 --> 00:03:19.967 physical examination by a physician,

NOTE Confidence: 0.8559525

 $00:03:19.970 \longrightarrow 00:03:22.623$ and the goal is to really find

NOTE Confidence: 0.8559525

 $00:03:22.623 \longrightarrow 00:03:24.839$ cancer as early as possible.

 $00:03:24.840 \longrightarrow 00:03:26.740$ Because the cure rates are

NOTE Confidence: 0.8559525

 $00{:}03{:}26.740 \dashrightarrow 00{:}03{:}28.640$ directly proportional to the size

NOTE Confidence: 0.8559525

 $00:03:28.710 \longrightarrow 00:03:30.270$ and stage of the disease.

NOTE Confidence: 0.8704512

 $00:03:31.520 \longrightarrow 00:03:34.301$ And I think that this is a big

NOTE Confidence: 0.8704512

 $00:03:34.301 \longrightarrow 00:03:36.369$ difference that we see here in the

NOTE Confidence: 0.8704512

 $00:03:36.369 \longrightarrow 00:03:38.930$ Western World as as opposed to the

NOTE Confidence: 0.8704512

 $00:03:38.930 \longrightarrow 00:03:40.742$ developing world where mammographic

NOTE Confidence: 0.8704512

 $00{:}03{:}40.742 \dashrightarrow 00{:}03{:}42.814$ screening isn't as widespread and

NOTE Confidence: 0.8704512

 $00{:}03{:}42.814 \dashrightarrow 00{:}03{:}44.926$ many of those patients present late.

NOTE Confidence: 0.8704512

00:03:44.930 --> 00:03:47.450 But I want to pick up on something

NOTE Confidence: 0.8704512

00:03:47.450 --> 00:03:49.519 else that you just mentioned,

NOTE Confidence: 0.8704512

 $00:03:49.520 \longrightarrow 00:03:51.994$ which is to say the staging now

NOTE Confidence: 0.8704512

 $00{:}03{:}51.994 \dashrightarrow 00{:}03{:}53.764$ Historically we always used to

NOTE Confidence: 0.8704512

00:03:53.764 --> 00:03:55.879 think about stage as being TNM.

NOTE Confidence: 0.8704512

 $00:03:55.880 \longrightarrow 00:03:57.640$ How big is the tumor?

 $00:03:57.640 \longrightarrow 00:04:00.104$ Has it gone to the lymph nodes?

NOTE Confidence: 0.8704512

 $00:04:00.110 \longrightarrow 00:04:01.190$ Has it spread

NOTE Confidence: 0.8704512

 $00:04:01.190 \longrightarrow 00:04:02.630$ outside of the breast,

NOTE Confidence: 0.8704512

 $00:04:02.630 \longrightarrow 00:04:05.926$ in the lymph node area to distant sites?

NOTE Confidence: 0.8704512

00:04:05.930 --> 00:04:06.842 Recently, however,

NOTE Confidence: 0.8704512

 $00:04:06.842 \longrightarrow 00:04:08.666$ there has been incorporated

NOTE Confidence: 0.8704512

 $00:04:08.666 \longrightarrow 00:04:10.490$ into the staging system,

NOTE Confidence: 0.8704512

00:04:10.490 --> 00:04:13.675 at least in the prognostic staging system,

NOTE Confidence: 0.8704512

 $00{:}04{:}13.680 \dashrightarrow 00{:}04{:}16.865$ this concept of grade and receptor status.

NOTE Confidence: 0.8704512

00:04:16.870 --> 00:04:19.950 Can you talk a little bit about

NOTE Confidence: 0.8704512

 $00{:}04{:}19.950 \dashrightarrow 00{:}04{:}22.751$ what those phenomena are and how

NOTE Confidence: 0.8704512

00:04:22.751 --> 00:04:25.076 they affect prognosis and stage?

NOTE Confidence: 0.85202396

 $00:04:26.400 \longrightarrow 00:04:28.615$ Yes, so staging this historically

NOTE Confidence: 0.85202396

00:04:28.615 --> 00:04:31.968 being a composite with the size of the

NOTE Confidence: 0.85202396

 $00:04:31.968 \longrightarrow 00:04:34.446$ cancer and the number of lymph nodes

NOTE Confidence: 0.85202396

 $00{:}04{:}34.525 \dashrightarrow 00{:}04{:}37.105$ or being influence involved at all.

 $00:04:37.110 \longrightarrow 00:04:39.170$ Defining the classical anatomical stage.

NOTE Confidence: 0.85202396

 $00:04:39.170 \longrightarrow 00:04:41.956$ So we learned that there are many

NOTE Confidence: 0.85202396

00:04:41.956 --> 00:04:43.968 additional features beyond just the

NOTE Confidence: 0.85202396

 $00:04:43.968 \longrightarrow 00:04:46.572$ size of the tumor that determined the

NOTE Confidence: 0.85202396

 $00:04:46.572 \longrightarrow 00:04:48.815$ prognosis and increasingly the sensitivity

NOTE Confidence: 0.85202396

 $00:04:48.815 \longrightarrow 00:04:51.521$ of the cancer to various therapies.

NOTE Confidence: 0.85202396

00:04:51.530 --> 00:04:53.635 And these molecular variables or

NOTE Confidence: 0.85202396

 $00{:}04{:}53.635 \dashrightarrow 00{:}04{:}55.740$ markers can really influence the

NOTE Confidence: 0.85202396

 $00{:}04{:}55.810 \dashrightarrow 00{:}04{:}58.080$ overall prognosis of an individual.

NOTE Confidence: 0.85202396

 $00:04:58.080 \longrightarrow 00:05:01.552$ So staging is now really find by additional

NOTE Confidence: 0.85202396

 $00:05:01.552 \longrightarrow 00:05:03.670$ molecular variables in breast cancer,

NOTE Confidence: 0.85202396

 $00:05:03.670 \longrightarrow 00:05:05.820$ particularly grade and there stretching

NOTE Confidence: 0.85202396

 $00{:}05{:}05.820 \dashrightarrow 00{:}05{:}07.970$ receptor status below grade Kansas.

NOTE Confidence: 0.85202396

 $00{:}05{:}07.970 \dashrightarrow 00{:}05{:}10.120$ Even keeping the size the

NOTE Confidence: 0.85202396

 $00:05:10.120 \longrightarrow 00:05:12.270$ same do better than then,

 $00:05:12.270 \longrightarrow 00:05:14.388$ then higher grade terms and grade

NOTE Confidence: 0.85202396

 $00{:}05{:}14.388 \dashrightarrow 00{:}05{:}17.021$ is A is a pathological variable

NOTE Confidence: 0.85202396

 $00:05:17.021 \longrightarrow 00:05:20.423$ that that sort of approximates how

NOTE Confidence: 0.85202396

 $00:05:20.423 \longrightarrow 00:05:23.119$ abnormal the cancer cells look.

NOTE Confidence: 0.85202396

 $00:05:23.120 \longrightarrow 00:05:25.759$ Do you struction Receptor Studies is also

NOTE Confidence: 0.85202396

 $00:05:25.759 \longrightarrow 00:05:28.262$ very important because we have highly

NOTE Confidence: 0.85202396

 $00:05:28.262 \longrightarrow 00:05:30.006$ effective estrogen targeted the rapies

NOTE Confidence: 0.85202396

 $00:05:30.006 \longrightarrow 00:05:32.440$ that improve survival in these patients.

NOTE Confidence: 0.85202396

 $00{:}05{:}32.440 \dashrightarrow 00{:}05{:}34.870$ So even with a longer term,

NOTE Confidence: 0.85202396

 $00:05:34.870 \longrightarrow 00:05:36.940$ their outcome actually is similar

NOTE Confidence: 0.85202396

 $00{:}05{:}36.940 \dashrightarrow 00{:}05{:}39.320$ to what is smaller to me.

NOTE Confidence: 0.85202396

 $00:05:39.320 \longrightarrow 00:05:41.903$ Used to be many years ago which

NOTE Confidence: 0.85202396

 $00:05:41.903 \longrightarrow 00:05:44.988$ speaks to the efficiency of the novel

NOTE Confidence: 0.84262973

00:05:44.990 --> 00:05:47.846 therapies. Yeah, and just when we think

NOTE Confidence: 0.84262973

 $00:05:47.846 \longrightarrow 00:05:50.659$ about the landscape of all breast cancers,

NOTE Confidence: 0.84262973

 $00:05:50.660 \longrightarrow 00:05:52.715$ what proportion of breast cancers

00:05:52.715 --> 00:05:54.530 are hormone receptor? Positive.

NOTE Confidence: 0.8447615

00:05:55.760 --> 00:05:58.376 About 70% of all newly diagnosed

NOTE Confidence: 0.8447615

 $00:05:58.376 \longrightarrow 00:06:00.120$ breast cancer hormone receptor

NOTE Confidence: 0.8447615

 $00:06:00.192 \longrightarrow 00:06:02.268$ or estrogen receptor positive.

NOTE Confidence: 0.8447615

 $00:06:02.270 \longrightarrow 00:06:04.605$ This proportion does change the

NOTE Confidence: 0.8447615

 $00{:}06{:}04.605 \dashrightarrow 00{:}06{:}07.882$ overage an it's even larger in the

NOTE Confidence: 0.8447615

 $00:06:07.882 \longrightarrow 00:06:10.450$ population who are above 6065 and

NOTE Confidence: 0.8447615

 $00:06:10.450 \longrightarrow 00:06:12.969$ somewhat less in younger patients.

NOTE Confidence: 0.8447615

 $00:06:12.970 \longrightarrow 00:06:14.530$ So in other words,

NOTE Confidence: 0.8447615

 $00:06:14.530 \longrightarrow 00:06:16.870$ patients in their 50s and 40s

NOTE Confidence: 0.8447615

 $00{:}06{:}16.952 \dashrightarrow 00{:}06{:}19.692$ have a higher proportion of

NOTE Confidence: 0.8447615

 $00:06:19.692 \longrightarrow 00:06:21.336$ estrogen receptor negative

NOTE Confidence: 0.8447615

00:06:21.340 --> 00:06:23.890 breast cancers and the Epidemiology

NOTE Confidence: 0.8447615

 $00:06:23.890 \longrightarrow 00:06:26.950$ of breast cancer is such that.

NOTE Confidence: 0.8447615

 $00:06:26.950 \longrightarrow 00:06:29.320$ Age actually is a risk factor

 $00:06:29.320 \longrightarrow 00:06:30.900$ for developing breast cancer,

NOTE Confidence: 0.8447615

 $00{:}06{:}30.900 \dashrightarrow 00{:}06{:}33.156$ so what's the average age at

NOTE Confidence: 0.8447615

 $00:06:33.156 \longrightarrow 00:06:35.250$ which women get breast cancer?

NOTE Confidence: 0.8720349

 $00:06:36.380 \longrightarrow 00:06:38.834$ So the average age is somewhere

NOTE Confidence: 0.8720349

 $00:06:38.834 \longrightarrow 00:06:40.780$ around between 60 and 65,

NOTE Confidence: 0.8720349

 $00:06:40.780 \longrightarrow 00:06:43.115$ so the majority of breast

NOTE Confidence: 0.8720349

00:06:43.115 --> 00:06:45.450 cancer patients are above 60.

NOTE Confidence: 0.8720349

 $00:06:45.450 \longrightarrow 00:06:47.623$ Which is plain to see risk

NOTE Confidence: 0.8720349

 $00{:}06{:}47.623 \dashrightarrow 00{:}06{:}49.729$ insulin in
in very young woman

NOTE Confidence: 0.8720349

 $00:06:49.729 \longrightarrow 00:06:51.807$ even their their early 30s.

NOTE Confidence: 0.8757816

 $00{:}06{:}51.810 \longrightarrow 00{:}06{:}54.794$ Yeah, so I think 2 two important points

NOTE Confidence: 0.8757816

 $00:06:54.794 \longrightarrow 00:06:57.977$ there. One is that breast cancer is a

NOTE Confidence: 0.8757816

 $00:06:57.977 \longrightarrow 00:07:00.582$ phenomena of aging and so women need

NOTE Confidence: 0.8757816

 $00:07:00.582 \longrightarrow 00:07:03.778$ to be aware of that as a risk factor.

NOTE Confidence: 0.8757816

 $00:07:03.780 \longrightarrow 00:07:05.650$ So many women asked me,

NOTE Confidence: 0.8757816

00:07:05.650 --> 00:07:08.634 you know why did I get breast cancer?

 $00{:}07{:}08.640 \longrightarrow 00{:}07{:}11.160$ I eat right? I exercise and you

NOTE Confidence: 0.8757816

 $00:07:11.160 \longrightarrow 00:07:14.086$ know the two main risk factors are

NOTE Confidence: 0.8757816

 $00:07:14.086 \longrightarrow 00:07:16.732$ being a woman and getting older.

NOTE Confidence: 0.8757816

 $00:07:16.740 \longrightarrow 00:07:18.380$ But as you say, lios,

NOTE Confidence: 0.8757816

 $00:07:18.380 \longrightarrow 00:07:20.534$ you know the other thing that's

NOTE Confidence: 0.8757816

 $00:07:20.534 \longrightarrow 00:07:22.356$ really important is that breast

NOTE Confidence: 0.8757816

 $00:07:22.356 \longrightarrow 00:07:24.596$ cancer can occur in young women and

NOTE Confidence: 0.8757816

 $00:07:24.596 \longrightarrow 00:07:26.909$ an they need to be aware of that.

NOTE Confidence: 0.8757816

 $00:07:26.910 \longrightarrow 00:07:28.849$ Let's let's go there for a minute

NOTE Confidence: 0.8757816

 $00{:}07{:}28.849 \dashrightarrow 00{:}07{:}30.578$ and talk about younger women

NOTE Confidence: 0.8757816

 $00{:}07{:}30.578 --> 00{:}07{:}31.826 \ \mathrm{getting} \ \mathrm{breast} \ \mathrm{cancer},$

NOTE Confidence: 0.8757816

 $00:07:31.830 \longrightarrow 00:07:33.138$ because certainly that's a

NOTE Confidence: 0.8757816

 $00{:}07{:}33.138 \dashrightarrow 00{:}07{:}34.773$ shocking thing for many women.

NOTE Confidence: 0.8757816

 $00:07:34.780 \longrightarrow 00:07:36.726$ Some women are told that they are

NOTE Confidence: 0.8757816

00:07:36.726 --> 00:07:38.855 too young to get breast cancer and

 $00:07:38.855 \longrightarrow 00:07:41.192$ yet breast cancer seems to be more

NOTE Confidence: 0.8757816

 $00{:}07{:}41.192 \dashrightarrow 00{:}07{:}43.307$ aggressive in the younger population.

NOTE Confidence: 0.8757816

 $00:07:43.310 \longrightarrow 00:07:43.638$ Key.

NOTE Confidence: 0.8757816

00:07:43.638 --> 00:07:46.590 Can you kinda talk a little bit about that?

NOTE Confidence: 0.86608607

00:07:48.070 --> 00:07:51.010 Yeah, so the risk factors for breast

NOTE Confidence: 0.86608607

 $00:07:51.010 \longrightarrow 00:07:53.517$ cancer also depend and vary by

NOTE Confidence: 0.86608607

00:07:53.517 --> 00:07:55.857 the molecular type of the disease,

NOTE Confidence: 0.86608607

 $00{:}07{:}55.860 \dashrightarrow 00{:}07{:}58.968$ so the risk factors that increase the

NOTE Confidence: 0.86608607

 $00{:}07{:}58.968 \dashrightarrow 00{:}08{:}01.746$ probability that someone would develop a

NOTE Confidence: 0.86608607

00:08:01.746 --> 00:08:04.494 nurse region positive breast cancer does

NOTE Confidence: 0.86608607

 $00:08:04.494 \longrightarrow 00:08:07.387$ include reproductive variables such as a.

NOTE Confidence: 0.86608607

 $00:08:07.390 \longrightarrow 00:08:09.412$ Having no children or having children

NOTE Confidence: 0.86608607

 $00{:}08{:}09.412 \dashrightarrow 00{:}08{:}11.930$ late there is for estrogen receptor.

NOTE Confidence: 0.86608607

 $00:08:11.930 \longrightarrow 00:08:13.820$ Negative disease is very seem.

NOTE Confidence: 0.86608607

 $00:08:13.820 \longrightarrow 00:08:17.696$ Factors actually seemed to be protective.

NOTE Confidence: 0.86608607

00:08:17.700 --> 00:08:19.800 Another important risk factor is

00:08:19.800 --> 00:08:21.388 stretching exposure, and again,

NOTE Confidence: 0.86608607

 $00{:}08{:}21.388 \dashrightarrow 00{:}08{:}24.006$ this is a risk factor for developing

NOTE Confidence: 0.86608607

 $00:08:24.006 \longrightarrow 00:08:25.680$ Australian receptive positive.

NOTE Confidence: 0.86608607

 $00:08:25.680 \longrightarrow 00:08:28.392$ This is and this has been clearly seen

NOTE Confidence: 0.86608607

 $00:08:28.392 \longrightarrow 00:08:31.291$ in the past when estrogen replacement

NOTE Confidence: 0.86608607

 $00{:}08{:}31.291 \dashrightarrow 00{:}08{:}34.501$ the rapy to treat for menopausal symptoms

NOTE Confidence: 0.86608607

 $00:08:34.583 \longrightarrow 00:08:37.535$ and with the hope that it would improve

NOTE Confidence: 0.86608607

 $00{:}08{:}37.535 \dashrightarrow 00{:}08{:}40.380$ or reduce the risk of heart disease,

NOTE Confidence: 0.86608607

 $00:08:40.380 \longrightarrow 00:08:42.116$ has been widely followed.

NOTE Confidence: 0.86608607

00:08:42.116 --> 00:08:44.720 We saw an increase in estrogen

NOTE Confidence: 0.86608607

 $00:08:44.801 \longrightarrow 00:08:47.357$ receptor positive breast cancers.

NOTE Confidence: 0.86608607

00:08:47.360 --> 00:08:49.432 Other somewhat less important,

NOTE Confidence: 0.86608607

 $00{:}08{:}49.432 \dashrightarrow 00{:}08{:}52.022$ but still significant risk factors

NOTE Confidence: 0.86608607

 $00:08:52.022 \longrightarrow 00:08:54.608$ include obesity or being overweight,

NOTE Confidence: 0.86608607

 $00:08:54.610 \longrightarrow 00:08:57.200$ especially if someone is postmenopausal,

 $00:08:57.200 \longrightarrow 00:08:58.298$ small amounts,

NOTE Confidence: 0.86608607

 $00{:}08{:}58.298 \dashrightarrow 00{:}09{:}01.592$ but regular alcohol intake also increases

NOTE Confidence: 0.86608607

 $00:09:01.592 \longrightarrow 00:09:05.489$ the risk for breast cancer of both types.

NOTE Confidence: 0.8828672

 $00:09:06.870 \longrightarrow 00:09:09.264$ And I think the other

NOTE Confidence: 0.8828672

00:09:09.264 --> 00:09:10.860 risk factor,

NOTE Confidence: 0.8828672

00:09:10.860 --> 00:09:12.452 particularly for younger women,

NOTE Confidence: 0.8828672

 $00:09:12.452 \longrightarrow 00:09:13.646$ is genetics.

NOTE Confidence: 0.8828672

00:09:13.650 --> 00:09:15.680 A little bit about knowing

NOTE Confidence: 0.8828672

 $00{:}09{:}15.680 \dashrightarrow 00{:}09{:}17.710$ your family history and some

NOTE Confidence: 0.8828672

 $00:09:17.788 \longrightarrow 00:09:19.708$ of the genetic mutations that

NOTE Confidence: 0.8828672

00:09:19.708 --> 00:09:21.628 can put women at risk,

NOTE Confidence: 0.8828672

 $00:09:21.630 \longrightarrow 00:09:23.630$ especially at a younger age.

NOTE Confidence: 0.809348

 $00:09:24.990 \longrightarrow 00:09:28.296$ So the other important

NOTE Confidence: 0.809348

 $00:09:28.296 \longrightarrow 00:09:31.103$ risk factor is indeed genetics

00:09:34.110 --> 00:09:36.095 and has someone inherited from

NOTE Confidence: 0.809348

 $00:09:36.095 \longrightarrow 00:09:38.080$ their parents and particularly what

 $00:09:38.146 \longrightarrow 00:09:40.211$ sort of variance in these genes are

NOTE Confidence: 0.809348

 $00:09:40.211 \longrightarrow 00:09:42.162$ present in an individual through

NOTE Confidence: 0.809348

00:09:42.162 --> 00:09:44.170 through their parental lineage?

NOTE Confidence: 0.809348

00:09:44.170 --> 00:09:46.660 There are genes which are associated

NOTE Confidence: 0.809348

 $00:09:46.660 \longrightarrow 00:09:49.675$ with a very high risk of lifetime

NOTE Confidence: 0.809348

00:09:49.675 --> 00:09:52.213 breast cancer and the most well

NOTE Confidence: 0.809348

 $00:09:52.213 \longrightarrow 00:09:54.551$ known is of course

NOTE Confidence: 0.809348

00:09:54.551 --> 00:09:56.854 BRCA1 and BRCA2 genes, which,

NOTE Confidence: 0.809348

 $00{:}09{:}56.854 \dashrightarrow 00{:}10{:}00.110$ if they carry a mutation

NOTE Confidence: 0.809348

 $00:10:00.110 \longrightarrow 00:10:02.820$ that someone has inherited

NOTE Confidence: 0.809348

 $00{:}10{:}02.820 --> 00{:}10{:}05.926$ the lifetime risk can be

NOTE Confidence: 0.809348

 $00:10:05.926 \longrightarrow 00:10:08.604$ as high as 50 to 80% to develop

NOTE Confidence: 0.809348

 $00{:}10{:}08.604 \dashrightarrow 00{:}10{:}10.839$ breast cancer and other cancers

NOTE Confidence: 0.809348

 $00:10:10.840 \longrightarrow 00:10:12.196$ unfortunately as well,

NOTE Confidence: 0.809348

 $00:10:12.196 \longrightarrow 00:10:15.360$ such as ovarian cancer or male patients

NOTE Confidence: 0.809348

 $00{:}10{:}15.436 \dashrightarrow 00{:}10{:}17.986$ remain at risk for prostate cancer.

 $00:10:17.990 \longrightarrow 00:10:18.884$ Pancreatic cancer.

NOTE Confidence: 0.809348

 $00{:}10{:}18.884 \to 00{:}10{:}21.119$ There are other genetic causes

NOTE Confidence: 0.809348

 $00:10:21.119 \longrightarrow 00:10:22.460$ of breast cancer

NOTE Confidence: 0.809348

00:10:22.460 --> 00:10:25.884 that are much rarer than the BRCA gene

NOTE Confidence: 0.809348

 $00:10:25.884 \dashrightarrow 00:10:29.166$ mutations and these include genes like P53

NOTE Confidence: 0.809348

 $00:10:29.170 \longrightarrow 00:10:32.530$ Check one, ATM mutations.

NOTE Confidence: 0.809348

 $00:10:32.530 \longrightarrow 00:10:33.784$ But even combined,

NOTE Confidence: 0.809348

 $00:10:36.292 \longrightarrow 00:10:38.141$ these only account for probably

NOTE Confidence: 0.809348

 $00:10:38.141 \longrightarrow 00:10:40.800$ about 10% of early onset breast cancer.

NOTE Confidence: 0.809348

 $00:10:40.800 \longrightarrow 00:10:42.834$ The remaining 90% of patients

NOTE Confidence: 0.809348

 $00:10:42.834 \longrightarrow 00:10:45.063$ with an early onset breast cancer

NOTE Confidence: 0.809348

 $00:10:45.063 \longrightarrow 00:10:47.487$ carries some other type of abnormality

NOTE Confidence: 0.809348

 $00{:}10{:}47.487 \dashrightarrow 00{:}10{:}49.470$ that they likely inherited.

NOTE Confidence: 0.809348

 $00:10:49.470 \dashrightarrow 00:10:52.614$ But we don't really know what they are.

NOTE Confidence: 0.809348

00:10:52.620 --> 00:10:55.378 They very likely are not a single gene,

 $00:10:55.380 \longrightarrow 00:10:56.956$ but multiple genes together

NOTE Confidence: 0.809348

 $00{:}10{:}56.956 \dashrightarrow 00{:}10{:}58.926$ that together increase the risk.

NOTE Confidence: 0.809348

00:10:58.930 --> 00:11:01.310 But the good news is that death

NOTE Confidence: 0.809348

 $00:11:01.310 \longrightarrow 00:11:03.660$ risk is relatively small.

NOTE Confidence: 0.809348

 $00:11:03.660 \longrightarrow 00:11:04.839$ It's nowhere close

NOTE Confidence: 0.809348

 $00:11:04.839 \longrightarrow 00:11:07.552$ to these 50 to 80% risk of

NOTE Confidence: 0.809348

 $00:11:07.552 \longrightarrow 00:11:09.036$ developing cancer during their lifetime,

NOTE Confidence: 0.809348

 $00:11:09.040 \longrightarrow 00:11:11.091$ so a strong family history in the

NOTE Confidence: 0.809348

 $00{:}11{:}11.091 \dashrightarrow 00{:}11{:}12.957$ absence of this detectable germline

NOTE Confidence: 0.809348

 $00:11:12.957 \longrightarrow 00:11:15.735$ mutations still carries an increased risk.

NOTE Confidence: 0.809348

 $00{:}11{:}15.740 \dashrightarrow 00{:}11{:}18.337$ But that risk is more like $20{-}30\%$

NOTE Confidence: 0.809348

 $00:11:18.340 \longrightarrow 00:11:20.620$ above the average risk that

NOTE Confidence: 0.809348

 $00{:}11{:}20.620 \dashrightarrow 00{:}11{:}22.554$ would affect an individual who

NOTE Confidence: 0.809348

 $00{:}11{:}22.554 \dashrightarrow 00{:}11{:}23.918$ has no family history.

 $00:11:24.292 \longrightarrow 00:11:25.780$ And the other interesting

NOTE Confidence: 0.8740836

 $00:11:25.780 \longrightarrow 00:11:27.140$ thing and something

00:11:27.140 --> 00:11:30.126 I think that many of our listeners may

NOTE Confidence: 0.8740836

00:11:30.126 --> 00:11:32.724 not know, and many patients

NOTE Confidence: 0.8740836

00:11:32.724 --> 00:11:35.439 have told me is surprising to them,

NOTE Confidence: 0.8740836

 $00:11:35.440 \longrightarrow 00:11:37.463$ is that the vast majority of women

NOTE Confidence: 0.8740836

00:11:37.463 --> 00:11:39.139 who get breast cancer actually

NOTE Confidence: 0.8740836

 $00:11:39.139 \longrightarrow 00:11:40.994$ don't have a family history?

NOTE Confidence: 0.8740836

 $00:11:41.000 \longrightarrow 00:11:43.934$ You want to talk a little bit about that.

NOTE Confidence: 0.8379827

 $00:11:45.750 \longrightarrow 00:11:48.090$ Yeah, that's correct and it

NOTE Confidence: 0.8379827

 $00:11:48.090 \longrightarrow 00:11:50.952$ relates to aging being the

NOTE Confidence: 0.8379827

00:11:50.952 --> 00:11:52.982 most significant risk

NOTE Confidence: 0.8379827

 $00:11:52.982 \longrightarrow 00:11:55.248$ factor for breast cancer.

NOTE Confidence: 0.8379827

 $00:11:55.250 \longrightarrow 00:11:57.518$ Also for many other cancers and

NOTE Confidence: 0.8379827

00:11:57.518 --> 00:11:59.790 in fact many other diseases,

NOTE Confidence: 0.8379827

 $00:11:59.790 \longrightarrow 00:12:01.785$ it's probably a consequence of

NOTE Confidence: 0.8379827

 $00:12:01.785 \longrightarrow 00:12:03.780$ simply the aging process that

NOTE Confidence: 0.8379827

 $00:12:03.848 \longrightarrow 00:12:05.953$ actually damaged various

00:12:05.953 --> 00:12:07.637 cells throughout our body.

NOTE Confidence: 0.8379827

 $00{:}12{:}07.640 \dashrightarrow 00{:}12{:}10.615$ And if this damage reaches a threshold

NOTE Confidence: 0.8379827

00:12:10.615 --> 00:12:12.600 purely through bad luck,

NOTE Confidence: 0.8379827

 $00:12:12.600 \longrightarrow 00:12:16.016$ then a cell transitions into

NOTE Confidence: 0.8379827

00:12:16.020 --> 00:12:17.732 a malignant or cancerous

NOTE Confidence: 0.8379827

 $00:12:17.732 \longrightarrow 00:12:20.300$ phenotype and then goes

NOTE Confidence: 0.8379827

 $00:12:20.368 \longrightarrow 00:12:22.606$ down the path of becoming cancer.

NOTE Confidence: 0.86802304

 $00:12:23.200 \longrightarrow 00:12:24.848$ Yeah, one other topic

NOTE Confidence: 0.86802304

 $00:12:24.848 \longrightarrow 00:12:28.809$ I want to touch on before we

NOTE Confidence: 0.86802304

 $00:12:28.809 \longrightarrow 00:12:31.605$ leave this whole concept of genetics

NOTE Confidence: 0.86802304

 $00{:}12{:}31.605 \dashrightarrow 00{:}12{:}34.951$ ties into some of the subtypes

NOTE Confidence: 0.86802304

 $00:12:34.951 \longrightarrow 00:12:37.728$ that you were talking about earlier.

NOTE Confidence: 0.86802304

 $00{:}12{:}37.728 \dashrightarrow 00{:}12{:}39.998$ When we think about subtypes

NOTE Confidence: 0.86802304

 $00:12:39.998 \longrightarrow 00:12:41.360$ of breast cancer

NOTE Confidence: 0.86802304

 $00:12:41.360 \longrightarrow 00:12:43.630$ oftentimes we talk about whether

 $00:12:43.630 \longrightarrow 00:12:45.446$ these are estrogen receptor

NOTE Confidence: 0.86802304

 $00{:}12{:}45.446 \dashrightarrow 00{:}12{:}46.860$ positive, progesterone receptor

NOTE Confidence: 0.86802304

00:12:46.860 --> 00:12:49.524 positive or HER2 positive so

NOTE Confidence: 0.86802304

 $00:12:49.530 \longrightarrow 00:12:53.490$ these three markers help us to understand

NOTE Confidence: 0.86802304

 $00:12:53.490 \longrightarrow 00:12:55.716$ different types and so are people

NOTE Confidence: 0.86802304

00:12:55.716 --> 00:12:58.350 who have a genetic predisposition,

NOTE Confidence: 0.86802304

 $00:12:58.350 \longrightarrow 00:13:02.328$ for example, BRCA one or two,

NOTE Confidence: 0.86802304

 $00{:}13{:}02.330 \dashrightarrow 00{:}13{:}05.221$ are they more at risk of certain

NOTE Confidence: 0.86802304

 $00{:}13{:}05.221 \dashrightarrow 00{:}13{:}08.080$ subtypes of breast cancer than others?

NOTE Confidence: 0.82306206

 $00:13:09.390 \longrightarrow 00:13:11.500$ Yes, the BRCA mutation

NOTE Confidence: 0.82306206

 $00:13:11.500 \longrightarrow 00:13:13.740$ increases the risk of

NOTE Confidence: 0.82306206

00:13:13.740 --> 00:13:15.532 triple negative breast cancer

NOTE Confidence: 0.82306206

 $00{:}13{:}15.532 \dashrightarrow 00{:}13{:}17.985$ more than it increases the risk

NOTE Confidence: 0.82306206

 $00:13:17.985 \longrightarrow 00:13:19.915$ for the EGFR disease.

NOTE Confidence: 0.82306206

 $00:13:19.920 \longrightarrow 00:13:20.901$ In other words,

NOTE Confidence: 0.82306206

 $00:13:20.901 \longrightarrow 00:13:23.190$ patients with the BRCA1 or 2

00:13:23.264 --> 00:13:25.244 mutation more frequently have

NOTE Confidence: 0.82306206

 $00{:}13{:}25.244 \to 00{:}13{:}27.719$ estrogen receptor negative or estrogen

NOTE Confidence: 0.82306206

00:13:27.719 --> 00:13:30.017 and HER2 receptor negative,

NOTE Confidence: 0.82306206

 $00:13:30.020 \longrightarrow 00:13:31.935$ what we call triple negative

NOTE Confidence: 0.82306206

00:13:31.935 --> 00:13:34.650 disease in the BRCA2 Mutation.

NOTE Confidence: 0.82306206

 $00:13:34.650 \longrightarrow 00:13:38.748$ This proportion is closer to 50-50.

 $00:13:42.340 \longrightarrow 00:13:44.220$ To give some additional background into

NOTE Confidence: 0.8137695

00:13:44.220 --> 00:13:46.100 this receptor categorization,

NOTE Confidence: 0.8137695

 $00:13:46.100 \longrightarrow 00:13:48.690$ one of the most important insights

NOTE Confidence: 0.8137695

 $00:13:48.690 \longrightarrow 00:13:51.362$ that we have made into the biology

NOTE Confidence: 0.8137695

 $00{:}13{:}51.362 {\:\dashrightarrow\:} 00{:}13{:}54.034$ of breast cancer in the past 20

NOTE Confidence: 0.8137695

 $00{:}13{:}54.034 \dashrightarrow 00{:}13{:}56.624$ years is the recognition that the ER

NOTE Confidence: 0.8137695

 $00:13:56.630 \longrightarrow 00:13:58.795$ positive or estrogen receptor positive

NOTE Confidence: 0.8137695

 $00:13:58.795 \longrightarrow 00:14:00.527$ breast cancer really fundamentally is

NOTE Confidence: 0.8137695

 $00:14:00.527 \longrightarrow 00:14:02.640$ different from the triple negative or ER

NOTE Confidence: 0.8137695

 $00:14:02.640 \longrightarrow 00:14:03.392$ negative cancers.

00:14:03.392 --> 00:14:04.896 They arise from different

NOTE Confidence: 0.8137695

 $00:14:04.896 \longrightarrow 00:14:06.400$ cells in the breast.

NOTE Confidence: 0.8137695

 $00:14:06.400 \longrightarrow 00:14:08.280$ They have different risk factors

NOTE Confidence: 0.8137695

 $00:14:08.280 \longrightarrow 00:14:09.784$ and they require different

NOTE Confidence: 0.8137695

 $00:14:09.790 \longrightarrow 00:14:12.040$ therapies.

NOTE Confidence: 0.8322384

 $00:14:12.680 \longrightarrow 00:14:16.055$ There is a good marker that we

NOTE Confidence: 0.8322384

 $00:14:16.055 \longrightarrow 00:14:18.908$ routinely test for, so estrogen receptor

NOTE Confidence: 0.8322384

 $00:14:18.910 \longrightarrow 00:14:21.025$ and progesterone receptor and HER2 which

 $00:14:23.470 \longrightarrow 00:14:26.431$ is an abbreviation for the human

NOTE Confidence: 0.8322384

 $00:14:26.431 \longrightarrow 00:14:28.868$ epidermal growth factor receptor 2 gene.

NOTE Confidence: 0.8322384

 $00:14:28.870 \longrightarrow 00:14:31.651$ So HER2 is the third variable that we

NOTE Confidence: 0.8322384

 $00:14:31.651 \longrightarrow 00:14:34.512$ always test the breast cancer for because

NOTE Confidence: 0.8322384

 $00:14:34.512 \longrightarrow 00:14:37.379$ there are highly effective therapies for

NOTE Confidence: 0.8322384

 $00:14:37.379 \longrightarrow 00:14:39.659$ this particular molecular abnormality,

NOTE Confidence: 0.8322384

 $00:14:39.660 \longrightarrow 00:14:42.978$ but about 10 to 15% of cancer carry it.

NOTE Confidence: 0.8564542

 $00:14:43.430 \longrightarrow 00:14:46.038$ I think that that's so important

 $00:14:46.038 \longrightarrow 00:14:48.670$ to really understand that classification,

NOTE Confidence: 0.8564542

 $00{:}14{:}48.670 \longrightarrow 00{:}14{:}51.822$ which we're going to get into right after

NOTE Confidence: 0.8564542

 $00:14:51.822 \longrightarrow 00:14:55.520$ we take a short break for a medical minute.

NOTE Confidence: 0.8564542

00:14:55.520 --> 00:14:57.866 Please stay tuned to learn more

NOTE Confidence: 0.8564542

 $00:14:57.866 \longrightarrow 00:15:00.360$ about the treatment and diagnosis of

NOTE Confidence: 0.856454200000001

00:15:00.360 --> 00:15:02.761 breast cancer with my guest doctor Lajos Pusztai.

NOTE Confidence: 0.856454200000001

00:15:02.761 --> 00:15:04.893 Support for Yale Cancer Answers

NOTE Confidence: 0.856454200000001

 $00{:}15{:}04.893 \dashrightarrow 00{:}15{:}06.981$ comes from AstraZeneca, proud partner

NOTE Confidence: 0.856454200000001

 $00:15:06.981 \longrightarrow 00:15:08.985$ in personalized medicine developing

NOTE Confidence: 0.856454200000001

 $00:15:08.985 \longrightarrow 00:15:11.635$ tailored treatments for cancer patients.

NOTE Confidence: 0.856454200000001

 $00{:}15{:}11.640 \dashrightarrow 00{:}15{:}15.140$ Learn more at a strazeneca-us.com.

NOTE Confidence: 0.856454200000001

 $00:15:15.140 \longrightarrow 00:15:18.388$ This is a medical minute about lung cancer.

NOTE Confidence: 0.856454200000001

 $00{:}15{:}18.390 \dashrightarrow 00{:}15{:}20.938$ More than 85% of lung cancer diagnosis

NOTE Confidence: 0.856454200000001

 $00:15:20.938 \longrightarrow 00:15:23.866$ are related to smoking and quitting even

NOTE Confidence: 0.856454200000001

 $00:15:23.866 \longrightarrow 00:15:26.506$ after decades of use can significantly

 $00:15:26.579 \longrightarrow 00:15:28.973$ reduce your risk of developing lung

NOTE Confidence: 0.856454200000001

 $00{:}15{:}28.973 \dashrightarrow 00{:}15{:}30.951$ cancer. For lung cancer patients

NOTE Confidence: 0.856454200000001

 $00:15:30.951 \longrightarrow 00:15:32.856$ clinical trials are currently underway

NOTE Confidence: 0.856454200000001

 $00:15:32.856 \longrightarrow 00:15:35.030$ to test innovative new treatments.

NOTE Confidence: 0.856454200000001

 $00:15:35.030 \longrightarrow 00:15:38.036$ Advances are being made by utilizing

NOTE Confidence: 0.856454200000001

 $00:15:38.036 \longrightarrow 00:15:40.040$ targeted therapies and immunotherapies.

NOTE Confidence: 0.856454200000001

 $00{:}15{:}40.116 \dashrightarrow 00{:}15{:}42.174$ The BATTLE 2 trial aims to learn

NOTE Confidence: 0.856454200000001

 $00:15:42.174 \longrightarrow 00:15:44.760$ if a drug or combination of drugs

NOTE Confidence: 0.856454200000001

 $00:15:44.760 \longrightarrow 00:15:47.208$ based on personal biomarkers can help

NOTE Confidence: 0.856454200000001

 $00:15:47.210 \longrightarrow 00:15:50.227$ to control NSCLC.

NOTE Confidence: 0.856454200000001

 $00{:}15{:}50.230 \dashrightarrow 00{:}15{:}53.005$ More information is available

NOTE Confidence: 0.856454200000001

 $00:15:53.005 \longrightarrow 00:15:54.115$ at yalecancercenter.org.

NOTE Confidence: 0.856454200000001

 $00:15:54.120 \longrightarrow 00:15:58.848$ You're listening to Connecticut public radio.

NOTE Confidence: 0.856454200000001 00:15:58.850 --> 00:15:59.230 Welcome

NOTE Confidence: 0.83584005

 $00:15:59.230 \longrightarrow 00:16:01.110$ back to Yale Cancer Answers.

NOTE Confidence: 0.83584005

 $00:16:01.110 \longrightarrow 00:16:03.162$ This is doctor Anees Chagpar

 $00:16:03.162 \longrightarrow 00:16:05.438$ and I'm joined tonight by

NOTE Confidence: 0.83584005

 $00{:}16{:}05.438 \dashrightarrow 00{:}16{:}07.518$ my guest Doctor Lajos Pusztai.

NOTE Confidence: 0.83584005

 $00:16:07.520 \longrightarrow 00:16:09.932$ We're talking about the care of

NOTE Confidence: 0.83584005

 $00:16:09.932 \longrightarrow 00:16:12.003$ patients with breast cancer in

NOTE Confidence: 0.83584005

 $00{:}16{:}12.003 \dashrightarrow 00{:}16{:}13.978$ honor of Breast Cancer Awareness

NOTE Confidence: 0.83584005

 $00:16:13.978 \longrightarrow 00:16:16.588$ Month and right before the break

NOTE Confidence: 0.83584005

 $00:16:16.588 \longrightarrow 00:16:18.828$ we were talking a little bit

NOTE Confidence: 0.83584005

 $00:16:18.830 \longrightarrow 00:16:21.086$ about these types of breast cancer.

NOTE Confidence: 0.83584005

 $00:16:21.090 \longrightarrow 00:16:22.980$ This classification based on receptors.

NOTE Confidence: 0.83584005

 $00:16:22.980 \longrightarrow 00:16:24.348$ the ER, the PR,

NOTE Confidence: 0.83584005

 $00{:}16{:}24.348 \dashrightarrow 00{:}16{:}26.948$ the HER 2 neu and you were

NOTE Confidence: 0.83584005

 $00:16:26.948 \longrightarrow 00:16:29.660$ telling us that

NOTE Confidence: 0.83584005

 $00{:}16{:}29.660 \dashrightarrow 00{:}16{:}33.377$ these make a big difference in terms of a

NOTE Confidence: 0.83584005

 $00:16:33.377 \longrightarrow 00:16:36.309$ patient's prognosis and their treatment.

NOTE Confidence: 0.83584005

00:16:36.310 --> 00:16:39.635 So let's pick up our conversation there.

 $00:16:39.640 \longrightarrow 00:16:43.438$ Tell us a bit more about the risk factors

NOTE Confidence: 0.83584005

 $00:16:43.438 \longrightarrow 00:16:47.709$ for each of these different types of cancer.

NOTE Confidence: 0.83584005

 $00:16:47.710 \longrightarrow 00:16:50.090$ How you think about them,

NOTE Confidence: 0.83584005

 $00:16:50.090 \longrightarrow 00:16:52.940$ and how that really dictates treatment.

NOTE Confidence: 0.8242818

 $00:16:54.490 \longrightarrow 00:16:57.628$ Risk factors for ER positive disease

NOTE Confidence: 0.8242818

00:16:57.628 --> 00:17:00.363 is being overweight or obesity

NOTE Confidence: 0.8242818

 $00:17:00.363 \longrightarrow 00:17:03.098$ at the post menopausal state.

NOTE Confidence: 0.8242818

00:17:03.100 --> 00:17:05.856 Also regular alcohol intake

NOTE Confidence: 0.8242818

 $00{:}17{:}05.856 \dashrightarrow 00{:}17{:}10.700$ increases the risk a little bit also.

 $00{:}17{:}15.930 \dashrightarrow 00{:}17{:}18.200$ Starting regular periods at

NOTE Confidence: 0.8242818

 $00:17:18.200 \longrightarrow 00:17:21.572$ a young age and having a late

NOTE Confidence: 0.8242818

 $00:17:21.572 \longrightarrow 00:17:24.102$ menopause are also associated with

NOTE Confidence: 0.8242818

 $00{:}17{:}24.102 \dashrightarrow 00{:}17{:}26.848$ increased risk as well as late

NOTE Confidence: 0.8242818

 $00{:}17{:}26.850 \dashrightarrow 00{:}17{:}29.700$ child birth or lack of pregnancy.

NOTE Confidence: 0.8242818

 $00{:}17{:}29.700 \dashrightarrow 00{:}17{:}32.320$ So these reproductive variables or

NOTE Confidence: 0.8242818

00:17:32.320 --> 00:17:34.940 reproductive sort of factors don't

 $00:17:35.020 \longrightarrow 00:17:37.300$ seem to carry the same weight.

NOTE Confidence: 0.8242818

 $00{:}17{:}37.300 \dashrightarrow 00{:}17{:}39.492$ For ER negative disease,

NOTE Confidence: 0.8242818

 $00:17:42.240 \longrightarrow 00:17:43.924$ actually multiple early pregnancies

NOTE Confidence: 0.8242818

 $00:17:43.924 \longrightarrow 00:17:46.450$ seem to increase the risk and

NOTE Confidence: 0.8242818

 $00:17:46.523 \longrightarrow 00:17:48.207$ lack of breastfeeding.

NOTE Confidence: 0.8242818

 $00:17:48.210 \longrightarrow 00:17:50.738$ With regards to therapy

NOTE Confidence: 0.8242818

 $00:17:50.738 \longrightarrow 00:17:52.783$ though there are really large

NOTE Confidence: 0.8242818

 $00{:}17{:}52.783 \dashrightarrow 00{:}17{:}54.620$ differences in how we approach

00:17:55.901 --> 00:17:57.609 different types of breast cancers.

NOTE Confidence: 0.80129904

 $00:17:58.990 \longrightarrow 00:18:00.990$ Yeah, tell us more about that.

NOTE Confidence: 0.80129904

00:18:00.990 --> 00:18:02.990 With ER positive disease,

NOTE Confidence: 0.80129904

 $00:18:02.990 \longrightarrow 00:18:05.370$ the most important set of

NOTE Confidence: 0.80129904

 $00:18:05.370 \longrightarrow 00:18:07.877$ we apons in our armamentarium is

NOTE Confidence: 0.80129904

 $00:18:07.877 \longrightarrow 00:18:10.697$ estrogen stretching therapy and this could

NOTE Confidence: 0.80129904

 $00{:}18{:}10.697 \dashrightarrow 00{:}18{:}13.115$ include drugs which block the effect

NOTE Confidence: 0.80129904

 $00:18:13.115 \longrightarrow 00:18:15.780$ of estrogen and also drugs which could

 $00:18:15.780 \longrightarrow 00:18:18.150$ block the enzymes that make estrogen

NOTE Confidence: 0.80129904

 $00{:}18{:}18.150 \dashrightarrow 00{:}18{:}20.987$ and lowers region levels so these are

NOTE Confidence: 0.80129904

 $00:18:20.987 \longrightarrow 00:18:23.430$ called aromatase inhibitors and they

NOTE Confidence: 0.80129904

 $00:18:23.430 \longrightarrow 00:18:25.800$ are the mainstay of curative treatment

NOTE Confidence: 0.80129904

 $00:18:25.800 \longrightarrow 00:18:29.702$ for early stage ER positive disease.

NOTE Confidence: 0.80129904

 $00:18:29.702 \longrightarrow 00:18:32.506$ We used to recommended these drugs

NOTE Confidence: 0.80129904

 $00:18:32.506 \longrightarrow 00:18:34.166$ be taken for five years,

NOTE Confidence: 0.80129904

 $00:18:34.170 \longrightarrow 00:18:36.642$ but there is more and more data that

NOTE Confidence: 0.80129904

 $00{:}18{:}36.642 \to 00{:}18{:}38.809$ suggests that going beyond five years,

NOTE Confidence: 0.80129904

00:18:38.810 --> 00:18:41.897 an extended duration of this so called

NOTE Confidence: 0.80129904

 $00{:}18{:}41.897 \dashrightarrow 00{:}18{:}44.366$ adjuvant endocrine therapy to 10 years

NOTE Confidence: 0.80129904

 $00:18:44.366 \longrightarrow 00:18:46.520$ further improves the chance of

NOTE Confidence: 0.80129904

 $00{:}18{:}46.520 \dashrightarrow 00{:}18{:}49.325$ cure and reduces the risk of recurrence.

NOTE Confidence: 0.80129904

 $00:18:49.330 \longrightarrow 00:18:52.172$ Literally a few days ago there was

NOTE Confidence: 0.80129904

 $00:18:52.172 \longrightarrow 00:18:53.811$ another major breakthrough announced

NOTE Confidence: 0.80129904

 $00:18:53.811 \longrightarrow 00:18:56.627$ in the news and the results of the

 $00:18:56.627 \longrightarrow 00:18:58.570$ clinical trial will be presented

NOTE Confidence: 0.80129904

 $00{:}18{:}58.570 \dashrightarrow 00{:}19{:}00.844$ shortly adding another additional

NOTE Confidence: 0.80129904

 $00:19:03.040 \longrightarrow 00:19:05.396$ drug to this

NOTE Confidence: 0.80129904

 $00:19:05.396 \longrightarrow 00:19:07.904$ class of agents could further improve

NOTE Confidence: 0.80129904

 $00{:}19{:}07.904 \dashrightarrow 00{:}19{:}10.446$ the survival rate in early stage disease.

NOTE Confidence: 0.80129904

 $00:19:10.450 \longrightarrow 00:19:12.170$ This additional type of drug

NOTE Confidence: 0.80129904

 $00:19:12.170 \longrightarrow 00:19:14.670$ is called the CD K46 Inhibitor.

NOTE Confidence: 0.80129904

 $00:19:14.670 \longrightarrow 00:19:16.938$ These are drugs that we have

NOTE Confidence: 0.80129904

 $00:19:16.938 \longrightarrow 00:19:19.010$ been using for many years

NOTE Confidence: 0.80129904

00:19:19.010 --> 00:19:21.390 in the incurable metastatic setting,

NOTE Confidence: 0.80129904

 $00{:}19{:}21.390 \dashrightarrow 00{:}19{:}23.340$ because they prolong the life of

NOTE Confidence: 0.80129904

 $00{:}19{:}23.340 \dashrightarrow 00{:}19{:}25.130$ patients with metastatic disease.

NOTE Confidence: 0.80129904

 $00:19:25.130 \longrightarrow 00:19:27.237$ And now we have data that shows

NOTE Confidence: 0.80129904

 $00:19:27.237 \longrightarrow 00:19:28.980$ that it actually improves cure

NOTE Confidence: 0.80129904

 $00:19:28.980 \longrightarrow 00:19:30.910$ rates in early stage disease.

 $00:19:30.910 \longrightarrow 00:19:33.448$ So this is going to be another major

NOTE Confidence: 0.80129904

 $00:19:33.448 \longrightarrow 00:19:36.328$ new development that will come to the

NOTE Confidence: 0.80129904

 $00:19:36.328 \longrightarrow 00:19:38.729$ clinic later this year and definitely

NOTE Confidence: 0.832470239999999

 $00:19:38.730 \longrightarrow 00:19:41.033$ early next year.

NOTE Confidence: 0.832470239999999

 $00:19:41.033 \longrightarrow 00:19:43.228$ Does that mean that patients who are taking this

NOTE Confidence: 0.832470239999999

00:19:43.228 --> 00:19:45.128 endocrine therapy this pill that

NOTE Confidence: 0.832470239999999

00:19:45.128 --> 00:19:47.140 people take for breast cancer for

NOTE Confidence: 0.832470239999999

 $00:19:47.140 \longrightarrow 00:19:49.646$ five years and now for 10 years might

 $00:19:49.646 \longrightarrow 00:19:51.794$ be getting another pill to take?

NOTE Confidence: 0.832470239999999

 $00:19:51.800 \longrightarrow 00:19:55.400$ Yes.

 $00:19:57.600 \longrightarrow 00:20:00.176$ And when we talk on this show,

NOTE Confidence: 0.832470239999999

 $00:20:00.180 \longrightarrow 00:20:02.833$ about personalized

NOTE Confidence: 0.832470239999999

 $00:20:02.833 \longrightarrow 00:20:04.710$ medicine and targeted therapies,

NOTE Confidence: 0.832470239999999

 $00{:}20{:}04.710 \dashrightarrow 00{:}20{:}07.428$ it seems to me that that was probably one

NOTE Confidence: 0.832470239999999

 $00{:}20{:}07.428 \dashrightarrow 00{:}20{:}10.375$ of the earliest targeted the rapies was

NOTE Confidence: 0.832470239999999

 $00:20:10.375 \longrightarrow 00:20:12.950$ really targeting the estrogen receptor,

00:20:12.950 --> 00:20:15.726 but many patients want to know will they

NOTE Confidence: 0.832470239999999

 $00{:}20{:}15.726 \longrightarrow 00{:}20{:}18.367$ still need chemotherapy if their cancer

NOTE Confidence: 0.832470239999999

 $00:20:18.367 \longrightarrow 00:20:21.181$ is an estrogen receptor positive cancer?

NOTE Confidence: 0.832470239999999

 $00:20:21.190 \longrightarrow 00:20:24.286$ Are there a subset of patients in whom you

NOTE Confidence: 0.832470239999999

 $00:20:24.286 \longrightarrow 00:20:27.366$ would still offer chemotherapy in addition,

NOTE Confidence: 0.832470239999999

 $00{:}20{:}27.370 \dashrightarrow 00{:}20{:}30.254$ and how do you make those decisions?

NOTE Confidence: 0.84051067

 $00:20:31.070 \longrightarrow 00:20:33.518$ So a few years ago and this used

NOTE Confidence: 0.84051067

 $00:20:33.518 \longrightarrow 00:20:36.352$ to be a constant topic of discussion

NOTE Confidence: 0.84051067

 $00{:}20{:}36.352 \dashrightarrow 00{:}20{:}39.741$ among physicians and part of the

NOTE Confidence: 0.84051067

 $00:20:39.741 \longrightarrow 00:20:41.949$ multidisciplinary tumor board discussions.

NOTE Confidence: 0.84051067

 $00:20:41.950 \longrightarrow 00:20:44.958$ But in the past few years,

NOTE Confidence: 0.84051067

 $00:20:44.960 \longrightarrow 00:20:47.235$ we actually have more molecular tests

NOTE Confidence: 0.84051067

00:20:47.235 --> 00:20:49.634 that make this discussion

NOTE Confidence: 0.84051067

00:20:49.634 --> 00:20:52.340 more objective than the subjective

NOTE Confidence: 0.84051067

 $00:20:52.340 \longrightarrow 00:20:54.356$ feeling of the physician.

NOTE Confidence: 0.84051067

 $00:20:54.360 \longrightarrow 00:20:56.719$ So there are a number of molecular

 $00:20:56.719 \longrightarrow 00:20:59.147$ tests that can be performed on the

NOTE Confidence: 0.84051067

 $00{:}20{:}59.147 \dashrightarrow 00{:}21{:}01.678$ resected tumor issue or on a biopsy

NOTE Confidence: 0.84051067

 $00:21:01.678 \longrightarrow 00:21:04.318$ of the cancer that established

NOTE Confidence: 0.84051067

00:21:04.318 --> 00:21:06.870 diagnosis which could help define

NOTE Confidence: 0.84051067

 $00:21:06.870 \longrightarrow 00:21:08.920$ to what extent a particular patient would

NOTE Confidence: 0.84051067

00:21:08.920 --> 00:21:11.044 benefit from adjuvant chemotherapy

NOTE Confidence: 0.84051067

 $00:21:11.044 \longrightarrow 00:21:13.528$ in addition to the hormonal therapy.

NOTE Confidence: 0.84051067

 $00{:}21{:}13.530 \dashrightarrow 00{:}21{:}15.780$ These tests have various commercial

NOTE Confidence: 0.84051067

 $00{:}21{:}15.780 \dashrightarrow 00{:}21{:}18.853$ names and they are provided by various compa-

nies.

 $00{:}21{:}24.740 \longrightarrow 00{:}21{:}27.506$ They all invalidated for the same purpose

NOTE Confidence: 0.84051067

 $00{:}21{:}27.506 \dashrightarrow 00{:}21{:}31.032$ that they can define the ER positive

NOTE Confidence: 0.84051067

 $00{:}21{:}31.032 \dashrightarrow 00{:}21{:}33.160$ or estrogen receptor positive

NOTE Confidence: 0.84051067

 $00:21:33.160 \longrightarrow 00:21:35.608$ population that benefits from adjuvant

NOTE Confidence: 0.84051067

 $00:21:35.608 \longrightarrow 00:21:37.670$ chemotherapy.

NOTE Confidence: 0.84051067

 $00:21:37.670 \longrightarrow 00:21:40.253$ We also learned that the majority

 $00:21:40.253 \longrightarrow 00:21:42.784$ of the esgrogen and receptor positive

NOTE Confidence: 0.84051067

 $00:21:42.784 \longrightarrow 00:21:45.049$ patients do not need chemotherapy.

NOTE Confidence: 0.84051067

00:21:45.050 --> 00:21:47.510 But if the assay predicts that

NOTE Confidence: 0.84051067

00:21:47.510 --> 00:21:49.150 they do need chemotherapy,

NOTE Confidence: 0.84051067

 $00:21:49.150 \longrightarrow 00:21:51.748$ it's important that they they understand

NOTE Confidence: 0.84051067

 $00:21:51.748 \longrightarrow 00:21:54.480$ the consequences and the fact that this

NOTE Confidence: 0.8670981

 $00{:}21{:}54.480 --> 00{:}21{:}56.275$ could improve cure rates.

NOTE Confidence: 0.8670981

 $00:21:56.275 \longrightarrow 00:21:58.631$ So for all of our patients

NOTE Confidence: 0.8670981

00:21:58.631 --> 00:22:01.036 who are listening out there,

NOTE Confidence: 0.8670981

 $00:22:01.040 \longrightarrow 00:22:03.220$ and many of them may

NOTE Confidence: 0.8670981

 $00:22:03.220 \longrightarrow 00:22:05.675$ either have had breast cancer

NOTE Confidence: 0.8670981

00:22:05.675 --> 00:22:08.540 themselves or know somebody who has.

NOTE Confidence: 0.8670981

00:22:08.540 --> 00:22:10.995 Should all patients who have

NOTE Confidence: 0.8670981

 $00{:}22{:}10.995 \dashrightarrow 00{:}22{:}12.959$ estrogen receptor positive cancers

NOTE Confidence: 0.8670981

 $00:22:12.959 \longrightarrow 00:22:15.405$ be advocating for themselves to

NOTE Confidence: 0.8670981

00:22:15.405 --> 00:22:18.219 get one of these molecular assays?

 $00:22:18.220 \longrightarrow 00:22:20.758$ Or are these assays something that

NOTE Confidence: 0.8670981

 $00:22:20.758 \longrightarrow 00:22:24.030$ we will order in specific patients?

NOTE Confidence: 0.8583139

 $00:22:25.630 \longrightarrow 00:22:27.840$ It's probably not the best

NOTE Confidence: 0.8583139

 $00:22:27.840 \longrightarrow 00:22:31.140$ way to do this in everybody

NOTE Confidence: 0.8583139

 $00:22:31.140 \longrightarrow 00:22:34.404$ but rather in patients where the

NOTE Confidence: 0.8583139

 $00:22:34.404 \longrightarrow 00:22:36.036$ question whether chemotherapy

NOTE Confidence: 0.8583139

 $00:22:36.036 \longrightarrow 00:22:38.660$ could help or not is uncertain.

NOTE Confidence: 0.8583139

 $00:22:38.660 \longrightarrow 00:22:42.050$ There are clinical situations where

NOTE Confidence: 0.8583139

 $00:22:42.050 \longrightarrow 00:22:44.762$ a physician can quite confidently

NOTE Confidence: 0.8583139

 $00:22:44.770 \longrightarrow 00:22:46.380$ feel that the chemotherapy wouldn't

NOTE Confidence: 0.8583139

 $00{:}22{:}46.380 \dashrightarrow 00{:}22{:}48.670$ be helpful or would be necessary

NOTE Confidence: 0.8583139

 $00:22:48.670 \longrightarrow 00:22:50.847$ if it is a very large tumor

NOTE Confidence: 0.8583139

 $00{:}22{:}50.847 \dashrightarrow 00{:}22{:}52.768$ with multiple influences involved,

NOTE Confidence: 0.8583139

00:22:52.770 --> 00:22:55.206 it would be risky to avoid chemotherapy,

NOTE Confidence: 0.8583139

 $00:22:55.210 \longrightarrow 00:22:57.298$ and regardless of the results,

00:22:57.300 --> 00:22:59.286 because even with this small chance

NOTE Confidence: 0.8583139

 $00{:}22{:}59.286 \to 00{:}23{:}01.511$ or a small relative improvement could

NOTE Confidence: 0.8583139

 $00:23:01.511 \longrightarrow 00:23:04.007$ translate into a significant number of

NOTE Confidence: 0.8583139

 $00:23:04.007 \longrightarrow 00:23:06.319$ patients who benefit when the risk is

NOTE Confidence: 0.8583139

 $00:23:06.319 \longrightarrow 00:23:08.781$ very high and the flip side of this,

NOTE Confidence: 0.8583139

 $00:23:08.781 \longrightarrow 00:23:10.169$ there are very small,

NOTE Confidence: 0.8583139

 $00:23:10.170 \longrightarrow 00:23:12.487$ very low grade or grade one tumors

NOTE Confidence: 0.8583139

 $00:23:12.487 \longrightarrow 00:23:14.818$ less than a centimeter,

NOTE Confidence: 0.8583139

 $00{:}23{:}14.820 \dashrightarrow 00{:}23{:}17.095$ there is no lymph node involvement where

NOTE Confidence: 0.8583139

 $00{:}23{:}17.095 \dashrightarrow 00{:}23{:}19.525$ it's also clear that the added benefit

NOTE Confidence: 0.8583139

 $00{:}23{:}19.525 \dashrightarrow 00{:}23{:}21.613$ from chemotherapy could be very

NOTE Confidence: 0.8583139

 $00:23:21.620 \longrightarrow 00:23:23.320$ very small because the chance

NOTE Confidence: 0.8583139

 $00:23:23.320 \longrightarrow 00:23:25.020$ of cure with surgery alone,

NOTE Confidence: 0.8583139

00:23:25.020 --> 00:23:26.380 plus with hormone therapy,

NOTE Confidence: 0.8583139

 $00:23:26.380 \longrightarrow 00:23:27.740$ is already very high.

NOTE Confidence: 0.8583139

 $00:23:27.740 \longrightarrow 00:23:30.323$ So we tend to use these tests

 $00:23:30.323 \longrightarrow 00:23:32.614$ instead of this middle ground setting

NOTE Confidence: 0.8583139

 $00:23:32.614 \longrightarrow 00:23:35.219$ when the risk for recurrence is

NOTE Confidence: 0.85450673

 $00:23:35.220 \longrightarrow 00:23:36.920$ very low nor very high.

NOTE Confidence: 0.85450673

 $00:23:36.920 \longrightarrow 00:23:39.013$ Now to move to

NOTE Confidence: 0.85450673

 $00:23:39.013 \longrightarrow 00:23:41.064$ the other kind of types of

NOTE Confidence: 0.85450673

 $00:23:41.064 \longrightarrow 00:23:42.869$ breast cancer and other types

NOTE Confidence: 0.85450673

 $00:23:42.869 \longrightarrow 00:23:44.919$ of therapy you had mentioned.

NOTE Confidence: 0.85450673

00:23:44.920 --> 00:23:46.760 This other receptor HER2

NOTE Confidence: 0.85450673

 $00{:}23{:}46.760 \longrightarrow 00{:}23{:}49.280$ and the fact that we have targeted

NOTE Confidence: 0.85450673

 $00:23:49.280 \longrightarrow 00:23:51.541$ the rapies for this as well that

NOTE Confidence: 0.85450673

00:23:51.541 --> 00:23:53.017 are very efficacious.

NOTE Confidence: 0.8688853

 $00{:}23{:}56.640 {\:{\circ}{\circ}{\circ}}> 00{:}23{:}58.690 {\:{HER}}$ 2 positive breast cancers

NOTE Confidence: 0.8688853

 $00{:}23{:}58.690 \dashrightarrow 00{:}24{:}01.659$ became the poster child of our

NOTE Confidence: 0.8688853

 $00:24:01.659 \longrightarrow 00:24:03.779$ success in breast cancer treatment.

NOTE Confidence: 0.8688853

 $00:24:03.780 \longrightarrow 00:24:06.288$ This came about by the discovery

 $00:24:06.288 \longrightarrow 00:24:08.452$ of antibodies and drugs

NOTE Confidence: 0.8688853

 $00:24:08.452 \longrightarrow 00:24:10.888$ that block the effect of this

NOTE Confidence: 0.8688853

 $00:24:10.890 \longrightarrow 00:24:13.716$ HER 2 signaling to

NOTE Confidence: 0.8688853

 $00:24:13.716 \longrightarrow 00:24:15.600$ amplify breast cancers.

NOTE Confidence: 0.8688853

 $00:24:15.677 \longrightarrow 00:24:18.405$ About 10-15 years ago and now we have

NOTE Confidence: 0.8688853

 $00:24:18.405 \longrightarrow 00:24:20.920$ at least four or five different

NOTE Confidence: 0.8688853

 $00{:}24{:}20.920 \dashrightarrow 00{:}24{:}23.536$ HER2 targeted the rapies that can

NOTE Confidence: 0.8688853

 $00:24:23.536 \longrightarrow 00:24:25.929$ be combined with standard of care,

NOTE Confidence: 0.8688853

 $00:24:25.930 \longrightarrow 00:24:26.766$ hormonal therapy,

NOTE Confidence: 0.8688853

00:24:26.766 --> 00:24:29.274 or chemotherapy if chemotherapy is needed,

NOTE Confidence: 0.8688853

 $00{:}24{:}29.280 \dashrightarrow 00{:}24{:}31.974$ which improves the efficacy of these

NOTE Confidence: 0.8688853

 $00:24:31.974 \longrightarrow 00:24:33.770$ more conventional treatment modalities.

NOTE Confidence: 0.8688853

 $00:24:33.770 \longrightarrow 00:24:35.348$ Leading to very,

NOTE Confidence: 0.8688853

00:24:35.348 --> 00:24:37.978 very high rates of cure,

NOTE Confidence: 0.8688853

 $00{:}24{:}37.980 \dashrightarrow 00{:}24{:}40.610$ avoiding recurrences in HER 2

NOTE Confidence: 0.8688853

00:24:40.610 --> 00:24:42.188 positive disease.

 $00:24:44.020 \longrightarrow 00:24:47.177$ How do patients

NOTE Confidence: 0.821535230952381

00:24:47.177 --> 00:24:50.488 decide with their doctor about which

NOTE Confidence: 0.821535230952381

 $00:24:50.488 \longrightarrow 00:24:54.080$ of those therapies is optimal?

NOTE Confidence: 0.82690775

 $00:24:56.090 \longrightarrow 00:24:59.125$ Herceptin is

NOTE Confidence: 0.82690775

 $00{:}24{:}59.125 \dashrightarrow 00{:}25{:}01.964$ always part of the therapy of HER 2

NOTE Confidence: 0.82690775

00:25:01.964 --> 00:25:04.434 positive patients either combined

NOTE Confidence: 0.82690775

 $00:25:04.434 \longrightarrow 00:25:06.882$ with chemotherapy and following the

NOTE Confidence: 0.82690775

 $00:25:06.882 \longrightarrow 00:25:08.877$ completion of chemotherapy to complete

NOTE Confidence: 0.82690775

 $00:25:08.877 \longrightarrow 00:25:11.276$ one year on this particular drug,

NOTE Confidence: 0.82690775

00:25:11.276 --> 00:25:14.062 Herceptin, but also we often add

NOTE Confidence: 0.82690775

 $00:25:14.062 \longrightarrow 00:25:16.227$ another drug called pertuzumab

NOTE Confidence: 0.82690775

 $00{:}25{:}16.230 \dashrightarrow 00{:}25{:}18.456$ which increases the efficacy and

NOTE Confidence: 0.82690775

 $00{:}25{:}18.456 \dashrightarrow 00{:}25{:}21.160$ combined with chemotherapy,

NOTE Confidence: 0.82690775

 $00:25:21.160 \longrightarrow 00:25:24.640$ but also with hormonal therapy.

NOTE Confidence: 0.82690775

 $00:25:24.640 \longrightarrow 00:25:26.978$ We also learned that the strategy also

 $00:25:26.978 \longrightarrow 00:25:29.255$ matters, how we sequence the different

NOTE Confidence: 0.82690775

 $00{:}25{:}29.255 \dashrightarrow 00{:}25{:}31.673$ types of treatments that someone needs

NOTE Confidence: 0.82690775

 $00:25:31.673 \longrightarrow 00:25:34.658$ to ensure or maximize the chance of cure

NOTE Confidence: 0.82690775

 $00:25:34.658 \longrightarrow 00:25:36.862$ to clearly patients who need surgery

NOTE Confidence: 0.82690775

00:25:36.862 --> 00:25:39.106 also need systemic therapies

NOTE Confidence: 0.82690775

 $00:25:39.106 \longrightarrow 00:25:41.764$ that get to every part of the body with

NOTE Confidence: 0.82690775

 $00:25:41.764 \longrightarrow 00:25:43.722$ the goal of eradicating micrometastatic

NOTE Confidence: 0.82690775

 $00:25:43.722 \longrightarrow 00:25:46.837$ cancer cells or cancer cells that have

NOTE Confidence: 0.82690775

 $00:25:46.840 \longrightarrow 00:25:49.408$ left the breast and hide somewhere

NOTE Confidence: 0.82690775

 $00:25:49.408 \longrightarrow 00:25:52.660$ in the body before the surgery

NOTE Confidence: 0.82690775

00:25:52.660 --> 00:25:54.600 to remove the tumor.

NOTE Confidence: 0.82690775

 $00:25:54.600 \longrightarrow 00:25:57.896$ So it turns out that for HER 2

NOTE Confidence: 0.82690775

 $00:25:57.896 \longrightarrow 00:25:58.720$ positive disease,

NOTE Confidence: 0.82690775

 $00:25:58.720 \longrightarrow 00:26:00.580$ probably the most effective strategy

NOTE Confidence: 0.82690775

 $00:26:00.580 \longrightarrow 00:26:03.660$ is to start with a systemic therapy.

NOTE Confidence: 0.82690775

 $00:26:03.660 \longrightarrow 00:26:05.620$ Often times with chemotherapy,

00:26:05.620 --> 00:26:08.560 because by following this strategy

NOTE Confidence: 0.82690775

 $00{:}26{:}08.637 \dashrightarrow 00{:}26{:}10.617$ one could assess how effective

NOTE Confidence: 0.82690775

00:26:10.617 --> 00:26:13.306 the treatment was at the time of

NOTE Confidence: 0.82690775

 $00:26:13.306 \longrightarrow 00:26:15.196$ the surgery and up to 60-70,

NOTE Confidence: 0.82690775

 $00:26:15.200 \longrightarrow 00:26:17.666$ or even 80% of the time

NOTE Confidence: 0.82690775

00:26:17.670 --> 00:26:20.078 patients may have no cancer left in

NOTE Confidence: 0.82690775

00:26:20.078 --> 00:26:23.225 their breast by the time they finish

NOTE Confidence: 0.82690775

00:26:23.225 --> 00:26:24.758 their preoperative chemotherapy.

NOTE Confidence: 0.82690775

 $00:26:24.760 \longrightarrow 00:26:26.760$ With HER2 targeted regiment

NOTE Confidence: 0.82690775

 $00:26:26.760 \longrightarrow 00:26:29.170$ and those patients do really well,

NOTE Confidence: 0.82690775

00:26:29.170 --> 00:26:32.082 but importantly for those patients whose

NOTE Confidence: 0.82690775

 $00:26:32.082 \longrightarrow 00:26:34.790$ cancer survives at least to some extent,

NOTE Confidence: 0.82690775

 $00:26:34.790 \longrightarrow 00:26:36.620$ the preoperative treatment we have

NOTE Confidence: 0.82690775

 $00{:}26{:}36.620 \to 00{:}26{:}39.815$ Plan B or back of options that have

NOTE Confidence: 0.82690775

 $00:26:39.815 \longrightarrow 00:26:42.395$ been shown to improve their survival,

 $00:26:42.400 \longrightarrow 00:26:44.806$ and these are also HER 2

NOTE Confidence: 0.82690775

00:26:44.806 --> 00:26:46.009 targeted drugs,

NOTE Confidence: 0.82690775

 $00:26:46.010 \longrightarrow 00:26:49.218$ but with some extra strength added to them,

NOTE Confidence: 0.82690775

 $00:26:49.220 \longrightarrow 00:26:51.390$ implying that there is additional

NOTE Confidence: 0.82690775

 $00:26:51.390 \longrightarrow 00:26:53.560$ chemotherapy component attached to HER 2

NOTE Confidence: 0.82690775

 $00{:}26{:}53.626 \dashrightarrow 00{:}26{:}56.034$ antibody or the entire antibody.

NOTE Confidence: 0.82426935

 $00{:}26{:}56.890 \dashrightarrow 00{:}26{:}58.900$ So one question that patients

NOTE Confidence: 0.82426935

 $00:26:58.900 \longrightarrow 00:27:02.031$ may ask is why not give them the

NOTE Confidence: 0.82426935

00:27:02.031 --> 00:27:04.015 supercharged HER 2 therapy,

NOTE Confidence: 0.82426935

00:27:04.015 --> 00:27:06.640 the backup drug up front?

NOTE Confidence: 0.82426935

 $00{:}27{:}06.640 \dashrightarrow 00{:}27{:}08.548$ It's a good question and in fact

NOTE Confidence: 0.82426935

 $00:27:08.548 \longrightarrow 00:27:11.111$ it turns out that

NOTE Confidence: 0.82426935

 $00{:}27{:}11.111 \dashrightarrow 00{:}27{:}13.141$ the supercharged HER 2 targeted

NOTE Confidence: 0.82426935

00:27:13.141 --> 00:27:15.957 antibody is still not as good as

NOTE Confidence: 0.82426935

 $00:27:15.957 \longrightarrow 00:27:17.501$ the chemotherapy plus Herceptin

NOTE Confidence: 0.82426935

00:27:17.501 --> 00:27:20.422 plus together, in other words

 $00{:}27{:}20.422 \dashrightarrow 00{:}27{:}22.110$ this pathological complete

NOTE Confidence: 0.82426935

 $00:27:22.182 \longrightarrow 00:27:24.555$ eradication of the cancer is a little

NOTE Confidence: 0.82426935

 $00:27:24.555 \longrightarrow 00:27:26.888$ less if you just use one drug.

NOTE Confidence: 0.82426935

 $00:27:26.890 \longrightarrow 00:27:28.354$ This supercharged Herceptin.

NOTE Confidence: 0.82426935

 $00:27:28.354 \longrightarrow 00:27:31.770$ Which is called TDM one.

NOTE Confidence: 0.82426935

 $00:27:31.770 \longrightarrow 00:27:34.180$ So that's the reason why.

NOTE Confidence: 0.82426935

 $00:27:34.180 \longrightarrow 00:27:37.156$ But we also know that it works

NOTE Confidence: 0.82426935

 $00:27:37.156 \longrightarrow 00:27:40.735$ even on cancer cells that survived the

NOTE Confidence: 0.82426935

 $00:27:40.735 \longrightarrow 00:27:44.280$ more sort of aggressive initial therapy.

NOTE Confidence: 0.82426935

00:27:44.280 --> 00:27:45.240 And that's

NOTE Confidence: 0.8541915

 $00:27:45.240 \longrightarrow 00:27:49.088$ the main reason why it's sequenced this way,

NOTE Confidence: 0.8541915

 $00:27:49.090 \longrightarrow 00:27:51.659$ And so the final kind of category

NOTE Confidence: 0.8541915

00:27:51.659 --> 00:27:54.034 of patients are ones that

NOTE Confidence: 0.8541915

 $00:27:54.034 \longrightarrow 00:27:56.430$ really don't express estrogen

NOTE Confidence: 0.8541915

 $00:27:56.430 \longrightarrow 00:27:58.227$ receptor progesterone receptors.

 $00:27:58.230 \longrightarrow 00:28:00.150$ So endocrine therapies are

NOTE Confidence: 0.8541915

 $00:28:00.150 \longrightarrow 00:28:01.590$ not particularly effective.

NOTE Confidence: 0.8541915

 $00:28:01.590 \longrightarrow 00:28:02.958$ They don't have

NOTE Confidence: 0.8541915

 $00:28:02.958 \longrightarrow 00:28:05.238$ HER 2 positive cancers,

NOTE Confidence: 0.8541915

 $00:28:05.240 \longrightarrow 00:28:07.784$ so these anti HER 2 agents

NOTE Confidence: 0.8541915

 $00{:}28{:}07.784 \dashrightarrow 00{:}28{:}09.056$ aren't particularly effective,

NOTE Confidence: 0.8541915

 $00:28:09.060 \longrightarrow 00:28:11.175$ and that's really this triple

NOTE Confidence: 0.8541915

00:28:11.175 --> 00:28:12.867 negative breast cancer class.

NOTE Confidence: 0.8541915

 $00:28:12.870 \longrightarrow 00:28:14.990$ So what's your approach there?

 $00:28:15.840 \longrightarrow 00:28:17.109$ In triple negative disease,

NOTE Confidence: 0.83237594

 $00:28:17.109 \longrightarrow 00:28:19.224$ particularly for early stage patients,

NOTE Confidence: 0.83237594

 $00:28:19.230 \longrightarrow 00:28:22.107$ which is about 90% of all newly

NOTE Confidence: 0.83237594

 $00{:}28{:}22.107 \dashrightarrow 00{:}28{:}23.853$ diagnosed triple negative breast

NOTE Confidence: 0.83237594

 $00{:}28{:}23.853 \dashrightarrow 00{:}28{:}26.018$ cancers are at early stage, stage

NOTE Confidence: 0.83237594

00:28:26.020 --> 00:28:28.558 one, stage two, stage three disease,

NOTE Confidence: 0.83237594

 $00:28:28.560 \longrightarrow 00:28:31.392$ we haven't really had any major

00:28:31.392 --> 00:28:33.860 breakthroughs for about 20 years

NOTE Confidence: 0.83237594

 $00{:}28{:}33.860 --> 00{:}28{:}36.210 \text{ until literally last}$

NOTE Confidence: 0.83237594

00:28:36.210 --> 00:28:38.560 year and earlier this year,

NOTE Confidence: 0.83237594

 $00:28:38.560 \longrightarrow 00:28:40.666$ when a number of clinical trials

NOTE Confidence: 0.83237594

 $00:28:40.666 \longrightarrow 00:28:42.600$ have shown the efficacy of

NOTE Confidence: 0.83237594

 $00:28:42.600 \longrightarrow 00:28:44.472$ chemotherapy could be increased

NOTE Confidence: 0.83237594

00:28:44.472 --> 00:28:46.344 by including immune checkpoint

NOTE Confidence: 0.83237594

00:28:46.344 --> 00:28:48.202 inhibitors so the immune checkpoint

NOTE Confidence: 0.83237594

 $00:28:48.202 \longrightarrow 00:28:50.545$ innovators had a new class of drugs,

NOTE Confidence: 0.83237594

 $00:28:50.545 \longrightarrow 00:28:52.960$ which stimulates or Rev up

NOTE Confidence: 0.83237594

 $00{:}28{:}52.960 \dashrightarrow 00{:}28{:}55.219$ the anti cancer immune response and

NOTE Confidence: 0.83237594

 $00:28:55.219 \longrightarrow 00:28:57.967$ they have been shown to be highly

NOTE Confidence: 0.83237594

 $00{:}28{:}57.967 \dashrightarrow 00{:}29{:}00.117$ effective in some very difficult

NOTE Confidence: 0.83237594

00:29:00.117 --> 00:29:02.650 to treat cancers like lung cancer,

NOTE Confidence: 0.83237594

 $00:29:02.650 \longrightarrow 00:29:05.080$ Melanoma and now we have evidence

NOTE Confidence: 0.83237594

 $00:29:05.080 \longrightarrow 00:29:07.618$ they also work in early stage,

 $00:29:07.620 \longrightarrow 00:29:09.740$ triple negative disease and also

NOTE Confidence: 0.83237594

 $00:29:09.740 \longrightarrow 00:29:11.436$ in combination with chemotherapy.

NOTE Confidence: 0.83237594

 $00:29:11.440 \longrightarrow 00:29:14.688$ They have shown to prolong the life of

NOTE Confidence: 0.83237594

00:29:14.688 --> 00:29:17.378 patients with advanced or stage four,

NOTE Confidence: 0.83237594

 $00:29:17.380 \longrightarrow 00:29:18.592$ triple negative cancer.

NOTE Confidence: 0.83237594

 $00:29:18.592 \longrightarrow 00:29:21.016$ So these are the most important

NOTE Confidence: 0.83237594

 $00:29:21.016 \longrightarrow 00:29:23.254$ recent advances in the management

NOTE Confidence: 0.83237594

 $00:29:23.254 \longrightarrow 00:29:24.574$ of triple negative

NOTE Confidence: 0.82960683

 $00:29:24.580 \longrightarrow 00:29:26.260$ disease.

NOTE Confidence: 0.82960683

 $00:29:26.260 \longrightarrow 00:29:29.276$ Dr. Lajos Pusztai as a professor of Medicine and

medical

NOTE Confidence: 0.82960683

00:29:29.276 --> 00:29:32.216 oncology at the Yale School of Medicine.

NOTE Confidence: 0.82960683

 $00:29:32.220 \longrightarrow 00:29:33.988$ If you have questions,

NOTE Confidence: 0.82960683

 $00:29:33.988 \longrightarrow 00:29:35.756$ the address is canceranswers@yale.edu.

NOTE Confidence: 0.82960683

 $00:29:35.760 \longrightarrow 00:29:37.512$ And past editions of the program

NOTE Confidence: 0.82960683

00:29:37.512 --> 00:29:39.611 are available in audio and written

 $00{:}29{:}39.611 \dashrightarrow 00{:}29{:}40.919$ form at Yale cancercenter.org.

NOTE Confidence: 0.82960683

 $00{:}29{:}40.920 \dashrightarrow 00{:}29{:}43.472$ We hope you'll join us next week to

NOTE Confidence: 0.82960683

 $00{:}29{:}43.472 \dashrightarrow 00{:}29{:}45.958$ learn more about the fight against

NOTE Confidence: 0.82960683

 $00{:}29{:}45.958 \dashrightarrow 00{:}29{:}48.622$ cancer here on Connecticut public radio.