WEBVTT

00:00:00.000 --> 00:00:03.384 Support for Yale Cancer Answers comes NOTE Confidence: 0.83079993724823 $00{:}00{:}03.384 \dashrightarrow 00{:}00{:}05.640$ from AstraZeneca, a pharmaceutical NOTE Confidence: 0.83079993724823 $00:00:05.720 \rightarrow 00:00:08.975$ business that is pushing the boundaries of NOTE Confidence: 0.83079993724823 $00:00:08.975 \rightarrow 00:00:12.050$ science to deliver new cancer medicines. NOTE Confidence: 0.83079993724823 00:00:12.050 --> 00:00:15.818 More information at astrazeneca-us.com. NOTE Confidence: 0.83079993724823 $00:00:15.820 \rightarrow 00:00:18.034$ Welcome to Yale Cancer Answers with NOTE Confidence: 0.83079993724823 00:00:18.034 --> 00:00:20.459 your host doctor Anees Chagpar. NOTE Confidence: 0.83079993724823 $00:00:20.460 \dashrightarrow 00:00:22.365$ Yale Cancer Answers features the NOTE Confidence: 0.83079993724823 $00:00:22.365 \rightarrow 00:00:24.708$ latest information on cancer care by NOTE Confidence: 0.83079993724823 00:00:24.708 --> 00:00:26.208 welcoming oncologists and specialists NOTE Confidence: 0.83079993724823 $00:00:26.208 \longrightarrow 00:00:28.726$ who are on the forefront of the NOTE Confidence: 0.83079993724823 $00:00:28.726 \longrightarrow 00:00:30.460$ battle to fight cancer. This week NOTE Confidence: 0.83079993724823 00:00:30.460 --> 00:00:32.260 it's a conversation about gastroesophageal NOTE Confidence: 0.83079993724823 $00{:}00{:}32.260 \dashrightarrow 00{:}00{:}34.380$ cancer with Doctor Jill Lacy. NOTE Confidence: 0.83079993724823 00:00:34.380 --> 00:00:37.201 Doctor Lacy is a professor of medicine NOTE Confidence: 0.83079993724823

 $00:00:37.201 \longrightarrow 00:00:39.908$ and medical oncology at the Yale School

NOTE Confidence: 0.83079993724823

 $00:00:39.908 \rightarrow 00:00:42.521$ of Medicine where Doctor Chagpar is

NOTE Confidence: 0.83079993724823

00:00:42.521 --> 00:00:44.990 a professor of surgical oncology.

NOTE Confidence: 0.825379490852356

 $00:00:44.990 \longrightarrow 00:00:48.007$ Jill, we don't often talk

NOTE Confidence: 0.825379490852356

 $00:00:48.007 \rightarrow 00:00:50.329$ about gastroesophageal cancers much.

NOTE Confidence: 0.825379490852356

 $00{:}00{:}50{.}330 \dashrightarrow 00{:}00{:}53{.}890$ Tell us a little bit more about them.

NOTE Confidence: 0.825379490852356

 $00:00:53.890 \longrightarrow 00:00:55.670$ How common are they?

NOTE Confidence: 0.825379490852356

 $00:00:55.670 \longrightarrow 00:00:57.450$ Who do they affect?

NOTE Confidence: 0.825379490852356

 $00:00:57.450 \longrightarrow 00:00:59.230$ What do they encompass?

NOTE Confidence: 0.825379490852356

 $00:00:59.230 \rightarrow 00:01:02.751$ It is somewhat of a heterogeneous group of cancers

NOTE Confidence: 0.825379490852356

 $00{:}01{:}02{.}751 \dashrightarrow 00{:}01{:}05{.}937$ and I will elaborate on that as we go along.

NOTE Confidence: 0.825379490852356

 $00:01:05.940 \longrightarrow 00:01:08.868$ And it is not a

NOTE Confidence: 0.825379490852356

 $00:01:08.868 \longrightarrow 00:01:10.820$ common group of cancers

NOTE Confidence: 0.825379490852356

 $00:01:10.820 \longrightarrow 00:01:12.768$ certainly, compared to, say,

NOTE Confidence: 0.825379490852356

 $00:01:12.768 \longrightarrow 00:01:15.203$ breast cancer or lung cancer.

NOTE Confidence: 0.825379490852356

 $00:01:15.210 \dashrightarrow 00:01:17.946$ So if you combine esophagus and

- NOTE Confidence: 0.825379490852356
- 00:01:17.946 --> 00:01:21.070 gastric cancer in the United States,
- NOTE Confidence: 0.825379490852356
- $00:01:21.070 \rightarrow 00:01:23.998$ there's about 46,000 cases a year,
- NOTE Confidence: 0.825379490852356
- $00:01:24.000 \longrightarrow 00:01:25.464$ about 27,000 deaths.
- NOTE Confidence: 0.825379490852356
- $00:01:25.464 \rightarrow 00:01:28.880$ So it is quite a lethal cancer.
- NOTE Confidence: 0.825379490852356
- $00:01:28.880 \longrightarrow 00:01:30.341$ And by contrast,
- NOTE Confidence: 0.825379490852356
- $00:01:30.341 \longrightarrow 00:01:32.776$ lung cancer over 200,000 cases.
- NOTE Confidence: 0.825379490852356
- 00:01:32.780 --> 00:01:33.828 Breast cancer,
- NOTE Confidence: 0.825379490852356
- 00:01:33.828 --> 00:01:36.448 I believe over 270,000 cases.
- NOTE Confidence: 0.825379490852356
- 00:01:36.450 --> 00:01:37.290 But interestingly,
- NOTE Confidence: 0.825379490852356
- 00:01:37.290 --> 00:01:39.810 the death rate as I indicated,
- NOTE Confidence: 0.825379490852356
- $00:01:39.810 \longrightarrow 00:01:41.490$ still is quite high.
- NOTE Confidence: 0.825379490852356
- $00{:}01{:}41{.}490 \dashrightarrow 00{:}01{:}44{.}470$ You compare this, say with breast cancer,
- NOTE Confidence: 0.825379490852356
- $00{:}01{:}44{.}470 \dashrightarrow 00{:}01{:}47{.}536$ where I believe we're down to in
- NOTE Confidence: 0.825379490852356
- $00{:}01{:}47.536 \dashrightarrow 00{:}01{:}50.308$ the range of 40,000 deaths per year.
- NOTE Confidence: 0.825379490852356
- $00{:}01{:}50{.}310 \dashrightarrow 00{:}01{:}53{.}670$ So even though it's not a common cancer,
- NOTE Confidence: 0.825379490852356

 $00:01:53.670 \rightarrow 00:01:55.932$ it is still a significant problem

NOTE Confidence: 0.825379490852356

 $00:01:55.932 \rightarrow 00:01:58.290$ in terms of its lethality.

 $00:02:00.810 \longrightarrow 00:02:02.486$ What's interesting about these

NOTE Confidence: 0.825379490852356

 $00:02:02.486 \longrightarrow 00:02:04.581$ cancers is that there's quite

NOTE Confidence: 0.825379490852356

 $00:02:04.581 \rightarrow 00:02:06.967$ a bit of geographic variation in incidence

NOTE Confidence: 0.825379490852356

 $00{:}02{:}06{.}970 \dashrightarrow 00{:}02{:}09{.}105$ and gastric cancer actually

NOTE Confidence: 0.825379490852356

 $00{:}02{:}09{.}105 \dashrightarrow 00{:}02{:}11.797$ is quite common worldwide and a

NOTE Confidence: 0.825379490852356

 $00:02:11.797 \rightarrow 00:02:13.749$ significant public health problem.

NOTE Confidence: 0.825379490852356

 $00:02:13.750 \longrightarrow 00:02:16.318$ It's actually the third leading cause

NOTE Confidence: 0.825379490852356

 $00:02:16.318 \dashrightarrow 00:02:18.720$ of cancer related deaths globally.

NOTE Confidence: 0.825379490852356

00:02:18.720 --> 00:02:21.884 Over 1,000,000 cases and over 800,000 deaths.

NOTE Confidence: 0.825379490852356

00:02:21.890 --> 00:02:24.596 So it does remain, I think,

NOTE Confidence: 0.825379490852356

 $00:02:24.600 \longrightarrow 00:02:27.210$ a huge issue globally and still

NOTE Confidence: 0.825379490852356

 $00:02:27.210 \dashrightarrow 00:02:29.570$ problematic in the United States.

NOTE Confidence: 0.836929976940155

 $00:02:30.570 \longrightarrow 00:02:32.620$ And on top of that,

NOTE Confidence: 0.836929976940155

 $00:02:32.620 \longrightarrow 00:02:34.670$ gastroesophageal cancers not only are

 $00:02:34.670 \rightarrow 00:02:37.519$ gastric cancers or cancers of the stomach,

NOTE Confidence: 0.836929976940155

 $00{:}02{:}37{.}520 \dashrightarrow 00{:}02{:}39{.}570$ but also of the esophagus.

NOTE Confidence: 0.836929976940155

 $00:02:39.570 \dashrightarrow 00:02:42.554$ But the esophagus is a long tube that

NOTE Confidence: 0.836929976940155

 $00:02:42.554 \rightarrow 00:02:45.488$ goes all the way from essentially your

NOTE Confidence: 0.836929976940155

 $00:02:45.488 \dashrightarrow 00:02:48.978$ mouth all the way down to your stomach.

NOTE Confidence: 0.836929976940155

00:02:48.980 --> 00:02:51.428 So talk a little bit about

NOTE Confidence: 0.836929976940155

 $00:02:51.428 \longrightarrow 00:02:52.652$ whether those cancers,

NOTE Confidence: 0.836929976940155

 $00:02:52.660 \longrightarrow 00:02:54.495$ the cancers of the esophagus

NOTE Confidence: 0.836929976940155

 $00{:}02{:}54{.}495 \dashrightarrow 00{:}02{:}56{.}886$ and the cancers of the stomach

NOTE Confidence: 0.836929976940155

00:02:56.886 --> 00:02:58.790 are similar or different,

NOTE Confidence: 0.836929976940155

 $00{:}02{:}58.790 \dashrightarrow 00{:}03{:}00.835$ and whether there are different

NOTE Confidence: 0.836929976940155

 $00:03:00.835 \rightarrow 00:03:02.880$ types of cancers even within that.

NOTE Confidence: 0.85228789349397

 $00:03:02.880 \longrightarrow 00:03:06.240$ Sure, so we often divide these

NOTE Confidence: 0.85228789349397

 $00:03:06.240 \rightarrow 00:03:09.229$ cancers into two anatomic groups.

NOTE Confidence: 0.85228789349397

 $00:03:09.230 \rightarrow 00:03:12.380$ Esophagus cancer, as you alluded to,

NOTE Confidence: 0.85228789349397

 $00:03:12.380 \rightarrow 00:03:16.588$ and gastric, or what we call stomach cancer.

 $00{:}03{:}16.590 \dashrightarrow 00{:}03{:}20.078$ And esophageal cancer we now know really

NOTE Confidence: 0.85228789349397

 $00:03:20.078 \rightarrow 00:03:23.210$ is comprised of two very distinct types,

NOTE Confidence: 0.85228789349397

 $00:03:23.210 \rightarrow 00:03:24.970$ really essentially different diseases.

 $00{:}03{:}26{.}290 \dashrightarrow 00{:}03{:}29{.}118$ One type is called squamous cell cancer

NOTE Confidence: 0.85228789349397

 $00{:}03{:}29{.}118 \dashrightarrow 00{:}03{:}32{.}629$ an under the microscope and in terms of

NOTE Confidence: 0.85228789349397

 $00{:}03{:}32{.}629 \dashrightarrow 00{:}03{:}35{.}550$ its molecular biology and risk factors,

NOTE Confidence: 0.85228789349397

 $00{:}03{:}35{.}550 \dashrightarrow 00{:}03{:}38{.}714$ it's actually quite similar to cancers of

NOTE Confidence: 0.85228789349397

 $00:03:38.714 \dashrightarrow 00:03:42.167$ the throat and the head and neck region.

NOTE Confidence: 0.85228789349397

 $00{:}03{:}42.170 \dashrightarrow 00{:}03{:}44.828$ The risk factor there is to bacco

NOTE Confidence: 0.85228789349397

 $00:03:44.828 \longrightarrow 00:03:46.600$ and alcohol in poverty.

NOTE Confidence: 0.85228789349397

00:03:46.600 --> 00:03:47.382 And Interestingly,

NOTE Confidence: 0.85228789349397

 $00:03:47.382 \longrightarrow 00:03:49.337$ the incidence of squamous cell

NOTE Confidence: 0.85228789349397

 $00:03:49.337 \dashrightarrow 00:03:51.573$ carcinoma of the esophagus has

NOTE Confidence: 0.85228789349397

00:03:51.573 --> 00:03:53.067 really dropped dramatically,

NOTE Confidence: 0.85228789349397

 $00{:}03{:}53.070 \dashrightarrow 00{:}03{:}55.220$ particularly in the Western world,

NOTE Confidence: 0.85228789349397

 $00:03:55.220 \longrightarrow 00:03:57.380$ so that's the good news.

- NOTE Confidence: 0.85228789349397
- $00:03:57.380 \longrightarrow 00:03:59.530$ The other type of esophagus
- NOTE Confidence: 0.85228789349397
- $00:03:59.530 \rightarrow 00:04:01.250$ cancer is called adenocarcinoma,
- NOTE Confidence: 0.85228789349397
- $00{:}04{:}01{.}250 \dashrightarrow 00{:}04{:}03{.}818$ and then actually arises at the
- NOTE Confidence: 0.85228789349397
- $00:04:03.818 \rightarrow 00:04:06.463$ bottom of the esophagus where it
- NOTE Confidence: 0.85228789349397
- $00:04:06.463 \longrightarrow 00:04:08.578$ connects in with the stomach,
- NOTE Confidence: 0.85228789349397
- $00{:}04{:}08.580 \dashrightarrow 00{:}04{:}10.304$ often referred to as
- NOTE Confidence: 0.85228789349397
- $00:04:10.304 \rightarrow 00:04:11.597$ gastroesophageal junction cancer,
- NOTE Confidence: 0.85228789349397
- $00:04:11.600 \rightarrow 00:04:14.808$ and that looks much more like a typical
- NOTE Confidence: 0.85228789349397
- $00:04:14.808 \longrightarrow 00:04:17.249$ gastric cancer under the microscope.
- NOTE Confidence: 0.85228789349397
- $00:04:17.250 \longrightarrow 00:04:19.966$ And actually is much more similar to
- NOTE Confidence: 0.85228789349397
- $00:04:19.966 \longrightarrow 00:04:22.678$ gastric cancer than it is to squamous
- NOTE Confidence: 0.85228789349397
- $00{:}04{:}22.678 \dashrightarrow 00{:}04{:}24.523$ cell cancers of the esophagus.
- NOTE Confidence: 0.85228789349397
- $00{:}04{:}24.530 \dashrightarrow 00{:}04{:}25.676$ And they are.
- NOTE Confidence: 0.85228789349397
- $00{:}04{:}25.676 \dashrightarrow 00{:}04{:}27.586$ They have different risk factors,
- NOTE Confidence: 0.85228789349397
- 00:04:27.590 --> 00:04:28.214 so I,
- NOTE Confidence: 0.85228789349397

 $00:04:28.214 \rightarrow 00:04:30.710$ for I alluded to the risk factors for

NOTE Confidence: 0.85228789349397

 $00:04:30.785 \dashrightarrow 00:04:34.033$ squamous cell of these saw fick as it's

NOTE Confidence: 0.85228789349397

 $00:04:34.033 \rightarrow 00:04:35.860$ predominantly to bacco and alcohol

NOTE Confidence: 0.85228789349397

 $00:04:35.860 \rightarrow 00:04:38.700$ as we see with head and neck cancer.

NOTE Confidence: 0.85228789349397

 $00:04:38.700 \longrightarrow 00:04:41.736$ For the adenocarcinomas of the esophagus

NOTE Confidence: 0.85228789349397

 $00:04:41.736 \rightarrow 00:04:45.950$ that arise at the bottom of the esophagus.

NOTE Confidence: 0.85228789349397

 $00:04:45.950 \longrightarrow 00:04:47.974$ What's interesting about that

NOTE Confidence: 0.85228789349397

 $00:04:47.974 \rightarrow 00:04:51.010$ is that there actually has been

NOTE Confidence: 0.85228789349397

 $00{:}04{:}51{.}099 \dashrightarrow 00{:}04{:}54{.}135$ quite a dramatic increase in the

NOTE Confidence: 0.85228789349397

 $00:04:54.135 \dashrightarrow 00:04:56.830$ incidence of this particular entity.

NOTE Confidence: 0.85228789349397

 $00:04:56.830 \dashrightarrow 00:04:58.384$ Gastroesophageal junction adenocarcinoma,

NOTE Confidence: 0.85228789349397

 $00:04:58.384 \dashrightarrow 00:05:00.456$ particularly in Caucasian males,

NOTE Confidence: 0.85228789349397

 $00:05:00.460 \dashrightarrow 00:05:03.838$ a great male predominant we don't

NOTE Confidence: 0.85228789349397

 $00:05:03.838 \rightarrow 00:05:06.632$ fully understand that increase some

NOTE Confidence: 0.85228789349397

 $00:05:06.632 \dashrightarrow 00:05:09.789$ of the risk factors that are linked.

NOTE Confidence: 0.85228789349397

 $00:05:09.790 \longrightarrow 00:05:13.085$ Two adenocarcinoma of the esophagus

- NOTE Confidence: 0.85228789349397
- 00:05:13.085 --> 00:05:16.380 are high BMI or obesity.
- NOTE Confidence: 0.85228789349397
- 00:05:16.380 --> 00:05:18.920 Possibly Dyett gastro oesophageal
- NOTE Confidence: 0.85228789349397
- 00:05:18.920 --> 00:05:22.095 reflux disease is certainly risk
- NOTE Confidence: 0.85228789349397
- $00:05:22.095 \longrightarrow 00:05:24.039$ factor in some cases,
- NOTE Confidence: 0.85228789349397
- $00{:}05{:}24.040 \dashrightarrow 00{:}05{:}27.302$ but smoking and alcohol do not seem
- NOTE Confidence: 0.85228789349397
- 00:05:27.302 --> 00:05:32.376 to play a predominant role in risk
- NOTE Confidence: 0.85228789349397
- 00:05:32.376 --> 00:05:35.948 factor the gastroesophageal adenocarcinomas.
- NOTE Confidence: 0.85228789349397
- $00:05:35.950 \rightarrow 00:05:39.558$ Then you get into the stomach an we're
- NOTE Confidence: 0.85228789349397
- $00:05:39.558 \dashrightarrow 00:05:42.548$ talking about classic gastric cancer.
- NOTE Confidence: 0.85228789349397
- $00:05:42.550 \rightarrow 00:05:45.940$ And there what's very interesting is
- NOTE Confidence: 0.85228789349397
- $00:05:45.940 \rightarrow 00:05:50.320$ that there's been a progressive decline.
- NOTE Confidence: 0.85228789349397
- $00:05:50.320 \rightarrow 00:05:53.208$ Across the globe and in the United States.
- NOTE Confidence: 0.85228789349397
- $00{:}05{:}53{.}210 \dashrightarrow 00{:}05{:}55{.}082$ In the incidence of gastric cancer
- NOTE Confidence: 0.85228789349397
- $00{:}05{:}55{.}082 \dashrightarrow 00{:}05{:}57{.}608$ as it was the number one cause
- NOTE Confidence: 0.85228789349397
- $00:05:57.608 \rightarrow 00:05:59.623$ of cancer related deaths globally
- NOTE Confidence: 0.85228789349397

 $00:05:59.623 \rightarrow 00:06:01.149$ until about the 1980s,

NOTE Confidence: 0.85228789349397

 $00:06:01.150 \rightarrow 00:06:03.572$ when it was surpassed by lung cancer

NOTE Confidence: 0.85228789349397

 $00:06:03.572 \dashrightarrow 00:06:06.160$ and there are a lot of interesting

NOTE Confidence: 0.85228789349397

 $00:06:06.160 \longrightarrow 00:06:08.005$ theories about why that is.

NOTE Confidence: 0.85228789349397

 $00{:}06{:}08{.}010 \dashrightarrow 00{:}06{:}11.601$ And we do know that there are some risk

NOTE Confidence: 0.85228789349397

 $00:06:11.601 \rightarrow 00:06:14.640$ factors for stomach or gastric cancer,

NOTE Confidence: 0.85228789349397

 $00{:}06{:}14.640 \dashrightarrow 00{:}06{:}16.850$ and these include some environmental

NOTE Confidence: 0.85228789349397

 $00:06:16.850 \rightarrow 00:06:18.618$ and lifestyle risk factors.

NOTE Confidence: 0.85228789349397

 $00{:}06{:}18.620 \dashrightarrow 00{:}06{:}21.616$ One of the most prominent is a

NOTE Confidence: 0.85228789349397

00:06:21.616 --> 00:06:23.480 bacteria called Helicobacter pylori,

NOTE Confidence: 0.85228789349397

 $00{:}06{:}23.480 \dashrightarrow 00{:}06{:}26.240$ which is quite prevalent and some

NOTE Confidence: 0.85228789349397

00:06:26.240 --> 00:06:29.021 strains of that bacteria are cancer

NOTE Confidence: 0.85228789349397

 $00{:}06{:}29{.}021 \dashrightarrow 00{:}06{:}32{.}017$ causing and do increase the risk of

NOTE Confidence: 0.85228789349397

00:06:32.017 --> 00:06:35.052 gas
tric cancer through been a lot of

NOTE Confidence: 0.85228789349397

 $00{:}06{:}35{.}052 \dashrightarrow 00{:}06{:}37{.}642$ studies over the decades about diet.

NOTE Confidence: 0.85228789349397

 $00:06:37.642 \longrightarrow 00:06:39.897$ So it does seem that.

 $00:06:39.900 \rightarrow 00:06:42.456$ Salt preserved and smoked foods increase

NOTE Confidence: 0.85228789349397

 $00{:}06{:}42.456 \dashrightarrow 00{:}06{:}45.856$ the risk as well as dietze that are

NOTE Confidence: 0.85228789349397

 $00:06:45.856 \rightarrow 00:06:48.280$ low in fresh fruits and vegetables.

NOTE Confidence: 0.85228789349397

 $00:06:48.280 \rightarrow 00:06:50.536$ Modest risks risk factors would be

NOTE Confidence: 0.85228789349397

 $00{:}06{:}50{.}536 \dashrightarrow 00{:}06{:}52{.}598$ smoking and obesity and probably

NOTE Confidence: 0.85228789349397

 $00{:}06{:}52.598 \dashrightarrow 00{:}06{:}54.566$ lower social economic status.

NOTE Confidence: 0.826479136943817

00:06:54.570 - 00:06:57.496 So there are a lot of differences,

NOTE Confidence: 0.826479136943817

 $00:06:57.500 \rightarrow 00:06:59.912$ not only anatomically and in terms

NOTE Confidence: 0.826479136943817

 $00{:}06{:}59{.}912 \dashrightarrow 00{:}07{:}02{.}459$ of the pathology under the microscope

NOTE Confidence: 0.826479136943817

 $00:07:02.459 \longrightarrow 00:07:05.040$ but also risk factors, and it's

NOTE Confidence: 0.826479136943817

 $00:07:05.040 \longrightarrow 00:07:07.250$ interesting deals that you mentioned

NOTE Confidence: 0.826479136943817

 $00{:}07{:}07{.}250 \dashrightarrow 00{:}07{:}09{.}460$ that the oesophageal cancer rate

NOTE Confidence: 0.826479136943817

 $00{:}07{:}09{.}533 \dashrightarrow 00{:}07{:}11{.}328$ and the gastric cancer rate.

NOTE Confidence: 0.826479136943817

 $00:07:11.330 \longrightarrow 00:07:14.540$ Both seems to have dropped,

NOTE Confidence: 0.826479136943817

 $00:07:14.540 \rightarrow 00:07:16.466$ but gastroesophageal cancers,

 $00:07:16.466 \rightarrow 00:07:20.960$ those cancers that occur at that junction,

NOTE Confidence: 0.826479136943817

 $00{:}07{:}20{.}960 \dashrightarrow 00{:}07{:}23{.}320$ the add node cancers.

NOTE Confidence: 0.826479136943817

 $00:07:23.320 \longrightarrow 00:07:25.090$ Have increased Ann.

NOTE Confidence: 0.826479136943817

 $00{:}07{:}25{.}090 \dashrightarrow 00{:}07{:}28{.}415$ You mentioned that we we don't know

NOTE Confidence: 0.826479136943817

 $00:07:28.415 \longrightarrow 00:07:31.280$ why exactly those have increased,

NOTE Confidence: 0.826479136943817

 $00{:}07{:}31{.}280 \dashrightarrow 00{:}07{:}34{.}220$ but do we have any insight into

NOTE Confidence: 0.826479136943817

 $00:07:34.220 \longrightarrow 00:07:38.017$ what played a role in decreasing the

NOTE Confidence: 0.826479136943817

 $00:07:38.017 \rightarrow 00:07:41.072$ incidence of oesophageal cancers and

NOTE Confidence: 0.819761395454407

 $00:07:41.080 \longrightarrow 00:07:42.649$ of gastric cancers?

NOTE Confidence: 0.819761395454407

 $00:07:42.649 \longrightarrow 00:07:45.264$ So for squamous cell carcinoma

NOTE Confidence: 0.819761395454407

 $00:07:45.264 \longrightarrow 00:07:48.399$ of the esophagus it is related

NOTE Confidence: 0.819761395454407

 $00:07:48.399 \longrightarrow 00:07:50.894$ to a decrease in smoking.

NOTE Confidence: 0.819761395454407

 $00:07:50.900 \longrightarrow 00:07:52.920$ And improvements in social

NOTE Confidence: 0.819761395454407

 $00{:}07{:}52.920 \dashrightarrow 00{:}07{:}54.940$ economic status and nutrition.

NOTE Confidence: 0.819761395454407

 $00:07:54.940 \dashrightarrow 00:07:58.484$ Those seem to be quite linked to squamous

NOTE Confidence: 0.819761395454407

 $00:07:58.484 \rightarrow 00:08:02.520$ of the esophagus and for gastric cancer,

 $00:08:02.520 \longrightarrow 00:08:06.342$ we do think that it does relate

NOTE Confidence: 0.819761395454407

 $00:08:06.342 \longrightarrow 00:08:08.579$ to decreasing incidence of

NOTE Confidence: 0.819761395454407

00:08:08.580 --> 00:08:11.100 H. Pylori colonization or infection related,

NOTE Confidence: 0.819761395454407

00:08:11.100 --> 00:08:12.615 likely due to refrigeration

NOTE Confidence: 0.819761395454407

 $00:08:12.615 \longrightarrow 00:08:15.645$ over the last century or so.

NOTE Confidence: 0.819761395454407

 $00{:}08{:}15.650 \dashrightarrow 00{:}08{:}19.906$ So in areas of the world that are

NOTE Confidence: 0.819761395454407

 $00:08:19.906 \longrightarrow 00:08:21.729$ underdeveloped we see

NOTE Confidence: 0.819761395454407

 $00:08:21.730 \rightarrow 00:08:24.946$ a drop in the incidence of gastric cancer,

NOTE Confidence: 0.819761395454407

 $00:08:24.950 \dashrightarrow 00:08:26.960$ so that's the prevailing theory.

00:08:27.360 --> 00:08:29.370 But you know, it's interesting

NOTE Confidence: 0.870746791362762

 $00:08:29.370 \longrightarrow 00:08:30.978$ that despite these advances,

NOTE Confidence: 0.870746791362762

 $00{:}08{:}30{.}980 \dashrightarrow 00{:}08{:}34{.}188$ and certainly there's a long way to go,

NOTE Confidence: 0.870746791362762

 $00:08:34.190 \longrightarrow 00:08:36.596$ this is still, as you mentioned,

NOTE Confidence: 0.870746791362762

 $00:08:36.600 \longrightarrow 00:08:38.376$ a fairly lethal cancer

NOTE Confidence: 0.870746791362762

 $00{:}08{:}38{.}376 \dashrightarrow 00{:}08{:}40{.}596$ when we think about gas troesophageal

NOTE Confidence: 0.870746791362762

 $00:08:40.596 \rightarrow 00:08:41.828$ cancers as a whole,

- NOTE Confidence: 0.870746791362762
- $00:08:41.830 \longrightarrow 00:08:44.170$ is that because they tend to
- NOTE Confidence: 0.870746791362762
- 00:08:44.170 --> 00:08:46.650 present at late stages in general?
- NOTE Confidence: 0.874626100063324
- $00:08:47.260 \dashrightarrow 00:08:51.013$ I think it's a combination of factors.
- NOTE Confidence: 0.874626100063324
- $00:08:51.020 \rightarrow 00:08:53.946$ Yes they are lethal cancers,
- NOTE Confidence: 0.874626100063324
- $00:08:53.950 \rightarrow 00:08:56.356$ and that's why even though they're
- NOTE Confidence: 0.874626100063324
- $00{:}08{:}56{.}356 \dashrightarrow 00{:}08{:}58{.}550$ not so common in the United States,
- NOTE Confidence: 0.874626100063324
- 00:08:58.550 --> 00:09:00.310 they're still very problematic.
- NOTE Confidence: 0.874626100063324
- $00:09:00.310 \longrightarrow 00:09:03.411$ So the five year cure rate for
- NOTE Confidence: 0.874626100063324
- $00:09:03.411 \dashrightarrow 00:09:06.064$ esophaeal cancer was only about 20%.
- NOTE Confidence: 0.874626100063324
- $00:09:06.070 \rightarrow 00:09:09.406$ It's a little bit higher for gastric cancer,
- NOTE Confidence: 0.874626100063324
- 00:09:09.410 --> 00:09:12.522 about 30%, and I think the reasons for
- NOTE Confidence: 0.874626100063324
- $00:09:12.522 \dashrightarrow 00:09:15.709$ this are multi factorial if you will.
- NOTE Confidence: 0.874626100063324
- $00:09:15.710 \dashrightarrow 00:09:19.634$ In some cases, due to a delay in diagnosis,
- NOTE Confidence: 0.874626100063324
- $00:09:19.640 \dashrightarrow 00:09:23.136$ but I don't think that's the major reason.
- NOTE Confidence: 0.874626100063324
- $00{:}09{:}23.140 \dashrightarrow 00{:}09{:}26.623$ I think it has much to do with the
- NOTE Confidence: 0.874626100063324

 $00:09:26.623 \rightarrow 00:09:29.260$ inherent biology of these tumors.

NOTE Confidence: 0.874626100063324

00:09:29.260 --> 00:09:31.004 A propensity to disseminate

NOTE Confidence: 0.874626100063324

 $00:09:31.004 \rightarrow 00:09:32.748$ or spread early on,

NOTE Confidence: 0.874626100063324

 $00:09:32.750 \longrightarrow 00:09:35.186$ and then the need for better

NOTE Confidence: 0.874626100063324

 $00{:}09{:}35{.}186 \dashrightarrow 00{:}09{:}37{.}370$ and more effective the rapies to

NOTE Confidence: 0.874626100063324

 $00{:}09{:}37{.}370 \dashrightarrow 00{:}09{:}39{.}306$ deal with disseminated disease.

NOTE Confidence: 0.874626100063324

 $00{:}09{:}39{.}310 \dashrightarrow 00{:}09{:}42{.}635$ I would add that in contrast to

NOTE Confidence: 0.874626100063324

 $00:09:42.635 \rightarrow 00:09:45.580$ the common cancers such as breast,

NOTE Confidence: 0.874626100063324

 $00{:}09{:}45{.}580 \dashrightarrow 00{:}09{:}46{.}918$ colorectal, lung, and cervical

NOTE Confidence: 0.874626100063324

 $00:09:46.918 \dashrightarrow 00:09:49.148$ there is no wides pread screening

NOTE Confidence: 0.874626100063324

 $00:09:49.148 \longrightarrow 00:09:50.630$ for these cancers,

NOTE Confidence: 0.874626100063324

 $00:09:50.630 \longrightarrow 00:09:53.378$ at least in the Western world.

 $00{:}09{:}54{.}972 \dashrightarrow 00{:}09{:}56{.}962$ But it is a little bit different in Asia

NOTE Confidence: 0.874626100063324

 $00:09:56.962 \dashrightarrow 00:09:59.348$ and therefore early detection

NOTE Confidence: 0.874626100063324

 $00:09:59.350 \longrightarrow 00:10:02.170$ is less likely to happen with

NOTE Confidence: 0.874626100063324

 $00:10:02.170 \longrightarrow 00:10:04.400$ these cancers as opposed to

 $00:10:04.859 \rightarrow 00:10:05.777$ breast cancer,

 $00:10:05.777 \rightarrow 00:10:08.990$ so that certainly would be a contributing

NOTE Confidence: 0.830530166625977

 $00{:}10{:}08{.}990 \dashrightarrow 00{:}10{:}12{.}343$ factor.

NOTE Confidence: 0.830530166625977

00:10:12.343 --> 00:10:14.499 Talk a little bit about the differences in screening in Asia.

 $00:10:15.964 \rightarrow 00:10:18.160$ How do people in Asia get screened for

NOTE Confidence: 0.830530166625977

 $00:10:18.245 \longrightarrow 00:10:20.475$ esophageal cancers and why

NOTE Confidence: 0.830530166625977

00:10:20.475 - 00:10:24.218 hasn't that been adopted in the US?

NOTE Confidence: 0.830530166625977

 $00:10:24.220 \rightarrow 00:10:26.973$ Usually we find screening to be more

NOTE Confidence: 0.830530166625977

 $00:10:26.973 \longrightarrow 00:10:29.332$ prevalent in the Western world than

NOTE Confidence: 0.830530166625977

 $00{:}10{:}29{.}332 \dashrightarrow 00{:}10{:}31{.}690$ we do in less developed countries.

NOTE Confidence: 0.869833290576935

 $00{:}10{:}32.460 \dashrightarrow 00{:}10{:}34.570$ In terms of

NOTE Confidence: 0.869833290576935

 $00{:}10{:}34.570 \dashrightarrow 00{:}10{:}37.280$ screening in Asia for gastric cancer

NOTE Confidence: 0.869833290576935

00:10:37.280 --> 00:10:39.088 they do pretty sophisticated

NOTE Confidence: 0.869833290576935

 $00{:}10{:}39.088 \dashrightarrow 00{:}10{:}41.800$ radiographic studies to look at

NOTE Confidence: 0.869833290576935

 $00:10:41.880 \longrightarrow 00:10:43.926$ the surface of the stomach to

NOTE Confidence: 0.869833290576935

 $00:10:43.926 \rightarrow 00:10:46.480$ see if there are irregularities,

 $00:10:46.480 \longrightarrow 00:10:49.080$ and then for esophagus cancer

NOTE Confidence: 0.869833290576935

 $00{:}10{:}49{.}080 \dashrightarrow 00{:}10{:}51{.}160$ screening modalities is to have

NOTE Confidence: 0.869833290576935

 $00:10:51.160 \rightarrow 00:10:53.632$ patients swallow a balloon and sort

NOTE Confidence: 0.869833290576935

 $00:10:53.632 \rightarrow 00:10:56.385$ of pull it up through the esophagus

NOTE Confidence: 0.869833290576935

 $00:10:56.385 \rightarrow 00:10:58.809$ and you pull off abnormal cells

NOTE Confidence: 0.869833290576935

 $00{:}10{:}58{.}809 \dashrightarrow 00{:}11{:}01{.}400$ in the lining of the esophagus.

NOTE Confidence: 0.869833290576935

 $00:11:01.400 \dashrightarrow 00:11:04.070$ And those are two screening modalities.

NOTE Confidence: 0.869833290576935

 $00{:}11{:}04{.}070 \dashrightarrow 00{:}11{:}08{.}182$ That can be applied widely in the United

NOTE Confidence: 0.869833290576935

 $00{:}11{:}08{.}182 \dashrightarrow 00{:}11{:}11{.}650$ States because it is an uncommon cancer.

NOTE Confidence: 0.869833290576935

 $00:11:11.650 \rightarrow 00:11:15.154$ I think there's just not been a lot

NOTE Confidence: 0.869833290576935

 $00{:}11{:}15{.}154 \dashrightarrow 00{:}11{:}18{.}719$ of focus on wides pread screening

NOTE Confidence: 0.850119761058262

 $00{:}11{:}18.720 \dashrightarrow 00{:}11{:}20.226$ for these cancers.

NOTE Confidence: 0.850119761058262

 $00:11:20.226 \longrightarrow 00:11:23.238$ So you mentioned that these cancers

NOTE Confidence: 0.850119761058262

 $00:11:23.238 \rightarrow 00:11:25.959$ tend to, because of their biology,

NOTE Confidence: 0.850119761058262

 $00{:}11{:}25{.}960 \dashrightarrow 00{:}11{:}27{.}836$ be more advanced

NOTE Confidence: 0.850119761058262

 $00:11:27.836 \longrightarrow 00:11:30.181$ at the time of presentation

- NOTE Confidence: 0.850119761058262
- 00:11:30.181 --> 00:11:33.667 and more rapidly get to a more
- NOTE Confidence: 0.850119761058262
- $00{:}11{:}33.667 \dashrightarrow 00{:}11{:}35.615$ advanced or metastatic stage,
- NOTE Confidence: 0.850119761058262
- $00{:}11{:}35{.}620 \dashrightarrow 00{:}11{:}37{.}755$ what proportion of
- NOTE Confidence: 0.850119761058262
- 00:11:37.755 -> 00:11:39.463 these patients present with
- NOTE Confidence: 0.850119761058262
- 00:11:39.463 --> 00:11:41.378 advanced or metastatic disease,
- NOTE Confidence: 0.850119761058262
- $00:11:41.380 \longrightarrow 00:11:43.590$ out of all
- NOTE Confidence: 0.850119761058262
- $00:11:43.590 \rightarrow 00:11:46.248$ the gastroesophageal cancers that you see?
- NOTE Confidence: 0.844509780406952
- $00:11:46.780 \longrightarrow 00:11:50.188$ Still the majority of the
- NOTE Confidence: 0.844509780406952
- $00{:}11{:}50{.}188 \dashrightarrow 00{:}11{:}53{.}406$ patients are presenting with non
- NOTE Confidence: 0.844509780406952
- $00{:}11{:}53.406 \dashrightarrow 00{:}11{:}56.758$ disseminated or nonmetastatic disease,
- NOTE Confidence: 0.844509780406952
- $00:11:56.760 \longrightarrow 00:12:00.080$ so that's the good news.
- NOTE Confidence: 0.844509780406952
- $00:12:00.080 \longrightarrow 00:12:03.104$ But despite that, again
- NOTE Confidence: 0.844509780406952
- $00:12:03.104 \longrightarrow 00:12:04.616$ oftentimes particularly
- NOTE Confidence: 0.844509780406952
- $00{:}12{:}04.620 \dashrightarrow 00{:}12{:}06.705$ with the more advanced but
- NOTE Confidence: 0.844509780406952
- 00:12:06.705 --> 00:12:07.956 still nonmeta
static cases,
- NOTE Confidence: 0.844509780406952

 $00:12:07.960 \rightarrow 00:12:11.288$ there is what we call a cult dissemination,

NOTE Confidence: 0.844509780406952

 $00{:}12{:}11.290 \dashrightarrow 00{:}12{:}14.378$ and that is where we look to additional

NOTE Confidence: 0.844509780406952

00:12:14.378 --> 00:12:16.129 therapies such as chemotherapy

NOTE Confidence: 0.844509780406952

 $00:12:16.129 \longrightarrow 00:12:18.379$ to try to increase security.

NOTE Confidence: 0.844509780406952

 $00:12:18.380 \longrightarrow 00:12:20.435$ You know, it's something that

NOTE Confidence: 0.844509780406952

 $00:12:20.435 \longrightarrow 00:12:22.490$ we've been doing for several

NOTE Confidence: 0.844509780406952

00:12:22.566 - 00:12:25.050 decades in the breast cancer world,

NOTE Confidence: 0.844509780406952

 $00:12:25.050 \longrightarrow 00:12:27.135$ and certainly has a role

NOTE Confidence: 0.844509780406952

 $00:12:27.135 \longrightarrow 00:12:29.220$ in these cancers as well.

NOTE Confidence: 0.844509780406952

 $00:12:29.220 \longrightarrow 00:12:30.990$ Even in those patients who

NOTE Confidence: 0.844509780406952

00:12:30.990 --> 00:12:32.760 appear to have localized and

NOTE Confidence: 0.844509780406952

 $00{:}12{:}32{.}833 \dashrightarrow 00{:}12{:}34{.}639$ potentially curable disease.

NOTE Confidence: 0.859931170940399

00:12:34.790 --> 00:12:38.130 And I want to kind of get

NOTE Confidence: 0.859931170940399

 $00:12:38.219 \rightarrow 00:12:41.558$ into how exactly we treat patients,

NOTE Confidence: 0.859931170940399

 $00{:}12{:}41.560 \dashrightarrow 00{:}12{:}43.942$ and so with those patients with

NOTE Confidence: 0.859931170940399

 $00:12:43.942 \longrightarrow 00:12:45.931$ localized disease, can we treat

- NOTE Confidence: 0.859931170940399
- $00:12:45.931 \rightarrow 00:12:47.916$ these patients for curative intent?
- NOTE Confidence: 0.859931170940399
- $00:12:47.920 \longrightarrow 00:12:50.308$ And how do we do that?
- NOTE Confidence: 0.842579483985901
- $00:12:50.940 \longrightarrow 00:12:53.415$ Absolutely, patients who
- NOTE Confidence: 0.842579483985901
- $00:12:53.415 \rightarrow 00:12:55.395$ present with nonmetastatic disease,
- NOTE Confidence: 0.842579483985901
- $00{:}12{:}55{.}400 \dashrightarrow 00{:}12{:}57{.}840$ so no evidence of dissemination
- NOTE Confidence: 0.842579483985901
- $00:12:57.840 \longrightarrow 00:13:00.840$ to other sites in the body,
- NOTE Confidence: 0.842579483985901
- $00:13:00.840 \longrightarrow 00:13:02.820$ and that we determined
- NOTE Confidence: 0.842579483985901
- 00:13:02.820 --> 00:13:04.800 simply by getting imaging,
- NOTE Confidence: 0.842579483985901
- $00:13:04.800 \longrightarrow 00:13:07.656$ usually a CAT scan or in
- NOTE Confidence: 0.842579483985901
- $00{:}13{:}07.656 \dashrightarrow 00{:}13{:}10.250$ some cases a PET scan.
- NOTE Confidence: 0.842579483985901
- $00:13:10.250 \rightarrow 00:13:13.906$ And for those patients there is a path
- NOTE Confidence: 0.842579483985901
- $00{:}13{:}13{.}906 \dashrightarrow 00{:}13{:}17.666$ to cure for many of those patients,
- NOTE Confidence: 0.842579483985901
- 00:13:17.670 --> 00:13:19.662 and that often involves
- NOTE Confidence: 0.842579483985901
- $00:13:19.662 \longrightarrow 00:13:21.654$ surgery as the centerpiece
- NOTE Confidence: 0.842579483985901
- $00{:}13{:}21.660 \dashrightarrow 00{:}13{:}24.945$ of the cure and then in many cases where
- NOTE Confidence: 0.842579483985901

 $00:13:24.945 \rightarrow 00:13:28.128$ the disease is more locally advanced,

NOTE Confidence: 0.842579483985901

 $00{:}13{:}28{.}130 \dashrightarrow 00{:}13{:}30{.}220$ we will need adjunctive the rapies

NOTE Confidence: 0.842579483985901

 $00:13:30.220 \longrightarrow 00:13:32.310$ in addition to surgery to

NOTE Confidence: 0.842579483985901

 $00:13:32.389 \rightarrow 00:13:34.589$ further increase the cure rate.

NOTE Confidence: 0.842579483985901

 $00{:}13{:}34{.}590 \dashrightarrow 00{:}13{:}36{.}745$ And that's true both for

NOTE Confidence: 0.842579483985901

 $00:13:36.745 \rightarrow 00:13:38.900$ esophagus cancer and for gastric

NOTE Confidence: 0.853434478243192

 $00{:}13{:}38{.}900 \dashrightarrow 00{:}13{:}41{.}996$ cancer.

NOTE Confidence: 0.853434478243192

00:13:41.996 --> 00:13:45.619 When the disease has spread or is more advanced,

NOTE Confidence: 0.853434478243192

 $00{:}13{:}45.620 \dashrightarrow 00{:}13{:}49.604$ I would imagine that the rapies can be a

NOTE Confidence: 0.853434478243192

 $00:13:49.604 \rightarrow 00:13:53.900$ little bit more challenging or problematic

NOTE Confidence: 0.853434478243192

 $00{:}13{:}53{.}900 \dashrightarrow 00{:}13{:}55{.}730$ but I do understand that

NOTE Confidence: 0.853434478243192

 $00{:}13{:}55{.}730 \dashrightarrow 00{:}13{:}57{.}775$ there are some new advances that

NOTE Confidence: 0.853434478243192

00:13:57.775 --> 00:14:00.043 may help patients who have more

NOTE Confidence: 0.853434478243192

 $00{:}14{:}00{.}043 \dashrightarrow 00{:}14{:}02{.}129$ advanced or metastatic disease.

NOTE Confidence: 0.853434478243192

 $00:14:02.130 \longrightarrow 00:14:05.487$ So I want to get into all of that,

NOTE Confidence: 0.853434478243192

 $00:14:05.490 \longrightarrow 00:14:08.234$ but first we need to take a short

 $00:14:08.234 \rightarrow 00:14:10.359$ break for a medical minute,

NOTE Confidence: 0.853434478243192

 $00:14:10.360 \longrightarrow 00:14:12.929$ so please stay tuned to learn more

NOTE Confidence: 0.853434478243192

00:14:12.929 --> 00:14:14.470 about gastroesophageal cancer

NOTE Confidence: 0.870499312877655

 $00:14:14.470 \rightarrow 00:14:17.254$ with my guest Doctor Jill Lacy.

NOTE Confidence: 0.870499312877655

00:14:17.254 --> 00:14:20.077 Support or Yale Cancer Answers comes from AstraZeneca,

NOTE Confidence: 0.870499312877655

00:14:20.080 --> 00:14:22.005 a science LED biopharmaceutical company

NOTE Confidence: 0.870499312877655

 $00:14:22.005 \rightarrow 00:14:23.930$ dedicated to partnering across the

NOTE Confidence: 0.870499312877655

00:14:23.984 --> 00:14:25.829 oncology community to improve outcomes

NOTE Confidence: 0.870499312877655

 $00:14:25.829 \rightarrow 00:14:27.674$ across various stages of cancer.

NOTE Confidence: 0.870499312877655

 $00{:}14{:}27.680 \dashrightarrow 00{:}14{:}34.151$ More at a strazeneca-us.com. This is a

NOTE Confidence: 0.870499312877655

 $00{:}14{:}34{.}151 \dashrightarrow 00{:}14{:}36{.}186$ medical minute about breast cancer,

NOTE Confidence: 0.870499312877655

 $00{:}14{:}36{.}190 \dashrightarrow 00{:}14{:}38{.}220$ the most common cancer in

NOTE Confidence: 0.870499312877655

00:14:38.220 --> 00:14:39.844 women. In Connecticut alone,

NOTE Confidence: 0.870499312877655

00:14:39.850 --> 00:14:41.900 approximately 3000 women will be

NOTE Confidence: 0.870499312877655

 $00:14:41.900 \rightarrow 00:14:44.330$ diagnosed with breast cancer this year,

- NOTE Confidence: 0.870499312877655
- $00:14:44.330 \longrightarrow 00:14:46.360$ but thanks to earlier detection,
- NOTE Confidence: 0.870499312877655
- $00:14:46.360 \longrightarrow 00:14:47.578$ non invasive treatments,
- NOTE Confidence: 0.870499312877655
- $00:14:47.578 \rightarrow 00:14:48.796$ and novel therapies,
- NOTE Confidence: 0.870499312877655
- $00:14:48.800 \rightarrow 00:14:51.621$ there are more options for patients to
- NOTE Confidence: 0.870499312877655
- $00:14:51.621 \rightarrow 00:14:54.089$ fight breast cancer then ever before.
- NOTE Confidence: 0.870499312877655
- $00{:}14{:}54{.}090 \dashrightarrow 00{:}14{:}56{.}125$ Women should schedule a baseline
- NOTE Confidence: 0.870499312877655
- 00:14:56.125 --> 00:14:58.621 mammogram beginning at age 40 or
- NOTE Confidence: 0.870499312877655
- $00{:}14{:}58.621 \dashrightarrow 00{:}15{:}00{.}949$ earlier if they have risk factors
- NOTE Confidence: 0.870499312877655
- $00{:}15{:}00{.}949 \dashrightarrow 00{:}15{:}02{.}640$ associated with breast cancer.
- NOTE Confidence: 0.870499312877655
- $00:15:02.640 \longrightarrow 00:15:04.530$ Digital breast tomosynthesis or
- NOTE Confidence: 0.870499312877655
- 00:15:04.530 --> 00:15:06.042 3D mammography is transforming
- NOTE Confidence: 0.870499312877655
- $00:15:06.042 \rightarrow 00:15:07.938$ breast screening by significantly
- NOTE Confidence: 0.870499312877655
- $00:15:07.940 \rightarrow 00:15:09.539$ reducing unnecessary procedures
- NOTE Confidence: 0.870499312877655
- 00:15:09.539 $\operatorname{-->}$ 00:15:12.737 while picking up more cancers and
- NOTE Confidence: 0.870499312877655
- $00:15:12.737 \longrightarrow 00:15:15.302$ eliminating some of the fear
- NOTE Confidence: 0.870499312877655

 $00:15:15.302 \rightarrow 00:15:17.257$ and anxiety many women experience.

NOTE Confidence: 0.870499312877655

 $00:15:17.260 \longrightarrow 00:15:19.124$ More information is available

NOTE Confidence: 0.870499312877655

 $00:15:19.124 \rightarrow 00:15:20.056$ at yale cancercenter.org.

NOTE Confidence: 0.870499312877655

00:15:20.060 --> 00:15:23.978 You're listening to Connecticut Public Radio.

NOTE Confidence: 0.870499312877655

00:15:23.980 --> 00:15:24.410 Welcome

NOTE Confidence: 0.852033913135529

 $00{:}15{:}24{.}410 \dashrightarrow 00{:}15{:}26{.}560$ back to Yale Cancer Answers.

NOTE Confidence: 0.852033913135529

00:15:26.560 --> 00:15:28.960 This is doctor Anees Chagpar

NOTE Confidence: 0.852033913135529

00:15:28.960 --> 00:15:31.570 and I'm joined tonight by

NOTE Confidence: 0.852033913135529

00:15:31.570 --> 00:15:33.870 my guest doctor Jill Lacy.

NOTE Confidence: 0.852033913135529

 $00{:}15{:}33.870 \dashrightarrow 00{:}15{:}36.005$ We're talking about gastroes ophageal

NOTE Confidence: 0.852033913135529

 $00{:}15{:}36.005 \dashrightarrow 00{:}15{:}38.600$ cancer and right before the break

NOTE Confidence: 0.852033913135529

 $00:15:38.600 \rightarrow 00:15:40.600$ Jill was telling us about

NOTE Confidence: 0.852033913135529

 $00:15:40.600 \rightarrow 00:15:43.330$ how this is a rare cancer,

NOTE Confidence: 0.852033913135529

 $00:15:43.330 \longrightarrow 00:15:45.238$ but one that really is fatal

NOTE Confidence: 0.852033913135529

 $00:15:45.238 \longrightarrow 00:15:47.599$ for some patients and

NOTE Confidence: 0.852033913135529

 $00{:}15{:}47.599 \dashrightarrow 00{:}15{:}49.623$ especially difficult or perhaps

- NOTE Confidence: 0.852033913135529
- $00{:}15{:}49.623 \dashrightarrow 00{:}15{:}52.667$ more challenging to treat in the
- NOTE Confidence: 0.852033913135529
- $00:15:52.667 \rightarrow 00:15:54.547$ advanced and metastatic setting.
- NOTE Confidence: 0.852033913135529
- $00{:}15{:}54{.}550 \dashrightarrow 00{:}15{:}57{.}846$ So Jill tell us a little bit more
- NOTE Confidence: 0.852033913135529
- $00:15:57.846 \rightarrow 00:16:00.414$ about historically the options that
- NOTE Confidence: 0.852033913135529
- $00{:}16{:}00{.}414 \dashrightarrow 00{:}16{:}03{.}738$ we've had for advanced metastatic
- NOTE Confidence: 0.852033913135529
- $00:16:03.738 \longrightarrow 00:16:05.252$ gastroesophageal cancers and
- NOTE Confidence: 0.852033913135529
- $00{:}16{:}05{.}252 \dashrightarrow 00{:}16{:}07{.}868$ some of the new developments that
- NOTE Confidence: 0.852033913135529
- $00:16:07.868 \rightarrow 00:16:10.628$ maybe can give patients more hope.
- NOTE Confidence: 0.851593136787415
- $00:16:11.220 \rightarrow 00:16:15.385$ For most of my career,
- NOTE Confidence: 0.851593136787415
- $00:16:15.390 \longrightarrow 00:16:17.726$ when patients develop
- NOTE Confidence: 0.851593136787415
- $00:16:17.726 \longrightarrow 00:16:19.478$ metastatic or disseminated
- NOTE Confidence: 0.851593136787415
- 00:16:19.478 --> 00:16:21.950 esophageal or gastric cancers,
- NOTE Confidence: 0.851593136787415
- $00:16:21.950 \rightarrow 00:16:26.115$ we were able to offer some treatments,
- NOTE Confidence: 0.851593136787415
- $00{:}16{:}26{.}120 \dashrightarrow 00{:}16{:}29{.}886$ but the prognosis was poor and the
- NOTE Confidence: 0.851593136787415
- $00{:}16{:}29.886 \dashrightarrow 00{:}16{:}33.549$ survival was relatively short and those
- NOTE Confidence: 0.851593136787415

00:16:33.549 --> 00:16:36.799 treatments up until relatively recently

NOTE Confidence: 0.851593136787415

 $00:16:36.799 \rightarrow 00:16:40.419$ were basically the use of chemotherapy,

NOTE Confidence: 0.851593136787415

 $00:16:40.420 \longrightarrow 00:16:42.238$ or cytotoxic drugs.

NOTE Confidence: 0.851593136787415

 $00:16:42.238 \rightarrow 00:16:44.056$ Traditional chemotherapy drugs.

NOTE Confidence: 0.851593136787415

 $00{:}16{:}44.060 \dashrightarrow 00{:}16{:}46.236$ And those drugs,

NOTE Confidence: 0.851593136787415

 $00{:}16{:}46{.}236 \dashrightarrow 00{:}16{:}48{.}412$ often provided some palliation

NOTE Confidence: 0.851593136787415

00:16:48.412 --> 00:16:51.080 and mostly prolong survival,

NOTE Confidence: 0.851593136787415

 $00{:}16{:}51.080 \dashrightarrow 00{:}16{:}54.005$ but it was unusual to

NOTE Confidence: 0.851593136787415

 $00:16:54.005 \rightarrow 00:16:55.760$ see long-term survivors,

NOTE Confidence: 0.851593136787415

00:16:55.760 - 00:17:00.308 and we were not curing patients

NOTE Confidence: 0.851593136787415

 $00{:}17{:}00{.}308 \dashrightarrow 00{:}17{:}02{.}582$ with those treatments.

 $00:17:03.120 \longrightarrow 00:17:06.270$ What changed more recently?

NOTE Confidence: 0.857162296772003

 $00:17:07.010 \rightarrow 00:17:11.322$ There have been some very exciting advances in

NOTE Confidence: 0.857162296772003

 $00:17:11.322 \rightarrow 00:17:14.930$ the treatment of metastatic, or disseminated,

NOTE Confidence: 0.857162296772003

 $00{:}17{:}14.930 \dashrightarrow 00{:}17{:}17.755$ both esophageal and gastric cancers.

NOTE Confidence: 0.857162296772003

00:17:17.760 --> 00:17:21.440 The first advance came about a decade

 $00:17:21.440 \longrightarrow 00:17:27.088$ ago and this was in the area of gastric

NOTE Confidence: 0.857162296772003

 $00{:}17{:}27.088 \dashrightarrow 00{:}17{:}29.071$ and gas troesophageal adenocarcinomas.

NOTE Confidence: 0.857162296772003

 $00{:}17{:}29{.}080 \dashrightarrow 00{:}17{:}34{.}030$ And what we had learned was that these are NOTE Confidence: 0.857162296772003

101E Confidence: 0.857102250172005

00:17:34.030 --> 00:17:37.529 heterogeneous from a molecular perspective.

NOTE Confidence: 0.857162296772003

 $00{:}17{:}37{.}530 \dashrightarrow 00{:}17{:}42{.}176$ And about 20 to 30% of these tumors carried

NOTE Confidence: 0.857162296772003

 $00:17:42.176 \longrightarrow 00:17:46.180$ high levels of a protein called Her 2,

NOTE Confidence: 0.857162296772003

 $00{:}17{:}46.180 \dashrightarrow 00{:}17{:}48.982$ and we knew that this protein

NOTE Confidence: 0.857162296772003

 $00{:}17{:}48.982 \dashrightarrow 00{:}17{:}52.289$ also was present in breast cancer.

NOTE Confidence: 0.857162296772003

 $00{:}17{:}54.630 \dashrightarrow 00{:}17{:}57.890$ And a drug had been developed

NOTE Confidence: 0.857162296772003

 $00:17:57.890 \longrightarrow 00:18:00.265$ called an antibody that

NOTE Confidence: 0.857162296772003

 $00{:}18{:}00{.}265 \dashrightarrow 00{:}18{:}03{.}284$ targeted her 2 in breast cancer and

NOTE Confidence: 0.857162296772003

 $00:18:03.284 \rightarrow 00:18:05.528$ it was extraordinarily effective.

NOTE Confidence: 0.857162296772003

 $00:18:05.530 \rightarrow 00:18:08.120$ That drug is trastuzumab, or Herceptin.

NOTE Confidence: 0.857162296772003

 $00{:}18{:}08{.}120 \dashrightarrow 00{:}18{:}09{.}876$ And so it was

NOTE Confidence: 0.857162296772003

 $00{:}18{:}09{.}876 \dashrightarrow 00{:}18{:}12{.}071$ the orized that perhaps

NOTE Confidence: 0.857162296772003

 $00{:}18{:}12.071 \dashrightarrow 00{:}18{:}14.027$ Herceptin would have

 $00:18:14.027 \longrightarrow 00:18:16.895$ activity in the her 2 positive

NOTE Confidence: 0.857162296772003

00:18:16.895 --> 00:18:19.970 gastric and esophageal adenocarcinomas.

NOTE Confidence: 0.857162296772003

 $00:18:19.970 \longrightarrow 00:18:23.260$ So there was a large global effort

NOTE Confidence: 0.857162296772003

 $00:18:23.260 \longrightarrow 00:18:25.630$ to answer that question.

NOTE Confidence: 0.857162296772003

 $00:18:25.630 \longrightarrow 00:18:28.670$ Patients with advanced disease, metastatic

NOTE Confidence: 0.857162296772003

00:18:28.670 --> 00:18:32.606 or stage four were assigned to get

NOTE Confidence: 0.857162296772003

 $00:18:32.606 \longrightarrow 00:18:35.413$ the standard of care at that time,

NOTE Confidence: 0.857162296772003

 $00:18:35.420 \longrightarrow 00:18:37.504$ chemotherapy with two drugs

NOTE Confidence: 0.857162296772003

 $00:18:37.504 \longrightarrow 00:18:39.067$ or chemotherapy plus

NOTE Confidence: 0.857162296772003

 $00:18:39.070 \longrightarrow 00:18:41.385$ Herceptin and the results

NOTE Confidence: 0.857162296772003

 $00:18:41.385 \rightarrow 00:18:44.773$ of that study were really quite stunning

NOTE Confidence: 0.857162296772003

 $00{:}18{:}44.773 \dashrightarrow 00{:}18{:}47.268$ in that survival was significantly

NOTE Confidence: 0.857162296772003

 $00{:}18{:}47.268 \dashrightarrow 00{:}18{:}49.695$ improved for those patients who

NOTE Confidence: 0.857162296772003

00:18:49.695 --> 00:18:52.663 received Herceptin.

NOTE Confidence: 0.857162296772003

 $00{:}18{:}52.670 \dashrightarrow 00{:}18{:}55.870$ So I would say that was the first

 $00:18:55.870 \rightarrow 00:18:58.722$ big advance and changed the paradigm

NOTE Confidence: 0.857162296772003

 $00{:}18{:}58.722 \dashrightarrow 00{:}19{:}01.656$ about how we think about these

NOTE Confidence: 0.857162296772003

 $00{:}19{:}01.753 \dashrightarrow 00{:}19{:}05.239$ cancers in terms of looking at the

NOTE Confidence: 0.857162296772003

 $00:19:05.239 \rightarrow 00:19:07.212$ molecular profile and thinking

NOTE Confidence: 0.857162296772003

 $00:19:07.212 \rightarrow 00:19:09.100$ about using targeted therapies.

NOTE Confidence: 0.857162296772003

 $00:19:09.100 \longrightarrow 00:19:12.570$ So that was very exciting.

NOTE Confidence: 0.857162296772003

 $00:19:12.570 \longrightarrow 00:19:14.225$ And then what happened?

NOTE Confidence: 0.857162296772003

00:19:14.225 --> 00:19:16.286 It sounds like there's

NOTE Confidence: 0.857162296772003

 $00:19:16.286 \longrightarrow 00:19:18.770$ another shoe that's about to drop.

NOTE Confidence: 0.857162296772003

00:19:18.770 --> 00:19:22.066 There is, so in the breast cancer world

NOTE Confidence: 0.857162296772003

 $00:19:22.070 \longrightarrow 00:19:24.338$ what followed on after the discovery

NOTE Confidence: 0.857162296772003

 $00:19:24.338 \longrightarrow 00:19:26.812$ of Herceptin was the development of

NOTE Confidence: 0.857162296772003

 $00{:}19{:}26.812 \dashrightarrow 00{:}19{:}29.494$ other drugs that targeted this protein

NOTE Confidence: 0.857162296772003

 $00{:}19{:}29{.}500 \dashrightarrow 00{:}19{:}31{.}912$ Her 2 and there were additional

NOTE Confidence: 0.857162296772003

 $00:19:31.912 \longrightarrow 00:19:34.009$ drugs that were developed and

NOTE Confidence: 0.857162296772003

 $00:19:34.009 \rightarrow 00:19:36.109$ approved and that were effective.

- NOTE Confidence: 0.857162296772003
- $00:19:36.110 \rightarrow 00:19:38.355$ But unfortunately when those drugs
- NOTE Confidence: 0.857162296772003
- $00:19:38.355 \rightarrow 00:19:40.600$ were tested in gastroesophageal
- NOTE Confidence: 0.857162296772003
- $00:19:40.672 \rightarrow 00:19:43.248$ cancers that were positive for her 2,
- NOTE Confidence: 0.857162296772003
- $00:19:43.250 \rightarrow 00:19:46.442$ They were not effective and that was
- NOTE Confidence: 0.857162296772003
- $00{:}19{:}46{.}442 \dashrightarrow 00{:}19{:}49{.}434$ disappointing and so we were learning
- NOTE Confidence: 0.857162296772003
- $00{:}19{:}49{.}434 \dashrightarrow 00{:}19{:}52{.}506$ that her 2 positive gas troesophageal
- NOTE Confidence: 0.857162296772003
- $00:19:52.506 \longrightarrow 00:19:55.027$ cancer is not the same thing as
- NOTE Confidence: 0.820176362991333
- $00:19:55.030 \longrightarrow 00:19:57.290$ her 2 positive breast cancer.
- NOTE Confidence: 0.820176362991333
- $00:19:57.290 \rightarrow 00:20:00.008$ That's interesting. So wait a second,
- NOTE Confidence: 0.820176362991333
- $00:20:00.010 \longrightarrow 00:20:02.880$ what you're saying is that
- NOTE Confidence: 0.820176362991333
- 00:20:02.880 --> 00:20:05.701 trust Herceptin worked in her
- NOTE Confidence: 0.820176362991333
- 00:20:05.701 --> 00:20:07.709 2 positive gastric cancer,
- NOTE Confidence: 0.820176362991333
- 00:20:07.710 --> 00:20:09.522 but Pertuzumab, I'm assuming
- NOTE Confidence: 0.820176362991333
- $00{:}20{:}09{.}522 \dashrightarrow 00{:}20{:}12{.}240$ that you meant pertuzumab,
- NOTE Confidence: 0.820176362991333
- $00:20:12.240 \longrightarrow 00:20:15.320$ which also targets her 2, did not work.
- NOTE Confidence: 0.818768918514252

 $00{:}20{:}18.568$ --> $00{:}20{:}21.457$ It did not in the studies that were conducted as well as the antibody

NOTE Confidence: 0.818768918514252

00:20:21.457 --> 00:20:24.568 drug conjugate TDM one and lapatinib.

NOTE Confidence: 0.818768918514252

 $00{:}20{:}26{.}178 \dashrightarrow 00{:}20{:}27{.}786$ Any why was that?

NOTE Confidence: 0.818768918514252

 $00:20:27.790 \longrightarrow 00:20:30.614$ I mean do they think that

NOTE Confidence: 0.818768918514252

 $00{:}20{:}30{.}614 \dashrightarrow 00{:}20{:}32{.}686$ there was something particular about

NOTE Confidence: 0.818768918514252

 $00{:}20{:}32.686 \dashrightarrow 00{:}20{:}36.570$ her 2 or was it or about Herceptin

NOTE Confidence: 0.818768918514252

 $00:20:36.570 \longrightarrow 00:20:39.440$ versus the other drugs in terms

NOTE Confidence: 0.818768918514252

 $00{:}20{:}39{.}440 \dashrightarrow 00{:}20{:}42{.}256$ of what particular subunit of her 2

NOTE Confidence: 0.818768918514252

 $00:20:42.260 \rightarrow 00:20:43.490$ that we're targeting?

NOTE Confidence: 0.818768918514252

 $00{:}20{:}43.490 \dashrightarrow 00{:}20{:}45.950$ Or what was the

NOTE Confidence: 0.818768918514252

 $00:20:45.950 \longrightarrow 00:20:47.615$ hypothesis behind why

NOTE Confidence: 0.818768918514252

00:20:47.615 --> 00:20:50.950 one drug would work, but the

NOTE Confidence: 0.869497895240784

 $00:20:50.950 \longrightarrow 00:20:51.754$ others didn't?

NOTE Confidence: 0.869497895240784

 $00:20:51.754 \rightarrow 00:20:54.970$ That is a great question and I don't

NOTE Confidence: 0.869497895240784

 $00{:}20{:}55{.}056 \dashrightarrow 00{:}20{:}57{.}737$ know that we have all the answers.

 $00:20:57.740 \rightarrow 00:21:00.170$ We do know that gastroesophageal cancers

NOTE Confidence: 0.869497895240784

 $00{:}21{:}00{.}170 \dashrightarrow 00{:}21{:}02{.}501$ are much more heterogeneous in terms

NOTE Confidence: 0.869497895240784

 $00{:}21{:}02{.}501 \dashrightarrow 00{:}21{:}04{.}433$ of their levels of expression are

NOTE Confidence: 0.869497895240784

 $00:21:04.433 \rightarrow 00:21:06.807$ more likely to lose expression overtime,

NOTE Confidence: 0.869497895240784

 $00{:}21{:}06{.}810 \dashrightarrow 00{:}21{:}08{.}086$ so that's one issue.

NOTE Confidence: 0.869497895240784

 $00:21:08.086 \rightarrow 00:21:11.382$ Some of it may have been related to how NOTE Confidence: 0.869497895240784

 $00:21:11.382 \rightarrow 00:21:13.986$ the studies were designed and conducted,

NOTE Confidence: 0.869497895240784

00:21:13.990 --> 00:21:16.524 but I don't think we fully understand

NOTE Confidence: 0.869497895240784

 $00:21:16.524 \rightarrow 00:21:19.529$ why we don't see the exact same activity

NOTE Confidence: 0.869497895240784

 $00:21:19.529 \rightarrow 00:21:22.319$ of some of these agents in gastric

NOTE Confidence: 0.869497895240784

 $00{:}21{:}22{.}320 \dashrightarrow 00{:}21{:}24{.}405$ and esophageal a denocarcinomas that we're

NOTE Confidence: 0.869497895240784

 $00:21:24.405 \longrightarrow 00:21:26.910$ seeing in breast cancer.

NOTE Confidence: 0.85562664270401

00:21:26.910 --> 00:21:29.346 Sorry to interrupt, but it still

NOTE Confidence: 0.85562664270401

 $00{:}21{:}29{.}346 \dashrightarrow 00{:}21{:}32{.}328$ sounds like there was another shoe that

NOTE Confidence: 0.85562664270401

 $00:21:32.330 \longrightarrow 00:21:33.994$ was going to drop.

NOTE Confidence: 0.85562664270401

00:21:33.994 --> 00:21:36.780 Well, I think we're very excited in

- NOTE Confidence: 0.85562664270401
- $00:21:36.780 \longrightarrow 00:21:39.654$ that it does appear that there is
- NOTE Confidence: 0.85562664270401
- $00:21:39.654 \rightarrow 00:21:42.475$ going to be newer generations of her
- NOTE Confidence: 0.85562664270401
- 00:21:42.562 --> 00:21:45.172 2 targeting agents that are going
- NOTE Confidence: 0.85562664270401
- $00{:}21{:}45{.}172 \dashrightarrow 00{:}21{:}47{.}778$ to be effective in gastric cancer.
- NOTE Confidence: 0.85562664270401
- $00:21:47.778 \longrightarrow 00:21:50.781$ So one of them is a very
- NOTE Confidence: 0.85562664270401
- $00{:}21{:}50{.}781 \dashrightarrow 00{:}21{:}52{.}368$ interesting drug that is
- NOTE Confidence: 0.85562664270401
- $00:21:52.370 \rightarrow 00:21:55.946$ also used in breast cancer now very recently
- NOTE Confidence: 0.85562664270401
- $00{:}21{:}55{.}946 \dashrightarrow 00{:}21{:}58{.}998$ where you take Herceptin and you
- NOTE Confidence: 0.85562664270401
- $00{:}21{:}59{.}000 \dashrightarrow 00{:}22{:}01{.}394$ link it up biochemically to a
- NOTE Confidence: 0.85562664270401
- $00:22:01.394 \longrightarrow 00:22:02.990$ chemotherapeutic drug.
- NOTE Confidence: 0.85562664270401
- $00:22:09.073 \rightarrow 00:22:13.137$ And that has been approved in breast cancer.
- NOTE Confidence: 0.85562664270401
- $00{:}22{:}13.140 \dashrightarrow 00{:}22{:}15.625$ That's her 2 positive and has been
- NOTE Confidence: 0.85562664270401
- 00:22:15.625 --> 00:22:18.767 tested now and her 2 positive gastroesophageal
- NOTE Confidence: 0.85562664270401
- 00:22:18.767 --> 00:22:20.771 adenocarcinomas in patients
- NOTE Confidence: 0.85562664270401
- $00{:}22{:}20.771 \dashrightarrow 00{:}22{:}23.797$ who have already been on trastuzumab
- NOTE Confidence: 0.85562664270401

 $00:22:23.800 \rightarrow 00:22:25.954$ and have failed treatment and the

NOTE Confidence: 0.85562664270401

 $00{:}22{:}25{.}954 \dashrightarrow 00{:}22{:}27{.}390$ results really were stunning.

NOTE Confidence: 0.85562664270401

00:22:27.390 - > 00:22:29.185 With major shrinkage in more

NOTE Confidence: 0.85562664270401

 $00:22:29.185 \longrightarrow 00:22:30.980$ than half of the patients,

NOTE Confidence: 0.85562664270401

 $00{:}22{:}30{.}980 \dashrightarrow 00{:}22{:}32{.}996$ which is not something that we

NOTE Confidence: 0.85562664270401

 $00:22:32.996 \longrightarrow 00:22:34.930$ typically see in this disease.

NOTE Confidence: 0.85562664270401

 $00:22:34.930 \longrightarrow 00:22:37.084$ Really with any line of therapy

NOTE Confidence: 0.85562664270401

 $00:22:37.084 \rightarrow 00:22:38.520$ and very impressive survival.

NOTE Confidence: 0.85562664270401

 $00{:}22{:}38{.}520 \dashrightarrow 00{:}22{:}40{.}310$ So this is very exciting.

NOTE Confidence: 0.85562664270401

 $00{:}22{:}40{.}310 \dashrightarrow 00{:}22{:}42{.}476$ There was a New England Journal

NOTE Confidence: 0.85562664270401

 $00{:}22{:}42.476 \dashrightarrow 00{:}22{:}44.328$ of Medicine paper regarding this

NOTE Confidence: 0.85562664270401

 $00:22:44.328 \longrightarrow 00:22:45.700$ data earlier this year,

NOTE Confidence: 0.85562664270401

 $00{:}22{:}45.700 \dashrightarrow 00{:}22{:}47.490$ and I do believe this

NOTE Confidence: 0.85562664270401

 $00:22:47.490 \longrightarrow 00:22:49.709$ new drug will be approved not

NOTE Confidence: 0.85562664270401

 $00{:}22{:}49.709 \dashrightarrow 00{:}22{:}52.736$ only in breast cancer but also in her

NOTE Confidence: 0.85562664270401

 $00:22:52.736 \rightarrow 00:22:54.741$ 2 positive gastroesophageal cancer.

- NOTE Confidence: 0.85562664270401
- $00:22:54.750 \longrightarrow 00:22:57.696$ So we're very excited about that.

00:22:57.700 --> 00:22:58.598 And again,

NOTE Confidence: 0.85562664270401

 $00{:}22{:}58{.}598 \dashrightarrow 00{:}23{:}01{.}741$ this is for our patients who

NOTE Confidence: 0.85562664270401

 $00:23:01.741 \longrightarrow 00:23:05.058$ have her two positive tumors.

NOTE Confidence: 0.85562664270401

 $00:23:05.060 \longrightarrow 00:23:08.006$ So it's not for all comers.

NOTE Confidence: 0.85562664270401

 $00:23:08.010 \longrightarrow 00:23:09.698$ So that's one development.

NOTE Confidence: 0.85562664270401

 $00{:}23{:}09{.}698 \dashrightarrow 00{:}23{:}13{.}321$ And then I think we will also see

NOTE Confidence: 0.85562664270401

 $00{:}23{:}13{.}321 \dashrightarrow 00{:}23{:}15{.}337$ some newer generation antibodies

NOTE Confidence: 0.85562664270401

 $00{:}23{:}15{.}337 \dashrightarrow 00{:}23{:}18{.}502$ that are similar to trastuzumab but

NOTE Confidence: 0.85562664270401

 $00:23:18.502 \rightarrow 00:23:21.676$ more potent in recruiting the immune

NOTE Confidence: 0.85562664270401

 $00:23:21.676 \longrightarrow 00:23:25.200$ system into action to kill the cancer.

NOTE Confidence: 0.85562664270401

 $00{:}23{:}25{.}200 \dashrightarrow 00{:}23{:}29{.}384$ And so one of those is called marget uximab,

NOTE Confidence: 0.85562664270401

 $00{:}23{:}29{.}390 \dashrightarrow 00{:}23{:}32{.}010$ so quite similar to trastuzumab,

NOTE Confidence: 0.85562664270401

 $00{:}23{:}32.010 \dashrightarrow 00{:}23{:}34.614$ but it enhances the immune response

NOTE Confidence: 0.85562664270401

 $00{:}23{:}34{.}614 \dashrightarrow 00{:}23{:}37{.}549$ and we've already seen really positive

 $00:23:37.549 \rightarrow 00:23:40.354$ and exciting preliminary data when

NOTE Confidence: 0.85562664270401

 $00:23:40.354 \rightarrow 00:23:43.539$ it is combined with immunotherapy.

NOTE Confidence: 0.85562664270401

 $00:23:43.540 \longrightarrow 00:23:46.684$ And there's a very exciting on

NOTE Confidence: 0.85562664270401

00:23:46.684 --> 00:23:48.256 going clinical trial

NOTE Confidence: 0.85562664270401

 $00{:}23{:}48{.}260 \dashrightarrow 00{:}23{:}50{.}930$ looking at this combination of

NOTE Confidence: 0.85562664270401

 $00:23:50.930 \longrightarrow 00:23:53.066$ marget uximab in immunotherapy with

NOTE Confidence: 0.85562664270401

 $00:23:53.066 \rightarrow 00:23:55.588$ chemotherapy in newly diagnosed patients.

NOTE Confidence: 0.85562664270401

 $00{:}23{:}55{.}590 \dashrightarrow 00{:}23{:}57{.}458$ So we're very excited

NOTE Confidence: 0.85562664270401

 $00{:}23{:}57{.}458 \dashrightarrow 00{:}24{:}00{.}260$ about the second and third generation

NOTE Confidence: 0.85562664270401

 $00:24:00.344 \longrightarrow 00:24:02.756$ iterations

NOTE Confidence: 0.85562664270401

 $00{:}24{:}02.760 \dashrightarrow 00{:}24{:}05.581$ and then there are other novel antibodies

NOTE Confidence: 0.85562664270401

 $00:24:05.581 \rightarrow 00:24:08.569$ targeting her 2 that are being developed,

NOTE Confidence: 0.85562664270401

 $00{:}24{:}08{.}570 \dashrightarrow 00{:}24{:}11{.}242$ so I do think that the field is

NOTE Confidence: 0.85562664270401

 $00{:}24{:}11{.}242 \dashrightarrow 00{:}24{:}13{.}945$ really going to open up in terms of

NOTE Confidence: 0.85562664270401

 $00:24:13.945 \longrightarrow 00:24:16.675$ treatment of her 2 positive stage

NOTE Confidence: 0.85562664270401

 $00{:}24{:}16.675 \dashrightarrow 00{:}24{:}19.359$ for gastroesophageal adenocarcinoma.

 $00:24:19.725 \rightarrow 00:24:21.915$ I'm very hopeful that the prognosis

NOTE Confidence: 0.85562664270401

 $00{:}24{:}21{.}915 \dashrightarrow 00{:}24{:}24{.}050$ for these patients will improve

NOTE Confidence: 0.85562664270401

 $00{:}24{:}24{.}050 \dashrightarrow 00{:}24{:}25{.}998$ significantly with these the rapies.

NOTE Confidence: 0.854938805103302

00:24:26.000 --> 00:24:28.954 But there's still a large fraction of

NOTE Confidence: 0.854938805103302

00:24:28.960 - 00:24:31.996 patients who are her 2 negative,

NOTE Confidence: 0.854938805103302

 $00:24:32.000 \longrightarrow 00:24:34.020$ So what about them?

NOTE Confidence: 0.854938805103302

00:24:34.020 --> 00:24:35.535 Does standard immunotherapy,

NOTE Confidence: 0.854938805103302

 $00:24:35.540 \rightarrow 00:24:38.070$ for example with checkpoint inhibitors,

NOTE Confidence: 0.829631650447846

 $00:24:38.070 \longrightarrow 00:24:41.000$ help them?

NOTE Confidence: 0.829631650447846

 $00:24:41.000 \rightarrow 00:24:44.255$ This is where there's some excitement really

NOTE Confidence: 0.829631650447846

 $00:24:44.260 \longrightarrow 00:24:47.056$ just in the past few months.

NOTE Confidence: 0.829631650447846

 $00{:}24{:}47.060 \dashrightarrow 00{:}24{:}49.850$ So we hear a lot about

NOTE Confidence: 0.829631650447846

00:24:49.850 - 00:24:51.245 immune checkpoint inhibitors.

NOTE Confidence: 0.829631650447846

00:24:51.250 --> 00:24:54.512 Drugs like KEYTRUDA

NOTE Confidence: 0.829631650447846

00:24:54.512 --> 00:24:57.309 or Opdivo in colon cancer,

NOTE Confidence: 0.829631650447846

 $00:24:57.310 \longrightarrow 00:24:58.780$ lung cancer, Melanoma,

 $00:24:58.780 \longrightarrow 00:25:01.230$ and many other cancers where

NOTE Confidence: 0.829631650447846

 $00:25:01.230 \rightarrow 00:25:02.690$ these immunotherapeutic agents

NOTE Confidence: 0.829631650447846

 $00:25:02.690 \rightarrow 00:25:04.755$ have really been game changers.

NOTE Confidence: 0.829631650447846

 $00:25:04.760 \rightarrow 00:25:08.141$ These agents in the way the studies

NOTE Confidence: 0.829631650447846

 $00{:}25{:}08{.}141 \dashrightarrow 00{:}25{:}11{.}327$ have been done to date have not

NOTE Confidence: 0.829631650447846

 $00:25:11.330 \longrightarrow 00:25:14.420$ appeared to have a significant

NOTE Confidence: 0.829631650447846

 $00:25:14.420 \rightarrow 00:25:17.510$ impact in gastroesophageal cancer.

NOTE Confidence: 0.829631650447846

 $00:25:17.510 \rightarrow 00:25:20.884$ But there is some activity and we're

NOTE Confidence: 0.829631650447846

 $00:25:20.884 \rightarrow 00:25:23.374$ learning more about who should

NOTE Confidence: 0.829631650447846

 $00{:}25{:}23{.}374 \dashrightarrow 00{:}25{:}26{.}218$ get these agents who will be nefit

NOTE Confidence: 0.829631650447846

 $00:25:26.218 \rightarrow 00:25:29.009$ most when and how to use them.

NOTE Confidence: 0.829631650447846

 $00{:}25{:}29{.}010 \dashrightarrow 00{:}25{:}32{.}786$ And I think that's where the field is

NOTE Confidence: 0.829631650447846

 $00:25:32.786 \rightarrow 00:25:35.907$ moving forward in a very positive way.

NOTE Confidence: 0.829631650447846

 $00{:}25{:}35{.}910 \dashrightarrow 00{:}25{:}38{.}658$ So there are already FDA approvals

NOTE Confidence: 0.829631650447846

 $00:25:41.430 \rightarrow 00:25:43.270$ for classical immune checkpoint inhibitors,

 $00:25:43.270 \rightarrow 00:25:44.650$ and gastroesophageal cancer,

NOTE Confidence: 0.829631650447846

 $00{:}25{:}44.650 \dashrightarrow 00{:}25{:}47.352$ so we can use KEYTRUDA

NOTE Confidence: 0.829631650447846

 $00:25:47.352 \rightarrow 00:25:49.799$ in patients who failed standard

NOTE Confidence: 0.829631650447846

 $00:25:49.799 \rightarrow 00:25:52.799$ several lines of standard therapy

NOTE Confidence: 0.829631650447846

 $00{:}25{:}52{.}800 \dashrightarrow 00{:}25{:}56{.}349$ if their tumor expresses the target PDL1

NOTE Confidence: 0.829631650447846

 $00{:}25{:}56{.}870 \dashrightarrow 00{:}25{:}59{.}470$ that's for gastric and gastroesophageal

NOTE Confidence: 0.829631650447846

 $00{:}25{:}59{.}470 \dashrightarrow 00{:}26{:}01{.}550$ a denocarcinomas and it

NOTE Confidence: 0.829631650447846

00:26:01.624 --> 00:26:04.258 is also approved in esophageal

NOTE Confidence: 0.829631650447846

00:26:04.258 --> 00:26:06.014 squamous cell carcinoma after

NOTE Confidence: 0.829631650447846

 $00:26:06.086 \rightarrow 00:26:08.518$ standard initial chemotherapy works.

NOTE Confidence: 0.829631650447846

 $00:26:08.520 \longrightarrow 00:26:11.817$ And the results are very

NOTE Confidence: 0.829631650447846

 $00{:}26{:}11.817 \dashrightarrow 00{:}26{:}14.577$ impressive there and it's also active

NOTE Confidence: 0.829631650447846

00:26:14.577 -> 00:26:17.524 in a very small subset of patients

NOTE Confidence: 0.829631650447846

 $00:26:17.613 \rightarrow 00:26:21.279$ whose tumors are characterized by what

NOTE Confidence: 0.829631650447846

 $00:26:21.279 \rightarrow 00:26:23.723$ we call microsatellite instability.

NOTE Confidence: 0.829631650447846

 $00{:}26{:}23.730 \dashrightarrow 00{:}26{:}26.796$ Or loss of a DNA repair mechanism.

- NOTE Confidence: 0.829631650447846
- $00:26:26.800 \longrightarrow 00:26:29.290$ These tumors are characterized by lots
- NOTE Confidence: 0.829631650447846
- $00:26:29.290 \rightarrow 00:26:31.610$ of mutations in abnormal proteins.
- NOTE Confidence: 0.829631650447846
- 00:26:31.610 00:26:34.238 And respond very well to
- NOTE Confidence: 0.829631650447846
- 00:26:34.238 --> 00:26:35.552 checkpoint inhibitors,
- NOTE Confidence: 0.829631650447846
- $00{:}26{:}35{.}560 \dashrightarrow 00{:}26{:}38{.}843$ but that's a small percentage in the
- NOTE Confidence: 0.829631650447846
- $00:26:38.843 \longrightarrow 00:26:41.702$ range of three to 5%.
- NOTE Confidence: 0.829631650447846
- $00{:}26{:}41.702 \dashrightarrow 00{:}26{:}44.824$ So what's most exciting is data that
- NOTE Confidence: 0.829631650447846
- $00:26:44.824 \rightarrow 00:26:48.294$ we heard really just a few months ago
- NOTE Confidence: 0.829631650447846
- $00{:}26{:}48{.}300 \dashrightarrow 00{:}26{:}50{.}492$ regarding the incorporation of
- NOTE Confidence: 0.829631650447846
- $00:26:50.492 \rightarrow 00:26:52.684$ immune checkpoint inhibitors into
- NOTE Confidence: 0.829631650447846
- $00:26:52.684 \rightarrow 00:26:55.590$ the initial treatment of stage four,
- NOTE Confidence: 0.829631650447846
- $00{:}26{:}55{.}590 \dashrightarrow 00{:}26{:}57{.}156$ gastric and esophageal cancers.
- NOTE Confidence: 0.829631650447846
- $00:26:58.200 \longrightarrow 00:27:01.497$ And so there were a couple of
- NOTE Confidence: 0.829631650447846
- $00{:}27{:}01{.}497 \dashrightarrow 00{:}27{:}04{.}185$ studies that were presented at
- NOTE Confidence: 0.829631650447846
- $00{:}27{:}04.185 \dashrightarrow 00{:}27{:}07{.}120$ the major meeting in Europe.
- NOTE Confidence: 0.829631650447846

 $00:27:07.120 \longrightarrow 00:27:08.948$ Both had similar designs.

NOTE Confidence: 0.829631650447846

 $00{:}27{:}08{.}948 \dashrightarrow 00{:}27{:}11{.}690$ One was focused on gastroesophageal

NOTE Confidence: 0.829631650447846

 $00{:}27{:}11.768 \dashrightarrow 00{:}27{:}14.053$ a denocarcinoma and in this study

NOTE Confidence: 0.829631650447846

00:27:14.053 - 00:27:16.338 patients were given either the

NOTE Confidence: 0.829631650447846

00:27:16.416 --> 00:27:18.740 standard two drug chemotherapy,

NOTE Confidence: 0.829631650447846

 $00{:}27{:}18.740 \dashrightarrow 00{:}27{:}21.350$ standard of care, or those same

NOTE Confidence: 0.829631650447846

 $00:27:21.350 \longrightarrow 00:27:23.632$ two chemotherapy drugs with no

NOTE Confidence: 0.829631650447846

 $00{:}27{:}23.632 \dashrightarrow 00{:}27{:}25.922$ OPDIVO and again

NOTE Confidence: 0.829631650447846

 $00{:}27{:}25{.}922 \dashrightarrow 00{:}27{:}28{.}435$ really exciting results with the

NOTE Confidence: 0.829631650447846

 $00:27:28.435 \rightarrow 00:27:30.839$ significant improvement in survival.

NOTE Confidence: 0.829631650447846

 $00:27:30.840 \longrightarrow 00:27:33.255$ A higher response rate and

NOTE Confidence: 0.829631650447846

00:27:33.255 --> 00:27:34.704 excellent tolerability.

NOTE Confidence: 0.829631650447846

 $00{:}27{:}34.710 \dashrightarrow 00{:}27{:}37.626$ So lots of excitement about that.

NOTE Confidence: 0.829631650447846

 $00{:}27{:}37{.}630 \dashrightarrow 00{:}27{:}41{.}582$ And then a second study with a very

NOTE Confidence: 0.829631650447846

00:27:41.582 --> 00:27:44.458 similar design of chemo or chemo,

NOTE Confidence: 0.829631650447846

00:27:44.460 --> 00:27:47.876 with in this case KEYTRUDA

 $00{:}27{:}47{.}880$ --> $00{:}27{:}52{.}263$ and here the focus was an again on esophageal cancer,

NOTE Confidence: 0.829631650447846

00:27:52.270 --> 00:27:54.126 both squamous and adenocarcinoma,

NOTE Confidence: 0.829631650447846

00:27:54.126 --> 00:27:57.499 and again a similar exciting result showing

NOTE Confidence: 0.829631650447846

 $00{:}27{:}57{.}499 \dashrightarrow 00{:}28{:}00{.}079$ a significant improvement in survival.

NOTE Confidence: 0.829631650447846

 $00{:}28{:}00{.}080 \dashrightarrow 00{:}28{:}03{.}976$ Actually a doubling of survival at two years.

NOTE Confidence: 0.829631650447846

 $00:28:03.980 \longrightarrow 00:28:07.924$ So this is really great news

 $00:28:08.406 \rightarrow 00:28:10.786$ for patients with these diseases,

NOTE Confidence: 0.829631650447846

 $00{:}28{:}10.790 \dashrightarrow 00{:}28{:}13.919$ and I do think that these studies

NOTE Confidence: 0.829631650447846

 $00:28:13.919 \rightarrow 00:28:16.373$ will ultimately lead to new

NOTE Confidence: 0.829631650447846

00:28:16.373 --> 00:28:18.417 indications and FDA approvals.

NOTE Confidence: 0.829631650447846

 $00:28:18.420 \longrightarrow 00:28:20.328$ We're not there yet,

NOTE Confidence: 0.829631650447846

00:28:20.328 --> 00:28:22.236 but I think we're

NOTE Confidence: 0.837908208370209

 $00:28:22.240 \longrightarrow 00:28:24.625$ getting close.

NOTE Confidence: 0.837908208370209

00:28:24.625 --> 00:28:27.010 What about in terms of other targeted therapies?

NOTE Confidence: 0.837908208370209

 $00{:}28{:}27.010 \dashrightarrow 00{:}28{:}29.810$ You know we have talked on this

 $00{:}28{:}29{.}810 \dashrightarrow 00{:}28{:}32{.}656$ show with other people from other

NOTE Confidence: 0.837908208370209

 $00{:}28{:}32.656 \dashrightarrow 00{:}28{:}35.251$ disease groups and other cancer

NOTE Confidence: 0.837908208370209

00:28:35.251 --> 00:28:37.998 types about looking at cancers

NOTE Confidence: 0.837908208370209

 $00:28:38.000 \rightarrow 00:28:40.860$ and seeing what genes are turned on

NOTE Confidence: 0.837908208370209

00:28:40.860 - 00:28:44.116 and turned off to try to target these?

NOTE Confidence: 0.837908208370209

 $00:28:44.120 \longrightarrow 00:28:46.969$ How much of that goes on in

NOTE Confidence: 0.837908208370209

 $00:28:46.969 \rightarrow 00:28:47.783$ gastroesophageal cancers?

NOTE Confidence: 0.837908208370209

 $00:28:47.790 \longrightarrow 00:28:50.450$ Are we getting there in terms of

NOTE Confidence: 0.837908208370209

00:28:50.450 --> 00:28:52.690 genomic analysis of these cancers

NOTE Confidence: 0.837908208370209

 $00:28:52.690 \longrightarrow 00:28:55.138$ and being able to target them

NOTE Confidence: 0.837908208370209

 $00:28:55.138 \longrightarrow 00:28:56.770$ aside from her 2?

NOTE Confidence: 0.854126632213593

00:28:57.540 --> 00:29:00.140 Yes, absolutely, so we routinely

NOTE Confidence: 0.854126632213593

 $00:29:00.140 \longrightarrow 00:29:03.510$ recommend that all patients with advanced

NOTE Confidence: 0.854126632213593

 $00:29:03.510 \rightarrow 00:29:05.553$ gastroesophageal adenocarcinomas

NOTE Confidence: 0.854126632213593

00:29:05.553 --> 00:29:08.958 and squamous cell carcinomas

NOTE Confidence: 0.854126632213593

 $00:29:08.958 \rightarrow 00:29:12.649$ undergo what is referred to as tumor

- NOTE Confidence: 0.854126632213593
- 00:29:12.649 --> 00:29:15.746 profiling or molecular profiling to look
- NOTE Confidence: 0.854126632213593
- $00{:}29{:}15.746 \dashrightarrow 00{:}29{:}19.722$ at the genetic makeup of the tumor
- NOTE Confidence: 0.854126632213593
- $00:29:19.730 \longrightarrow 00:29:23.150$ to see what makes it tick.
- NOTE Confidence: 0.854126632213593
- 00:29:23.150 --> 00:29:26.948 Now we haven't identified a high
- NOTE Confidence: 0.854126632213593
- 00:29:26.948 --> 00:29:29.480 frequency of recurring targets.
- NOTE Confidence: 0.854126632213593
- $00:29:29.480 \longrightarrow 00:29:31.958$ To date, other than her 2,
- NOTE Confidence: 0.854126632213593
- $00:29:31.960 \longrightarrow 00:29:34.810$ but there are targets that are
- NOTE Confidence: 0.854126632213593
- $00:29:34.810 \rightarrow 00:29:36.710$ expressed with reasonable frequency
- NOTE Confidence: 0.854126632213593
- $00{:}29{:}36.786 \dashrightarrow 00{:}29{:}39.509$ that are what we call actionable or
- NOTE Confidence: 0.854126632213593
- $00:29:39.509 \rightarrow 00:29:41.828$ druggable where we can develop a
- NOTE Confidence: 0.854126632213593
- $00:29:41.828 \rightarrow 00:29:44.348$ drug or have a drug that potentially
- NOTE Confidence: 0.854126632213593
- $00{:}29{:}44.350 \dashrightarrow 00{:}29{:}46.034$ could target that abnormality.
- NOTE Confidence: 0.854126632213593
- $00:29:46.034 \rightarrow 00:29:48.560$ So we've talked at length today
- NOTE Confidence: 0.854126632213593
- $00:29:48.634 \longrightarrow 00:29:50.130$ already about her 2,
- NOTE Confidence: 0.854126632213593
- $00{:}29{:}50{.}130 \dashrightarrow 00{:}29{:}52{.}788$ and that's a critically important
- NOTE Confidence: 0.854126632213593

 $00:29:52.788 \rightarrow 00:29:55.501$ target in those 25 to 30% patients

NOTE Confidence: 0.854126632213593

 $00:29:55.501 \rightarrow 00:29:57.556$ and again another exciting development

NOTE Confidence: 0.854126632213593

 $00{:}30{:}00{.}930$ --> $00{:}30{:}03{.}026$ that I think we are on the cusp of is another targeted therapy.

NOTE Confidence: 0.854126632213593

 $00:30:03.026 \longrightarrow 00:30:05.646$ This again is an antibody

 $00:30:08.038 \longrightarrow 00:30:10.364$ that is targeting another

NOTE Confidence: 0.854126632213593

 $00:30:10.364 \longrightarrow 00:30:12.980$ protein called fibroblast growth

NOTE Confidence: 0.854126632213593

 $00:30:12.980 \longrightarrow 00:30:15.596$ factor receptor and

NOTE Confidence: 0.854126632213593

 $00:30:15.600 \longrightarrow 00:30:17.211$ like her 2,

NOTE Confidence: 0.854126632213593

 $00{:}30{:}17{.}211 \dashrightarrow 00{:}30{:}20{.}433$ is expressed on the surface and

NOTE Confidence: 0.854126632213593

 $00:30:20.433 \rightarrow 00:30:24.552$ again in about probably 20 to 30% of

NOTE Confidence: 0.854126632213593

00:30:24.552 --> 00:30:27.924 patients is expressed at very high

NOTE Confidence: 0.854126632213593

 $00{:}30{:}27{.}924 \dashrightarrow 00{:}30{:}31{.}339$ levels or overexpressed and this has been

NOTE Confidence: 0.854126632213593

 $00:30:31.340 \longrightarrow 00:30:34.996$ a target for the development of an antibody,

NOTE Confidence: 0.854126632213593

00:30:35.000 - 00:30:37.526 and we heard really just this

NOTE Confidence: 0.854126632213593

 $00{:}30{:}37{.}526 \dashrightarrow 00{:}30{:}40{.}020$ week from a press release,

NOTE Confidence: 0.854126632213593

 $00{:}30{:}40.020 \dashrightarrow 00{:}30{:}42.768$ so we haven't seen the data,

- NOTE Confidence: 0.854126632213593
- $00:30:42.770 \longrightarrow 00:30:45.930$ so we have to stay tuned, that a
- NOTE Confidence: 0.854126632213593
- $00:30:45.930 \longrightarrow 00:30:48.569$ study looking at patients who have
- NOTE Confidence: 0.854126632213593
- $00{:}30{:}48.569 \dashrightarrow 00{:}30{:}51.813$ this target looking at
- NOTE Confidence: 0.854126632213593
- $00{:}30{:}51{.}813 \dashrightarrow 00{:}30{:}54{.}403$ these patients and combining the
- NOTE Confidence: 0.854126632213593
- $00:30:54.403 \rightarrow 00:30:57.342$ antibody that targets FG FR2 with
- NOTE Confidence: 0.854126632213593
- $00{:}30{:}57{.}342 \dashrightarrow 00{:}30{:}59{.}497$ chemotherapy and comparing that to
- NOTE Confidence: 0.854126632213593
- $00:30:59.497 \longrightarrow 00:31:02.230$ standard of care chemotherapy alone.
- NOTE Confidence: 0.854126632213593
- $00:31:02.230 \rightarrow 00:31:05.278$ And at least based on the press release,
- NOTE Confidence: 0.854126632213593
- $00:31:05.280 \rightarrow 00:31:08.709$ this looks like it will be a positive study.
- NOTE Confidence: 0.854126632213593
- 00:31:08.710 --> 00:31:09.450 So again,
- NOTE Confidence: 0.854126632213593
- 00:31:09.450 --> 00:31:11.670 quite a bit of excitement and
- NOTE Confidence: 0.854126632213593
- $00{:}31{:}11{.}670 \dashrightarrow 00{:}31{:}13{.}280$ buzz in the field.
- 00:31:21.660 00:31:23.160 So there's one example,
- NOTE Confidence: 0.854126632213593
- $00:31:23.160 \longrightarrow 00:31:25.862$ there are several others and drugs in
- NOTE Confidence: 0.854126632213593
- $00:31:25.862 \rightarrow 00:31:28.136$ the pipeline looking at other targets.
- NOTE Confidence: 0.854126632213593
- 00:31:28.140 --> 00:31:28.520 Doctor Jill Lacy

- NOTE Confidence: 0.867128193378448
- $00:31:28.520 \longrightarrow 00:31:30.932$ is a professor of
- NOTE Confidence: 0.867128193378448
- 00:31:30.932 --> 00:31:32.540 medicine and medical oncology
- NOTE Confidence: 0.867128193378448
- 00:31:32.617 -> 00:31:34.765 at the Yale School of Medicine.
- NOTE Confidence: 0.867128193378448
- $00{:}31{:}34{.}770 \dashrightarrow 00{:}31{:}36{.}330$ If you have questions,
- NOTE Confidence: 0.867128193378448
- $00{:}31{:}36{.}330 \dashrightarrow 00{:}31{:}37{.}890$ the address is canceranswers@yale.edu
- NOTE Confidence: 0.867128193378448
- $00:31:37.890 \dashrightarrow 00:31:40.047$ and past editions of the program
- NOTE Confidence: 0.867128193378448
- $00{:}31{:}40.047 \dashrightarrow 00{:}31{:}42.015$ are available in audio and written
- NOTE Confidence: 0.867128193378448
- 00:31:42.077 --> 00:31:43.718 form at yalecancercenter.org.
- NOTE Confidence: 0.867128193378448
- 00:31:43.720 --> 00:31:46.328 We hope you'll join us next week to
- NOTE Confidence: 0.867128193378448
- $00{:}31{:}46{.}328 \dashrightarrow 00{:}31{:}48{.}860$ learn more about the fight against
- NOTE Confidence: 0.867128193378448
- $00{:}31{:}48.860 \dashrightarrow 00{:}31{:}51.504$ cancer here on Connecticut Public Radio.