

WEBVTT

NOTE duration: "00:58:36.842"

NOTE Confidence: 0.8850818

00:00:00.719 --> 00:00:02.340 I'm doctor Miriam Lustberg,

NOTE Confidence: 0.9997171

00:00:02.800 --> 00:00:05.040 and I'm joined today by

NOTE Confidence: 0.9997171

00:00:05.040 --> 00:00:06.019 two colleagues

NOTE Confidence: 0.8763021

00:00:06.799 --> 00:00:08.660 from the Yale Breast Program,

NOTE Confidence: 0.880227

00:00:09.679 --> 00:00:11.380 doctor Sarah Shellhorn

NOTE Confidence: 0.98242563

00:00:11.759 --> 00:00:13.620 and doctor Dan O'Neil.

NOTE Confidence: 0.90262234

00:00:14.434 --> 00:00:16.134 We are all breast oncologists,

NOTE Confidence: 0.9651961

00:00:16.914 --> 00:00:18.695 and we will be focusing

NOTE Confidence: 0.9651961

00:00:18.835 --> 00:00:19.574 on today

NOTE Confidence: 0.9963398

00:00:20.435 --> 00:00:22.695 on all aspects of metastatic

NOTE Confidence: 0.9963398

00:00:22.835 --> 00:00:23.654 breast cancer,

NOTE Confidence: 0.985556

00:00:24.275 --> 00:00:25.974 in terms of systemic therapies,

NOTE Confidence: 0.9745982

00:00:27.395 --> 00:00:28.755 what are we currently using

NOTE Confidence: 0.9745982

00:00:28.755 --> 00:00:29.920 in the clinic as well

NOTE Confidence: 0.9745982

00:00:29.920 --> 00:00:31.860 as clinical trials as well  
NOTE Confidence: 0.9745982

00:00:32.080 --> 00:00:33.140 as some of the,  
NOTE Confidence: 0.9673085

00:00:33.760 --> 00:00:34.820 newer emerging,  
NOTE Confidence: 0.98438454

00:00:35.440 --> 00:00:35.940 therapies.  
NOTE Confidence: 0.9935039

00:00:36.640 --> 00:00:37.920 There will be ample time  
NOTE Confidence: 0.9935039

00:00:37.920 --> 00:00:38.659 for questions.  
NOTE Confidence: 0.9995395

00:00:39.040 --> 00:00:40.239 So as you think of  
NOTE Confidence: 0.9995395

00:00:40.239 --> 00:00:42.020 questions, feel free to  
NOTE Confidence: 0.98092616

00:00:42.479 --> 00:00:43.520 put them in the in  
NOTE Confidence: 0.98092616

00:00:43.520 --> 00:00:45.140 the q and a portion,  
NOTE Confidence: 0.97671366

00:00:45.935 --> 00:00:46.835 of the portal,  
NOTE Confidence: 0.9771824

00:00:47.455 --> 00:00:48.575 and we should have,  
NOTE Confidence: 0.9992738

00:00:49.534 --> 00:00:50.975 time to to get to  
NOTE Confidence: 0.9992738

00:00:50.975 --> 00:00:52.354 to most of your questions.  
NOTE Confidence: 0.95994216

00:00:53.695 --> 00:00:54.195 So,  
NOTE Confidence: 0.9823984

00:00:55.135 --> 00:00:56.755 so so the focus tonight,

NOTE Confidence: 0.99253356  
00:00:57.535 --> 00:00:58.735 is is, as I mentioned,  
NOTE Confidence: 0.99253356  
00:00:58.735 --> 00:01:00.275 on metastatic breast cancer,  
NOTE Confidence: 0.9923646  
00:01:01.190 --> 00:01:02.250 where the primary,  
NOTE Confidence: 0.99880314  
00:01:03.590 --> 00:01:05.270 most effective therapy is a  
NOTE Confidence: 0.99880314  
00:01:05.270 --> 00:01:07.209 systemic therapy. So we'll be  
NOTE Confidence: 0.99880314  
00:01:07.270 --> 00:01:08.950 talking about the different subtypes  
NOTE Confidence: 0.99880314  
00:01:08.950 --> 00:01:09.930 of breast cancer  
NOTE Confidence: 0.9846942  
00:01:10.470 --> 00:01:10.790 and,  
NOTE Confidence: 0.9998726  
00:01:11.270 --> 00:01:12.170 what the different  
NOTE Confidence: 0.99984735  
00:01:12.550 --> 00:01:14.415 management strategies are.  
NOTE Confidence: 0.97388166  
00:01:14.975 --> 00:01:16.575 With that, I will turn  
NOTE Confidence: 0.97388166  
00:01:16.575 --> 00:01:18.255 it over to doctor Sarah  
NOTE Confidence: 0.97388166  
00:01:18.255 --> 00:01:18.755 Schallhorn.  
NOTE Confidence: 0.9905155  
00:01:20.575 --> 00:01:22.575 Thank you, Mariam, and welcome  
NOTE Confidence: 0.9905155  
00:01:22.575 --> 00:01:24.655 to everybody. I'm delighted to  
NOTE Confidence: 0.9905155

00:01:24.655 --> 00:01:26.430 be here tonight. I just  
NOTE Confidence: 0.9905155

00:01:26.430 --> 00:01:27.630 took a quick peek over  
NOTE Confidence: 0.9905155

00:01:27.630 --> 00:01:29.310 at the attendee list, and  
NOTE Confidence: 0.9905155

00:01:29.310 --> 00:01:30.850 I see some familiar faces.  
NOTE Confidence: 0.9905155

00:01:30.910 --> 00:01:31.950 So for those of you  
NOTE Confidence: 0.9905155

00:01:31.950 --> 00:01:33.069 I know, welcome. And for  
NOTE Confidence: 0.9905155

00:01:33.069 --> 00:01:34.190 those of you that I  
NOTE Confidence: 0.9905155

00:01:34.190 --> 00:01:34.930 don't know,  
NOTE Confidence: 0.99726605

00:01:35.310 --> 00:01:35.810 welcome.  
NOTE Confidence: 0.9524189

00:01:37.390 --> 00:01:37.709 But,  
NOTE Confidence: 0.9924408

00:01:38.270 --> 00:01:39.709 doctor O'Neil and I have  
NOTE Confidence: 0.9924408

00:01:39.709 --> 00:01:41.635 divided up our time. We  
NOTE Confidence: 0.9924408

00:01:41.635 --> 00:01:42.854 were asked to prepare  
NOTE Confidence: 0.999529

00:01:43.635 --> 00:01:45.815 ten to fifteen minutes of  
NOTE Confidence: 0.999529

00:01:45.875 --> 00:01:47.895 of information about metastatic  
NOTE Confidence: 0.9814503

00:01:48.275 --> 00:01:49.635 breast cancer. And so we

NOTE Confidence: 0.9814503

00:01:49.635 --> 00:01:51.795 divided that in into two

NOTE Confidence: 0.9814503

00:01:51.795 --> 00:01:53.415 groups, and I'll be discussing

NOTE Confidence: 0.9814503

00:01:53.475 --> 00:01:53.975 primarily

NOTE Confidence: 0.99277985

00:01:54.650 --> 00:01:56.270 two subtypes of breast cancer,

NOTE Confidence: 0.9815912

00:01:56.570 --> 00:01:58.729 HER2 positive and triple negative

NOTE Confidence: 0.9815912

00:01:58.729 --> 00:02:00.110 metastatic breast cancer.

NOTE Confidence: 0.9334363

00:02:00.570 --> 00:02:01.850 And doctor O'Neil will be

NOTE Confidence: 0.9334363

00:02:01.850 --> 00:02:02.990 taking on the

NOTE Confidence: 0.9680579

00:02:03.530 --> 00:02:05.130 the huge topic of hormone

NOTE Confidence: 0.9680579

00:02:05.130 --> 00:02:06.830 receptor positive breast cancer.

NOTE Confidence: 0.75491494

00:02:08.145 --> 00:02:08.645 And

NOTE Confidence: 0.98441535

00:02:09.025 --> 00:02:10.485 this is easily

NOTE Confidence: 0.989149

00:02:11.345 --> 00:02:13.285 this this topic could easily

NOTE Confidence: 0.989149

00:02:13.345 --> 00:02:14.965 take up several hours.

NOTE Confidence: 0.99244744

00:02:15.905 --> 00:02:17.264 We could we could wax

NOTE Confidence: 0.99244744

00:02:17.264 --> 00:02:18.625 poetic for a really long  
NOTE Confidence: 0.99244744

00:02:18.625 --> 00:02:19.125 time.  
NOTE Confidence: 0.98612994

00:02:19.825 --> 00:02:21.750 So trying to condense this  
NOTE Confidence: 0.98612994

00:02:21.830 --> 00:02:23.430 to just ten to fifteen  
NOTE Confidence: 0.98612994

00:02:23.430 --> 00:02:24.730 minutes was a challenge.  
NOTE Confidence: 0.9930811

00:02:25.750 --> 00:02:26.710 But we we will give  
NOTE Confidence: 0.9930811

00:02:26.710 --> 00:02:27.450 it a try.  
NOTE Confidence: 0.9929495

00:02:28.389 --> 00:02:30.550 So very, very quickly, what  
NOTE Confidence: 0.9929495

00:02:30.550 --> 00:02:32.330 is metastatic breast cancer?  
NOTE Confidence: 0.9936725

00:02:33.270 --> 00:02:34.870 As many of you likely  
NOTE Confidence: 0.9936725

00:02:34.870 --> 00:02:37.145 know, it's cancer that started  
NOTE Confidence: 0.9936725

00:02:37.145 --> 00:02:38.125 in the breasts.  
NOTE Confidence: 0.9953169

00:02:38.425 --> 00:02:40.105 And and when cancer starts  
NOTE Confidence: 0.9953169

00:02:40.105 --> 00:02:41.625 in the breasts, it starts  
NOTE Confidence: 0.9953169

00:02:41.625 --> 00:02:42.365 to develop  
NOTE Confidence: 0.9979636

00:02:42.825 --> 00:02:44.205 two basic characteristics

NOTE Confidence: 0.95995027

00:02:44.585 --> 00:02:46.205 that make cancer cancer.

NOTE Confidence: 0.98721886

00:02:46.905 --> 00:02:47.725 One of them

NOTE Confidence: 0.93926895

00:02:48.025 --> 00:02:49.645 is the ability to grow

NOTE Confidence: 0.93926895

00:02:49.705 --> 00:02:50.580 without any

NOTE Confidence: 0.21578492

00:03:02.500 --> 00:03:02.595 a

NOTE Confidence: 0.84442985

00:03:05.555 --> 00:03:06.855 start to form cancer,

NOTE Confidence: 0.9948109

00:03:08.195 --> 00:03:10.115 that stays within the breast

NOTE Confidence: 0.9948109

00:03:10.115 --> 00:03:11.635 and stays within the lobes

NOTE Confidence: 0.9948109

00:03:11.635 --> 00:03:12.675 or the ducts of the

NOTE Confidence: 0.9948109

00:03:12.675 --> 00:03:13.175 breast.

NOTE Confidence: 0.98963016

00:03:13.955 --> 00:03:15.095 Then they can become

NOTE Confidence: 0.99947315

00:03:15.395 --> 00:03:15.895 invasive

NOTE Confidence: 0.99597883

00:03:16.514 --> 00:03:17.255 and develop

NOTE Confidence: 0.99601924

00:03:17.790 --> 00:03:20.350 into metastatic disease. When those

NOTE Confidence: 0.99601924

00:03:20.350 --> 00:03:22.510 cancer cells invade, they break

NOTE Confidence: 0.99601924

00:03:22.510 --> 00:03:23.870 through the lining of the  
NOTE Confidence: 0.99601924

00:03:23.870 --> 00:03:25.570 duct or the lobe,  
NOTE Confidence: 0.99851495

00:03:26.830 --> 00:03:28.910 and start to invade into  
NOTE Confidence: 0.99851495

00:03:28.910 --> 00:03:30.669 either the bloodstream or the  
NOTE Confidence: 0.99851495

00:03:30.669 --> 00:03:31.169 lymphatics  
NOTE Confidence: 0.98967755

00:03:32.015 --> 00:03:33.535 and travel to other parts  
NOTE Confidence: 0.98967755

00:03:33.535 --> 00:03:34.275 of the body.  
NOTE Confidence: 0.99071276

00:03:34.655 --> 00:03:36.435 So the definition of metastatic  
NOTE Confidence: 0.99071276

00:03:36.575 --> 00:03:38.035 breast cancer is  
NOTE Confidence: 0.9937221

00:03:38.495 --> 00:03:40.255 breast cancer cells that have  
NOTE Confidence: 0.9937221

00:03:40.255 --> 00:03:41.855 traveled to another part of  
NOTE Confidence: 0.9937221

00:03:41.855 --> 00:03:42.975 the body. And the most  
NOTE Confidence: 0.9937221

00:03:42.975 --> 00:03:44.735 common places for breast cancer  
NOTE Confidence: 0.9937221

00:03:44.735 --> 00:03:46.670 to go are the lung,  
NOTE Confidence: 0.9937221

00:03:46.810 --> 00:03:48.750 the liver, and the bones  
NOTE Confidence: 0.82920843

00:03:49.209 --> 00:03:50.190 with a fourth



NOTE Confidence: 0.999105  
00:03:50.730 --> 00:03:51.950 most common location  
NOTE Confidence: 0.99851626  
00:03:52.410 --> 00:03:53.550 being the brain.  
NOTE Confidence: 0.9997528  
00:03:55.450 --> 00:03:56.910 And when we think about  
NOTE Confidence: 0.9997528  
00:03:56.970 --> 00:03:59.209 how metastatic breast cancer is  
NOTE Confidence: 0.9997528  
00:03:59.209 --> 00:03:59.709 treated,  
NOTE Confidence: 0.99947286  
00:04:00.644 --> 00:04:02.344 we first look at  
NOTE Confidence: 0.99916816  
00:04:02.644 --> 00:04:04.644 three different proteins. We look  
NOTE Confidence: 0.99916816  
00:04:04.644 --> 00:04:06.885 at the estrogen receptor, the  
NOTE Confidence: 0.99916816  
00:04:06.885 --> 00:04:07.385 progesterone  
NOTE Confidence: 0.97687584  
00:04:07.685 --> 00:04:09.765 receptor, and a protein called  
NOTE Confidence: 0.97687584  
00:04:09.765 --> 00:04:10.265 HER2,  
NOTE Confidence: 0.9993245  
00:04:11.364 --> 00:04:13.064 on every breast cancer  
NOTE Confidence: 0.9925034  
00:04:13.364 --> 00:04:15.144 specimen. So the pathologist  
NOTE Confidence: 0.9903877  
00:04:15.444 --> 00:04:17.470 looks at a biopsy specimen,  
NOTE Confidence: 0.9903877  
00:04:17.690 --> 00:04:19.130 looks at these cells under  
NOTE Confidence: 0.9903877

00:04:19.130 --> 00:04:20.970 the microscope, and measures the  
NOTE Confidence: 0.9903877

00:04:20.970 --> 00:04:21.470 amount  
NOTE Confidence: 0.9709232

00:04:21.850 --> 00:04:23.710 of estrogen receptor and progesterone  
NOTE Confidence: 0.9709232

00:04:23.850 --> 00:04:25.770 receptor and then a protein  
NOTE Confidence: 0.9709232

00:04:25.770 --> 00:04:26.810 called HER2. We'll talk about  
NOTE Confidence: 0.9709232

00:04:26.810 --> 00:04:27.710 it in a second.  
NOTE Confidence: 0.93555117

00:04:28.089 --> 00:04:28.589 And,  
NOTE Confidence: 0.98574173

00:04:30.135 --> 00:04:31.095 I'm I'm gonna leave a  
NOTE Confidence: 0.98574173

00:04:31.095 --> 00:04:32.295 little of this for doctor  
NOTE Confidence: 0.98574173

00:04:32.295 --> 00:04:34.235 O'Neil, but estrogen and progesterone  
NOTE Confidence: 0.98574173

00:04:34.455 --> 00:04:35.595 are female hormones  
NOTE Confidence: 0.92407405

00:04:36.214 --> 00:04:37.195 that even  
NOTE Confidence: 0.98987997

00:04:37.654 --> 00:04:39.654 after menopause are circulating in  
NOTE Confidence: 0.98987997

00:04:39.654 --> 00:04:41.335 in some level in the  
NOTE Confidence: 0.98987997

00:04:41.335 --> 00:04:41.835 bloodstream.  
NOTE Confidence: 0.99936074

00:04:42.370 --> 00:04:43.650 And the presence of the

NOTE Confidence: 0.99936074  
00:04:43.650 --> 00:04:45.410 estrogen receptor and presence of  
NOTE Confidence: 0.99936074  
00:04:45.410 --> 00:04:46.069 the progesterone  
NOTE Confidence: 0.9996146  
00:04:46.370 --> 00:04:48.229 receptor on a cancer cell  
NOTE Confidence: 0.9952709  
00:04:48.529 --> 00:04:49.029 means  
NOTE Confidence: 0.9974757  
00:04:49.569 --> 00:04:51.410 that that cancer cell is  
NOTE Confidence: 0.9974757  
00:04:51.410 --> 00:04:51.910 fueled  
NOTE Confidence: 0.87286234  
00:04:52.370 --> 00:04:53.830 at least in part  
NOTE Confidence: 0.99843496  
00:04:54.395 --> 00:04:56.255 by those hormones. So cancers  
NOTE Confidence: 0.99843496  
00:04:56.475 --> 00:04:58.154 that have the estrogen and  
NOTE Confidence: 0.99843496  
00:04:58.154 --> 00:05:00.235 or progesterone receptor are hormone  
NOTE Confidence: 0.99843496  
00:05:00.235 --> 00:05:01.214 receptor positive  
NOTE Confidence: 0.99389803  
00:05:01.755 --> 00:05:04.015 and tend to respond to  
NOTE Confidence: 0.908144  
00:05:04.635 --> 00:05:06.635 anti hormone types of treatment.  
NOTE Confidence: 0.908144  
00:05:06.635 --> 00:05:07.915 So that's the sub the  
NOTE Confidence: 0.908144  
00:05:07.915 --> 00:05:09.375 subject of doctor O'Neil's  
NOTE Confidence: 0.9974597

00:05:09.950 --> 00:05:11.470 whole spiel, which we'll get  
NOTE Confidence: 0.9974597

00:05:11.470 --> 00:05:12.450 to in a second.  
NOTE Confidence: 0.95280266

00:05:13.710 --> 00:05:15.470 The the third protein that  
NOTE Confidence: 0.95280266

00:05:15.470 --> 00:05:16.910 we look for is a  
NOTE Confidence: 0.95280266

00:05:16.910 --> 00:05:18.529 protein called HER2.  
NOTE Confidence: 0.9994904

00:05:19.310 --> 00:05:21.710 And HER2 is a protein  
NOTE Confidence: 0.9994904

00:05:21.710 --> 00:05:23.089 that sits on the surface  
NOTE Confidence: 0.9347761

00:05:23.390 --> 00:05:24.690 of cancer cells,  
NOTE Confidence: 0.99918896

00:05:25.255 --> 00:05:25.755 and  
NOTE Confidence: 0.97632444

00:05:26.295 --> 00:05:27.915 it's there in low numbers  
NOTE Confidence: 0.97632444

00:05:27.975 --> 00:05:29.815 normally, but sometimes it can  
NOTE Confidence: 0.97632444

00:05:29.815 --> 00:05:30.955 be present in  
NOTE Confidence: 0.9793472

00:05:31.495 --> 00:05:32.555 in higher levels.  
NOTE Confidence: 0.99750733

00:05:33.815 --> 00:05:35.415 And when it's present in  
NOTE Confidence: 0.99750733

00:05:35.415 --> 00:05:36.775 higher levels, that can be  
NOTE Confidence: 0.99750733

00:05:36.775 --> 00:05:39.115 the driving force for cancer.

NOTE Confidence: 0.98702747  
00:05:39.449 --> 00:05:40.669 So lots of HER2  
NOTE Confidence: 0.99898857  
00:05:41.130 --> 00:05:42.970 can make those cancer cells  
NOTE Confidence: 0.99898857  
00:05:42.970 --> 00:05:44.110 want to grow faster,  
NOTE Confidence: 0.99978495  
00:05:44.810 --> 00:05:46.029 and spread quicker.  
NOTE Confidence: 0.954371  
00:05:48.810 --> 00:05:49.710 And so,  
NOTE Confidence: 0.9969908  
00:05:53.205 --> 00:05:55.284 the topic of my portion  
NOTE Confidence: 0.9969908  
00:05:55.284 --> 00:05:57.064 of this program is is  
NOTE Confidence: 0.9681474  
00:05:57.365 --> 00:05:59.544 HER2 positive breast cancers  
NOTE Confidence: 0.96094227  
00:06:00.164 --> 00:06:01.865 and then another subtype  
NOTE Confidence: 0.915902  
00:06:02.724 --> 00:06:04.876 called triple negative breast cancer.  
NOTE Confidence: 0.915902  
00:06:04.876 --> 00:06:06.610 And so we talked about  
NOTE Confidence: 0.915902  
00:06:06.610 --> 00:06:08.050 the three different receptors that  
NOTE Confidence: 0.915902  
00:06:08.050 --> 00:06:09.889 we check, the estrogen receptor,  
NOTE Confidence: 0.915902  
00:06:09.889 --> 00:06:11.570 the progesterone receptor, and then  
NOTE Confidence: 0.915902  
00:06:11.570 --> 00:06:13.669 this protein called HER2. And  
NOTE Confidence: 0.915902

00:06:13.730 --> 00:06:15.089 when the cancer cells do  
NOTE Confidence: 0.915902

00:06:15.089 --> 00:06:16.785 not have any of those  
NOTE Confidence: 0.915902

00:06:16.865 --> 00:06:18.785 three proteins, that's one, two,  
NOTE Confidence: 0.915902

00:06:18.785 --> 00:06:20.565 three proteins that are negative,  
NOTE Confidence: 0.915902

00:06:20.865 --> 00:06:21.904 it's where we get the  
NOTE Confidence: 0.915902

00:06:21.904 --> 00:06:23.585 title or the name triple  
NOTE Confidence: 0.915902

00:06:23.585 --> 00:06:24.805 negative breast cancer.  
NOTE Confidence: 0.99804324

00:06:25.825 --> 00:06:26.945 So I'm gonna first start  
NOTE Confidence: 0.99804324

00:06:26.945 --> 00:06:28.645 with triple negative breast cancer.  
NOTE Confidence: 0.981201

00:06:30.949 --> 00:06:32.389 These aren't cancers that are  
NOTE Confidence: 0.981201

00:06:32.389 --> 00:06:33.210 fueled by  
NOTE Confidence: 0.8947417

00:06:33.589 --> 00:06:35.370 hormones. They are not  
NOTE Confidence: 0.9906065

00:06:35.830 --> 00:06:38.150 fueled by having extra amounts  
NOTE Confidence: 0.9906065

00:06:38.150 --> 00:06:38.889 of HER2.  
NOTE Confidence: 0.8906531

00:06:39.350 --> 00:06:40.089 And, unfortunately,  
NOTE Confidence: 0.9981499

00:06:40.949 --> 00:06:42.490 that means that the mainstay

NOTE Confidence: 0.9981499  
00:06:42.550 --> 00:06:43.210 of treatment  
NOTE Confidence: 0.9996828  
00:06:43.795 --> 00:06:44.615 is chemotherapy  
NOTE Confidence: 0.9678563  
00:06:44.995 --> 00:06:45.495 drugs.  
NOTE Confidence: 0.9740266  
00:06:45.955 --> 00:06:47.475 And these are chemotherapy drugs  
NOTE Confidence: 0.9740266  
00:06:47.475 --> 00:06:49.714 that are generally given through,  
NOTE Confidence: 0.9740266  
00:06:50.035 --> 00:06:51.235 through the vein in an  
NOTE Confidence: 0.9740266  
00:06:51.235 --> 00:06:52.455 intravenous fashion.  
NOTE Confidence: 0.9997506  
00:06:52.835 --> 00:06:54.915 And these drugs go everywhere  
NOTE Confidence: 0.9997506  
00:06:54.915 --> 00:06:55.735 in the body  
NOTE Confidence: 0.9885354  
00:06:56.115 --> 00:06:57.870 with the idea of trying  
NOTE Confidence: 0.9885354  
00:06:57.949 --> 00:07:00.130 to kill cancer cells wherever  
NOTE Confidence: 0.9885354  
00:07:00.190 --> 00:07:01.630 they might be. And we  
NOTE Confidence: 0.9885354  
00:07:01.630 --> 00:07:02.750 have lots and lots of  
NOTE Confidence: 0.9885354  
00:07:02.750 --> 00:07:04.910 chemo drugs that work in  
NOTE Confidence: 0.9885354  
00:07:04.910 --> 00:07:06.190 breast cancer and in in  
NOTE Confidence: 0.9885354

00:07:06.190 --> 00:07:07.729 triple negative breast cancer,  
NOTE Confidence: 0.9817544

00:07:09.630 --> 00:07:10.910 but they have lots of  
NOTE Confidence: 0.9817544

00:07:10.910 --> 00:07:12.110 side effects. This is one  
NOTE Confidence: 0.9817544

00:07:12.110 --> 00:07:13.275 of the big problems with  
NOTE Confidence: 0.9817544

00:07:13.435 --> 00:07:15.435 chemotherapy. It can affect almost  
NOTE Confidence: 0.9817544

00:07:15.435 --> 00:07:16.875 every organ system in the  
NOTE Confidence: 0.9817544

00:07:16.875 --> 00:07:18.715 body from the brain all  
NOTE Confidence: 0.9817544

00:07:18.715 --> 00:07:19.854 the way to the muscles,  
NOTE Confidence: 0.9784038

00:07:20.395 --> 00:07:21.995 from the lungs to the  
NOTE Confidence: 0.9784038

00:07:21.995 --> 00:07:22.495 genitourinary  
NOTE Confidence: 0.98502207

00:07:23.115 --> 00:07:23.615 system.  
NOTE Confidence: 0.99639165

00:07:24.315 --> 00:07:25.755 Any part of the body  
NOTE Confidence: 0.99639165

00:07:25.755 --> 00:07:27.115 can be affected by by  
NOTE Confidence: 0.99639165

00:07:27.115 --> 00:07:27.615 chemotherapy  
NOTE Confidence: 0.96838874

00:07:27.995 --> 00:07:30.090 because it's not particularly specific.  
NOTE Confidence: 0.99101007

00:07:30.630 --> 00:07:31.530 It doesn't



NOTE Confidence: 0.9994668

00:07:31.910 --> 00:07:32.970 target anything.

NOTE Confidence: 0.96748734

00:07:33.670 --> 00:07:36.330 It really affects any cell

NOTE Confidence: 0.96748734

00:07:36.390 --> 00:07:37.210 that's growing,

NOTE Confidence: 0.9770526

00:07:37.590 --> 00:07:38.870 and that can be normal

NOTE Confidence: 0.9770526

00:07:38.870 --> 00:07:40.150 cells like the lining of

NOTE Confidence: 0.9770526

00:07:40.150 --> 00:07:40.810 the gut,

NOTE Confidence: 0.9690398

00:07:41.190 --> 00:07:42.710 normal cells like they're in

NOTE Confidence: 0.9690398

00:07:42.710 --> 00:07:43.370 the skin,

NOTE Confidence: 0.972544

00:07:44.685 --> 00:07:45.905 normal cells anywhere.

NOTE Confidence: 0.8795341

00:07:48.445 --> 00:07:51.005 Furthermore, chemotherapy has even more

NOTE Confidence: 0.8795341

00:07:51.005 --> 00:07:52.305 downsides. It's inconvenient.

NOTE Confidence: 0.9879052

00:07:52.845 --> 00:07:54.685 It requires frequent visits to

NOTE Confidence: 0.9879052

00:07:54.685 --> 00:07:56.065 clinic and to infusion.

NOTE Confidence: 0.99772143

00:07:56.765 --> 00:07:58.600 This can impact things,

NOTE Confidence: 0.9814912

00:07:59.139 --> 00:08:01.139 that are really important in

NOTE Confidence: 0.9814912

00:08:01.139 --> 00:08:02.760 a woman's life, like  
NOTE Confidence: 0.94911605

00:08:03.139 --> 00:08:04.980 child care, trying to arrange  
NOTE Confidence: 0.94911605

00:08:04.980 --> 00:08:05.480 transportation.  
NOTE Confidence: 0.9959293

00:08:07.380 --> 00:08:09.000 These drugs are generally intravenous,  
NOTE Confidence: 0.9959293

00:08:09.139 --> 00:08:10.360 which means that that  
NOTE Confidence: 0.98554873

00:08:10.905 --> 00:08:12.825 getting an IV over time  
NOTE Confidence: 0.98554873

00:08:12.825 --> 00:08:13.785 can be more and more  
NOTE Confidence: 0.98554873

00:08:13.785 --> 00:08:15.725 challenging. Because every time you  
NOTE Confidence: 0.98554873

00:08:15.785 --> 00:08:16.825 put an IV in, you  
NOTE Confidence: 0.98554873

00:08:16.825 --> 00:08:17.625 create a little bit of  
NOTE Confidence: 0.98554873

00:08:17.625 --> 00:08:18.445 scar tissue.  
NOTE Confidence: 0.98969054

00:08:20.185 --> 00:08:21.225 It can lead to loss  
NOTE Confidence: 0.98969054

00:08:21.225 --> 00:08:22.825 of work productivity, which can  
NOTE Confidence: 0.98969054

00:08:22.825 --> 00:08:24.365 cause what we call financial  
NOTE Confidence: 0.98969054

00:08:24.425 --> 00:08:26.849 toxicity or financial harm to  
NOTE Confidence: 0.98969054

00:08:26.849 --> 00:08:27.729 people who have to deal

NOTE Confidence: 0.98969054

00:08:27.729 --> 00:08:29.250 with chemotherapy over the long

NOTE Confidence: 0.98969054

00:08:29.250 --> 00:08:30.530 term. And it can have

NOTE Confidence: 0.98969054

00:08:30.530 --> 00:08:31.889 tremendous effects on on a

NOTE Confidence: 0.98969054

00:08:31.889 --> 00:08:33.269 woman's mental health.

NOTE Confidence: 0.9853264

00:08:34.130 --> 00:08:35.570 In fact, this is work

NOTE Confidence: 0.9853264

00:08:35.570 --> 00:08:36.610 that I did a number

NOTE Confidence: 0.9853264

00:08:36.610 --> 00:08:37.510 of years ago.

NOTE Confidence: 0.99667776

00:08:38.610 --> 00:08:40.595 Not just physical concerns,

NOTE Confidence: 0.99065423

00:08:41.375 --> 00:08:42.355 impact people,

NOTE Confidence: 0.9998171

00:08:42.895 --> 00:08:43.395 getting

NOTE Confidence: 0.9790656

00:08:43.855 --> 00:08:45.615 getting chemotherapy. And when we

NOTE Confidence: 0.9790656

00:08:45.615 --> 00:08:46.815 showed that almost half of

NOTE Confidence: 0.9790656

00:08:46.815 --> 00:08:48.015 patients or over half of

NOTE Confidence: 0.9790656

00:08:48.015 --> 00:08:50.015 patients have more concerns with

NOTE Confidence: 0.9790656

00:08:50.015 --> 00:08:51.395 things that aren't physical.

NOTE Confidence: 0.97953844

00:08:54.920 --> 00:08:56.520 So I apologize if this  
NOTE Confidence: 0.97953844

00:08:56.520 --> 00:08:57.800 feels a little bit choppy  
NOTE Confidence: 0.97953844

00:08:57.800 --> 00:08:59.000 because it is. There's just  
NOTE Confidence: 0.97953844

00:08:59.000 --> 00:09:00.380 a lot to say here.  
NOTE Confidence: 0.998785

00:09:01.000 --> 00:09:02.540 Some of the most exciting,  
NOTE Confidence: 0.9998156

00:09:04.200 --> 00:09:06.059 drugs that we're using now  
NOTE Confidence: 0.9929066

00:09:06.434 --> 00:09:07.875 belong to a class of  
NOTE Confidence: 0.9929066

00:09:07.875 --> 00:09:10.615 medicines called antibody drug conjugates.  
NOTE Confidence: 0.9929066

00:09:10.675 --> 00:09:11.635 So we talked a little  
NOTE Confidence: 0.9929066

00:09:11.635 --> 00:09:12.995 bit about the fact that  
NOTE Confidence: 0.9929066

00:09:12.995 --> 00:09:13.495 chemotherapy  
NOTE Confidence: 0.84243006

00:09:14.355 --> 00:09:14.855 is,  
NOTE Confidence: 0.80362535

00:09:17.075 --> 00:09:17.735 it targets  
NOTE Confidence: 0.99337465

00:09:18.530 --> 00:09:20.050 all different types of cells  
NOTE Confidence: 0.99337465

00:09:20.050 --> 00:09:21.590 regardless of where they are.  
NOTE Confidence: 0.99337465

00:09:21.730 --> 00:09:23.590 But antibody drug conjugates,

NOTE Confidence: 0.9786182  
00:09:24.050 --> 00:09:24.929 I'd like to think of  
NOTE Confidence: 0.9786182  
00:09:24.929 --> 00:09:26.690 them more like tumor seeking  
NOTE Confidence: 0.9786182  
00:09:26.690 --> 00:09:27.190 missiles.  
NOTE Confidence: 0.99054915  
00:09:27.730 --> 00:09:28.610 So there's been a lot  
NOTE Confidence: 0.99054915  
00:09:28.610 --> 00:09:29.970 of talk about antibodies over  
NOTE Confidence: 0.99054915  
00:09:29.970 --> 00:09:31.184 the last five years since  
NOTE Confidence: 0.99054915  
00:09:31.184 --> 00:09:32.065 the the start of the  
NOTE Confidence: 0.99054915  
00:09:32.065 --> 00:09:34.084 COVID pandemic, but antibodies  
NOTE Confidence: 0.99945277  
00:09:36.304 --> 00:09:36.884 are proteins  
NOTE Confidence: 0.9998498  
00:09:37.264 --> 00:09:38.404 created by  
NOTE Confidence: 0.99783564  
00:09:38.785 --> 00:09:40.005 by lymphocytes  
NOTE Confidence: 0.96305174  
00:09:40.464 --> 00:09:41.985 in part of the immune  
NOTE Confidence: 0.96305174  
00:09:41.985 --> 00:09:42.485 system.  
NOTE Confidence: 0.99972546  
00:09:43.410 --> 00:09:44.629 But we can create  
NOTE Confidence: 0.9838429  
00:09:45.009 --> 00:09:46.529 antibodies in the lab. These  
NOTE Confidence: 0.9838429

00:09:46.529 --> 00:09:48.290 are called monoclonal antibodies, and

NOTE Confidence: 0.9838429

00:09:48.290 --> 00:09:50.209 they they basically are like

NOTE Confidence: 0.9838429

00:09:50.209 --> 00:09:52.050 targets for particular proteins. So

NOTE Confidence: 0.9838429

00:09:52.050 --> 00:09:53.170 you have an antibody to

NOTE Confidence: 0.9838429

00:09:53.170 --> 00:09:53.829 a particular

NOTE Confidence: 0.9968835

00:09:54.209 --> 00:09:54.709 protein.

NOTE Confidence: 0.9859513

00:09:55.490 --> 00:09:56.790 And so

NOTE Confidence: 0.9969626

00:09:58.105 --> 00:09:59.865 what an antibody drug conjugate

NOTE Confidence: 0.9969626

00:09:59.865 --> 00:10:00.365 is

NOTE Confidence: 0.9466831

00:10:00.825 --> 00:10:02.925 is an antibody that's targeting

NOTE Confidence: 0.9466831

00:10:02.985 --> 00:10:03.645 a protein

NOTE Confidence: 0.9500915

00:10:04.105 --> 00:10:06.184 on the cancer cell. And

NOTE Confidence: 0.9500915

00:10:06.184 --> 00:10:08.125 riding along with it, attached

NOTE Confidence: 0.9500915

00:10:08.345 --> 00:10:09.245 to the antibody,

NOTE Confidence: 0.9966736

00:10:09.865 --> 00:10:11.910 is a chemotherapy drug. We

NOTE Confidence: 0.9966736

00:10:11.910 --> 00:10:12.970 call that the payload.

NOTE Confidence: 0.97888917  
00:10:13.509 --> 00:10:15.110 The chemotherapy drug is riding  
NOTE Confidence: 0.97888917  
00:10:15.110 --> 00:10:16.389 along with the antibody. So  
NOTE Confidence: 0.97888917  
00:10:16.389 --> 00:10:18.149 the antibody finds the tumor.  
NOTE Confidence: 0.97888917  
00:10:18.149 --> 00:10:19.589 It finds the protein that  
NOTE Confidence: 0.97888917  
00:10:19.589 --> 00:10:20.949 it's looking for. It binds  
NOTE Confidence: 0.97888917  
00:10:20.949 --> 00:10:22.149 to that protein, and it  
NOTE Confidence: 0.97888917  
00:10:22.149 --> 00:10:22.649 delivers  
NOTE Confidence: 0.99896955  
00:10:23.509 --> 00:10:24.170 the chemotherapy  
NOTE Confidence: 0.9903355  
00:10:24.629 --> 00:10:26.605 directly to the tumor. And  
NOTE Confidence: 0.9903355  
00:10:26.605 --> 00:10:27.825 there are a few different  
NOTE Confidence: 0.9903355  
00:10:27.885 --> 00:10:29.565 antibody drug conjugates that have  
NOTE Confidence: 0.9903355  
00:10:29.565 --> 00:10:31.405 come come about over the  
NOTE Confidence: 0.9903355  
00:10:31.405 --> 00:10:33.085 last five, ten years, and  
NOTE Confidence: 0.9903355  
00:10:33.085 --> 00:10:34.145 we'll talk about  
NOTE Confidence: 0.99949217  
00:10:34.525 --> 00:10:35.825 most of them here.  
NOTE Confidence: 0.99883157

00:10:37.405 --> 00:10:39.345 The second class of medicines  
NOTE Confidence: 0.99883157

00:10:39.485 --> 00:10:40.845 that's used in triple negative  
NOTE Confidence: 0.99883157

00:10:40.845 --> 00:10:41.665 breast cancer  
NOTE Confidence: 0.9806013

00:10:42.580 --> 00:10:43.160 is immunotherapy.  
NOTE Confidence: 0.9540447

00:10:44.100 --> 00:10:44.839 And immunotherapy,  
NOTE Confidence: 0.99978095

00:10:46.660 --> 00:10:47.160 targets  
NOTE Confidence: 0.99929845

00:10:47.779 --> 00:10:48.279 the  
NOTE Confidence: 0.9325867

00:10:48.660 --> 00:10:50.200 immune system. And more  
NOTE Confidence: 0.99147666

00:10:51.059 --> 00:10:52.820 appropriately, it actually takes the  
NOTE Confidence: 0.99147666

00:10:52.820 --> 00:10:54.675 brakes off the immune system.  
NOTE Confidence: 0.99147666

00:10:54.675 --> 00:10:56.275 So in the presence of  
NOTE Confidence: 0.99147666

00:10:56.275 --> 00:10:56.775 cancer,  
NOTE Confidence: 0.99536926

00:10:57.635 --> 00:10:59.155 the immune system kinda says,  
NOTE Confidence: 0.99536926

00:10:59.155 --> 00:11:00.515 well, that that looks a  
NOTE Confidence: 0.99536926

00:11:00.515 --> 00:11:01.554 little bit like me. It  
NOTE Confidence: 0.99536926

00:11:01.554 --> 00:11:02.915 looks a little bit like



NOTE Confidence: 0.99536926  
00:11:02.915 --> 00:11:03.415 self.  
NOTE Confidence: 0.9966321  
00:11:03.795 --> 00:11:05.015 I'm gonna back off.  
NOTE Confidence: 0.98658323  
00:11:05.875 --> 00:11:07.075 So the cancer cell kind  
NOTE Confidence: 0.98658323  
00:11:07.075 --> 00:11:07.575 of  
NOTE Confidence: 0.98891187  
00:11:07.929 --> 00:11:09.290 puts the brakes on the  
NOTE Confidence: 0.98891187  
00:11:09.290 --> 00:11:10.730 immune system, not allowing the  
NOTE Confidence: 0.98891187  
00:11:10.730 --> 00:11:11.929 immune system to fight the  
NOTE Confidence: 0.98891187  
00:11:11.929 --> 00:11:12.429 cancer.  
NOTE Confidence: 0.99955547  
00:11:12.970 --> 00:11:13.950 But immunotherapies  
NOTE Confidence: 0.83112365  
00:11:14.890 --> 00:11:15.790 like Keytruda,  
NOTE Confidence: 0.9947158  
00:11:17.050 --> 00:11:18.090 probably the one we use  
NOTE Confidence: 0.9947158  
00:11:18.090 --> 00:11:19.610 most commonly in breast cancer,  
NOTE Confidence: 0.9947158  
00:11:19.610 --> 00:11:21.050 but there are others used  
NOTE Confidence: 0.9947158  
00:11:21.050 --> 00:11:22.350 in other types of cancers,  
NOTE Confidence: 0.97175264  
00:11:23.605 --> 00:11:25.205 works to take the brakes  
NOTE Confidence: 0.97175264

00:11:25.205 --> 00:11:26.885 off the immune system. So  
NOTE Confidence: 0.97175264

00:11:26.885 --> 00:11:27.545 it allows,  
NOTE Confidence: 0.9889102

00:11:28.725 --> 00:11:30.505 a person's a patient's body,  
NOTE Confidence: 0.96786594

00:11:30.965 --> 00:11:32.565 a patient's own immune system  
NOTE Confidence: 0.96786594

00:11:32.565 --> 00:11:33.945 to help fight the cancer.  
NOTE Confidence: 0.9723293

00:11:34.405 --> 00:11:36.259 And that reactivates the immune  
NOTE Confidence: 0.9723293

00:11:36.259 --> 00:11:38.360 system so that in combination  
NOTE Confidence: 0.9723293

00:11:38.660 --> 00:11:39.399 with chemotherapy,  
NOTE Confidence: 0.99843836

00:11:41.300 --> 00:11:43.379 the the immune system can  
NOTE Confidence: 0.99843836

00:11:43.379 --> 00:11:45.220 then fight the cancer and  
NOTE Confidence: 0.99843836

00:11:45.220 --> 00:11:47.079 get a more robust response.  
NOTE Confidence: 0.99843836

00:11:47.220 --> 00:11:48.120 So immunotherapy  
NOTE Confidence: 0.9996506

00:11:48.500 --> 00:11:49.959 is another class of medicines  
NOTE Confidence: 0.9996506

00:11:50.019 --> 00:11:51.745 that we use primarily in  
NOTE Confidence: 0.9996506

00:11:51.745 --> 00:11:53.205 triple negative breast cancer.  
NOTE Confidence: 0.94097155

00:11:54.145 --> 00:11:54.885 And finally,

NOTE Confidence: 0.9991972  
00:11:55.825 --> 00:11:58.245 another target that's that's applicable  
NOTE Confidence: 0.6471568  
00:11:58.785 --> 00:11:59.285 for  
NOTE Confidence: 0.9994192  
00:11:59.745 --> 00:12:00.245 several  
NOTE Confidence: 0.99017674  
00:12:01.024 --> 00:12:02.385 types of breast cancer, but  
NOTE Confidence: 0.99017674  
00:12:02.385 --> 00:12:03.365 those particularly  
NOTE Confidence: 0.9935441  
00:12:04.420 --> 00:12:06.980 associated with BRCA one and  
NOTE Confidence: 0.9935441  
00:12:06.980 --> 00:12:07.480 BRCA  
NOTE Confidence: 0.9278605  
00:12:07.860 --> 00:12:08.679 two mutations.  
NOTE Confidence: 0.9690731  
00:12:09.940 --> 00:12:11.400 These are called PARP inhibitors.  
NOTE Confidence: 0.99941844  
00:12:12.100 --> 00:12:13.140 And it has to do  
NOTE Confidence: 0.99941844  
00:12:13.300 --> 00:12:15.080 PARP inhibitors have to do  
NOTE Confidence: 0.99941844  
00:12:15.380 --> 00:12:15.880 with  
NOTE Confidence: 0.9017873  
00:12:16.340 --> 00:12:18.760 normal cell division. And and  
NOTE Confidence: 0.9997605  
00:12:19.245 --> 00:12:20.845 people who have these types  
NOTE Confidence: 0.9997605  
00:12:20.845 --> 00:12:21.585 of mutations  
NOTE Confidence: 0.9845422

00:12:22.045 --> 00:12:23.325 in in BRCA one and  
NOTE Confidence: 0.9845422

00:12:23.325 --> 00:12:24.545 BRCA two,  
NOTE Confidence: 0.9989029

00:12:26.205 --> 00:12:27.885 in the normal process of  
NOTE Confidence: 0.9989029

00:12:27.885 --> 00:12:28.625 cell division,  
NOTE Confidence: 0.9794995

00:12:30.205 --> 00:12:31.184 they make mistakes.  
NOTE Confidence: 0.98358876

00:12:31.565 --> 00:12:33.485 They make more mistakes than  
NOTE Confidence: 0.98358876

00:12:33.485 --> 00:12:33.985 than  
NOTE Confidence: 0.9981047

00:12:34.285 --> 00:12:35.620 is usual. And when those  
NOTE Confidence: 0.9981047

00:12:35.620 --> 00:12:37.139 mistakes happen in the normal  
NOTE Confidence: 0.9981047

00:12:37.139 --> 00:12:38.440 process of cell division,  
NOTE Confidence: 0.9996538

00:12:38.899 --> 00:12:40.519 cancers are much more likely.  
NOTE Confidence: 0.97918695

00:12:42.660 --> 00:12:43.720 The the  
NOTE Confidence: 0.91675144

00:12:44.740 --> 00:12:45.639 PARP inhibitor,  
NOTE Confidence: 0.99552125

00:12:46.980 --> 00:12:48.420 well, actually, people with these  
NOTE Confidence: 0.99552125

00:12:48.420 --> 00:12:50.600 mutations aren't able to  
NOTE Confidence: 0.96297216

00:12:51.195 --> 00:12:53.115 repair those mistakes in as

NOTE Confidence: 0.96297216  
00:12:53.115 --> 00:12:55.195 an efficient way as someone  
NOTE Confidence: 0.96297216  
00:12:55.195 --> 00:12:56.475 who who doesn't have those  
NOTE Confidence: 0.96297216  
00:12:56.475 --> 00:12:58.095 mutations. And PARP inhibitors  
NOTE Confidence: 0.99098086  
00:12:58.875 --> 00:12:59.375 work,  
NOTE Confidence: 0.9997939  
00:13:00.155 --> 00:13:01.135 by preventing  
NOTE Confidence: 0.99800855  
00:13:01.515 --> 00:13:02.015 repair  
NOTE Confidence: 0.9118537  
00:13:02.635 --> 00:13:03.135 and  
NOTE Confidence: 0.99685407  
00:13:03.540 --> 00:13:05.140 basically lead these cells to  
NOTE Confidence: 0.99685407  
00:13:05.140 --> 00:13:06.899 commit suicide. So PARP inhibitors  
NOTE Confidence: 0.99685407  
00:13:06.899 --> 00:13:08.500 are pills that we use  
NOTE Confidence: 0.99685407  
00:13:08.500 --> 00:13:10.179 fairly frequently in people that  
NOTE Confidence: 0.99685407  
00:13:10.179 --> 00:13:11.959 have these types of mutations.  
NOTE Confidence: 0.9674933  
00:13:13.380 --> 00:13:15.640 So moving very quickly to  
NOTE Confidence: 0.9674933  
00:13:15.860 --> 00:13:17.800 HER2 positive breast cancer.  
NOTE Confidence: 0.9775303  
00:13:18.335 --> 00:13:20.335 So remember, HER2 is a  
NOTE Confidence: 0.9775303

00:13:20.335 --> 00:13:21.615 protein that's on the surface  
NOTE Confidence: 0.9775303

00:13:21.615 --> 00:13:22.975 of cancer cells. And when  
NOTE Confidence: 0.9775303

00:13:22.975 --> 00:13:24.495 HER2 is there in high  
NOTE Confidence: 0.9775303

00:13:24.495 --> 00:13:26.035 levels or it's overexpressed,  
NOTE Confidence: 0.9963318

00:13:27.455 --> 00:13:29.295 that leads that's the the  
NOTE Confidence: 0.9963318

00:13:29.295 --> 00:13:31.215 primary driver for growth of  
NOTE Confidence: 0.9963318

00:13:31.215 --> 00:13:32.355 those cancer cells.  
NOTE Confidence: 0.9841762

00:13:33.790 --> 00:13:36.050 And up until maybe twenty  
NOTE Confidence: 0.9841762

00:13:36.270 --> 00:13:38.430 five ish years ago, this  
NOTE Confidence: 0.9841762

00:13:38.430 --> 00:13:40.530 was really bad because HER2  
NOTE Confidence: 0.9841762

00:13:40.590 --> 00:13:41.970 positive breast cancers,  
NOTE Confidence: 0.98932767

00:13:43.150 --> 00:13:44.990 were very aggressive. They had  
NOTE Confidence: 0.98932767

00:13:44.990 --> 00:13:47.365 high high likelihood of developing  
NOTE Confidence: 0.98932767

00:13:47.365 --> 00:13:49.205 into metastatic disease and high  
NOTE Confidence: 0.98932767

00:13:49.205 --> 00:13:51.365 likelihoods of going to going  
NOTE Confidence: 0.98932767

00:13:51.365 --> 00:13:51.865 to

NOTE Confidence: 0.98079324  
00:13:52.245 --> 00:13:53.765 major organs like the liver  
NOTE Confidence: 0.98079324  
00:13:53.765 --> 00:13:54.665 and the brain.  
NOTE Confidence: 0.9914451  
00:13:56.085 --> 00:13:58.245 But at again, about two  
NOTE Confidence: 0.9914451  
00:13:58.245 --> 00:13:59.705 and a half decades ago,  
NOTE Confidence: 0.9914451  
00:14:00.005 --> 00:14:01.220 the drug trastuzumab  
NOTE Confidence: 0.979702  
00:14:01.839 --> 00:14:03.600 or Herceptin was developed, and  
NOTE Confidence: 0.979702  
00:14:03.600 --> 00:14:05.860 it revolutionized the treatment of  
NOTE Confidence: 0.979702  
00:14:06.160 --> 00:14:08.240 of metastatic breast cancer first  
NOTE Confidence: 0.979702  
00:14:08.240 --> 00:14:09.679 and and then earlier stage  
NOTE Confidence: 0.979702  
00:14:09.679 --> 00:14:10.879 breast cancers a little bit  
NOTE Confidence: 0.979702  
00:14:10.879 --> 00:14:11.379 later.  
NOTE Confidence: 0.92381525  
00:14:12.720 --> 00:14:13.699 And that began,  
NOTE Confidence: 0.93071383  
00:14:15.445 --> 00:14:17.385 a long history of targeting  
NOTE Confidence: 0.8285243  
00:14:17.925 --> 00:14:18.425 HER2,  
NOTE Confidence: 0.96617943  
00:14:18.804 --> 00:14:19.945 first with trastuzumab  
NOTE Confidence: 0.97173905

00:14:21.045 --> 00:14:23.385 and then later with additional  
NOTE Confidence: 0.97173905

00:14:23.525 --> 00:14:25.865 antibody drug conjugates, other monoclonal  
NOTE Confidence: 0.97173905

00:14:26.085 --> 00:14:27.305 antibodies, and  
NOTE Confidence: 0.99769187

00:14:28.080 --> 00:14:30.880 oral medications called tyrosine kinase  
NOTE Confidence: 0.99769187

00:14:30.880 --> 00:14:31.380 inhibitors.  
NOTE Confidence: 0.9790966

00:14:31.680 --> 00:14:32.900 This is just the history  
NOTE Confidence: 0.9790966

00:14:33.120 --> 00:14:35.380 of HER2 positive breast cancer  
NOTE Confidence: 0.9709577

00:14:36.080 --> 00:14:38.000 way back to nineteen thirty  
NOTE Confidence: 0.9709577

00:14:38.000 --> 00:14:39.280 five, and not a whole  
NOTE Confidence: 0.9709577

00:14:39.280 --> 00:14:41.024 lot happened between nineteen thirty  
NOTE Confidence: 0.9709577

00:14:41.024 --> 00:14:42.945 five until nineteen until the  
NOTE Confidence: 0.9709577

00:14:42.945 --> 00:14:44.625 nineteen nineties. But starting in  
NOTE Confidence: 0.9709577

00:14:44.625 --> 00:14:46.245 nineteen ninety eight when trastuzumab  
NOTE Confidence: 0.99599236

00:14:46.704 --> 00:14:47.365 came about,  
NOTE Confidence: 0.97591764

00:14:47.745 --> 00:14:48.644 there have been  
NOTE Confidence: 0.9933864

00:14:49.024 --> 00:14:50.704 many, many drugs that have



NOTE Confidence: 0.9933864  
00:14:50.704 --> 00:14:52.885 been approved in various settings.  
NOTE Confidence: 0.9194946  
00:14:54.100 --> 00:14:55.399 Lapatinib, pertuzumab,  
NOTE Confidence: 0.91475934  
00:14:55.779 --> 00:14:57.220 a drug called TDM one  
NOTE Confidence: 0.91475934  
00:14:57.220 --> 00:14:57.959 or Kadcyła,  
NOTE Confidence: 0.76528525  
00:14:58.579 --> 00:15:00.199 neratinib or new NERLYNX,  
NOTE Confidence: 0.7569866  
00:15:01.860 --> 00:15:02.360 pirotinib,  
NOTE Confidence: 0.95455784  
00:15:02.740 --> 00:15:04.600 tucatinib, neratinib, margetuximab,  
NOTE Confidence: 0.99654394  
00:15:05.379 --> 00:15:06.435 all of these drugs have  
NOTE Confidence: 0.99654394  
00:15:06.435 --> 00:15:07.875 come about over just the  
NOTE Confidence: 0.99654394  
00:15:07.875 --> 00:15:09.575 last decade or so,  
NOTE Confidence: 0.9962758  
00:15:10.435 --> 00:15:10.935 in  
NOTE Confidence: 0.9706749  
00:15:11.395 --> 00:15:12.995 for patients with HER2 positive  
NOTE Confidence: 0.9706749  
00:15:12.995 --> 00:15:15.495 breast cancer. So really quickly,  
NOTE Confidence: 0.994049  
00:15:16.915 --> 00:15:17.735 HER2 positive  
NOTE Confidence: 0.9892648  
00:15:19.570 --> 00:15:21.810 breast cancer is primarily treated  
NOTE Confidence: 0.9892648

00:15:21.810 --> 00:15:23.750 first with HER2 antibodies,

NOTE Confidence: 0.98584425

00:15:24.690 --> 00:15:27.250 primarily trastuzumab and pertuzumab, which

NOTE Confidence: 0.98584425

00:15:27.250 --> 00:15:29.250 target that HER2 receptor. And

NOTE Confidence: 0.98584425

00:15:29.250 --> 00:15:30.930 these can be administered either

NOTE Confidence: 0.98584425

00:15:30.930 --> 00:15:33.110 via infusion or a shot.

NOTE Confidence: 0.96971035

00:15:35.195 --> 00:15:36.635 And they're often used together

NOTE Confidence: 0.96971035

00:15:36.635 --> 00:15:38.015 because they block HER2

NOTE Confidence: 0.88045204

00:15:38.635 --> 00:15:40.335 in in complementary ways.

NOTE Confidence: 0.94830847

00:15:40.795 --> 00:15:42.395 Then there are oral HER2

NOTE Confidence: 0.94830847

00:15:42.395 --> 00:15:43.615 drugs like lapatinib,

NOTE Confidence: 0.98380256

00:15:43.915 --> 00:15:45.135 neratinib, tucatinib.

NOTE Confidence: 0.99347866

00:15:46.235 --> 00:15:47.515 Sometimes I wonder who actually

NOTE Confidence: 0.99347866

00:15:47.515 --> 00:15:49.115 names these medications. There's a

NOTE Confidence: 0.99347866

00:15:49.115 --> 00:15:50.290 lot of vowels there. These

NOTE Confidence: 0.99347866

00:15:50.290 --> 00:15:51.110 are hard to

NOTE Confidence: 0.98915076

00:15:51.410 --> 00:15:51.490 say.

NOTE Confidence: 0.99701816  
00:15:53.010 --> 00:15:53.990 But these medications  
NOTE Confidence: 0.9982367  
00:15:54.770 --> 00:15:56.390 block the intracellular  
NOTE Confidence: 0.9921789  
00:15:56.770 --> 00:15:58.530 signaling that comes from the  
NOTE Confidence: 0.9921789  
00:15:58.530 --> 00:15:59.350 HER2 receptor  
NOTE Confidence: 0.97132087  
00:15:59.650 --> 00:16:01.030 leading to cell growth.  
NOTE Confidence: 0.9811444  
00:16:01.410 --> 00:16:02.390 And then finally,  
NOTE Confidence: 0.9799094  
00:16:03.285 --> 00:16:04.505 antibody drug conjugates,  
NOTE Confidence: 0.99804014  
00:16:04.885 --> 00:16:06.185 the tumor targeting  
NOTE Confidence: 0.90503216  
00:16:06.964 --> 00:16:07.464 missiles.  
NOTE Confidence: 0.9253125  
00:16:08.404 --> 00:16:09.865 They have a a place  
NOTE Confidence: 0.9253125  
00:16:10.084 --> 00:16:10.584 in  
NOTE Confidence: 0.9802703  
00:16:11.045 --> 00:16:12.565 the treatment of HER2 positive  
NOTE Confidence: 0.9802703  
00:16:12.565 --> 00:16:14.565 breast cancer too. In fact,  
NOTE Confidence: 0.9802703  
00:16:14.565 --> 00:16:15.945 the two most common,  
NOTE Confidence: 0.9994758  
00:16:16.964 --> 00:16:18.425 antibody drug conjugates  
NOTE Confidence: 0.98322755

00:16:18.990 --> 00:16:21.310 are HER2 targeting antibody drug  
NOTE Confidence: 0.98322755

00:16:21.310 --> 00:16:21.810 conjugates.  
NOTE Confidence: 0.9899427

00:16:24.029 --> 00:16:25.089 The the latest  
NOTE Confidence: 0.9892639

00:16:25.470 --> 00:16:27.149 antibody drug conjugate to come  
NOTE Confidence: 0.9892639

00:16:27.149 --> 00:16:28.430 through the pipeline is a  
NOTE Confidence: 0.9892639

00:16:28.430 --> 00:16:29.570 drug called nHER2,  
NOTE Confidence: 0.9983041

00:16:30.350 --> 00:16:31.649 which is trastuzumab  
NOTE Confidence: 0.9999474

00:16:32.190 --> 00:16:32.690 antibody  
NOTE Confidence: 0.99775183

00:16:33.255 --> 00:16:34.075 targeting HER2  
NOTE Confidence: 0.58342147

00:16:34.695 --> 00:16:35.195 coupled  
NOTE Confidence: 0.99723846

00:16:35.575 --> 00:16:37.835 with a a chemotherapy  
NOTE Confidence: 0.7931478

00:16:38.375 --> 00:16:39.275 called Dirextican.  
NOTE Confidence: 0.9784379

00:16:41.415 --> 00:16:43.815 Another antibody drug conjugate called  
NOTE Confidence: 0.9784379

00:16:43.815 --> 00:16:45.355 Kadcyra or trastuzumab  
NOTE Confidence: 0.948071

00:16:46.649 --> 00:16:49.070 tansine is that Herceptin antibody  
NOTE Confidence: 0.9882541

00:16:49.770 --> 00:16:50.750 coupled to,

NOTE Confidence: 0.9967227  
00:16:51.770 --> 00:16:53.870 a chemotherapy called m tansine.  
NOTE Confidence: 0.9989022  
00:16:54.649 --> 00:16:55.149 And  
NOTE Confidence: 0.9887361  
00:16:55.529 --> 00:16:57.770 these two drugs have not  
NOTE Confidence: 0.9887361  
00:16:57.770 --> 00:16:58.270 only,  
NOTE Confidence: 0.9992795  
00:16:59.605 --> 00:17:01.145 provided us with two additional  
NOTE Confidence: 0.9992795  
00:17:01.205 --> 00:17:01.705 treatments  
NOTE Confidence: 0.9474634  
00:17:05.205 --> 00:17:07.605 data coming out just in  
NOTE Confidence: 0.9474634  
00:17:07.605 --> 00:17:09.625 June of this year looking  
NOTE Confidence: 0.9474634  
00:17:09.685 --> 00:17:10.185 at,  
NOTE Confidence: 0.7550338  
00:17:11.205 --> 00:17:12.425 trastuzumab, daroxetacaner,  
NOTE Confidence: 0.9779345  
00:17:12.805 --> 00:17:13.465 and HER2  
NOTE Confidence: 0.99358076  
00:17:14.140 --> 00:17:15.580 in the first line setting  
NOTE Confidence: 0.99358076  
00:17:15.580 --> 00:17:17.260 for people with metastatic HER2  
NOTE Confidence: 0.99358076  
00:17:17.260 --> 00:17:18.480 positive breast cancer.  
NOTE Confidence: 0.99788  
00:17:20.380 --> 00:17:22.859 Occasionally, we we also use  
NOTE Confidence: 0.99788

00:17:22.859 --> 00:17:23.359 chemotherapy  
NOTE Confidence: 0.9895315

00:17:23.900 --> 00:17:25.520 in HER2 positive disease,  
NOTE Confidence: 0.99118185

00:17:26.619 --> 00:17:28.160 combined with trastuzumab.  
NOTE Confidence: 0.98534966

00:17:29.855 --> 00:17:31.535 And then for patients that  
NOTE Confidence: 0.98534966

00:17:31.535 --> 00:17:33.875 have HER2 positive and also  
NOTE Confidence: 0.98534966

00:17:33.935 --> 00:17:36.035 hormone receptor positive breast cancer,  
NOTE Confidence: 0.98534966

00:17:36.255 --> 00:17:38.755 we also use endocrine therapy.  
NOTE Confidence: 0.9737679

00:17:40.175 --> 00:17:41.455 I'm I know I've already  
NOTE Confidence: 0.9737679

00:17:41.455 --> 00:17:42.575 gone over the time that  
NOTE Confidence: 0.9737679

00:17:42.575 --> 00:17:43.295 I said that I would  
NOTE Confidence: 0.9737679

00:17:43.295 --> 00:17:43.795 take,  
NOTE Confidence: 0.8674575

00:17:44.940 --> 00:17:46.720 but I wanna just mention  
NOTE Confidence: 0.9257573

00:17:47.980 --> 00:17:49.840 the way that new drugs  
NOTE Confidence: 0.98632634

00:17:51.260 --> 00:17:52.859 come up and they get  
NOTE Confidence: 0.98632634

00:17:52.859 --> 00:17:54.619 approved by the FDA is  
NOTE Confidence: 0.98632634

00:17:54.619 --> 00:17:56.480 through a series of clinical

NOTE Confidence: 0.98632634

00:17:56.540 --> 00:17:57.040 trials.

NOTE Confidence: 0.9995542

00:17:57.580 --> 00:17:59.040 And clinical trials

NOTE Confidence: 0.99420077

00:17:59.775 --> 00:18:01.775 require patients. This is how

NOTE Confidence: 0.99420077

00:18:01.775 --> 00:18:02.595 we determine

NOTE Confidence: 0.9914218

00:18:03.215 --> 00:18:04.655 whether a drug is effective

NOTE Confidence: 0.9914218

00:18:04.655 --> 00:18:05.695 or not, and we look

NOTE Confidence: 0.9914218

00:18:05.695 --> 00:18:07.375 at new combinations of drugs

NOTE Confidence: 0.9914218

00:18:07.375 --> 00:18:08.734 and compare them to to

NOTE Confidence: 0.9914218

00:18:08.734 --> 00:18:10.575 older combinations. It's how we

NOTE Confidence: 0.9914218

00:18:10.575 --> 00:18:11.955 move the field forward.

NOTE Confidence: 0.99965966

00:18:12.660 --> 00:18:13.160 Clinical

NOTE Confidence: 0.9839247

00:18:13.780 --> 00:18:15.300 trials, could also be called

NOTE Confidence: 0.9839247

00:18:15.300 --> 00:18:17.960 clinical studies, studies, research trials,

NOTE Confidence: 0.9839247

00:18:18.260 --> 00:18:18.760 protocols.

NOTE Confidence: 0.99860287

00:18:20.260 --> 00:18:21.640 But a clinical trial

NOTE Confidence: 0.97672534

00:18:22.580 --> 00:18:23.080 is,  
NOTE Confidence: 0.99963427

00:18:24.420 --> 00:18:25.480 more than just  
NOTE Confidence: 0.9917397

00:18:25.975 --> 00:18:27.254 a lab test or a  
NOTE Confidence: 0.9917397

00:18:27.254 --> 00:18:28.615 test on a guinea pig.  
NOTE Confidence: 0.9917397

00:18:28.615 --> 00:18:29.115 Clinical  
NOTE Confidence: 0.8003987

00:18:29.734 --> 00:18:30.475 clinical trials,  
NOTE Confidence: 0.9964311

00:18:31.654 --> 00:18:33.434 afford patients an opportunity  
NOTE Confidence: 0.99785084

00:18:34.215 --> 00:18:35.835 to contribute to the field  
NOTE Confidence: 0.99785084

00:18:35.975 --> 00:18:38.215 and potentially get highly effective  
NOTE Confidence: 0.99785084

00:18:38.215 --> 00:18:40.154 therapy even before it's approved.  
NOTE Confidence: 0.98821324

00:18:40.980 --> 00:18:42.020 There are lots of phases  
NOTE Confidence: 0.98821324

00:18:42.020 --> 00:18:43.700 of clinical trials starting at  
NOTE Confidence: 0.98821324

00:18:43.700 --> 00:18:45.700 the earliest phases where we're  
NOTE Confidence: 0.98821324

00:18:45.700 --> 00:18:47.460 we're studying new drugs or  
NOTE Confidence: 0.98821324

00:18:47.460 --> 00:18:48.980 new combinations of drugs and  
NOTE Confidence: 0.98821324

00:18:48.980 --> 00:18:49.480 looking



NOTE Confidence: 0.9958463  
00:18:49.859 --> 00:18:50.679 at at toxicities  
NOTE Confidence: 0.9894131  
00:18:51.140 --> 00:18:52.755 all the way to phase  
NOTE Confidence: 0.9894131  
00:18:53.075 --> 00:18:55.075 three clinical trials, which are  
NOTE Confidence: 0.9894131  
00:18:55.075 --> 00:18:55.734 are usually  
NOTE Confidence: 0.9996457  
00:18:56.115 --> 00:18:56.615 randomized  
NOTE Confidence: 0.9845303  
00:18:56.915 --> 00:18:58.435 clinical trials where there are  
NOTE Confidence: 0.9845303  
00:18:58.435 --> 00:18:59.494 multiple arms,  
NOTE Confidence: 0.9827709  
00:19:00.595 --> 00:19:01.415 of the trial,  
NOTE Confidence: 0.9929209  
00:19:02.994 --> 00:19:04.595 and even phase four clinical  
NOTE Confidence: 0.9929209  
00:19:04.595 --> 00:19:06.135 trials, which which happen  
NOTE Confidence: 0.9988249  
00:19:06.595 --> 00:19:08.055 after a drug is approved.  
NOTE Confidence: 0.93138736  
00:19:12.500 --> 00:19:13.799 And the the likelihood  
NOTE Confidence: 0.9994915  
00:19:14.100 --> 00:19:15.720 that a drug becomes FDA  
NOTE Confidence: 0.9994915  
00:19:15.779 --> 00:19:16.279 approved  
NOTE Confidence: 0.9738704  
00:19:16.580 --> 00:19:17.940 go gets lower and lower  
NOTE Confidence: 0.9738704

00:19:17.940 --> 00:19:19.140 the the later the phase  
NOTE Confidence: 0.9738704

00:19:19.140 --> 00:19:19.960 of the trial.  
NOTE Confidence: 0.9492039

00:19:22.325 --> 00:19:23.525 That is all that I  
NOTE Confidence: 0.9492039

00:19:23.525 --> 00:19:24.345 had prepared  
NOTE Confidence: 0.9658117

00:19:24.645 --> 00:19:26.885 for triple negative breast cancer  
NOTE Confidence: 0.9658117

00:19:26.885 --> 00:19:28.585 and HER2 positive disease.  
NOTE Confidence: 0.99941224

00:19:29.445 --> 00:19:30.425 But I'd love  
NOTE Confidence: 0.9994034

00:19:31.045 --> 00:19:32.345 to turn the  
NOTE Confidence: 0.9808548

00:19:32.645 --> 00:19:34.725 proverbial microphone over to Dan  
NOTE Confidence: 0.9808548

00:19:34.725 --> 00:19:35.225 O'Neil,  
NOTE Confidence: 0.933668

00:19:36.210 --> 00:19:37.809 my colleague who is also  
NOTE Confidence: 0.933668

00:19:37.809 --> 00:19:39.830 a practicing breast medical oncologist  
NOTE Confidence: 0.933668

00:19:39.970 --> 00:19:40.869 to talk about  
NOTE Confidence: 0.98527133

00:19:41.170 --> 00:19:43.490 hormone receptor positive breast cancer.  
NOTE Confidence: 0.98527133

00:19:43.490 --> 00:19:44.790 And I will stop sharing  
NOTE Confidence: 0.99177986

00:19:45.410 --> 00:19:46.609 and turn it over to

NOTE Confidence: 0.99177986

00:19:46.609 --> 00:19:47.750 you, doctor O'Neil.

NOTE Confidence: 0.99266833

00:19:57.315 --> 00:19:59.255 I'm told I'm muted. Okay.

NOTE Confidence: 0.96950114

00:19:59.875 --> 00:20:00.595 Thank you.

NOTE Confidence: 0.93642944

00:20:00.915 --> 00:20:02.215 Thank you to doctor Schallhorn

NOTE Confidence: 0.93642944

00:20:02.275 --> 00:20:03.635 for for doing the,

NOTE Confidence: 0.99619585

00:20:04.789 --> 00:20:05.990 the impressive work of of

NOTE Confidence: 0.99619585

00:20:05.990 --> 00:20:06.710 laying a lot of the

NOTE Confidence: 0.99619585

00:20:06.710 --> 00:20:07.830 groundwork about,

NOTE Confidence: 0.9961249

00:20:08.230 --> 00:20:10.309 you know, what metastatic breast

NOTE Confidence: 0.9961249

00:20:10.309 --> 00:20:11.669 cancer is and and the

NOTE Confidence: 0.9961249

00:20:11.669 --> 00:20:13.109 different types of metastatic breast

NOTE Confidence: 0.9961249

00:20:13.109 --> 00:20:13.609 cancer.

NOTE Confidence: 0.981493

00:20:14.630 --> 00:20:15.590 I'm gonna be talking about

NOTE Confidence: 0.981493

00:20:15.590 --> 00:20:17.429 hormone receptor positive breast cancer,

NOTE Confidence: 0.9638627

00:20:18.070 --> 00:20:19.394 and, you know, specifically hormone

NOTE Confidence: 0.9638627

00:20:19.394 --> 00:20:21.154 receptor positive HER2 negative breast

NOTE Confidence: 0.9638627

00:20:21.154 --> 00:20:22.274 cancer where we don't have

NOTE Confidence: 0.9638627

00:20:22.274 --> 00:20:24.054 overexpression of that HER2 protein.

NOTE Confidence: 0.9145365

00:20:24.674 --> 00:20:26.195 And just like Doctor. Shellhorn

NOTE Confidence: 0.9145365

00:20:26.195 --> 00:20:26.695 described,

NOTE Confidence: 0.9733058

00:20:27.715 --> 00:20:29.554 hormone receptor positive breast cancer

NOTE Confidence: 0.9733058

00:20:29.554 --> 00:20:31.020 is breast cancer that has

NOTE Confidence: 0.9733058

00:20:31.020 --> 00:20:32.960 expression of that estrogen receptor

NOTE Confidence: 0.9733058

00:20:33.180 --> 00:20:34.960 and or that progesterone receptor

NOTE Confidence: 0.9311711

00:20:35.500 --> 00:20:37.340 and is usually primarily driven

NOTE Confidence: 0.9311711

00:20:37.340 --> 00:20:39.040 by the estrogen and progesterone,

NOTE Confidence: 0.976141

00:20:39.580 --> 00:20:41.520 hormones that, that that women

NOTE Confidence: 0.9636107

00:20:41.820 --> 00:20:43.783 are making, you you know,

NOTE Confidence: 0.9636107

00:20:43.783 --> 00:20:45.381 really over their entire lives,

NOTE Confidence: 0.9636107

00:20:45.701 --> 00:20:47.938 to some amount, and, and

NOTE Confidence: 0.9636107

00:20:47.938 --> 00:20:49.536 that you see circulating in

NOTE Confidence: 0.9636107

00:20:49.536 --> 00:20:51.135 the blood in a in

NOTE Confidence: 0.9636107

00:20:51.135 --> 00:20:53.052 a healthy woman. There have

NOTE Confidence: 0.9636107

00:20:53.052 --> 00:20:54.650 been a lot of updates

NOTE Confidence: 0.9636107

00:20:54.650 --> 00:20:55.770 in this in this space.

NOTE Confidence: 0.9636107

00:20:55.770 --> 00:20:56.890 I gave a similar talk

NOTE Confidence: 0.9636107

00:20:56.890 --> 00:20:57.930 about two years ago, and

NOTE Confidence: 0.9636107

00:20:57.930 --> 00:20:58.730 and when I went back

NOTE Confidence: 0.9636107

00:20:58.730 --> 00:21:00.010 to my slides, for for

NOTE Confidence: 0.9636107

00:21:00.010 --> 00:21:01.210 today's talk, I had to

NOTE Confidence: 0.9636107

00:21:01.210 --> 00:21:02.250 make a lot of updates.

NOTE Confidence: 0.9636107

00:21:02.250 --> 00:21:03.530 So so that's really good

NOTE Confidence: 0.9636107

00:21:03.530 --> 00:21:04.030 news.

NOTE Confidence: 0.9969627

00:21:04.330 --> 00:21:05.930 I'm gonna talk about about

NOTE Confidence: 0.9969627

00:21:05.930 --> 00:21:07.450 a lot of, specific drugs

NOTE Confidence: 0.9969627

00:21:07.450 --> 00:21:08.890 that we're we're using, and

NOTE Confidence: 0.9969627

00:21:08.890 --> 00:21:10.430 and how we sequence those.

NOTE Confidence: 0.93880373

00:21:11.425 --> 00:21:12.705 So, to start out thinking

NOTE Confidence: 0.93880373

00:21:12.705 --> 00:21:14.225 about the first line setting

NOTE Confidence: 0.93880373

00:21:14.225 --> 00:21:15.845 or the initial therapies,

NOTE Confidence: 0.9986723

00:21:16.705 --> 00:21:17.925 that a woman is likely

NOTE Confidence: 0.83442366

00:21:18.305 --> 00:21:20.965 to receive for, a new,

NOTE Confidence: 0.90737915

00:21:21.345 --> 00:21:23.665 or metastatic hormone receptor positive

NOTE Confidence: 0.90737915

00:21:23.665 --> 00:21:24.405 breast cancer,

NOTE Confidence: 0.9954899

00:21:25.220 --> 00:21:26.900 the standard there has remained

NOTE Confidence: 0.9954899

00:21:26.900 --> 00:21:28.100 the same for for some

NOTE Confidence: 0.9954899

00:21:28.100 --> 00:21:28.600 time

NOTE Confidence: 0.9293226

00:21:28.980 --> 00:21:30.980 now. The standard, therapy is

NOTE Confidence: 0.9293226

00:21:30.980 --> 00:21:32.340 a combination of a couple

NOTE Confidence: 0.9293226

00:21:32.340 --> 00:21:34.020 of different, types of drugs.

NOTE Confidence: 0.9566467

00:21:34.580 --> 00:21:36.020 The first type of drugs

NOTE Confidence: 0.9566467

00:21:36.020 --> 00:21:37.244 are are kind of,

NOTE Confidence: 0.99956304

00:21:37.725 --> 00:21:38.225 essential

NOTE Confidence: 0.8847713

00:21:38.845 --> 00:21:40.145 anti estrogen backbones,

NOTE Confidence: 0.9591702

00:21:40.525 --> 00:21:42.925 either aromatase inhibitors usually, which

NOTE Confidence: 0.9591702

00:21:42.925 --> 00:21:44.765 are an oral medication or,

NOTE Confidence: 0.9591702

00:21:45.165 --> 00:21:47.585 a injectable medication called fulvestrant.

NOTE Confidence: 0.98192745

00:21:49.085 --> 00:21:50.525 And those two medications have

NOTE Confidence: 0.98192745

00:21:50.525 --> 00:21:51.405 been around for a long,

NOTE Confidence: 0.98192745

00:21:51.405 --> 00:21:52.145 long time.

NOTE Confidence: 0.98579717

00:21:52.530 --> 00:21:53.970 But, within the last several

NOTE Confidence: 0.98579717

00:21:53.970 --> 00:21:54.470 years,

NOTE Confidence: 0.9430208

00:21:55.010 --> 00:21:56.130 a a newer type of

NOTE Confidence: 0.9430208

00:21:56.130 --> 00:21:57.890 medication, a CDK four six

NOTE Confidence: 0.9430208

00:21:57.890 --> 00:21:59.730 inhibitor has been incorporated into

NOTE Confidence: 0.9430208

00:21:59.730 --> 00:22:00.690 into the treatment,

NOTE Confidence: 0.98349494

00:22:01.090 --> 00:22:03.250 combination as well. So CDK

NOTE Confidence: 0.98349494

00:22:03.250 --> 00:22:04.950 four six inhibitors are drugs  
NOTE Confidence: 0.98349494

00:22:05.010 --> 00:22:05.510 that,  
NOTE Confidence: 0.9730211

00:22:06.655 --> 00:22:07.795 inhibit a pathway,  
NOTE Confidence: 0.9996121

00:22:08.494 --> 00:22:10.175 that is part of the  
NOTE Confidence: 0.9996121

00:22:10.175 --> 00:22:10.675 process  
NOTE Confidence: 0.8708508

00:22:11.055 --> 00:22:12.355 that stands between,  
NOTE Confidence: 0.97461027

00:22:12.895 --> 00:22:14.895 the estrogen receptor and the  
NOTE Confidence: 0.97461027

00:22:14.895 --> 00:22:16.335 cell telling the cell to  
NOTE Confidence: 0.97461027

00:22:16.335 --> 00:22:16.835 divide,  
NOTE Confidence: 0.9977069

00:22:17.135 --> 00:22:18.435 in response to estrogen.  
NOTE Confidence: 0.967056

00:22:19.109 --> 00:22:20.390 So these CDK four six  
NOTE Confidence: 0.967056

00:22:20.390 --> 00:22:22.070 inhibitors interfere with that with  
NOTE Confidence: 0.967056

00:22:22.070 --> 00:22:23.609 that signaling, with that communication,  
NOTE Confidence: 0.99045664

00:22:24.470 --> 00:22:25.830 and they help the,  
NOTE Confidence: 0.9471135

00:22:26.390 --> 00:22:28.070 endocrine therapies, the anti estrogen  
NOTE Confidence: 0.9471135

00:22:28.070 --> 00:22:29.830 therapies work for longer than



NOTE Confidence: 0.9471135

00:22:29.830 --> 00:22:31.030 they would all on their

NOTE Confidence: 0.9471135

00:22:31.030 --> 00:22:31.530 own.

NOTE Confidence: 0.9102059

00:22:32.355 --> 00:22:33.955 There are three different CDK

NOTE Confidence: 0.9102059

00:22:33.955 --> 00:22:35.555 four six inhibitors, that are

NOTE Confidence: 0.9102059

00:22:35.555 --> 00:22:36.994 available on the market. They're

NOTE Confidence: 0.9102059

00:22:36.994 --> 00:22:37.494 palbociclib

NOTE Confidence: 0.82561976

00:22:37.795 --> 00:22:39.095 or Ibrance, bemaciclib

NOTE Confidence: 0.96264184

00:22:39.475 --> 00:22:40.215 or Verzenio,

NOTE Confidence: 0.97710836

00:22:40.835 --> 00:22:41.575 and ribociclib

NOTE Confidence: 0.9181943

00:22:41.955 --> 00:22:42.695 or Kisqali.

NOTE Confidence: 0.9730353

00:22:44.380 --> 00:22:45.500 And in in the clinical

NOTE Confidence: 0.9730353

00:22:45.500 --> 00:22:47.659 trials looking at how long

NOTE Confidence: 0.9730353

00:22:47.659 --> 00:22:48.640 they improved,

NOTE Confidence: 0.994044

00:22:49.100 --> 00:22:50.220 the time that a cancer

NOTE Confidence: 0.994044

00:22:50.220 --> 00:22:51.500 was controlled in that first

NOTE Confidence: 0.994044

00:22:51.500 --> 00:22:52.640 line setting,  
NOTE Confidence: 0.9945206

00:22:53.179 --> 00:22:54.619 the the results were pretty  
NOTE Confidence: 0.9945206

00:22:54.619 --> 00:22:55.100 similar.  
NOTE Confidence: 0.9879622

00:22:55.500 --> 00:22:56.460 The average amount of time  
NOTE Confidence: 0.9879622

00:22:56.460 --> 00:22:57.405 that a cancer could be  
NOTE Confidence: 0.9879622

00:22:57.405 --> 00:22:58.705 controlled with these,  
NOTE Confidence: 0.9994996

00:22:59.244 --> 00:23:00.625 these two drugs together  
NOTE Confidence: 0.9776928

00:23:00.925 --> 00:23:02.125 was around two years or  
NOTE Confidence: 0.9776928

00:23:02.125 --> 00:23:03.085 a little bit longer than  
NOTE Confidence: 0.9776928

00:23:03.085 --> 00:23:04.285 two years, and that was  
NOTE Confidence: 0.9776928

00:23:04.285 --> 00:23:05.805 that was consistent across all  
NOTE Confidence: 0.9776928

00:23:05.805 --> 00:23:06.545 three drugs.  
NOTE Confidence: 0.99264514

00:23:08.045 --> 00:23:09.165 In addition to that, there  
NOTE Confidence: 0.99264514

00:23:09.165 --> 00:23:10.230 have been studies that look  
NOTE Confidence: 0.99264514

00:23:10.309 --> 00:23:12.070 at how long overall life  
NOTE Confidence: 0.99264514

00:23:12.070 --> 00:23:12.570 expectancy,

NOTE Confidence: 0.97204876  
00:23:13.109 --> 00:23:14.470 is improved by by using  
NOTE Confidence: 0.97204876  
00:23:14.470 --> 00:23:16.090 these medications early on.  
NOTE Confidence: 0.92564356  
00:23:16.470 --> 00:23:17.669 And there there there are  
NOTE Confidence: 0.92564356  
00:23:17.669 --> 00:23:18.950 maybe some differences that have  
NOTE Confidence: 0.92564356  
00:23:18.950 --> 00:23:19.429 emerged,  
NOTE Confidence: 0.9824541  
00:23:19.750 --> 00:23:21.109 in in what we call  
NOTE Confidence: 0.9824541  
00:23:21.109 --> 00:23:22.630 real world trials or trials  
NOTE Confidence: 0.9824541  
00:23:22.630 --> 00:23:23.750 looking at patients, you know,  
NOTE Confidence: 0.9824541  
00:23:23.750 --> 00:23:24.950 actually out in the clinic  
NOTE Confidence: 0.9824541  
00:23:24.950 --> 00:23:26.010 receiving the drugs.  
NOTE Confidence: 0.9153472  
00:23:26.445 --> 00:23:27.804 There was suggestion that that  
NOTE Confidence: 0.9153472  
00:23:27.804 --> 00:23:29.105 all three drugs improved,  
NOTE Confidence: 0.9254794  
00:23:30.445 --> 00:23:31.265 life expectancy.  
NOTE Confidence: 0.9838413  
00:23:31.965 --> 00:23:33.325 In the in the kind  
NOTE Confidence: 0.9838413  
00:23:33.325 --> 00:23:35.345 of well controlled clinical trials,  
NOTE Confidence: 0.9845975

00:23:35.804 --> 00:23:36.924 that led to the approval  
NOTE Confidence: 0.9845975

00:23:36.924 --> 00:23:38.465 of these drugs, ribociclib  
NOTE Confidence: 0.9898492

00:23:38.765 --> 00:23:40.144 was probably the best performing,  
NOTE Confidence: 0.93359584

00:23:40.524 --> 00:23:42.340 increasing life expectancy by about  
NOTE Confidence: 0.93359584

00:23:42.340 --> 00:23:43.480 it by about a year.  
NOTE Confidence: 0.9862892

00:23:46.179 --> 00:23:47.539 So that's the first line  
NOTE Confidence: 0.9862892

00:23:47.539 --> 00:23:48.980 setting. That's been stable. A  
NOTE Confidence: 0.9862892

00:23:48.980 --> 00:23:50.419 lot of the the newer  
NOTE Confidence: 0.9862892

00:23:50.419 --> 00:23:51.799 approaches and newer medications,  
NOTE Confidence: 0.9300694

00:23:52.659 --> 00:23:54.020 really start to crop up  
NOTE Confidence: 0.9300694

00:23:54.020 --> 00:23:55.940 in the, second line setting  
NOTE Confidence: 0.9300694

00:23:55.940 --> 00:23:57.140 in in one situation and  
NOTE Confidence: 0.9300694

00:23:57.140 --> 00:23:58.235 first line setting that I'll  
NOTE Confidence: 0.9300694

00:23:58.235 --> 00:23:59.055 that I'll describe.  
NOTE Confidence: 0.9483386

00:24:00.555 --> 00:24:01.935 When you're looking at,  
NOTE Confidence: 0.9863244

00:24:02.555 --> 00:24:03.915 the next therapy, when when

NOTE Confidence: 0.9863244

00:24:03.915 --> 00:24:05.115 the cancer is no longer

NOTE Confidence: 0.9863244

00:24:05.115 --> 00:24:07.115 well, well controlled with those

NOTE Confidence: 0.9863244

00:24:07.115 --> 00:24:08.015 first drugs,

NOTE Confidence: 0.960059

00:24:08.475 --> 00:24:09.995 something that's really important sort

NOTE Confidence: 0.960059

00:24:09.995 --> 00:24:11.515 of thematically is to think

NOTE Confidence: 0.960059

00:24:11.515 --> 00:24:12.495 about targetable

NOTE Confidence: 0.9486258

00:24:12.859 --> 00:24:14.060 mutations and how those play

NOTE Confidence: 0.9486258

00:24:14.060 --> 00:24:15.600 into, treatment selection.

NOTE Confidence: 0.9464896

00:24:16.540 --> 00:24:18.060 So, to sort of explain

NOTE Confidence: 0.9464896

00:24:18.060 --> 00:24:18.560 that,

NOTE Confidence: 0.975

00:24:20.300 --> 00:24:20.780 when,

NOTE Confidence: 0.97162217

00:24:21.340 --> 00:24:22.780 as the cancer is growing

NOTE Confidence: 0.97162217

00:24:22.780 --> 00:24:25.260 and becomes metastatic or, or

NOTE Confidence: 0.97162217

00:24:25.260 --> 00:24:26.780 continues to grow despite,

NOTE Confidence: 0.9940411

00:24:27.180 --> 00:24:28.160 despite medications,

NOTE Confidence: 0.89453006

00:24:29.045 --> 00:24:29.945 it's undergoing,  
NOTE Confidence: 0.914296

00:24:30.325 --> 00:24:32.244 sometimes undergoing genetic changes and  
NOTE Confidence: 0.914296

00:24:32.244 --> 00:24:32.744 developing,  
NOTE Confidence: 0.9959024

00:24:33.205 --> 00:24:34.184 specific mutations.  
NOTE Confidence: 0.9518162

00:24:34.965 --> 00:24:36.085 And in some cases, these  
NOTE Confidence: 0.9518162

00:24:36.085 --> 00:24:37.924 mutations have drugs that, that  
NOTE Confidence: 0.9518162

00:24:37.924 --> 00:24:39.765 are linked, drugs that, target  
NOTE Confidence: 0.9518162

00:24:39.765 --> 00:24:41.365 those mutations effectively and can  
NOTE Confidence: 0.9518162

00:24:41.365 --> 00:24:42.885 be particularly effective in those  
NOTE Confidence: 0.9518162

00:24:42.885 --> 00:24:43.380 cancer  
NOTE Confidence: 0.9749473

00:24:43.780 --> 00:24:44.740 types. But you need to  
NOTE Confidence: 0.9749473

00:24:44.740 --> 00:24:46.260 have genetic testing to identify  
NOTE Confidence: 0.9749473

00:24:46.260 --> 00:24:47.000 those mutations.  
NOTE Confidence: 0.7253074

00:24:48.820 --> 00:24:49.320 Importantly,  
NOTE Confidence: 0.9650237

00:24:49.780 --> 00:24:51.540 this sort of, the mutations  
NOTE Confidence: 0.9650237

00:24:51.540 --> 00:24:52.820 I'm referring to refer to

NOTE Confidence: 0.9650237  
00:24:52.820 --> 00:24:54.100 the mutations in the cancer  
NOTE Confidence: 0.9650237  
00:24:54.100 --> 00:24:56.020 cells. They're different from the  
NOTE Confidence: 0.9650237  
00:24:56.020 --> 00:24:56.520 mutations,  
NOTE Confidence: 0.9818696  
00:24:57.255 --> 00:24:58.135 that are in the healthy  
NOTE Confidence: 0.9818696  
00:24:58.135 --> 00:24:59.175 cells of, you know, a  
NOTE Confidence: 0.9818696  
00:24:59.175 --> 00:25:00.135 woman's body that might have  
NOTE Confidence: 0.9818696  
00:25:00.135 --> 00:25:01.335 been inherited by a family  
NOTE Confidence: 0.9818696  
00:25:01.335 --> 00:25:01.835 member.  
NOTE Confidence: 0.9853614  
00:25:02.375 --> 00:25:03.575 So this sort of genetic  
NOTE Confidence: 0.9853614  
00:25:03.575 --> 00:25:04.775 testing is different from the  
NOTE Confidence: 0.9853614  
00:25:04.775 --> 00:25:06.135 genetic testing that that many  
NOTE Confidence: 0.9853614  
00:25:06.135 --> 00:25:07.415 women undergo when they're first  
NOTE Confidence: 0.9853614  
00:25:07.415 --> 00:25:09.175 diagnosed, with with a breast  
NOTE Confidence: 0.9853614  
00:25:09.175 --> 00:25:09.675 cancer,  
NOTE Confidence: 0.98786783  
00:25:10.020 --> 00:25:10.760 be it metastatic  
NOTE Confidence: 0.9221999

00:25:11.540 --> 00:25:12.440 or not metastatic.  
NOTE Confidence: 0.98042923

00:25:13.780 --> 00:25:15.380 And it really includes testing  
NOTE Confidence: 0.98042923

00:25:15.380 --> 00:25:16.760 the tumor tissue itself.  
NOTE Confidence: 0.97120833

00:25:17.300 --> 00:25:18.420 As I mentioned, the mutations  
NOTE Confidence: 0.97120833

00:25:18.420 --> 00:25:19.800 can guide treatment selection.  
NOTE Confidence: 0.95675117

00:25:20.420 --> 00:25:21.859 And this testing can be  
NOTE Confidence: 0.95675117

00:25:21.859 --> 00:25:23.140 performed in a few different  
NOTE Confidence: 0.95675117

00:25:23.140 --> 00:25:25.165 ways. The most straightforward way  
NOTE Confidence: 0.95675117

00:25:25.165 --> 00:25:27.325 probably is directly testing the  
NOTE Confidence: 0.95675117

00:25:27.325 --> 00:25:29.085 tumor tissue itself. And that  
NOTE Confidence: 0.95675117

00:25:29.085 --> 00:25:30.365 would require a biopsy of  
NOTE Confidence: 0.95675117

00:25:30.365 --> 00:25:31.565 the tissue so that there  
NOTE Confidence: 0.95675117

00:25:31.565 --> 00:25:32.925 was, you know, some tissue  
NOTE Confidence: 0.95675117

00:25:32.925 --> 00:25:33.984 available for testing.  
NOTE Confidence: 0.98037046

00:25:34.685 --> 00:25:36.685 Alternatively, sometimes you can do  
NOTE Confidence: 0.98037046

00:25:36.685 --> 00:25:38.525 testing just on, using a



NOTE Confidence: 0.98037046

00:25:38.525 --> 00:25:39.570 simple blood draw.

NOTE Confidence: 0.9960534

00:25:39.970 --> 00:25:40.769 In that case,

NOTE Confidence: 0.9713117

00:25:41.730 --> 00:25:43.409 what's called circulating tumor DNA

NOTE Confidence: 0.9713117

00:25:43.409 --> 00:25:44.690 or DNA that's in the

NOTE Confidence: 0.9713117

00:25:44.690 --> 00:25:45.889 blood that's been shed by

NOTE Confidence: 0.9713117

00:25:45.889 --> 00:25:46.549 the cancer,

NOTE Confidence: 0.9983219

00:25:47.090 --> 00:25:49.090 can be isolated and tested

NOTE Confidence: 0.9983219

00:25:49.090 --> 00:25:49.830 for mutations.

NOTE Confidence: 0.9659195

00:25:51.330 --> 00:25:51.830 And

NOTE Confidence: 0.973952

00:25:52.289 --> 00:25:53.649 an important thing to also

NOTE Confidence: 0.973952

00:25:53.649 --> 00:25:54.915 keep in mind is that,

NOTE Confidence: 0.973952

00:25:55.075 --> 00:25:56.515 as I sort of described

NOTE Confidence: 0.973952

00:25:56.515 --> 00:25:57.635 a little bit already, these

NOTE Confidence: 0.973952

00:25:57.635 --> 00:25:59.655 mutations do have, a tendency

NOTE Confidence: 0.973952

00:25:59.715 --> 00:26:00.915 to develop and to change

NOTE Confidence: 0.973952

00:26:00.915 --> 00:26:01.575 over time.  
NOTE Confidence: 0.9602912

00:26:02.115 --> 00:26:03.494 So, each time,  
NOTE Confidence: 0.95235187

00:26:03.875 --> 00:26:05.234 a new treatment is being  
NOTE Confidence: 0.95235187

00:26:05.234 --> 00:26:05.734 considered,  
NOTE Confidence: 0.9832751

00:26:06.115 --> 00:26:07.555 it can sometimes be helpful  
NOTE Confidence: 0.9832751

00:26:07.555 --> 00:26:09.255 to, to repeat testing.  
NOTE Confidence: 0.8946417

00:26:11.190 --> 00:26:12.490 So, I said there was  
NOTE Confidence: 0.8946417

00:26:12.630 --> 00:26:13.289 a circumstance  
NOTE Confidence: 0.9955486

00:26:13.750 --> 00:26:15.669 for initial therapy where,  
NOTE Confidence: 0.9462068

00:26:16.390 --> 00:26:18.330 where identifying a targetable mutation  
NOTE Confidence: 0.9462068

00:26:18.390 --> 00:26:19.190 can be helpful.  
NOTE Confidence: 0.93467945

00:26:19.909 --> 00:26:21.429 And, I'm going to describe  
NOTE Confidence: 0.93467945

00:26:21.429 --> 00:26:22.250 that. So,  
NOTE Confidence: 0.988568

00:26:22.710 --> 00:26:24.470 this is a relatively new  
NOTE Confidence: 0.988568

00:26:24.470 --> 00:26:24.970 approach.  
NOTE Confidence: 0.94093955

00:26:25.975 --> 00:26:27.815 The specific circumstance I'm referring

NOTE Confidence: 0.94093955

00:26:27.815 --> 00:26:29.095 to are for breast cancers

NOTE Confidence: 0.94093955

00:26:29.095 --> 00:26:30.715 that meet two criteria.

NOTE Confidence: 0.9991309

00:26:31.575 --> 00:26:32.315 The first

NOTE Confidence: 0.673509

00:26:33.014 --> 00:26:33.514 criteria

NOTE Confidence: 0.99287415

00:26:33.815 --> 00:26:35.034 is that the breast cancer

NOTE Confidence: 0.99287415

00:26:35.174 --> 00:26:35.674 recurred

NOTE Confidence: 0.9236212

00:26:36.695 --> 00:26:38.230 while a woman was taking

NOTE Confidence: 0.9236212

00:26:38.230 --> 00:26:39.990 what's called adjuvant endocrine therapy

NOTE Confidence: 0.9236212

00:26:39.990 --> 00:26:41.049 or kind of preventative,

NOTE Confidence: 0.93059665

00:26:41.669 --> 00:26:42.970 anti estrogen therapy,

NOTE Confidence: 0.99858683

00:26:43.590 --> 00:26:44.730 while she was in remission

NOTE Confidence: 0.99858683

00:26:44.789 --> 00:26:45.289 from

NOTE Confidence: 0.894333

00:26:45.590 --> 00:26:47.289 her early stage breast cancer,

NOTE Confidence: 0.98480594

00:26:47.669 --> 00:26:49.210 or the breast cancer recurred,

NOTE Confidence: 0.97012556

00:26:49.590 --> 00:26:50.789 within a year of finishing

NOTE Confidence: 0.97012556

00:26:50.789 --> 00:26:52.825 adjuvant endocrine therapy. And then

NOTE Confidence: 0.97012556

00:26:52.825 --> 00:26:54.345 in addition to that, the,

NOTE Confidence: 0.97012556

00:26:54.665 --> 00:26:56.025 breast cancer needs to have

NOTE Confidence: 0.97012556

00:26:56.025 --> 00:26:57.165 a, a PIK3CA

NOTE Confidence: 0.9967581

00:26:57.465 --> 00:26:57.965 mutation.

NOTE Confidence: 0.993196

00:27:00.185 --> 00:27:01.545 When those two criteria are

NOTE Confidence: 0.993196

00:27:01.545 --> 00:27:02.045 met,

NOTE Confidence: 0.9143152

00:27:02.425 --> 00:27:03.485 there is a new,

NOTE Confidence: 0.83041996

00:27:03.945 --> 00:27:05.625 combination of three drugs that

NOTE Confidence: 0.83041996

00:27:05.625 --> 00:27:06.355 can sometimes be helpful for,

NOTE Confidence: 0.83041996

00:27:06.360 --> 00:27:06.385 first line treatment for that

NOTE Confidence: 0.83041996

00:27:06.385 --> 00:27:06.415 initial treatment. And those three

NOTE Confidence: 0.83041996

00:27:06.415 --> 00:27:06.925 drugs are fulvestrant,

NOTE Confidence: 0.84283507

00:27:08.480 --> 00:27:09.300 treatment for that initial treatment.

NOTE Confidence: 0.97630554

00:27:10.240 --> 00:27:11.200 And those three drugs are

NOTE Confidence: 0.97630554

00:27:11.200 --> 00:27:11.700 fulvestrant,

NOTE Confidence: 0.80963814  
00:27:12.400 --> 00:27:13.300 the older,  
NOTE Confidence: 0.85768545  
00:27:14.000 --> 00:27:16.660 endocrine therapy, I described earlier.  
NOTE Confidence: 0.8971505  
00:27:17.200 --> 00:27:17.700 Palbociclib,  
NOTE Confidence: 0.91667646  
00:27:18.080 --> 00:27:19.380 one of the CDK4six  
NOTE Confidence: 0.96228176  
00:27:19.760 --> 00:27:21.984 inhibitors from that first slide.  
NOTE Confidence: 0.96228176  
00:27:22.125 --> 00:27:23.345 And then a new medication  
NOTE Confidence: 0.96228176  
00:27:23.484 --> 00:27:23.984 called  
NOTE Confidence: 0.6854807  
00:27:24.285 --> 00:27:24.785 Involisib,  
NOTE Confidence: 0.9644362  
00:27:25.484 --> 00:27:27.505 which is a PI3 kinase  
NOTE Confidence: 0.92822367  
00:27:27.965 --> 00:27:29.405 inhibitor pill. It's an oral  
NOTE Confidence: 0.92822367  
00:27:29.405 --> 00:27:31.345 drug that targets this PIK3CA  
NOTE Confidence: 0.92822367  
00:27:31.484 --> 00:27:31.984 mutation.  
NOTE Confidence: 0.90278006  
00:27:34.380 --> 00:27:35.740 The advantage of this triple  
NOTE Confidence: 0.90278006  
00:27:35.740 --> 00:27:36.240 combination,  
NOTE Confidence: 0.9757368  
00:27:36.780 --> 00:27:38.300 therapy is that it works  
NOTE Confidence: 0.9757368

00:27:38.300 --> 00:27:40.380 to control cancer for longer  
NOTE Confidence: 0.9757368

00:27:40.380 --> 00:27:42.160 than just fulvestrant and pablociclib  
NOTE Confidence: 0.95713603

00:27:42.540 --> 00:27:43.200 by themselves.  
NOTE Confidence: 0.9724906

00:27:43.980 --> 00:27:45.500 So, it can control cancer  
NOTE Confidence: 0.9724906

00:27:45.500 --> 00:27:46.700 in about sixty percent of  
NOTE Confidence: 0.9724906

00:27:46.700 --> 00:27:49.065 women as compared to, just  
NOTE Confidence: 0.9724906

00:27:49.065 --> 00:27:50.105 about a quarter of women,  
NOTE Confidence: 0.9724906

00:27:50.265 --> 00:27:52.044 with that set of circumstances  
NOTE Confidence: 0.9724906

00:27:52.105 --> 00:27:52.845 I described,  
NOTE Confidence: 0.9603384

00:27:53.785 --> 00:27:55.225 when you're using just those  
NOTE Confidence: 0.9603384

00:27:55.225 --> 00:27:55.965 two drugs.  
NOTE Confidence: 0.93001705

00:27:56.665 --> 00:27:57.965 In addition to,  
NOTE Confidence: 0.9552279

00:27:58.505 --> 00:28:00.424 controlling cancer in more women,  
NOTE Confidence: 0.9552279

00:28:00.424 --> 00:28:01.865 it also controls cancer for  
NOTE Confidence: 0.9552279

00:28:01.865 --> 00:28:02.880 longer, typically  
NOTE Confidence: 0.87282336

00:28:06.640 --> 00:28:07.859 it seems to work considerably

NOTE Confidence: 0.9359503

00:28:08.560 --> 00:28:09.680 better than the old,

NOTE Confidence: 0.9933051

00:28:10.560 --> 00:28:11.940 two pair of medications.

NOTE Confidence: 0.9734066

00:28:13.280 --> 00:28:15.440 A tricky thing about these

NOTE Confidence: 0.9734066

00:28:15.440 --> 00:28:17.200 combinations of multiple drugs is

NOTE Confidence: 0.9734066

00:28:17.200 --> 00:28:18.805 that as you add more

NOTE Confidence: 0.9734066

00:28:18.805 --> 00:28:20.485 drugs, you do often see

NOTE Confidence: 0.9734066

00:28:20.485 --> 00:28:21.845 more side effects and that

NOTE Confidence: 0.9734066

00:28:21.845 --> 00:28:23.225 can be a challenge.

NOTE Confidence: 0.98063874

00:28:24.085 --> 00:28:25.205 And that was indeed the

NOTE Confidence: 0.98063874

00:28:25.205 --> 00:28:26.665 case with these medications.

NOTE Confidence: 0.8406186

00:28:27.045 --> 00:28:28.105 So side effects

NOTE Confidence: 0.94292283

00:28:28.485 --> 00:28:29.880 that are common with these

NOTE Confidence: 0.94292283

00:28:29.880 --> 00:28:31.020 three drugs together

NOTE Confidence: 0.951663

00:28:31.400 --> 00:28:33.080 include diarrhea, mouth sores, and

NOTE Confidence: 0.951663

00:28:33.080 --> 00:28:34.619 sometimes high blood sugar levels.

NOTE Confidence: 0.9330601

00:28:35.080 --> 00:28:36.840 So, just as important as  
NOTE Confidence: 0.9330601

00:28:36.840 --> 00:28:37.880 finding the right,  
NOTE Confidence: 0.9017013

00:28:38.360 --> 00:28:39.260 cancer treatment,  
NOTE Confidence: 0.96627426

00:28:40.040 --> 00:28:40.920 the other thing you have  
NOTE Confidence: 0.96627426

00:28:40.920 --> 00:28:42.060 to do with your oncologist  
NOTE Confidence: 0.96627426

00:28:42.200 --> 00:28:43.915 and that we spend a  
NOTE Confidence: 0.96627426

00:28:43.915 --> 00:28:45.035 lot of time doing is  
NOTE Confidence: 0.96627426

00:28:45.035 --> 00:28:46.235 working together on trying to  
NOTE Confidence: 0.96627426

00:28:46.235 --> 00:28:47.295 control side effects.  
NOTE Confidence: 0.9548174

00:28:48.875 --> 00:28:50.075 Okay. So, moving on to  
NOTE Confidence: 0.9548174

00:28:50.075 --> 00:28:50.955 the to the,  
NOTE Confidence: 0.9458916

00:28:51.435 --> 00:28:52.255 second treatment.  
NOTE Confidence: 0.7689415

00:28:54.875 --> 00:28:55.375 The,  
NOTE Confidence: 0.88947266

00:28:57.460 --> 00:28:58.340 or moving on to the  
NOTE Confidence: 0.88947266

00:28:58.340 --> 00:29:00.039 second line therapy, excuse me.  
NOTE Confidence: 0.97839737

00:29:00.740 --> 00:29:02.360 For a long time after,



NOTE Confidence: 0.92123604  
00:29:02.820 --> 00:29:03.220 that,  
NOTE Confidence: 0.93865246  
00:29:03.700 --> 00:29:04.840 aromatase inhibitor,  
NOTE Confidence: 0.9796914  
00:29:05.620 --> 00:29:07.299 treatment stops working in the  
NOTE Confidence: 0.9796914  
00:29:07.299 --> 00:29:08.679 in the first line setting,  
NOTE Confidence: 0.9796914  
00:29:08.740 --> 00:29:09.940 the standard approach was to  
NOTE Confidence: 0.9796914  
00:29:09.940 --> 00:29:11.415 move on to this, fulvestrant  
NOTE Confidence: 0.9796914  
00:29:11.415 --> 00:29:11.915 medication.  
NOTE Confidence: 0.98153704  
00:29:12.455 --> 00:29:14.775 Fulvestrant is an intramuscular injection  
NOTE Confidence: 0.98153704  
00:29:14.775 --> 00:29:15.655 that you have to receive  
NOTE Confidence: 0.98153704  
00:29:15.655 --> 00:29:17.755 every four weeks, which is,  
NOTE Confidence: 0.92220515  
00:29:18.775 --> 00:29:19.515 is not necessarily  
NOTE Confidence: 0.98597926  
00:29:20.375 --> 00:29:21.335 a pleasant treatment to be  
NOTE Confidence: 0.98597926  
00:29:21.335 --> 00:29:21.835 receiving.  
NOTE Confidence: 0.77374804  
00:29:22.855 --> 00:29:23.355 And,  
NOTE Confidence: 0.83778095  
00:29:24.410 --> 00:29:26.010 on its own, its response  
NOTE Confidence: 0.83778095

00:29:26.010 --> 00:29:27.390 time or the response,  
NOTE Confidence: 0.9817956

00:29:27.770 --> 00:29:29.450 time of the cancer is  
NOTE Confidence: 0.9817956

00:29:29.450 --> 00:29:31.049 not always as long as  
NOTE Confidence: 0.9817956

00:29:31.049 --> 00:29:31.870 we would hope.  
NOTE Confidence: 0.93711555

00:29:32.410 --> 00:29:33.450 And so, there have been  
NOTE Confidence: 0.93711555

00:29:33.450 --> 00:29:34.090 a number of,  
NOTE Confidence: 0.9717689

00:29:34.809 --> 00:29:35.630 different options,  
NOTE Confidence: 0.9354659

00:29:36.090 --> 00:29:37.289 that have been developed recently  
NOTE Confidence: 0.9354659

00:29:37.289 --> 00:29:38.730 to try and improve on  
NOTE Confidence: 0.9354659

00:29:38.730 --> 00:29:39.470 those outcomes,  
NOTE Confidence: 0.91887265

00:29:40.065 --> 00:29:41.264 and to improve on the  
NOTE Confidence: 0.91887265

00:29:41.264 --> 00:29:42.784 just the experience of receiving  
NOTE Confidence: 0.91887265

00:29:42.784 --> 00:29:43.445 the drug.  
NOTE Confidence: 0.9375552

00:29:44.705 --> 00:29:46.465 So, the first options I'll  
NOTE Confidence: 0.9375552

00:29:46.465 --> 00:29:47.745 go through are drugs that  
NOTE Confidence: 0.9375552

00:29:47.745 --> 00:29:49.445 target the ESR1 mutation.

NOTE Confidence: 0.991859  
00:29:51.345 --> 00:29:52.465 The first of those is  
NOTE Confidence: 0.991859  
00:29:52.465 --> 00:29:53.524 a medication called  
NOTE Confidence: 0.94489974  
00:29:54.090 --> 00:29:55.289 Elisestrin. Elisestrin has been on  
NOTE Confidence: 0.94489974  
00:29:55.289 --> 00:29:56.410 the market for about two  
NOTE Confidence: 0.94489974  
00:29:56.410 --> 00:29:57.150 years now.  
NOTE Confidence: 0.9554104  
00:29:57.690 --> 00:29:59.130 It's a pill. It's not  
NOTE Confidence: 0.9554104  
00:29:59.130 --> 00:30:00.169 an injection. It's a pill  
NOTE Confidence: 0.9554104  
00:30:00.169 --> 00:30:01.710 that has the same mechanism  
NOTE Confidence: 0.8916269  
00:30:02.010 --> 00:30:03.370 as fulvestrin. It's what was  
NOTE Confidence: 0.8916269  
00:30:03.370 --> 00:30:05.370 called a selective estrogen receptor  
NOTE Confidence: 0.8916269  
00:30:05.370 --> 00:30:05.870 degrader.  
NOTE Confidence: 0.9451719  
00:30:07.525 --> 00:30:09.925 And, compared to fulvestrant in  
NOTE Confidence: 0.9451719  
00:30:09.925 --> 00:30:11.304 women who have an ESR1  
NOTE Confidence: 0.9451719  
00:30:11.445 --> 00:30:11.945 mutation,  
NOTE Confidence: 0.9839153  
00:30:12.725 --> 00:30:14.725 it controls cancer longer. So,  
NOTE Confidence: 0.9839153

00:30:14.725 --> 00:30:16.105 it works better than fulvestrant

NOTE Confidence: 0.9839153

00:30:16.245 --> 00:30:17.205 in addition to being an

NOTE Confidence: 0.9839153

00:30:17.205 --> 00:30:18.804 oral medication for women with

NOTE Confidence: 0.9839153

00:30:18.804 --> 00:30:20.025 an ESR1 mutation.

NOTE Confidence: 0.9451022

00:30:21.020 --> 00:30:22.299 It seems to work best

NOTE Confidence: 0.9451022

00:30:22.299 --> 00:30:23.820 and really that extra benefit

NOTE Confidence: 0.9451022

00:30:23.820 --> 00:30:25.100 is mostly seen in women

NOTE Confidence: 0.9451022

00:30:25.100 --> 00:30:26.299 who have, were able,

NOTE Confidence: 0.9793501

00:30:27.100 --> 00:30:28.380 whose cancer was controlled for

NOTE Confidence: 0.9793501

00:30:28.380 --> 00:30:29.980 at least twelve months, on

NOTE Confidence: 0.9793501

00:30:29.980 --> 00:30:31.580 their first line anti estrogen

NOTE Confidence: 0.9793501

00:30:31.580 --> 00:30:32.080 therapy.

NOTE Confidence: 0.9461473

00:30:32.855 --> 00:30:34.215 So those are women who,

NOTE Confidence: 0.9461473

00:30:34.215 --> 00:30:35.095 you know, it seems like

NOTE Confidence: 0.9461473

00:30:35.095 --> 00:30:37.095 their cancer is still sensitive

NOTE Confidence: 0.9461473

00:30:37.095 --> 00:30:38.555 to anti estrogen therapies.

NOTE Confidence: 0.9461854

00:30:39.495 --> 00:30:40.615 And it can have some

NOTE Confidence: 0.9461854

00:30:40.615 --> 00:30:41.975 side effects, but usually they're

NOTE Confidence: 0.9461854

00:30:41.975 --> 00:30:42.715 not particularly,

NOTE Confidence: 0.96630067

00:30:43.175 --> 00:30:44.535 difficult. It can have a

NOTE Confidence: 0.96630067

00:30:44.535 --> 00:30:45.995 variety of GI side effects.

NOTE Confidence: 0.9696819

00:30:46.360 --> 00:30:47.040 And can have some of

NOTE Confidence: 0.9696819

00:30:47.040 --> 00:30:48.360 the same sort of anti

NOTE Confidence: 0.9696819

00:30:48.360 --> 00:30:50.120 estrogen menopause type side effects

NOTE Confidence: 0.9696819

00:30:50.120 --> 00:30:51.000 that you see with other

NOTE Confidence: 0.9696819

00:30:51.000 --> 00:30:52.220 anti estrogen medications.

NOTE Confidence: 0.94356424

00:30:54.440 --> 00:30:55.500 There is a,

NOTE Confidence: 0.90034246

00:30:56.360 --> 00:30:58.059 practically brand new option,

NOTE Confidence: 0.9416598

00:30:58.840 --> 00:31:00.655 for women with ESR one

NOTE Confidence: 0.9416598

00:31:00.655 --> 00:31:02.335 mutations, that is is similar

NOTE Confidence: 0.9416598

00:31:02.335 --> 00:31:03.715 in some ways to elocestrant.

NOTE Confidence: 0.9416598

00:31:03.855 --> 00:31:06.035 It's called, illuminestrant.  
NOTE Confidence: 0.94801027

00:31:07.055 --> 00:31:07.935 Also a lot of vowels  
NOTE Confidence: 0.94801027

00:31:07.935 --> 00:31:08.755 in that one.  
NOTE Confidence: 0.9592932

00:31:09.295 --> 00:31:10.815 It is also an oral  
NOTE Confidence: 0.9592932

00:31:10.815 --> 00:31:12.515 SIRD, just like the elocestrant.  
NOTE Confidence: 0.9167147

00:31:14.470 --> 00:31:16.010 And, just like elacestrant,  
NOTE Confidence: 0.9314298

00:31:16.950 --> 00:31:18.710 it controls cancer for longer  
NOTE Confidence: 0.9314298

00:31:18.710 --> 00:31:20.309 than fulvestrant amongst women with  
NOTE Confidence: 0.9314298

00:31:20.309 --> 00:31:21.370 ESRO mutations.  
NOTE Confidence: 0.99503094

00:31:22.309 --> 00:31:23.429 What makes it a little  
NOTE Confidence: 0.99503094

00:31:23.429 --> 00:31:24.549 bit different is that in  
NOTE Confidence: 0.99503094

00:31:24.549 --> 00:31:25.049 the  
NOTE Confidence: 0.9855346

00:31:25.525 --> 00:31:26.645 trial that led to its  
NOTE Confidence: 0.9855346

00:31:26.645 --> 00:31:27.145 approval,  
NOTE Confidence: 0.97527266

00:31:27.605 --> 00:31:29.365 there was a a third  
NOTE Confidence: 0.97527266

00:31:29.365 --> 00:31:30.745 group of women who received,

NOTE Confidence: 0.7895758  
00:31:31.525 --> 00:31:33.765 the, in luminescent in combination  
NOTE Confidence: 0.7895758  
00:31:33.765 --> 00:31:34.425 with the bemiciclib.  
NOTE Confidence: 0.99189514  
00:31:35.445 --> 00:31:36.485 And in that group of  
NOTE Confidence: 0.99189514  
00:31:36.485 --> 00:31:36.985 women,  
NOTE Confidence: 0.96671844  
00:31:37.285 --> 00:31:38.575 the amount of time the  
NOTE Confidence: 0.96671844  
00:31:38.575 --> 00:31:39.060 cancer  
NOTE Confidence: 0.98724765  
00:31:39.460 --> 00:31:41.220 even longer than with either  
NOTE Confidence: 0.98724765  
00:31:41.220 --> 00:31:42.980 of the the single agent  
NOTE Confidence: 0.98724765  
00:31:42.980 --> 00:31:43.480 drugs.  
NOTE Confidence: 0.9879855  
00:31:44.260 --> 00:31:45.460 That use has not been  
NOTE Confidence: 0.9879855  
00:31:45.460 --> 00:31:47.060 fully reviewed and approved by  
NOTE Confidence: 0.9879855  
00:31:47.060 --> 00:31:48.260 the FDA yet, but it's  
NOTE Confidence: 0.9879855  
00:31:48.260 --> 00:31:49.860 something that that might be,  
NOTE Confidence: 0.9987264  
00:31:50.580 --> 00:31:51.620 might have potential in the  
NOTE Confidence: 0.9987264  
00:31:51.620 --> 00:31:52.120 future.  
NOTE Confidence: 0.9636986

00:31:52.605 --> 00:31:53.565 And as I mentioned, this  
NOTE Confidence: 0.9636986

00:31:53.565 --> 00:31:54.525 drug was just approved by  
NOTE Confidence: 0.9636986

00:31:54.525 --> 00:31:55.565 the FDA towards the end  
NOTE Confidence: 0.9636986

00:31:55.565 --> 00:31:56.925 of September. So it's it's,  
NOTE Confidence: 0.9636986

00:31:57.245 --> 00:31:58.205 just kind of coming,  
NOTE Confidence: 0.99913853

00:31:59.485 --> 00:32:01.505 it's just becoming widely available.  
NOTE Confidence: 0.91969

00:32:05.325 --> 00:32:05.825 The,  
NOTE Confidence: 0.81450135

00:32:08.510 --> 00:32:09.789 in addition to those oral  
NOTE Confidence: 0.81450135

00:32:09.789 --> 00:32:10.289 sird,  
NOTE Confidence: 0.97332805

00:32:10.669 --> 00:32:12.289 there's a there are some  
NOTE Confidence: 0.97332805

00:32:12.429 --> 00:32:13.950 other types of medications, some  
NOTE Confidence: 0.97332805

00:32:13.950 --> 00:32:15.730 other some medications with alternative  
NOTE Confidence: 0.97332805

00:32:15.789 --> 00:32:17.010 mechanisms of action,  
NOTE Confidence: 0.8297876

00:32:17.630 --> 00:32:18.669 for women with the ESR  
NOTE Confidence: 0.8297876

00:32:18.669 --> 00:32:19.330 one mutation.  
NOTE Confidence: 0.9720749

00:32:20.030 --> 00:32:21.390 One example of that is



NOTE Confidence: 0.9720749

00:32:21.390 --> 00:32:23.010 a medication called veptigestrin.

NOTE Confidence: 0.9543788

00:32:24.164 --> 00:32:25.445 It is a pill with

NOTE Confidence: 0.9543788

00:32:25.445 --> 00:32:26.904 a, with a slightly different,

NOTE Confidence: 0.90963805

00:32:27.445 --> 00:32:28.085 sort of,

NOTE Confidence: 0.9986271

00:32:28.485 --> 00:32:29.625 mechanism for

NOTE Confidence: 0.9064227

00:32:30.164 --> 00:32:31.845 destroying or degrading the estrogen

NOTE Confidence: 0.9064227

00:32:31.845 --> 00:32:32.345 receptor.

NOTE Confidence: 0.9785153

00:32:33.284 --> 00:32:35.384 It also increases time on,

NOTE Confidence: 0.9958005

00:32:35.764 --> 00:32:36.424 of control

NOTE Confidence: 0.78353035

00:32:36.804 --> 00:32:38.030 of the cancer and when

NOTE Confidence: 0.78353035

00:32:38.030 --> 00:32:39.289 with ESR1 mutations.

NOTE Confidence: 0.95359963

00:32:39.909 --> 00:32:41.429 This has been studied and,

NOTE Confidence: 0.95359963

00:32:41.669 --> 00:32:43.830 these results have been, shared

NOTE Confidence: 0.95359963

00:32:43.830 --> 00:32:45.750 with, the scientific community, but

NOTE Confidence: 0.95359963

00:32:45.750 --> 00:32:46.870 it hasn't been approved by

NOTE Confidence: 0.95359963

00:32:46.870 --> 00:32:48.070 the FDA yet. It's under  
NOTE Confidence: 0.95359963

00:32:48.070 --> 00:32:50.070 review. So, potentially sometime in  
NOTE Confidence: 0.95359963

00:32:50.070 --> 00:32:51.270 the next year, it'll become  
NOTE Confidence: 0.95359963

00:32:51.270 --> 00:32:52.409 available as well.  
NOTE Confidence: 0.98425055

00:32:54.125 --> 00:32:55.664 So, moving on from ESR1,  
NOTE Confidence: 0.98425055

00:32:55.804 --> 00:32:56.605 what about some of the  
NOTE Confidence: 0.98425055

00:32:56.605 --> 00:32:58.044 other, mutations that we look  
NOTE Confidence: 0.98425055

00:32:58.044 --> 00:32:58.544 for?  
NOTE Confidence: 0.99672854

00:32:59.485 --> 00:33:00.684 There are a group of  
NOTE Confidence: 0.99672854

00:33:00.684 --> 00:33:01.644 mutations that are part of  
NOTE Confidence: 0.99672854

00:33:01.644 --> 00:33:02.845 what we call the AKT  
NOTE Confidence: 0.99672854

00:33:02.845 --> 00:33:03.345 pathway.  
NOTE Confidence: 0.971194

00:33:03.725 --> 00:33:05.245 The AKT pathway is an  
NOTE Confidence: 0.971194

00:33:05.245 --> 00:33:05.745 alternative,  
NOTE Confidence: 0.9804927

00:33:06.205 --> 00:33:08.384 pathway that, leads to resistance,  
NOTE Confidence: 0.9131305

00:33:08.940 --> 00:33:10.159 sometimes to,

NOTE Confidence: 0.9761971

00:33:10.539 --> 00:33:12.399 standard anti estrogen therapies.

NOTE Confidence: 0.96159124

00:33:12.779 --> 00:33:13.659 And there are a number

NOTE Confidence: 0.96159124

00:33:13.659 --> 00:33:14.700 of genes that are involved

NOTE Confidence: 0.96159124

00:33:14.700 --> 00:33:15.820 in the pathway, but three

NOTE Confidence: 0.96159124

00:33:15.820 --> 00:33:17.019 in particular that can be

NOTE Confidence: 0.96159124

00:33:17.019 --> 00:33:19.519 targeted are the, PIK3CA mutation

NOTE Confidence: 0.86467373

00:33:19.980 --> 00:33:21.740 or gene, the AKT1 gene

NOTE Confidence: 0.86467373

00:33:21.740 --> 00:33:22.635 and the P10 gene.

NOTE Confidence: 0.9843324

00:33:23.515 --> 00:33:24.955 So, when mutations in those

NOTE Confidence: 0.9843324

00:33:24.955 --> 00:33:25.935 genes are seen,

NOTE Confidence: 0.9749616

00:33:26.315 --> 00:33:27.355 a medication that can be

NOTE Confidence: 0.9749616

00:33:27.355 --> 00:33:29.935 useful in combination with, fulvestrant

NOTE Confidence: 0.9749616

00:33:30.155 --> 00:33:31.055 is called capivacertib

NOTE Confidence: 0.841188

00:33:31.595 --> 00:33:33.435 or, TrueCap is the, the

NOTE Confidence: 0.841188

00:33:33.435 --> 00:33:34.415 brand name there.

NOTE Confidence: 0.8881636

00:33:35.640 --> 00:33:36.380 It is,  
NOTE Confidence: 0.9294471

00:33:36.920 --> 00:33:38.760 targeting the similar part of  
NOTE Confidence: 0.9294471

00:33:38.760 --> 00:33:41.080 the, of cell communication as  
NOTE Confidence: 0.9294471

00:33:41.080 --> 00:33:42.300 this older medication,  
NOTE Confidence: 0.8470059

00:33:42.680 --> 00:33:43.800 called pick Ray that many  
NOTE Confidence: 0.8470059

00:33:43.800 --> 00:33:44.520 of you may have heard  
NOTE Confidence: 0.8470059

00:33:44.520 --> 00:33:45.020 of.  
NOTE Confidence: 0.8366912

00:33:45.320 --> 00:33:46.300 Pick Ray is,  
NOTE Confidence: 0.9581654

00:33:46.680 --> 00:33:48.200 is an older oral drug,  
NOTE Confidence: 0.9581654

00:33:48.520 --> 00:33:49.815 that has a lot of  
NOTE Confidence: 0.9581654

00:33:49.815 --> 00:33:50.375 side effects,  
NOTE Confidence: 0.95412433

00:33:50.775 --> 00:33:52.934 and was difficult to use,  
NOTE Confidence: 0.95412433

00:33:53.095 --> 00:33:54.215 I think, for many women  
NOTE Confidence: 0.95412433

00:33:54.215 --> 00:33:55.895 because of the degree of  
NOTE Confidence: 0.95412433

00:33:55.895 --> 00:33:56.554 side effects,  
NOTE Confidence: 0.997204

00:33:57.015 --> 00:33:58.315 that came along with it.

NOTE Confidence: 0.9052887  
00:33:59.015 --> 00:33:59.515 Cabivastatinib  
NOTE Confidence: 0.9626931  
00:34:00.054 --> 00:34:01.560 is approved for all three  
NOTE Confidence: 0.9626931  
00:34:01.800 --> 00:34:03.400 of these mutations or for  
NOTE Confidence: 0.9626931  
00:34:03.400 --> 00:34:04.520 use in women whose cancer  
NOTE Confidence: 0.9626931  
00:34:04.520 --> 00:34:05.320 has all three of these  
NOTE Confidence: 0.9626931  
00:34:05.320 --> 00:34:06.440 mutations or any of them.  
NOTE Confidence: 0.9626931  
00:34:06.440 --> 00:34:07.240 They don't have all three  
NOTE Confidence: 0.9626931  
00:34:07.240 --> 00:34:08.280 at once, just any one  
NOTE Confidence: 0.9626931  
00:34:08.280 --> 00:34:08.860 of them.  
NOTE Confidence: 0.993023  
00:34:10.040 --> 00:34:10.920 And it seems to be  
NOTE Confidence: 0.993023  
00:34:10.920 --> 00:34:12.280 useful in women who have  
NOTE Confidence: 0.993023  
00:34:12.280 --> 00:34:12.760 spent,  
NOTE Confidence: 0.9890956  
00:34:13.160 --> 00:34:14.680 even less than twelve months  
NOTE Confidence: 0.9890956  
00:34:14.680 --> 00:34:16.360 on, their first line endocrine  
NOTE Confidence: 0.9890956  
00:34:16.360 --> 00:34:16.860 therapy.  
NOTE Confidence: 0.94476163

00:34:17.614 --> 00:34:18.494 It can cause some side  
NOTE Confidence: 0.94476163

00:34:18.494 --> 00:34:20.094 effects, some GI side effects,  
NOTE Confidence: 0.94476163

00:34:20.094 --> 00:34:21.375 and some rash. It doesn't  
NOTE Confidence: 0.94476163

00:34:21.375 --> 00:34:22.815 cause as much, high blood  
NOTE Confidence: 0.94476163

00:34:22.815 --> 00:34:24.414 sugar as the PICRae, but  
NOTE Confidence: 0.94476163

00:34:24.414 --> 00:34:25.614 it does still require blood  
NOTE Confidence: 0.94476163

00:34:25.614 --> 00:34:26.434 sugar monitoring.  
NOTE Confidence: 0.9834849

00:34:28.575 --> 00:34:29.075 And  
NOTE Confidence: 0.9736075

00:34:30.350 --> 00:34:31.790 sometimes, I mean, really not  
NOTE Confidence: 0.9736075

00:34:31.950 --> 00:34:33.469 it's not rare that a  
NOTE Confidence: 0.9736075

00:34:33.469 --> 00:34:33.950 woman,  
NOTE Confidence: 0.94976306

00:34:34.350 --> 00:34:36.110 when she progresses on first  
NOTE Confidence: 0.94976306

00:34:36.110 --> 00:34:37.469 line therapy might not have  
NOTE Confidence: 0.94976306

00:34:37.469 --> 00:34:38.610 any target mutations.  
NOTE Confidence: 0.9356574

00:34:39.310 --> 00:34:40.750 And so, in that case,  
NOTE Confidence: 0.9356574

00:34:40.750 --> 00:34:42.444 we ask questions like, should

NOTE Confidence: 0.9356574

00:34:42.444 --> 00:34:43.325 we keep going with our

NOTE Confidence: 0.9356574

00:34:43.325 --> 00:34:43.825 CDK4six

NOTE Confidence: 0.96859264

00:34:44.204 --> 00:34:45.724 inhibitor when we change the

NOTE Confidence: 0.96859264

00:34:45.724 --> 00:34:47.585 underlying anti estrogen medication?

NOTE Confidence: 0.90228254

00:34:48.045 --> 00:34:49.005 There have been a couple

NOTE Confidence: 0.90228254

00:34:49.005 --> 00:34:50.765 of different trials, or more

NOTE Confidence: 0.90228254

00:34:50.765 --> 00:34:52.045 than two, but I'll talk

NOTE Confidence: 0.90228254

00:34:52.045 --> 00:34:52.785 about two,

NOTE Confidence: 0.91007227

00:34:53.805 --> 00:34:55.480 that look at this question.

NOTE Confidence: 0.91007227

00:34:55.719 --> 00:34:56.920 The first of those was

NOTE Confidence: 0.91007227

00:34:56.920 --> 00:34:58.140 called the PACE trial.

NOTE Confidence: 0.8267944

00:34:58.520 --> 00:34:59.820 And the PACE trial,

NOTE Confidence: 0.9046329

00:35:01.239 --> 00:35:02.920 looked at or had two

NOTE Confidence: 0.9046329

00:35:02.920 --> 00:35:03.880 groups of women in it.

NOTE Confidence: 0.9046329

00:35:03.880 --> 00:35:05.880 Women who progressed on, their

NOTE Confidence: 0.9046329

00:35:05.880 --> 00:35:07.160 first line treatment with their

NOTE Confidence: 0.9046329

00:35:07.160 --> 00:35:08.920 CDK foursix inhibitor. And they

NOTE Confidence: 0.9046329

00:35:08.920 --> 00:35:10.364 received either full vestrant, the

NOTE Confidence: 0.9046329

00:35:10.364 --> 00:35:10.864 standard,

NOTE Confidence: 0.9065598

00:35:11.325 --> 00:35:12.765 approach by itself or full

NOTE Confidence: 0.9065598

00:35:12.765 --> 00:35:13.905 vestrant with pelbociclib.

NOTE Confidence: 0.98812354

00:35:14.685 --> 00:35:15.725 Now, most of the women

NOTE Confidence: 0.98812354

00:35:15.725 --> 00:35:16.844 in that trial had gotten

NOTE Confidence: 0.98812354

00:35:16.844 --> 00:35:17.344 pelbociclib

NOTE Confidence: 0.9907749

00:35:17.645 --> 00:35:18.625 as their first CDK4six

NOTE Confidence: 0.9573889

00:35:19.085 --> 00:35:20.364 inhibitor also. So, this was

NOTE Confidence: 0.9573889

00:35:20.364 --> 00:35:21.565 really a continuation of the

NOTE Confidence: 0.9573889

00:35:21.565 --> 00:35:22.065 same,

NOTE Confidence: 0.9939747

00:35:23.120 --> 00:35:24.400 the same drug for these

NOTE Confidence: 0.9939747

00:35:24.400 --> 00:35:26.100 women, generally speaking.

NOTE Confidence: 0.99747676

00:35:26.960 --> 00:35:27.460 And



NOTE Confidence: 0.94837546

00:35:28.080 --> 00:35:30.100 when using this approach, unfortunately,

NOTE Confidence: 0.94837546

00:35:30.160 --> 00:35:31.520 there wasn't really any sort

NOTE Confidence: 0.94837546

00:35:31.520 --> 00:35:33.040 of improvement in how, how

NOTE Confidence: 0.94837546

00:35:33.040 --> 00:35:34.420 well fobesterone performed.

NOTE Confidence: 0.957304

00:35:34.880 --> 00:35:35.940 The cancer progressed,

NOTE Confidence: 0.97098243

00:35:36.320 --> 00:35:37.440 at the same kind of

NOTE Confidence: 0.97098243

00:35:37.440 --> 00:35:38.660 pace in both

NOTE Confidence: 0.99388504

00:35:39.015 --> 00:35:39.914 groups of women.

NOTE Confidence: 0.95648646

00:35:40.694 --> 00:35:41.815 But what if we switch?

NOTE Confidence: 0.95648646

00:35:41.974 --> 00:35:42.855 What if we change the

NOTE Confidence: 0.95648646

00:35:42.855 --> 00:35:44.375 CDK4six inhibitor to one of

NOTE Confidence: 0.95648646

00:35:44.375 --> 00:35:45.174 the other two?

NOTE Confidence: 0.9327145

00:35:45.974 --> 00:35:47.255 So the Maintain trial gave

NOTE Confidence: 0.9327145

00:35:47.255 --> 00:35:48.535 us some information about that

NOTE Confidence: 0.9327145

00:35:48.535 --> 00:35:49.015 approach.

NOTE Confidence: 0.9776795

00:35:49.335 --> 00:35:50.075 It compared,  
NOTE Confidence: 0.8933046

00:35:51.255 --> 00:35:52.614 in second line therapy in  
NOTE Confidence: 0.8933046

00:35:52.614 --> 00:35:53.494 women who had gotten the  
NOTE Confidence: 0.8933046

00:35:53.494 --> 00:35:53.994 CDK4six  
NOTE Confidence: 0.908614

00:35:54.570 --> 00:35:56.730 inhibitor. It compared new endocrine  
NOTE Confidence: 0.908614

00:35:56.730 --> 00:35:58.570 therapy alone or new anti  
NOTE Confidence: 0.908614

00:35:58.570 --> 00:36:00.590 estrogen therapy plus ribo cyclob.  
NOTE Confidence: 0.97376114

00:36:00.890 --> 00:36:02.010 And for about eighty eight  
NOTE Confidence: 0.97376114

00:36:02.010 --> 00:36:03.210 percent of patients in that,  
NOTE Confidence: 0.97376114

00:36:03.530 --> 00:36:04.030 study,  
NOTE Confidence: 0.9317087

00:36:04.570 --> 00:36:06.170 that ribo cyclob was a  
NOTE Confidence: 0.9317087

00:36:06.170 --> 00:36:07.715 change. It was different CDK4six  
NOTE Confidence: 0.9317087

00:36:07.935 --> 00:36:09.875 inhibitor than what they previously  
NOTE Confidence: 0.9317087

00:36:09.935 --> 00:36:10.435 received.  
NOTE Confidence: 0.7727095

00:36:10.975 --> 00:36:12.515 In that case, the fulvestrant,  
NOTE Confidence: 0.9628113

00:36:12.895 --> 00:36:13.635 with ribociclib,

NOTE Confidence: 0.93634653

00:36:14.335 --> 00:36:15.135 did improve,

NOTE Confidence: 0.99940634

00:36:15.455 --> 00:36:16.435 time on therapy.

NOTE Confidence: 0.9722369

00:36:16.815 --> 00:36:18.175 So, this doesn't, you know,

NOTE Confidence: 0.9722369

00:36:18.175 --> 00:36:19.215 kind of tell us about

NOTE Confidence: 0.9722369

00:36:19.215 --> 00:36:21.475 every situation with, switching CDK4six

NOTE Confidence: 0.98260415

00:36:21.849 --> 00:36:22.890 inhibitors, but it does give

NOTE Confidence: 0.98260415

00:36:22.890 --> 00:36:23.770 us some reason to believe

NOTE Confidence: 0.98260415

00:36:23.770 --> 00:36:24.969 that, that they might be

NOTE Confidence: 0.98260415

00:36:24.969 --> 00:36:26.329 useful, if there are no

NOTE Confidence: 0.98260415

00:36:26.329 --> 00:36:27.950 targetable mutations present.

NOTE Confidence: 0.9468561

00:36:30.170 --> 00:36:31.050 For the for the sake

NOTE Confidence: 0.9468561

00:36:31.050 --> 00:36:31.849 of time and for the

NOTE Confidence: 0.9468561

00:36:31.849 --> 00:36:33.150 sake of allowing questions,

NOTE Confidence: 0.9478113

00:36:33.530 --> 00:36:35.625 I'm, I'm gonna, not really

NOTE Confidence: 0.9478113

00:36:35.625 --> 00:36:38.025 talk, specifically about medication, you

NOTE Confidence: 0.9478113

00:36:38.025 --> 00:36:39.725 know, non anti estrogen medications

NOTE Confidence: 0.9478113

00:36:39.945 --> 00:36:42.105 for, hormone receptor positive breast

NOTE Confidence: 0.9478113

00:36:42.105 --> 00:36:43.385 cancer. But, but I will

NOTE Confidence: 0.9478113

00:36:43.385 --> 00:36:44.985 say, also just a little

NOTE Confidence: 0.9478113

00:36:44.985 --> 00:36:46.425 bit about, trial options that

NOTE Confidence: 0.9478113

00:36:46.425 --> 00:36:47.305 are available at the, at

NOTE Confidence: 0.9478113

00:36:47.305 --> 00:36:48.150 the Yale Cancer

NOTE Confidence: 0.943004

00:36:48.710 --> 00:36:50.309 Center. The, the trials that

NOTE Confidence: 0.943004

00:36:50.309 --> 00:36:51.349 we have tend to turn

NOTE Confidence: 0.943004

00:36:51.349 --> 00:36:53.109 over over time. So, specific

NOTE Confidence: 0.943004

00:36:53.109 --> 00:36:54.869 trials, you know, kind of

NOTE Confidence: 0.943004

00:36:54.869 --> 00:36:55.750 come and go and we

NOTE Confidence: 0.943004

00:36:55.750 --> 00:36:56.710 open new ones and we

NOTE Confidence: 0.943004

00:36:56.710 --> 00:36:57.210 close.

NOTE Confidence: 0.9598969

00:36:57.750 --> 00:36:58.250 But,

NOTE Confidence: 0.9968647

00:36:58.630 --> 00:36:59.750 to think about some of

NOTE Confidence: 0.9968647  
00:36:59.750 --> 00:37:00.809 the common questions,  
NOTE Confidence: 0.93754095  
00:37:01.750 --> 00:37:02.950 or the themes in the  
NOTE Confidence: 0.93754095  
00:37:02.950 --> 00:37:03.855 questions that,  
NOTE Confidence: 0.97863144  
00:37:04.734 --> 00:37:06.335 that are really at top  
NOTE Confidence: 0.97863144  
00:37:06.335 --> 00:37:07.395 of mind right now.  
NOTE Confidence: 0.93685186  
00:37:08.734 --> 00:37:09.935 So, one, you know, kind  
NOTE Confidence: 0.93685186  
00:37:09.935 --> 00:37:11.215 of common theme of the  
NOTE Confidence: 0.93685186  
00:37:11.215 --> 00:37:12.435 questions being asked  
NOTE Confidence: 0.94659925  
00:37:12.975 --> 00:37:13.695 by the, by trials for  
NOTE Confidence: 0.94659925  
00:37:13.695 --> 00:37:15.455 hormone receptor positive breast cancer  
NOTE Confidence: 0.94659925  
00:37:15.455 --> 00:37:16.655 is with all of these  
NOTE Confidence: 0.94659925  
00:37:16.655 --> 00:37:17.730 new drugs, are there ways  
NOTE Confidence: 0.94659925  
00:37:17.730 --> 00:37:19.250 that we can combine them,  
NOTE Confidence: 0.94659925  
00:37:19.489 --> 00:37:19.989 into,  
NOTE Confidence: 0.85798454  
00:37:20.530 --> 00:37:21.190 you know,  
NOTE Confidence: 0.99078774

00:37:21.969 --> 00:37:22.870 larger combinations  
NOTE Confidence: 0.89552754

00:37:23.250 --> 00:37:25.350 and get better results, for  
NOTE Confidence: 0.89552754

00:37:25.570 --> 00:37:26.469 cancer patients?  
NOTE Confidence: 0.97111297

00:37:27.170 --> 00:37:28.130 So, for instance, we have  
NOTE Confidence: 0.97111297

00:37:28.130 --> 00:37:29.170 a trial right now that  
NOTE Confidence: 0.97111297

00:37:29.170 --> 00:37:30.205 combines cabivacertib  
NOTE Confidence: 0.7928884

00:37:30.585 --> 00:37:32.905 that, AKT pathway inhibitor, the  
NOTE Confidence: 0.7928884

00:37:32.905 --> 00:37:33.805 true cap medication  
NOTE Confidence: 0.70968986

00:37:34.344 --> 00:37:35.165 with a CDK4six  
NOTE Confidence: 0.98263377

00:37:35.545 --> 00:37:36.045 inhibitor  
NOTE Confidence: 0.97330993

00:37:36.425 --> 00:37:37.945 and with fulvestrant. And this  
NOTE Confidence: 0.97330993

00:37:37.945 --> 00:37:38.985 is a trial that's looking  
NOTE Confidence: 0.97330993

00:37:38.985 --> 00:37:39.864 at women who have the  
NOTE Confidence: 0.97330993

00:37:39.864 --> 00:37:41.465 targeted mutations and women who  
NOTE Confidence: 0.97330993

00:37:41.465 --> 00:37:42.505 might not have the targeted  
NOTE Confidence: 0.97330993

00:37:42.505 --> 00:37:43.005 mutations.

NOTE Confidence: 0.97662747  
00:37:44.120 --> 00:37:45.160 Another type of question we're  
NOTE Confidence: 0.97662747  
00:37:45.160 --> 00:37:46.440 asking is, are there,  
NOTE Confidence: 0.9696938  
00:37:47.080 --> 00:37:48.280 novel ways that we can,  
NOTE Confidence: 0.991111  
00:37:48.920 --> 00:37:50.760 administer these medications that,  
NOTE Confidence: 0.916545  
00:37:51.160 --> 00:37:53.000 that reduces side effects, reduces  
NOTE Confidence: 0.916545  
00:37:53.000 --> 00:37:53.500 toxicity.  
NOTE Confidence: 0.97282094  
00:37:54.040 --> 00:37:55.239 So, for instance, we have  
NOTE Confidence: 0.97282094  
00:37:55.239 --> 00:37:56.920 a trial, for older women,  
NOTE Confidence: 0.97282094  
00:37:56.920 --> 00:37:58.200 women over the age of  
NOTE Confidence: 0.97282094  
00:37:58.200 --> 00:37:59.955 sixty five looking at whether  
NOTE Confidence: 0.97282094  
00:37:59.955 --> 00:38:00.915 or not we can give  
NOTE Confidence: 0.97282094  
00:38:00.915 --> 00:38:02.455 the CDK four six inhibitors,  
NOTE Confidence: 0.9963881  
00:38:02.915 --> 00:38:04.295 in the first line setting,  
NOTE Confidence: 0.9800056  
00:38:04.835 --> 00:38:05.955 starting at a low dose  
NOTE Confidence: 0.9800056  
00:38:05.955 --> 00:38:07.155 and going up rather than  
NOTE Confidence: 0.9800056

00:38:07.155 --> 00:38:08.195 starting at the highest dose  
NOTE Confidence: 0.9800056

00:38:08.195 --> 00:38:09.395 that we offer and going  
NOTE Confidence: 0.9800056

00:38:09.395 --> 00:38:10.755 down if they if if  
NOTE Confidence: 0.9800056

00:38:10.755 --> 00:38:11.795 the dose is too high  
NOTE Confidence: 0.9800056

00:38:11.795 --> 00:38:12.375 for them.  
NOTE Confidence: 0.94170004

00:38:13.359 --> 00:38:14.480 And then, of course, we  
NOTE Confidence: 0.94170004

00:38:14.480 --> 00:38:15.599 we all there's always new  
NOTE Confidence: 0.94170004

00:38:15.599 --> 00:38:16.099 drugs.  
NOTE Confidence: 0.9666389

00:38:16.880 --> 00:38:17.920 And so, we have novel  
NOTE Confidence: 0.9666389

00:38:17.920 --> 00:38:19.359 drug trials, too.  
NOTE Confidence: 0.9907527

00:38:19.680 --> 00:38:20.980 An example is,  
NOTE Confidence: 0.9247576

00:38:21.280 --> 00:38:22.800 this drug, which doesn't even  
NOTE Confidence: 0.9247576

00:38:22.800 --> 00:38:23.839 have a kind of scientific  
NOTE Confidence: 0.9247576

00:38:23.839 --> 00:38:24.800 name yet but still sort  
NOTE Confidence: 0.9247576

00:38:24.800 --> 00:38:26.020 of an industry shorthand.  
NOTE Confidence: 0.9533197

00:38:27.405 --> 00:38:28.405 Relay two thousand six hundred



NOTE Confidence: 0.9533197  
00:38:28.405 --> 00:38:29.805 and eight, which is a  
NOTE Confidence: 0.9533197  
00:38:29.805 --> 00:38:30.305 selective  
NOTE Confidence: 0.86754465  
00:38:30.765 --> 00:38:32.145 PI3 kinase inhibitor.  
NOTE Confidence: 0.89500743  
00:38:32.765 --> 00:38:33.665 And a selective,  
NOTE Confidence: 0.9353676  
00:38:34.525 --> 00:38:36.125 adjective sort of refers to  
NOTE Confidence: 0.9353676  
00:38:36.125 --> 00:38:37.645 its potential to maybe have  
NOTE Confidence: 0.9353676  
00:38:37.645 --> 00:38:39.485 fewer off target effects. And  
NOTE Confidence: 0.9353676  
00:38:39.485 --> 00:38:40.925 those off target effects are  
NOTE Confidence: 0.9353676  
00:38:40.925 --> 00:38:41.940 what cause toxicity.  
NOTE Confidence: 0.9419361  
00:38:44.260 --> 00:38:45.619 Toxicity than than some of  
NOTE Confidence: 0.9419361  
00:38:45.619 --> 00:38:46.900 the existing drugs in this  
NOTE Confidence: 0.9419361  
00:38:46.900 --> 00:38:47.400 class.  
NOTE Confidence: 0.9487419  
00:38:48.739 --> 00:38:49.859 So, I think I'll I'll  
NOTE Confidence: 0.9487419  
00:38:49.859 --> 00:38:50.660 stop there,  
NOTE Confidence: 0.9922919  
00:38:51.060 --> 00:38:51.560 and,  
NOTE Confidence: 0.93285966

00:38:52.020 --> 00:38:52.980 we could we could open  
NOTE Confidence: 0.93285966

00:38:52.980 --> 00:38:53.800 it up for questions.  
NOTE Confidence: 0.9636136

00:38:57.625 --> 00:38:58.745 And maybe I'll I'll stop  
NOTE Confidence: 0.9636136

00:38:58.745 --> 00:38:59.785 sharing too. You don't have  
NOTE Confidence: 0.9636136

00:38:59.785 --> 00:39:00.425 to look at a black  
NOTE Confidence: 0.9636136

00:39:00.425 --> 00:39:00.925 screen.  
NOTE Confidence: 0.8341494

00:39:01.864 --> 00:39:02.685 Yeah. Dan,  
NOTE Confidence: 0.99387366

00:39:03.225 --> 00:39:04.364 the question that,  
NOTE Confidence: 0.8567834

00:39:05.225 --> 00:39:07.225 on Hartoulo disease and kind  
NOTE Confidence: 0.8567834

00:39:07.225 --> 00:39:07.545 of,  
NOTE Confidence: 0.981779

00:39:08.105 --> 00:39:09.625 you can see it in  
NOTE Confidence: 0.981779

00:39:09.625 --> 00:39:11.320 the q and a. It  
NOTE Confidence: 0.981779

00:39:11.320 --> 00:39:12.680 may come up as answered,  
NOTE Confidence: 0.981779

00:39:12.680 --> 00:39:13.180 but  
NOTE Confidence: 0.96946144

00:39:13.480 --> 00:39:14.520 I think it's the question  
NOTE Confidence: 0.96946144

00:39:14.520 --> 00:39:15.020 that

NOTE Confidence: 0.9930393  
00:39:15.719 --> 00:39:16.920 is a wonderful one in  
NOTE Confidence: 0.9930393  
00:39:16.920 --> 00:39:17.420 terms  
NOTE Confidence: 0.98166436  
00:39:17.800 --> 00:39:18.920 of what to do in  
NOTE Confidence: 0.98166436  
00:39:18.920 --> 00:39:20.940 the setting of HER2 low  
NOTE Confidence: 0.98166436  
00:39:21.080 --> 00:39:23.260 hormone receptor positive breast cancer  
NOTE Confidence: 0.9942643  
00:39:23.815 --> 00:39:25.355 and how you're envisioning,  
NOTE Confidence: 0.9972489  
00:39:26.375 --> 00:39:27.114 kind of  
NOTE Confidence: 0.9795884  
00:39:27.495 --> 00:39:29.355 the sequencing of HER2 ADCs  
NOTE Confidence: 0.98724365  
00:39:29.895 --> 00:39:30.875 in this setting,  
NOTE Confidence: 0.9875678  
00:39:31.735 --> 00:39:33.815 kind of earlier versus later.  
NOTE Confidence: 0.9875678  
00:39:33.815 --> 00:39:34.695 So if you could share  
NOTE Confidence: 0.9875678  
00:39:34.695 --> 00:39:35.915 your thoughts on that.  
NOTE Confidence: 0.9992077  
00:39:36.420 --> 00:39:37.719 Yeah. Yeah. Absolutely.  
NOTE Confidence: 0.9964689  
00:39:38.099 --> 00:39:38.819 You know, this is a  
NOTE Confidence: 0.9964689  
00:39:38.819 --> 00:39:40.579 question that actually applies to  
NOTE Confidence: 0.9964689

00:39:40.579 --> 00:39:41.079 both,  
NOTE Confidence: 0.9330186

00:39:41.780 --> 00:39:42.819 the types of breast cancer  
NOTE Confidence: 0.9330186

00:39:42.819 --> 00:39:44.579 that, doctor Shalhoren and I  
NOTE Confidence: 0.9330186

00:39:44.579 --> 00:39:46.660 spoke about. So HER2 low  
NOTE Confidence: 0.9330186

00:39:46.660 --> 00:39:47.940 is sort of a newer  
NOTE Confidence: 0.9330186

00:39:47.940 --> 00:39:48.440 idea,  
NOTE Confidence: 0.9532399

00:39:49.380 --> 00:39:50.420 in in the breast cancer  
NOTE Confidence: 0.9532399

00:39:50.420 --> 00:39:51.460 space or almost like a  
NOTE Confidence: 0.9532399

00:39:51.460 --> 00:39:52.119 new classification  
NOTE Confidence: 0.7089524

00:39:55.355 --> 00:39:55.855 three  
NOTE Confidence: 0.899337

00:39:56.155 --> 00:39:57.114 buckets that that we've been  
NOTE Confidence: 0.899337

00:39:57.114 --> 00:39:58.395 talking about is is sort  
NOTE Confidence: 0.899337

00:39:58.395 --> 00:39:59.594 of how we classically thought  
NOTE Confidence: 0.899337

00:39:59.594 --> 00:40:00.815 about breast cancer subtypes.  
NOTE Confidence: 0.86944264

00:40:01.355 --> 00:40:02.395 But I I think in  
NOTE Confidence: 0.86944264

00:40:02.395 --> 00:40:04.155 doctor Schallhorn's slide describing what

NOTE Confidence: 0.86944264  
00:40:04.155 --> 00:40:05.775 HER2 HER2 is,  
NOTE Confidence: 0.9726453  
00:40:06.155 --> 00:40:06.955 you could see on that  
NOTE Confidence: 0.9726453  
00:40:06.955 --> 00:40:07.455 normal,  
NOTE Confidence: 0.9853162  
00:40:07.915 --> 00:40:09.089 cell that there was still  
NOTE Confidence: 0.9853162  
00:40:09.089 --> 00:40:11.329 HER2 protein. Like, it's when  
NOTE Confidence: 0.9853162  
00:40:11.329 --> 00:40:12.529 we talk about HER2 negative  
NOTE Confidence: 0.9853162  
00:40:12.529 --> 00:40:13.650 cancers, that doesn't mean there's  
NOTE Confidence: 0.9853162  
00:40:13.650 --> 00:40:14.630 no HER2 protein.  
NOTE Confidence: 0.9392489  
00:40:15.250 --> 00:40:16.930 So so HER2 low breast  
NOTE Confidence: 0.9392489  
00:40:16.930 --> 00:40:18.769 cancers refer to HER2 or  
NOTE Confidence: 0.9392489  
00:40:18.769 --> 00:40:20.049 breast cancers that have some  
NOTE Confidence: 0.9392489  
00:40:20.049 --> 00:40:21.589 HER2 protein, but not necessarily  
NOTE Confidence: 0.9392489  
00:40:21.730 --> 00:40:23.555 this over expressed amount. This,  
NOTE Confidence: 0.9392489  
00:40:23.555 --> 00:40:25.475 like, extra HER2 protein that,  
NOTE Confidence: 0.97108316  
00:40:26.115 --> 00:40:26.595 that,  
NOTE Confidence: 0.9894292

00:40:26.995 --> 00:40:28.615 has typically made those cancers,  
NOTE Confidence: 0.99704033

00:40:29.315 --> 00:40:30.995 more sensitive to the anti  
NOTE Confidence: 0.99704033

00:40:30.995 --> 00:40:31.895 HER2 drugs.  
NOTE Confidence: 0.970939

00:40:33.315 --> 00:40:34.835 Why that's an important distinction  
NOTE Confidence: 0.970939

00:40:34.835 --> 00:40:35.555 to make now, why it's  
NOTE Confidence: 0.970939

00:40:35.555 --> 00:40:37.235 important to identify cancers that  
NOTE Confidence: 0.970939

00:40:37.235 --> 00:40:38.860 have some but not too  
NOTE Confidence: 0.970939

00:40:38.860 --> 00:40:40.000 much HER2 protein  
NOTE Confidence: 0.8774765

00:40:40.380 --> 00:40:41.900 is because one drug in  
NOTE Confidence: 0.8774765

00:40:41.900 --> 00:40:43.180 particular so far and then  
NOTE Confidence: 0.8774765

00:40:43.180 --> 00:40:44.380 surely more in the future.  
NOTE Confidence: 0.8774765

00:40:44.380 --> 00:40:46.400 One one particular drug, the,  
NOTE Confidence: 0.71158206

00:40:46.700 --> 00:40:47.920 trastuzumab, dextatecan,  
NOTE Confidence: 0.9392456

00:40:48.300 --> 00:40:49.580 the HER2 drug that,  
NOTE Confidence: 0.92430806

00:40:50.105 --> 00:40:51.484 that Doctor. Shellhorn talked  
NOTE Confidence: 0.94990426

00:40:51.864 --> 00:40:53.464 about, is actually effective not

NOTE Confidence: 0.94990426  
00:40:53.464 --> 00:40:55.805 only in classically HER2 positive,  
NOTE Confidence: 0.9189496  
00:40:56.184 --> 00:40:57.545 breast cancer, but is also  
NOTE Confidence: 0.9189496  
00:40:57.545 --> 00:40:58.045 effective  
NOTE Confidence: 0.99194926  
00:40:58.424 --> 00:40:59.325 in HER2  
NOTE Confidence: 0.99013823  
00:40:59.704 --> 00:41:00.765 low breast cancer.  
NOTE Confidence: 0.9040865  
00:41:01.145 --> 00:41:02.585 So, if you're hormone receptor  
NOTE Confidence: 0.9040865  
00:41:02.585 --> 00:41:04.469 positive, HER2 negative, but HER2  
NOTE Confidence: 0.9040865  
00:41:04.469 --> 00:41:06.150 low, then HER2 can be  
NOTE Confidence: 0.9040865  
00:41:06.150 --> 00:41:07.450 it can be very effective.  
NOTE Confidence: 0.9040865  
00:41:07.670 --> 00:41:08.950 If you're a triple negative  
NOTE Confidence: 0.9040865  
00:41:08.950 --> 00:41:10.010 but HER2 low,  
NOTE Confidence: 0.8938238  
00:41:10.390 --> 00:41:11.910 that that, and HER2 can  
NOTE Confidence: 0.8938238  
00:41:11.910 --> 00:41:12.810 be very effective.  
NOTE Confidence: 0.98964727  
00:41:13.430 --> 00:41:14.390 And so we've been we've  
NOTE Confidence: 0.98964727  
00:41:14.390 --> 00:41:15.590 been using that drug for  
NOTE Confidence: 0.98964727

00:41:15.590 --> 00:41:16.790 several years now for those  
NOTE Confidence: 0.98964727

00:41:16.790 --> 00:41:17.989 types of breast cancers as  
NOTE Confidence: 0.98964727

00:41:17.989 --> 00:41:18.489 well.  
NOTE Confidence: 0.9825808

00:41:19.035 --> 00:41:20.415 In in terms of sequencing,  
NOTE Confidence: 0.99658346

00:41:22.075 --> 00:41:22.895 the the  
NOTE Confidence: 0.968923

00:41:23.275 --> 00:41:23.775 the,  
NOTE Confidence: 0.9249665

00:41:26.155 --> 00:41:27.755 standard, I would say, is  
NOTE Confidence: 0.9249665

00:41:27.755 --> 00:41:28.255 still  
NOTE Confidence: 0.97321916

00:41:28.555 --> 00:41:30.155 for hormone receptor positive breast  
NOTE Confidence: 0.97321916

00:41:30.155 --> 00:41:31.869 cancer is is to really  
NOTE Confidence: 0.97321916

00:41:31.869 --> 00:41:32.989 make the most of the  
NOTE Confidence: 0.97321916

00:41:32.989 --> 00:41:34.210 anti estrogen therapies.  
NOTE Confidence: 0.9685955

00:41:34.590 --> 00:41:36.030 Those cancers are still most  
NOTE Confidence: 0.9685955

00:41:36.030 --> 00:41:37.790 sensitive to anti estrogen approaches,  
NOTE Confidence: 0.9685955

00:41:37.790 --> 00:41:39.250 like the anti estrogen medicines  
NOTE Confidence: 0.9623695

00:41:39.550 --> 00:41:41.150 work best and and longest,



NOTE Confidence: 0.9623695  
00:41:41.390 --> 00:41:42.989 for hormone receptor positive breast  
NOTE Confidence: 0.9623695  
00:41:42.989 --> 00:41:43.489 cancers,  
NOTE Confidence: 0.99735725  
00:41:44.190 --> 00:41:45.090 early on.  
NOTE Confidence: 0.9440182  
00:41:45.625 --> 00:41:47.225 They tend to have fewer  
NOTE Confidence: 0.9440182  
00:41:47.225 --> 00:41:47.885 side effects.  
NOTE Confidence: 0.8036951  
00:41:48.745 --> 00:41:49.245 Well,  
NOTE Confidence: 0.8906987  
00:41:50.905 --> 00:41:52.105 experiences can be mixed, actually.  
NOTE Confidence: 0.8906987  
00:41:52.105 --> 00:41:52.905 I don't want to say  
NOTE Confidence: 0.8906987  
00:41:52.905 --> 00:41:53.965 that HER2 has  
NOTE Confidence: 0.91910493  
00:41:54.265 --> 00:41:55.065 a lot of side effects  
NOTE Confidence: 0.91910493  
00:41:55.065 --> 00:41:56.825 for everyone, or that the  
NOTE Confidence: 0.91910493  
00:41:56.825 --> 00:41:58.505 antihistamine medications don't have side  
NOTE Confidence: 0.91910493  
00:41:58.505 --> 00:41:59.725 effects. It can be significant.  
NOTE Confidence: 0.9067902  
00:42:00.950 --> 00:42:02.630 But oftentimes they have fewer  
NOTE Confidence: 0.9067902  
00:42:02.630 --> 00:42:03.369 side effects,  
NOTE Confidence: 0.87336046

00:42:03.989 --> 00:42:04.489 than,  
NOTE Confidence: 0.90314215

00:42:05.349 --> 00:42:06.710 the inher tube medication. So,  
NOTE Confidence: 0.90314215

00:42:06.710 --> 00:42:08.230 we still try to use  
NOTE Confidence: 0.90314215

00:42:08.230 --> 00:42:10.390 as many, antiastrogen medications as  
NOTE Confidence: 0.90314215

00:42:10.390 --> 00:42:10.890 possible,  
NOTE Confidence: 0.93121123

00:42:12.230 --> 00:42:14.010 before changing to infusional  
NOTE Confidence: 0.91682553

00:42:14.789 --> 00:42:16.825 chemotherapy based medications. Medications.  
NOTE Confidence: 0.99872375

00:42:17.285 --> 00:42:18.025 And then  
NOTE Confidence: 0.95605564

00:42:18.485 --> 00:42:20.085 there is some, you know,  
NOTE Confidence: 0.95605564

00:42:20.085 --> 00:42:21.845 some recent conversation about whether  
NOTE Confidence: 0.95605564

00:42:21.845 --> 00:42:23.045 HER2 should be the very  
NOTE Confidence: 0.95605564

00:42:23.045 --> 00:42:24.245 first drug that we use  
NOTE Confidence: 0.95605564

00:42:24.245 --> 00:42:26.405 after anti estrogen medication or  
NOTE Confidence: 0.95605564

00:42:26.405 --> 00:42:26.885 if,  
NOTE Confidence: 0.9891959

00:42:27.445 --> 00:42:28.185 if chemotherapies  
NOTE Confidence: 0.75077355

00:42:28.645 --> 00:42:29.145 can,

NOTE Confidence: 0.9079577

00:42:30.430 --> 00:42:32.030 still, you know, if a

NOTE Confidence: 0.9079577

00:42:32.030 --> 00:42:33.469 chemotherapy before moving to an

NOTE Confidence: 0.9079577

00:42:33.469 --> 00:42:34.530 HER2 is appropriate.

NOTE Confidence: 0.9685577

00:42:35.230 --> 00:42:36.590 And that conversation is really

NOTE Confidence: 0.9685577

00:42:36.590 --> 00:42:37.730 based on balancing

NOTE Confidence: 0.9824836

00:42:38.510 --> 00:42:40.210 length of response versus,

NOTE Confidence: 0.9134959

00:42:41.390 --> 00:42:41.890 versus,

NOTE Confidence: 0.99154025

00:42:42.350 --> 00:42:43.090 side effects

NOTE Confidence: 0.93923414

00:42:43.469 --> 00:42:44.510 and whether or not a

NOTE Confidence: 0.93923414

00:42:44.510 --> 00:42:45.954 drug that might control the

NOTE Confidence: 0.93923414

00:42:45.954 --> 00:42:47.234 cancer longer but have more

NOTE Confidence: 0.93923414

00:42:47.234 --> 00:42:47.974 side effects,

NOTE Confidence: 0.9848687

00:42:48.355 --> 00:42:49.075 whether or not you could

NOTE Confidence: 0.9848687

00:42:49.075 --> 00:42:49.954 kind of get the same

NOTE Confidence: 0.9848687

00:42:49.954 --> 00:42:51.875 effect by by turning to

NOTE Confidence: 0.9848687

00:42:51.875 --> 00:42:52.835 that drug a little bit  
NOTE Confidence: 0.9848687

00:42:52.835 --> 00:42:53.335 later.  
NOTE Confidence: 0.9951451

00:42:54.515 --> 00:42:55.015 So,  
NOTE Confidence: 0.9505722

00:42:55.315 --> 00:42:56.994 it's, it's an exciting space.  
NOTE Confidence: 0.9505722

00:42:56.994 --> 00:42:58.114 I mean and and and  
NOTE Confidence: 0.9505722

00:42:58.114 --> 00:42:58.915 it's a space where I  
NOTE Confidence: 0.9505722

00:42:58.915 --> 00:42:59.875 think there there will be  
NOTE Confidence: 0.9505722

00:42:59.875 --> 00:43:00.915 a lot of new medications  
NOTE Confidence: 0.9505722

00:43:00.915 --> 00:43:01.850 over the over over the  
NOTE Confidence: 0.9505722

00:43:01.850 --> 00:43:02.510 coming years.  
NOTE Confidence: 0.9831495

00:43:03.530 --> 00:43:04.489 And I think for the  
NOTE Confidence: 0.9831495

00:43:04.489 --> 00:43:06.110 listeners, this is your opportunity  
NOTE Confidence: 0.9831495

00:43:06.330 --> 00:43:08.350 when these junctures are occurring  
NOTE Confidence: 0.9831495

00:43:08.410 --> 00:43:09.310 in your care  
NOTE Confidence: 0.9680732

00:43:09.770 --> 00:43:11.310 to be asking your oncologist,  
NOTE Confidence: 0.9712655

00:43:11.610 --> 00:43:12.890 what are my options? What

NOTE Confidence: 0.9712655  
00:43:12.890 --> 00:43:14.340 are my alternatives? And,  
NOTE Confidence: 0.9970403  
00:43:15.085 --> 00:43:15.725 I think,  
NOTE Confidence: 0.999815  
00:43:16.125 --> 00:43:17.805 what we all aim for  
NOTE Confidence: 0.999815  
00:43:17.805 --> 00:43:18.545 is to  
NOTE Confidence: 0.99954706  
00:43:19.085 --> 00:43:19.585 summarize  
NOTE Confidence: 0.94730616  
00:43:20.525 --> 00:43:22.445 currently, as as my colleague  
NOTE Confidence: 0.94730616  
00:43:22.445 --> 00:43:23.565 just mentioned, there are so  
NOTE Confidence: 0.94730616  
00:43:23.565 --> 00:43:25.085 many options for each line  
NOTE Confidence: 0.94730616  
00:43:25.085 --> 00:43:26.545 of therapy in breast cancer.  
NOTE Confidence: 0.99176633  
00:43:27.005 --> 00:43:28.450 So a lot will come  
NOTE Confidence: 0.99176633  
00:43:28.450 --> 00:43:30.870 down to patients actively deciding  
NOTE Confidence: 0.99176633  
00:43:30.930 --> 00:43:31.910 with their oncologist  
NOTE Confidence: 0.98835987  
00:43:32.610 --> 00:43:34.550 based on preferences of schedule,  
NOTE Confidence: 0.98835987  
00:43:34.770 --> 00:43:36.450 side effects, and so many  
NOTE Confidence: 0.98835987  
00:43:36.450 --> 00:43:38.210 other considerations. So don't be  
NOTE Confidence: 0.98835987

00:43:38.210 --> 00:43:38.710 afraid  
NOTE Confidence: 0.9994901

00:43:39.170 --> 00:43:40.610 to be bringing up these  
NOTE Confidence: 0.9994901

00:43:40.610 --> 00:43:41.110 questions.  
NOTE Confidence: 0.99454457

00:43:41.489 --> 00:43:42.370 We we would love to  
NOTE Confidence: 0.99454457

00:43:42.370 --> 00:43:43.270 have these conversations.  
NOTE Confidence: 0.97018284

00:43:44.605 --> 00:43:45.485 There is a there was  
NOTE Confidence: 0.97018284

00:43:45.485 --> 00:43:46.685 a question in the chat  
NOTE Confidence: 0.97018284

00:43:46.685 --> 00:43:48.364 that's also an excellent one  
NOTE Confidence: 0.97018284

00:43:48.364 --> 00:43:49.265 in terms of  
NOTE Confidence: 0.9965958

00:43:49.565 --> 00:43:50.625 when we test,  
NOTE Confidence: 0.9622555

00:43:51.325 --> 00:43:53.825 for these different, targetable pathways.  
NOTE Confidence: 0.9622555

00:43:53.885 --> 00:43:55.485 So doctor Shellhorn will answer  
NOTE Confidence: 0.9622555

00:43:55.485 --> 00:43:57.359 that live. Yeah. No. It  
NOTE Confidence: 0.9622555

00:43:57.440 --> 00:43:58.480 it's a it's a great  
NOTE Confidence: 0.9622555

00:43:58.480 --> 00:43:59.940 question, and doctor O'Neil  
NOTE Confidence: 0.99940354

00:44:00.319 --> 00:44:02.339 talked a lot about targetable

NOTE Confidence: 0.99940354

00:44:02.400 --> 00:44:02.900 mutations.

NOTE Confidence: 0.97613245

00:44:04.480 --> 00:44:06.559 It it's applicable for any

NOTE Confidence: 0.97613245

00:44:06.559 --> 00:44:07.680 type of breast cancer, at

NOTE Confidence: 0.97613245

00:44:07.680 --> 00:44:08.799 least to some degree. It's

NOTE Confidence: 0.97613245

00:44:08.799 --> 00:44:10.880 particularly relevant for cancers that

NOTE Confidence: 0.97613245

00:44:10.880 --> 00:44:12.105 are driven by hormones. So

NOTE Confidence: 0.97613245

00:44:12.105 --> 00:44:13.705 the hormone receptor positive breast

NOTE Confidence: 0.97613245

00:44:13.705 --> 00:44:14.205 cancers.

NOTE Confidence: 0.9373985

00:44:15.864 --> 00:44:17.244 Doctor O'Neil mentioned

NOTE Confidence: 0.9086123

00:44:17.625 --> 00:44:18.125 specifically

NOTE Confidence: 0.9782238

00:44:18.425 --> 00:44:19.485 ESR one,

NOTE Confidence: 0.91218585

00:44:20.505 --> 00:44:22.105 looking at anything in the

NOTE Confidence: 0.91218585

00:44:22.105 --> 00:44:23.864 AKT pathway. So AKT p

NOTE Confidence: 0.91218585

00:44:23.864 --> 00:44:25.005 ten PI three kinase,

NOTE Confidence: 0.7843256

00:44:25.545 --> 00:44:26.525 PIK three CA,

NOTE Confidence: 0.97457546

00:44:27.350 --> 00:44:28.230 as well as a few  
NOTE Confidence: 0.97457546

00:44:28.230 --> 00:44:29.930 other mutations that have  
NOTE Confidence: 0.9993038

00:44:30.550 --> 00:44:32.010 that are that are considered  
NOTE Confidence: 0.9648733

00:44:32.390 --> 00:44:34.550 druggable. Meaning, we have drugs  
NOTE Confidence: 0.9648733

00:44:34.550 --> 00:44:35.450 that that  
NOTE Confidence: 0.9471949

00:44:36.150 --> 00:44:38.469 focus on those molecular engine  
NOTE Confidence: 0.9471949

00:44:38.790 --> 00:44:39.850 genomic abnormalities  
NOTE Confidence: 0.99259144

00:44:40.150 --> 00:44:41.830 and and help kind of  
NOTE Confidence: 0.99259144

00:44:41.830 --> 00:44:43.635 turn off the switches that  
NOTE Confidence: 0.99259144

00:44:43.635 --> 00:44:44.935 might be driving the cancer.  
NOTE Confidence: 0.9975986

00:44:45.795 --> 00:44:46.614 And so  
NOTE Confidence: 0.99485147

00:44:48.195 --> 00:44:50.195 there's no right answer or  
NOTE Confidence: 0.99485147

00:44:50.195 --> 00:44:51.715 wrong answer to how often  
NOTE Confidence: 0.99485147

00:44:51.715 --> 00:44:52.614 to be testing.  
NOTE Confidence: 0.9716043

00:44:54.355 --> 00:44:55.395 And I think kind of  
NOTE Confidence: 0.9716043

00:44:55.395 --> 00:44:57.075 a a a corollary to



NOTE Confidence: 0.9716043

00:44:57.075 --> 00:44:58.530 this is how to test

NOTE Confidence: 0.9716043

00:44:58.530 --> 00:44:59.410 because there are a couple

NOTE Confidence: 0.9716043

00:44:59.410 --> 00:45:00.210 of ways that you can

NOTE Confidence: 0.9716043

00:45:00.210 --> 00:45:01.969 test for genomic abnormalities. You

NOTE Confidence: 0.9716043

00:45:01.969 --> 00:45:03.430 can test the cancer itself

NOTE Confidence: 0.99727243

00:45:03.810 --> 00:45:05.030 on a biopsy specimen.

NOTE Confidence: 0.99397504

00:45:05.570 --> 00:45:06.870 So you if you have

NOTE Confidence: 0.99397504

00:45:06.930 --> 00:45:07.969 a cancer that's got a

NOTE Confidence: 0.99397504

00:45:07.969 --> 00:45:09.489 deposit in the liver, for

NOTE Confidence: 0.99397504

00:45:09.489 --> 00:45:09.989 example,

NOTE Confidence: 0.9900385

00:45:10.450 --> 00:45:11.570 you could get a liver

NOTE Confidence: 0.9900385

00:45:11.570 --> 00:45:13.090 biopsy to take a sample

NOTE Confidence: 0.9900385

00:45:13.090 --> 00:45:14.445 of that particular tissue and

NOTE Confidence: 0.9900385

00:45:14.445 --> 00:45:15.485 then send it to the

NOTE Confidence: 0.9900385

00:45:15.485 --> 00:45:16.445 to the lab to look

NOTE Confidence: 0.9900385

00:45:16.445 --> 00:45:17.805 at under the microscope where  
NOTE Confidence: 0.9900385

00:45:17.805 --> 00:45:19.165 we would test for estrogen  
NOTE Confidence: 0.9900385

00:45:19.165 --> 00:45:21.085 receptor, progesterone receptor, HER2, and  
NOTE Confidence: 0.9900385

00:45:21.085 --> 00:45:22.125 we could also then send  
NOTE Confidence: 0.9900385

00:45:22.125 --> 00:45:23.565 it for all of these  
NOTE Confidence: 0.9900385

00:45:23.565 --> 00:45:25.245 molecular tests to look for  
NOTE Confidence: 0.9900385

00:45:25.245 --> 00:45:26.945 any sort of genomic abnormality.  
NOTE Confidence: 0.97958696

00:45:29.550 --> 00:45:30.770 But you can also  
NOTE Confidence: 0.98203635

00:45:31.310 --> 00:45:32.989 do what we call a  
NOTE Confidence: 0.98203635

00:45:32.989 --> 00:45:34.670 liquid biopsy, which is a  
NOTE Confidence: 0.98203635

00:45:34.670 --> 00:45:35.410 blood test,  
NOTE Confidence: 0.9997401

00:45:35.790 --> 00:45:36.930 looking at  
NOTE Confidence: 0.99166775

00:45:37.630 --> 00:45:39.550 DNA from the cancer that  
NOTE Confidence: 0.99166775

00:45:39.550 --> 00:45:40.830 might be circulating in the  
NOTE Confidence: 0.99166775

00:45:40.830 --> 00:45:42.494 blood and getting that same  
NOTE Confidence: 0.99166775

00:45:42.494 --> 00:45:44.414 information in a much less

NOTE Confidence: 0.99166775

00:45:44.414 --> 00:45:46.015 invasive way. So it doesn't

NOTE Confidence: 0.99166775

00:45:46.015 --> 00:45:47.295 require a biopsy or a

NOTE Confidence: 0.99166775

00:45:47.295 --> 00:45:48.414 needle. It just requires a

NOTE Confidence: 0.99166775

00:45:48.414 --> 00:45:49.154 blood draw.

NOTE Confidence: 0.98686177

00:45:49.934 --> 00:45:51.555 And so with the advent

NOTE Confidence: 0.98686177

00:45:51.694 --> 00:45:53.795 of these liquid biopsies,

NOTE Confidence: 0.9928654

00:45:55.855 --> 00:45:56.914 the the opportunity

NOTE Confidence: 0.99893075

00:45:58.390 --> 00:46:00.170 is is much less risky

NOTE Confidence: 0.99939764

00:46:00.550 --> 00:46:02.170 and much easier to do

NOTE Confidence: 0.9976635

00:46:02.550 --> 00:46:04.150 at any point where it

NOTE Confidence: 0.9976635

00:46:04.150 --> 00:46:05.930 could theoretically change management.

NOTE Confidence: 0.9920158

00:46:06.469 --> 00:46:08.150 And so I think most

NOTE Confidence: 0.9920158

00:46:08.150 --> 00:46:10.070 of us are testing pretty

NOTE Confidence: 0.9920158

00:46:10.070 --> 00:46:10.969 early on,

NOTE Confidence: 0.8635784

00:46:12.315 --> 00:46:13.775 maybe not immediately

NOTE Confidence: 0.97239465

00:46:14.075 --> 00:46:15.855 after a diagnosis of metastatic  
NOTE Confidence: 0.97239465

00:46:15.915 --> 00:46:17.035 breast cancer. But, again, it  
NOTE Confidence: 0.97239465

00:46:17.035 --> 00:46:18.575 might depend on on  
NOTE Confidence: 0.9770438

00:46:19.035 --> 00:46:20.494 what what a patient's,  
NOTE Confidence: 0.96524245

00:46:20.875 --> 00:46:22.234 what a patient's story is,  
NOTE Confidence: 0.96524245

00:46:22.234 --> 00:46:23.355 what their history is, had  
NOTE Confidence: 0.96524245

00:46:23.355 --> 00:46:24.715 they gotten prior treatment, and  
NOTE Confidence: 0.96524245

00:46:24.715 --> 00:46:25.915 if so, how long ago,  
NOTE Confidence: 0.96524245

00:46:25.915 --> 00:46:27.160 and what medicines were they  
NOTE Confidence: 0.96524245

00:46:27.160 --> 00:46:27.660 on?  
NOTE Confidence: 0.9614673

00:46:28.840 --> 00:46:29.719 So you might test as  
NOTE Confidence: 0.9614673

00:46:29.719 --> 00:46:30.920 early as right then and  
NOTE Confidence: 0.9614673

00:46:30.920 --> 00:46:32.060 there at the first  
NOTE Confidence: 0.98882514

00:46:32.440 --> 00:46:33.820 the first sign of metastatic  
NOTE Confidence: 0.98882514

00:46:33.880 --> 00:46:34.380 disease.  
NOTE Confidence: 0.9361013

00:46:36.040 --> 00:46:37.739 But I think for certain,

NOTE Confidence: 0.9566882

00:46:38.360 --> 00:46:40.280 after progression on first line

NOTE Confidence: 0.9566882

00:46:40.280 --> 00:46:42.364 therapy for hormone receptor positive

NOTE Confidence: 0.9566882

00:46:42.364 --> 00:46:44.145 breast cancer because that's when

NOTE Confidence: 0.9566882

00:46:44.364 --> 00:46:46.704 these molecular targets really become,

NOTE Confidence: 0.999123

00:46:48.285 --> 00:46:49.265 become relevant

NOTE Confidence: 0.99617004

00:46:49.565 --> 00:46:51.665 after progression on on

NOTE Confidence: 0.944118

00:46:52.204 --> 00:46:53.645 the first line, usually an

NOTE Confidence: 0.944118

00:46:53.645 --> 00:46:55.244 aromatase inhibitor and a CDK

NOTE Confidence: 0.944118

00:46:55.244 --> 00:46:56.850 four six inhibitor as doctor

NOTE Confidence: 0.944118

00:46:56.850 --> 00:46:57.830 O'Neil described.

NOTE Confidence: 0.9530724

00:46:59.730 --> 00:47:01.650 But then things can change

NOTE Confidence: 0.9530724

00:47:01.650 --> 00:47:02.930 over time and things can

NOTE Confidence: 0.9530724

00:47:02.930 --> 00:47:05.010 develop. So for example, that

NOTE Confidence: 0.9530724

00:47:05.010 --> 00:47:06.310 ESR one mutation

NOTE Confidence: 0.9578724

00:47:06.930 --> 00:47:07.989 ESR one mutation

NOTE Confidence: 0.96745235

00:47:08.930 --> 00:47:11.085 isn't usually very common right

NOTE Confidence: 0.96745235

00:47:11.085 --> 00:47:11.805 at the time of a

NOTE Confidence: 0.96745235

00:47:11.805 --> 00:47:13.965 metastatic diagnosis unless someone had

NOTE Confidence: 0.96745235

00:47:13.965 --> 00:47:14.705 been on,

NOTE Confidence: 0.9381734

00:47:15.565 --> 00:47:17.245 previous therapies. It but it

NOTE Confidence: 0.9381734

00:47:17.245 --> 00:47:17.905 can develop,

NOTE Confidence: 0.99259275

00:47:18.844 --> 00:47:20.364 in even up to forty,

NOTE Confidence: 0.99259275

00:47:20.364 --> 00:47:22.045 fifty percent of patients who

NOTE Confidence: 0.99259275

00:47:22.045 --> 00:47:23.790 have been on aromatase inhibitors

NOTE Confidence: 0.99259275

00:47:23.870 --> 00:47:25.710 over time. So we would

NOTE Confidence: 0.99259275

00:47:25.710 --> 00:47:26.210 check

NOTE Confidence: 0.994586

00:47:27.390 --> 00:47:27.890 periodically

NOTE Confidence: 0.93985254

00:47:28.350 --> 00:47:29.250 at the time

NOTE Confidence: 0.97846776

00:47:29.790 --> 00:47:30.989 that there's a a sense

NOTE Confidence: 0.97846776

00:47:30.989 --> 00:47:32.350 of the cancer starting to

NOTE Confidence: 0.97846776

00:47:32.350 --> 00:47:32.850 progress,

NOTE Confidence: 0.99903953  
00:47:33.550 --> 00:47:36.030 check for for circulating tumor  
NOTE Confidence: 0.99903953  
00:47:36.030 --> 00:47:37.489 DNA, check for mutations  
NOTE Confidence: 0.998584  
00:47:38.195 --> 00:47:39.094 with the idea,  
NOTE Confidence: 0.9991661  
00:47:39.715 --> 00:47:41.094 that something targetable  
NOTE Confidence: 0.9983885  
00:47:41.395 --> 00:47:43.155 if something targetable were found,  
NOTE Confidence: 0.9983885  
00:47:43.155 --> 00:47:44.055 we could then  
NOTE Confidence: 0.999261  
00:47:44.675 --> 00:47:45.655 target it.  
NOTE Confidence: 0.9985044  
00:47:46.835 --> 00:47:47.875 And the other time to  
NOTE Confidence: 0.9985044  
00:47:47.875 --> 00:47:49.415 consider molecular testing  
NOTE Confidence: 0.9993129  
00:47:50.035 --> 00:47:50.535 is  
NOTE Confidence: 0.9798526  
00:47:51.480 --> 00:47:53.640 when considering clinical trials because  
NOTE Confidence: 0.9798526  
00:47:53.640 --> 00:47:55.239 there are new drugs becoming  
NOTE Confidence: 0.9798526  
00:47:55.239 --> 00:47:57.260 available for particular mutations,  
NOTE Confidence: 0.99798316  
00:47:58.040 --> 00:48:00.380 certain earlier phase clinical trials  
NOTE Confidence: 0.9906886  
00:48:00.920 --> 00:48:02.140 that are,  
NOTE Confidence: 0.9888447

00:48:03.080 --> 00:48:05.020 applicable to patients with certain

NOTE Confidence: 0.90907943

00:48:08.785 --> 00:48:09.925 FDA approved

NOTE Confidence: 0.9522818

00:48:10.225 --> 00:48:10.725 targetable,

NOTE Confidence: 0.9912939

00:48:13.825 --> 00:48:15.925 druggable targets at this point.

NOTE Confidence: 0.9481476

00:48:17.265 --> 00:48:17.765 So

NOTE Confidence: 0.98987395

00:48:18.385 --> 00:48:19.985 lots of opportunities, and it's

NOTE Confidence: 0.98987395

00:48:19.985 --> 00:48:21.505 getting easier and easier to

NOTE Confidence: 0.98987395

00:48:21.505 --> 00:48:21.960 do.

NOTE Confidence: 0.99585134

00:48:23.320 --> 00:48:24.280 Kim, I hope that answers

NOTE Confidence: 0.99585134

00:48:24.280 --> 00:48:24.940 your question.

NOTE Confidence: 0.9658063

00:48:27.320 --> 00:48:28.839 Yes. And there was also

NOTE Confidence: 0.9658063

00:48:28.839 --> 00:48:30.520 an additional question about is

NOTE Confidence: 0.9658063

00:48:30.520 --> 00:48:32.040 ESR one testing ever done

NOTE Confidence: 0.9658063

00:48:32.040 --> 00:48:33.820 in early stage breast cancer.

NOTE Confidence: 0.99827623

00:48:34.200 --> 00:48:35.239 And I would say,

NOTE Confidence: 0.96278054

00:48:35.640 --> 00:48:37.400 one, two points there. These



NOTE Confidence: 0.96278054  
00:48:37.400 --> 00:48:37.900 are  
NOTE Confidence: 0.9983379  
00:48:38.495 --> 00:48:40.355 acquired alterations that  
NOTE Confidence: 0.99982923  
00:48:40.735 --> 00:48:42.835 occur under selective pressure  
NOTE Confidence: 0.99841404  
00:48:43.614 --> 00:48:44.114 of  
NOTE Confidence: 0.9538602  
00:48:44.495 --> 00:48:46.575 more longer exposure to anti  
NOTE Confidence: 0.9538602  
00:48:46.575 --> 00:48:48.515 estrogen therapy. So you're unlikely  
NOTE Confidence: 0.9538602  
00:48:48.815 --> 00:48:49.775 you're gonna have a low  
NOTE Confidence: 0.9538602  
00:48:49.775 --> 00:48:51.135 chance of finding it early  
NOTE Confidence: 0.9538602  
00:48:51.135 --> 00:48:52.495 on in early stage breast  
NOTE Confidence: 0.9538602  
00:48:52.495 --> 00:48:52.995 cancer.  
NOTE Confidence: 0.9996134  
00:48:53.460 --> 00:48:55.480 However, there are studies investigating  
NOTE Confidence: 0.9530355  
00:48:56.020 --> 00:48:58.099 adjuvant SIRDS in high risk  
NOTE Confidence: 0.9530355  
00:48:58.099 --> 00:48:59.400 early stage breast cancer.  
NOTE Confidence: 0.99315995  
00:48:59.700 --> 00:49:01.219 So as often happens, if  
NOTE Confidence: 0.99315995  
00:49:01.219 --> 00:49:02.660 something is approved and shown  
NOTE Confidence: 0.99315995

00:49:02.660 --> 00:49:04.280 to be effective in metastatic  
NOTE Confidence: 0.99315995

00:49:04.340 --> 00:49:05.859 breast cancer, we do start  
NOTE Confidence: 0.99315995

00:49:05.859 --> 00:49:07.140 testing it in early stage  
NOTE Confidence: 0.99315995

00:49:07.140 --> 00:49:07.880 breast cancer.  
NOTE Confidence: 0.96302253

00:49:08.945 --> 00:49:10.705 There are couple of questions  
NOTE Confidence: 0.96302253

00:49:10.705 --> 00:49:12.325 in the chat that are  
NOTE Confidence: 0.98184747

00:49:12.785 --> 00:49:14.225 are complex, so we might  
NOTE Confidence: 0.98184747

00:49:14.225 --> 00:49:15.344 need to kind of tag  
NOTE Confidence: 0.98184747

00:49:15.344 --> 00:49:16.005 team it.  
NOTE Confidence: 0.78148997

00:49:17.265 --> 00:49:17.765 So,  
NOTE Confidence: 0.9613436

00:49:20.945 --> 00:49:21.540 so let's,  
NOTE Confidence: 0.973775

00:49:22.820 --> 00:49:24.260 let's take the question from  
NOTE Confidence: 0.973775

00:49:24.260 --> 00:49:25.239 doctor Ward,  
NOTE Confidence: 0.79544055

00:49:26.739 --> 00:49:27.239 on,  
NOTE Confidence: 0.9707882

00:49:27.620 --> 00:49:29.219 will doctor Ward is one  
NOTE Confidence: 0.9707882

00:49:29.219 --> 00:49:29.800 of our,

NOTE Confidence: 0.9767707  
00:49:30.580 --> 00:49:31.880 amazing breast surgeons,  
NOTE Confidence: 0.9045831  
00:49:32.260 --> 00:49:34.120 within Yale network. So,  
NOTE Confidence: 0.99139065  
00:49:35.614 --> 00:49:36.575 so in the setting of  
NOTE Confidence: 0.99139065  
00:49:36.575 --> 00:49:37.075 oligometastatic  
NOTE Confidence: 0.99988043  
00:49:37.535 --> 00:49:38.035 disease  
NOTE Confidence: 0.99730206  
00:49:38.335 --> 00:49:40.015 and a primary breast tumor,  
NOTE Confidence: 0.99730206  
00:49:40.015 --> 00:49:41.375 who wants to tackle this?  
NOTE Confidence: 0.99730206  
00:49:41.375 --> 00:49:42.674 What is the current thinking  
NOTE Confidence: 0.99982864  
00:49:43.055 --> 00:49:43.954 on breast surgery?  
NOTE Confidence: 0.9993698  
00:49:45.135 --> 00:49:46.494 Doctor Ward wants to be  
NOTE Confidence: 0.9993698  
00:49:46.494 --> 00:49:47.395 a little provocative  
NOTE Confidence: 0.85356647  
00:49:47.820 --> 00:49:49.200 at our Smilo shares,  
NOTE Confidence: 0.90869397  
00:49:50.140 --> 00:49:51.760 Smilo share session.  
NOTE Confidence: 0.97595435  
00:49:52.060 --> 00:49:53.680 So the question is specifically  
NOTE Confidence: 0.97595435  
00:49:53.980 --> 00:49:56.219 asking if somebody has a  
NOTE Confidence: 0.97595435

00:49:56.219 --> 00:49:58.540 primary breast cancer that's in  
NOTE Confidence: 0.97595435

00:49:58.540 --> 00:49:59.920 the breast and they're diagnosed  
NOTE Confidence: 0.97595435

00:50:00.140 --> 00:50:01.420 with that breast cancer, but  
NOTE Confidence: 0.97595435

00:50:01.420 --> 00:50:02.320 they are found  
NOTE Confidence: 0.99985135

00:50:02.635 --> 00:50:03.135 to  
NOTE Confidence: 0.9993863

00:50:03.595 --> 00:50:05.515 have one or just a  
NOTE Confidence: 0.9993863

00:50:05.515 --> 00:50:06.015 few  
NOTE Confidence: 0.9996784

00:50:06.955 --> 00:50:07.455 spots  
NOTE Confidence: 0.9866229

00:50:07.835 --> 00:50:09.435 on on a staging scan.  
NOTE Confidence: 0.9866229

00:50:09.435 --> 00:50:10.555 So on a CAT scan  
NOTE Confidence: 0.9866229

00:50:10.555 --> 00:50:11.755 or a PET scan, they're  
NOTE Confidence: 0.9866229

00:50:11.755 --> 00:50:13.595 found to have another spot  
NOTE Confidence: 0.9866229

00:50:13.595 --> 00:50:15.135 somewhere else in their body.  
NOTE Confidence: 0.99923766

00:50:15.595 --> 00:50:16.815 Is there a role  
NOTE Confidence: 0.9996683

00:50:17.859 --> 00:50:19.080 for doing surgery  
NOTE Confidence: 0.9855938

00:50:19.540 --> 00:50:20.359 to the breast?

NOTE Confidence: 0.9918112  
00:50:21.700 --> 00:50:23.380 Because at that point, kind  
NOTE Confidence: 0.9918112  
00:50:23.380 --> 00:50:24.660 of the traditional way that  
NOTE Confidence: 0.9918112  
00:50:24.660 --> 00:50:26.040 we think about this is  
NOTE Confidence: 0.9918112  
00:50:26.180 --> 00:50:27.940 that once the cancer has  
NOTE Confidence: 0.9918112  
00:50:27.940 --> 00:50:28.440 spread  
NOTE Confidence: 0.99734426  
00:50:28.820 --> 00:50:30.195 outside of the breast,  
NOTE Confidence: 0.9923299  
00:50:30.755 --> 00:50:32.695 it's no longer considered curable.  
NOTE Confidence: 0.99889636  
00:50:33.235 --> 00:50:34.055 And so  
NOTE Confidence: 0.9564938  
00:50:34.515 --> 00:50:35.575 curative approaches,  
NOTE Confidence: 0.9896938  
00:50:35.955 --> 00:50:37.495 including breast surgery,  
NOTE Confidence: 0.9991009  
00:50:38.515 --> 00:50:39.255 are generally  
NOTE Confidence: 0.9976576  
00:50:39.635 --> 00:50:41.094 not not considered.  
NOTE Confidence: 0.9977241  
00:50:42.114 --> 00:50:43.155 I'd say this is an  
NOTE Confidence: 0.9977241  
00:50:43.155 --> 00:50:44.755 area of a lot of  
NOTE Confidence: 0.9977241  
00:50:44.755 --> 00:50:45.255 research,  
NOTE Confidence: 0.9997162

00:50:46.310 --> 00:50:46.810 especially  
NOTE Confidence: 0.9972849

00:50:47.510 --> 00:50:48.010 in  
NOTE Confidence: 0.9505772

00:50:48.310 --> 00:50:50.010 HER two positive breast cancer  
NOTE Confidence: 0.9505772

00:50:50.150 --> 00:50:51.590 and in triple negative breast  
NOTE Confidence: 0.9505772

00:50:51.590 --> 00:50:52.090 cancer  
NOTE Confidence: 0.63875675

00:50:52.630 --> 00:50:53.130 because  
NOTE Confidence: 0.83700883

00:50:54.070 --> 00:50:54.570 sometimes  
NOTE Confidence: 0.97624385

00:50:54.950 --> 00:50:56.790 those types of cancers are  
NOTE Confidence: 0.97624385

00:50:56.790 --> 00:50:58.170 very, very responsive  
NOTE Confidence: 0.9997184

00:50:58.469 --> 00:50:59.130 to chemotherapy.  
NOTE Confidence: 0.9580942

00:51:02.205 --> 00:51:03.725 The data that we have  
NOTE Confidence: 0.9580942

00:51:03.725 --> 00:51:04.385 to date  
NOTE Confidence: 0.99961096

00:51:04.765 --> 00:51:06.145 does not show a benefit  
NOTE Confidence: 0.99961096

00:51:06.364 --> 00:51:06.864 to  
NOTE Confidence: 0.9843315

00:51:07.645 --> 00:51:08.145 to,  
NOTE Confidence: 0.9997678

00:51:08.765 --> 00:51:10.145 primary breast surgery

NOTE Confidence: 0.9909122  
00:51:10.605 --> 00:51:11.505 in the setting  
NOTE Confidence: 0.97627115  
00:51:11.885 --> 00:51:14.045 of metastatic disease. But these  
NOTE Confidence: 0.97627115  
00:51:14.045 --> 00:51:15.565 studies aren't perfect, and so  
NOTE Confidence: 0.97627115  
00:51:15.565 --> 00:51:16.705 there are some ongoing  
NOTE Confidence: 0.9856246  
00:51:17.060 --> 00:51:18.739 studies being done to look  
NOTE Confidence: 0.9856246  
00:51:18.739 --> 00:51:20.900 at particular subsets of patients  
NOTE Confidence: 0.9856246  
00:51:20.900 --> 00:51:21.700 to see if there are  
NOTE Confidence: 0.9856246  
00:51:21.700 --> 00:51:23.000 benefits. And I,  
NOTE Confidence: 0.99914896  
00:51:23.460 --> 00:51:24.980 I will say that for  
NOTE Confidence: 0.99914896  
00:51:24.980 --> 00:51:26.359 all of the medical oncologists  
NOTE Confidence: 0.9985847  
00:51:26.660 --> 00:51:28.260 in our practice, we all  
NOTE Confidence: 0.9985847  
00:51:28.260 --> 00:51:29.080 have patients  
NOTE Confidence: 0.98863286  
00:51:29.859 --> 00:51:31.160 who have had,  
NOTE Confidence: 0.9854103  
00:51:31.645 --> 00:51:32.945 they may have had metastatic  
NOTE Confidence: 0.9854103  
00:51:33.085 --> 00:51:34.605 disease, and they may have  
NOTE Confidence: 0.9854103

00:51:34.605 --> 00:51:36.125 had surgery, and they may

NOTE Confidence: 0.9854103

00:51:36.125 --> 00:51:37.185 have had radiation,

NOTE Confidence: 0.99551994

00:51:38.205 --> 00:51:39.885 very strong radiation with the

NOTE Confidence: 0.99551994

00:51:39.885 --> 00:51:41.905 goal of of trying to,

NOTE Confidence: 0.9979154

00:51:43.085 --> 00:51:43.585 sterilize

NOTE Confidence: 0.8473851

00:51:44.045 --> 00:51:44.545 metastatic

NOTE Confidence: 0.8008941

00:51:45.245 --> 00:51:45.745 deposits.

NOTE Confidence: 0.99947196

00:51:46.125 --> 00:51:47.025 And they do

NOTE Confidence: 0.9934254

00:51:47.540 --> 00:51:48.680 really, really well

NOTE Confidence: 0.9959084

00:51:49.060 --> 00:51:50.599 for a really long time

NOTE Confidence: 0.9959084

00:51:50.820 --> 00:51:52.260 and don't have evidence of

NOTE Confidence: 0.9959084

00:51:52.260 --> 00:51:54.260 further cancer. I know I

NOTE Confidence: 0.9959084

00:51:54.260 --> 00:51:56.359 know that there's at least

NOTE Confidence: 0.9959084

00:51:56.420 --> 00:51:57.700 one of them on this

NOTE Confidence: 0.9959084

00:51:57.700 --> 00:51:59.619 call right now who's who's

NOTE Confidence: 0.9959084

00:51:59.619 --> 00:52:00.599 listening in.



NOTE Confidence: 0.9668942  
00:52:01.695 --> 00:52:03.215 People so we can't fully  
NOTE Confidence: 0.9668942  
00:52:03.215 --> 00:52:04.735 explain why that happens, but  
NOTE Confidence: 0.9668942  
00:52:04.735 --> 00:52:05.855 what what our goal in  
NOTE Confidence: 0.9668942  
00:52:05.855 --> 00:52:06.975 terms of the research going  
NOTE Confidence: 0.9668942  
00:52:06.975 --> 00:52:08.495 forward is is to figure  
NOTE Confidence: 0.9668942  
00:52:08.495 --> 00:52:08.995 out  
NOTE Confidence: 0.99036777  
00:52:09.535 --> 00:52:10.835 who are those patients  
NOTE Confidence: 0.97721744  
00:52:11.695 --> 00:52:13.215 that can benefit from a  
NOTE Confidence: 0.97721744  
00:52:13.215 --> 00:52:13.715 more,  
NOTE Confidence: 0.98725104  
00:52:14.820 --> 00:52:16.820 aggressive approach and continue to  
NOTE Confidence: 0.98725104  
00:52:16.820 --> 00:52:17.940 do well in the long  
NOTE Confidence: 0.98725104  
00:52:17.940 --> 00:52:19.860 run rather than go through  
NOTE Confidence: 0.98725104  
00:52:19.860 --> 00:52:21.000 very big surgeries,  
NOTE Confidence: 0.9799126  
00:52:22.020 --> 00:52:24.180 very aggressive treatments, and not  
NOTE Confidence: 0.9799126  
00:52:24.180 --> 00:52:25.560 benefit in the long run.  
NOTE Confidence: 0.98138994

00:52:27.995 --> 00:52:29.114 Yeah. I think I think  
NOTE Confidence: 0.98138994

00:52:29.114 --> 00:52:30.094 comes back to  
NOTE Confidence: 0.9849335

00:52:30.635 --> 00:52:32.555 shared decision making and really  
NOTE Confidence: 0.9849335

00:52:32.555 --> 00:52:34.555 looking at each individual patient.  
NOTE Confidence: 0.9849335

00:52:34.555 --> 00:52:35.755 Bringing it back to tumor  
NOTE Confidence: 0.9849335

00:52:35.755 --> 00:52:36.715 board, which is one of  
NOTE Confidence: 0.9849335

00:52:36.715 --> 00:52:38.315 the questions that is densely  
NOTE Confidence: 0.9849335

00:52:38.315 --> 00:52:38.815 packed,  
NOTE Confidence: 0.9704558

00:52:39.835 --> 00:52:40.795 in one of our chat  
NOTE Confidence: 0.9704558

00:52:40.795 --> 00:52:41.910 questions, which which is, does  
NOTE Confidence: 0.9704558

00:52:41.910 --> 00:52:43.910 a single oncologist determine the  
NOTE Confidence: 0.9704558

00:52:43.910 --> 00:52:44.950 treatment plan, or is it  
NOTE Confidence: 0.9704558

00:52:44.950 --> 00:52:46.089 a collective decision?  
NOTE Confidence: 0.9958923

00:52:46.469 --> 00:52:47.510 I can say that,  
NOTE Confidence: 0.99863

00:52:48.390 --> 00:52:49.750 if it's if something is  
NOTE Confidence: 0.99863

00:52:49.750 --> 00:52:50.569 very straightforward,

NOTE Confidence: 0.9875831  
00:52:51.030 --> 00:52:52.230 the decision is made between  
NOTE Confidence: 0.9875831  
00:52:52.230 --> 00:52:53.670 the oncologist and the patient  
NOTE Confidence: 0.9875831  
00:52:53.670 --> 00:52:54.790 in the room right then  
NOTE Confidence: 0.9875831  
00:52:54.790 --> 00:52:56.844 and then. But any nuances,  
NOTE Confidence: 0.9875831  
00:52:57.065 --> 00:52:57.964 any complexities,  
NOTE Confidence: 0.9942811  
00:52:58.265 --> 00:52:59.625 I do wanna assure all  
NOTE Confidence: 0.9942811  
00:52:59.625 --> 00:53:01.065 of you that we're talking  
NOTE Confidence: 0.9942811  
00:53:01.065 --> 00:53:02.525 all among each other.  
NOTE Confidence: 0.9748726  
00:53:02.825 --> 00:53:04.105 We're bringing it back to  
NOTE Confidence: 0.9748726  
00:53:04.105 --> 00:53:05.085 tumor board,  
NOTE Confidence: 0.97137135  
00:53:05.785 --> 00:53:07.545 and also just encouraging you  
NOTE Confidence: 0.97137135  
00:53:07.545 --> 00:53:09.085 that if if you're unsure  
NOTE Confidence: 0.97137135  
00:53:09.224 --> 00:53:10.925 or want additional opinions,  
NOTE Confidence: 0.9747879  
00:53:11.360 --> 00:53:13.060 it's never wrong to explore  
NOTE Confidence: 0.9747879  
00:53:13.120 --> 00:53:14.800 second opinions. It's actually your  
NOTE Confidence: 0.9747879

00:53:14.800 --> 00:53:16.020 right as a patient.

NOTE Confidence: 0.70512134

00:53:18.320 --> 00:53:18.820 Additional

NOTE Confidence: 0.99958694

00:53:19.200 --> 00:53:20.420 questions about

NOTE Confidence: 0.9145402

00:53:20.800 --> 00:53:21.300 just

NOTE Confidence: 0.9601195

00:53:22.800 --> 00:53:23.964 we kind of answered the

NOTE Confidence: 0.9601195

00:53:23.964 --> 00:53:25.005 question if it's a new

NOTE Confidence: 0.9601195

00:53:25.005 --> 00:53:26.765 cancer, are all markers tested

NOTE Confidence: 0.9601195

00:53:26.765 --> 00:53:28.045 again? And, yes, we we

NOTE Confidence: 0.9601195

00:53:28.045 --> 00:53:29.344 definitely wanna understand

NOTE Confidence: 0.9975582

00:53:29.885 --> 00:53:31.484 the biology of a new

NOTE Confidence: 0.9975582

00:53:31.484 --> 00:53:31.984 recurrence.

NOTE Confidence: 0.956725

00:53:34.605 --> 00:53:36.224 And I think maybe, Dan,

NOTE Confidence: 0.97586703

00:53:36.560 --> 00:53:37.680 take that first part of

NOTE Confidence: 0.97586703

00:53:37.680 --> 00:53:39.700 the question about late recurrences

NOTE Confidence: 0.97586703

00:53:39.840 --> 00:53:41.520 and hormone receptor positive breast

NOTE Confidence: 0.97586703

00:53:41.520 --> 00:53:42.020 cancer

NOTE Confidence: 0.9769302

00:53:42.320 --> 00:53:43.119 and how it can be

NOTE Confidence: 0.9769302

00:53:43.119 --> 00:53:44.800 different with different subtypes of

NOTE Confidence: 0.9769302

00:53:44.800 --> 00:53:45.300 cancer.

NOTE Confidence: 0.97299594

00:53:45.760 --> 00:53:46.960 Yeah. Yeah. That that is

NOTE Confidence: 0.97299594

00:53:46.960 --> 00:53:48.260 a that's a great question.

NOTE Confidence: 0.96241117

00:53:48.880 --> 00:53:50.555 So just like there are

NOTE Confidence: 0.96241117

00:53:50.555 --> 00:53:52.075 different subtypes of breast cancer,

NOTE Confidence: 0.96241117

00:53:52.075 --> 00:53:53.995 the the behavior of different

NOTE Confidence: 0.96241117

00:53:53.995 --> 00:53:55.435 cancers in terms of likelihood

NOTE Confidence: 0.96241117

00:53:55.435 --> 00:53:56.015 of recurrence,

NOTE Confidence: 0.97014815

00:53:56.315 --> 00:53:57.435 can be quite different,

NOTE Confidence: 0.9973912

00:53:57.755 --> 00:53:58.875 and the timing can be

NOTE Confidence: 0.9973912

00:53:58.875 --> 00:53:59.275 different.

NOTE Confidence: 0.9424371

00:54:00.315 --> 00:54:01.995 So, the the kind of

NOTE Confidence: 0.9424371

00:54:01.995 --> 00:54:03.195 rule of thumb is that

NOTE Confidence: 0.9424371

00:54:03.195 --> 00:54:04.175 the more aggressive,  
NOTE Confidence: 0.94472194

00:54:04.475 --> 00:54:04.955 more,  
NOTE Confidence: 0.79824543

00:54:05.275 --> 00:54:06.440 faster growing  
NOTE Confidence: 0.96444607

00:54:06.980 --> 00:54:08.180 cancers, if they're going to  
NOTE Confidence: 0.96444607

00:54:08.180 --> 00:54:09.800 recur, they're more likely  
NOTE Confidence: 0.8062527

00:54:10.260 --> 00:54:11.000 to recur,  
NOTE Confidence: 0.9803925

00:54:11.780 --> 00:54:12.920 in a shorter timeframe  
NOTE Confidence: 0.88048553

00:54:13.540 --> 00:54:14.500 or at very least the  
NOTE Confidence: 0.88048553

00:54:14.500 --> 00:54:16.280 highest risk periods for recurrence  
NOTE Confidence: 0.9909881

00:54:16.660 --> 00:54:17.719 are earlier on.  
NOTE Confidence: 0.9635917

00:54:18.627 --> 00:54:19.875 So for HER2 positive breast  
NOTE Confidence: 0.9635917

00:54:19.875 --> 00:54:21.655 cancer, triple negative breast cancer,  
NOTE Confidence: 0.9663307

00:54:22.915 --> 00:54:23.635 you sort of have the  
NOTE Confidence: 0.9663307

00:54:23.635 --> 00:54:25.475 highest risk of recurrence over  
NOTE Confidence: 0.9663307

00:54:25.475 --> 00:54:26.594 the first three and then  
NOTE Confidence: 0.9663307

00:54:26.594 --> 00:54:27.955 over the first five years.

NOTE Confidence: 0.9663307  
00:54:27.955 --> 00:54:29.315 And as you get further  
NOTE Confidence: 0.9663307  
00:54:29.315 --> 00:54:30.835 from that period of time,  
NOTE Confidence: 0.9663307  
00:54:30.835 --> 00:54:31.895 the likelihood of recurrence  
NOTE Confidence: 0.9977442  
00:54:32.275 --> 00:54:33.575 gets lower and lower.  
NOTE Confidence: 0.8898175  
00:54:34.280 --> 00:54:36.060 HER2 positive breast cancer,  
NOTE Confidence: 0.86014396  
00:54:37.400 --> 00:54:37.900 has,  
NOTE Confidence: 0.99841475  
00:54:38.719 --> 00:54:39.820 a lower  
NOTE Confidence: 0.8941331  
00:54:40.599 --> 00:54:42.119 or hormone receptor positive breast  
NOTE Confidence: 0.8941331  
00:54:42.119 --> 00:54:43.239 cancer has a,  
NOTE Confidence: 0.9895508  
00:54:43.800 --> 00:54:44.859 a lower likelihood  
NOTE Confidence: 0.9987934  
00:54:45.239 --> 00:54:46.619 of coming back  
NOTE Confidence: 0.95551115  
00:54:47.055 --> 00:54:48.494 period in most cases when  
NOTE Confidence: 0.95551115  
00:54:48.494 --> 00:54:50.015 sort of size and other  
NOTE Confidence: 0.95551115  
00:54:50.015 --> 00:54:51.395 things are all considered.  
NOTE Confidence: 0.8823938  
00:54:51.855 --> 00:54:52.355 So,  
NOTE Confidence: 0.9112087

00:54:53.295 --> 00:54:54.335 so, for early stage breast  
NOTE Confidence: 0.9112087

00:54:54.335 --> 00:54:55.775 cancer, hormones that are positive  
NOTE Confidence: 0.9112087

00:54:55.775 --> 00:54:57.375 breast cancers are less aggressive,  
NOTE Confidence: 0.9112087

00:54:57.375 --> 00:54:58.575 less likely to come back,  
NOTE Confidence: 0.9112087

00:54:58.575 --> 00:54:59.555 generally speaking.  
NOTE Confidence: 0.904491

00:55:01.080 --> 00:55:02.920 But that, that because they're  
NOTE Confidence: 0.904491

00:55:02.920 --> 00:55:04.700 slower growing, sometimes the risk  
NOTE Confidence: 0.904491

00:55:04.760 --> 00:55:05.420 of recurrence,  
NOTE Confidence: 0.94934034

00:55:06.120 --> 00:55:06.860 over time,  
NOTE Confidence: 0.96800774

00:55:07.480 --> 00:55:09.560 doesn't always drop off to  
NOTE Confidence: 0.96800774

00:55:09.560 --> 00:55:10.060 zero.  
NOTE Confidence: 0.99497813

00:55:10.840 --> 00:55:11.820 You can have  
NOTE Confidence: 0.9474466

00:55:12.120 --> 00:55:13.500 a low risk of recurrence  
NOTE Confidence: 0.9474466

00:55:13.560 --> 00:55:15.045 that can continue out for,  
NOTE Confidence: 0.9474466

00:55:15.444 --> 00:55:16.344 for years sometimes.  
NOTE Confidence: 0.9340904

00:55:17.525 --> 00:55:19.045 I think at, you know,



NOTE Confidence: 0.9340904

00:55:19.045 --> 00:55:20.085 twenty plus years,

NOTE Confidence: 0.9679045

00:55:20.484 --> 00:55:21.605 the likelihood of the cancer

NOTE Confidence: 0.9679045

00:55:21.605 --> 00:55:23.605 coming back is probably quite,

NOTE Confidence: 0.9679045

00:55:23.605 --> 00:55:24.344 quite low.

NOTE Confidence: 0.9303406

00:55:25.204 --> 00:55:26.405 You know, just the proof

NOTE Confidence: 0.9303406

00:55:26.405 --> 00:55:27.444 is in the pudding over

NOTE Confidence: 0.9303406

00:55:27.444 --> 00:55:29.145 time that it hasn't recurred.

NOTE Confidence: 0.8326131

00:55:30.540 --> 00:55:31.040 But,

NOTE Confidence: 0.9292423

00:55:31.580 --> 00:55:33.340 but there are situations, I

NOTE Confidence: 0.9292423

00:55:33.340 --> 00:55:34.300 think, that we've all seen

NOTE Confidence: 0.9292423

00:55:34.300 --> 00:55:35.500 where sometimes there can be

NOTE Confidence: 0.9292423

00:55:35.500 --> 00:55:37.500 late recurrence. And it's important,

NOTE Confidence: 0.9292423

00:55:37.500 --> 00:55:38.400 I think, for,

NOTE Confidence: 0.9810464

00:55:39.820 --> 00:55:41.440 for women to just be

NOTE Confidence: 0.9284056

00:55:41.739 --> 00:55:43.815 mindful of their bodies and

NOTE Confidence: 0.9284056

00:55:43.815 --> 00:55:45.255 what's going on, with their  
NOTE Confidence: 0.9284056

00:55:45.255 --> 00:55:47.094 bodies and, you know, not  
NOTE Confidence: 0.9284056

00:55:47.094 --> 00:55:47.575 be,  
NOTE Confidence: 0.99910474

00:55:49.494 --> 00:55:50.795 shy about letting  
NOTE Confidence: 0.8953158

00:55:51.655 --> 00:55:53.175 their doctors, be it an  
NOTE Confidence: 0.8953158

00:55:53.175 --> 00:55:54.695 oncologist still or a primary  
NOTE Confidence: 0.8953158

00:55:54.695 --> 00:55:56.234 care doctor, whomever they're  
NOTE Confidence: 0.81941223

00:55:56.695 --> 00:55:57.835 getting their care from,  
NOTE Confidence: 0.9098561

00:55:58.230 --> 00:55:59.690 know if if something feels  
NOTE Confidence: 0.9098561

00:55:59.910 --> 00:56:00.410 unusual.  
NOTE Confidence: 0.9680858

00:56:03.190 --> 00:56:04.550 Is it if that cancer  
NOTE Confidence: 0.9680858

00:56:04.550 --> 00:56:05.590 comes back, is it always  
NOTE Confidence: 0.9680858

00:56:05.590 --> 00:56:06.090 metastatic?  
NOTE Confidence: 0.8251241

00:56:06.630 --> 00:56:07.910 Not necessarily. There are two  
NOTE Confidence: 0.8251241

00:56:07.910 --> 00:56:09.035 types of recurrence. There's local  
NOTE Confidence: 0.8251241

00:56:09.035 --> 00:56:09.064 recurrence and distant recurrence. And

NOTE Confidence: 0.8251241  
00:56:09.064 --> 00:56:09.093 distant recurrence sort of refers  
NOTE Confidence: 0.8251241  
00:56:09.093 --> 00:56:09.610 to that that metastatic,  
NOTE Confidence: 0.8887422  
00:56:12.295 --> 00:56:13.595 And distant recurrence sort of  
NOTE Confidence: 0.8887422  
00:56:13.735 --> 00:56:14.215 refers to that, that metastatic,  
NOTE Confidence: 0.8887422  
00:56:14.455 --> 00:56:15.735 disease. The disease that's in  
NOTE Confidence: 0.8887422  
00:56:15.735 --> 00:56:17.015 organs outside of the breast  
NOTE Confidence: 0.8887422  
00:56:17.015 --> 00:56:18.055 or outside of the nearby  
NOTE Confidence: 0.8887422  
00:56:18.055 --> 00:56:19.895 lymph nodes. Local recurrence can  
NOTE Confidence: 0.8887422  
00:56:19.895 --> 00:56:21.575 be, the cancer coming back  
NOTE Confidence: 0.8887422  
00:56:21.575 --> 00:56:22.695 right in the breast either,  
NOTE Confidence: 0.8887422  
00:56:22.695 --> 00:56:24.099 you know, usually in the  
NOTE Confidence: 0.8887422  
00:56:24.099 --> 00:56:25.060 vicinity of where it was  
NOTE Confidence: 0.8887422  
00:56:25.060 --> 00:56:25.560 originally  
NOTE Confidence: 0.9403748  
00:56:26.099 --> 00:56:27.380 or sometimes in the lymph  
NOTE Confidence: 0.9403748  
00:56:27.380 --> 00:56:28.200 nodes that,  
NOTE Confidence: 0.963437

00:56:28.820 --> 00:56:30.500 that are surrounding the breast

NOTE Confidence: 0.963437

00:56:30.500 --> 00:56:31.859 that is often the first

NOTE Confidence: 0.963437

00:56:31.859 --> 00:56:33.540 kind of place, cancer begins

NOTE Confidence: 0.963437

00:56:33.540 --> 00:56:34.839 to to travel to.

NOTE Confidence: 0.99084204

00:56:37.065 --> 00:56:38.525 So either of those situations

NOTE Confidence: 0.99084204

00:56:38.585 --> 00:56:39.545 are are possible. I mean,

NOTE Confidence: 0.99084204

00:56:39.545 --> 00:56:40.825 that's also the reason why,

NOTE Confidence: 0.99084204

00:56:41.065 --> 00:56:41.864 you know, it's important to

NOTE Confidence: 0.99084204

00:56:41.864 --> 00:56:42.844 keep getting mammograms.

NOTE Confidence: 0.9947665

00:56:43.224 --> 00:56:44.185 The the other reason why

NOTE Confidence: 0.9947665

00:56:44.185 --> 00:56:45.224 it's important to keep getting

NOTE Confidence: 0.9947665

00:56:45.224 --> 00:56:46.525 mammograms is because

NOTE Confidence: 0.90557796

00:56:47.864 --> 00:56:48.925 as long as you're,

NOTE Confidence: 0.9862917

00:56:50.200 --> 00:56:51.160 as long as you're a

NOTE Confidence: 0.9862917

00:56:51.160 --> 00:56:52.840 woman alive with breast tissue,

NOTE Confidence: 0.9862917

00:56:52.840 --> 00:56:54.040 there is some risk of

NOTE Confidence: 0.9862917  
00:56:54.040 --> 00:56:55.500 developing a new breast cancer.  
NOTE Confidence: 0.9812617  
00:56:56.200 --> 00:56:57.560 And, and and just because  
NOTE Confidence: 0.9812617  
00:56:57.560 --> 00:56:58.520 you've had a breast cancer  
NOTE Confidence: 0.9812617  
00:56:58.520 --> 00:56:59.480 in the past doesn't mean  
NOTE Confidence: 0.9812617  
00:56:59.480 --> 00:57:00.280 that you can never have  
NOTE Confidence: 0.9812617  
00:57:00.280 --> 00:57:01.800 a breast cancer again. So  
NOTE Confidence: 0.9812617  
00:57:01.800 --> 00:57:03.100 continuing to get mammograms,  
NOTE Confidence: 0.99138236  
00:57:03.480 --> 00:57:04.734 so that you pick up  
NOTE Confidence: 0.99138236  
00:57:04.734 --> 00:57:06.255 on any new breast cancers  
NOTE Confidence: 0.99138236  
00:57:06.255 --> 00:57:07.455 when they're still early is  
NOTE Confidence: 0.99138236  
00:57:07.455 --> 00:57:08.114 is important.  
NOTE Confidence: 0.9933444  
00:57:08.494 --> 00:57:10.015 New breast cancers can can  
NOTE Confidence: 0.9933444  
00:57:10.015 --> 00:57:11.075 certainly show up.  
NOTE Confidence: 0.9958896  
00:57:12.015 --> 00:57:12.974 I could I could I  
NOTE Confidence: 0.9958896  
00:57:12.974 --> 00:57:13.474 could  
NOTE Confidence: 0.97441757

00:57:13.775 --> 00:57:14.815 talk a little bit about  
NOTE Confidence: 0.97441757

00:57:14.895 --> 00:57:15.695 I think we have a  
NOTE Confidence: 0.97441757

00:57:15.695 --> 00:57:16.734 couple of Yeah. And then  
NOTE Confidence: 0.97441757

00:57:16.734 --> 00:57:17.855 just to clarify for the  
NOTE Confidence: 0.97441757

00:57:17.855 --> 00:57:19.200 audience that, but in the  
NOTE Confidence: 0.97441757

00:57:19.200 --> 00:57:21.359 setting of active metastatic disease,  
NOTE Confidence: 0.97441757

00:57:21.359 --> 00:57:23.700 you're getting thorough scans frequently.  
NOTE Confidence: 0.92340726

00:57:24.320 --> 00:57:25.400 So in that setting, we're  
NOTE Confidence: 0.92340726

00:57:25.520 --> 00:57:26.980 when we do not recommend  
NOTE Confidence: 0.9902735

00:57:27.280 --> 00:57:29.359 additional routine mammography, that has  
NOTE Confidence: 0.9902735

00:57:29.359 --> 00:57:30.400 not been shown to be  
NOTE Confidence: 0.9902735

00:57:30.400 --> 00:57:30.900 helpful.  
NOTE Confidence: 0.95340466

00:57:32.635 --> 00:57:34.315 We're almost at time. Just  
NOTE Confidence: 0.95340466

00:57:34.315 --> 00:57:35.915 one remaining thing is that  
NOTE Confidence: 0.95340466

00:57:35.915 --> 00:57:37.995 in metastatic disease, unlike early  
NOTE Confidence: 0.95340466

00:57:37.995 --> 00:57:39.595 stage breast cancer, the treatments

NOTE Confidence: 0.95340466

00:57:39.595 --> 00:57:40.095 continue

NOTE Confidence: 0.9887136

00:57:40.715 --> 00:57:41.995 as long as they're helping

NOTE Confidence: 0.9887136

00:57:41.995 --> 00:57:43.275 you and as long as

NOTE Confidence: 0.9887136

00:57:43.275 --> 00:57:45.215 they're controlling the disease process.

NOTE Confidence: 0.98633426

00:57:45.515 --> 00:57:47.115 But there are situations where

NOTE Confidence: 0.98633426

00:57:47.115 --> 00:57:48.030 there may be,

NOTE Confidence: 0.9827176

00:57:48.670 --> 00:57:51.070 you know, we we've had

NOTE Confidence: 0.9827176

00:57:51.070 --> 00:57:52.430 times where disease has been

NOTE Confidence: 0.9827176

00:57:52.430 --> 00:57:53.710 completely stable for some time.

NOTE Confidence: 0.9827176

00:57:53.710 --> 00:57:54.750 So, again, comes back to

NOTE Confidence: 0.9827176

00:57:54.750 --> 00:57:55.970 shared decision making

NOTE Confidence: 0.99350566

00:57:56.350 --> 00:57:57.170 about whether,

NOTE Confidence: 0.9493262

00:57:57.870 --> 00:57:59.070 a certain type of,

NOTE Confidence: 0.97402155

00:57:59.790 --> 00:58:01.755 de escalation or therapy break

NOTE Confidence: 0.97402155

00:58:01.835 --> 00:58:03.535 can be considered. But, generally,

NOTE Confidence: 0.97402155

00:58:03.595 --> 00:58:05.134 things are left open ended  
NOTE Confidence: 0.97402155

00:58:05.275 --> 00:58:06.394 as long as they're helping  
NOTE Confidence: 0.97402155

00:58:06.394 --> 00:58:08.634 you and, keeping the disease  
NOTE Confidence: 0.97402155

00:58:08.634 --> 00:58:09.295 at bay.  
NOTE Confidence: 0.98618907

00:58:10.234 --> 00:58:11.835 Lots of different chemo cycles  
NOTE Confidence: 0.98618907

00:58:11.835 --> 00:58:13.275 and targeted schedules, so we  
NOTE Confidence: 0.98618907

00:58:13.275 --> 00:58:15.214 won't get into that. Definitely  
NOTE Confidence: 0.98618907

00:58:15.275 --> 00:58:17.035 ask your oncology team about  
NOTE Confidence: 0.98618907

00:58:17.035 --> 00:58:18.710 that. But you've all been  
NOTE Confidence: 0.98618907

00:58:18.710 --> 00:58:20.390 such an amazing audience with  
NOTE Confidence: 0.98618907

00:58:20.390 --> 00:58:22.550 really great questions, and I  
NOTE Confidence: 0.98618907

00:58:22.550 --> 00:58:25.369 wanna thank again our speakers  
NOTE Confidence: 0.98618907

00:58:25.430 --> 00:58:26.329 today, doctors,  
NOTE Confidence: 0.950984

00:58:26.710 --> 00:58:28.250 Shellhorn and doctors O'Neil.  
NOTE Confidence: 0.9369547

00:58:28.869 --> 00:58:30.150 And thank you so much  
NOTE Confidence: 0.9369547

00:58:30.150 --> 00:58:31.829 for joining us. Thank you,



NOTE Confidence: 0.9369547

00:58:31.829 --> 00:58:33.130 Mary Ellen, for joining.

NOTE Confidence: 0.99775195

00:58:33.507 --> 00:58:35.127 Thank you. Bye bye.

NOTE Confidence: 0.8324726

00:58:35.667 --> 00:58:36.842 Bye bye. Okay, man.