

WEBVTT

00:00:00.000 --> 00:00:02.172 Funding for Yale Cancer Answers is

NOTE Confidence: 0.4638805

00:00:02.172 --> 00:00:04.240 provided by Smilow Cancer Hospital.

NOTE Confidence: 0.4638805

00:00:06.440 --> 00:00:08.660 Welcome to Yale Cancer Answers

NOTE Confidence: 0.4638805

00:00:08.660 --> 00:00:10.436 with Doctor Anees Chagpar.

NOTE Confidence: 0.4638805

00:00:10.440 --> 00:00:12.636 Yale Cancer Answers features the latest

NOTE Confidence: 0.4638805

00:00:12.636 --> 00:00:14.876 information on cancer care by welcoming

NOTE Confidence: 0.4638805

00:00:14.876 --> 00:00:17.396 oncologists and specialists who are on the

NOTE Confidence: 0.4638805

00:00:17.396 --> 00:00:19.478 forefront of the battle to fight cancer.

NOTE Confidence: 0.4638805

00:00:19.480 --> 00:00:21.755 This week, it's a conversation about the

NOTE Confidence: 0.4638805

00:00:21.755 --> 00:00:23.958 role of aerobic exercise in relieving

NOTE Confidence: 0.4638805

00:00:23.958 --> 00:00:26.292 pain for ovarian cancer survivors with

NOTE Confidence: 0.4638805

00:00:26.292 --> 00:00:28.595 Doctor Leah Ferrucci and Anlan Cao.

NOTE Confidence: 0.4638805

00:00:28.600 --> 00:00:30.844 Doctor Ferrucci is an assistant professor

NOTE Confidence: 0.4638805

00:00:30.844 --> 00:00:32.703 of epidemiology and chronic diseases

NOTE Confidence: 0.4638805

00:00:32.703 --> 00:00:34.838 at the Yale School of Public Health,

NOTE Confidence: 0.4638805

00:00:34.840 --> 00:00:37.318 where Miss Cao is a graduate student.  
NOTE Confidence: 0.4638805

00:00:37.320 --> 00:00:39.511 Doctor Chagpar is a professor of surgical  
NOTE Confidence: 0.4638805

00:00:39.511 --> 00:00:41.797 oncology at the Yale School of Medicine.  
NOTE Confidence: 0.3282959

00:00:42.920 --> 00:00:44.120 Maybe we can start  
NOTE Confidence: 0.3282959

00:00:44.120 --> 00:00:45.765 off with each of you telling us  
NOTE Confidence: 0.3282959

00:00:45.765 --> 00:00:47.450 a little bit more about yourself  
NOTE Confidence: 0.3282959

00:00:47.450 --> 00:00:48.840 and what it is you do.  
NOTE Confidence: 0.3282959

00:00:48.840 --> 00:00:50.436 Leah, maybe we'll start with you.  
NOTE Confidence: 0.75485563

00:00:50.920 --> 00:00:54.035 Sure. So I am a nutritional epidemiologist,  
NOTE Confidence: 0.75485563

00:00:54.040 --> 00:00:55.606 and I actually trained here at  
NOTE Confidence: 0.75485563

00:00:55.606 --> 00:00:57.399 the Yale School of Public Health  
NOTE Confidence: 0.75485563

00:00:57.400 --> 00:00:59.556 for both my masters and my PhD.  
NOTE Confidence: 0.75485563

00:00:59.560 --> 00:01:01.360 And as part of my PhD,  
NOTE Confidence: 0.75485563

00:01:01.360 --> 00:01:03.760 I was able to also be a part of research  
NOTE Confidence: 0.75485563

00:01:03.820 --> 00:01:05.800 at the National Cancer Institute.  
NOTE Confidence: 0.75485563

00:01:05.800 --> 00:01:07.851 So I had that unique ability to

NOTE Confidence: 0.75485563

00:01:07.851 --> 00:01:09.146 work with strong investigators

NOTE Confidence: 0.75485563

00:01:09.146 --> 00:01:12.320 here at Yale as well as at the NCI.

NOTE Confidence: 0.75485563

00:01:12.320 --> 00:01:14.469 And so my work has really focused

NOTE Confidence: 0.75485563

00:01:14.469 --> 00:01:16.743 on thinking about diet as a risk

NOTE Confidence: 0.75485563

00:01:16.743 --> 00:01:18.035 factor for cancer incidence,

NOTE Confidence: 0.75485563

00:01:18.040 --> 00:01:18.988 risk of cancer.

NOTE Confidence: 0.75485563

00:01:18.988 --> 00:01:21.200 And then in the last few years,

NOTE Confidence: 0.75485563

00:01:21.200 --> 00:01:23.711 I have taken that to think about diet in

NOTE Confidence: 0.75485563

00:01:23.711 --> 00:01:26.232 the context of cancer survivorship and how

NOTE Confidence: 0.75485563

00:01:26.232 --> 00:01:29.077 we can think about not only diet itself,

NOTE Confidence: 0.75485563

00:01:29.080 --> 00:01:31.636 but also energy balance as well

NOTE Confidence: 0.75485563

00:01:31.636 --> 00:01:32.914 as physical activity.

NOTE Confidence: 0.75485563

00:01:32.920 --> 00:01:34.790 Another lifestyle factor in the

NOTE Confidence: 0.75485563

00:01:34.790 --> 00:01:37.281 context of thinking through how we can

NOTE Confidence: 0.75485563

00:01:37.281 --> 00:01:38.992 improve outcomes in cancer survivors,

NOTE Confidence: 0.75485563

00:01:38.992 --> 00:01:41.648 whether it be quality of life or  
NOTE Confidence: 0.75485563

00:01:41.648 --> 00:01:43.400 perhaps even ultimately survival.  
NOTE Confidence: 0.3137118

00:01:44.840 --> 00:01:46.092 Fantastic, and how  
NOTE Confidence: 0.3137118

00:01:46.092 --> 00:01:48.199 about you, Anlan?  
NOTE Confidence: 0.3137118

00:01:48.200 --> 00:01:51.007 I'm a fourth year PhD candidate and I'm also  
NOTE Confidence: 0.3137118

00:01:51.007 --> 00:01:52.682 Cancer Prevention and Control  
NOTE Confidence: 0.3137118

00:01:52.682 --> 00:01:54.717 fellow at Yale Cancer Center.  
NOTE Confidence: 0.3137118

00:01:54.720 --> 00:01:56.135 Professor Ferrucci is  
NOTE Confidence: 0.3137118

00:01:56.135 --> 00:01:57.992 my mentor and I'm also mentored  
NOTE Confidence: 0.3137118

00:01:57.992 --> 00:01:59.516 by Professor Melinda Irwin.  
NOTE Confidence: 0.3137118

00:01:59.520 --> 00:02:00.836 Before coming to Yale,  
NOTE Confidence: 0.3137118

00:02:00.836 --> 00:02:03.519 I was a preventive medicine major in college,  
NOTE Confidence: 0.3137118

00:02:03.520 --> 00:02:05.075 and I received my Bachelor  
NOTE Confidence: 0.3137118

00:02:05.075 --> 00:02:06.319 of Medicine in China.  
NOTE Confidence: 0.3137118

00:02:06.320 --> 00:02:08.695 My current research centers around  
NOTE Confidence: 0.3137118

00:02:08.695 --> 00:02:10.595 cancer and nutritional epidemiology,

NOTE Confidence: 0.3137118

00:02:10.600 --> 00:02:13.264 with a special focus on lifestyle

NOTE Confidence: 0.3137118

00:02:13.264 --> 00:02:15.040 factors and ovarian cancer.

NOTE Confidence: 0.3137118

00:02:15.040 --> 00:02:17.100 And I entered this program

NOTE Confidence: 0.3137118

00:02:17.100 --> 00:02:19.160 because I just loved epidemiology.

NOTE Confidence: 0.3137118

00:02:19.160 --> 00:02:20.666 And I'm not saying this because

NOTE Confidence: 0.3137118

00:02:20.666 --> 00:02:22.420 my professor is here and she

NOTE Confidence: 0.3137118

00:02:22.420 --> 00:02:23.705 teaches epidemiology.

NOTE Confidence: 0.3137118

00:02:23.705 --> 00:02:27.800 But in my first interaction with API,

NOTE Confidence: 0.3137118

00:02:27.800 --> 00:02:29.440 the study designs and the

NOTE Confidence: 0.3137118

00:02:29.440 --> 00:02:31.080 philosophy behind them amazed me.

NOTE Confidence: 0.3137118

00:02:31.080 --> 00:02:32.176 And I was like,

NOTE Confidence: 0.3137118

00:02:32.176 --> 00:02:33.546 I definitely want to get

NOTE Confidence: 0.3137118

00:02:33.546 --> 00:02:34.758 additional training in this.

NOTE Confidence: 0.3137118

00:02:34.760 --> 00:02:37.147 So I entered this program and I

NOTE Confidence: 0.3137118

00:02:37.147 --> 00:02:39.137 specifically focus on cancer and

NOTE Confidence: 0.3137118

00:02:39.137 --> 00:02:40.967 lifestyle because we've all been  
NOTE Confidence: 0.3137118

00:02:40.967 --> 00:02:42.203 hearing about the compromised  
NOTE Confidence: 0.3137118

00:02:42.203 --> 00:02:44.194 quality of life of cancer survivors  
NOTE Confidence: 0.3137118

00:02:44.194 --> 00:02:45.869 and how researchers and physicians  
NOTE Confidence: 0.3137118

00:02:45.869 --> 00:02:47.680 should pay more attention to it.  
NOTE Confidence: 0.3137118

00:02:47.680 --> 00:02:50.132 So I'm paying attention and lifestyle  
NOTE Confidence: 0.3137118

00:02:50.132 --> 00:02:52.660 factors to me are really powerful  
NOTE Confidence: 0.3137118

00:02:52.660 --> 00:02:54.880 because they are highly modifiable.  
NOTE Confidence: 0.3137118

00:02:54.880 --> 00:02:56.806 And if we found that lifestyle  
NOTE Confidence: 0.3137118

00:02:56.806 --> 00:02:58.778 interventions like what we do here  
NOTE Confidence: 0.3137118

00:02:58.778 --> 00:03:00.674 can actually improve quality of life,  
NOTE Confidence: 0.3137118

00:03:00.680 --> 00:03:02.520 prevent recurrence and improve  
NOTE Confidence: 0.3137118

00:03:02.520 --> 00:03:04.360 survival for cancer survivors,  
NOTE Confidence: 0.3137118

00:03:04.360 --> 00:03:05.800 then this lifestyle interventions  
NOTE Confidence: 0.3137118

00:03:05.800 --> 00:03:07.960 could be valuable additions to the  
NOTE Confidence: 0.3137118

00:03:08.013 --> 00:03:09.758 current standard of oncology care.

NOTE Confidence: 0.3137118

00:03:09.760 --> 00:03:11.800 And I think that's where I'm working towards.

00:03:13.056 --> 00:03:15.040 I mean, if we can

NOTE Confidence: 0.9395958

00:03:15.040 --> 00:03:17.608 really hone in

NOTE Confidence: 0.9395958

00:03:17.608 --> 00:03:18.930 on lifestyle modifications,

NOTE Confidence: 0.9395958

00:03:18.930 --> 00:03:22.045 not only might that be a benefit

NOTE Confidence: 0.9395958

00:03:22.045 --> 00:03:24.502 to cancer survivors or cancer

NOTE Confidence: 0.9395958

00:03:24.502 --> 00:03:26.357 patients or even preventing cancer,

NOTE Confidence: 0.9395958

00:03:26.360 --> 00:03:28.994 but could have offshoots of reducing

NOTE Confidence: 0.9395958

00:03:28.994 --> 00:03:31.859 heart disease and stroke and all kinds

NOTE Confidence: 0.9395958

00:03:31.859 --> 00:03:35.256 of other ailments and it might be a

NOTE Confidence: 0.9395958

00:03:35.256 --> 00:03:37.516 really cost effective intervention too.

NOTE Confidence: 0.9395958

00:03:37.520 --> 00:03:39.680 So let's dive into your research

NOTE Confidence: 0.9395958

00:03:39.680 --> 00:03:41.120 a little bit more.

NOTE Confidence: 0.9395958

00:03:41.120 --> 00:03:42.443 Leah, do you want to tell us

NOTE Confidence: 0.9395958

00:03:42.443 --> 00:03:43.799 a little bit more about your

NOTE Confidence: 0.9395958

00:03:43.800 --> 00:03:45.264 current studies and what

NOTE Confidence: 0.9395958

00:03:45.264 --> 00:03:46.960 you're doing and what you're finding?

NOTE Confidence: 0.83701223

00:03:47.560 --> 00:03:49.306 Sure. So the most recent study

NOTE Confidence: 0.83701223

00:03:49.306 --> 00:03:51.583 that we are working on is

00:03:53.160 --> 00:03:56.002 we are looking at an exercise

NOTE Confidence: 0.83701223

00:03:56.002 --> 00:03:58.337 intervention among ovarian cancer survivors

NOTE Confidence: 0.83701223

00:03:58.337 --> 00:04:00.957 who had already completed chemotherapy.

NOTE Confidence: 0.83701223

00:04:00.960 --> 00:04:03.000 And were sort of described as a little

NOTE Confidence: 0.83701223

00:04:03.000 --> 00:04:04.724 bit low in their physical activity.

NOTE Confidence: 0.83701223

00:04:04.724 --> 00:04:07.127 So they couldn't have been doing more than

NOTE Confidence: 0.83701223

00:04:07.127 --> 00:04:09.038 90 minutes of physical activity a week.

NOTE Confidence: 0.83701223

00:04:09.040 --> 00:04:10.816 And what we were trying to look

NOTE Confidence: 0.83701223

00:04:10.816 --> 00:04:13.100 at here is if we were able to

NOTE Confidence: 0.83701223

00:04:13.100 --> 00:04:14.400 increase their physical activity,

NOTE Confidence: 0.83701223

00:04:14.400 --> 00:04:17.048 would we see an impact on a very

NOTE Confidence: 0.83701223

00:04:17.048 --> 00:04:19.135 common symptom that's related to

NOTE Confidence: 0.83701223

00:04:19.135 --> 00:04:21.841 chemotherapy and this is known as



NOTE Confidence: 0.83701223

00:04:21.841 --> 00:04:23.254 chemotherapy induced peripheral

NOTE Confidence: 0.83701223

00:04:23.254 --> 00:04:26.820 neuropathy or CIPN. So here again we had

NOTE Confidence: 0.83701223

00:04:26.820 --> 00:04:28.600 this exercise intervention in place.

NOTE Confidence: 0.83701223

00:04:28.600 --> 00:04:30.945 It was six months long and it

NOTE Confidence: 0.83701223

00:04:30.945 --> 00:04:33.320 was home based aerobic exercise.

NOTE Confidence: 0.83701223

00:04:33.320 --> 00:04:34.800 We'll probably go into a little bit more,

NOTE Confidence: 0.83701223

00:04:34.800 --> 00:04:37.064 but mainly the women in our study were

NOTE Confidence: 0.83701223

00:04:37.064 --> 00:04:39.918 able to do this by doing just brisk walking,

NOTE Confidence: 0.83701223

00:04:39.920 --> 00:04:41.945 something that is accessible

NOTE Confidence: 0.83701223

00:04:41.945 --> 00:04:43.160 to many individuals.

NOTE Confidence: 0.83701223

00:04:43.160 --> 00:04:45.155 And so over the intervention time period,

NOTE Confidence: 0.83701223

00:04:45.160 --> 00:04:47.326 we had one group receiving this

NOTE Confidence: 0.83701223

00:04:47.326 --> 00:04:49.344 exercise program and another group

NOTE Confidence: 0.83701223

00:04:49.344 --> 00:04:51.364 receiving just information about

NOTE Confidence: 0.83701223

00:04:51.364 --> 00:04:52.879 ovarian cancer survivorship.

NOTE Confidence: 0.83701223

00:04:52.880 --> 00:04:54.872 So that comparison group we call  
NOTE Confidence: 0.83701223

00:04:54.872 --> 00:04:56.200 an attention control group.  
NOTE Confidence: 0.83701223

00:04:56.200 --> 00:04:58.258 So we're giving them the same contact  
NOTE Confidence: 0.83701223

00:04:58.258 --> 00:05:00.045 with our research staff and really  
NOTE Confidence: 0.83701223

00:05:00.045 --> 00:05:02.026 trying to isolate is it the exercise  
NOTE Confidence: 0.83701223

00:05:02.085 --> 00:05:03.954 or is it the attention that someone  
NOTE Confidence: 0.83701223

00:05:03.954 --> 00:05:06.496 is giving that might have an impact  
NOTE Confidence: 0.83701223

00:05:06.496 --> 00:05:07.798 on our outcome.  
NOTE Confidence: 0.83701223

00:05:07.800 --> 00:05:09.795 It's also important to keep in mind  
NOTE Confidence: 0.83701223

00:05:09.795 --> 00:05:11.228 for this particular analysis that  
NOTE Confidence: 0.83701223

00:05:11.228 --> 00:05:13.300 we were looking at what's known as a  
NOTE Confidence: 0.83701223

00:05:13.361 --> 00:05:15.437 secondary outcome of the original study.  
NOTE Confidence: 0.83701223

00:05:15.440 --> 00:05:17.744 So this study is known as the walk  
NOTE Confidence: 0.83701223

00:05:17.744 --> 00:05:19.911 trial and the primary outcome for  
NOTE Confidence: 0.83701223

00:05:19.911 --> 00:05:22.191 that had actually just been health  
NOTE Confidence: 0.83701223

00:05:22.261 --> 00:05:24.356 related quality of life overall.

NOTE Confidence: 0.83701223

00:05:24.360 --> 00:05:26.726 And we did see benefits for the

NOTE Confidence: 0.83701223

00:05:26.726 --> 00:05:28.724 exercise intervention for that primary

NOTE Confidence: 0.83701223

00:05:28.724 --> 00:05:30.572 outcome specifically with physical

NOTE Confidence: 0.83701223

00:05:30.572 --> 00:05:32.960 related health related quality of life.

NOTE Confidence: 0.83701223

00:05:32.960 --> 00:05:35.168 But in this analysis we got to

NOTE Confidence: 0.83701223

00:05:35.168 --> 00:05:38.224 relook at our data and see is the

NOTE Confidence: 0.83701223

00:05:38.224 --> 00:05:39.691 intervention specifically also impacting

NOTE Confidence: 0.83701223

00:05:39.691 --> 00:05:42.155 this key symptom that we know about.

NOTE Confidence: 0.83701223

00:05:42.160 --> 00:05:44.120 Our key side effect that we know

NOTE Confidence: 0.83701223

00:05:44.120 --> 00:05:45.760 about related to chemotherapy.

NOTE Confidence: 0.83701223

00:05:45.760 --> 00:05:48.000 So when we evaluated this,

NOTE Confidence: 0.83701223

00:05:48.000 --> 00:05:49.960 this CIPN which was self reported by

NOTE Confidence: 0.83701223

00:05:49.960 --> 00:05:52.327 the women in our study before they

NOTE Confidence: 0.83701223

00:05:52.327 --> 00:05:53.791 started the exercise intervention

NOTE Confidence: 0.83701223

00:05:53.791 --> 00:05:55.869 and then after the six months we

NOTE Confidence: 0.83701223

00:05:55.869 --> 00:05:57.792 saw that there was an improvement  
NOTE Confidence: 0.83701223

00:05:57.792 --> 00:06:00.756 in this self reported chemotherapy  
NOTE Confidence: 0.83701223

00:06:00.756 --> 00:06:02.064 induced peripheral neuropathy.  
NOTE Confidence: 0.83701223

00:06:02.064 --> 00:06:04.680 And those who had completed our  
NOTE Confidence: 0.83701223

00:06:04.739 --> 00:06:06.749 exercise intervention and those who  
NOTE Confidence: 0.83701223

00:06:06.749 --> 00:06:08.590 had been in the attention control group  
NOTE Confidence: 0.83701223

00:06:08.642 --> 00:06:10.340 actually saw a slight worsening of  
NOTE Confidence: 0.83701223

00:06:10.340 --> 00:06:11.929 their symptoms as they were reporting  
NOTE Confidence: 0.83701223

00:06:11.929 --> 00:06:13.949 it to us at the end of the study.  
NOTE Confidence: 0.83701223

00:06:13.949 --> 00:06:16.672 So this was really indicating to us  
NOTE Confidence: 0.83701223

00:06:16.672 --> 00:06:19.696 that among those who have completed  
NOTE Confidence: 0.83701223

00:06:19.696 --> 00:06:21.077 chemotherapy and potentially have  
NOTE Confidence: 0.83701223

00:06:21.077 --> 00:06:23.030 these symptoms at the start of an  
NOTE Confidence: 0.83701223

00:06:23.091 --> 00:06:24.901 exercise intervention that the exercise  
NOTE Confidence: 0.83701223

00:06:24.901 --> 00:06:27.089 intervention can be helpful in reducing  
NOTE Confidence: 0.83701223

00:06:27.089 --> 00:06:28.997 the symptoms that they are having.

NOTE Confidence: 0.8965921

00:06:31.080 --> 00:06:33.888 You know that's really interesting

NOTE Confidence: 0.8965921

00:06:33.888 --> 00:06:35.880 because we can imagine

NOTE Confidence: 0.8965921

00:06:35.880 --> 00:06:38.157 that exercise does a lot in terms

NOTE Confidence: 0.8965921

00:06:38.157 --> 00:06:40.280 of improving quality of life, right.

NOTE Confidence: 0.8965921

00:06:40.280 --> 00:06:42.280 It releases endorphins,

NOTE Confidence: 0.8965921

00:06:42.280 --> 00:06:44.800 it makes you feel better.

NOTE Confidence: 0.8965921

00:06:44.800 --> 00:06:49.496 But this idea of the fact that

NOTE Confidence: 0.8965921

00:06:49.496 --> 00:06:51.704 walking, simple walking, could

NOTE Confidence: 0.8965921

00:06:51.704 --> 00:06:53.360 actually improve peripheral

NOTE Confidence: 0.8965921

00:06:53.441 --> 00:06:56.357 neuropathy might not be as intuitive.

NOTE Confidence: 0.8965921

00:06:56.360 --> 00:06:58.784 So Anlan, can you talk a little bit

NOTE Confidence: 0.8965921

00:06:58.784 --> 00:07:01.314 more about why it was that at the

NOTE Confidence: 0.8965921

00:07:01.314 --> 00:07:03.381 beginning of this whole study you

NOTE Confidence: 0.8965921

00:07:03.381 --> 00:07:05.643 hypothesized that there might have been

NOTE Confidence: 0.8965921

00:07:05.643 --> 00:07:08.686 a link and and maybe talk a little

NOTE Confidence: 0.8965921

00:07:08.686 --> 00:07:11.880 bit more about the intervention itself  
NOTE Confidence: 0.8965921

00:07:11.880 --> 00:07:14.520 and how you measured peripheral neuropathy.  
NOTE Confidence: 0.8965921

00:07:14.520 --> 00:07:17.397 It sounds like it was self reported,  
NOTE Confidence: 0.8965921

00:07:17.400 --> 00:07:18.756 but can you talk about why,  
NOTE Confidence: 0.8965921

00:07:18.760 --> 00:07:20.699 you would think at the outset  
NOTE Confidence: 0.8965921

00:07:20.699 --> 00:07:22.518 that these two would be linked?  
NOTE Confidence: 0.8965921

00:07:22.520 --> 00:07:23.800 That's just not intuitive.  
NOTE Confidence: 0.8965921

00:07:24.160 --> 00:07:24.920 Yeah, sure.  
NOTE Confidence: 0.8066591

00:07:25.560 --> 00:07:28.596 So actually we hypothesize not specifically  
NOTE Confidence: 0.8066591

00:07:28.596 --> 00:07:31.280 walk but aerobic exercise overall.  
NOTE Confidence: 0.8066591

00:07:31.280 --> 00:07:34.028 And there were some potential mechanisms  
NOTE Confidence: 0.8066591

00:07:34.028 --> 00:07:36.808 that we hypothesize like exercise overall  
NOTE Confidence: 0.8066591

00:07:36.808 --> 00:07:39.874 can just make the patients feel better,  
NOTE Confidence: 0.8066591

00:07:39.880 --> 00:07:43.000 so subjectively if they are feeling more fit,  
NOTE Confidence: 0.8066591

00:07:43.000 --> 00:07:45.772 in that case, they probably will perceive  
NOTE Confidence: 0.8066591

00:07:45.772 --> 00:07:48.717 less pain or better quality of life.

NOTE Confidence: 0.8066591

00:07:48.720 --> 00:07:51.120 And because as Professor Ferrucci mentioned,

NOTE Confidence: 0.8066591

00:07:51.120 --> 00:07:52.740 the primary outcome of this

NOTE Confidence: 0.8066591

00:07:52.740 --> 00:07:54.360 study was quality of life.

NOTE Confidence: 0.8066591

00:07:54.360 --> 00:07:57.512 So we hypothesize neuropathy as one of the

NOTE Confidence: 0.8066591

00:07:57.512 --> 00:08:00.492 mediators on this pathway of how aerobic

NOTE Confidence: 0.8066591

00:08:00.492 --> 00:08:03.040 exercise can improve quality of life.

NOTE Confidence: 0.8066591

00:08:03.040 --> 00:08:04.452 And biologically speaking,

NOTE Confidence: 0.8066591

00:08:04.452 --> 00:08:07.896 there are some molecules and some biomarkers

NOTE Confidence: 0.8066591

00:08:07.896 --> 00:08:10.993 that can be increased by exercise and

NOTE Confidence: 0.8066591

00:08:10.993 --> 00:08:14.200 that may have an effect on neuropathy.

NOTE Confidence: 0.8066591

00:08:14.200 --> 00:08:17.266 But I think currently there is no

NOTE Confidence: 0.8066591

00:08:17.266 --> 00:08:19.127 solid biological evidence suggesting

NOTE Confidence: 0.8066591

00:08:19.127 --> 00:08:21.477 any clear pathway this way.

NOTE Confidence: 0.8066591

00:08:21.480 --> 00:08:24.456 So I guess our study also calls for

NOTE Confidence: 0.8066591

00:08:24.456 --> 00:08:26.931 more studies like basic science

NOTE Confidence: 0.8066591

00:08:26.931 --> 00:08:29.320 studies to help review the mechanism  
NOTE Confidence: 0.8066591

00:08:29.320 --> 00:08:31.270 of how exercise actually improved  
NOTE Confidence: 0.8066591

00:08:31.270 --> 00:08:32.815 peripheral neuropathy.  
NOTE Confidence: 0.8066591

00:08:32.815 --> 00:08:35.138 And the other way that we can develop  
NOTE Confidence: 0.8066591

00:08:35.138 --> 00:08:37.322 other drugs or others forms of exercise  
NOTE Confidence: 0.8066591

00:08:37.322 --> 00:08:40.520 that can achieve the same or even  
NOTE Confidence: 0.8066591

00:08:40.520 --> 00:08:43.640 better effect of improving neuropathy.  
NOTE Confidence: 0.8066591

00:08:43.640 --> 00:08:45.199 And about the specific exercise  
NOTE Confidence: 0.8066591

00:08:45.199 --> 00:08:47.437 form that we were looking at,  
NOTE Confidence: 0.8066591

00:08:47.440 --> 00:08:48.448 as we mentioned,  
NOTE Confidence: 0.8066591

00:08:48.448 --> 00:08:50.800 we focus on home based moderate and  
NOTE Confidence: 0.8066591

00:08:50.870 --> 00:08:53.198 moderate intensity aerobic exercise,  
NOTE Confidence: 0.8066591

00:08:53.200 --> 00:08:56.304 but most of the women chose to do  
NOTE Confidence: 0.8066591

00:08:56.304 --> 00:08:58.016 brisk walking and that's actually  
NOTE Confidence: 0.8066591

00:08:58.016 --> 00:08:59.564 more than 95% of women.  
NOTE Confidence: 0.8066591

00:08:59.564 --> 00:09:01.412 And it maybe makes sense because



NOTE Confidence: 0.8066591

00:09:01.412 --> 00:09:03.680 we call ourselves the walk study.

NOTE Confidence: 0.8066591

00:09:03.680 --> 00:09:05.864 So it may sort of leave some

NOTE Confidence: 0.8066591

00:09:05.864 --> 00:09:06.800 impression on them,

NOTE Confidence: 0.8066591

00:09:06.800 --> 00:09:09.040 but some women also chose to do hiking,

NOTE Confidence: 0.8066591

00:09:09.040 --> 00:09:11.120 biking, swimming or yoga.

NOTE Confidence: 0.8066591

00:09:11.120 --> 00:09:14.240 And as professor Ferrucci mentioned,

NOTE Confidence: 0.8066591

00:09:14.240 --> 00:09:16.922 we have an American College of

NOTE Confidence: 0.8066591

00:09:16.922 --> 00:09:18.710 Sports Medicine certified Cancer

NOTE Confidence: 0.8066591

00:09:18.788 --> 00:09:20.918 Access Trainer that guides them

NOTE Confidence: 0.8066591

00:09:20.920 --> 00:09:22.990 through weekly phone calls to how

NOTE Confidence: 0.8066591

00:09:22.990 --> 00:09:24.960 to improve their physical activity.

NOTE Confidence: 0.8066591

00:09:24.960 --> 00:09:27.060 And we also have this 26 chapter

NOTE Confidence: 0.8066591

00:09:27.060 --> 00:09:28.762 book on exercise and ovarian

NOTE Confidence: 0.8066591

00:09:28.762 --> 00:09:30.612 cancer survivorship that can serve

NOTE Confidence: 0.8066591

00:09:30.612 --> 00:09:32.320 as an additional resource.

NOTE Confidence: 0.40757778

00:09:32.600 --> 00:09:36.576 Leah, I mean, was there a  
NOTE Confidence: 0.40757778

00:09:36.576 --> 00:09:39.298 particular dose that was significant?  
NOTE Confidence: 0.40757778

00:09:39.298 --> 00:09:43.370 So you mentioned that these were women who  
NOTE Confidence: 0.40757778

00:09:43.457 --> 00:09:46.875 in general had what you call low rates of  
NOTE Confidence: 0.40757778

00:09:46.875 --> 00:09:49.918 of activity 90 minutes a week or less.  
NOTE Confidence: 0.40757778

00:09:49.920 --> 00:09:51.175 Some might think that 90  
NOTE Confidence: 0.40757778

00:09:51.175 --> 00:09:52.680 minutes is actually quite a bit,  
NOTE Confidence: 0.40757778

00:09:52.680 --> 00:09:55.480 but we'll leave that aside.  
NOTE Confidence: 0.40757778

00:09:55.480 --> 00:09:57.080 Was there a certain dose,  
NOTE Confidence: 0.40757778

00:09:57.080 --> 00:09:59.880 like for example, if you did 91 minutes,  
NOTE Confidence: 0.40757778

00:09:59.880 --> 00:10:01.680 it wasn't as effective,  
NOTE Confidence: 0.40757778

00:10:01.680 --> 00:10:04.184 but if you did 150 minutes,  
NOTE Confidence: 0.40757778

00:10:04.184 --> 00:10:05.240 it really was.  
NOTE Confidence: 0.40757778

00:10:05.240 --> 00:10:06.992 Did you look at that and  
NOTE Confidence: 0.40757778

00:10:06.992 --> 00:10:09.038 did you find that that was impactful?  
NOTE Confidence: 0.94499934

00:10:09.400 --> 00:10:11.157 So we didn't look specifically at dose,

NOTE Confidence: 0.94499934

00:10:11.160 --> 00:10:13.870 but I will say what our goal for women to

NOTE Confidence: 0.94499934

00:10:13.941 --> 00:10:16.552 achieve was that 150 minutes per week,

NOTE Confidence: 0.94499934

00:10:16.552 --> 00:10:18.492 which is the general recommendation

NOTE Confidence: 0.94499934

00:10:18.492 --> 00:10:20.730 out there for all individuals in

NOTE Confidence: 0.94499934

00:10:20.730 --> 00:10:23.026 the population and also has been

NOTE Confidence: 0.94499934

00:10:23.026 --> 00:10:24.806 translated specifically to cancer

NOTE Confidence: 0.94499934

00:10:24.806 --> 00:10:27.031 survivors as being an important

NOTE Confidence: 0.94499934

00:10:27.040 --> 00:10:28.942 kind of threshold to be thinking

NOTE Confidence: 0.94499934

00:10:28.942 --> 00:10:30.640 about for physical activity levels.

NOTE Confidence: 0.94499934

00:10:30.640 --> 00:10:32.158 And these women were actually very,

NOTE Confidence: 0.94499934

00:10:32.160 --> 00:10:34.100 very successful in increasing

NOTE Confidence: 0.94499934

00:10:34.100 --> 00:10:35.555 their aerobic activities.

NOTE Confidence: 0.94499934

00:10:35.560 --> 00:10:37.800 So I believe it's on average they

NOTE Confidence: 0.94499934

00:10:37.800 --> 00:10:40.330 had about 160 minutes per week of

NOTE Confidence: 0.94499934

00:10:40.330 --> 00:10:42.220 this moderate to vigorous activity

NOTE Confidence: 0.94499934

00:10:42.295 --> 00:10:44.317 by the end of our intervention.

NOTE Confidence: 0.94499934

00:10:44.320 --> 00:10:45.760 So this was actually very,

NOTE Confidence: 0.94499934

00:10:45.760 --> 00:10:47.840 very exciting to see, right.

NOTE Confidence: 0.94499934

00:10:47.840 --> 00:10:50.052 This is a group that potentially was

NOTE Confidence: 0.94499934

00:10:50.052 --> 00:10:52.140 not doing activity as you had mentioned

NOTE Confidence: 0.94499934

00:10:52.140 --> 00:10:54.394 at the start and yet we're able to

NOTE Confidence: 0.94499934

00:10:54.394 --> 00:10:56.116 attain that goal quite early on.

NOTE Confidence: 0.94499934

00:10:56.120 --> 00:10:58.318 And actually we had very little variation.

NOTE Confidence: 0.94499934

00:10:58.320 --> 00:11:00.678 So most women got up to that high level.

NOTE Confidence: 0.94499934

00:11:00.680 --> 00:11:02.738 So looking at the dose response was

NOTE Confidence: 0.94499934

00:11:02.738 --> 00:11:04.725 actually not even really that possible

NOTE Confidence: 0.94499934

00:11:04.725 --> 00:11:06.819 because everyone was just so successful

NOTE Confidence: 0.94499934

00:11:06.819 --> 00:11:09.116 in attaining that goal in this study.

NOTE Confidence: 0.94499934

00:11:09.120 --> 00:11:09.614 So unfortunately,

NOTE Confidence: 0.94499934

00:11:09.614 --> 00:11:11.590 I can't say if just a small increase

NOTE Confidence: 0.94499934

00:11:11.640 --> 00:11:13.306 would have also seen the same effect

NOTE Confidence: 0.94499934

00:11:13.306 --> 00:11:14.927 because we were seeing such strong

NOTE Confidence: 0.94499934

00:11:14.927 --> 00:11:16.357 increases overall in the women.

NOTE Confidence: 0.97069925

00:11:16.760 --> 00:11:18.716 How exactly did women do that?

NOTE Confidence: 0.97069925

00:11:18.720 --> 00:11:20.472 I mean there might be

NOTE Confidence: 0.97069925

00:11:20.472 --> 00:11:22.701 a lot of people who are sitting

NOTE Confidence: 0.97069925

00:11:22.701 --> 00:11:24.687 listening to the show and saying

NOTE Confidence: 0.97069925

00:11:24.687 --> 00:11:26.896 to themselves, that's fabulous.

NOTE Confidence: 0.97069925

00:11:26.896 --> 00:11:29.636 I mean these cancer survivors

NOTE Confidence: 0.97069925

00:11:29.640 --> 00:11:31.852 magically got themselves up

NOTE Confidence: 0.97069925

00:11:31.852 --> 00:11:34.592 to over 160 minutes a week.

NOTE Confidence: 0.97069925

00:11:34.592 --> 00:11:37.100 Now was that due to this

NOTE Confidence: 0.97069925

00:11:37.100 --> 00:11:39.200 trainer that you had?

NOTE Confidence: 0.97069925

00:11:39.200 --> 00:11:41.832 I mean is that the advice that you

NOTE Confidence: 0.97069925

00:11:41.832 --> 00:11:44.565 would have for people is to get a

NOTE Confidence: 0.97069925

00:11:44.565 --> 00:11:47.114 trainer or what were some of

NOTE Confidence: 0.97069925

00:11:47.114 --> 00:11:49.238 the perhaps techniques or skills  
NOTE Confidence: 0.97069925

00:11:49.238 --> 00:11:51.661 or bits of knowledge that really  
NOTE Confidence: 0.97069925

00:11:51.661 --> 00:11:54.223 helped these women to achieve  
NOTE Confidence: 0.97069925

00:11:54.223 --> 00:11:56.638 that outcome that perhaps the rest  
NOTE Confidence: 0.97069925

00:11:56.638 --> 00:11:58.870 of our listeners in our audience  
NOTE Confidence: 0.97069925

00:11:58.870 --> 00:12:01.040 might be able to behoove themselves of.  
NOTE Confidence: 0.72754407

00:12:01.880 --> 00:12:03.560 Well, I'm not an interventionist,  
NOTE Confidence: 0.72754407

00:12:03.560 --> 00:12:05.674 so I cannot say much about this.  
NOTE Confidence: 0.72754407

00:12:05.680 --> 00:12:07.840 But what I can say is that brisk  
NOTE Confidence: 0.72754407

00:12:07.840 --> 00:12:10.088 walking is likely accessible to the  
NOTE Confidence: 0.72754407

00:12:10.088 --> 00:12:12.133 vast majority of patients diagnosed  
NOTE Confidence: 0.72754407

00:12:12.133 --> 00:12:14.205 with ovarian cancer because it  
NOTE Confidence: 0.72754407

00:12:14.205 --> 00:12:16.200 does not require any equipment.  
NOTE Confidence: 0.72754407

00:12:16.200 --> 00:12:19.280 And if the patients wanted to do this,  
NOTE Confidence: 0.72754407

00:12:19.280 --> 00:12:20.820 they could initiate this form  
NOTE Confidence: 0.72754407

00:12:20.820 --> 00:12:22.360 of exercise on their own,

NOTE Confidence: 0.72754407

00:12:22.360 --> 00:12:24.060 well after obtaining a clearance

NOTE Confidence: 0.72754407

00:12:24.060 --> 00:12:25.760 from their doctors too.

NOTE Confidence: 0.72754407

00:12:25.760 --> 00:12:28.028 But if they need additional resources to

NOTE Confidence: 0.72754407

00:12:28.028 --> 00:12:30.671 help them to motivate them of actually

NOTE Confidence: 0.72754407

00:12:30.671 --> 00:12:32.676 initiating this form of exercise,

NOTE Confidence: 0.72754407

00:12:32.680 --> 00:12:35.074 then many cancer centers have physical

NOTE Confidence: 0.72754407

00:12:35.074 --> 00:12:37.997 therapists that could be a resource for them.

NOTE Confidence: 0.72754407

00:12:38.000 --> 00:12:41.178 And some also have the certified

NOTE Confidence: 0.72754407

00:12:41.178 --> 00:12:43.544 cancer exercise trainers like the

NOTE Confidence: 0.72754407

00:12:43.544 --> 00:12:46.200 interventionists in our study could also

NOTE Confidence: 0.72754407

00:12:46.200 --> 00:12:48.600 help them to start aerobic exercise.

NOTE Confidence: 0.72754407

00:12:48.600 --> 00:12:50.616 And for some women if they prefer

NOTE Confidence: 0.72754407

00:12:50.616 --> 00:12:53.225 to go to the facility instead of

NOTE Confidence: 0.72754407

00:12:53.225 --> 00:12:55.320 doing some home based exercise,

NOTE Confidence: 0.72754407

00:12:55.320 --> 00:12:59.141 theres the LIVESTRONG program at YMCA,

NOTE Confidence: 0.72754407

00:12:59.141 --> 00:13:01.248 which is a program specific to cancer  
NOTE Confidence: 0.72754407

00:13:01.248 --> 00:13:02.733 survivors that incorporate both  
NOTE Confidence: 0.72754407

00:13:02.733 --> 00:13:04.397 aerobic and resistance training.  
NOTE Confidence: 0.72754407

00:13:04.400 --> 00:13:06.311 So those are all the resources that  
NOTE Confidence: 0.72754407

00:13:06.311 --> 00:13:08.480 could be useful to the cancer survivors.  
NOTE Confidence: 0.6055559

00:13:08.760 --> 00:13:10.594 We're going to take  
NOTE Confidence: 0.6055559

00:13:10.594 --> 00:13:12.560 a short break for a medical minute,  
NOTE Confidence: 0.6055559

00:13:12.560 --> 00:13:13.640 but when we come back,  
NOTE Confidence: 0.6055559

00:13:13.640 --> 00:13:15.985 we'll learn more about the role of  
NOTE Confidence: 0.6055559

00:13:15.985 --> 00:13:18.277 aerobic exercise in relieving pain for  
NOTE Confidence: 0.6055559

00:13:18.277 --> 00:13:20.719 ovarian cancer survivors with my guests,  
NOTE Confidence: 0.6055559

00:13:20.720 --> 00:13:24.400 Leah Ferrucci and Anlan Cao.  
NOTE Confidence: 0.5015049

00:13:24.400 --> 00:13:26.400 Funding for Yale Cancer Answers comes  
NOTE Confidence: 0.5015049

00:13:26.400 --> 00:13:28.000 from Smilow Cancer Hospital,  
NOTE Confidence: 0.5015049

00:13:28.000 --> 00:13:30.670 where their Center for Breast Cancer  
NOTE Confidence: 0.5015049

00:13:30.670 --> 00:13:31.920 provides coordinated state-of-the-art



NOTE Confidence: 0.5015049

00:13:31.920 --> 00:13:34.080 care for patients with benign and

NOTE Confidence: 0.5015049

00:13:34.080 --> 00:13:35.760 malignant diseases of the breast.

NOTE Confidence: 0.5015049

00:13:35.760 --> 00:13:38.640 Learn more at [smilowcancerhospital.org](http://smilowcancerhospital.org).

NOTE Confidence: 0.6614816

00:13:40.680 --> 00:13:42.440 The American Cancer Society

NOTE Confidence: 0.6614816

00:13:42.440 --> 00:13:44.575 estimates that more than 65,000

NOTE Confidence: 0.6614816

00:13:44.575 --> 00:13:46.450 Americans will be diagnosed with

NOTE Confidence: 0.6614816

00:13:46.450 --> 00:13:48.639 head and neck cancer this year,

NOTE Confidence: 0.6614816

00:13:48.640 --> 00:13:51.895 making up about 4% of all cancers

NOTE Confidence: 0.6614816

00:13:51.895 --> 00:13:53.548 diagnosed when detected early.

NOTE Confidence: 0.6614816

00:13:53.548 --> 00:13:55.924 However, head and neck cancers are

NOTE Confidence: 0.6614816

00:13:55.924 --> 00:13:58.120 easily treated and highly curable.

NOTE Confidence: 0.6614816

00:13:58.120 --> 00:14:00.124 Clinical trials are currently

NOTE Confidence: 0.6614816

00:14:00.124 --> 00:14:02.128 underway at federally designated

NOTE Confidence: 0.6614816

00:14:02.128 --> 00:14:03.680 comprehensive Cancer Centers,

NOTE Confidence: 0.6614816

00:14:03.680 --> 00:14:06.592 such as Yale Cancer Center and Smilow

NOTE Confidence: 0.6614816

00:14:06.592 --> 00:14:08.976 Cancer Hospital to test innovative new  
NOTE Confidence: 0.6614816

00:14:08.976 --> 00:14:11.358 treatments for head and neck cancers.  
NOTE Confidence: 0.6614816

00:14:11.360 --> 00:14:13.335 Yale Cancer Center was recently  
NOTE Confidence: 0.6614816

00:14:13.335 --> 00:14:15.310 awarded grants from the National  
NOTE Confidence: 0.6614816

00:14:15.377 --> 00:14:17.267 Institutes of Health to fund the  
NOTE Confidence: 0.6614816

00:14:17.267 --> 00:14:19.620 Yale Head and Neck Cancer Specialized  
NOTE Confidence: 0.6614816

00:14:19.620 --> 00:14:21.680 Program of Research Excellence,  
NOTE Confidence: 0.6614816

00:14:21.680 --> 00:14:22.496 or SPORE,  
NOTE Confidence: 0.6614816

00:14:22.496 --> 00:14:24.536 to address critical barriers to  
NOTE Confidence: 0.6614816

00:14:24.536 --> 00:14:27.486 treatment of head and neck squamous cell  
NOTE Confidence: 0.6614816

00:14:27.486 --> 00:14:29.970 carcinoma due to resistance to immune  
NOTE Confidence: 0.6614816

00:14:30.049 --> 00:14:32.399 DNA damaging and targeted therapy.  
NOTE Confidence: 0.6614816

00:14:32.400 --> 00:14:34.800 More information is available  
NOTE Confidence: 0.6614816

00:14:34.800 --> 00:14:36.028 at [yalecancercenter.org](http://yalecancercenter.org).  
NOTE Confidence: 0.6614816

00:14:36.028 --> 00:14:39.796 You're listening to Connecticut Public Radio.  
NOTE Confidence: 0.6614816

00:14:39.800 --> 00:14:40.280 Welcome

NOTE Confidence: 0.31572294

00:14:40.280 --> 00:14:41.880 back to Yale Cancer Answers.

NOTE Confidence: 0.31572294

00:14:41.880 --> 00:14:43.400 This is Doctor Anees Chagpar,

NOTE Confidence: 0.31572294

00:14:43.400 --> 00:14:45.556 and I'm joined tonight by my guests,

NOTE Confidence: 0.31572294

00:14:45.560 --> 00:14:48.320 Doctor Leah Ferrucci and Anlan Cao.

NOTE Confidence: 0.31572294

00:14:48.320 --> 00:14:50.774 We're talking about the role of

NOTE Confidence: 0.31572294

00:14:50.774 --> 00:14:52.935 aerobic exercise in relieving pain

NOTE Confidence: 0.31572294

00:14:52.935 --> 00:14:54.759 for ovarian cancer survivors.

NOTE Confidence: 0.31572294

00:14:54.760 --> 00:14:57.238 And right before the break we were

NOTE Confidence: 0.31572294

00:14:57.238 --> 00:14:59.736 talking about a recent study that

NOTE Confidence: 0.31572294

00:14:59.736 --> 00:15:02.454 they've done looking at a walking

NOTE Confidence: 0.31572294

00:15:02.454 --> 00:15:04.652 intervention basically home based

NOTE Confidence: 0.31572294

00:15:04.652 --> 00:15:06.872 exercise primarily walking that

NOTE Confidence: 0.31572294

00:15:06.872 --> 00:15:09.080 actually reduced cancer induced

NOTE Confidence: 0.31572294

00:15:09.080 --> 00:15:12.400 peripheral neuropathy and Anlan,

NOTE Confidence: 0.31572294

00:15:12.400 --> 00:15:14.872 maybe you can tell us a little bit

NOTE Confidence: 0.31572294

00:15:14.872 --> 00:15:17.339 more about what exactly is this  
NOTE Confidence: 0.31572294

00:15:17.339 --> 00:15:19.554 neuropathy that cancer survivors get.  
NOTE Confidence: 0.31572294

00:15:19.560 --> 00:15:20.200 Yeah, sure.  
NOTE Confidence: 0.48949367

00:15:20.760 --> 00:15:22.856 So chemotherapy induced peripheral  
NOTE Confidence: 0.48949367

00:15:22.856 --> 00:15:25.476 neuropathy or CIPN biologically speaking  
NOTE Confidence: 0.48949367

00:15:25.476 --> 00:15:28.285 is the damage to neurons that leads  
NOTE Confidence: 0.48949367

00:15:28.285 --> 00:15:30.780 to alter perception of touch, pain,  
NOTE Confidence: 0.48949367

00:15:30.780 --> 00:15:34.560 sense of position and vibration or damage  
NOTE Confidence: 0.48949367

00:15:34.560 --> 00:15:37.120 voluntary movement and coordination.  
NOTE Confidence: 0.48949367

00:15:37.120 --> 00:15:38.772 So that being said,  
NOTE Confidence: 0.48949367

00:15:38.772 --> 00:15:41.250 some typical symptoms of CIPN include  
NOTE Confidence: 0.48949367

00:15:41.327 --> 00:15:43.541 like a tingling sensation in hands  
NOTE Confidence: 0.48949367

00:15:43.541 --> 00:15:46.451 and feet or some patients may describe  
NOTE Confidence: 0.48949367

00:15:46.451 --> 00:15:49.157 that as pins and needles feeling.  
NOTE Confidence: 0.48949367

00:15:49.160 --> 00:15:51.360 Some patients may also experience  
NOTE Confidence: 0.48949367

00:15:51.360 --> 00:15:53.913 burning or warm feeling, numbness,

NOTE Confidence: 0.48949367

00:15:53.913 --> 00:15:57.878 weakness or discomfort or pain.

NOTE Confidence: 0.48949367

00:15:57.880 --> 00:16:01.000 And some may also have less ability to

NOTE Confidence: 0.48949367

00:16:01.000 --> 00:16:04.200 feel hot and cold and cramps in feet.

NOTE Confidence: 0.48949367

00:16:04.200 --> 00:16:05.878 And it's actually highly prevalent

NOTE Confidence: 0.48949367

00:16:05.878 --> 00:16:08.273 for cancer patients who receive

NOTE Confidence: 0.48949367

00:16:08.273 --> 00:16:10.480 chemotherapy to experience neuropathy.

NOTE Confidence: 0.48949367

00:16:10.480 --> 00:16:13.260 And it's actually dependent on the chemotherapy

NOTE Confidence: 0.48949367

00:16:13.260 --> 00:16:16.050 regimen because some drugs are more

NOTE Confidence: 0.48949367

00:16:16.135 --> 00:16:18.837 likely to cause CIP and than others.

NOTE Confidence: 0.48949367

00:16:18.840 --> 00:16:22.165 And so what we are testing is exercise

NOTE Confidence: 0.48949367

00:16:22.165 --> 00:16:25.163 and how exercise can improve CIPN and

NOTE Confidence: 0.48949367

00:16:25.163 --> 00:16:27.921 that's because so far we only have

NOTE Confidence: 0.48949367

00:16:27.921 --> 00:16:30.800 limited options for how to manage CIPN.

NOTE Confidence: 0.48949367

00:16:30.800 --> 00:16:32.640 We do have one drug,

NOTE Confidence: 0.48949367

00:16:32.640 --> 00:16:33.006 Duloxetine,

NOTE Confidence: 0.48949367

00:16:33.006 --> 00:16:35.568 that is the only drug that had  
NOTE Confidence: 0.48949367

00:16:35.568 --> 00:16:37.294 enough supportive evidence to be  
NOTE Confidence: 0.48949367

00:16:37.294 --> 00:16:39.160 a part of the current guidelines  
NOTE Confidence: 0.48949367

00:16:39.160 --> 00:16:41.118 for CIPN management from ASCO,  
NOTE Confidence: 0.48949367

00:16:41.120 --> 00:16:44.235 which is a large clinical oncology organization.  
NOTE Confidence: 0.48949367

00:16:44.240 --> 00:16:46.060 But it's developed specifically for  
NOTE Confidence: 0.48949367

00:16:46.060 --> 00:16:48.375 CIPN and the evidence  
NOTE Confidence: 0.48949367

00:16:48.375 --> 00:16:50.919 indicates it only has limited benefits.  
NOTE Confidence: 0.48949367

00:16:50.920 --> 00:16:53.880 So it's not a solution to all and  
NOTE Confidence: 0.48949367

00:16:53.880 --> 00:16:56.556 some patients may also use patches,  
NOTE Confidence: 0.48949367

00:16:56.560 --> 00:16:59.472 creams, or cooling gloves to help with  
NOTE Confidence: 0.48949367

00:16:59.472 --> 00:17:02.277 numbness and tingling in hands and in feet,  
NOTE Confidence: 0.48949367

00:17:02.280 --> 00:17:04.247 but there's not enough evidence so far  
NOTE Confidence: 0.48949367

00:17:04.247 --> 00:17:06.480 to support a recommendation on those.  
NOTE Confidence: 0.48949367

00:17:06.480 --> 00:17:07.242 And clinically,  
NOTE Confidence: 0.48949367

00:17:07.242 --> 00:17:09.528 there is a pretty common approach

NOTE Confidence: 0.48949367

00:17:09.528 --> 00:17:10.680 to reduce CIPN,

NOTE Confidence: 0.48949367

00:17:10.680 --> 00:17:13.249 which is to reduce or delay the

NOTE Confidence: 0.48949367

00:17:13.249 --> 00:17:14.760 chemotherapy that causes CIPN,

NOTE Confidence: 0.48949367

00:17:14.760 --> 00:17:17.280 like paclitaxel in ovarian cancer.

NOTE Confidence: 0.48949367

00:17:17.280 --> 00:17:19.940 So this is pretty effective because you

NOTE Confidence: 0.48949367

00:17:19.940 --> 00:17:22.440 are targeting directly to the cause of CIPN,

NOTE Confidence: 0.48949367

00:17:22.440 --> 00:17:24.939 but this will lead to the patients

NOTE Confidence: 0.48949367

00:17:24.939 --> 00:17:26.568 receiving less than the original

NOTE Confidence: 0.48949367

00:17:26.568 --> 00:17:29.466 chemo prescription or

NOTE Confidence: 0.48949367

00:17:29.466 --> 00:17:31.478 delayed original prescription which

NOTE Confidence: 0.48949367

00:17:31.478 --> 00:17:33.438 may negatively impact survival.

NOTE Confidence: 0.48949367

00:17:33.440 --> 00:17:35.351 So this is like the last resort

NOTE Confidence: 0.48949367

00:17:35.351 --> 00:17:37.612 that we don't want to go into if

NOTE Confidence: 0.48949367

00:17:37.612 --> 00:17:38.716 we have other options.

NOTE Confidence: 0.48949367

00:17:38.720 --> 00:17:41.564 And exercise was proven to be

NOTE Confidence: 0.48949367

00:17:41.564 --> 00:17:43.856 effective in improving quality of  
NOTE Confidence: 0.48949367

00:17:43.856 --> 00:17:46.900 life in our study and also in other  
NOTE Confidence: 0.48949367

00:17:46.900 --> 00:17:48.680 aspects of cancer survivorship.  
NOTE Confidence: 0.48949367

00:17:48.680 --> 00:17:51.102 So we were hoping that maybe exercise  
NOTE Confidence: 0.48949367

00:17:51.102 --> 00:17:53.317 could also help us to manage CIP.  
NOTE Confidence: 0.48949367

00:17:53.320 --> 00:17:56.280 And as Professor Ferrucci mentioned,  
NOTE Confidence: 0.48949367

00:17:56.280 --> 00:18:00.164 we used a self report questionnaire  
NOTE Confidence: 0.48949367

00:18:00.164 --> 00:18:03.464 to measure CIPN that is called the  
NOTE Confidence: 0.48949367

00:18:03.464 --> 00:18:05.748 FACT GOG Neurotoxicity Questionnaire  
NOTE Confidence: 0.48949367

00:18:05.748 --> 00:18:09.205 and it has 11 questions basically  
NOTE Confidence: 0.48949367

00:18:09.205 --> 00:18:11.896 asking about the symptoms of CIPN  
NOTE Confidence: 0.48949367

00:18:11.896 --> 00:18:14.200 and how the patients feel about  
NOTE Confidence: 0.48949367

00:18:14.283 --> 00:18:16.797 pain or overall weakness.  
NOTE Confidence: 0.48949367

00:18:16.800 --> 00:18:19.338 And the overall range of this  
NOTE Confidence: 0.48949367

00:18:19.338 --> 00:18:21.559 questionnaire is from zero to 44.  
NOTE Confidence: 0.48949367

00:18:21.560 --> 00:18:25.669 And what we found was that exercise



NOTE Confidence: 0.48949367

00:18:25.669 --> 00:18:29.358 significantly improved the score by 1.6 point,

NOTE Confidence: 0.48949367

00:18:29.360 --> 00:18:30.490 1.6 points,

NOTE Confidence: 0.48949367

00:18:30.490 --> 00:18:31.055 yes.

NOTE Confidence: 0.48949367

00:18:31.055 --> 00:18:34.866 And that could translate to a moderate

NOTE Confidence: 0.48949367

00:18:34.866 --> 00:18:37.824 improvement in one symptom or just

NOTE Confidence: 0.48949367

00:18:37.824 --> 00:18:40.677 slightly improvement in a couple of symptoms.

NOTE Confidence: 0.48949367

00:18:40.680 --> 00:18:42.920 So what we think about that outcome is

NOTE Confidence: 0.48949367

00:18:42.920 --> 00:18:44.989 that it's pretty clinically effective

NOTE Confidence: 0.48949367

00:18:44.989 --> 00:18:47.399 and it's also statistically effective.

NOTE Confidence: 0.48949367

00:18:47.400 --> 00:18:49.782 So that's why we concluded that

NOTE Confidence: 0.48949367

00:18:49.782 --> 00:18:51.370 aerobic exercise actually can

NOTE Confidence: 0.93556595

00:18:51.443 --> 00:18:53.398 help improve CIP and symptoms.

NOTE Confidence: 0.93556595

00:18:54.440 --> 00:18:55.880 And so, Leah, you know,

NOTE Confidence: 0.93556595

00:18:55.880 --> 00:18:57.894 kind of expanding on that, right.

NOTE Confidence: 0.93556595

00:18:57.894 --> 00:19:01.846 So if we think that exercise could you

NOTE Confidence: 0.93556595

00:19:01.846 --> 00:19:04.408 know reduce peripheral neuropathy,  
NOTE Confidence: 0.93556595

00:19:04.408 --> 00:19:07.828 potentially allow patients to continue  
NOTE Confidence: 0.93556595

00:19:07.828 --> 00:19:11.499 on a chemotherapy regimen that they  
NOTE Confidence: 0.93556595

00:19:11.499 --> 00:19:14.559 may have been intolerant to before.  
NOTE Confidence: 0.93556595

00:19:14.560 --> 00:19:17.220 And I know that this was this  
NOTE Confidence: 0.93556595

00:19:17.220 --> 00:19:20.704 study was done in people who had  
NOTE Confidence: 0.93556595

00:19:20.704 --> 00:19:22.706 completed chemotherapy who may  
NOTE Confidence: 0.93556595

00:19:22.706 --> 00:19:24.358 have had residual neuropathy.  
NOTE Confidence: 0.93556595

00:19:24.360 --> 00:19:27.720 But can you talk a little bit about  
NOTE Confidence: 0.93556595

00:19:27.720 --> 00:19:29.796 other studies that you might have  
NOTE Confidence: 0.93556595

00:19:29.796 --> 00:19:32.141 done that have looked at you know  
NOTE Confidence: 0.93556595

00:19:32.141 --> 00:19:33.880 whether exercise really allows  
NOTE Confidence: 0.93556595

00:19:33.880 --> 00:19:36.760 patients to be more adherent to  
NOTE Confidence: 0.93556595

00:19:36.760 --> 00:19:39.798 their their chemotherapeutic regimen,  
NOTE Confidence: 0.93556595

00:19:39.800 --> 00:19:42.523 whether in fact we do have any  
NOTE Confidence: 0.93556595

00:19:42.523 --> 00:19:44.964 data suggesting that there is an

NOTE Confidence: 0.93556595

00:19:44.964 --> 00:19:47.644 improvement in survival or recurrence

NOTE Confidence: 0.93556595

00:19:47.644 --> 00:19:50.156 free survival with exercise.

NOTE Confidence: 0.9393902

00:19:50.800 --> 00:19:52.298 So I think this is sort of

NOTE Confidence: 0.9393902

00:19:52.298 --> 00:19:53.758 a story of more to come.

NOTE Confidence: 0.9393902

00:19:53.760 --> 00:19:56.224 I would say we have recently along

NOTE Confidence: 0.9393902

00:19:56.224 --> 00:19:58.345 with Doctor Melinda Irwin who had

NOTE Confidence: 0.9393902

00:19:58.345 --> 00:20:00.669 led the walk study originally and has

NOTE Confidence: 0.9393902

00:20:00.742 --> 00:20:03.556 recently completed a study in breast

NOTE Confidence: 0.9393902

00:20:03.556 --> 00:20:05.432 cancer patients during chemotherapy

NOTE Confidence: 0.9393902

00:20:05.440 --> 00:20:07.630 along with doctor Tara Sant here

NOTE Confidence: 0.9393902

00:20:07.630 --> 00:20:10.240 at Yale where they were looking at

NOTE Confidence: 0.9393902

00:20:10.240 --> 00:20:12.120 exercise and diet intervention in

NOTE Confidence: 0.9393902

00:20:12.192 --> 00:20:14.448 breast cancer survivors at the time

NOTE Confidence: 0.9393902

00:20:14.448 --> 00:20:16.840 that they were receiving chemotherapy.

NOTE Confidence: 0.9393902

00:20:16.840 --> 00:20:17.155 Unfortunately,

NOTE Confidence: 0.9393902

00:20:17.155 --> 00:20:19.360 they did not see that it looked  
NOTE Confidence: 0.9393902

00:20:19.360 --> 00:20:22.185 like the exercise component or the  
NOTE Confidence: 0.9393902

00:20:22.185 --> 00:20:24.360 diet component of the intervention  
NOTE Confidence: 0.9393902

00:20:24.360 --> 00:20:26.036 positively impacted the amount  
NOTE Confidence: 0.9393902

00:20:26.036 --> 00:20:27.712 of chemotherapy that individuals  
NOTE Confidence: 0.9393902

00:20:27.712 --> 00:20:29.240 were able to receive.  
NOTE Confidence: 0.9393902

00:20:29.240 --> 00:20:30.482 So that was a question that  
NOTE Confidence: 0.9393902

00:20:30.482 --> 00:20:31.920 we were trying to think about.  
NOTE Confidence: 0.9393902

00:20:31.920 --> 00:20:33.760 But surprisingly, in that study,  
NOTE Confidence: 0.9393902

00:20:33.760 --> 00:20:35.568 we actually had very,  
NOTE Confidence: 0.9393902

00:20:35.568 --> 00:20:38.280 very high adherence to chemotherapy overall,  
NOTE Confidence: 0.9393902

00:20:38.280 --> 00:20:40.400 which is not what we would have expected  
NOTE Confidence: 0.9393902

00:20:40.400 --> 00:20:42.480 kind of looking at historical data.  
NOTE Confidence: 0.9393902

00:20:42.480 --> 00:20:44.181 So that's a little bit up in the air  
NOTE Confidence: 0.9393902

00:20:44.181 --> 00:20:45.966 if perhaps we ended up enrolling  
NOTE Confidence: 0.9393902

00:20:45.966 --> 00:20:47.198 this really adherent group.

NOTE Confidence: 0.9393902

00:20:47.200 --> 00:20:49.272 They were all motivated to kind of

NOTE Confidence: 0.9393902

00:20:49.272 --> 00:20:51.439 be involved in a research study

NOTE Confidence: 0.9393902

00:20:51.439 --> 00:20:53.464 and perhaps had higher chemotherapy

NOTE Confidence: 0.9393902

00:20:53.464 --> 00:20:55.680 adherence than what we would have

NOTE Confidence: 0.9393902

00:20:55.680 --> 00:20:57.360 expected in a wider population.

NOTE Confidence: 0.9393902

00:20:57.360 --> 00:20:59.080 So that was for breast.

NOTE Confidence: 0.9393902

00:20:59.080 --> 00:21:01.438 But in tandem with that work,

NOTE Confidence: 0.9393902

00:21:01.440 --> 00:21:03.498 Doctor Irwin has recently begun to

NOTE Confidence: 0.9393902

00:21:03.498 --> 00:21:05.520 study in ovarian cancer survivors,

NOTE Confidence: 0.9393902

00:21:05.520 --> 00:21:06.418 where again,

NOTE Confidence: 0.9393902

00:21:06.418 --> 00:21:08.663 she's testing a lifestyle intervention

NOTE Confidence: 0.9393902

00:21:08.663 --> 00:21:11.114 that combines both diet and exercise

NOTE Confidence: 0.9393902

00:21:11.114 --> 00:21:13.536 during chemotherapy to see if we can

NOTE Confidence: 0.9393902

00:21:13.606 --> 00:21:15.170 impact that chemotherapy adherence

NOTE Confidence: 0.9393902

00:21:15.170 --> 00:21:18.040 or how well women are able to

NOTE Confidence: 0.9393902

00:21:18.040 --> 00:21:20.120 adhere to their prescription.

NOTE Confidence: 0.9393902

00:21:20.120 --> 00:21:22.570 So that one has just actually started

NOTE Confidence: 0.9393902

00:21:22.570 --> 00:21:24.300 enrollment and this is actually

NOTE Confidence: 0.9393902

00:21:24.300 --> 00:21:26.449 an exciting one as well to think

NOTE Confidence: 0.9393902

00:21:26.449 --> 00:21:28.410 about CIPN because this will be

NOTE Confidence: 0.9393902

00:21:28.410 --> 00:21:31.390 a group in which we can see is

NOTE Confidence: 0.9393902

00:21:31.390 --> 00:21:33.480 exercise potentially also able to

NOTE Confidence: 0.9393902

00:21:33.480 --> 00:21:36.078 prevent that symptom from beginning.

NOTE Confidence: 0.9393902

00:21:36.080 --> 00:21:37.320 So in our current trial,

00:21:37.684 --> 00:21:40.232 we had women who had already completed

NOTE Confidence: 0.9393902

00:21:40.232 --> 00:21:42.960 chemotherapy, already had CIPN at baseline,

NOTE Confidence: 0.9393902

00:21:42.960 --> 00:21:45.074 they were reporting these symptoms to us.

NOTE Confidence: 0.9393902

00:21:45.080 --> 00:21:46.360 But in this new study,

NOTE Confidence: 0.9393902

00:21:46.360 --> 00:21:47.907 we're hoping that we can take a

NOTE Confidence: 0.9393902

00:21:47.907 --> 00:21:50.077 look and see again as a secondary outcome,

NOTE Confidence: 0.9393902

00:21:50.080 --> 00:21:52.320 but an important one to think through

NOTE Confidence: 0.9393902

00:21:52.320 --> 00:21:52.960 for hypothesis,  
NOTE Confidence: 0.9393902

00:21:52.960 --> 00:21:54.718 can we actually prevent CIPN  
NOTE Confidence: 0.9393902

00:21:54.718 --> 00:21:56.881 if they are having exercise  
NOTE Confidence: 0.9393902

00:21:56.881 --> 00:21:59.196 during their active treatment phase?  
NOTE Confidence: 0.6046739

00:22:00.560 --> 00:22:02.270 I mean, so important  
NOTE Confidence: 0.6046739

00:22:02.270 --> 00:22:04.400 when we think about  
NOTE Confidence: 0.6046739

00:22:04.400 --> 00:22:06.300 the massive amount of money  
NOTE Confidence: 0.6046739

00:22:06.300 --> 00:22:08.640 that we spend on these drugs,  
NOTE Confidence: 0.6046739

00:22:08.640 --> 00:22:11.760 the toxicity of the drugs,  
NOTE Confidence: 0.6046739

00:22:11.760 --> 00:22:15.575 to think that something like exercise or  
NOTE Confidence: 0.6046739

00:22:15.575 --> 00:22:19.794 diet might actually be able to improve  
NOTE Confidence: 0.6046739

00:22:19.794 --> 00:22:22.896 outcomes independently is just so enticing.  
NOTE Confidence: 0.6046739

00:22:22.896 --> 00:22:25.680 But it is difficult I  
NOTE Confidence: 0.6046739

00:22:25.680 --> 00:22:29.592 think for people to embrace lifestyle  
NOTE Confidence: 0.6046739

00:22:29.592 --> 00:22:32.280 interventions, nonetheless,  
NOTE Confidence: 0.6046739

00:22:32.280 --> 00:22:34.674 I think these studies are really laudable.

NOTE Confidence: 0.6046739

00:22:34.680 --> 00:22:37.008 So, Anlan, maybe you can talk

NOTE Confidence: 0.6046739

00:22:37.008 --> 00:22:39.130 a little bit about,

NOTE Confidence: 0.6046739

00:22:39.130 --> 00:22:41.800 what does it take to do studies like this?

NOTE Confidence: 0.6046739

00:22:41.800 --> 00:22:44.320 I mean, it sounds like this

NOTE Confidence: 0.6046739

00:22:44.320 --> 00:22:46.000 is quite the endeavor.

NOTE Confidence: 0.6046739

00:22:46.000 --> 00:22:48.144 Can you talk a little bit more about

NOTE Confidence: 0.6046739

00:22:48.144 --> 00:22:50.754 kind of how you set up a study like this,

NOTE Confidence: 0.6046739

00:22:50.760 --> 00:22:52.324 the team that's involved,

NOTE Confidence: 0.6046739

00:22:52.324 --> 00:22:54.986 the patients that are involved and

NOTE Confidence: 0.6046739

00:22:54.986 --> 00:22:57.810 for patients who are coming down the Pike

NOTE Confidence: 0.6046739

00:22:57.885 --> 00:23:00.475 who might be listening to this show,

NOTE Confidence: 0.6046739

00:23:00.480 --> 00:23:01.760 who might think, jeez,

00:23:02.400 --> 00:23:05.795 I really wish there was a study

NOTE Confidence: 0.6046739

00:23:05.795 --> 00:23:07.680 like that near me.

NOTE Confidence: 0.6046739

00:23:07.680 --> 00:23:09.556 Can you talk a little bit about

NOTE Confidence: 0.6046739

00:23:09.556 --> 00:23:11.085 how patients get involved



NOTE Confidence: 0.6046739

00:23:11.085 --> 00:23:12.760 in clinical trials in general?

NOTE Confidence: 0.77203697

00:23:13.720 --> 00:23:15.856 Yeah, that is definitely

NOTE Confidence: 0.77203697

00:23:15.856 --> 00:23:17.280 a very important question,

NOTE Confidence: 0.77203697

00:23:17.280 --> 00:23:18.880 but I'm only a PhD

NOTE Confidence: 0.77203697

00:23:18.880 --> 00:23:21.352 student and I'm more of a research

NOTE Confidence: 0.77203697

00:23:21.352 --> 00:23:23.359 assistant in this sort of study.

NOTE Confidence: 0.77203697

00:23:23.360 --> 00:23:24.620 So I think maybe Professor

NOTE Confidence: 0.77203697

00:23:24.620 --> 00:23:25.880 Ferrucci might be the better

NOTE Confidence: 0.77203697

00:23:25.935 --> 00:23:27.360 person to answer this question.

NOTE Confidence: 0.77203697

00:23:27.440 --> 00:23:29.318 Sure, I can take that on.

NOTE Confidence: 0.77203697

00:23:29.320 --> 00:23:31.156 So these are known as our

NOTE Confidence: 0.77203697

00:23:31.156 --> 00:23:32.074 randomized controlled trials,

NOTE Confidence: 0.77203697

00:23:32.080 --> 00:23:33.910 which many people are familiar with

NOTE Confidence: 0.77203697

00:23:33.910 --> 00:23:35.734 more in the context of testing

NOTE Confidence: 0.77203697

00:23:35.734 --> 00:23:37.360 a new treatment or new drug.

NOTE Confidence: 0.77203697

00:23:37.360 --> 00:23:39.390 But we use this same design for  
NOTE Confidence: 0.77203697

00:23:39.390 --> 00:23:40.665 testing these lifestyle interventions  
NOTE Confidence: 0.77203697

00:23:40.665 --> 00:23:43.066 where we're trying to enroll a group  
NOTE Confidence: 0.77203697

00:23:43.066 --> 00:23:45.101 of individuals who are willing to  
NOTE Confidence: 0.77203697

00:23:45.101 --> 00:23:46.389 essentially randomly be assigned  
NOTE Confidence: 0.77203697

00:23:46.389 --> 00:23:48.165 to either the intervention or  
NOTE Confidence: 0.77203697

00:23:48.165 --> 00:23:50.040 educational program that we are  
NOTE Confidence: 0.77203697

00:23:50.040 --> 00:23:52.400 testing and then our comparison group.  
NOTE Confidence: 0.77203697

00:23:52.400 --> 00:23:53.680 So in the walk study,  
NOTE Confidence: 0.77203697

00:23:53.680 --> 00:23:55.724 it had been the exercise was the  
NOTE Confidence: 0.77203697

00:23:55.724 --> 00:23:57.683 education and the sort of lifestyle  
NOTE Confidence: 0.77203697

00:23:57.683 --> 00:23:59.378 component that we wanted to  
NOTE Confidence: 0.77203697

00:23:59.378 --> 00:24:01.756 evaluate and then we had that in  
NOTE Confidence: 0.77203697

00:24:01.756 --> 00:24:03.391 comparison to the attention control.  
NOTE Confidence: 0.77203697

00:24:03.400 --> 00:24:05.325 So this is an important thing that  
NOTE Confidence: 0.77203697

00:24:05.325 --> 00:24:07.345 we have to describe to potential

NOTE Confidence: 0.77203697

00:24:07.345 --> 00:24:09.235 participants is that they might

NOTE Confidence: 0.77203697

00:24:09.235 --> 00:24:11.160 get that control condition.

NOTE Confidence: 0.77203697

00:24:11.160 --> 00:24:12.942 But this is a really important

NOTE Confidence: 0.77203697

00:24:12.942 --> 00:24:14.151 piece to understand, right?

NOTE Confidence: 0.77203697

00:24:14.151 --> 00:24:16.328 Is exercise going to improve the outcomes

NOTE Confidence: 0.77203697

00:24:16.328 --> 00:24:18.318 that we're hoping that they improve.

NOTE Confidence: 0.77203697

00:24:18.320 --> 00:24:20.294 So our staff get really well

NOTE Confidence: 0.77203697

00:24:20.294 --> 00:24:22.536 trained in trying to convey the

NOTE Confidence: 0.77203697

00:24:22.536 --> 00:24:24.240 importance of the research,

NOTE Confidence: 0.77203697

00:24:24.240 --> 00:24:25.720 the importance that individuals

NOTE Confidence: 0.77203697

00:24:25.720 --> 00:24:27.200 understand that random chance

NOTE Confidence: 0.77203697

00:24:27.200 --> 00:24:28.840 of being in either group.

NOTE Confidence: 0.77203697

00:24:28.840 --> 00:24:31.038 And then particularly with the walk study,

NOTE Confidence: 0.77203697

00:24:31.040 --> 00:24:33.609 they also had this benefit even in

NOTE Confidence: 0.77203697

00:24:33.609 --> 00:24:35.496 the control condition of having

NOTE Confidence: 0.77203697

00:24:35.496 --> 00:24:37.276 contact with our study staff  
NOTE Confidence: 0.77203697

00:24:37.280 --> 00:24:38.648 through weekly telephone calls.  
NOTE Confidence: 0.77203697

00:24:38.648 --> 00:24:40.700 So they were getting this extra  
NOTE Confidence: 0.77203697

00:24:40.760 --> 00:24:43.186 layer of support in a way not tied  
NOTE Confidence: 0.77203697

00:24:43.186 --> 00:24:45.318 specifically to exercise content.  
NOTE Confidence: 0.77203697

00:24:45.320 --> 00:24:47.504 So that also might have been helpful  
NOTE Confidence: 0.77203697

00:24:47.504 --> 00:24:49.635 for this particular study and bringing  
NOTE Confidence: 0.77203697

00:24:49.635 --> 00:24:51.520 people into the research component.  
NOTE Confidence: 0.77203697

00:24:51.520 --> 00:24:52.584 But as Anlan said,  
NOTE Confidence: 0.77203697

00:24:52.584 --> 00:24:54.180 this is a very complicated thing  
NOTE Confidence: 0.77203697

00:24:54.234 --> 00:24:55.795 to sort of get off the ground.  
NOTE Confidence: 0.77203697

00:24:55.800 --> 00:24:57.816 We have a large research staff  
NOTE Confidence: 0.77203697

00:24:57.816 --> 00:24:59.160 for this particular study.  
NOTE Confidence: 0.77203697

00:24:59.160 --> 00:25:01.482 We had about 144 women who  
NOTE Confidence: 0.77203697

00:25:01.482 --> 00:25:03.680 enrolled in the study itself,  
NOTE Confidence: 0.77203697

00:25:03.680 --> 00:25:05.843 but we had actually screened over 700

NOTE Confidence: 0.77203697

00:25:05.843 --> 00:25:07.804 individuals to find those people who

NOTE Confidence: 0.77203697

00:25:07.804 --> 00:25:09.754 were not only willing to participate,

NOTE Confidence: 0.77203697

00:25:09.760 --> 00:25:12.080 but also eligible based on some of those

NOTE Confidence: 0.77203697

00:25:12.080 --> 00:25:14.119 criteria we had had mentioned before,

NOTE Confidence: 0.77203697

00:25:14.120 --> 00:25:16.600 like having completed their chemotherapy,

NOTE Confidence: 0.77203697

00:25:16.600 --> 00:25:18.320 having that lower level of

NOTE Confidence: 0.77203697

00:25:18.320 --> 00:25:20.040 physical activity at the start.

NOTE Confidence: 0.77203697

00:25:20.040 --> 00:25:21.920 So to just enroll for this one study,

NOTE Confidence: 0.77203697

00:25:21.920 --> 00:25:24.716 it actually took over four years.

NOTE Confidence: 0.77203697

00:25:24.720 --> 00:25:26.690 So I would say you know to keep in mind

NOTE Confidence: 0.77203697

00:25:26.744 --> 00:25:28.515 that this work while you can generate

NOTE Confidence: 0.77203697

00:25:28.515 --> 00:25:30.640 a paper what seems like fairly quickly,

NOTE Confidence: 0.77203697

00:25:30.640 --> 00:25:32.800 the actual background work that goes into it,

NOTE Confidence: 0.77203697

00:25:32.800 --> 00:25:34.400 that in the field piece

NOTE Confidence: 0.77203697

00:25:34.400 --> 00:25:36.000 can take quite a while.

NOTE Confidence: 0.77203697

00:25:36.000 --> 00:25:37.120 And as you can imagine,  
NOTE Confidence: 0.77203697

00:25:37.120 --> 00:25:38.608 as we're enrolling participants,  
NOTE Confidence: 0.77203697

00:25:38.608 --> 00:25:40.840 we have to have our interventionist  
NOTE Confidence: 0.77203697

00:25:40.904 --> 00:25:42.439 ready to be counseling them.  
NOTE Confidence: 0.77203697

00:25:42.440 --> 00:25:44.816 So this is not a process where we  
NOTE Confidence: 0.77203697

00:25:44.816 --> 00:25:47.480 can enroll all 144 women at one time.  
NOTE Confidence: 0.77203697

00:25:47.480 --> 00:25:48.188 So in part,  
NOTE Confidence: 0.77203697

00:25:48.188 --> 00:25:49.604 you have that pool of people  
NOTE Confidence: 0.77203697

00:25:49.604 --> 00:25:51.249 coming in and sort of a trickle  
NOTE Confidence: 0.77203697

00:25:51.249 --> 00:25:52.959 or a rolling process so that you  
NOTE Confidence: 0.77203697

00:25:52.959 --> 00:25:54.465 can provide the actual content to  
NOTE Confidence: 0.77203697

00:25:54.465 --> 00:25:56.000 them that you're trying to convey,  
NOTE Confidence: 0.77203697

00:25:56.000 --> 00:25:57.263 in this case,  
NOTE Confidence: 0.77203697

00:25:57.263 --> 00:25:59.368 the exercise counseling and these  
NOTE Confidence: 0.77203697

00:25:59.368 --> 00:26:01.920 weekly telephone calls that they received.  
NOTE Confidence: 0.77203697

00:26:01.920 --> 00:26:03.509 So I hope that answers a little

NOTE Confidence: 0.77203697

00:26:03.509 --> 00:26:04.600 bit about the design.

NOTE Confidence: 0.9109729

00:26:04.800 --> 00:26:07.856 Yeah, for sure. I mean and Anlan did you

NOTE Confidence: 0.9109729

00:26:07.856 --> 00:26:10.649 find that you know if you tell patients

NOTE Confidence: 0.9109729

00:26:10.649 --> 00:26:13.561 that we're looking at exercise

NOTE Confidence: 0.9109729

00:26:13.561 --> 00:26:16.068 and its potential impact on improving

NOTE Confidence: 0.9109729

00:26:16.068 --> 00:26:18.958 quality of life in in cancer survivors,

NOTE Confidence: 0.9109729

00:26:18.958 --> 00:26:22.470 would that in and of itself

NOTE Confidence: 0.9109729

00:26:22.556 --> 00:26:26.268 even if you were randomized to the non

NOTE Confidence: 0.9109729

00:26:26.268 --> 00:26:29.480 intervention arm the attention control,

NOTE Confidence: 0.9109729

00:26:29.480 --> 00:26:31.280 where might those women be more

NOTE Confidence: 0.9109729

00:26:31.280 --> 00:26:33.620 likely to just try a little bit of

NOTE Confidence: 0.9109729

00:26:33.620 --> 00:26:35.606 exercise on their own and how

NOTE Confidence: 0.9109729

00:26:35.606 --> 00:26:37.748 would that dilute the results and

NOTE Confidence: 0.9109729

00:26:37.748 --> 00:26:39.960 how would you mitigate against that?

NOTE Confidence: 0.9743343

00:26:40.680 --> 00:26:44.680 Yeah, definitely. I mean,

NOTE Confidence: 0.9743343

00:26:44.680 --> 00:26:46.112 doing randomized controlled trials,

NOTE Confidence: 0.9743343

00:26:46.112 --> 00:26:48.846 usually the best way to do this is

NOTE Confidence: 0.9743343

00:26:48.846 --> 00:26:50.666 to blind the patients of what kind

NOTE Confidence: 0.9743343

00:26:50.666 --> 00:26:52.840 of intervention that they received.

NOTE Confidence: 0.9743343

00:26:52.840 --> 00:26:54.478 Like if it's a drug trial,

00:26:55.540 --> 00:26:56.600 methodologically speaking,

NOTE Confidence: 0.9743343

00:26:56.600 --> 00:26:59.250 we probably will provide women

NOTE Confidence: 0.9743343

00:26:59.250 --> 00:27:01.185 who were randomized to the

NOTE Confidence: 0.9743343

00:27:01.185 --> 00:27:02.960 control group with a placebo.

NOTE Confidence: 0.9743343

00:27:02.960 --> 00:27:05.165 So in that way they wouldn't know

NOTE Confidence: 0.9743343

00:27:05.165 --> 00:27:07.266 which kind of intervention that

NOTE Confidence: 0.9743343

00:27:07.266 --> 00:27:09.793 they're getting and that way we can

NOTE Confidence: 0.9743343

00:27:09.857 --> 00:27:11.915 help to get a more valid result.

NOTE Confidence: 0.9743343

00:27:11.920 --> 00:27:13.912 But this is a lifestyle intervention

NOTE Confidence: 0.9743343

00:27:13.912 --> 00:27:15.240 and like you mentioned,

NOTE Confidence: 0.9743343

00:27:15.240 --> 00:27:18.008 there's no way that we can stop the

NOTE Confidence: 0.9743343



00:27:18.008 --> 00:27:20.440 women from exercising themselves.

NOTE Confidence: 0.9743343

00:27:20.440 --> 00:27:22.696 And actually that's what we've seen

NOTE Confidence: 0.9743343

00:27:22.696 --> 00:27:25.548 our study that women in the control

NOTE Confidence: 0.9743343

00:27:25.548 --> 00:27:28.092 group actually started to elevate their

NOTE Confidence: 0.9743343

00:27:28.092 --> 00:27:30.395 exercise level a little bit as well.

NOTE Confidence: 0.9743343

00:27:30.400 --> 00:27:34.496 But how we deal with it

NOTE Confidence: 0.9743343

00:27:34.496 --> 00:27:36.702 statistically in our analysis is

NOTE Confidence: 0.9743343

00:27:36.702 --> 00:27:38.964 that we will consider that this

NOTE Confidence: 0.9743343

00:27:38.964 --> 00:27:41.655 sort of crossover as what we call

NOTE Confidence: 0.9743343

00:27:41.655 --> 00:27:43.590 in randomized control trial will

NOTE Confidence: 0.9743343

00:27:43.662 --> 00:27:45.798 bias our results toward and

NOTE Confidence: 0.9743343

00:27:45.800 --> 00:27:49.061 so because control women started

NOTE Confidence: 0.9743343

00:27:49.061 --> 00:27:51.023 to exercise that sort of made

NOTE Confidence: 0.9743343

00:27:51.023 --> 00:27:52.906 them more similar to women who

NOTE Confidence: 0.9743343

00:27:52.906 --> 00:27:54.396 were in the exercise arm.

NOTE Confidence: 0.9743343

00:27:54.400 --> 00:27:58.240 So that would make us

NOTE Confidence: 0.9743343

00:27:58.240 --> 00:28:00.052 observe generally

00:28:01.224 --> 00:28:03.696 reduced effect size compared

NOTE Confidence: 0.9743343

00:28:03.696 --> 00:28:06.720 to what we would actually have if

NOTE Confidence: 0.9743343

00:28:06.800 --> 00:28:09.680 they did not start exercising at all.

NOTE Confidence: 0.9743343

00:28:09.680 --> 00:28:11.600 So in that case,

NOTE Confidence: 0.9743343

00:28:11.600 --> 00:28:13.720 if we observe a fact,

NOTE Confidence: 0.9743343

00:28:13.720 --> 00:28:16.716 a very effective result in the end,

NOTE Confidence: 0.9743343

00:28:16.720 --> 00:28:19.253 then that would mean if everybody

NOTE Confidence: 0.9743343

00:28:19.253 --> 00:28:21.118 adheres to their randomized group,

NOTE Confidence: 0.9743343

00:28:21.120 --> 00:28:23.528 we will actually have a even larger

NOTE Confidence: 0.9743343

00:28:23.528 --> 00:28:25.758 effect size than what we observed.

NOTE Confidence: 0.9743343

00:28:25.760 --> 00:28:27.488 So that's usually how we deal

NOTE Confidence: 0.9743343

00:28:27.488 --> 00:28:29.440 with this sort of crossover in

NOTE Confidence: 0.9743343

00:28:29.440 --> 00:28:30.640 randomized controlled trials.

NOTE Confidence: 0.4909421

00:28:31.080 --> 00:28:33.124 Anlan Cao is a graduate student

NOTE Confidence: 0.4909421

00:28:33.124 --> 00:28:35.155 and doctor Leah Ferrucci is an

NOTE Confidence: 0.4909421

00:28:35.155 --> 00:28:36.607 assistant professor of epidemiology

NOTE Confidence: 0.4909421

00:28:36.607 --> 00:28:39.159 at the Yale School of Public Health.

NOTE Confidence: 0.4909421

00:28:39.160 --> 00:28:41.080 If you have questions,

NOTE Confidence: 0.4909421

00:28:41.080 --> 00:28:42.966 the address is canceranswers@yale.edu

NOTE Confidence: 0.4909421

00:28:42.966 --> 00:28:45.642 and past editions of the program

NOTE Confidence: 0.4909421

00:28:45.642 --> 00:28:47.979 are available in audio and written

NOTE Confidence: 0.4909421

00:28:47.979 --> 00:28:48.908 form at yalecancercenter.org.

NOTE Confidence: 0.4909421

00:28:48.908 --> 00:28:51.372 We hope you'll join us next week to

NOTE Confidence: 0.4909421

00:28:51.372 --> 00:28:53.257 learn more about the fight against

NOTE Confidence: 0.4909421

00:28:53.257 --> 00:28:55.120 cancer here on Connecticut Public Radio.

NOTE Confidence: 0.4909421

00:28:55.120 --> 00:28:57.622 Funding for Yale Cancer Answers is

NOTE Confidence: 0.4909421

00:28:57.622 --> 00:29:00.000 provided by Smilow Cancer Hospital.