WEBVTT

00:00:00.000 --> 00:00:03.168 Funding for Yale Cancer Answers is

NOTE Confidence: 0.93760175

00:00:03.168 --> 00:00:06.160 provided by Smilow Cancer Hospital.

NOTE Confidence: 0.93760175

00:00:06.160 --> 00:00:08.335 Welcome to Yale Cancer Answers

NOTE Confidence: 0.93760175

00:00:08.335 --> 00:00:10.075 with Doctor Anees Chagpar.

NOTE Confidence: 0.93760175

00:00:10.080 --> 00:00:11.536 Yale Cancer Answers features

NOTE Confidence: 0.93760175

00:00:11.536 --> 00:00:13.356 the latest information on cancer

NOTE Confidence: 0.93760175

00:00:13.356 --> 00:00:15.211 care by welcoming oncologists and

NOTE Confidence: 0.93760175

00:00:15.211 --> 00:00:17.359 specialists who are on the forefront

NOTE Confidence: 0.93760175

00:00:17.424 --> 00:00:19.080 of the battle to fight cancer.

NOTE Confidence: 0.93760175

00:00:19.080 --> 00:00:21.474 This week it's a conversation about

NOTE Confidence: 0.93760175

00:00:21.474 --> 00:00:23.512 stereotactic radiosurgery for lung

NOTE Confidence: 0.93760175

00:00:23.512 --> 00:00:25.377 cancer with doctor Nadine Housri.

NOTE Confidence: 0.93760175

00:00:25.380 --> 00:00:27.582 Dr. Housri is an associate professor

NOTE Confidence: 0.93760175

00:00:27.582 --> 00:00:29.050 of therapeutic radiology at

NOTE Confidence: 0.93760175

00:00:29.109 --> 00:00:30.739 the Yale School of Medicine,

NOTE Confidence: 0.93760175

00:00:30.740 --> 00:00:32.515 where Doctor Chagpar is a

NOTE Confidence: 0.93760175

00:00:32.515 --> 00:00:33.935 professor of surgical oncology.

NOTE Confidence: 0.9320962

00:00:35.180 --> 00:00:36.818 So, Nadine, maybe we can start off

NOTE Confidence: 0.9320962

00:00:36.818 --> 00:00:38.689 by you telling us a little bit more

NOTE Confidence: 0.9320962

00:00:38.689 --> 00:00:40.339 about yourself and what it is you do.

NOTE Confidence: 0.9320962

00:00:40.940 --> 00:00:44.580 Sure. So I am a radiation oncologist,

NOTE Confidence: 0.9320962

00:00:44.580 --> 00:00:47.532 which is a physician who treats

NOTE Confidence: 0.9320962

00:00:47.532 --> 00:00:49.500 cancer patients with radiation.

NOTE Confidence: 0.9320962

00:00:49.500 --> 00:00:52.572 Typically along the cancer journey,

NOTE Confidence: 0.9320962

00:00:52.572 --> 00:00:55.360 a patient will see a medical oncologist

NOTE Confidence: 0.9320962

00:00:55.360 --> 00:00:58.580 who treats with medications such

NOTE Confidence: 0.9320962

00:00:58.580 --> 00:01:01.100 as chemotherapy or immunotherapy,

NOTE Confidence: 0.9320962

00:01:01.100 --> 00:01:03.938 a surgeon who operates and

NOTE Confidence: 0.9320962

00:01:03.940 --> 00:01:06.538 surgically removes tumors and a

NOTE Confidence: 0.9320962

00:01:06.538 --> 00:01:08.789 radiation oncologist who uses ionizing

NOTE Confidence: 0.9320962

00:01:08.789 --> 00:01:11.459 radiation like Xrays to treat cancer.

00:01:13.700 --> 00:01:15.500 And your specialty is in lung cancer,

NOTE Confidence: 0.9372111

00:01:15.500 --> 00:01:17.600 is that right?

NOTE Confidence: 0.9372111

00:01:17.600 --> 00:01:19.904 Maybe you can lay out a bit for

NOTE Confidence: 0.9372111

00:01:19.904 --> 00:01:22.237 us the landscape of lung cancer.

NOTE Confidence: 0.9372111

00:01:22.240 --> 00:01:24.120 How are lung cancers most

NOTE Confidence: 0.9372111

00:01:24.120 --> 00:01:25.624 frequently managed and when

NOTE Confidence: 0.9372111

00:01:25.624 --> 00:01:27.678 do patients get to see you?

NOTE Confidence: 0.9372111

00:01:27.680 --> 00:01:28.640 So it all depends

NOTE Confidence: 0.94177026

00:01:28.640 --> 00:01:32.188 on the stage. Patients typically present

NOTE Confidence: 0.94177026

00:01:32.188 --> 00:01:35.800 with stage one to four lung cancer,

NOTE Confidence: 0.94177026

00:01:35.800 --> 00:01:38.684 one being lung cancer that is only

NOTE Confidence: 0.94177026

00:01:38.684 --> 00:01:41.524 in the lung and four being lung

NOTE Confidence: 0.94177026

00:01:41.524 --> 00:01:43.529 cancer that has spread elsewhere

NOTE Confidence: 0.94177026

00:01:43.529 --> 00:01:45.870 outside of the lung and lymph nodes.

NOTE Confidence: 0.94177026

00:01:45.870 --> 00:01:48.838 There's a role for radiation for

NOTE Confidence: 0.94177026

00:01:48.838 --> 00:01:51.430 patients along any of these stages.

NOTE Confidence: 0.94177026

00:01:51.430 --> 00:01:53.188 For the most advanced lung cancer,

NOTE Confidence: 0.94177026

00:01:53.190 --> 00:01:55.571 typically my role is to help palliate

NOTE Confidence: 0.94177026

00:01:55.571 --> 00:01:57.857 symptoms and make patients more comfortable

NOTE Confidence: 0.94177026

00:01:57.857 --> 00:02:00.668 and have a good quality of life and

NOTE Confidence: 0.94177026

00:02:00.668 --> 00:02:03.122 radiation is excellent in this regard.

NOTE Confidence: 0.94177026

00:02:03.122 --> 00:02:06.630 For very early stage lung cancer patients,

NOTE Confidence: 0.94177026

00:02:06.630 --> 00:02:08.301 radiation is curative.

NOTE Confidence: 0.94177026

00:02:08.301 --> 00:02:11.643 We often treat with stereotactic radiation

NOTE Confidence: 0.94177026

00:02:11.643 --> 00:02:14.727 therapy to treat early stage lung cancer

NOTE Confidence: 0.94177026

00:02:14.730 --> 00:02:17.058 and in the middle among the patients who

NOTE Confidence: 0.94177026

00:02:17.058 --> 00:02:19.247 have stage two or stage 3 lung cancer

NOTE Confidence: 0.94177026

00:02:19.250 --> 00:02:21.570 we work very closely with

NOTE Confidence: 0.94177026

00:02:21.570 --> 00:02:23.622 medical oncologists and

NOTE Confidence: 0.94177026

00:02:23.622 --> 00:02:27.170 surgeons to do a combination of surgery,

NOTE Confidence: 0.94177026

00:02:27.170 --> 00:02:27.630 chemotherapy,

NOTE Confidence: 0.94177026

00:02:27.630 --> 00:02:29.470 immunotherapy to treat these

NOTE Confidence: 0.94177026

00:02:29.470 --> 00:02:30.850 patients as well.

NOTE Confidence: 0.94177026

00:02:30.850 --> 00:02:33.180 So patients may see me with

NOTE Confidence: 0.94177026

00:02:33.180 --> 00:02:34.930 any type of lung cancer.

00:02:37.770 --> 00:02:39.930 And you mentioned stereotactic

NOTE Confidence: 0.9299414

00:02:39.930 --> 00:02:42.610 radiosurgery for early stage lung cancer.

NOTE Confidence: 0.9299414

00:02:42.610 --> 00:02:44.962 Can you help our audience to understand

NOTE Confidence: 0.9299414

00:02:44.962 --> 00:02:46.782 what exactly is a stereotactic

NOTE Confidence: 0.9299414

00:02:46.782 --> 00:02:49.026 radiosurgery and how does it work?

NOTE Confidence: 0.9389042

00:02:49.270 --> 00:02:52.910 Sure. A very long time ago,

NOTE Confidence: 0.9389042

00:02:52.910 --> 00:02:55.374 you know 20 plus years ago when

NOTE Confidence: 0.9389042

00:02:55.374 --> 00:02:57.710 patients had early stage lung cancer

NOTE Confidence: 0.9389042

00:02:57.710 --> 00:02:59.270 and we're not surgical candidates

NOTE Confidence: 0.9389042

00:02:59.270 --> 00:03:01.191 for some reason that they couldn't

NOTE Confidence: 0.9389042

00:03:01.191 --> 00:03:03.003 have a lobectomy or they couldn't

NOTE Confidence: 0.9389042

00:03:03.003 --> 00:03:04.814 have the tumor removed surgically,

NOTE Confidence: 0.9389042

00:03:04.814 --> 00:03:06.622 there really weren't very

NOTE Confidence: 0.9389042

00:03:06.622 --> 00:03:08.430 many options for them.

NOTE Confidence: 0.9389042

00:03:08.430 --> 00:03:11.478 One of the alternatives was radiation,

NOTE Confidence: 0.9389042

00:03:11.480 --> 00:03:14.616 but it didn't work to

NOTE Confidence: 0.9389042

00:03:14.616 --> 00:03:17.040 really control the tumor longterm.

NOTE Confidence: 0.9389042

00:03:17.040 --> 00:03:18.678 Over the past 20 years or so,

NOTE Confidence: 0.9389042

00:03:18.680 --> 00:03:20.948 this newer technology called

NOTE Confidence: 0.9389042

00:03:20.948 --> 00:03:22.649 stereotactic radiation therapy

NOTE Confidence: 0.9389042

00:03:22.649 --> 00:03:25.620 has been developed to deliver very

NOTE Confidence: 0.9389042

00:03:25.620 --> 00:03:27.996 high doses of radiation that are,

NOTE Confidence: 0.9389042

00:03:28.000 --> 00:03:29.212 we would say,

NOTE Confidence: 0.9389042

00:03:29.212 --> 00:03:31.636 ablative or curative and it can

NOTE Confidence: 0.9389042

00:03:31.636 --> 00:03:34.000 actually kill cancer cells

NOTE Confidence: 0.9389042

00:03:34.000 --> 00:03:35.960 and deliver excellent local control

NOTE Confidence: 0.9389042

00:03:35.960 --> 00:03:38.325 and actually cure patients who

NOTE Confidence: 0.9389042

00:03:38.325 --> 00:03:40.285 cannot otherwise undergo surgery.

NOTE Confidence: 0.9389042

00:03:40.285 --> 00:03:41.770 In other situations,

NOTE Confidence: 0.9389042

00:03:41.770 --> 00:03:43.370 for one reason or another,

NOTE Confidence: 0.9389042

00:03:43.370 --> 00:03:46.418 a patient chooses not to undergo

NOTE Confidence: 0.9389042

00:03:46.418 --> 00:03:49.098 surgery and chooses to undergo

NOTE Confidence: 0.9389042

00:03:49.098 --> 00:03:51.430 radiation therapy and there's

NOTE Confidence: 0.9389042

00:03:51.430 --> 00:03:53.180 a role for stereotactic radiotherapy

NOTE Confidence: 0.9389042

00:03:53.180 --> 00:03:54.689 for those patients as well.

NOTE Confidence: 0.9402994

00:03:55.770 --> 00:03:58.762 So can you tell us kind of the

NOTE Confidence: 0.9402994

00:03:58.762 --> 00:04:01.448 pluses and minuses of choosing to

NOTE Confidence: 0.9402994

00:04:01.448 --> 00:04:04.232 have radiation as opposed to surgery

NOTE Confidence: 0.9402994

00:04:04.232 --> 00:04:06.839 for these early stage cancers?

NOTE Confidence: 0.9402994

00:04:06.840 --> 00:04:08.680 Sure. So one thing

NOTE Confidence: 0.9314499

00:04:08.680 --> 00:04:10.682 that's important to note is that at

NOTE Confidence: 0.9314499

00:04:10.682 --> 00:04:12.920 Yale we work very closely together.

NOTE Confidence: 0.9314499

00:04:12.920 --> 00:04:16.160 I'm constantly speaking to

NOTE Confidence: 0.9314499

00:04:16.160 --> 00:04:18.205 the surgeons, the thoracic surgeons

NOTE Confidence: 0.9314499

00:04:18.205 --> 00:04:20.250 who oftentimes are seeing these

NOTE Confidence: 0.9314499

00:04:20.317 --> 00:04:22.639 patients with early stage disease first.

NOTE Confidence: 0.9314499

00:04:22.640 --> 00:04:25.291 And so these conversations are

NOTE Confidence: 0.9314499

00:04:26.193 --> 00:04:28.496 discussions with myself,

NOTE Confidence: 0.9314499

00:04:28.496 --> 00:04:31.900 the surgeon, the patient, perhaps the

NOTE Confidence: 0.9314499

00:04:31.900 --> 00:04:34.308 medical oncologist and

NOTE Confidence: 0.9314499

00:04:34.308 --> 00:04:35.790 they're not made overnight.

NOTE Confidence: 0.9314499

00:04:37.786 --> 00:04:39.837 And at the end of the day,

NOTE Confidence: 0.9314499

00:04:39.840 --> 00:04:41.996 often times it is the patient who

00:04:43.652 --> 00:04:44.998 is the captain of the ship.

NOTE Confidence: 0.9314499

00:04:45.000 --> 00:04:45.917 And at the end of the day,

NOTE Confidence: 0.9314499

00:04:45.920 --> 00:04:47.992 they're the ones who are making decisions

NOTE Confidence: 0.9314499

00:04:47.992 --> 00:04:50.234 that they feel are best for the.

NOTE Confidence: 0.9314499

00:04:50.234 --> 00:04:53.272 IN terms of benefits, I would

NOTE Confidence: 0.9314499

00:04:53.272 --> 00:04:56.500 say the first thing is for patients,

00:04:57.380 --> 00:04:59.793 many people who develop lung

NOTE Confidence: 0.9314499

00:04:59.793 --> 00:05:03.058 cancer have other medical issues,

NOTE Confidence: 0.9314499

00:05:03.060 --> 00:05:06.260 especially if they have a history of smoking.

NOTE Confidence: 0.9314499

00:05:06.260 --> 00:05:08.760 And so there's always a risk

NOTE Confidence: 0.9314499

00:05:08.760 --> 00:05:10.260 to undergoing anesthesia.

NOTE Confidence: 0.9314499

00:05:10.260 --> 00:05:12.564 There's always risk to perhaps a

NOTE Confidence: 0.9314499

00:05:12.564 --> 00:05:15.529 worsening of their pulmonary function,

NOTE Confidence: 0.9314499

00:05:15.530 --> 00:05:17.755 their breathing function

NOTE Confidence: 0.9314499

00:05:17.755 --> 00:05:20.344 following surgery if they're not in

NOTE Confidence: 0.9314499

00:05:20.344 --> 00:05:22.409 the best of shape to begin with.

NOTE Confidence: 0.9314499

00:05:22.410 --> 00:05:24.538 And in these situations I very strongly

NOTE Confidence: 0.9314499

00:05:24.538 --> 00:05:26.924 advocate for

NOTE Confidence: 0.9314499

00:05:26.924 --> 00:05:29.890 radiation therapy as opposed to surgery.

NOTE Confidence: 0.9314499

00:05:29.890 --> 00:05:32.970 The first thing to understand is that

NOTE Confidence: 0.9314499

00:05:32.970 --> 00:05:35.994 it's not invasive radiation it is xrays.

NOTE Confidence: 0.9314499

00:05:35.994 --> 00:05:39.265 So just like when you get a chest X-ray,

00:05:41.070 --> 00:05:42.180 you don't

NOTE Confidence: 0.9314499

00:05:42.180 --> 00:05:43.070 see anything, smell anything,

NOTE Confidence: 0.9314499

00:05:43.070 --> 00:05:43.590 feel anything.

NOTE Confidence: 0.9314499

00:05:43.590 --> 00:05:45.908 You just hear a machine buzz and you're done.

00:05:46.350 --> 00:05:47.854 You walk out and you don't really

NOTE Confidence: 0.9314499

00:05:47.854 --> 00:05:48.270 feel anything.

NOTE Confidence: 0.9314499

00:05:48.270 --> 00:05:50.685 It's very similar to what it

NOTE Confidence: 0.9314499

00:05:50.685 --> 00:05:53.629 feels like to undergo radiation therapy.

NOTE Confidence: 0.9314499

00:05:53.630 --> 00:05:55.628 It's also delivered in a small

NOTE Confidence: 0.9314499

00:05:55.628 --> 00:05:56.627 number of treatments,

NOTE Confidence: 0.9314499

00:05:56.630 --> 00:05:59.878 anywhere from 3 to 5 to 8 treatments.

NOTE Confidence: 0.9314499

00:05:59.880 --> 00:06:01.679 So within a week and a half or so

NOTE Confidence: 0.9314499

00:06:04.272 --> 00:06:06.288 your entire treatment is done.

NOTE Confidence: 0.9314499

00:06:06.288 --> 00:06:08.318 It is not much of a hassle to your life.

00:06:08.790 --> 00:06:10.435 You're doing all the things

NOTE Confidence: 0.9314499

00:06:10.435 --> 00:06:12.198 that you love and there's no real

NOTE Confidence: 0.9314499

00:06:12.200 --> 00:06:14.894 restrictions and patients don't

NOTE Confidence: 0.9314499

00:06:14.894 --> 00:06:17.769 have side effects during this treatment.

NOTE Confidence: 0.9314499

00:06:17.770 --> 00:06:19.546 And so it's not invasive.

00:06:21.210 --> 00:06:23.130 I never say anything's easy to go

NOTE Confidence: 0.9314499

00:06:23.191 --> 00:06:24.387 through, especially cancer treatment,

NOTE Confidence: 0.9314499

00:06:24.387 --> 00:06:26.577 but if I were to say something

NOTE Confidence: 0.9314499

00:06:26.577 --> 00:06:28.599 is easy it would be stereotactic

NOTE Confidence: 0.9314499

00:06:28.599 --> 00:06:31.272 radiation therapy or SBRT and then

NOTE Confidence: 0.9314499

00:06:31.272 --> 00:06:33.488 following this treatment

NOTE Confidence: 0.9314499

00:06:33.490 --> 00:06:35.170 side effects are not very common.

NOTE Confidence: 0.9314499

00:06:35.170 --> 00:06:37.114 80% of patients will not have

NOTE Confidence: 0.9314499

00:06:37.114 --> 00:06:38.086 any side effects.

NOTE Confidence: 0.9314499

00:06:38.090 --> 00:06:40.330 There's always those risks

NOTE Confidence: 0.9314499

00:06:40.330 --> 00:06:42.092 of someone developing something

NOTE Confidence: 0.9314499

00:06:42.092 --> 00:06:43.328 called radiation pneumonitis,

NOTE Confidence: 0.9314499

00:06:43.328 --> 00:06:46.202 which is inflammation of the lung which

NOTE Confidence: 0.9314499

00:06:46.202 --> 00:06:48.260 is treatable and that's small,

NOTE Confidence: 0.9314499

00:06:48.260 --> 00:06:49.640 it's less than 15%.

NOTE Confidence: 0.9314499

00:06:49.640 --> 00:06:51.642 There's always risk that the tumor is

NOTE Confidence: 0.9314499

00:06:51.642 --> 00:06:54.053 very close to the ribs or the chest

NOTE Confidence: 0.9314499

00:06:54.053 --> 00:06:56.123 wall that someone could develop a rib

NOTE Confidence: 0.9314499

00:06:56.123 --> 00:06:57.957 fracture which will heal on its own.

NOTE Confidence: 0.9314499

00:06:57.960 --> 00:07:00.720 But otherwise patients do incredibly well

NOTE Confidence: 0.9314499

00:07:00.720 --> 00:07:03.340 with stereotactic radiation therapy.

NOTE Confidence: 0.9314499

00:07:03.340 --> 00:07:07.164 In terms of you know why I

NOTE Confidence: 0.9314499

00:07:07.164 --> 00:07:08.400 really recommend patients who

NOTE Confidence: 0.94025755

00:07:08.466 --> 00:07:10.195 are young, who are healthy and

NOTE Confidence: 0.94025755

00:07:10.195 --> 00:07:11.710 will do very well with surgery.

NOTE Confidence: 0.94025755

00:07:11.710 --> 00:07:14.311 I do recommend that they still go on and

NOTE Confidence: 0.94025755

00:07:14.311 --> 00:07:16.966 talk to the thoracic surgeon

NOTE Confidence: 0.94025755

00:07:16.966 --> 00:07:20.790 and very strongly consider surgery.

NOTE Confidence: 0.94025755

00:07:20.790 --> 00:07:22.617 You know, it's been the standard of care

NOTE Confidence: 0.94025755

00:07:22.617 --> 00:07:25.120 for a very long time and we've never

NOTE Confidence: 0.94025755

00:07:25.120 --> 00:07:27.431 really compared radiation and surgery

NOTE Confidence: 0.94025755

00:07:27.431 --> 00:07:30.166 in a head to head randomized trial,

NOTE Confidence: 0.94025755

00:07:30.170 --> 00:07:33.266 especially in patients who are

NOTE Confidence: 0.94025755

00:07:33.266 --> 00:07:36.122 very healthy and can undergo either option.

NOTE Confidence: 0.94025755

00:07:36.130 --> 00:07:38.686 And so especially in younger patients,

NOTE Confidence: 0.94025755

00:07:38.690 --> 00:07:41.610 people who are in their 50s or 60s,

NOTE Confidence: 0.94025755

00:07:41.610 --> 00:07:44.235 we do often times really advocate for

NOTE Confidence: 0.94025755

00:07:44.235 --> 00:07:47.330 surgery if they can undergo surgery.

00:07:48.570 --> 00:07:49.746 One of the great things about surgery

NOTE Confidence: 0.94025755

00:07:49.746 --> 00:07:51.208 is when you take out a lobe of the lung,

NOTE Confidence: 0.94025755

00:07:51.210 --> 00:07:53.330 there's no chance of the cancer

NOTE Confidence: 0.94025755

00:07:53.330 --> 00:07:55.488 coming back in that lobe because it's gone.

NOTE Confidence: 0.94025755

00:07:55.490 --> 00:07:56.561 Whereas with radiation,

NOTE Confidence: 0.94025755

00:07:56.561 --> 00:07:58.703 it's incredibly unlikely the tumor will

NOTE Confidence: 0.94025755

00:07:58.703 --> 00:08:01.106 come back where we delivered the radiation,

NOTE Confidence: 0.94025755

00:08:01.110 --> 00:08:02.374 but it could pop up in a different

NOTE Confidence: 0.94025755

00:08:02.374 --> 00:08:03.069 part of the lobe.

NOTE Confidence: 0.9316858

00:08:04.550 --> 00:08:07.158 So why is it that there hasn't been

NOTE Confidence: 0.9316858

00:08:07.158 --> 00:08:09.658 a randomized control trial comparing

NOTE Confidence: 0.9316858

00:08:09.658 --> 00:08:12.026 stereotactic radiotherapy to surgery?

NOTE Confidence: 0.9316858

00:08:12.030 --> 00:08:14.109 Because the way you paint the picture,

NOTE Confidence: 0.9316858

00:08:14.110 --> 00:08:16.350 it sounds like, you know,

NOTE Confidence: 0.9316858

00:08:16.350 --> 00:08:18.270 for most people they're looking at

NOTE Confidence: 0.9316858

00:08:18.270 --> 00:08:20.302 this saying, well, geez, you know,

NOTE Confidence: 0.9316858

00:08:20.302 --> 00:08:23.382 if these two are truly equivalent in

NOTE Confidence: 0.9316858

00:08:23.382 --> 00:08:26.560 terms of outcomes and there's next to no

NOTE Confidence: 0.9316858

00:08:26.560 --> 00:08:28.960 side effects with the radiation therapy,

NOTE Confidence: 0.9316858

00:08:28.960 --> 00:08:30.312 I won't feel anything.

NOTE Confidence: 0.9316858

00:08:30.312 --> 00:08:34.000 I won't have a big cut or even a little cut.

NOTE Confidence: 0.9316858

00:08:34.000 --> 00:08:36.394 I won't need to be in hospital.

NOTE Confidence: 0.9316858

00:08:36.400 --> 00:08:38.178 I won't need to take too much

NOTE Confidence: 0.9316858

00:08:38.178 --> 00:08:39.320 time off of work.

NOTE Confidence: 0.9316858

00:08:39.320 --> 00:08:42.134 Presumably we can fit these treatments

NOTE Confidence: 0.9316858

00:08:42.134 --> 00:08:44.840 in between my work schedule.

NOTE Confidence: 0.9316858

00:08:44.840 --> 00:08:46.850 Why wouldn't I do radiation therapy

NOTE Confidence: 0.9316858

00:08:46.850 --> 00:08:49.520 even if I am young and healthy?

NOTE Confidence: 0.9416347

00:08:49.960 --> 00:08:51.754 Yeah, that's a great question and

NOTE Confidence: 0.9416347

00:08:51.754 --> 00:08:53.680 I think somewhat you answered it.

NOTE Confidence: 0.9416347

00:08:53.680 --> 00:08:55.584 People all have a bias and

NOTE Confidence: 0.9416347

00:08:55.584 --> 00:08:57.504 that's what makes it difficult to

NOTE Confidence: 0.9416347

00:08:57.504 --> 00:08:59.239 enroll patients to randomized studies.

NOTE Confidence: 0.9416347

00:08:59.240 --> 00:09:00.910 Even if I can say, hey,

NOTE Confidence: 0.9416347

00:09:00.910 --> 00:09:02.800 I don't really know if one is

NOTE Confidence: 0.9416347

00:09:02.800 --> 00:09:04.905 better than the other or if they're

NOTE Confidence: 0.9416347

00:09:04.905 --> 00:09:07.005 equal and we will randomize you and

NOTE Confidence: 0.9416347

00:09:07.005 --> 00:09:08.830 you would either undergo surgery

NOTE Confidence: 0.9416347

00:09:08.830 --> 00:09:11.760 or undergo radiation therapy,

NOTE Confidence: 0.9416347

00:09:11.760 --> 00:09:13.680 many people have a very strong

NOTE Confidence: 0.9416347

00:09:13.680 --> 00:09:15.640 preference for one or the other.

NOTE Confidence: 0.9416347

00:09:15.640 --> 00:09:16.822 And in addition,

NOTE Confidence: 0.9416347

00:09:16.822 --> 00:09:19.186 physicians often have a strong preference.

NOTE Confidence: 0.9416347

00:09:19.190 --> 00:09:21.022 I think that we often

NOTE Confidence: 0.9416347

00:09:21.022 --> 00:09:22.812 say the surgeons want to

NOTE Confidence: 0.9416347

00:09:22.812 --> 00:09:24.402 operate and the radiation oncologist wants

NOTE Confidence: 0.9416347

00:09:24.402 --> 00:09:26.558 to give radiation and so

NOTE Confidence: 0.9416347

00:09:26.558 --> 00:09:28.790 for those two reasons it has been

NOTE Confidence: 0.9416347

00:09:28.790 --> 00:09:30.454 difficult to actually enroll patients.

NOTE Confidence: 0.9416347

00:09:30.454 --> 00:09:31.784 The trials have been developed,

NOTE Confidence: 0.9416347

00:09:31.790 --> 00:09:33.206 the trials have opened and the

NOTE Confidence: 0.9416347

00:09:33.206 --> 00:09:34.534 real issue has been enrolling

NOTE Confidence: 0.9416347

00:09:34.534 --> 00:09:36.189 patients to the clinical trials.

NOTE Confidence: 0.92188966

00:09:38.720 --> 00:09:40.728 That all being said,

NOTE Confidence: 0.92188966

00:09:40.728 --> 00:09:43.350 I will say having

NOTE Confidence: 0.92188966

00:09:43.350 --> 00:09:45.000 worked in many places,

NOTE Confidence: 0.92188966

00:09:45.000 --> 00:09:48.348 a number of places, Yale

NOTE Confidence: 0.92188966

00:09:48.348 --> 00:09:50.840 being the one I've been at the longest.

NOTE Confidence: 0.92188966

00:09:50.840 --> 00:09:54.599 Our team really has a very cooperative

NOTE Confidence: 0.92188966

00:09:54.599 --> 00:09:57.180 and very measured approach.

NOTE Confidence: 0.92188966

00:09:57.180 --> 00:09:59.256 You know I think everybody has

NOTE Confidence: 0.92188966

00:09:59.256 --> 00:10:01.573 biases but if you look for

NOTE Confidence: 0.92188966

00:10:01.573 --> 00:10:03.211 a place where the surgeons are skilled,

00:10:05.176 --> 00:10:06.814 and the radiation

NOTE Confidence: 0.92188966

00:10:06.868 --> 00:10:08.183 oncologists are skilled

NOTE Confidence: 0.92188966

00:10:08.183 --> 00:10:10.520 and try to be really fair in the

NOTE Confidence: 0.92188966

00:10:10.520 --> 00:10:12.560 recommendations, I do think

NOTE Confidence: 0.92188966

00:10:12.560 --> 00:10:14.699 that this is a great place for that.

NOTE Confidence: 0.92188966

00:10:14.700 --> 00:10:16.200 But unfortunately we don't

NOTE Confidence: 0.92188966

00:10:16.200 --> 00:10:17.700 have that randomized data.

NOTE Confidence: 0.93115854

00:10:18.900 --> 00:10:22.608 So you know this, this goes to

NOTE Confidence: 0.93115854

00:10:22.608 --> 00:10:25.576 the point of why everyone should

NOTE Confidence: 0.93115854

00:10:25.576 --> 00:10:27.756 enroll patients and patients should

NOTE Confidence: 0.93115854

00:10:27.756 --> 00:10:30.020 enroll in clinical trials because

NOTE Confidence: 0.93115854

00:10:30.020 --> 00:10:33.260 otherwise we are in a data free zone.

NOTE Confidence: 0.93115854

00:10:33.260 --> 00:10:35.717 We don't have the information

NOTE Confidence: 0.93115854

00:10:35.717 --> 00:10:38.447 as to whether there is truly a difference

NOTE Confidence: 0.93115854

00:10:38.447 --> 00:10:40.600 in terms of outcomes for these two.

NOTE Confidence: 0.93115854

00:10:40.600 --> 00:10:43.816 But if we look at the data that we do have,

NOTE Confidence: 0.93115854

00:10:43.820 --> 00:10:47.180 so presumably there are some longterm

NOTE Confidence: 0.93115854

00:10:47.180 --> 00:10:50.156 data on Stereotactic radiotherapy

NOTE Confidence: 0.93115854

00:10:50.156 --> 00:10:53.176 versus longterm data on surgery.

NOTE Confidence: 0.93115854

00:10:53.180 --> 00:10:55.940 If we look at cohort studies,

NOTE Confidence: 0.93115854

00:10:55.940 --> 00:10:58.116 do the outcomes appear to be the same

NOTE Confidence: 0.93115854

00:10:58.116 --> 00:11:00.817 or is one slightly inferior to the other?

NOTE Confidence: 0.93115854

00:11:00.820 --> 00:11:04.052 I mean does that play in to this

NOTE Confidence: 0.93115854

00:11:04.052 --> 00:11:05.364 decision making particularly

NOTE Confidence: 0.93115854

00:11:05.364 --> 00:11:07.380 for young healthy patients?

NOTE Confidence: 0.9095475

00:11:07.980 --> 00:11:10.820 Yeah, exactly. So I did a lot of the data and

NOTE Confidence: 0.9095475

00:11:10.820 --> 00:11:12.980 the retrospective data does appear

NOTE Confidence: 0.9095475

00:11:12.980 --> 00:11:15.470 to say probably they are very

NOTE Confidence: 0.9095475

00:11:15.470 --> 00:11:17.900 similar to each other in patients

NOTE Confidence: 0.9095475

00:11:17.973 --> 00:11:20.648 who don't have medical comorbidities.

NOTE Confidence: 0.9095475

00:11:20.650 --> 00:11:23.650 The data is more in favor

NOTE Confidence: 0.9095475

00:11:23.650 --> 00:11:25.366 of surgery in that cohort.

NOTE Confidence: 0.9095475

00:11:25.370 --> 00:11:29.570 In patients who do have more medical issues,

NOTE Confidence: 0.9095475

00:11:29.570 --> 00:11:31.802 the data shows either a

NOTE Confidence: 0.9095475

00:11:31.802 --> 00:11:33.987 little more equivalence or

NOTE Confidence: 0.9095475

00:11:33.987 --> 00:11:35.424 more towards radiation therapy.

NOTE Confidence: 0.9095475

00:11:35.424 --> 00:11:37.866 So that's why I'm saying someone's

NOTE Confidence: 0.9095475

00:11:37.866 --> 00:11:40.120 very young, they're very healthy,

NOTE Confidence: 0.9095475

00:11:40.120 --> 00:11:42.732 my preference, my bias, you know,

NOTE Confidence: 0.9095475

00:11:42.732 --> 00:11:44.797 is they undergo surgery,

NOTE Confidence: 0.9095475

00:11:44.800 --> 00:11:46.319 but many people are not.

NOTE Confidence: 0.9095475

00:11:46.320 --> 00:11:48.156 Many of our patients have emphysema,

NOTE Confidence: 0.9095475

00:11:48.160 --> 00:11:51.120 they have COPD, they have a smoking history,

NOTE Confidence: 0.9095475

00:11:51.120 --> 00:11:54.280 you know, high blood pressure, diabetes,

NOTE Confidence: 0.9095475

00:11:54.280 --> 00:11:55.678 you know, in those kinds of situations,

NOTE Confidence: 0.9095475

00:11:55.680 --> 00:11:56.796 I think that we should very,

NOTE Confidence: 0.9095475

00:11:56.800 --> 00:11:58.960 very strongly consider radiation therapy.

NOTE Confidence: 0.9262546

00:12:00.200 --> 00:12:04.926 And so one of the other issues that you kind

NOTE Confidence: 0.9262546

00:12:04.926 --> 00:12:09.146 of raised about radiation therapy is that

NOTE Confidence: 0.9262546

00:12:09.146 --> 00:12:13.640 while tumors may recur anywhere, I mean,

NOTE Confidence: 0.9262546

00:12:13.640 --> 00:12:16.280 whether you've had surgery or radiation,

NOTE Confidence: 0.9262546

00:12:16.280 --> 00:12:19.035 they won't recur where the

NOTE Confidence: 0.9262546

00:12:19.035 --> 00:12:21.239 radiation treatment was delivered.

NOTE Confidence: 0.9262546

00:12:21.240 --> 00:12:24.194 Whereas if somebody removes an entire lobe,

NOTE Confidence: 0.9262546

00:12:24.200 --> 00:12:26.279 it certainly won't recur in that lobe.

NOTE Confidence: 0.9262546

00:12:26.280 --> 00:12:27.876 It may recur in other lobes,

NOTE Confidence: 0.9262546

00:12:27.880 --> 00:12:30.360 but not in that lobe or the lymph nodes.

NOTE Confidence: 0.9262546

00:12:30.360 --> 00:12:34.466 Yeah, and the same would be for

NOTE Confidence: 0.9262546

00:12:34.466 --> 00:12:36.489 radiation therapy as well.

NOTE Confidence: 0.9262546

00:12:36.490 --> 00:12:39.046 Can you talk a little bit about some of

NOTE Confidence: 0.9262546

00:12:39.046 --> 00:12:41.170 the multidisciplinary efforts that go

NOTE Confidence: 0.9262546

00:12:41.170 --> 00:12:44.930 on to ensure that the rest of the lung,

NOTE Confidence: 0.9262546

00:12:44.930 --> 00:12:47.370 the lymph nodes, etcetera,

NOTE Confidence: 0.9262546

00:12:47.370 --> 00:12:49.414 that we reduce the risk of recurrence

NOTE Confidence: 0.9262546

00:12:49.414 --> 00:12:50.290 in those areas?

NOTE Confidence: 0.9262546

00:12:50.290 --> 00:12:52.522 I mean, is it kind of you have your

NOTE Confidence: 0.9262546

00:12:52.522 --> 00:12:54.133 surgery and your radiation therapy

NOTE Confidence: 0.9262546

00:12:54.133 --> 00:12:56.432 and then you're done and then we

NOTE Confidence: 0.9262546

00:12:56.432 --> 00:12:58.202 just monitor you or do patients

NOTE Confidence: 0.9262546

00:12:58.202 --> 00:12:59.538 have other kinds of treatments?

NOTE Confidence: 0.9262546

00:12:59.538 --> 00:13:01.330 Can you talk a little bit about that?

NOTE Confidence: 0.9421368

00:13:02.100 --> 00:13:04.062 Sure. And I also just want to take a

NOTE Confidence: 0.9421368

00:13:04.062 --> 00:13:06.094 moment and remind listeners that we are

NOTE Confidence: 0.9421368

00:13:06.094 --> 00:13:07.979 talking about early stage lung cancers,

NOTE Confidence: 0.9421368

00:13:07.980 --> 00:13:09.800 often stage 1 or sometimes

NOTE Confidence: 0.9421368

00:13:09.800 --> 00:13:11.256 stage two lung cancer.

00:13:12.300 --> 00:13:15.237 All of these conversations are not

NOTE Confidence: 0.9421368

00:13:15.237 --> 00:13:17.613 about stage 3 or stage 4 lung cancer.

NOTE Confidence: 0.9421368

00:13:17.620 --> 00:13:21.880 That's a very different treatment paradigm.
NOTE Confidence: 0.9421368

00:13:24.720 --> 00:13:27.359 So one of the things that's incredibly

NOTE Confidence: 0.9421368

00:13:27.359 --> 00:13:30.180 important is that we do a thorough work

NOTE Confidence: 0.9421368

00:13:30.180 --> 00:13:32.679 up before we even consider the options.

NOTE Confidence: 0.9421368

00:13:32.680 --> 00:13:35.222 And that means that we're doing a

NOTE Confidence: 0.9421368

00:13:35.222 --> 00:13:37.119 biopsy on the primary tumor

NOTE Confidence: 0.9421368

00:13:37.119 --> 00:13:39.104 that we are checking the lymph nodes

NOTE Confidence: 0.9421368

00:13:39.104 --> 00:13:41.567 in the middle of the chest with either

NOTE Confidence: 0.9421368

00:13:41.567 --> 00:13:43.515 an endobronchial ultrasound procedure

NOTE Confidence: 0.9421368

00:13:43.515 --> 00:13:47.040 which is done by a pulmonologist

NOTE Confidence: 0.9421368

00:13:47.040 --> 00:13:49.525 or a mini signoscopy which is done

NOTE Confidence: 0.9421368

00:13:49.525 --> 00:13:51.742 by a thoracic surgeon and of

NOTE Confidence: 0.9421368

00:13:51.742 --> 00:13:53.030 course doing a PET scan as well.

NOTE Confidence: 0.9421368

00:13:53.030 --> 00:13:54.730 These are all incredibly important

NOTE Confidence: 0.9421368

00:13:54.730 --> 00:13:57.149 before we even move forward and consider

NOTE Confidence: 0.9421368

00:13:57.150 --> 00:13:59.110 surgery and radiation as options.

NOTE Confidence: 0.9421368

00:13:59.110 --> 00:14:02.218 I think it's always better for

NOTE Confidence: 0.9421368

00:14:02.218 --> 00:14:04.580 the patients that we have all of the

NOTE Confidence: 0.9421368

00:14:04.580 --> 00:14:05.870 information because then we're making

NOTE Confidence: 0.9421368

00:14:05.870 --> 00:14:07.424 the best decisions based on that.

NOTE Confidence: 0.9329616

00:14:08.350 --> 00:14:11.010 So we're going to pick up this

NOTE Confidence: 0.9329616

00:14:11.010 --> 00:14:13.209 conversation right after we take a

NOTE Confidence: 0.9329616

00:14:13.209 --> 00:14:15.189 short break for a medical minute,

NOTE Confidence: 0.9329616

00:14:15.190 --> 00:14:17.262 but please stay tuned to learn more

NOTE Confidence: 0.9329616

00:14:17.262 --> 00:14:18.994 about stereotactic radio surgery,

NOTE Confidence: 0.9329616

00:14:18.994 --> 00:14:21.104 and the overall treatment of

NOTE Confidence: 0.9329616

00:14:21.104 --> 00:14:23.080 lung cancer with my guest,

NOTE Confidence: 0.9329616

00:14:23.080 --> 00:14:24.439 Doctor Nadine Housri.

NOTE Confidence: 0.93680567

00:14:25.200 --> 00:14:27.220 Funding for Yale Cancer Answers

NOTE Confidence: 0.93680567

00:14:27.220 --> 00:14:29.240 comes from Smilow Cancer Hospital,

NOTE Confidence: 0.93680567

00:14:29.240 --> 00:14:32.348 where 16 locations across the region provide

NOTE Confidence: 0.93680567

00:14:32.348 --> 00:14:34.344 patients with individualized, innovative,

NOTE Confidence: 0.93680567

00:14:34.344 --> 00:14:37.000 convenient and comprehensive care.

NOTE Confidence: 0.93680567

00:14:37.000 --> 00:14:40.222 Find a Smilow location near you

NOTE Confidence: 0.93680567

00:14:40.222 --> 00:14:42.970 at smilowcancerhospital.org.

NOTE Confidence: 0.93680567

00:14:42.970 --> 00:14:45.170 The American Cancer Society estimates

NOTE Confidence: 0.93680567

00:14:45.170 --> 00:14:47.246 that more than 65,000 Americans

NOTE Confidence: 0.93680567

00:14:47.246 --> 00:14:49.514 will be diagnosed with head and

NOTE Confidence: 0.93680567

00:14:49.514 --> 00:14:50.969 neck cancer this year,

NOTE Confidence: 0.93680567

00:14:50.970 --> 00:14:54.225 making up about 4% of all cancers

NOTE Confidence: 0.93680567

00:14:54.225 --> 00:14:55.878 diagnosed when detected early.

NOTE Confidence: 0.93680567

00:14:55.878 --> 00:14:58.254 However, head and neck cancers are

NOTE Confidence: 0.93680567

00:14:58.254 --> 00:15:00.450 easily treated and highly curable.

NOTE Confidence: 0.93680567

00:15:00.450 --> 00:15:02.430 Clinical trials are currently

NOTE Confidence: 0.93680567

00:15:02.430 --> 00:15:04.410 underway at federally designated

NOTE Confidence: 0.93680567

00:15:04.410 --> 00:15:06.125 Comprehensive Cancer Centers such

NOTE Confidence: 0.93680567

00:15:06.125 --> 00:15:08.421 as Yale Cancer Center and Smilow

NOTE Confidence: 0.93680567

00:15:08.421 --> 00:15:10.605 Cancer Hospital to test innovative new

NOTE Confidence: 0.93680567

00:15:10.605 --> 00:15:12.821 treatments for head and neck cancers.

NOTE Confidence: 0.93680567

00:15:12.821 --> 00:15:14.926 Yale Cancer Center was recently

NOTE Confidence: 0.93680567

00:15:14.926 --> 00:15:17.046 awarded grants from the National

NOTE Confidence: 0.93680567

00:15:17.046 --> 00:15:19.218 Institutes of Health to fund the

NOTE Confidence: 0.93680567

00:15:19.218 --> 00:15:21.926 Yale Head and Neck Cancer Specialized

NOTE Confidence: 0.93680567

00:15:21.926 --> 00:15:23.994 Program of Research Excellence,

NOTE Confidence: 0.93680567

00:15:24.000 --> 00:15:24.790 or SPORE,

NOTE Confidence: 0.93680567

00:15:24.790 --> 00:15:26.765 to address critical barriers to

NOTE Confidence: 0.93680567

00:15:26.765 --> 00:15:29.628 treatment of head and neck squamous cell

NOTE Confidence: 0.93680567

00:15:29.628 --> 00:15:32.040 carcinoma due to resistance to immune

NOTE Confidence: 0.93680567

00:15:32.040 --> 00:15:34.720 DNA damaging and targeted therapy.

NOTE Confidence: 0.93680567

00:15:34.720 --> 00:15:37.120 More information is available

NOTE Confidence: 0.93680567

00:15:37.120 --> 00:15:38.328 at yalecancercenter.org.

NOTE Confidence: 0.93680567

00:15:38.328 --> 00:15:41.976 You're listening to Connecticut Public Radio.

NOTE Confidence: 0.93680567

00:15:41.980 --> 00:15:42.380 Welcome

NOTE Confidence: 0.933635

00:15:42.380 --> 00:15:43.900 back to Yale Cancer Answers.

NOTE Confidence: 0.933635

00:15:43.900 --> 00:15:45.460 This is Doctor Anees Chagpar,

NOTE Confidence: 0.933635

00:15:45.460 --> 00:15:47.700 and I'm joined tonight by my guest,

NOTE Confidence: 0.933635

00:15:47.700 --> 00:15:49.110 Doctor Nadine Housri.

NOTE Confidence: 0.933635

00:15:49.110 --> 00:15:50.990 We're talking about stereotactic

NOTE Confidence: 0.933635

00:15:50.990 --> 00:15:53.260 radiosurgery for lung cancer.

NOTE Confidence: 0.933635

00:15:53.260 --> 00:15:55.140 And Nadine, during the break,

NOTE Confidence: 0.933635

00:15:55.140 --> 00:15:56.140 you made a good point,

NOTE Confidence: 0.933635

00:15:56.140 --> 00:15:58.765 which is that there are many synonyms

NOTE Confidence: 0.933635

00:15:58.765 --> 00:16:00.460 for stereotactic radiosurgery.

NOTE Confidence: 0.933635

00:16:00.460 --> 00:16:03.052 Do you want to kind of walk our audience

NOTE Confidence: 0.933635

00:16:03.052 --> 00:16:05.260 through all of the terminology?

NOTE Confidence: 0.92921335

00:16:05.260 --> 00:16:07.738 So you you might hear different terminology.

NOTE Confidence: 0.92921335

00:16:07.740 --> 00:16:10.827 So stereotactic radiosurgery was a term

NOTE Confidence: 0.92921335

00:16:10.827 --> 00:16:12.962 initially developed

NOTE Confidence: 0.92921335

00:16:12.962 --> 00:16:15.188 very similar to the type of treatment

00:16:18.160 --> 00:16:20.260 that we started doing in the brain for brain

NOTE Confidence: 0.92921335

00:16:20.332 --> 00:16:22.450 metastases many years ago and

NOTE Confidence: 0.92921335

00:16:22.450 --> 00:16:25.426 going back to like the 60s and 70s and

NOTE Confidence: 0.92921335

00:16:25.426 --> 00:16:27.856 we've adopted that terminology

NOTE Confidence: 0.92921335

00:16:27.860 --> 00:16:29.180 for what we do in the lung.

NOTE Confidence: 0.92921335

00:16:29.180 --> 00:16:31.420 Another term we often use and I

NOTE Confidence: 0.92921335

00:16:31.420 --> 00:16:33.620 used was stereotactic radiotherapy

NOTE Confidence: 0.92921335

00:16:33.620 --> 00:16:36.900 or stereotactic radiation therapy

NOTE Confidence: 0.92921335

00:16:36.900 --> 00:16:39.244 and then one I didn't use but often

NOTE Confidence: 0.92921335

00:16:39.244 --> 00:16:41.742 comes up is stereotactic

NOTE Confidence: 0.92921335

00:16:41.742 --> 00:16:43.882 ablative radiation therapy and

NOTE Confidence: 0.92921335

00:16:43.882 --> 00:16:45.694 these all mean the same things.

NOTE Confidence: 0.92921335

00:16:45.700 --> 00:16:49.692 This is all very high doses of radiation

NOTE Confidence: 0.92921335

00:16:49.692 --> 00:16:52.477 delivered to a very small area.

NOTE Confidence: 0.92921335

00:16:52.480 --> 00:16:54.874 And the reason we were able to

NOTE Confidence: 0.92921335

00:16:54.874 --> 00:16:56.520 transition from doing this only in

NOTE Confidence: 0.92921335

00:16:56.520 --> 00:16:58.478 the brain so many years ago to now

NOTE Confidence: 0.92921335

00:16:58.478 --> 00:17:00.318 doing it all over the body is because of technology.

00:17:02.360 --> 00:17:05.748 Our technology has improved so much in

NOTE Confidence: 0.92921335

00:17:05.748 --> 00:17:08.076 how we can deliver radiation therapy

NOTE Confidence: 0.92921335

00:17:08.076 --> 00:17:10.637 where we can be incredibly meticulous

NOTE Confidence: 0.92921335

00:17:10.637 --> 00:17:13.717 in targeting the radiation in a

NOTE Confidence: 0.92921335

00:17:13.797 --> 00:17:16.407 very specific area, we can visualize

NOTE Confidence: 0.92921335

00:17:16.410 --> 00:17:19.115 with every single treatment and

NOTE Confidence: 0.92921335

00:17:19.115 --> 00:17:22.394 really maximize the dose of radiation

NOTE Confidence: 0.92921335

00:17:22.394 --> 00:17:25.733 to that tumor and minimize the dose

NOTE Confidence: 0.92921335

00:17:25.733 --> 00:17:27.690 to the things that are not tumor,

NOTE Confidence: 0.92921335

00:17:27.690 --> 00:17:29.038 your lungs, your esophagus,

NOTE Confidence: 0.92921335

00:17:29.038 --> 00:17:31.229 your spinal cord, your chest wall.

NOTE Confidence: 0.92921335

00:17:31.229 --> 00:17:32.408 And that's why

NOTE Confidence: 0.92921335

00:17:32.988 --> 00:17:35.011 I mentioned that patients do so well

NOTE Confidence: 0.92921335

00:17:35.011 --> 00:17:37.125 with this treatment because of that

NOTE Confidence: 0.92921335

00:17:37.125 --> 00:17:39.223 and we're delivering a very high

NOTE Confidence: 0.92921335

00:17:39.223 --> 00:17:41.169 dose to the tumor and minimizing the

NOTE Confidence: 0.92921335

00:17:41.169 --> 00:17:43.570 dose to what we call normal organs.

NOTE Confidence: 0.93186486

00:17:44.270 --> 00:17:46.268 Yeah. And I want to pick up on

NOTE Confidence: 0.93186486

00:17:46.268 --> 00:17:48.296 that topic because right before the

NOTE Confidence: 0.93186486

00:17:48.296 --> 00:17:50.827 break we were talking about one of

NOTE Confidence: 0.93186486

00:17:50.827 --> 00:17:52.623 the differences between stereotactic

NOTE Confidence: 0.93186486

00:17:52.623 --> 00:17:56.188 radiotherapy versus surgery being that

NOTE Confidence: 0.93186486

00:17:56.190 --> 00:17:58.577 you know in surgery if somebody

NOTE Confidence: 0.93186486

00:17:58.577 --> 00:18:01.255 takes out a lobe of the lung then

NOTE Confidence: 0.93186486

00:18:01.255 --> 00:18:03.950 cancer can't come back in that lobe.

NOTE Confidence: 0.93186486

00:18:03.950 --> 00:18:06.988 But in stereotactic radiotherapy, as you say,

NOTE Confidence: 0.93186486

00:18:06.990 --> 00:18:09.546 it's very localized to that tumor.

NOTE Confidence: 0.93186486

00:18:09.550 --> 00:18:11.410 So of course cancers can come back

NOTE Confidence: 0.93186486

00:18:11.410 --> 00:18:13.338 to the rest of the lung because the

NOTE Confidence: 0.93186486

00:18:13.338 --> 00:18:15.970 rest of that lobe is still there.

NOTE Confidence: 0.93186486

00:18:15.970 --> 00:18:17.410 But on the other hand,

NOTE Confidence: 0.93186486

00:18:17.410 --> 00:18:19.570 patients don't have the deficit

NOTE Confidence: 0.93186486

00:18:19.570 --> 00:18:22.151 in lung function that they would

NOTE Confidence: 0.93186486

00:18:22.151 --> 00:18:23.886 have by losing a lobe.

NOTE Confidence: 0.93186486

00:18:23.890 --> 00:18:26.487 So a couple of questions on that.

NOTE Confidence: 0.93186486

00:18:26.490 --> 00:18:29.935 First, how many patients have a

NOTE Confidence: 0.93186486

00:18:29.935 --> 00:18:32.148 recurrence and these are early stage

NOTE Confidence: 0.93186486

00:18:32.148 --> 00:18:34.404 patients that we were talking about

NOTE Confidence: 0.93186486

00:18:34.410 --> 00:18:38.082 when you ablate a tumor in a lung,

NOTE Confidence: 0.93186486

00:18:38.090 --> 00:18:40.420 how many patients will have a

NOTE Confidence: 0.93186486

00:18:40.420 --> 00:18:42.570 recurrence come back in that

NOTE Confidence: 0.93186486

00:18:42.570 --> 00:18:47.290 same lobe versus not?

NOTE Confidence: 0.9249127

00:18:47.770 --> 00:18:50.658 So in terms of the recurrence in the

NOTE Confidence: 0.9249127

00:18:50.658 --> 00:18:53.168 site that we treated that's less than

NOTE Confidence: 0.9249127

00:18:53.168 --> 00:18:55.778 5 or 10%, that is incredibly rare.

NOTE Confidence: 0.9249127

00:18:55.778 --> 00:18:59.306 In the past, let me think,

NOTE Confidence: 0.9249127

00:18:59.306 --> 00:19:01.702 six years since I've been back

NOTE Confidence: 0.9249127

00:19:01.702 --> 00:19:05.722 at Yale I've only seen that maybe one

NOTE Confidence: 0.9249127

00:19:05.722 --> 00:19:08.513 or two times and

NOTE Confidence: 0.9249127

00:19:08.513 --> 00:19:11.238 this is all I do is lung cancer.

NOTE Confidence: 0.9249127

00:19:11.238 --> 00:19:13.676 radiotherapy and what time it wasn't lung

NOTE Confidence: 0.9249127

00:19:18.060 --> 00:19:21.184 So that's incredibly rare for it

NOTE Confidence: 0.9249127

00:19:21.184 --> 00:19:24.138 to come back either in that lobe,

NOTE Confidence: 0.9249127

00:19:24.140 --> 00:19:26.290 in another lobe in the lung or in the

NOTE Confidence: 0.9249127

00:19:26.290 --> 00:19:28.378 lymph nodes in the middle of the chest,

NOTE Confidence: 0.9249127

00:19:28.380 --> 00:19:31.552 that is closer to probably about 25

NOTE Confidence: 0.9249127

00:19:31.552 --> 00:19:36.560 to 30% and

NOTE Confidence: 0.9249127

00:19:38.582 --> 00:19:40.360 very meticulously after we do

NOTE Confidence: 0.9249127

00:19:40.360 --> 00:19:44.356 SBRT or stereotactic radiotherapy,

NOTE Confidence: 0.9249127

00:19:44.360 --> 00:19:46.040 we follow patients very,

NOTE Confidence: 0.9249127

00:19:46.040 --> 00:19:46.880 very closely.

NOTE Confidence: 0.9249127

00:19:46.880 --> 00:19:49.376 So we're getting a CAT scan every three

NOTE Confidence: 0.9249127

00:19:49.376 --> 00:19:51.590 to four months after your treatment

NOTE Confidence: 0.9249127

00:19:51.590 --> 00:19:54.408 for the first year and up until five

NOTE Confidence: 0.9249127

00:19:54.408 --> 00:19:56.340 years we're getting them

NOTE Confidence: 0.9249127

00:19:56.408 --> 00:19:58.700 about every four to six months

NOTE Confidence: 0.9249127

00:19:58.700 --> 00:20:01.199 generally once patients get to five years

00:20:02.229 --> 00:20:04.630 they don't tend to occur as

NOTE Confidence: 0.9249127

00:20:04.712 --> 00:20:07.445 commonly and I'll usually get

NOTE Confidence: 0.9249127

00:20:07.445 --> 00:20:10.000 a CT every year at that point.

NOTE Confidence: 0.9249127

00:20:10.000 --> 00:20:13.318 So if something were to pop up,

NOTE Confidence: 0.9249127

00:20:13.320 --> 00:20:17.132 we find it very quickly and

NOTE Confidence: 0.9249127

00:20:17.132 --> 00:20:18.968 often times it's treatable if you

NOTE Confidence: 0.9249127

00:20:18.968 --> 00:20:20.873 have another lesion pop up in that

NOTE Confidence: 0.9249127

00:20:20.873 --> 00:20:23.640 lobe or in another lung.

NOTE Confidence: 0.9249127

00:20:23.640 --> 00:20:26.850 I've treated many patients

NOTE Confidence: 0.9249127

00:20:26.850 --> 00:20:29.446 with stereotactic radiosurgery

NOTE Confidence: 0.9249127

00:20:29.446 --> 00:20:32.800 multiple times for either new primary,

NOTE Confidence: 0.9249127

00:20:32.800 --> 00:20:36.020 oftentimes it's a new primary lung cancer

NOTE Confidence: 0.9249127

00:20:36.020 --> 00:20:38.620 or recurrence in the lung.

NOTE Confidence: 0.9249127

00:20:38.620 --> 00:20:40.650 If I can't do radiation therapy often

NOTE Confidence: 0.9249127

00:20:40.650 --> 00:20:43.177 we still do have options whether that's

NOTE Confidence: 0.9249127

00:20:43.180 --> 00:20:45.050 surgical resection, not removing the

NOTE Confidence: 0.9249127

00:20:45.050 --> 00:20:46.920 whole lobe because often patients

00:20:48.726 --> 00:20:50.558 were not able to tolerate that to begin with.

NOTE Confidence: 0.9249127

00:20:50.560 --> 00:20:52.759 But just taking out the tumor or

NOTE Confidence: 0.9249127

00:20:52.759 --> 00:20:54.673 we have also options with our

NOTE Confidence: 0.9249127

00:20:54.673 --> 00:20:55.898 interventional radiologist who can

NOTE Confidence: 0.9249127

00:20:55.898 --> 00:20:57.634 do ablation if we were to

NOTE Confidence: 0.9249127

00:20:57.634 --> 00:20:59.173 find some an additional tumor

NOTE Confidence: 0.9249127

00:20:59.173 --> 00:21:01.775 and for some reason I can't give

NOTE Confidence: 0.9249127

00:21:01.775 --> 00:21:03.555 stereotactic radiation therapy again.

NOTE Confidence: 0.9364746

00:21:04.560 --> 00:21:07.320 So that's an interesting concept, right.

NOTE Confidence: 0.9364746

00:21:07.320 --> 00:21:12.280 There are interventional

NOTE Confidence: 0.9364746

00:21:12.280 --> 00:21:15.901 radiologists who can ablate tumors also

NOTE Confidence: 0.9364746

00:21:15.901 --> 00:21:18.427 targeted just directly to the tumor

NOTE Confidence: 0.9364746

00:21:18.427 --> 00:21:20.569 itself and surgeons can potentially,

NOTE Confidence: 0.9364746

00:21:20.569 --> 00:21:23.369 depending on where of course the tumor

NOTE Confidence: 0.9364746

00:21:23.369 --> 00:21:26.263 is in the lung, not take out the whole

NOTE Confidence: 0.9364746

00:21:26.263 --> 00:21:28.998 lung but take out or or the whole lobe

NOTE Confidence: 0.9364746

00:21:28.998 --> 00:21:31.550 even but just take out that portion.

NOTE Confidence: 0.9364746

00:21:31.550 --> 00:21:34.398 So we went through

NOTE Confidence: 0.9364746

00:21:34.398 --> 00:21:37.170 some of the comparison contrast

NOTE Confidence: 0.9364746

00:21:37.170 --> 00:21:39.142 between surgery for a lobectomy,

NOTE Confidence: 0.9364746

00:21:39.142 --> 00:21:42.039 but can you talk a little bit about

NOTE Confidence: 0.9364746

00:21:42.039 --> 00:21:44.601 some of the ablative techniques that

NOTE Confidence: 0.9364746

00:21:44.601 --> 00:21:46.579 the interventional radiologists use

NOTE Confidence: 0.9364746

00:21:46.580 --> 00:21:48.890 and why stereotactic radiation therapy

NOTE Confidence: 0.9364746

00:21:48.890 --> 00:21:52.313 is used as first line versus some

NOTE Confidence: 0.9364746

00:21:52.313 --> 00:21:54.898 of these other ablative techniques?

00:21:55.140 --> 00:21:57.840 Absolutely. So feasibly if techniques

NOTE Confidence: 0.931678308

00:21:57.840 --> 00:22:01.292 are pretty good often times

NOTE Confidence: 0.931678308

00:22:01.292 --> 00:22:04.620 the local control is 70 to 80%

NOTE Confidence: 0.931678308

00:22:04.620 --> 00:22:07.948 which means the tumor

NOTE Confidence: 0.931678308

00:22:07.948 --> 00:22:10.860 only comes back in that area that

NOTE Confidence: 0.931678308

00:22:10.944 --> 00:22:13.780 was treated maybe 20-30% of the time.

NOTE Confidence: 0.931678308

00:22:13.780 --> 00:22:16.097 So 78% of the time

NOTE Confidence: 0.931678308

00:22:16.097 --> 00:22:17.580 it won't come back.

NOTE Confidence: 0.931678308

00:22:17.580 --> 00:22:19.998 That being said with

NOTE Confidence: 0.931678308

00:22:19.998 --> 00:22:21.610 external beam radiation therapy

NOTE Confidence: 0.931678308

00:22:21.675 --> 00:22:23.793 which we've been talking about,

NOTE Confidence: 0.931678308

00:22:23.793 --> 00:22:26.580 that risk is less than 10%.

NOTE Confidence: 0.931678308

00:22:26.580 --> 00:22:30.075 So the reason that we tend to do

NOTE Confidence: 0.931678308

00:22:30.075 --> 00:22:32.350 the stereotactic radiation therapy as

NOTE Confidence: 0.931678308

00:22:32.350 --> 00:22:35.575 opposed to an ablation with an

NOTE Confidence: 0.931678308

00:22:35.575 --> 00:22:36.964 interventional radiology techniques

NOTE Confidence: 0.931678308

00:22:36.964 --> 00:22:39.425 is because we know that

NOTE Confidence: 0.931678308

00:22:39.425 --> 00:22:41.420 the local control is much better.

NOTE Confidence: 0.931678308

00:22:41.420 --> 00:22:43.470 But there sometimes

NOTE Confidence: 0.931678308

00:22:43.470 --> 00:22:46.135 reasons why we not might not

NOTE Confidence: 0.931678308

00:22:46.135 --> 00:22:48.324 be able to do the stereotactic

NOTE Confidence: 0.931678308

00:22:48.324 --> 00:22:50.532 radiation therapy and I think that

NOTE Confidence: 0.931678308

00:22:50.540 --> 00:22:54.635 doing an ablation is a very good

NOTE Confidence: 0.931678308

00:22:54.635 --> 00:22:56.285 alternative in those situations. NOTE Confidence: 0.931678308

00:23:01.010 --> 00:23:03.570 So maybe there was a new tumor that's very close

NOTE Confidence: 0.931678308

00:23:03.639 --> 00:23:05.222 to the previous treatment fields.

NOTE Confidence: 0.931678308

00:23:05.222 --> 00:23:07.400 And then we're worried about the

NOTE Confidence: 0.931678308

00:23:07.465 --> 00:23:09.367 chest wall or we're worried about

NOTE Confidence: 0.931678308

00:23:11.090 --> 00:23:13.484 your breathing tubes or the assault,

00:23:16.210 --> 00:23:19.732 etcetera.

NOTE Confidence: 0.92945504

00:23:19.732 --> 00:23:22.900 For the most part it sounds like

NOTE Confidence: 0.93440694

00:23:22.900 --> 00:23:24.970 if you can use stereotactic radiation

NOTE Confidence: 0.93440694

00:23:24.970 --> 00:23:27.100 that would be your preference.

NOTE Confidence: 0.93440694

00:23:27.100 --> 00:23:28.969 But if you can't, there are other

NOTE Confidence: 0.93440694

00:23:28.969 --> 00:23:30.900 tools in the toolbox. Is that right?

NOTE Confidence: 0.93440694

00:23:31.060 --> 00:23:32.524 Yeah. And the nice thing

NOTE Confidence: 0.93440694

00:23:32.524 --> 00:23:33.751 about a place like Yale, and I

NOTE Confidence: 0.93440694

00:23:33.751 --> 00:23:35.257 don't want to be too promotional,

NOTE Confidence: 0.93440694

00:23:35.260 --> 00:23:37.660 but I really love working here

NOTE Confidence: 0.93440694

00:23:37.660 --> 00:23:38.938 is that

NOTE Confidence: 0.93440694

00:23:38.940 --> 00:23:40.252 we all work together.

00:23:42.060 --> 00:23:45.091 We're all discussing all of

NOTE Confidence: 0.93440694

00:23:45.091 --> 00:23:48.224 these cases and we can

NOTE Confidence: 0.93440694

00:23:48.224 --> 00:23:50.510 get patients in fairly quickly in a

00:23:52.984 --> 00:23:54.069 very short period of time.

NOTE Confidence: 0.93440694

00:23:54.070 --> 00:23:55.504 And the conversation will

NOTE Confidence: 0.93440694

00:23:55.504 --> 00:23:56.808 have been a multidisciplinary

NOTE Confidence: 0.93440694

00:23:56.808 --> 00:23:58.880 one where we're all really

NOTE Confidence: 0.93440694

00:23:58.880 --> 00:24:00.869 focused on what's best for the patient.

NOTE Confidence: 0.92786396

00:24:01.910 --> 00:24:04.752 We've been talking a

NOTE Confidence: 0.92786396

00:24:04.752 --> 00:24:07.188 lot about early stage lung cancer,

NOTE Confidence: 0.92786396

00:24:07.188 --> 00:24:09.342 but as you kind of alluded

NOTE Confidence: 0.92786396

00:24:09.342 --> 00:24:11.390 to during our conversation,

NOTE Confidence: 0.92786396

00:24:11.390 --> 00:24:15.692 there are some roles for stereotactic

NOTE Confidence: 0.92786396

00:24:15.692 --> 00:24:18.954 radiation therapy for later stage disease.

NOTE Confidence: 0.92786396

00:24:18.954 --> 00:24:22.195 And you had mentioned that really

NOTE Confidence: 0.92786396

00:24:22.195 --> 00:24:24.920 the genesis of much of these

NOTE Confidence: 0.92786396

00:24:24.920 --> 00:24:27.166 techniques was in treating metastases

NOTE Confidence: 0.92786396

00:24:27.166 --> 00:24:29.686 and particularly brain metastases.

NOTE Confidence: 0.92786396

00:24:29.690 --> 00:24:32.082 Can you tell us a little bit more

NOTE Confidence: 0.92786396

00:24:32.082 --> 00:24:34.379 about other potential uses of

NOTE Confidence: 0.92786396

00:24:34.379 --> 00:24:36.008 stereotactic radiation therapy?

NOTE Confidence: 0.92786396

00:24:36.010 --> 00:24:38.630 Sure, in patients who have

NOTE Confidence: 0.935301

00:24:38.630 --> 00:24:40.466 stage 4 lung cancer, and this

NOTE Confidence: 0.935301

00:24:40.466 --> 00:24:42.358 means that the cancer has now

NOTE Confidence: 0.935301

00:24:42.358 --> 00:24:44.158 spread outside of the lungs and

NOTE Confidence: 0.935301

00:24:44.158 --> 00:24:45.989 the lymph nodes in the chest,

NOTE Confidence: 0.935301

00:24:45.990 --> 00:24:48.510 so it could be the

NOTE Confidence: 0.935301

00:24:48.510 --> 00:24:50.884 bone or the liver

NOTE Confidence: 0.935301

00:24:50.884 --> 00:24:52.246 or the brain or

NOTE Confidence: 0.935301

00:24:52.246 --> 00:24:53.308 somewhere outside of the lung.

00:24:58.665 --> 00:25:00.070 And patients are not all the same.

NOTE Confidence: 0.935301

00:25:00.070 --> 00:25:01.925 So many years ago stage

NOTE Confidence: 0.935301

00:25:01.925 --> 00:25:04.107 4 was just stage 4 cancer, it has spread.

NOTE Confidence: 0.935301

00:25:04.110 --> 00:25:06.446 And and this is the treatment

NOTE Confidence: 0.935301

00:25:06.446 --> 00:25:08.380 we recommend for you. What we have found is

NOTE Confidence: 0.935301

00:25:08.380 --> 00:25:11.900 actually not all stage 4 is created equal.

NOTE Confidence: 0.935301

00:25:11.900 --> 00:25:14.900 There's patients who have

NOTE Confidence: 0.935301

00:25:14.900 --> 00:25:16.660 widespread disease that's gone

NOTE Confidence: 0.935301

00:25:16.660 --> 00:25:18.560 to multiple organs that's causing

NOTE Confidence: 0.935301

00:25:18.560 --> 00:25:23.380 a lot of problems and maybe

NOTE Confidence: 0.935301 00:25:23.380 --> 00:25:25.180

their options are limited.

NOTE Confidence: 0.935301

00:25:25.180 --> 00:25:26.604 There's patients who have,

NOTE Confidence: 0.935301

00:25:26.604 --> 00:25:28.740 we say a legal metastatic disease.

NOTE Confidence: 0.935301

00:25:28.740 --> 00:25:29.976 They've got one spot,

NOTE Confidence: 0.935301

00:25:29.976 --> 00:25:32.792 in the rib where cancer is,

NOTE Confidence: 0.935301

00:25:32.792 --> 00:25:35.946 one spot in the brain or

NOTE Confidence: 0.935301

00:25:35.946 --> 00:25:38.670 a few spots.

NOTE Confidence: 0.935301

00:25:38.670 --> 00:25:41.598 We also say low volume disease in

NOTE Confidence: 0.935301

00:25:41.598 --> 00:25:44.562 those situations and the standard

NOTE Confidence: 0.935301

00:25:44.562 --> 00:25:47.828 treatment has been and remains

NOTE Confidence: 0.9360181

00:25:50.310 --> 00:25:52.910 systemic therapy.

00:25:54.510 --> 00:25:56.110 Chemotherapy, a targeted therapy,

NOTE Confidence: 0.9360181

00:25:56.110 --> 00:25:58.110 maybe immunotherapy

NOTE Confidence: 0.9360181

00:25:58.110 --> 00:26:00.108 that's still the main treatment.

NOTE Confidence: 0.9360181

00:26:00.110 --> 00:26:01.349 It's incredibly important,

NOTE Confidence: 0.9301031

00:26:02.630 --> 00:26:03.506 but there is a role for

NOTE Confidence: 0.9301031

00:26:03.510 --> 00:26:06.265 radiation therapy and perhaps targeting

NOTE Confidence: 0.9301031

00:26:06.265 --> 00:26:08.469 these metastatic regions.

00:26:10.406 --> 00:26:12.026 If the tumor spreads to just a few spots,

NOTE Confidence: 0.9301031

00:26:12.030 --> 00:26:14.270 we can actually go and do this

NOTE Confidence: 0.9301031

00:26:14.270 --> 00:26:16.254 high dose ablative treatment with

NOTE Confidence: 0.9301031

00:26:16.254 --> 00:26:19.390 with very few side effects to get

NOTE Confidence: 0.9301031

00:26:19.473 --> 00:26:21.988 these other areas under control.

NOTE Confidence: 0.9301031

00:26:21.990 --> 00:26:23.470 And then the systemic therapy,

NOTE Confidence: 0.9301031

00:26:23.470 --> 00:26:25.348 whether it's chemo or

NOTE Confidence: 0.9301031

00:26:25.348 --> 00:26:27.145 immunotherapy or a targeted drug or

NOTE Confidence: 0.9301031

00:26:27.145 --> 00:26:29.070 a combination of any of these,

NOTE Confidence: 0.9301031

00:26:29.070 --> 00:26:30.876 that's going to be that main treatment

NOTE Confidence: 0.9301031

00:26:30.876 --> 00:26:32.950 that's going to go everywhere in the body.

NOTE Confidence: 0.9301031

00:26:32.950 --> 00:26:36.310 So it's going to go after microscopic

NOTE Confidence: 0.9301031

00:26:36.310 --> 00:26:40.056 cells and in addition to

NOTE Confidence: 0.9301031

00:26:40.056 --> 00:26:42.749 these areas where it's spread.

NOTE Confidence: 0.9301031

00:26:42.750 --> 00:26:44.562 And so in those situations we

NOTE Confidence: 0.9301031

00:26:44.562 --> 00:26:46.513 work very closely with the medical

NOTE Confidence: 0.9301031

00:26:46.513 --> 00:26:48.223 oncologist to determine

NOTE Confidence: 0.9301031

00:26:48.223 --> 00:26:50.271 if we're going to give radiation,

NOTE Confidence: 0.9301031

00:26:50.271 --> 00:26:51.866 when it's going to happen,

00:26:55.390 --> 00:26:56.626 how to sequence it

NOTE Confidence: 0.9387525

00:26:56.626 --> 00:26:58.480 with the

NOTE Confidence: 0.9387525

00:26:58.553 --> 00:27:00.056 systemic therapy etcetera,

NOTE Confidence: 0.9387525

00:27:00.056 --> 00:27:01.760 who are the appropriate

NOTE Confidence: 0.9387525

00:27:01.760 --> 00:27:03.153 patients to get

NOTE Confidence: 0.9387525

00:27:03.153 --> 00:27:04.437 the stereotactic radiation in

NOTE Confidence: 0.9387525

00:27:04.437 --> 00:27:06.389 addition to their systemic therapy.

NOTE Confidence: 0.9387525

00:27:07.470 --> 00:27:09.990 Can you talk a little bit

NOTE Confidence: 0.9387525

00:27:09.990 --> 00:27:12.376 about kind of the interaction

NOTE Confidence: 0.9387525

00:27:12.376 --> 00:27:14.774 between some of the medications,

NOTE Confidence: 0.9387525

00:27:14.774 --> 00:27:15.666 the chemotherapies,

NOTE Confidence: 0.9387525

00:27:15.670 --> 00:27:17.530 the targeted therapies,

NOTE Confidence: 0.9387525

00:27:17.530 --> 00:27:19.390 immunotherapy and radiation?

NOTE Confidence: 0.9387525

00:27:19.390 --> 00:27:22.462 For example, do some drugs make

NOTE Confidence: 0.9387525

00:27:22.462 --> 00:27:24.510 the radiation work better?

NOTE Confidence: 0.9387525

00:27:24.510 --> 00:27:27.576 Do some drugs make the toxicities

NOTE Confidence: 0.9387525

00:27:27.576 --> 00:27:30.582 of radiation worse and how do

NOTE Confidence: 0.9387525

00:27:30.582 --> 00:27:32.630 you kind of navigate that?

NOTE Confidence: 0.93593585

00:27:32.630 --> 00:27:35.189 That's a great question.

NOTE Confidence: 0.93593585

00:27:35.190 --> 00:27:37.350 It's a very complicated answer.

NOTE Confidence: 0.93593585

00:27:37.350 --> 00:27:40.940 So I would start by saying we're

NOTE Confidence: 0.93593585

00:27:40.940 --> 00:27:43.390 still learning a lot about this area.

NOTE Confidence: 0.93593585

00:27:43.390 --> 00:27:45.508 If you just look at immunotherapy,

NOTE Confidence: 0.93593585

00:27:45.510 --> 00:27:47.365 which many people have heard

NOTE Confidence: 0.93593585

00:27:47.365 --> 00:27:49.610 about is this huge

NOTE Confidence: 0.93593585

00:27:49.610 --> 00:27:51.350 breakthrough in cancer treatment that's

NOTE Confidence: 0.93593585

00:27:51.350 --> 00:27:53.510 really been only been around since

NOTE Confidence: 0.93593585

00:27:53.510 --> 00:27:57.550 2014 or or approved since 2014, 2015.

NOTE Confidence: 0.93593585

00:27:57.550 --> 00:28:01.134 We often are finding that radiation therapy

NOTE Confidence: 0.93593585

00:28:01.134 --> 00:28:04.294 and immunotherapy complement each other

NOTE Confidence: 0.93593585

00:28:04.294 --> 00:28:07.462 very well where sometimes

NOTE Confidence: 0.93593585

00:28:07.462 --> 00:28:09.052 you'll give immunotherapy and the

NOTE Confidence: 0.93593585

00:28:09.052 --> 00:28:10.530 radiation therapy works better or

NOTE Confidence: 0.93593585

00:28:10.530 --> 00:28:12.186 you give the radiation therapy and

NOTE Confidence: 0.93593585

00:28:12.235 --> 00:28:13.707 the immunotherapy works better.

NOTE Confidence: 0.93593585

00:28:13.710 --> 00:28:14.326 And again,

NOTE Confidence: 0.93593585

00:28:14.326 --> 00:28:17.470 this is still a very active area of research,

NOTE Confidence: 0.93593585

00:28:17.470 --> 00:28:19.798 but we know that immunotherapy and

NOTE Confidence: 0.93593585

00:28:19.798 --> 00:28:22.070 chemotherapy as well oftentimes will

NOTE Confidence: 0.93593585

00:28:22.070 --> 00:28:24.359 make radiation work better on the tumor.

NOTE Confidence: 0.93593585

00:28:24.360 --> 00:28:25.800 But again, like you mentioned,

NOTE Confidence: 0.93593585

00:28:25.800 --> 00:28:26.840 it might also make side

NOTE Confidence: 0.93593585

00:28:26.840 --> 00:28:27.672 effects of treatment worse.

NOTE Confidence: 0.93593585

00:28:27.680 --> 00:28:29.416 So we just have to be very

NOTE Confidence: 0.93593585

00:28:29.416 --> 00:28:30.800 careful with how we select,

NOTE Confidence: 0.93593585

00:28:30.800 --> 00:28:32.240 how we sequence the treatments.

NOTE Confidence: 0.9281659

00:28:32.680 --> 00:28:35.272 Dr. Nadine Housri is an associate

NOTE Confidence: 0.9281659

00:28:35.272 --> 00:28:37.000 professor of therapeutic radiology

NOTE Confidence: 0.9281659

00:28:37.068 --> 00:28:39.036 at the Yale School of Medicine.

NOTE Confidence: 0.9281659

00:28:39.040 --> 00:28:41.072 If you have questions,

NOTE Confidence: 0.9281659

00:28:41.072 --> 00:28:43.060 the address is canceranswers@yale.edu,

NOTE Confidence: 0.9281659

00:28:43.060 --> 00:28:45.820 and past editions of the program

NOTE Confidence: 0.9281659

00:28:45.820 --> 00:28:48.209 are available in audio and written

NOTE Confidence: 0.9281659

00:28:48.209 --> 00:28:49.143 form at yalecancercenter.org.

NOTE Confidence: 0.9281659

00:28:49.143 --> 00:28:51.567 We hope you'll join us next week to

NOTE Confidence: 0.9281659

00:28:51.567 --> 00:28:53.410 learn more about the fight against

NOTE Confidence: 0.9281659

00:28:53.410 --> 00:28:55.240 cancer here on Connecticut Public Radio.

NOTE Confidence: 0.9281659

00:28:55.240 --> 00:28:57.682 Funding for Yale Cancer Answers is

NOTE Confidence: 0.9281659

00:28:57.682 --> 00:29:00.000 provided by Smilow Cancer Hospital.