

WEBVTT

00:00:00.000 --> 00:00:02.154 Funding for Yale Cancer Answers is

NOTE Confidence: 0.897990149090909

00:00:02.154 --> 00:00:04.190 provided by Smilow Cancer Hospital.

NOTE Confidence: 0.90755252125

00:00:06.400 --> 00:00:07.692 Welcome to Yale Cancer Answers

NOTE Confidence: 0.90755252125

00:00:07.692 --> 00:00:08.984 with your host

NOTE Confidence: 0.90755252125

00:00:08.990 --> 00:00:10.478 Doctor Anees Chagpar.

NOTE Confidence: 0.90755252125

00:00:10.478 --> 00:00:11.966 Yale Cancer Answers features

NOTE Confidence: 0.90755252125

00:00:11.966 --> 00:00:14.097 the latest information on cancer

NOTE Confidence: 0.90755252125

00:00:14.097 --> 00:00:16.297 care by welcoming oncologists and

NOTE Confidence: 0.90755252125

00:00:16.297 --> 00:00:18.486 specialists who are on the forefront

NOTE Confidence: 0.90755252125

00:00:18.486 --> 00:00:21.066 of the battle to fight cancer. This week,

NOTE Confidence: 0.90755252125

00:00:21.066 --> 00:00:23.572 it's a conversation about the role of

NOTE Confidence: 0.90755252125

00:00:23.572 --> 00:00:25.204 interventional radiology and colorectal

NOTE Confidence: 0.90755252125

00:00:25.204 --> 00:00:27.229 cancer with Doctor David Madoff.

NOTE Confidence: 0.90755252125

00:00:27.230 --> 00:00:30.044 Dr Madoff is a professor of radiology

NOTE Confidence: 0.90755252125

00:00:30.044 --> 00:00:32.425 and biomedical imaging and of medical

NOTE Confidence: 0.90755252125

00:00:32.425 --> 00:00:35.001 oncology at the Yale School of Medicine,
NOTE Confidence: 0.90755252125

00:00:35.010 --> 00:00:36.984 where Doctor Chagpar is a
NOTE Confidence: 0.90755252125

00:00:36.984 --> 00:00:38.300 professor of surgical oncology.
NOTE Confidence: 0.95975202

00:00:39.560 --> 00:00:41.408 Thank you so much for joining me tonight.
NOTE Confidence: 0.8275100815

00:00:41.820 --> 00:00:44.382 Thanks Anees, it's great to be
NOTE Confidence: 0.8275100815

00:00:44.382 --> 00:00:46.813 here and since our first discussion
NOTE Confidence: 0.8275100815

00:00:46.813 --> 00:00:49.654 back in December of 2019, I think
NOTE Confidence: 0.8275100815

00:00:49.654 --> 00:00:51.489 the world has changed tremendously.
NOTE Confidence: 0.890417276

00:00:51.820 --> 00:00:55.240 Boy, we could do a whole other show on that,
NOTE Confidence: 0.890417276

00:00:55.240 --> 00:00:57.904 but for those of you who have not met
NOTE Confidence: 0.890417276

00:00:57.904 --> 00:01:00.516 you through the radio waves as yet,
NOTE Confidence: 0.890417276

00:01:00.520 --> 00:01:02.179 tell us a little bit more about
NOTE Confidence: 0.890417276

00:01:02.179 --> 00:01:03.809 yourself and what it is that you do.
NOTE Confidence: 0.772011507352941

00:01:05.170 --> 00:01:06.367 Practicing interventional radiologist
NOTE Confidence: 0.772011507352941

00:01:06.367 --> 00:01:09.642 with now more than 20 years of expertise
NOTE Confidence: 0.772011507352941

00:01:09.642 --> 00:01:12.156 in the field of interventional oncology,

NOTE Confidence: 0.772011507352941
00:01:12.160 --> 00:01:14.981 my specific area is in of clinical
NOTE Confidence: 0.772011507352941
00:01:14.981 --> 00:01:17.150 and research interests has been
NOTE Confidence: 0.772011507352941
00:01:17.150 --> 00:01:19.375 in treating patients with primary
NOTE Confidence: 0.772011507352941
00:01:19.375 --> 00:01:21.280 and metastatic liver cancer.
NOTE Confidence: 0.772011507352941
00:01:21.280 --> 00:01:23.998 However, I also do treat patients
NOTE Confidence: 0.772011507352941
00:01:23.998 --> 00:01:26.490 with lung and kidney cancer,
NOTE Confidence: 0.772011507352941
00:01:26.490 --> 00:01:29.200 so just briefly having completed
NOTE Confidence: 0.772011507352941
00:01:29.200 --> 00:01:30.826 my radiology residency,
NOTE Confidence: 0.772011507352941
00:01:30.830 --> 00:01:33.054 I went to MD Anderson Cancer Center in
NOTE Confidence: 0.772011507352941
00:01:33.054 --> 00:01:35.179 Houston for my final years of training.
NOTE Confidence: 0.772011507352941
00:01:35.180 --> 00:01:36.884 It was really the top program
NOTE Confidence: 0.772011507352941
00:01:36.884 --> 00:01:38.779 at the time for this field.
NOTE Confidence: 0.772011507352941
00:01:38.780 --> 00:01:40.677 At that time there were doing cutting
NOTE Confidence: 0.772011507352941
00:01:40.677 --> 00:01:42.741 edge work in various types of cancer
NOTE Confidence: 0.772011507352941
00:01:42.741 --> 00:01:44.529 and I found myself intrigued by
NOTE Confidence: 0.772011507352941

00:01:44.589 --> 00:01:46.379 the pathophysiology of the liver.
NOTE Confidence: 0.772011507352941

00:01:46.380 --> 00:01:48.564 I then spent ten really exciting
NOTE Confidence: 0.772011507352941

00:01:48.564 --> 00:01:51.089 years on their faculty and became
NOTE Confidence: 0.772011507352941

00:01:51.089 --> 00:01:53.077 extremely passionate about treating
NOTE Confidence: 0.772011507352941

00:01:53.077 --> 00:01:55.600 cancer by minimally invasive routes.
NOTE Confidence: 0.772011507352941

00:01:55.600 --> 00:01:56.808 So as I mentioned,
NOTE Confidence: 0.772011507352941

00:01:56.808 --> 00:01:59.260 I have had young children and a family,
NOTE Confidence: 0.772011507352941

00:01:59.260 --> 00:02:01.024 so I decided to move back to the New
NOTE Confidence: 0.772011507352941

00:02:01.024 --> 00:02:03.005 York area and I spent 8 1/2 years at
NOTE Confidence: 0.772011507352941

00:02:03.005 --> 00:02:04.427 Weill Cornell Medical Center in New
NOTE Confidence: 0.772011507352941

00:02:04.427 --> 00:02:06.552 York City where I served in the roles
NOTE Confidence: 0.772011507352941

00:02:06.552 --> 00:02:08.332 of Chief of Interventional Radiology
NOTE Confidence: 0.772011507352941

00:02:08.332 --> 00:02:10.688 as well as vice Chair for Academic
NOTE Confidence: 0.772011507352941

00:02:10.688 --> 00:02:12.869 Affairs and in 2019 I was recruited
NOTE Confidence: 0.772011507352941

00:02:12.869 --> 00:02:15.398 to Yale to take on the role of Vice
NOTE Confidence: 0.772011507352941

00:02:15.400 --> 00:02:17.476 Chair for Clinical Research in Radiology,

NOTE Confidence: 0.772011507352941

00:02:17.480 --> 00:02:21.008 and in this role I was tasked with really

NOTE Confidence: 0.772011507352941

00:02:21.008 --> 00:02:23.600 developing a clinical research program.

NOTE Confidence: 0.772011507352941

00:02:23.600 --> 00:02:26.376 Now Yale has always been a very strong.

NOTE Confidence: 0.772011507352941

00:02:26.380 --> 00:02:27.186 Clinical powerhouse,

NOTE Confidence: 0.772011507352941

00:02:27.186 --> 00:02:30.410 but it really needed a little bit of

NOTE Confidence: 0.772011507352941

00:02:30.486 --> 00:02:33.528 kickstarting in terms of clinical research.

NOTE Confidence: 0.772011507352941

00:02:33.530 --> 00:02:35.242 They've had a large

NOTE Confidence: 0.772011507352941

00:02:35.242 --> 00:02:36.526 scientific research group,

NOTE Confidence: 0.772011507352941

00:02:36.530 --> 00:02:37.798 but not necessarily as

NOTE Confidence: 0.772011507352941

00:02:37.798 --> 00:02:39.383 much on the research side,

NOTE Confidence: 0.772011507352941

00:02:39.390 --> 00:02:42.240 so I've been fortunate in being

NOTE Confidence: 0.772011507352941

00:02:42.240 --> 00:02:44.792 able to really delve deep into

NOTE Confidence: 0.772011507352941

00:02:44.792 --> 00:02:46.288 the clinical research aspects.

NOTE Confidence: 0.772011507352941

00:02:46.290 --> 00:02:49.116 And now we have a number of NIH funded

NOTE Confidence: 0.772011507352941

00:02:49.116 --> 00:02:50.909 laboratories of young investigators,

NOTE Confidence: 0.772011507352941

00:02:50.910 --> 00:02:53.230 and in July of 2020,
NOTE Confidence: 0.772011507352941

00:02:53.230 --> 00:02:55.786 I also became the chief of
NOTE Confidence: 0.772011507352941

00:02:55.786 --> 00:02:56.638 Interventional Radiology.
NOTE Confidence: 0.772011507352941

00:02:56.640 --> 00:02:59.648 Here at Yale and also serve as a
NOTE Confidence: 0.772011507352941

00:02:59.648 --> 00:03:01.324 director of Smilow's Interventional
NOTE Confidence: 0.772011507352941

00:03:01.324 --> 00:03:02.248 Oncology program
NOTE Confidence: 0.826624820434783

00:03:03.000 --> 00:03:06.240 so you know some of us have heard about
NOTE Confidence: 0.826624820434783

00:03:06.240 --> 00:03:08.399 interventional radiology and we we
NOTE Confidence: 0.826624820434783

00:03:08.399 --> 00:03:10.564 think about interventional radiology as
NOTE Confidence: 0.826624820434783

00:03:10.564 --> 00:03:14.250 being the people who you know kind of do
NOTE Confidence: 0.826624820434783

00:03:14.250 --> 00:03:17.056 things with catheters and xrays, right?
NOTE Confidence: 0.826624820434783

00:03:17.056 --> 00:03:20.392 They take angiograms they they may
NOTE Confidence: 0.826624820434783

00:03:20.392 --> 00:03:24.850 put in stents, things like that.
NOTE Confidence: 0.826624820434783

00:03:24.850 --> 00:03:28.140 We may not be as familiar with
NOTE Confidence: 0.826624820434783

00:03:28.140 --> 00:03:30.370 interventional oncology so so tell
NOTE Confidence: 0.826624820434783

00:03:30.370 --> 00:03:32.932 us a little bit more about that.

NOTE Confidence: 0.761103558333333
00:03:33.650 --> 00:03:34.962 Interventional Oncology
NOTE Confidence: 0.761103558333333
00:03:34.962 --> 00:03:39.350 is a recent term, it's.
NOTE Confidence: 0.761103558333333
00:03:39.350 --> 00:03:41.538 An interventional radiology subspecialty
NOTE Confidence: 0.761103558333333
00:03:41.538 --> 00:03:44.273 that utilizes minimally invasive image
NOTE Confidence: 0.761103558333333
00:03:44.273 --> 00:03:46.884 guided procedures to diagnose and treat
NOTE Confidence: 0.761103558333333
00:03:46.884 --> 00:03:49.400 patients with various forms of cancer.
NOTE Confidence: 0.761103558333333
00:03:49.400 --> 00:03:51.104 There are a number of benefits
NOTE Confidence: 0.761103558333333
00:03:51.104 --> 00:03:53.598 of what I would consider primary
NOTE Confidence: 0.761103558333333
00:03:53.598 --> 00:03:55.530 interventional oncology treatments,
NOTE Confidence: 0.761103558333333
00:03:55.530 --> 00:03:58.134 and of course they include immediate tumor
NOTE Confidence: 0.761103558333333
00:03:58.134 --> 00:04:00.770 tidal effects or unclear logical efficacy,
NOTE Confidence: 0.761103558333333
00:04:00.770 --> 00:04:02.709 which really means that we know that
NOTE Confidence: 0.761103558333333
00:04:02.709 --> 00:04:04.335 the tumors are being effectively
NOTE Confidence: 0.761103558333333
00:04:04.335 --> 00:04:06.537 treated or killed by our techniques.
NOTE Confidence: 0.761103558333333
00:04:06.540 --> 00:04:08.252 They're also minimally invasive,
NOTE Confidence: 0.761103558333333

00:04:08.252 --> 00:04:10.392 meaning that most procedures are
NOTE Confidence: 0.7611035583333333

00:04:10.392 --> 00:04:12.107 performed with moderate sedation
NOTE Confidence: 0.7611035583333333

00:04:12.107 --> 00:04:13.739 and not general anesthesia,
NOTE Confidence: 0.7611035583333333

00:04:13.740 --> 00:04:15.320 and they are typically performed
NOTE Confidence: 0.7611035583333333

00:04:15.320 --> 00:04:16.584 in the outpatient setting.
NOTE Confidence: 0.7611035583333333

00:04:16.590 --> 00:04:17.194 That is,
NOTE Confidence: 0.7611035583333333

00:04:17.194 --> 00:04:19.308 patients typically go home the same day,
NOTE Confidence: 0.7611035583333333

00:04:19.310 --> 00:04:21.272 and of course this leads to
NOTE Confidence: 0.7611035583333333

00:04:21.272 --> 00:04:23.400 lower costs and time efficiency,
NOTE Confidence: 0.7611035583333333

00:04:23.400 --> 00:04:24.846 and lastly,
NOTE Confidence: 0.7611035583333333

00:04:24.846 --> 00:04:29.364 because they are local for the most part,
NOTE Confidence: 0.7611035583333333

00:04:29.364 --> 00:04:31.800 we have minimal systemic side effects,
NOTE Confidence: 0.7611035583333333

00:04:31.800 --> 00:04:34.092 meaning that the treatments are targeted
NOTE Confidence: 0.7611035583333333

00:04:34.092 --> 00:04:36.650 locally without having the systemic effects.
NOTE Confidence: 0.7611035583333333

00:04:36.650 --> 00:04:39.300 Usually thought of with intravenous
NOTE Confidence: 0.7611035583333333

00:04:39.300 --> 00:04:41.194 chemotherapy and because of this,

NOTE Confidence: 0.761103558333333

00:04:41.194 --> 00:04:43.785 and because patients can avoid a major

NOTE Confidence: 0.761103558333333

00:04:43.785 --> 00:04:46.150 surgery with prolonged recovery times.

NOTE Confidence: 0.761103558333333

00:04:46.150 --> 00:04:48.236 Patients often have a better quality of

NOTE Confidence: 0.761103558333333

00:04:48.236 --> 00:04:50.767 life and in some circumstances in fact,

NOTE Confidence: 0.761103558333333

00:04:50.770 --> 00:04:52.420 patients can return to work within

NOTE Confidence: 0.761103558333333

00:04:52.420 --> 00:04:54.120 a few days after treatment.

NOTE Confidence: 0.624225341666667

00:04:54.680 --> 00:04:56.006 You know that all sounds great,

NOTE Confidence: 0.624225341666667

00:04:56.010 --> 00:04:57.198 and I'm sure that many of

NOTE Confidence: 0.624225341666667

00:04:57.198 --> 00:04:57.990 our listeners are thinking.

NOTE Confidence: 0.624225341666667

00:04:57.990 --> 00:05:00.717 Geez, you know, if I can get out of

NOTE Confidence: 0.624225341666667

00:05:00.717 --> 00:05:03.349 big surgery and chemotherapy and.

NOTE Confidence: 0.624225341666667

00:05:03.350 --> 00:05:05.510 Get back to work in a couple of days

NOTE Confidence: 0.624225341666667

00:05:05.510 --> 00:05:07.790 and have fewer systemic side effects.

NOTE Confidence: 0.624225341666667

00:05:07.790 --> 00:05:10.730 All of that sounds perfect.

NOTE Confidence: 0.624225341666667

00:05:10.730 --> 00:05:13.496 And yet not all patients are

NOTE Confidence: 0.624225341666667

00:05:13.496 --> 00:05:15.340 offered kind of interventional
NOTE Confidence: 0.624225341666667

00:05:15.419 --> 00:05:17.919 oncology to treat their cancers,
NOTE Confidence: 0.624225341666667

00:05:17.920 --> 00:05:20.475 so can you talk a little bit
NOTE Confidence: 0.624225341666667

00:05:20.475 --> 00:05:23.460 more about who might be the right
NOTE Confidence: 0.624225341666667

00:05:23.460 --> 00:05:25.710 patient to be considered for
NOTE Confidence: 0.624225341666667

00:05:25.710 --> 00:05:27.948 these kinds of procedures?
NOTE Confidence: 0.624225341666667

00:05:27.950 --> 00:05:30.206 Maybe give us some examples of
NOTE Confidence: 0.624225341666667

00:05:30.206 --> 00:05:32.525 what are the procedures that you
NOTE Confidence: 0.624225341666667

00:05:32.525 --> 00:05:34.739 perform and how do you select
NOTE Confidence: 0.624225341666667

00:05:34.739 --> 00:05:37.205 which patients benefit from this as
NOTE Confidence: 0.624225341666667

00:05:37.205 --> 00:05:39.530 opposed to other other treatments?
NOTE Confidence: 0.624225341666667

00:05:39.530 --> 00:05:40.050 Today
NOTE Confidence: 0.69485386875

00:05:40.390 --> 00:05:42.169 we're talking about?
NOTE Confidence: 0.69485386875

00:05:42.169 --> 00:05:45.134 Interventional oncology for colon cancer.
NOTE Confidence: 0.69485386875

00:05:45.140 --> 00:05:48.002 So the first thing I want to really state
NOTE Confidence: 0.69485386875

00:05:48.002 --> 00:05:50.711 is that colon that intervention oncology

NOTE Confidence: 0.69485386875

00:05:50.711 --> 00:05:54.039 does not treat the primary colon cancer.

NOTE Confidence: 0.69485386875

00:05:54.040 --> 00:05:56.140 Rather, we would treat the

NOTE Confidence: 0.69485386875

00:05:56.140 --> 00:05:58.240 metastasis from the colon cancer.

NOTE Confidence: 0.69485386875

00:05:58.240 --> 00:06:00.010 So for example, when they spread

NOTE Confidence: 0.69485386875

00:06:00.010 --> 00:06:01.990 to the liver or to the lung.

NOTE Confidence: 0.69485386875

00:06:01.990 --> 00:06:04.846 Now, the goals of therapy are

NOTE Confidence: 0.69485386875

00:06:04.846 --> 00:06:07.790 really including potential cure.

NOTE Confidence: 0.69485386875

00:06:07.790 --> 00:06:10.170 We could perform procedures that

NOTE Confidence: 0.69485386875

00:06:10.170 --> 00:06:12.550 can convert patients from resectable

NOTE Confidence: 0.69485386875

00:06:12.550 --> 00:06:13.946 from unresectable to resectable.

NOTE Confidence: 0.69485386875

00:06:13.946 --> 00:06:16.040 And we also could offer options

NOTE Confidence: 0.69485386875

00:06:16.102 --> 00:06:18.090 for palliation and what I mean by

NOTE Confidence: 0.69485386875

00:06:18.090 --> 00:06:19.798 palliation is that we can try to

NOTE Confidence: 0.69485386875

00:06:19.798 --> 00:06:22.045 extend a patient's life which is also

NOTE Confidence: 0.69485386875

00:06:22.045 --> 00:06:24.292 known as survival while trying to

NOTE Confidence: 0.69485386875

00:06:24.292 --> 00:06:26.278 maintain the best quality of life.
NOTE Confidence: 0.69485386875

00:06:26.280 --> 00:06:29.304 So we have a number of different options
NOTE Confidence: 0.69485386875

00:06:29.304 --> 00:06:34.378 that we can use depending on the patients.
NOTE Confidence: 0.69485386875

00:06:34.380 --> 00:06:36.650 I guess Histology of disease,
NOTE Confidence: 0.69485386875

00:06:36.650 --> 00:06:38.082 the number of tumors,
NOTE Confidence: 0.69485386875

00:06:38.082 --> 00:06:39.514 the location of tumors,
NOTE Confidence: 0.69485386875

00:06:39.520 --> 00:06:42.282 whether or not they are focused
NOTE Confidence: 0.69485386875

00:06:42.282 --> 00:06:43.668 throughout the body,
NOTE Confidence: 0.69485386875

00:06:43.668 --> 00:06:46.818 or whether or not they are within
NOTE Confidence: 0.69485386875

00:06:46.818 --> 00:06:47.952 a single organ.
NOTE Confidence: 0.69485386875

00:06:47.952 --> 00:06:50.756 So some of the therapies that we
NOTE Confidence: 0.69485386875

00:06:50.756 --> 00:06:53.056 can offer include thermal ablation,
NOTE Confidence: 0.69485386875

00:06:53.060 --> 00:06:54.197 which, for example,
NOTE Confidence: 0.69485386875

00:06:54.197 --> 00:06:56.471 is when a patient has a
NOTE Confidence: 0.69485386875

00:06:56.471 --> 00:06:58.440 very small tumor burden,
NOTE Confidence: 0.69485386875

00:06:58.440 --> 00:07:00.786 meaning that there's maybe one or

NOTE Confidence: 0.69485386875
00:07:00.786 --> 00:07:03.109 two small tumors within the liver,
NOTE Confidence: 0.69485386875
00:07:03.110 --> 00:07:04.938 and we can go.
NOTE Confidence: 0.69485386875
00:07:04.938 --> 00:07:07.680 With a needle under imaging guidance
NOTE Confidence: 0.69485386875
00:07:07.772 --> 00:07:10.730 and basically burn out the tumor,
NOTE Confidence: 0.69485386875
00:07:10.730 --> 00:07:12.590 unfortunately most patients
NOTE Confidence: 0.69485386875
00:07:12.590 --> 00:07:15.690 don't come in that fashion.
NOTE Confidence: 0.69485386875
00:07:15.690 --> 00:07:16.990 They typically come with
NOTE Confidence: 0.69485386875
00:07:16.990 --> 00:07:17.965 more advanced disease,
NOTE Confidence: 0.69485386875
00:07:17.970 --> 00:07:21.414 such as patients that have multiple liver
NOTE Confidence: 0.69485386875
00:07:21.414 --> 00:07:23.810 lesions scattered throughout their liver,
NOTE Confidence: 0.69485386875
00:07:23.810 --> 00:07:26.096 and in those patients we would
NOTE Confidence: 0.69485386875
00:07:26.096 --> 00:07:28.217 perform what's called a regional
NOTE Confidence: 0.69485386875
00:07:28.217 --> 00:07:30.807 therapy or a transarterial therapy,
NOTE Confidence: 0.69485386875
00:07:30.810 --> 00:07:34.518 where we would sneak a small tube from the.
NOTE Confidence: 0.69485386875
00:07:34.520 --> 00:07:34.846 Artery,
NOTE Confidence: 0.69485386875

00:07:34.846 --> 00:07:36.150 typically in the groin.
NOTE Confidence: 0.69485386875

00:07:36.150 --> 00:07:39.070 A tube which is also called a catheter,
NOTE Confidence: 0.69485386875

00:07:39.070 --> 00:07:42.304 and by doing angiography we can then
NOTE Confidence: 0.69485386875

00:07:42.304 --> 00:07:44.968 localize where the tumors are and
NOTE Confidence: 0.69485386875

00:07:44.968 --> 00:07:47.733 by doing so we can infuse either
NOTE Confidence: 0.69485386875

00:07:47.822 --> 00:07:50.948 chemotherapy or we can infuse radio
NOTE Confidence: 0.69485386875

00:07:50.948 --> 00:07:53.432 radioactive beads and help kill
NOTE Confidence: 0.69485386875

00:07:53.432 --> 00:07:55.784 the the tumors in that fashion.
NOTE Confidence: 0.69485386875

00:07:55.790 --> 00:07:57.065 Now of course.
NOTE Confidence: 0.69485386875

00:07:57.065 --> 00:08:00.711 What we do is typically done within the
NOTE Confidence: 0.69485386875

00:08:00.711 --> 00:08:04.209 auspices of a multidisciplinary tumor board,
NOTE Confidence: 0.69485386875

00:08:04.210 --> 00:08:05.962 so it's not typically that the
NOTE Confidence: 0.69485386875

00:08:05.962 --> 00:08:07.870 patient would come to me directly,
NOTE Confidence: 0.69485386875

00:08:07.870 --> 00:08:09.326 although that does occur,
NOTE Confidence: 0.69485386875

00:08:09.326 --> 00:08:11.510 and we do this within the
NOTE Confidence: 0.69485386875

00:08:11.585 --> 00:08:14.111 setting of a tumor board where

NOTE Confidence: 0.69485386875
00:08:14.111 --> 00:08:15.795 we have a multidisciplinary,
NOTE Confidence: 0.69485386875
00:08:15.800 --> 00:08:18.340 a very large multidisciplinary group,
NOTE Confidence: 0.69485386875
00:08:18.340 --> 00:08:20.395 and they could include surgical
NOTE Confidence: 0.69485386875
00:08:20.395 --> 00:08:23.290 oncologists and that may be colorectal,
NOTE Confidence: 0.69485386875
00:08:23.290 --> 00:08:27.300 hepatobiliary or general surgical oncologist.
NOTE Confidence: 0.69485386875
00:08:27.300 --> 00:08:29.188 We have medical oncologists,
NOTE Confidence: 0.69485386875
00:08:29.188 --> 00:08:31.548 radiologists and that includes both
NOTE Confidence: 0.69485386875
00:08:31.548 --> 00:08:33.290 diagnostic and interventional.
NOTE Confidence: 0.69485386875
00:08:33.290 --> 00:08:36.122 We also have radiation oncologists and
NOTE Confidence: 0.69485386875
00:08:36.122 --> 00:08:38.919 pathologists and many others who are
NOTE Confidence: 0.69485386875
00:08:38.919 --> 00:08:41.824 involved in the management of these patients.
NOTE Confidence: 0.69485386875
00:08:41.830 --> 00:08:45.170 So typically what would happen
NOTE Confidence: 0.69485386875
00:08:45.170 --> 00:08:46.150 is that if a patient,
NOTE Confidence: 0.69485386875
00:08:46.150 --> 00:08:49.528 for example has colorectal liver metastases,
NOTE Confidence: 0.69485386875
00:08:49.530 --> 00:08:51.440 patients would first be evaluated
NOTE Confidence: 0.69485386875

00:08:51.440 --> 00:08:53.920 for what you would consider a quote,
NOTE Confidence: 0.69485386875

00:08:53.920 --> 00:08:55.432 UN quote, curative surgery,
NOTE Confidence: 0.69485386875

00:08:55.432 --> 00:08:57.700 and if they're not able to
NOTE Confidence: 0.69485386875

00:08:57.777 --> 00:08:59.809 have that definitive surgery,
NOTE Confidence: 0.69485386875

00:08:59.810 --> 00:09:02.558 they would most likely be seen
NOTE Confidence: 0.69485386875

00:09:02.558 --> 00:09:04.390 by a medical oncologist,
NOTE Confidence: 0.69485386875

00:09:04.390 --> 00:09:06.194 sometimes with medical oncology
NOTE Confidence: 0.69485386875

00:09:06.194 --> 00:09:07.547 with systemic therapy,
NOTE Confidence: 0.69485386875

00:09:07.550 --> 00:09:10.382 patients can get down staged to
NOTE Confidence: 0.69485386875

00:09:10.382 --> 00:09:12.632 having surgery. That means that.
NOTE Confidence: 0.69485386875

00:09:12.632 --> 00:09:15.168 A patient that would be initially
NOTE Confidence: 0.69485386875

00:09:15.168 --> 00:09:17.670 considered unresectable or not able to
NOTE Confidence: 0.862546502666667

00:09:17.739 --> 00:09:20.280 have surgery could then have their tumors
NOTE Confidence: 0.862546502666667

00:09:20.280 --> 00:09:22.732 treated to a point where the surgeon
NOTE Confidence: 0.862546502666667

00:09:22.732 --> 00:09:25.674 could get out all of the viable tumors.
NOTE Confidence: 0.862546502666667

00:09:25.674 --> 00:09:29.188 There are times when patients have very,

NOTE Confidence: 0.862546502666667
00:09:29.190 --> 00:09:30.905 you know, have a great
NOTE Confidence: 0.862546502666667
00:09:30.905 --> 00:09:31.934 response to chemotherapy.
NOTE Confidence: 0.862546502666667
00:09:31.940 --> 00:09:35.076 However, there may be one or two
NOTE Confidence: 0.862546502666667
00:09:35.076 --> 00:09:37.949 small tumors that are still there,
NOTE Confidence: 0.862546502666667
00:09:37.950 --> 00:09:40.260 and in those cases, we would treat
NOTE Confidence: 0.862546502666667
00:09:40.260 --> 00:09:42.910 the ones that were not responsive to.
NOTE Confidence: 0.862546502666667
00:09:42.910 --> 00:09:44.960 The therapy that was offered
NOTE Confidence: 0.862546502666667
00:09:44.960 --> 00:09:46.600 by the medical oncologists
NOTE Confidence: 0.924534173333333
00:09:46.830 --> 00:09:49.774 so it sounds like you know this is
NOTE Confidence: 0.924534173333333
00:09:49.774 --> 00:09:51.757 really multi disciplinary decision
NOTE Confidence: 0.924534173333333
00:09:51.757 --> 00:09:55.348 making and that patients may still
NOTE Confidence: 0.924534173333333
00:09:55.348 --> 00:09:59.044 require or benefit from surgery and
NOTE Confidence: 0.924534173333333
00:09:59.044 --> 00:10:01.040 chemotherapy but that interventional
NOTE Confidence: 0.924534173333333
00:10:01.040 --> 00:10:04.890 oncology kind of adds yet another option.
NOTE Confidence: 0.924534173333333
00:10:04.890 --> 00:10:06.658 Sometimes something that can
NOTE Confidence: 0.924534173333333

00:10:06.658 --> 00:10:08.950 help to make things resectable,
NOTE Confidence: 0.9245341733333333

00:10:08.950 --> 00:10:13.110 so make surgery easier or may help too.
NOTE Confidence: 0.9245341733333333

00:10:13.110 --> 00:10:14.870 Target the systemic therapy
NOTE Confidence: 0.9245341733333333

00:10:14.870 --> 00:10:17.070 in terms of medical oncology.
NOTE Confidence: 0.9245341733333333

00:10:17.070 --> 00:10:17.640 Is that right?
NOTE Confidence: 0.898074146842105

00:10:18.160 --> 00:10:19.216 That's absolutely correct.
NOTE Confidence: 0.898074146842105

00:10:19.216 --> 00:10:21.997 Now one of the things I want to
NOTE Confidence: 0.898074146842105

00:10:21.997 --> 00:10:23.989 bring up that I guess I did not,
NOTE Confidence: 0.898074146842105

00:10:23.990 --> 00:10:25.698 is that interventional oncology.
NOTE Confidence: 0.898074146842105

00:10:25.698 --> 00:10:28.260 Although we do offer what you
NOTE Confidence: 0.898074146842105

00:10:28.330 --> 00:10:30.190 would call primary therapy,
NOTE Confidence: 0.898074146842105

00:10:30.190 --> 00:10:31.462 that means you're actually
NOTE Confidence: 0.898074146842105

00:10:31.462 --> 00:10:33.370 going in to treat the tumor.
NOTE Confidence: 0.898074146842105

00:10:33.370 --> 00:10:33.864 Specifically,
NOTE Confidence: 0.898074146842105

00:10:33.864 --> 00:10:36.334 interventional oncologists do a whole
NOTE Confidence: 0.898074146842105

00:10:36.334 --> 00:10:39.350 gamut of other types of procedures,

NOTE Confidence: 0.898074146842105

00:10:39.350 --> 00:10:41.525 and these of course include

NOTE Confidence: 0.898074146842105

00:10:41.525 --> 00:10:43.346 image guided biopsy, which.

NOTE Confidence: 0.898074146842105

00:10:43.346 --> 00:10:46.442 Without that may be very difficult

NOTE Confidence: 0.898074146842105

00:10:46.442 --> 00:10:49.688 to even treat a patient at all.

NOTE Confidence: 0.898074146842105

00:10:49.690 --> 00:10:52.754 We also do a lot of the central

NOTE Confidence: 0.898074146842105

00:10:52.754 --> 00:10:53.520 venous access.

NOTE Confidence: 0.898074146842105

00:10:53.520 --> 00:10:55.926 So for example, those patients that

NOTE Confidence: 0.898074146842105

00:10:55.926 --> 00:10:57.530 are getting systemic chemotherapy,

NOTE Confidence: 0.898074146842105

00:10:57.530 --> 00:11:00.290 they get their chemotherapy via a

NOTE Confidence: 0.898074146842105

00:11:00.290 --> 00:11:02.929 port that's placed under the skin,

NOTE Confidence: 0.898074146842105

00:11:02.930 --> 00:11:04.965 and that's done by an

NOTE Confidence: 0.898074146842105

00:11:04.965 --> 00:11:05.779 interventional oncologist.

NOTE Confidence: 0.898074146842105

00:11:05.780 --> 00:11:08.230 And then there's others where we deal

NOTE Confidence: 0.898074146842105

00:11:08.230 --> 00:11:10.910 with either post operative complications,

NOTE Confidence: 0.898074146842105

00:11:10.910 --> 00:11:12.968 such as those that happen during

NOTE Confidence: 0.898074146842105

00:11:12.968 --> 00:11:14.640 surgery or sometimes from the.
NOTE Confidence: 0.898074146842105

00:11:14.640 --> 00:11:15.448 Cancers themselves.
NOTE Confidence: 0.898074146842105

00:11:15.448 --> 00:11:17.468 And that's just really a
NOTE Confidence: 0.898074146842105

00:11:17.468 --> 00:11:20.656 short list of what we do as
NOTE Confidence: 0.898074146842105

00:11:20.656 --> 00:11:21.608 interventional oncologists.
NOTE Confidence: 0.748841485454545

00:11:23.070 --> 00:11:27.788 When you talk about things like doing
NOTE Confidence: 0.748841485454545

00:11:27.788 --> 00:11:31.552 image guided biopsies or putting in a port,
NOTE Confidence: 0.748841485454545

00:11:31.552 --> 00:11:33.292 or perhaps you know draining
NOTE Confidence: 0.748841485454545

00:11:33.292 --> 00:11:35.249 an Abscess after surgery.
NOTE Confidence: 0.748841485454545

00:11:35.250 --> 00:11:37.354 If that's a postoperative
NOTE Confidence: 0.748841485454545

00:11:37.354 --> 00:11:39.870 complication for people who may be
NOTE Confidence: 0.748841485454545

00:11:39.870 --> 00:11:41.860 outside of large academic centers,
NOTE Confidence: 0.748841485454545

00:11:41.860 --> 00:11:45.116 oftentimes that may be done by a radiologist
NOTE Confidence: 0.748841485454545

00:11:45.116 --> 00:11:48.210 or an interventional radiologist.
NOTE Confidence: 0.748841485454545

00:11:48.210 --> 00:11:50.910 But I guess one thing that was kind of
NOTE Confidence: 0.748841485454545

00:11:50.910 --> 00:11:52.866 intriguing that you mentioned is that

NOTE Confidence: 0.748841485454545

00:11:52.870 --> 00:11:56.160 patients can come and see you directly,

NOTE Confidence: 0.748841485454545

00:11:56.160 --> 00:11:58.722 which is not something that we usually

NOTE Confidence: 0.748841485454545

00:11:58.722 --> 00:12:00.630 ascribe to interventional radiologists.

NOTE Confidence: 0.748841485454545

00:12:00.630 --> 00:12:02.499 So tell us a little bit more

NOTE Confidence: 0.748841485454545

00:12:02.499 --> 00:12:05.500 about how that happens.

NOTE Confidence: 0.911072462666667

00:12:05.500 --> 00:12:07.906 Thank you, that's a great question

NOTE Confidence: 0.911072462666667

00:12:07.906 --> 00:12:09.510 and something I definitely

NOTE Confidence: 0.911072462666667

00:12:09.576 --> 00:12:11.216 wanted to bring up today.

NOTE Confidence: 0.911072462666667

00:12:11.220 --> 00:12:12.480 Interventional radiologists are

NOTE Confidence: 0.911072462666667

00:12:12.480 --> 00:12:15.000 similar to any other doctor that

NOTE Confidence: 0.911072462666667

00:12:15.000 --> 00:12:17.339 you would see in a medical office,

NOTE Confidence: 0.911072462666667

00:12:17.340 --> 00:12:19.245 and there are interventional oncologists

NOTE Confidence: 0.911072462666667

00:12:19.245 --> 00:12:22.235 that actually do the same kind of office

NOTE Confidence: 0.911072462666667

00:12:22.235 --> 00:12:24.275 hours as any other medical oncologist.

NOTE Confidence: 0.911072462666667

00:12:24.280 --> 00:12:28.473 I attend pretty much

NOTE Confidence: 0.911072462666667

00:12:28.473 --> 00:12:31.250 four different tumor boards.
NOTE Confidence: 0.911072462666667

00:12:31.250 --> 00:12:33.380 I attend the the lung,
NOTE Confidence: 0.911072462666667

00:12:33.380 --> 00:12:36.740 the gastrointestinal, the genitourinary and
NOTE Confidence: 0.911072462666667

00:12:36.740 --> 00:12:38.846 the primary liver and through
NOTE Confidence: 0.911072462666667

00:12:38.846 --> 00:12:41.072 those I end up getting referrals
NOTE Confidence: 0.911072462666667

00:12:41.072 --> 00:12:44.688 from a lot of the members of the
NOTE Confidence: 0.911072462666667

00:12:44.688 --> 00:12:46.896 the Multidisciplinary tumor Board.
NOTE Confidence: 0.911072462666667

00:12:46.900 --> 00:12:48.085 That being said,
NOTE Confidence: 0.911072462666667

00:12:48.085 --> 00:12:50.455 there are patients that self refer,
NOTE Confidence: 0.911072462666667

00:12:50.460 --> 00:12:53.010 and there are also others throughout
NOTE Confidence: 0.911072462666667

00:12:53.010 --> 00:12:55.208 the Community that also will
NOTE Confidence: 0.911072462666667

00:12:55.208 --> 00:12:57.758 directly refer patients to my office.
NOTE Confidence: 0.911072462666667

00:12:57.760 --> 00:13:00.896 Now I have office hours on Friday mornings,
NOTE Confidence: 0.911072462666667

00:13:00.900 --> 00:13:04.172 so I see about 10 or more patients
NOTE Confidence: 0.911072462666667

00:13:04.172 --> 00:13:06.799 both for primary therapies,
NOTE Confidence: 0.911072462666667

00:13:06.800 --> 00:13:08.576 meaning that they're like new patients.

NOTE Confidence: 0.911072462666667
00:13:08.580 --> 00:13:11.290 And there are others that I see in follow up,
NOTE Confidence: 0.911072462666667
00:13:11.290 --> 00:13:13.754 such as those that have already had
NOTE Confidence: 0.911072462666667
00:13:13.754 --> 00:13:16.394 a procedure and I want to follow them
NOTE Confidence: 0.911072462666667
00:13:16.394 --> 00:13:18.950 with imaging to see if either anymore
NOTE Confidence: 0.911072462666667
00:13:18.950 --> 00:13:21.744 therapy is necessary or if if I
NOTE Confidence: 0.911072462666667
00:13:21.744 --> 00:13:24.518 would send them back to their primary
NOTE Confidence: 0.911072462666667
00:13:24.518 --> 00:13:27.878 oncologist for their further evaluation.
NOTE Confidence: 0.924041291428572
00:13:29.360 --> 00:13:31.838 And so these are like office visits,
NOTE Confidence: 0.924041291428572
00:13:31.840 --> 00:13:34.000 not necessarily the day that you'll
NOTE Confidence: 0.924041291428572
00:13:34.000 --> 00:13:36.224 do the procedure, but they may be
NOTE Confidence: 0.924041291428572
00:13:36.224 --> 00:13:37.654 just consultations that you'll have
NOTE Confidence: 0.924041291428572
00:13:37.654 --> 00:13:39.317 with the patient to talk about.
NOTE Confidence: 0.924041291428572
00:13:39.320 --> 00:13:40.530 The procedure. Is that right?
NOTE Confidence: 0.84342571
00:13:41.310 --> 00:13:42.630 That's exactly correct.
NOTE Confidence: 0.84342571
00:13:42.630 --> 00:13:47.423 It used to be in days gone by that you would
NOTE Confidence: 0.84342571

00:13:47.423 --> 00:13:50.790 really have the patient or the procedure
NOTE Confidence: 0.84342571

00:13:50.882 --> 00:13:54.117 scheduled by the referring physician.
NOTE Confidence: 0.84342571

00:13:54.120 --> 00:13:57.200 And like a technologist or or a technician,
NOTE Confidence: 0.84342571

00:13:57.200 --> 00:13:59.636 you would kind of do the procedure.
NOTE Confidence: 0.84342571

00:13:59.640 --> 00:14:02.670 That they request nowadays because we
NOTE Confidence: 0.84342571

00:14:02.670 --> 00:14:06.619 have so much more breadth of training,
NOTE Confidence: 0.84342571

00:14:06.620 --> 00:14:10.916 which means that I can do oblations and
NOTE Confidence: 0.84342571

00:14:10.920 --> 00:14:12.820 and what you'd call embolization's,
NOTE Confidence: 0.84342571

00:14:12.820 --> 00:14:15.319 which is the one of the transarterial
NOTE Confidence: 0.84342571

00:14:15.319 --> 00:14:16.980 procedures that I perform.
NOTE Confidence: 0.84342571

00:14:16.980 --> 00:14:19.860 I can then decide which one is safer
NOTE Confidence: 0.84342571

00:14:19.860 --> 00:14:22.777 and which one would give a better
NOTE Confidence: 0.84342571

00:14:22.777 --> 00:14:25.813 result than previously it used to be
NOTE Confidence: 0.84342571

00:14:25.813 --> 00:14:28.339 in many institutions that there were,
NOTE Confidence: 0.84342571

00:14:28.340 --> 00:14:29.952 for example, Oblation IST.
NOTE Confidence: 0.84342571

00:14:29.952 --> 00:14:32.370 And those that only did embolization,

NOTE Confidence: 0.84342571

00:14:32.370 --> 00:14:36.066 and depending on where you would be seen,

NOTE Confidence: 0.84342571

00:14:36.070 --> 00:14:38.359 that may alter the type of therapy

NOTE Confidence: 0.84342571

00:14:38.359 --> 00:14:39.970 that you may receive.

NOTE Confidence: 0.84342571

00:14:39.970 --> 00:14:41.060 However, nowadays,

NOTE Confidence: 0.84342571

00:14:41.060 --> 00:14:45.420 with such a global training like I said.

NOTE Confidence: 0.84342571

00:14:45.420 --> 00:14:49.664 I, as the now consultant are able

NOTE Confidence: 0.84342571

00:14:49.664 --> 00:14:51.883 to make that decision on my own.

NOTE Confidence: 0.84342571

00:14:51.890 --> 00:14:52.325 However,

NOTE Confidence: 0.84342571

00:14:52.325 --> 00:14:55.370 I do discuss this in Full disclosure

NOTE Confidence: 0.84342571

00:14:55.370 --> 00:14:58.583 with with the patient and their

NOTE Confidence: 0.84342571

00:14:58.583 --> 00:14:59.715 referring physicians,

NOTE Confidence: 0.84342571

00:14:59.720 --> 00:15:01.204 so we're all on the same page.

NOTE Confidence: 0.828133528482759

00:15:02.370 --> 00:15:04.750 Well, we're going to learn a lot

NOTE Confidence: 0.828133528482759

00:15:04.750 --> 00:15:06.194 more about interventional oncology

NOTE Confidence: 0.828133528482759

00:15:06.194 --> 00:15:08.372 and it's role in colorectal

NOTE Confidence: 0.828133528482759

00:15:08.372 --> 00:15:10.367 cancer right after we take a
NOTE Confidence: 0.828133528482759

00:15:10.367 --> 00:15:12.047 short break for a medical minute.
NOTE Confidence: 0.828133528482759

00:15:12.050 --> 00:15:13.634 Please stay tuned to learn more
NOTE Confidence: 0.828133528482759

00:15:13.634 --> 00:15:15.528 with my guest Doctor David Madoff.
NOTE Confidence: 0.903161645

00:15:16.110 --> 00:15:18.426 Funding for Yale Cancer Answers comes
NOTE Confidence: 0.903161645

00:15:18.426 --> 00:15:20.403 from Smilow Cancer Hospital hosting
NOTE Confidence: 0.903161645

00:15:20.403 --> 00:15:22.647 an event in honor of colorectal
NOTE Confidence: 0.903161645

00:15:22.647 --> 00:15:25.540 Cancer Awareness Month, March 16th.
NOTE Confidence: 0.903161645

00:15:25.540 --> 00:15:28.262 Register at yalecancercenter.org or
NOTE Confidence: 0.903161645

00:15:28.262 --> 00:15:32.680 email cancer answers at yale.edu.
NOTE Confidence: 0.903161645

00:15:32.680 --> 00:15:34.290 There are many obstacles to
NOTE Confidence: 0.903161645

00:15:34.290 --> 00:15:35.578 face when quitting smoking.
NOTE Confidence: 0.903161645

00:15:35.580 --> 00:15:37.440 As smoking involves the potent drug.
NOTE Confidence: 0.903161645

00:15:37.440 --> 00:15:39.705 Nicotine quitting smoking is a
NOTE Confidence: 0.903161645

00:15:39.705 --> 00:15:41.517 very important lifestyle change,
NOTE Confidence: 0.903161645

00:15:41.520 --> 00:15:43.492 especially for patients undergoing

NOTE Confidence: 0.903161645

00:15:43.492 --> 00:15:44.478 cancer treatment,

NOTE Confidence: 0.903161645

00:15:44.480 --> 00:15:46.700 as it's been shown to positively

NOTE Confidence: 0.903161645

00:15:46.700 --> 00:15:48.180 impact response to treatments

NOTE Confidence: 0.903161645

00:15:48.245 --> 00:15:50.455 decrease the likelihood that patients

NOTE Confidence: 0.903161645

00:15:50.455 --> 00:15:52.223 will develop second malignancies

NOTE Confidence: 0.903161645

00:15:52.223 --> 00:15:54.339 and increase rates of survival.

NOTE Confidence: 0.903161645

00:15:54.340 --> 00:15:56.212 Tobacco treatment programs are

NOTE Confidence: 0.903161645

00:15:56.212 --> 00:15:58.552 currently being offered at federally

NOTE Confidence: 0.903161645

00:15:58.552 --> 00:15:59.836 designated Comprehensive cancer

NOTE Confidence: 0.903161645

00:15:59.836 --> 00:16:02.104 centers such as Yale Cancer Center

NOTE Confidence: 0.903161645

00:16:02.104 --> 00:16:04.180 and Smilow Cancer Hospital.

NOTE Confidence: 0.903161645

00:16:04.180 --> 00:16:06.260 All treatment components are evidence

NOTE Confidence: 0.903161645

00:16:06.260 --> 00:16:08.768 based and patients are treated with

NOTE Confidence: 0.903161645

00:16:08.768 --> 00:16:10.934 FDA approved first line medications as

NOTE Confidence: 0.903161645

00:16:10.934 --> 00:16:13.149 well as smoking cessation counseling

NOTE Confidence: 0.903161645

00:16:13.149 --> 00:16:15.814 that stresses appropriate coping skills.
NOTE Confidence: 0.903161645

00:16:15.820 --> 00:16:18.820 More information is available at
NOTE Confidence: 0.903161645

00:16:18.820 --> 00:16:20.113 yalecancercenter.org you're listening
NOTE Confidence: 0.903161645

00:16:20.113 --> 00:16:21.837 to Connecticut Public Radio.
NOTE Confidence: 0.82132196

00:16:23.500 --> 00:16:25.648 Welcome back to Yale Cancer answers.
NOTE Confidence: 0.82132196

00:16:25.650 --> 00:16:28.260 This is doctor Anees Chagpar and I'm joined
NOTE Confidence: 0.82132196

00:16:28.260 --> 00:16:30.744 tonight by my guest Doctor David Madoff.
NOTE Confidence: 0.82132196

00:16:30.744 --> 00:16:33.696 We're learning about the role of
NOTE Confidence: 0.82132196

00:16:33.696 --> 00:16:35.691 interventional oncology in colorectal
NOTE Confidence: 0.82132196

00:16:35.691 --> 00:16:38.200 cancer now, right before the break.
NOTE Confidence: 0.82132196

00:16:38.200 --> 00:16:41.098 David you were talking about the fact
NOTE Confidence: 0.82132196

00:16:41.098 --> 00:16:42.987 that interventional oncology is really
NOTE Confidence: 0.82132196

00:16:42.987 --> 00:16:45.629 evolved as a specialty in and of its own
NOTE Confidence: 0.82132196

00:16:45.629 --> 00:16:48.765 right in that and that you really form
NOTE Confidence: 0.82132196

00:16:48.765 --> 00:16:51.600 a part of this multidisciplinary team,
NOTE Confidence: 0.82132196

00:16:51.600 --> 00:16:53.292 you consult with patients.

NOTE Confidence: 0.82132196

00:16:53.292 --> 00:16:57.015 And and are able to kind of decide

NOTE Confidence: 0.82132196

00:16:57.015 --> 00:16:58.659 what interventional oncology

NOTE Confidence: 0.82132196

00:16:58.659 --> 00:17:01.900 treatment might be best for them.

NOTE Confidence: 0.82132196

00:17:01.900 --> 00:17:04.777 Now, right before the break you were

NOTE Confidence: 0.82132196

00:17:04.777 --> 00:17:07.610 talking about two particular interventions,

NOTE Confidence: 0.82132196

00:17:07.610 --> 00:17:10.432 one called ablation and

NOTE Confidence: 0.82132196

00:17:10.432 --> 00:17:11.698 another called embolization,

NOTE Confidence: 0.82132196

00:17:11.698 --> 00:17:15.319 both of which could be used for liver

NOTE Confidence: 0.82132196

00:17:15.319 --> 00:17:17.339 metastases for colorectal cancer,

NOTE Confidence: 0.82132196

00:17:17.340 --> 00:17:18.978 and I was hoping that you could

NOTE Confidence: 0.82132196

00:17:18.978 --> 00:17:20.799 delve a little bit deeper into that.

NOTE Confidence: 0.82132196

00:17:20.800 --> 00:17:22.732 Tell us what the differences are

NOTE Confidence: 0.82132196

00:17:22.732 --> 00:17:24.290 between those two techniques and.

NOTE Confidence: 0.82132196

00:17:24.290 --> 00:17:26.504 Who might be right for one or the other?

NOTE Confidence: 0.82132196

00:17:26.510 --> 00:17:28.046 How do you make those decisions?

NOTE Confidence: 0.78616686

00:17:29.650 --> 00:17:31.322 Well, that's a great
NOTE Confidence: 0.78616686

00:17:31.322 --> 00:17:33.248 question and they're very,
NOTE Confidence: 0.78616686

00:17:33.248 --> 00:17:35.968 very different types of procedures.
NOTE Confidence: 0.78616686

00:17:35.970 --> 00:17:39.120 Ablation is where you take a
NOTE Confidence: 0.78616686

00:17:39.120 --> 00:17:41.952 needle and you directly puncture
NOTE Confidence: 0.78616686

00:17:41.952 --> 00:17:45.067 into the liver from outside.
NOTE Confidence: 0.78616686

00:17:45.070 --> 00:17:47.150 These procedures are typically
NOTE Confidence: 0.78616686

00:17:47.150 --> 00:17:49.230 done under general anesthesia.
NOTE Confidence: 0.78616686

00:17:49.230 --> 00:17:50.987 At least that's how I do them.
NOTE Confidence: 0.78616686

00:17:50.990 --> 00:17:53.120 Although I did say earlier that
NOTE Confidence: 0.78616686

00:17:53.120 --> 00:17:55.641 many of the procedures that we do
NOTE Confidence: 0.78616686

00:17:55.641 --> 00:17:57.351 offer are under moderate sedation
NOTE Confidence: 0.78616686

00:17:57.351 --> 00:17:59.360 and not general anesthesia.
NOTE Confidence: 0.78616686

00:17:59.360 --> 00:18:01.970 However, for this particular one,
NOTE Confidence: 0.78616686

00:18:01.970 --> 00:18:05.000 because we are heating up the
NOTE Confidence: 0.78616686

00:18:05.000 --> 00:18:06.730 tumors to a very high temperature,

NOTE Confidence: 0.78616686

00:18:06.730 --> 00:18:08.454 and that's usually around

NOTE Confidence: 0.78616686

00:18:08.454 --> 00:18:09.747 100 degrees Celsius,

NOTE Confidence: 0.78616686

00:18:09.750 --> 00:18:11.802 I feel more comfortable and the

NOTE Confidence: 0.78616686

00:18:11.802 --> 00:18:13.580 patient probably would feel more

NOTE Confidence: 0.78616686

00:18:13.580 --> 00:18:15.668 comfortable not being awake for this.

NOTE Confidence: 0.78616686

00:18:15.670 --> 00:18:18.810 So typically patients that are

NOTE Confidence: 0.78616686

00:18:18.810 --> 00:18:21.322 candidates for thermal ablation.

NOTE Confidence: 0.78616686

00:18:21.330 --> 00:18:24.010 Include those that have

NOTE Confidence: 0.78616686

00:18:24.010 --> 00:18:26.690 very small volume disease.

NOTE Confidence: 0.78616686

00:18:26.690 --> 00:18:29.410 That means that a patient

NOTE Confidence: 0.78616686

00:18:29.410 --> 00:18:32.130 that has maybe 1 tumor,

NOTE Confidence: 0.78616686

00:18:32.130 --> 00:18:34.998 maybe one or two centimeters in

NOTE Confidence: 0.78616686

00:18:34.998 --> 00:18:37.330 diameter within the liver that

NOTE Confidence: 0.78616686

00:18:37.330 --> 00:18:39.110 really needs to be treated.

NOTE Confidence: 0.78616686

00:18:39.110 --> 00:18:41.480 Medical oncology or systemic chemotherapy

NOTE Confidence: 0.78616686

00:18:41.480 --> 00:18:44.870 may be very hard on the patient,
NOTE Confidence: 0.78616686

00:18:44.870 --> 00:18:46.585 and patients can often have
NOTE Confidence: 0.78616686

00:18:46.585 --> 00:18:48.950 what we call a chemo holiday.
NOTE Confidence: 0.78616686

00:18:48.950 --> 00:18:50.696 Alternatively a patient.
NOTE Confidence: 0.78616686

00:18:50.696 --> 00:18:54.770 May need surgery and depending on the
NOTE Confidence: 0.78616686

00:18:54.872 --> 00:18:58.302 location of the lesion would require
NOTE Confidence: 0.78616686

00:18:58.302 --> 00:19:03.750 a very large surgery so we would instead.
NOTE Confidence: 0.78616686

00:19:03.750 --> 00:19:05.250 Just like I said,
NOTE Confidence: 0.78616686

00:19:05.250 --> 00:19:06.750 directly puncture into the
NOTE Confidence: 0.78616686

00:19:06.750 --> 00:19:08.728 liver under imaging guidance or
NOTE Confidence: 0.78616686

00:19:08.728 --> 00:19:11.050 whether it be ultrasound or cat.
NOTE Confidence: 0.78616686

00:19:11.050 --> 00:19:15.850 Scan and target the tumor and burn it.
NOTE Confidence: 0.78616686

00:19:15.850 --> 00:19:18.349 Now there's multiple ways you can do
NOTE Confidence: 0.78616686

00:19:18.349 --> 00:19:20.550 it with different types of energy.
NOTE Confidence: 0.78616686

00:19:20.550 --> 00:19:22.428 They include radiofrequency,
NOTE Confidence: 0.78616686

00:19:22.428 --> 00:19:26.184 which is the original energy microwave.

NOTE Confidence: 0.78616686
00:19:26.190 --> 00:19:27.852 There's also cryoablation,
NOTE Confidence: 0.78616686
00:19:27.852 --> 00:19:30.622 and now there's what's called
NOTE Confidence: 0.78616686
00:19:30.622 --> 00:19:31.730 irreversible electroporation
NOTE Confidence: 0.78616686
00:19:31.802 --> 00:19:33.758 or IRI where you can actually.
NOTE Confidence: 0.78616686
00:19:33.760 --> 00:19:36.540 Electrocute the tumor is,
NOTE Confidence: 0.78616686
00:19:36.540 --> 00:19:37.930 interestingly enough,
NOTE Confidence: 0.78616686
00:19:37.930 --> 00:19:40.835 the one that we typically use nowadays
NOTE Confidence: 0.78616686
00:19:40.835 --> 00:19:43.890 would be would be microwave ablation.
NOTE Confidence: 0.78616686
00:19:43.890 --> 00:19:44.285 Now,
NOTE Confidence: 0.78616686
00:19:44.285 --> 00:19:46.260 after the procedure is over,
NOTE Confidence: 0.78616686
00:19:46.260 --> 00:19:48.184 I typically do a.
NOTE Confidence: 0.78616686
00:19:48.184 --> 00:19:51.070 I typically do a contrast enhanced
NOTE Confidence: 0.78616686
00:19:51.162 --> 00:19:53.814 cat scan to make sure that
NOTE Confidence: 0.78616686
00:19:53.814 --> 00:19:55.960 the entire tumor was treated,
NOTE Confidence: 0.78616686
00:19:55.960 --> 00:19:57.600 and like I said,
NOTE Confidence: 0.78616686

00:19:57.600 --> 00:19:59.934 we would see the patients back
NOTE Confidence: 0.78616686

00:19:59.934 --> 00:20:02.080 in about about a month.
NOTE Confidence: 0.78616686

00:20:02.080 --> 00:20:04.072 Embolization is very different.
NOTE Confidence: 0.78616686

00:20:04.072 --> 00:20:06.562 Embolization is where you're most
NOTE Confidence: 0.78616686

00:20:06.562 --> 00:20:09.166 likely trying to treat a region of
NOTE Confidence: 0.78616686

00:20:09.166 --> 00:20:11.630 the liver rather than one small area.
NOTE Confidence: 0.78616686

00:20:11.630 --> 00:20:14.678 Most patients that I see have what you
NOTE Confidence: 0.78616686

00:20:14.678 --> 00:20:17.707 would call by low bar liver metastases,
NOTE Confidence: 0.78616686

00:20:17.710 --> 00:20:19.895 meaning that they have lesions
NOTE Confidence: 0.78616686

00:20:19.895 --> 00:20:21.206 within both sides,
NOTE Confidence: 0.78616686

00:20:21.210 --> 00:20:24.486 or both halves of the liver.
NOTE Confidence: 0.78616686

00:20:24.490 --> 00:20:26.010 These procedures are typically
NOTE Confidence: 0.78616686

00:20:26.010 --> 00:20:27.910 done with a tiny incision,
NOTE Confidence: 0.78616686

00:20:27.910 --> 00:20:31.526 usually a couple of millimeters in the groin,
NOTE Confidence: 0.78616686

00:20:31.530 --> 00:20:34.498 and we snake a small tube or catheter.
NOTE Confidence: 0.78616686

00:20:34.500 --> 00:20:38.217 Into the artery which is in the groin

NOTE Confidence: 0.78616686

00:20:38.217 --> 00:20:40.552 and we sneak it up into the artery

NOTE Confidence: 0.78616686

00:20:40.552 --> 00:20:43.410 that supplies the the liver and we

NOTE Confidence: 0.78616686

00:20:43.410 --> 00:20:46.716 then do a series of angiograms and

NOTE Confidence: 0.78616686

00:20:46.716 --> 00:20:49.452 we can determine whether or not

NOTE Confidence: 0.78616686

00:20:49.452 --> 00:20:52.138 these tumors are hyper or hypo.

NOTE Confidence: 0.78616686

00:20:52.140 --> 00:20:53.751 Vascular hypervascular means

NOTE Confidence: 0.78616686

00:20:53.751 --> 00:20:55.899 that they're very vascular.

NOTE Confidence: 0.78616686

00:20:55.900 --> 00:20:58.520 Hypervascular means that they're less

NOTE Confidence: 0.78616686

00:20:58.520 --> 00:21:01.140 vascular than the surrounding liver,

NOTE Confidence: 0.78616686

00:21:01.140 --> 00:21:04.884 and by doing this we can then infuse.

NOTE Confidence: 0.78616686

00:21:04.890 --> 00:21:07.466 Like I said, whether it be chemotherapy,

NOTE Confidence: 0.78616686

00:21:07.470 --> 00:21:10.350 we can do a procedure called

NOTE Confidence: 0.78616686

00:21:10.350 --> 00:21:12.201 chemoembolization where we mix

NOTE Confidence: 0.78616686

00:21:12.201 --> 00:21:14.256 chemotherapy with an agent that

NOTE Confidence: 0.78616686

00:21:14.256 --> 00:21:16.480 then blocks the blood supply.

NOTE Confidence: 0.78616686

00:21:16.480 --> 00:21:19.392 Or we can do a procedure called
NOTE Confidence: 0.78616686

00:21:19.392 --> 00:21:20.224 radio embolization,
NOTE Confidence: 0.804308340909091

00:21:20.230 --> 00:21:23.295 where there's small microspheres that
NOTE Confidence: 0.804308340909091

00:21:23.295 --> 00:21:27.070 are impregnated with a radiation source.
NOTE Confidence: 0.804308340909091

00:21:27.070 --> 00:21:30.586 Usually this source is yttrium 90.
NOTE Confidence: 0.804308340909091

00:21:30.590 --> 00:21:32.334 I don't want to get into all the
NOTE Confidence: 0.804308340909091

00:21:32.334 --> 00:21:35.190 details about the how that works, but.
NOTE Confidence: 0.804308340909091

00:21:35.190 --> 00:21:38.207 By and large, we infuse the material
NOTE Confidence: 0.804308340909091

00:21:38.207 --> 00:21:41.435 into the liver and because the
NOTE Confidence: 0.804308340909091

00:21:41.435 --> 00:21:43.899 tumors are typically hypervascular,
NOTE Confidence: 0.804308340909091

00:21:43.900 --> 00:21:47.106 they soak up the beads or microspheres
NOTE Confidence: 0.804308340909091

00:21:47.106 --> 00:21:50.600 and treat the tumor without too much.
NOTE Confidence: 0.804308340909091

00:21:50.600 --> 00:21:53.740 What you would call nontarget
NOTE Confidence: 0.804308340909091

00:21:53.740 --> 00:21:54.693 embolization now.
NOTE Confidence: 0.804308340909091

00:21:54.693 --> 00:21:56.631 Like I said, both of these
NOTE Confidence: 0.804308340909091

00:21:56.631 --> 00:21:58.775 procedures that I mentioned ablation

NOTE Confidence: 0.804308340909091
00:21:58.775 --> 00:22:00.975 and radio or chemoembolization,
NOTE Confidence: 0.804308340909091
00:22:00.980 --> 00:22:04.268 are done typically as outpatient procedures.
NOTE Confidence: 0.804308340909091
00:22:04.270 --> 00:22:06.566 The latter procedure that I talked about.
NOTE Confidence: 0.804308340909091
00:22:06.570 --> 00:22:08.570 Embolization is typically done
NOTE Confidence: 0.804308340909091
00:22:08.570 --> 00:22:10.070 with moderate sedation,
NOTE Confidence: 0.804308340909091
00:22:10.070 --> 00:22:13.080 and I think that these procedures typically
NOTE Confidence: 0.804308340909091
00:22:13.080 --> 00:22:16.167 work very well in keeping the cheap
NOTE Confidence: 0.804308340909091
00:22:16.167 --> 00:22:18.747 and keeping the tumors under control.
NOTE Confidence: 0.838353171111111
00:22:20.020 --> 00:22:22.480 And so have they been
NOTE Confidence: 0.838353171111111
00:22:22.480 --> 00:22:24.448 shown to improve survival?
NOTE Confidence: 0.9231666425
00:22:25.630 --> 00:22:27.245 Well, the answer to that
NOTE Confidence: 0.9231666425
00:22:27.245 --> 00:22:29.469 question is still up in the air.
NOTE Confidence: 0.9231666425
00:22:29.470 --> 00:22:32.742 I would say the answer is yes in
NOTE Confidence: 0.9231666425
00:22:32.742 --> 00:22:34.310 appropriately selected patients.
NOTE Confidence: 0.9231666425
00:22:34.310 --> 00:22:36.615 Now there are prospective clinical
NOTE Confidence: 0.9231666425

00:22:36.615 --> 00:22:39.397 trials that do show the benefit
NOTE Confidence: 0.9231666425

00:22:39.397 --> 00:22:42.517 of a of this in the setting of
NOTE Confidence: 0.9231666425

00:22:42.517 --> 00:22:44.339 colorectal liver metastases,
NOTE Confidence: 0.9231666425

00:22:44.340 --> 00:22:48.113 where the tumors did not progress OK.
NOTE Confidence: 0.9231666425

00:22:48.113 --> 00:22:50.128 However, it within the liver.
NOTE Confidence: 0.9231666425

00:22:50.130 --> 00:22:54.240 However, there are a lot more.
NOTE Confidence: 0.9231666425

00:22:54.240 --> 00:22:56.550 There are a lot more reasons
NOTE Confidence: 0.9231666425

00:22:56.550 --> 00:22:58.571 why patients fail than simply
NOTE Confidence: 0.9231666425

00:22:58.571 --> 00:23:00.965 what you did within the liver.
NOTE Confidence: 0.9231666425

00:23:00.970 --> 00:23:03.256 Now it is important to understand
NOTE Confidence: 0.9231666425

00:23:03.256 --> 00:23:05.940 that when most patients fail and I
NOTE Confidence: 0.9231666425

00:23:05.940 --> 00:23:08.810 would say that 2/3 of patients with
NOTE Confidence: 0.9231666425

00:23:08.810 --> 00:23:10.935 metastatic colon cancer actually do
NOTE Confidence: 0.9231666425

00:23:10.935 --> 00:23:13.433 have involvement within the liver and
NOTE Confidence: 0.9231666425

00:23:13.433 --> 00:23:16.417 it is the liver that is where patients
NOTE Confidence: 0.9231666425

00:23:16.417 --> 00:23:18.550 actually succumb to the disease.

NOTE Confidence: 0.9231666425

00:23:18.550 --> 00:23:21.376 So we typically do these in

NOTE Confidence: 0.9231666425

00:23:21.376 --> 00:23:23.260 combination with other therapies,

NOTE Confidence: 0.9231666425

00:23:23.260 --> 00:23:26.305 so there are confounding variables in there.

NOTE Confidence: 0.9231666425

00:23:26.310 --> 00:23:27.678 So patients are already.

NOTE Confidence: 0.9231666425

00:23:27.678 --> 00:23:30.435 Like I said, getting systemic chemotherapy,

NOTE Confidence: 0.9231666425

00:23:30.435 --> 00:23:33.310 they may be on biological

NOTE Confidence: 0.9231666425

00:23:33.310 --> 00:23:35.750 therapy or immunotherapy,

NOTE Confidence: 0.9231666425

00:23:35.750 --> 00:23:37.958 and there's a lot of work seem to

NOTE Confidence: 0.9231666425

00:23:37.958 --> 00:23:40.514 be done on combining the different

NOTE Confidence: 0.9231666425

00:23:40.514 --> 00:23:41.966 interventional oncology techniques

NOTE Confidence: 0.9231666425

00:23:41.966 --> 00:23:45.051 with a lot of systemic techniques

NOTE Confidence: 0.9231666425

00:23:45.051 --> 00:23:47.127 in prospective clinical trials.

NOTE Confidence: 0.864494209230769

00:23:48.610 --> 00:23:50.188 Yeah, that's what that's what I

NOTE Confidence: 0.864494209230769

00:23:50.188 --> 00:23:51.958 was going to ask you next is,

NOTE Confidence: 0.864494209230769

00:23:51.960 --> 00:23:54.633 it sounds to me like this is an area

NOTE Confidence: 0.864494209230769

00:23:54.633 --> 00:23:57.312 ripe for research where you know we
NOTE Confidence: 0.864494209230769

00:23:57.312 --> 00:24:00.667 could really study the the impact of
NOTE Confidence: 0.864494209230769

00:24:00.667 --> 00:24:02.407 various interventional techniques,
NOTE Confidence: 0.864494209230769

00:24:02.410 --> 00:24:05.476 especially in a world where we seem
NOTE Confidence: 0.864494209230769

00:24:05.476 --> 00:24:08.470 to be trying to deescalate therapy.
NOTE Confidence: 0.864494209230769

00:24:08.470 --> 00:24:11.555 That is to say, to instead of
NOTE Confidence: 0.864494209230769

00:24:11.555 --> 00:24:14.525 using kind of a shotgun approach,
NOTE Confidence: 0.864494209230769

00:24:14.530 --> 00:24:18.324 be much more targeted trying to minimize.
NOTE Confidence: 0.864494209230769

00:24:18.330 --> 00:24:19.940 Side effects and so on.
NOTE Confidence: 0.864494209230769

00:24:19.940 --> 00:24:22.298 So tell us a little bit more about the
NOTE Confidence: 0.864494209230769

00:24:22.298 --> 00:24:24.042 future of interventional oncology and
NOTE Confidence: 0.864494209230769

00:24:24.042 --> 00:24:26.831 some of the exciting work that might be
NOTE Confidence: 0.864494209230769

00:24:26.831 --> 00:24:29.207 going on in terms of advancing this field.
NOTE Confidence: 0.872748308461538

00:24:29.920 --> 00:24:31.966 Yeah, so that's a great question
NOTE Confidence: 0.872748308461538

00:24:31.966 --> 00:24:34.599 and I love to talk about this.
NOTE Confidence: 0.872748308461538

00:24:34.600 --> 00:24:38.114 Let's just say that there are continuously

NOTE Confidence: 0.872748308461538

00:24:38.114 --> 00:24:41.411 being advances in both medical device

NOTE Confidence: 0.872748308461538

00:24:41.411 --> 00:24:44.813 technology as well as imaging technology,

NOTE Confidence: 0.872748308461538

00:24:44.820 --> 00:24:47.123 and that helps us with better target

NOTE Confidence: 0.872748308461538

00:24:47.123 --> 00:24:49.398 the therapy as well as helping us.

NOTE Confidence: 0.872748308461538

00:24:49.400 --> 00:24:53.156 Guide and treat the tumors better,

NOTE Confidence: 0.872748308461538

00:24:53.160 --> 00:24:54.910 whether it be larger size,

NOTE Confidence: 0.872748308461538

00:24:54.910 --> 00:24:56.401 ablation zones, etc.

NOTE Confidence: 0.872748308461538

00:24:56.401 --> 00:24:59.880 Now, in terms of really the future,

NOTE Confidence: 0.872748308461538

00:24:59.880 --> 00:25:03.105 there's always a discussion on

NOTE Confidence: 0.872748308461538

00:25:03.105 --> 00:25:05.685 artificial intelligence which can

NOTE Confidence: 0.872748308461538

00:25:05.690 --> 00:25:07.438 help in interventional radiology.

NOTE Confidence: 0.872748308461538

00:25:07.438 --> 00:25:10.635 It used to be thought that artificial

NOTE Confidence: 0.872748308461538

00:25:10.635 --> 00:25:13.145 intelligence was only for diagnostic

NOTE Confidence: 0.872748308461538

00:25:13.145 --> 00:25:16.249 imaging and trying to determine or

NOTE Confidence: 0.872748308461538

00:25:16.249 --> 00:25:19.900 understand or diagnose tumors on an image.

NOTE Confidence: 0.872748308461538

00:25:19.900 --> 00:25:22.542 However, we are now able to assess
NOTE Confidence: 0.872748308461538

00:25:22.542 --> 00:25:24.411 imaging features that then can
NOTE Confidence: 0.872748308461538

00:25:24.411 --> 00:25:26.371 predict which patients will respond
NOTE Confidence: 0.872748308461538

00:25:26.371 --> 00:25:29.028 to the therapy and which will not,
NOTE Confidence: 0.872748308461538

00:25:29.030 --> 00:25:31.242 and therefore if we can make a
NOTE Confidence: 0.872748308461538

00:25:31.242 --> 00:25:33.268 prediction of which will not weaken,
NOTE Confidence: 0.872748308461538

00:25:33.270 --> 00:25:35.270 then switch the therapies earlier
NOTE Confidence: 0.872748308461538

00:25:35.270 --> 00:25:38.089 in the patient course and maybe give
NOTE Confidence: 0.872748308461538

00:25:38.089 --> 00:25:40.327 them a better chance of survival.
NOTE Confidence: 0.872748308461538

00:25:40.330 --> 00:25:43.260 I think that's one really
NOTE Confidence: 0.872748308461538

00:25:43.260 --> 00:25:44.918 important research area.
NOTE Confidence: 0.872748308461538

00:25:44.918 --> 00:25:46.520 There are others.
NOTE Confidence: 0.872748308461538

00:25:46.520 --> 00:25:47.741 As I mentioned,
NOTE Confidence: 0.872748308461538

00:25:47.741 --> 00:25:49.776 advancing technology we're now involved.
NOTE Confidence: 0.872748308461538

00:25:49.780 --> 00:25:52.685 With robotics and I know that sounds
NOTE Confidence: 0.872748308461538

00:25:52.685 --> 00:25:55.799 like more of a surgery type thing,

NOTE Confidence: 0.872748308461538

00:25:55.800 --> 00:25:58.144 but there's been a lot of interest in

NOTE Confidence: 0.872748308461538

00:25:58.144 --> 00:26:00.590 the past few years on interventional

NOTE Confidence: 0.872748308461538

00:26:00.590 --> 00:26:02.378 radiology treatments and using

NOTE Confidence: 0.872748308461538

00:26:02.378 --> 00:26:04.666 robotics to quickly guide the needle

NOTE Confidence: 0.872748308461538

00:26:04.666 --> 00:26:06.943 into the tumors and make it much

NOTE Confidence: 0.872748308461538

00:26:06.943 --> 00:26:09.207 more safe as well as we talked about

NOTE Confidence: 0.872748308461538

00:26:09.207 --> 00:26:11.873 being in a location where you may

NOTE Confidence: 0.872748308461538

00:26:11.873 --> 00:26:13.417 not have interventional oncologists,

NOTE Confidence: 0.872748308461538

00:26:13.420 --> 00:26:17.532 you may be able to further democratize the

NOTE Confidence: 0.872748308461538

00:26:17.532 --> 00:26:20.869 techniques such as biopsies or oblations.

NOTE Confidence: 0.872748308461538

00:26:20.870 --> 00:26:22.670 And then of course,

NOTE Confidence: 0.872748308461538

00:26:22.670 --> 00:26:25.370 we're always involved in discussing

NOTE Confidence: 0.872748308461538

00:26:25.370 --> 00:26:26.946 augmented and virtual reality,

NOTE Confidence: 0.872748308461538

00:26:26.946 --> 00:26:28.916 and that's also something that

NOTE Confidence: 0.872748308461538

00:26:28.916 --> 00:26:31.420 is coming down the Pike in

NOTE Confidence: 0.872748308461538

00:26:31.420 --> 00:26:32.644 interventional radiology now.
NOTE Confidence: 0.872748308461538

00:26:32.650 --> 00:26:34.220 There's also other interesting research
NOTE Confidence: 0.872748308461538

00:26:34.220 --> 00:26:36.510 we kind of mentioned doing immunotherapy,
NOTE Confidence: 0.872748308461538

00:26:36.510 --> 00:26:38.782 combined with transarterial therapies
NOTE Confidence: 0.872748308461538

00:26:38.782 --> 00:26:41.054 such as radio embolization,
NOTE Confidence: 0.872748308461538

00:26:41.060 --> 00:26:42.964 will probably be doing that at Yale
NOTE Confidence: 0.872748308461538

00:26:42.964 --> 00:26:44.708 at sometime in the near future.
NOTE Confidence: 0.872748308461538

00:26:44.710 --> 00:26:47.458 We're also involved in a clinical
NOTE Confidence: 0.872748308461538

00:26:47.458 --> 00:26:49.950 trial right now called Dragon,
NOTE Confidence: 0.872748308461538

00:26:49.950 --> 00:26:52.316 in which we're looking at ways to.
NOTE Confidence: 0.872748308461538

00:26:52.320 --> 00:26:55.608 Rapidly regenerate the liver so that
NOTE Confidence: 0.872748308461538

00:26:55.608 --> 00:26:59.490 patients can have surgery and not necessary,
NOTE Confidence: 0.872748308461538

00:26:59.490 --> 00:27:02.591 or have a better opportunity to have
NOTE Confidence: 0.872748308461538

00:27:02.591 --> 00:27:04.658 surgery with less complications
NOTE Confidence: 0.872748308461538

00:27:04.658 --> 00:27:07.938 and less prolonged recovery times.
NOTE Confidence: 0.872748308461538

00:27:07.940 --> 00:27:09.740 So that's another study that we're

NOTE Confidence: 0.872748308461538

00:27:09.740 --> 00:27:11.390 currently working on here at Yale.

NOTE Confidence: 0.909404534285714

00:27:12.690 --> 00:27:15.799 And so as we think about these technologies,

NOTE Confidence: 0.909404534285714

00:27:15.799 --> 00:27:18.793 especially the newer ones that you

NOTE Confidence: 0.909404534285714

00:27:18.793 --> 00:27:21.459 mentioned using robotics and virtual

NOTE Confidence: 0.909404534285714

00:27:21.459 --> 00:27:23.647 reality and artificial intelligence.

NOTE Confidence: 0.909404534285714

00:27:23.650 --> 00:27:25.400 All of that sounds really

NOTE Confidence: 0.909404534285714

00:27:25.400 --> 00:27:26.800 cool and cutting edge.

NOTE Confidence: 0.909404534285714

00:27:26.800 --> 00:27:28.844 And anytime we think about cool and

NOTE Confidence: 0.909404534285714

00:27:28.844 --> 00:27:31.540 cutting edge, we also think about cost.

NOTE Confidence: 0.909404534285714

00:27:31.540 --> 00:27:34.645 So can you tell us a little bit more

NOTE Confidence: 0.909404534285714

00:27:34.645 --> 00:27:37.352 about whether these technologies are

NOTE Confidence: 0.909404534285714

00:27:37.352 --> 00:27:40.760 covered by most people's insurance is.

NOTE Confidence: 0.909404534285714

00:27:40.760 --> 00:27:42.268 And and the cost?

NOTE Confidence: 0.811873306666667

00:27:42.980 --> 00:27:45.440 Well, that's actually a great question,

NOTE Confidence: 0.811873306666667

00:27:45.440 --> 00:27:47.500 and again, it's something that

NOTE Confidence: 0.811873306666667

00:27:47.500 --> 00:27:49.560 we're still working out now.
NOTE Confidence: 0.811873306666667

00:27:49.560 --> 00:27:51.174 Robotics for example.
NOTE Confidence: 0.811873306666667

00:27:51.174 --> 00:27:54.698 I don't believe that that this is
NOTE Confidence: 0.811873306666667

00:27:54.698 --> 00:27:57.481 a procedure that's built for OK.
NOTE Confidence: 0.811873306666667

00:27:57.481 --> 00:27:59.986 However, it does increase the
NOTE Confidence: 0.811873306666667

00:27:59.986 --> 00:28:02.895 throughput and workflow of an
NOTE Confidence: 0.811873306666667

00:28:02.895 --> 00:28:05.340 interventional radiology department,
NOTE Confidence: 0.811873306666667

00:28:05.340 --> 00:28:09.198 so you really do get many
NOTE Confidence: 0.811873306666667

00:28:09.198 --> 00:28:11.088 more patients to be treated.
NOTE Confidence: 0.811873306666667

00:28:11.090 --> 00:28:15.224 In a or diagnosed with a
NOTE Confidence: 0.811873306666667

00:28:15.224 --> 00:28:17.980 much more rapid timeframe.
NOTE Confidence: 0.811873306666667

00:28:17.980 --> 00:28:21.459 The others are still in research development,
NOTE Confidence: 0.811873306666667

00:28:21.460 --> 00:28:24.904 so I would say that a lot of that
NOTE Confidence: 0.811873306666667

00:28:24.904 --> 00:28:26.659 is actually covered by research.
NOTE Confidence: 0.811873306666667

00:28:26.660 --> 00:28:28.907 I wouldn't say that it would actually
NOTE Confidence: 0.811873306666667

00:28:28.907 --> 00:28:30.490 go through insurance companies.

NOTE Confidence: 0.823943347619048
00:28:31.000 --> 00:28:33.358 Doctor David Madoff is a professor
NOTE Confidence: 0.823943347619048
00:28:33.358 --> 00:28:34.930 of radiology and biomedical
NOTE Confidence: 0.823943347619048
00:28:35.000 --> 00:28:36.680 imaging and of medical oncology
NOTE Confidence: 0.823943347619048
00:28:36.680 --> 00:28:39.000 at the Yale School of Medicine.
NOTE Confidence: 0.823943347619048
00:28:39.000 --> 00:28:41.056 If you have questions,
NOTE Confidence: 0.823943347619048
00:28:41.056 --> 00:28:43.049 the address is canceranswers@yale.edu
NOTE Confidence: 0.823943347619048
00:28:43.049 --> 00:28:45.743 and past editions of the program
NOTE Confidence: 0.823943347619048
00:28:45.743 --> 00:28:48.095 are available in audio and written
NOTE Confidence: 0.823943347619048
00:28:48.095 --> 00:28:49.038 form at yalecancercenter.org.
NOTE Confidence: 0.823943347619048
00:28:49.038 --> 00:28:51.582 We hope you'll join us next week to
NOTE Confidence: 0.823943347619048
00:28:51.582 --> 00:28:53.523 learn more about the fight against
NOTE Confidence: 0.823943347619048
00:28:53.523 --> 00:28:55.088 cancer here on Connecticut Public
NOTE Confidence: 0.823943347619048
00:28:55.145 --> 00:28:56.933 radio funding for Yale Cancer Answers
NOTE Confidence: 0.823943347619048
00:28:56.933 --> 00:29:00.000 is provided by Smilow Cancer Hospital.