

WEBVTT

00:00:00.000 --> 00:00:02.148 Funding for Yale Cancer Answers is

NOTE Confidence: 0.800132082727273

00:00:02.148 --> 00:00:04.180 provided by Smilow Cancer Hospital.

NOTE Confidence: 0.81743859125

00:00:06.190 --> 00:00:08.092 Welcome to Yale Cancer Answers with

NOTE Confidence: 0.81743859125

00:00:08.092 --> 00:00:10.035 your host, doctor Anees Chagpar.

NOTE Confidence: 0.81743859125

00:00:10.035 --> 00:00:11.775 Yale Cancer Answers features

NOTE Confidence: 0.81743859125

00:00:11.775 --> 00:00:13.898 the latest information on cancer

NOTE Confidence: 0.81743859125

00:00:13.898 --> 00:00:15.778 care by welcoming oncologists and

NOTE Confidence: 0.81743859125

00:00:15.778 --> 00:00:17.898 specialists who are in the forefront

NOTE Confidence: 0.81743859125

00:00:17.898 --> 00:00:19.764 of the battle to fight cancer.

NOTE Confidence: 0.81743859125

00:00:19.770 --> 00:00:22.122 This week it's a conversation about

NOTE Confidence: 0.81743859125

00:00:22.122 --> 00:00:24.110 innovations in the diagnosis of

NOTE Confidence: 0.81743859125

00:00:24.110 --> 00:00:25.885 lung cancer with Doctor Sanket

NOTE Confidence: 0.81743859125

00:00:25.885 --> 00:00:27.305 Thakore and Kyle Bramley.

NOTE Confidence: 0.81743859125

00:00:27.310 --> 00:00:28.925 Doctor Bramley is an assistant

NOTE Confidence: 0.81743859125

00:00:28.925 --> 00:00:30.540 professor of medicine and Doctor

NOTE Confidence: 0.81743859125

00:00:30.599 --> 00:00:32.321 Thakur as an instructor of medicine  
NOTE Confidence: 0.81743859125

00:00:32.321 --> 00:00:33.901 in the Department of Interventional  
NOTE Confidence: 0.81743859125

00:00:33.901 --> 00:00:36.505 Pulmonology at the Yale School of Medicine,  
NOTE Confidence: 0.81743859125

00:00:36.510 --> 00:00:38.295 where Doctor Chagpar is a  
NOTE Confidence: 0.81743859125

00:00:38.295 --> 00:00:39.723 professor of surgical oncology.  
00:00:42.484 --> 00:00:44.214 Kyle, I'm gonna start with you.  
NOTE Confidence: 0.776209578888889

00:00:44.220 --> 00:00:45.858 Maybe both of you can tell us  
NOTE Confidence: 0.776209578888889

00:00:45.858 --> 00:00:47.166 a little bit about yourselves  
NOTE Confidence: 0.776209578888889

00:00:47.166 --> 00:00:49.106 and what it is you do.  
NOTE Confidence: 0.776209578888889

00:00:50.390 --> 00:00:52.615 Sure, I'm an interventional  
NOTE Confidence: 0.828342046

00:00:52.615 --> 00:00:54.840 pulmonologist and critical care doctor.  
NOTE Confidence: 0.828342046

00:00:54.840 --> 00:00:56.430 I often struggle to  
NOTE Confidence: 0.828342046

00:00:56.430 --> 00:00:57.702 describe what that means.  
NOTE Confidence: 0.828342046

00:00:57.710 --> 00:00:59.100 And so I'm a pulmonologist,  
NOTE Confidence: 0.828342046

00:00:59.100 --> 00:01:01.530 a lung doctor who specializes  
NOTE Confidence: 0.828342046

00:01:01.530 --> 00:01:03.474 in minimally invasive procedures  
NOTE Confidence: 0.828342046

00:01:03.474 --> 00:01:05.780 to diagnose cancers and other  
NOTE Confidence: 0.828342046

00:01:05.780 --> 00:01:07.300 lesions inside the chest.  
NOTE Confidence: 0.754885724285714

00:01:08.600 --> 00:01:11.407 And Sanket, how about you?  
NOTE Confidence: 0.80353552

00:01:12.650 --> 00:01:15.499 I do very similar to what  
NOTE Confidence: 0.80353552

00:01:15.499 --> 00:01:17.510 Kyle just described as well.  
NOTE Confidence: 0.80353552

00:01:17.510 --> 00:01:19.010 I'm also an interventional  
NOTE Confidence: 0.80353552

00:01:19.010 --> 00:01:20.210 pulmonologist and I'm also  
NOTE Confidence: 0.80353552

00:01:20.210 --> 00:01:21.649 a critical care doctor.  
NOTE Confidence: 0.80353552

00:01:21.650 --> 00:01:24.737 So we commonly take care of a lot  
NOTE Confidence: 0.80353552

00:01:24.737 --> 00:01:27.260 of patients with lung cancer.  
NOTE Confidence: 0.878379880416667

00:01:27.410 --> 00:01:30.714 So you know it is lung Cancer Awareness  
NOTE Confidence: 0.878379880416667

00:01:30.714 --> 00:01:34.280 Month and I think a lot of people know  
NOTE Confidence: 0.878379880416667

00:01:34.280 --> 00:01:37.107 that lung cancer is a deadly cancer.  
NOTE Confidence: 0.878379880416667

00:01:37.110 --> 00:01:40.342 But what people may not know is that  
NOTE Confidence: 0.878379880416667

00:01:40.342 --> 00:01:43.088 we actually have decent screening  
NOTE Confidence: 0.878379880416667

00:01:43.090 --> 00:01:44.314 for lung cancer.

NOTE Confidence: 0.878379880416667  
00:01:44.314 --> 00:01:46.898 And we know a little bit about the  
NOTE Confidence: 0.878379880416667  
00:01:46.898 --> 00:01:49.278 risk factors that put people at risk.  
NOTE Confidence: 0.878379880416667  
00:01:49.280 --> 00:01:50.582 One of the ones that we  
NOTE Confidence: 0.878379880416667  
00:01:50.582 --> 00:01:51.910 often talk about is smoking.  
NOTE Confidence: 0.878379880416667  
00:01:51.910 --> 00:01:54.367 But Kyle, do you want to tell us a  
NOTE Confidence: 0.878379880416667  
00:01:54.367 --> 00:01:56.604 little bit about what's available in  
NOTE Confidence: 0.878379880416667  
00:01:56.604 --> 00:01:59.040 terms of screening for lung cancer,  
NOTE Confidence: 0.878379880416667  
00:01:59.040 --> 00:02:02.784 who's eligible for it and why it's important?  
NOTE Confidence: 0.636818450666667  
00:02:02.840 --> 00:02:04.766 Sure. So as you said,  
NOTE Confidence: 0.636818450666667  
00:02:04.770 --> 00:02:06.660 lung cancer screening is very important.  
NOTE Confidence: 0.636818450666667  
00:02:06.660 --> 00:02:08.816 And recently we have some very good  
NOTE Confidence: 0.636818450666667  
00:02:08.816 --> 00:02:10.673 data that suggests that people who  
NOTE Confidence: 0.636818450666667  
00:02:10.673 --> 00:02:12.710 are at an increased risk of getting  
NOTE Confidence: 0.636818450666667  
00:02:12.769 --> 00:02:14.709 lung cancer during their lifetime  
NOTE Confidence: 0.636818450666667  
00:02:14.710 --> 00:02:16.761 can be screened with a CAT scan  
NOTE Confidence: 0.636818450666667

00:02:16.761 --> 00:02:19.056 and so patients who are eligible are  
NOTE Confidence: 0.636818450666667

00:02:19.056 --> 00:02:21.078 patients who've had a long smoking  
NOTE Confidence: 0.636818450666667

00:02:21.144 --> 00:02:23.328 history and are over the age of 55.  
NOTE Confidence: 0.636818450666667

00:02:23.330 --> 00:02:25.654 The way that the screening generally works  
NOTE Confidence: 0.636818450666667

00:02:25.654 --> 00:02:27.810 is you have a meeting with a provider to  
NOTE Confidence: 0.636818450666667

00:02:27.810 --> 00:02:30.088 talk about what your risk factors are,  
NOTE Confidence: 0.636818450666667

00:02:30.088 --> 00:02:33.199 to talk about what the screening may show,  
NOTE Confidence: 0.636818450666667

00:02:33.200 --> 00:02:37.470 and then receive an annual CAT scan.  
NOTE Confidence: 0.636818450666667

00:02:37.470 --> 00:02:40.107 So it's a low dose of radiation  
NOTE Confidence: 0.636818450666667

00:02:40.107 --> 00:02:42.231 cat scan that's performed yearly  
NOTE Confidence: 0.636818450666667

00:02:42.231 --> 00:02:45.502 for three years with the idea of  
NOTE Confidence: 0.636818450666667

00:02:45.502 --> 00:02:47.832 looking for lung cancers when they're  
NOTE Confidence: 0.636818450666667

00:02:47.832 --> 00:02:49.860 still small and more easily treatable.  
00:02:53.770 --> 00:02:57.380 Sanket, just to follow up on what Kyle said,  
00:02:59.740 --> 00:03:02.755 how much of a  
NOTE Confidence: 0.825053569454545

00:03:02.760 --> 00:03:04.419 smoking history do you need  
NOTE Confidence: 0.825053569454545

00:03:04.419 --> 00:03:06.351 to have, like if you've smoked one

NOTE Confidence: 0.825053569454545  
00:03:06.351 --> 00:03:08.091 cigarette in your entire life does  
NOTE Confidence: 0.825053569454545  
00:03:08.149 --> 00:03:10.093 that count or do you need to have  
NOTE Confidence: 0.825053569454545  
00:03:10.093 --> 00:03:12.516 smoked every day for 50 years?  
NOTE Confidence: 0.825053569454545  
00:03:12.516 --> 00:03:15.220 How does that work and  
NOTE Confidence: 0.825053569454545  
00:03:15.220 --> 00:03:16.534 my second question,  
NOTE Confidence: 0.825053569454545  
00:03:16.534 --> 00:03:20.780 why is it annual just for three years?  
NOTE Confidence: 0.825053569454545  
00:03:20.780 --> 00:03:23.404 So you have your screening for three years,  
NOTE Confidence: 0.825053569454545  
00:03:23.410 --> 00:03:27.676 but could you not get a lung cancer in  
NOTE Confidence: 0.825053569454545  
00:03:27.676 --> 00:03:30.526 year 4, 5, 6 if you continue to smoke?  
NOTE Confidence: 0.75217627  
00:03:30.970 --> 00:03:34.288 So let's tackle the first question.  
NOTE Confidence: 0.75217627  
00:03:34.290 --> 00:03:38.142 You're asking how long smoking  
NOTE Confidence: 0.75217627  
00:03:38.142 --> 00:03:40.464 history is indicated, right?  
NOTE Confidence: 0.75217627  
00:03:40.464 --> 00:03:42.434 And we generally  
NOTE Confidence: 0.75217627  
00:03:42.434 --> 00:03:43.566 describe smoking history  
NOTE Confidence: 0.75217627  
00:03:43.566 --> 00:03:46.510 by pack years smoking history.  
NOTE Confidence: 0.75217627

00:03:46.510 --> 00:03:49.144 So according to the  
NOTE Confidence: 0.75217627

00:03:49.144 --> 00:03:50.900 lung cancer screening guidelines,  
NOTE Confidence: 0.75217627

00:03:50.900 --> 00:03:53.714 we look for at least 20 pack  
NOTE Confidence: 0.75217627

00:03:53.714 --> 00:03:55.730 years of smoking history.  
NOTE Confidence: 0.75217627

00:03:55.730 --> 00:03:58.250 What that means is that if  
NOTE Confidence: 0.75217627

00:03:58.250 --> 00:04:00.412 somebody smokes about a pack  
NOTE Confidence: 0.75217627

00:04:00.412 --> 00:04:02.788 a day for straight 20 years,  
NOTE Confidence: 0.75217627

00:04:02.790 --> 00:04:05.898 they would qualify for lung cancer screening,  
NOTE Confidence: 0.891370380454546

00:04:05.950 --> 00:04:08.204 Or similarly if they smoked half  
NOTE Confidence: 0.891370380454546

00:04:08.204 --> 00:04:10.917 a pack a day for 40 years or two  
NOTE Confidence: 0.891370380454546

00:04:10.917 --> 00:04:13.200 packs a day for 10 years, right.  
NOTE Confidence: 0.73797858

00:04:13.210 --> 00:04:16.290 That is correct. So accumulatively,  
NOTE Confidence: 0.73797858

00:04:16.290 --> 00:04:19.400 it has to be 20 packs a year for smoking  
NOTE Confidence: 0.73797858

00:04:19.486 --> 00:04:22.060 history, and they would qualify for that.  
NOTE Confidence: 0.884617257368421

00:04:22.440 --> 00:04:24.162 OK. And Kyle, maybe you can  
NOTE Confidence: 0.884617257368421

00:04:24.162 --> 00:04:26.408 pick up on the question of why

NOTE Confidence: 0.884617257368421  
00:04:26.408 --> 00:04:28.460 is it annual for three years,  
NOTE Confidence: 0.884617257368421  
00:04:28.460 --> 00:04:30.300 what happens after year three?  
NOTE Confidence: 0.8090118296  
00:04:30.360 --> 00:04:31.641 The biggest part of that I would  
NOTE Confidence: 0.8090118296  
00:04:31.641 --> 00:04:33.150 say is just that that's what the  
NOTE Confidence: 0.8090118296  
00:04:33.150 --> 00:04:34.524 research has shown and that's what  
NOTE Confidence: 0.8090118296  
00:04:34.567 --> 00:04:35.897 the research projects have done.  
NOTE Confidence: 0.8090118296  
00:04:35.900 --> 00:04:37.828 I think a lot of us would continue  
NOTE Confidence: 0.8090118296  
00:04:37.828 --> 00:04:39.411 to advocate for ongoing screening  
NOTE Confidence: 0.8090118296  
00:04:39.411 --> 00:04:41.493 through the course of the lifetime  
NOTE Confidence: 0.8090118296  
00:04:41.493 --> 00:04:43.100 depending on risk factors and  
NOTE Confidence: 0.8090118296  
00:04:43.100 --> 00:04:44.308 their other health issues.  
NOTE Confidence: 0.755634393  
00:04:44.480 --> 00:04:47.504 Sanket, when we talk  
NOTE Confidence: 0.755634393  
00:04:47.504 --> 00:04:49.514 about screening, oftentimes the  
NOTE Confidence: 0.755634393  
00:04:49.514 --> 00:04:52.649 whole idea behind screening is  
NOTE Confidence: 0.755634393  
00:04:52.650 --> 00:04:55.280 to pick up these cancers  
NOTE Confidence: 0.755634393

00:04:55.280 --> 00:04:57.384 before they are symptomatic.  
NOTE Confidence: 0.755634393

00:04:57.390 --> 00:04:59.495 Oftentimes this is when these  
NOTE Confidence: 0.755634393

00:04:59.495 --> 00:05:01.600 cancers are really small and  
NOTE Confidence: 0.755634393

00:05:01.672 --> 00:05:03.848 presumably the most treatable.  
NOTE Confidence: 0.755634393

00:05:03.850 --> 00:05:04.915 We know, however,  
NOTE Confidence: 0.755634393

00:05:04.915 --> 00:05:07.774 that lung cancer is the leading cause of  
NOTE Confidence: 0.755634393

00:05:07.774 --> 00:05:10.501 death both in men and women in this country.  
NOTE Confidence: 0.755634393

00:05:10.510 --> 00:05:12.290 So does screening really work?  
NOTE Confidence: 0.755634393

00:05:12.290 --> 00:05:14.474 I mean, are we picking up lung  
NOTE Confidence: 0.755634393

00:05:14.474 --> 00:05:15.970 cancers when they're smaller?  
NOTE Confidence: 0.755634393

00:05:15.970 --> 00:05:17.011 And if so,  
NOTE Confidence: 0.755634393

00:05:17.011 --> 00:05:19.093 is there really good treatment for  
NOTE Confidence: 0.755634393

00:05:19.093 --> 00:05:21.176 lung cancer when they're small  
NOTE Confidence: 0.755634393

00:05:21.176 --> 00:05:23.672 such that we can actually improve  
NOTE Confidence: 0.755634393

00:05:23.680 --> 00:05:24.700 survival rates?  
NOTE Confidence: 0.914463532666666

00:05:26.270 --> 00:05:29.350 Do think that there is enough data to

NOTE Confidence: 0.914463532666666  
00:05:29.350 --> 00:05:31.561 suggest that everyone who qualifies  
NOTE Confidence: 0.914463532666666  
00:05:31.561 --> 00:05:34.739 for the lung cancer screening and if  
NOTE Confidence: 0.914463532666666  
00:05:34.822 --> 00:05:37.783 they do not have any other medical  
NOTE Confidence: 0.914463532666666  
00:05:37.783 --> 00:05:40.242 problem that's going to kill them  
NOTE Confidence: 0.914463532666666  
00:05:40.242 --> 00:05:42.606 sooner than that lung cancer itself,  
NOTE Confidence: 0.914463532666666  
00:05:42.610 --> 00:05:44.822 then it is highly recommended that they  
NOTE Confidence: 0.914463532666666  
00:05:44.822 --> 00:05:47.668 do get the yearly lung cancer screening.  
NOTE Confidence: 0.914463532666666  
00:05:47.670 --> 00:05:50.589 Because if we catch it early, there is a  
NOTE Confidence: 0.914463532666666  
00:05:50.589 --> 00:05:52.688 definitive therapy like a surgical  
NOTE Confidence: 0.914463532666666  
00:05:52.688 --> 00:05:55.010 therapy when they can just  
NOTE Confidence: 0.914463532666666  
00:05:55.010 --> 00:05:57.110 go in and take it out.  
NOTE Confidence: 0.914463532666666  
00:05:57.110 --> 00:05:58.420 Part of the lung out.  
NOTE Confidence: 0.914463532666666  
00:05:58.420 --> 00:06:00.233 I will also add to that that  
NOTE Confidence: 0.914463532666666  
00:06:00.233 --> 00:06:01.918 we often think about,  
NOTE Confidence: 0.914463532666666  
00:06:01.920 --> 00:06:03.866 do we need to make this lung  
NOTE Confidence: 0.914463532666666

00:06:03.866 --> 00:06:04.700 cancer screening change?  
NOTE Confidence: 0.914463532666666

00:06:04.700 --> 00:06:06.720 Do we need to change criteria,  
NOTE Confidence: 0.914463532666666

00:06:06.720 --> 00:06:09.776 do we need to make any fancy screening?  
NOTE Confidence: 0.914463532666666

00:06:09.780 --> 00:06:12.930 That's not the point here.  
NOTE Confidence: 0.914463532666666

00:06:12.930 --> 00:06:15.289 The point really being is that we  
NOTE Confidence: 0.914463532666666

00:06:15.289 --> 00:06:17.498 have good lung cancer screening and  
NOTE Confidence: 0.914463532666666

00:06:17.498 --> 00:06:20.109 let's see if we can get everyone  
NOTE Confidence: 0.914463532666666

00:06:20.181 --> 00:06:21.797 who qualifies for that.  
NOTE Confidence: 0.914463532666666

00:06:21.800 --> 00:06:25.580 Can we get them do the lung cancer screening?  
NOTE Confidence: 0.914463532666666

00:06:25.580 --> 00:06:27.260 That's where the key is because  
NOTE Confidence: 0.914463532666666

00:06:27.260 --> 00:06:29.969 if you look now at all the people  
NOTE Confidence: 0.914463532666666

00:06:29.969 --> 00:06:33.148 who qualify for the lung cancer screening,  
NOTE Confidence: 0.914463532666666

00:06:33.150 --> 00:06:35.718 even after having the lung cancer  
NOTE Confidence: 0.914463532666666

00:06:35.718 --> 00:06:38.333 screening for close to 7-8 years  
NOTE Confidence: 0.914463532666666

00:06:38.333 --> 00:06:40.805 now a very small percentage of those  
00:06:43.044 --> 00:06:45.702 will get the lung cancer screening and  
NOTE Confidence: 0.914463532666666

00:06:45.702 --> 00:06:49.246 this is where we can get the  
NOTE Confidence: 0.914463532666666

00:06:49.250 --> 00:06:51.326 biggest advantage, if we can get  
NOTE Confidence: 0.914463532666666

00:06:51.326 --> 00:06:53.508 all those patients to come and  
NOTE Confidence: 0.914463532666666

00:06:53.508 --> 00:06:55.328 get the lung cancer screening.  
NOTE Confidence: 0.919166617666667

00:06:55.420 --> 00:06:57.373 I mean it certainly sounds like  
NOTE Confidence: 0.919166617666667

00:06:57.373 --> 00:06:59.415 it would be something that people who  
NOTE Confidence: 0.919166617666667

00:06:59.415 --> 00:07:02.181 have more than a 20 pack year history of  
NOTE Confidence: 0.919166617666667

00:07:02.181 --> 00:07:04.498 smoking should talk to their doctor about,  
NOTE Confidence: 0.919166617666667

00:07:04.500 --> 00:07:06.714 especially if they can find these  
NOTE Confidence: 0.919166617666667

00:07:06.714 --> 00:07:09.273 cancers at an earlier stage and  
NOTE Confidence: 0.919166617666667

00:07:09.273 --> 00:07:11.289 potentially improve their outcomes.  
NOTE Confidence: 0.919166617666667

00:07:11.290 --> 00:07:13.840 So that really brings us,  
NOTE Confidence: 0.919166617666667

00:07:13.840 --> 00:07:16.458 Kyle to the next question which is,  
NOTE Confidence: 0.919166617666667

00:07:16.460 --> 00:07:19.256 what happens next for a patient?  
00:07:20.512 --> 00:07:22.390 Let's suppose that somebody who is  
NOTE Confidence: 0.919166617666667

00:07:22.458 --> 00:07:24.486 listening to our show today listens  
NOTE Confidence: 0.919166617666667

00:07:24.486 --> 00:07:26.801 to what Sanket says and goes and  
NOTE Confidence: 0.919166617666667

00:07:26.801 --> 00:07:28.005 talks to their doctor.  
NOTE Confidence: 0.919166617666667

00:07:28.010 --> 00:07:31.066 They get their low dose CT,  
NOTE Confidence: 0.919166617666667

00:07:31.070 --> 00:07:32.858 and lo and behold,  
NOTE Confidence: 0.919166617666667

00:07:32.858 --> 00:07:34.646 there's a lesion found.  
NOTE Confidence: 0.919166617666667

00:07:34.650 --> 00:07:35.769 What happens then?  
NOTE Confidence: 0.770229162

00:07:36.900 --> 00:07:37.880 So that's a great question.  
NOTE Confidence: 0.770229162

00:07:37.880 --> 00:07:39.470 So it's always important to remember  
NOTE Confidence: 0.770229162

00:07:39.470 --> 00:07:41.830 that a lot of the lesions that we find  
NOTE Confidence: 0.770229162

00:07:41.830 --> 00:07:43.819 on these scans may not be cancerous.  
NOTE Confidence: 0.770229162

00:07:43.820 --> 00:07:46.081 And so it's very important to meet  
NOTE Confidence: 0.770229162

00:07:46.081 --> 00:07:48.338 with someone who has an expertise in  
NOTE Confidence: 0.770229162

00:07:48.338 --> 00:07:50.825 this area to talk about what the risk  
NOTE Confidence: 0.770229162

00:07:50.825 --> 00:07:52.897 of that lesion being a cancer is.  
NOTE Confidence: 0.770229162

00:07:52.900 --> 00:07:55.168 In some patients there may be  
NOTE Confidence: 0.770229162

00:07:55.168 --> 00:07:56.701 some characteristics on the

NOTE Confidence: 0.770229162

00:07:56.701 --> 00:07:58.451 scan that make us think that

NOTE Confidence: 0.770229162

00:07:58.451 --> 00:08:00.328 it's actually not a cancer and we

NOTE Confidence: 0.770229162

00:08:00.328 --> 00:08:02.248 may elect to just watch those.

NOTE Confidence: 0.770229162

00:08:02.248 --> 00:08:05.286 Over time, things like a small size

NOTE Confidence: 0.770229162

00:08:05.286 --> 00:08:07.653 or a location may be suggestive

NOTE Confidence: 0.770229162

00:08:07.653 --> 00:08:09.308 and some of those patients,

NOTE Confidence: 0.770229162

00:08:09.310 --> 00:08:10.675 those nodules are going to

NOTE Confidence: 0.770229162

00:08:10.675 --> 00:08:11.767 be concerning for cancer.

NOTE Confidence: 0.770229162

00:08:11.770 --> 00:08:15.137 And so additional workup will be necessary.

NOTE Confidence: 0.770229162

00:08:15.140 --> 00:08:16.598 And a lot of those cases,

NOTE Confidence: 0.770229162

00:08:16.600 --> 00:08:18.800 the patients may end up getting a biopsy,

NOTE Confidence: 0.770229162

00:08:18.800 --> 00:08:21.208 which can be done a variety of

NOTE Confidence: 0.770229162

00:08:21.208 --> 00:08:22.383 different ways where we actually

NOTE Confidence: 0.770229162

00:08:22.383 --> 00:08:23.740 go in and get a piece of that

NOTE Confidence: 0.770229162

00:08:23.740 --> 00:08:26.180 tissue to get a sample and then the

NOTE Confidence: 0.770229162

00:08:26.180 --> 00:08:27.886 pathologists will look at it under  
NOTE Confidence: 0.770229162

00:08:27.886 --> 00:08:29.704 a microscope and be able to tell  
NOTE Confidence: 0.770229162

00:08:29.704 --> 00:08:31.510 us exactly what we're dealing with.  
NOTE Confidence: 0.875262345

00:08:32.330 --> 00:08:34.970 And so Sanket, do you want to walk  
NOTE Confidence: 0.875262345

00:08:34.970 --> 00:08:37.242 us through some of the ways in  
NOTE Confidence: 0.875262345

00:08:37.242 --> 00:08:39.290 which biopsies are done these days?  
NOTE Confidence: 0.875262345

00:08:39.290 --> 00:08:41.650 I mean I would presume that many of  
NOTE Confidence: 0.875262345

00:08:41.650 --> 00:08:44.203 them are done simply with a needle  
NOTE Confidence: 0.875262345

00:08:44.203 --> 00:08:45.980 and the CAT scan, is that right?  
NOTE Confidence: 0.829270602

00:08:47.150 --> 00:08:49.582 Correct, but can I also add one  
NOTE Confidence: 0.829270602

00:08:49.582 --> 00:08:51.790 thing, before we go to biopsy,  
NOTE Confidence: 0.829270602

00:08:51.790 --> 00:08:53.596 when we look at the nodule,  
NOTE Confidence: 0.829270602

00:08:53.600 --> 00:08:54.755 we generally like to think  
NOTE Confidence: 0.829270602

00:08:54.755 --> 00:08:55.716 about three things.  
NOTE Confidence: 0.829270602

00:08:55.716 --> 00:08:57.046 Whether that could be really,  
NOTE Confidence: 0.829270602

00:08:57.050 --> 00:08:59.450 really low risk or that could be really,

NOTE Confidence: 0.829270602

00:08:59.450 --> 00:09:01.030 really high risk or that

NOTE Confidence: 0.829270602

00:09:01.030 --> 00:09:02.610 could be somewhere in between.

NOTE Confidence: 0.829270602

00:09:02.610 --> 00:09:04.714 So the very, very low risk are simple.

NOTE Confidence: 0.829270602

00:09:04.720 --> 00:09:06.687 We're just going to repeat a CT

NOTE Confidence: 0.829270602

00:09:06.687 --> 00:09:08.986 scan at a future time and see that

NOTE Confidence: 0.829270602

00:09:08.986 --> 00:09:10.562 nodule, what's its behavior, right.

NOTE Confidence: 0.829270602

00:09:10.562 --> 00:09:13.248 On the flip side, the very,

NOTE Confidence: 0.829270602

00:09:13.248 --> 00:09:15.443 very high risk are many

NOTE Confidence: 0.829270602

00:09:15.443 --> 00:09:16.760 times also straightforward.

NOTE Confidence: 0.829270602

00:09:16.760 --> 00:09:18.360 Sometimes we also choose

NOTE Confidence: 0.829270602

00:09:18.360 --> 00:09:19.672 hey, you know what,

NOTE Confidence: 0.829270602

00:09:19.672 --> 00:09:21.640 here biopsy is not even needed.

NOTE Confidence: 0.829270602

00:09:21.640 --> 00:09:23.488 So surgeons might just decide that

NOTE Confidence: 0.829270602

00:09:23.488 --> 00:09:26.022 this is such a high risk that even

NOTE Confidence: 0.829270602

00:09:26.022 --> 00:09:28.380 the biopsy doesn't give us an answer.

00:09:29.192 --> 00:09:30.918 I'm not going to be able to have

NOTE Confidence: 0.829270602

00:09:30.918 --> 00:09:32.298 a good night's sleep with that.

NOTE Confidence: 0.829270602

00:09:32.300 --> 00:09:34.100 So in that case is what we surgeons

NOTE Confidence: 0.829270602

00:09:34.100 --> 00:09:35.603 decide that we are just

NOTE Confidence: 0.829270602

00:09:35.603 --> 00:09:37.392 going to go and take it out and

NOTE Confidence: 0.829270602

00:09:37.392 --> 00:09:38.617 that's a very common approach.

NOTE Confidence: 0.829270602

00:09:38.620 --> 00:09:41.260 It's important for patients to know

NOTE Confidence: 0.829270602

00:09:41.260 --> 00:09:43.513 that then the challenging patient

NOTE Confidence: 0.829270602

00:09:43.513 --> 00:09:46.755 populations are the one we just follow.

NOTE Confidence: 0.829270602

00:09:46.755 --> 00:09:47.425 In between,

NOTE Confidence: 0.829270602

00:09:47.425 --> 00:09:48.430 to be honest,

NOTE Confidence: 0.829270602

00:09:48.430 --> 00:09:50.866 most of them fit right in

NOTE Confidence: 0.829270602

00:09:50.866 --> 00:09:53.024 between though and that's the time

NOTE Confidence: 0.829270602

00:09:53.024 --> 00:09:55.940 that we think about the biopsy part of it.

NOTE Confidence: 0.8378353824

00:09:56.070 --> 00:09:59.283 And so Kyle, one would think that

NOTE Confidence: 0.8378353824

00:09:59.283 --> 00:10:02.124 the decision between which way to

NOTE Confidence: 0.8378353824

00:10:02.124 --> 00:10:04.878 biopsy this nodule really might depend

NOTE Confidence: 0.8378353824

00:10:04.878 --> 00:10:07.889 on where exactly the nodule was.

NOTE Confidence: 0.8378353824

00:10:07.890 --> 00:10:10.158 I mean is this something that's

NOTE Confidence: 0.8378353824

00:10:10.158 --> 00:10:12.157 amenable to a needle biopsy

NOTE Confidence: 0.8378353824

00:10:12.157 --> 00:10:14.641 under CT guidance or whether it's

NOTE Confidence: 0.8378353824

00:10:14.641 --> 00:10:17.050 more amenable to a bronchoscopy?

NOTE Confidence: 0.8378353824

00:10:17.050 --> 00:10:19.430 Guided biopsy, is that right?

NOTE Confidence: 0.887132876

00:10:20.340 --> 00:10:22.195 Yeah. It really does depend a lot

NOTE Confidence: 0.887132876

00:10:22.195 --> 00:10:23.927 on the location and where it's

NOTE Confidence: 0.887132876

00:10:23.927 --> 00:10:25.679 located relative to the airways and

NOTE Confidence: 0.887132876

00:10:25.679 --> 00:10:27.658 the other structures in the chest.

NOTE Confidence: 0.887132876

00:10:27.660 --> 00:10:29.459 And so nodules that are further out

NOTE Confidence: 0.887132876

00:10:29.459 --> 00:10:30.860 into the periphery of the lung,

NOTE Confidence: 0.887132876

00:10:30.860 --> 00:10:32.463 closer to the chest wall are usually

NOTE Confidence: 0.887132876

00:10:32.463 --> 00:10:34.194 more amenable to a CT guided approach

NOTE Confidence: 0.887132876

00:10:34.194 --> 00:10:35.444 or even possibly an ultrasound

NOTE Confidence: 0.887132876

00:10:35.444 --> 00:10:36.573 guided approach if it's really

NOTE Confidence: 0.887132876

00:10:36.573 --> 00:10:38.166 right at the edge of the lung.

NOTE Confidence: 0.887132876

00:10:38.166 --> 00:10:40.242 Whereas things that are more centrally

NOTE Confidence: 0.887132876

00:10:40.242 --> 00:10:41.878 located and especially if they're

NOTE Confidence: 0.887132876

00:10:41.878 --> 00:10:43.761 located in closer proximity to one of

NOTE Confidence: 0.887132876

00:10:43.761 --> 00:10:45.758 the larger airways or branches of the

NOTE Confidence: 0.887132876

00:10:45.758 --> 00:10:47.594 windpipe that go out into the lungs,

NOTE Confidence: 0.887132876

00:10:47.594 --> 00:10:49.260 we often think about taking a more

NOTE Confidence: 0.887132876

00:10:49.316 --> 00:10:50.796 bronchoscopic approach because we'll be

NOTE Confidence: 0.887132876

00:10:50.796 --> 00:10:53.279 able to sample it with a higher efficiency.

NOTE Confidence: 0.57144976

00:10:53.950 --> 00:10:58.684 And so you know Sanket, when we think

NOTE Confidence: 0.57144976

00:10:58.684 --> 00:11:00.774 about these different techniques,

NOTE Confidence: 0.57144976

00:11:00.774 --> 00:11:04.158 are there risks and

NOTE Confidence: 0.57144976

00:11:04.158 --> 00:11:06.301 benefits associated with

NOTE Confidence: 0.57144976

00:11:06.301 --> 00:11:08.807 these and

NOTE Confidence: 0.57144976

00:11:08.810 --> 00:11:10.938 can you talk a little bit more about  
NOTE Confidence: 0.57144976

00:11:10.938 --> 00:11:13.509 what do you talk to patients about  
NOTE Confidence: 0.57144976

00:11:13.509 --> 00:11:15.479 when they're undergoing these biopsies  
NOTE Confidence: 0.57144976

00:11:15.540 --> 00:11:17.418 in terms of risks and benefits?  
NOTE Confidence: 0.885232129090909

00:11:18.030 --> 00:11:19.578 Yeah. And and there are two  
NOTE Confidence: 0.885232129090909

00:11:19.578 --> 00:11:20.940 ways to think about that.  
NOTE Confidence: 0.885232129090909

00:11:20.940 --> 00:11:23.160 One would be overall  
NOTE Confidence: 0.885232129090909

00:11:23.160 --> 00:11:25.488 in terms of in general how are we  
NOTE Confidence: 0.885232129090909

00:11:25.488 --> 00:11:27.692 going to find these overall not  
NOTE Confidence: 0.885232129090909

00:11:27.692 --> 00:11:29.632 just diagnosis but the staging  
NOTE Confidence: 0.885232129090909

00:11:29.632 --> 00:11:32.127 as well and how are we going to  
NOTE Confidence: 0.885232129090909

00:11:32.127 --> 00:11:34.065 soon get them to the treatment  
NOTE Confidence: 0.885232129090909

00:11:34.065 --> 00:11:35.840 because that's the ultimate goal.  
NOTE Confidence: 0.885232129090909

00:11:35.840 --> 00:11:37.730 And then also we have to think  
NOTE Confidence: 0.885232129090909

00:11:37.730 --> 00:11:39.614 about risk and benefit of that and  
NOTE Confidence: 0.885232129090909

00:11:39.614 --> 00:11:41.587 then on the day of the procedure

NOTE Confidence: 0.885232129090909  
00:11:41.587 --> 00:11:43.963 and risk and benefit of  
NOTE Confidence: 0.885232129090909  
00:11:43.963 --> 00:11:45.151 those individual procedures.  
NOTE Confidence: 0.885232129090909  
00:11:45.160 --> 00:11:47.440 So when you do a CT guided biopsy,  
NOTE Confidence: 0.885232129090909  
00:11:47.440 --> 00:11:48.156 the risk  
NOTE Confidence: 0.885232129090909  
00:11:48.156 --> 00:11:50.304 that we think about the most  
NOTE Confidence: 0.885232129090909  
00:11:50.304 --> 00:11:52.442 common one would be lung collapse  
NOTE Confidence: 0.885232129090909  
00:11:52.442 --> 00:11:55.097 and that risk can be as high as  
NOTE Confidence: 0.885232129090909  
00:11:55.097 --> 00:11:57.351 about 20 to 30% depending on what  
NOTE Confidence: 0.885232129090909  
00:11:57.351 --> 00:11:59.236 literature that you're looking at.  
NOTE Confidence: 0.885232129090909  
00:11:59.240 --> 00:12:01.688 And there is a fair number of those  
NOTE Confidence: 0.885232129090909  
00:12:01.688 --> 00:12:03.896 patients that end up having a chest tube  
NOTE Confidence: 0.885232129090909  
00:12:03.896 --> 00:12:06.223 which is a treatment of those lung  
NOTE Confidence: 0.885232129090909  
00:12:06.223 --> 00:12:08.533 collapse and a fair number of those  
NOTE Confidence: 0.885232129090909  
00:12:08.601 --> 00:12:11.073 spaces and might end up spending a few  
NOTE Confidence: 0.885232129090909  
00:12:11.073 --> 00:12:14.100 days in the hospital because of that.  
NOTE Confidence: 0.885232129090909

00:12:14.100 --> 00:12:16.242 And then the other risk factors  
NOTE Confidence: 0.885232129090909

00:12:16.242 --> 00:12:18.070 would be bleeding from that.  
NOTE Confidence: 0.885232129090909

00:12:18.070 --> 00:12:19.939 And the same way when we do  
NOTE Confidence: 0.885232129090909

00:12:19.939 --> 00:12:21.630 those with the bronchoscopy,  
NOTE Confidence: 0.885232129090909

00:12:21.630 --> 00:12:25.230 then the risk of lung cholestatic is  
NOTE Confidence: 0.885232129090909

00:12:25.230 --> 00:12:27.960 significantly low under 2% and  
NOTE Confidence: 0.885232129090909

00:12:27.960 --> 00:12:29.940 then there is risk of bleeding  
NOTE Confidence: 0.885232129090909

00:12:29.940 --> 00:12:32.166 as well which is under 1 to 2%.  
NOTE Confidence: 0.885232129090909

00:12:32.170 --> 00:12:33.670 And these are the most common risks  
NOTE Confidence: 0.885232129090909

00:12:33.670 --> 00:12:35.910 that risk we think about,  
NOTE Confidence: 0.885232129090909

00:12:35.910 --> 00:12:37.774 but at the same time we also think  
NOTE Confidence: 0.885232129090909

00:12:37.774 --> 00:12:39.309 about the diagnostic success,  
NOTE Confidence: 0.885232129090909

00:12:39.830 --> 00:12:43.470 because there is always a benefit versus risk ratio.  
NOTE Confidence: 0.885232129090909

00:12:43.470 --> 00:12:45.850 So when you think about the CT  
NOTE Confidence: 0.885232129090909

00:12:45.850 --> 00:12:48.467 guided biopsy as of today what we know  
NOTE Confidence: 0.885232129090909

00:12:48.470 --> 00:12:51.354 is that on an average the success

NOTE Confidence: 0.885232129090909  
00:12:51.354 --> 00:12:53.284 is around 85 to 90%,  
NOTE Confidence: 0.885232129090909  
00:12:53.284 --> 00:12:56.570 that depends on the size of the nodule,  
NOTE Confidence: 0.885232129090909  
00:12:56.570 --> 00:12:58.022 characteristic of the nodule.  
NOTE Confidence: 0.885232129090909  
00:12:58.022 --> 00:12:59.837 And on the flip side,  
NOTE Confidence: 0.885232129090909  
00:12:59.840 --> 00:13:03.737 when we go with the bronchoscope, as of now,  
NOTE Confidence: 0.885232129090909  
00:13:03.740 --> 00:13:05.244 the diagnostic success is  
NOTE Confidence: 0.885232129090909  
00:13:05.244 --> 00:13:07.770 somewhere in a range of around 70%.  
NOTE Confidence: 0.885232129090909  
00:13:07.770 --> 00:13:09.660 So there is a trade off there  
NOTE Confidence: 0.885232129090909  
00:13:09.660 --> 00:13:11.550 when you think about an approach.  
NOTE Confidence: 0.877079968461538  
00:13:11.840 --> 00:13:14.024 We're going to take a  
NOTE Confidence: 0.877079968461538  
00:13:14.024 --> 00:13:16.158 short break for a medical minute.  
NOTE Confidence: 0.877079968461538  
00:13:16.160 --> 00:13:18.720 When we come back, we'll learn more about  
NOTE Confidence: 0.877079968461538  
00:13:18.720 --> 00:13:21.330 lung cancer diagnosis with my guests,  
NOTE Confidence: 0.877079968461538  
00:13:21.330 --> 00:13:23.940 Drs. Sanket Thakore and Kyle Bramley.  
NOTE Confidence: 0.780834891  
00:13:24.660 --> 00:13:26.685 Funding for Yale Cancer Answers  
NOTE Confidence: 0.780834891

00:13:26.685 --> 00:13:28.710 comes from Smilow Cancer Hospital,  
NOTE Confidence: 0.780834891

00:13:28.710 --> 00:13:30.875 where their Center for Gastrointestinal  
NOTE Confidence: 0.780834891

00:13:30.875 --> 00:13:32.607 Cancers provides patients with  
NOTE Confidence: 0.780834891

00:13:32.607 --> 00:13:34.429 gastric cancers a comprehensive,  
NOTE Confidence: 0.780834891

00:13:34.430 --> 00:13:35.576 multidisciplinary approach to  
NOTE Confidence: 0.780834891

00:13:35.576 --> 00:13:37.486 the treatment of their cancer,  
NOTE Confidence: 0.780834891

00:13:37.490 --> 00:13:40.235 including clinical trials.  
NOTE Confidence: 0.780834891

00:13:40.235 --> 00:13:43.250 Smilowcancerhospital.org.  
NOTE Confidence: 0.780834891

00:13:43.250 --> 00:13:45.735 There are over 16.9 million  
NOTE Confidence: 0.780834891

00:13:45.735 --> 00:13:48.681 cancer survivors in the US and  
NOTE Confidence: 0.780834891

00:13:48.681 --> 00:13:50.602 over 240,000 here in Connecticut.  
NOTE Confidence: 0.780834891

00:13:50.602 --> 00:13:52.154 Completing treatment for cancer  
NOTE Confidence: 0.780834891

00:13:52.154 --> 00:13:54.429 is a very exciting milestone,  
NOTE Confidence: 0.780834891

00:13:54.430 --> 00:13:56.398 but cancer and its treatment can  
NOTE Confidence: 0.780834891

00:13:56.398 --> 00:13:58.490 be a life changing experience.  
NOTE Confidence: 0.780834891

00:13:58.490 --> 00:14:00.510 The return to normal activities

NOTE Confidence: 0.780834891

00:14:00.510 --> 00:14:02.530 and relationships may be difficult

NOTE Confidence: 0.780834891

00:14:02.597 --> 00:14:04.372 and cancer survivors may face

NOTE Confidence: 0.780834891

00:14:04.372 --> 00:14:06.643 other long term side effects of

NOTE Confidence: 0.780834891

00:14:06.643 --> 00:14:08.359 cancer including heart problems,

NOTE Confidence: 0.780834891

00:14:08.360 --> 00:14:10.049 osteoporosis, fertility issues,

NOTE Confidence: 0.780834891

00:14:10.049 --> 00:14:13.990 and an increased risk of second cancers.

NOTE Confidence: 0.780834891

00:14:13.990 --> 00:14:16.440 Resources for cancer survivors are

NOTE Confidence: 0.780834891

00:14:16.440 --> 00:14:18.400 available at federally designated

NOTE Confidence: 0.780834891

00:14:18.400 --> 00:14:19.849 Comprehensive cancer centers,

NOTE Confidence: 0.780834891

00:14:19.850 --> 00:14:21.926 such as Yale Cancer Center

NOTE Confidence: 0.780834891

00:14:21.926 --> 00:14:24.010 and Smilow Cancer Hospital,

NOTE Confidence: 0.780834891

00:14:24.010 --> 00:14:26.015 to keep cancer survivors well

NOTE Confidence: 0.780834891

00:14:26.015 --> 00:14:28.020 and focused on healthy living.

NOTE Confidence: 0.780834891

00:14:28.020 --> 00:14:30.325 The Smilow Cancer Hospital Survivorship

NOTE Confidence: 0.780834891

00:14:30.325 --> 00:14:32.630 Clinic focuses on providing guidance

NOTE Confidence: 0.780834891

00:14:32.696 --> 00:14:34.880 and direction to empower survivors to  
NOTE Confidence: 0.780834891

00:14:34.880 --> 00:14:37.189 take steps to maximize their health,  
NOTE Confidence: 0.780834891

00:14:37.190 --> 00:14:38.606 quality of life,  
NOTE Confidence: 0.780834891

00:14:38.606 --> 00:14:39.550 and longevity.  
NOTE Confidence: 0.780834891

00:14:39.550 --> 00:14:42.460 More information is available at  
NOTE Confidence: 0.780834891

00:14:42.460 --> 00:14:44.292 yalecancercenter.org. You're listening to  
NOTE Confidence: 0.780834891

00:14:44.292 --> 00:14:45.666 Connecticut Public Radio.  
NOTE Confidence: 0.839727945

00:14:46.220 --> 00:14:48.326 Welcome back to Yale Cancer Answers.  
NOTE Confidence: 0.839727945

00:14:48.330 --> 00:14:50.166 This is doctor Anees Chagpar and  
NOTE Confidence: 0.839727945

00:14:50.166 --> 00:14:52.020 I'm joined tonight by my guests,  
NOTE Confidence: 0.839727945

00:14:52.020 --> 00:14:54.960 Dr. Sanket Thakore and Kyle Bramley.  
NOTE Confidence: 0.839727945

00:14:54.960 --> 00:14:56.945 We're talking about advances in  
NOTE Confidence: 0.839727945

00:14:56.945 --> 00:14:59.420 diagnosis of lung cancer in honor  
NOTE Confidence: 0.839727945

00:14:59.420 --> 00:15:01.495 of Lung Cancer Awareness Month.  
NOTE Confidence: 0.839727945

00:15:01.500 --> 00:15:03.650 Now right before the break,  
NOTE Confidence: 0.839727945

00:15:03.650 --> 00:15:05.672 we were talking about kind of

NOTE Confidence: 0.839727945

00:15:05.672 --> 00:15:07.444 the two different ways lung

NOTE Confidence: 0.839727945

00:15:07.444 --> 00:15:09.140 cancer is often diagnosed.

NOTE Confidence: 0.839727945

00:15:09.140 --> 00:15:13.883 One is with a CT guided needle biopsy,

NOTE Confidence: 0.839727945

00:15:13.890 --> 00:15:15.195 the other is

NOTE Confidence: 0.839727945

00:15:15.195 --> 00:15:16.935 with the bronchoscopic approach.

NOTE Confidence: 0.839727945

00:15:16.940 --> 00:15:20.146 Kyle, before the break

NOTE Confidence: 0.839727945

00:15:20.146 --> 00:15:23.629 you were telling us that a lot of

NOTE Confidence: 0.839727945

00:15:23.629 --> 00:15:26.180 this really depends on where the

NOTE Confidence: 0.839727945

00:15:26.180 --> 00:15:29.260 tumor is located and one would

NOTE Confidence: 0.839727945

00:15:29.260 --> 00:15:32.390 think that if you had a peripheral

NOTE Confidence: 0.839727945

00:15:32.390 --> 00:15:35.279 lesion and you didn't want to get

NOTE Confidence: 0.839727945

00:15:35.280 --> 00:15:37.702 a CT guided biopsy because you were

NOTE Confidence: 0.839727945

00:15:37.702 --> 00:15:40.578 afraid of the risk of of lung collapse,

00:15:41.528 --> 00:15:44.846 is there a way that bronchoscopy can

NOTE Confidence: 0.839727945

00:15:44.850 --> 00:15:47.818 get to those lesions or is that

NOTE Confidence: 0.839727945

00:15:47.818 --> 00:15:50.025 completely not amenable given the

NOTE Confidence: 0.839727945

00:15:50.025 --> 00:15:52.797 fact that it's not centrally located?

00:15:53.170 --> 00:15:54.050 That's a great question.

NOTE Confidence: 0.858700948

00:15:54.050 --> 00:15:55.455 So traditionally, we were very

NOTE Confidence: 0.858700948

00:15:55.455 --> 00:15:57.760 limited by the tools that we had to

NOTE Confidence: 0.858700948

00:15:57.760 --> 00:15:58.884 bronchoscopically work ourselves

NOTE Confidence: 0.858700948

00:15:58.884 --> 00:16:00.888 out into the periphery of the lung.

NOTE Confidence: 0.858700948

00:16:00.890 --> 00:16:03.466 We were using a lot of electromagnetic

NOTE Confidence: 0.858700948

00:16:03.466 --> 00:16:05.497 navigation where we essentially put

NOTE Confidence: 0.858700948

00:16:05.497 --> 00:16:07.652 an electromagnetic field around the

NOTE Confidence: 0.858700948

00:16:07.652 --> 00:16:10.500 patient and then we correlate that

NOTE Confidence: 0.858700948

00:16:10.500 --> 00:16:12.945 electromagnetic field to the CAT scan that

NOTE Confidence: 0.858700948

00:16:12.945 --> 00:16:14.989 diagnosed the nodule and then we would

NOTE Confidence: 0.858700948

00:16:14.990 --> 00:16:15.664 essentially

NOTE Confidence: 0.858700948

00:16:15.664 --> 00:16:18.023 use a computer to make a GPS

NOTE Confidence: 0.858700948

00:16:18.023 --> 00:16:20.083 like signal that would allow us

NOTE Confidence: 0.858700948

00:16:20.083 --> 00:16:22.220 to drive out into the lungs.

NOTE Confidence: 0.858700948

00:16:22.220 --> 00:16:24.386 And that increased our yield some,

NOTE Confidence: 0.858700948

00:16:24.390 --> 00:16:27.054 but we were still very limited by the tools,

NOTE Confidence: 0.858700948

00:16:27.060 --> 00:16:28.842 by the size of the instruments

NOTE Confidence: 0.858700948

00:16:28.842 --> 00:16:31.384 and also by our ability to make

NOTE Confidence: 0.858700948

00:16:31.384 --> 00:16:33.254 small adjustments in our navigation

NOTE Confidence: 0.858700948

00:16:33.254 --> 00:16:35.620 when we drove out to that nodule.

NOTE Confidence: 0.858700948

00:16:35.620 --> 00:16:37.245 One of the biggest advances

NOTE Confidence: 0.858700948

00:16:37.245 --> 00:16:38.870 for our field as interventional

NOTE Confidence: 0.858700948

00:16:38.928 --> 00:16:40.476 pulmonologists and NOTE Confidence:  
0.858700948

00:16:40.476 --> 00:16:43.192 the people interested in

NOTE Confidence: 0.858700948

00:16:43.192 --> 00:16:45.946 thoracic cancers in general has been

NOTE Confidence: 0.858700948

00:16:45.946 --> 00:16:50.530 the new tool that we've all started using,

NOTE Confidence: 0.858700948

00:16:50.530 --> 00:16:53.090 which is the robotic bronchoscopy.

NOTE Confidence: 0.858700948

00:16:53.090 --> 00:16:54.742 And so it's different than a regular

NOTE Confidence: 0.858700948

00:16:54.742 --> 00:16:56.161 bronchoscopy in that I'm not standing

NOTE Confidence: 0.858700948

00:16:56.161 --> 00:16:57.487 there driving it with my hands.

NOTE Confidence: 0.858700948

00:16:57.490 --> 00:17:00.618 There's actually a robot arm that

NOTE Confidence: 0.858700948

00:17:00.618 --> 00:17:02.430 will drive out into the periphery.

NOTE Confidence: 0.858700948

00:17:02.430 --> 00:17:04.460 It has the advantage of its much

NOTE Confidence: 0.858700948

00:17:04.460 --> 00:17:06.749 smaller than our standard bronchoscopes.

NOTE Confidence: 0.858700948

00:17:06.750 --> 00:17:08.694 It's also much stiffer,

NOTE Confidence: 0.858700948

00:17:08.694 --> 00:17:10.758 much more navigable into the airways.

NOTE Confidence: 0.858700948

00:17:10.758 --> 00:17:12.996 And so we can drive out much further

NOTE Confidence: 0.858700948

00:17:12.996 --> 00:17:14.907 into the airways than we used to.

NOTE Confidence: 0.858700948

00:17:14.910 --> 00:17:17.059 We were also very limited by our

NOTE Confidence: 0.858700948

00:17:17.059 --> 00:17:19.065 ability to biopsy things that didn't

NOTE Confidence: 0.858700948

00:17:19.065 --> 00:17:21.093 have an airway that went directly

NOTE Confidence: 0.858700948

00:17:21.093 --> 00:17:23.095 to them in the past and with

NOTE Confidence: 0.858700948

00:17:23.100 --> 00:17:24.546 the robotic bronchoscopy,

NOTE Confidence: 0.858700948

00:17:24.546 --> 00:17:26.956 we can essentially know where

NOTE Confidence: 0.858700948

00:17:26.956 --> 00:17:28.700 we are in space,

NOTE Confidence: 0.858700948

00:17:28.700 --> 00:17:31.052 drive out to the lesion or

NOTE Confidence: 0.858700948

00:17:31.052 --> 00:17:33.806 next to the lesion and now pass

NOTE Confidence: 0.858700948

00:17:33.806 --> 00:17:35.474 instruments across the airway

NOTE Confidence: 0.858700948

00:17:35.474 --> 00:17:37.976 wall into the lung tissue itself.

NOTE Confidence: 0.858700948

00:17:37.980 --> 00:17:41.550 So it's a very new

NOTE Confidence: 0.858700948

00:17:41.550 --> 00:17:43.358 instrument that we're using,

NOTE Confidence: 0.858700948

00:17:43.358 --> 00:17:45.166 but the preliminary literature

NOTE Confidence: 0.858700948

00:17:45.166 --> 00:17:47.343 suggests that the diagnostic yield

NOTE Confidence: 0.858700948

00:17:47.343 --> 00:17:49.353 is much higher and certainly

NOTE Confidence: 0.858700948

00:17:49.353 --> 00:17:51.220 approaching the diagnostic rates

NOTE Confidence: 0.858700948

00:17:51.220 --> 00:17:54.110 that we've classically seen with

NOTE Confidence: 0.858700948

00:17:54.110 --> 00:17:56.422 Transthoracic CT guided biopsies.

NOTE Confidence: 0.858700948

00:17:56.430 --> 00:17:58.545 One of the things that we can do is

NOTE Confidence: 0.858700948

00:17:58.545 --> 00:18:01.019 now that we can actually make small

NOTE Confidence: 0.858700948

00:18:01.019 --> 00:18:03.196 changes because the catheter is much

NOTE Confidence: 0.858700948

00:18:03.196 --> 00:18:05.188 stiffer and more easy to navigate.  
NOTE Confidence: 0.858700948

00:18:05.190 --> 00:18:06.705 We can actually incorporate that  
NOTE Confidence: 0.858700948

00:18:06.705 --> 00:18:08.690 with a live image guidance as well.  
NOTE Confidence: 0.858700948

00:18:08.690 --> 00:18:10.562 And so we can actually take a CT scan  
NOTE Confidence: 0.858700948

00:18:10.562 --> 00:18:12.619 while the patient is having a bronchoscopy.  
NOTE Confidence: 0.858700948

00:18:12.620 --> 00:18:14.258 Make sure that we're in the lesion.  
NOTE Confidence: 0.858700948

00:18:14.260 --> 00:18:16.090 Make sure that we're getting a  
NOTE Confidence: 0.858700948

00:18:16.090 --> 00:18:18.124 sample and can make small adjustments  
NOTE Confidence: 0.858700948

00:18:18.124 --> 00:18:20.368 if we're not inside the lesion.  
NOTE Confidence: 0.702097341

00:18:20.440 --> 00:18:23.880 So Sanket, that sounds really  
NOTE Confidence: 0.702097341

00:18:23.880 --> 00:18:26.148 quite great that you'd be able to  
NOTE Confidence: 0.702097341

00:18:26.148 --> 00:18:28.399 get a higher diagnostic yield.  
NOTE Confidence: 0.702097341

00:18:28.400 --> 00:18:31.380 But it also sounds like,  
NOTE Confidence: 0.702097341

00:18:31.380 --> 00:18:34.100 especially if you're taking  
NOTE Confidence: 0.702097341

00:18:34.100 --> 00:18:36.843 these stiffer tubes and going  
NOTE Confidence: 0.702097341

00:18:36.843 --> 00:18:39.148 across the actual parenchyma or

NOTE Confidence: 0.702097341

00:18:39.148 --> 00:18:41.658 the actual tissue of the lung,

NOTE Confidence: 0.702097341

00:18:41.660 --> 00:18:43.180 that you might actually see

NOTE Confidence: 0.702097341

00:18:43.180 --> 00:18:44.396 higher rates of bleeding.

NOTE Confidence: 0.702097341

00:18:44.400 --> 00:18:47.872 So have have you seen an increase in

NOTE Confidence: 0.702097341

00:18:47.872 --> 00:18:50.559 complication rates with robotics as well?

NOTE Confidence: 0.804151932

00:18:51.410 --> 00:18:53.360 No. In fact, if anything,

NOTE Confidence: 0.804151932

00:18:53.360 --> 00:18:56.468 the risk of bleeding is less than

NOTE Confidence: 0.804151932

00:18:56.468 --> 00:18:58.282 the traditional bronchoscopy because

NOTE Confidence: 0.804151932

00:18:58.282 --> 00:19:00.322 in general when those nodules

NOTE Confidence: 0.804151932

00:19:00.322 --> 00:19:02.888 are in a peripheral of the lung,

NOTE Confidence: 0.804151932

00:19:02.890 --> 00:19:05.890 your vessels starts to get smaller.

NOTE Confidence: 0.804151932

00:19:05.890 --> 00:19:07.690 So that kind of decreases

NOTE Confidence: 0.804151932

00:19:07.690 --> 00:19:09.490 the risk of the bleeding.

NOTE Confidence: 0.804151932

00:19:09.490 --> 00:19:11.378 And I will add to that, one

NOTE Confidence: 0.804151932

00:19:11.378 --> 00:19:13.532 of the other advantage of the

NOTE Confidence: 0.804151932

00:19:13.532 --> 00:19:15.148 bronchoscopic biopsy is that  
NOTE Confidence: 0.804151932

00:19:15.150 --> 00:19:17.010 if someone was going to bleed  
NOTE Confidence: 0.804151932

00:19:17.010 --> 00:19:18.840 you're already in the airways,  
NOTE Confidence: 0.804151932

00:19:18.840 --> 00:19:20.240 so you can kind of fix it  
NOTE Confidence: 0.804151932

00:19:20.240 --> 00:19:21.190 right then and there.  
NOTE Confidence: 0.855525690434783

00:19:21.520 --> 00:19:23.648 By fix it you mean that you can  
NOTE Confidence: 0.855525690434783

00:19:23.648 --> 00:19:25.787 coagulate the vessels on the inside  
NOTE Confidence: 0.855525690434783

00:19:25.787 --> 00:19:28.039 because you have the tools to do that?  
NOTE Confidence: 0.756751001428571

00:19:28.850 --> 00:19:31.370 Correct. And we can tamponade that area.  
NOTE Confidence: 0.756751001428571

00:19:31.370 --> 00:19:33.740 So they would not have any  
NOTE Confidence: 0.756751001428571

00:19:33.740 --> 00:19:35.627 complications from that bleeding, that  
NOTE Confidence: 0.756751001428571

00:19:35.627 --> 00:19:37.469 takes care of the stopping part,  
NOTE Confidence: 0.756751001428571

00:19:37.470 --> 00:19:40.844 but we help them not  
NOTE Confidence: 0.756751001428571

00:19:40.844 --> 00:19:42.290 develop any complications.  
NOTE Confidence: 0.852772076

00:19:42.650 --> 00:19:45.638 And so Kyle, it sounds like  
NOTE Confidence: 0.852772076

00:19:45.638 --> 00:19:47.630 this is new technology.

NOTE Confidence: 0.852772076

00:19:47.630 --> 00:19:49.725 Is this widely available and

NOTE Confidence: 0.852772076

00:19:49.725 --> 00:19:51.820 is it covered by insurance?

NOTE Confidence: 0.813146318461539

00:19:51.990 --> 00:19:54.158 Bronchoscopic biopsies in

NOTE Confidence: 0.813146318461539

00:19:54.158 --> 00:19:56.868 truth have always been covered

NOTE Confidence: 0.813146318461539

00:19:56.868 --> 00:19:59.108 by most insurances.

NOTE Confidence: 0.813146318461539

00:19:59.110 --> 00:20:00.220 Essentially all insurances,

NOTE Confidence: 0.813146318461539

00:20:00.220 --> 00:20:01.700 they certainly want patients

NOTE Confidence: 0.813146318461539

00:20:01.700 --> 00:20:03.587 to get their lung

NOTE Confidence: 0.813146318461539

00:20:03.587 --> 00:20:05.019 cancer diagnosed and treated.

NOTE Confidence: 0.82563282

00:20:06.630 --> 00:20:08.520 The other part of the question,

NOTE Confidence: 0.82563282

00:20:08.520 --> 00:20:10.590 is it widely available.

NOTE Confidence: 0.82563282

00:20:10.590 --> 00:20:12.480 I mean one would think that

NOTE Confidence: 0.82563282

00:20:12.480 --> 00:20:14.350 bronchoscopy is pretty widely available.

NOTE Confidence: 0.82563282

00:20:14.350 --> 00:20:16.726 I think most most people know

NOTE Confidence: 0.82563282

00:20:16.726 --> 00:20:18.856 that their pulmonary doctor

NOTE Confidence: 0.82563282

00:20:18.856 --> 00:20:21.628 can can do bronchoscopy,  
NOTE Confidence: 0.82563282

00:20:21.630 --> 00:20:24.126 but this whole concept of adding  
NOTE Confidence: 0.82563282

00:20:24.126 --> 00:20:26.150 a robot,  
NOTE Confidence: 0.82563282

00:20:26.150 --> 00:20:28.628 it sounds like that's a little  
NOTE Confidence: 0.82563282

00:20:28.630 --> 00:20:31.065 avant-garde and may not be  
NOTE Confidence: 0.82563282

00:20:31.065 --> 00:20:33.500 necessarily available at  
NOTE Confidence: 0.82563282

00:20:33.586 --> 00:20:36.360 the local pulmonologist.  
00:20:40.454 --> 00:20:42.320 Is that right or is this  
NOTE Confidence: 0.82563282

00:20:42.384 --> 00:20:44.499 something that is more ubiquitous?  
NOTE Confidence: 0.81272729

00:20:44.790 --> 00:20:47.009 No. At the current time it's really  
NOTE Confidence: 0.81272729

00:20:47.010 --> 00:20:48.954 centralized around large hospitals  
NOTE Confidence: 0.81272729

00:20:48.954 --> 00:20:51.384 and large academic centers and  
NOTE Confidence: 0.81272729

00:20:51.384 --> 00:20:53.429 certainly large hospital systems.  
NOTE Confidence: 0.81272729

00:20:53.430 --> 00:20:55.302 It's certainly not a procedure that  
NOTE Confidence: 0.81272729

00:20:55.302 --> 00:20:58.186 at least I don't think will be widely  
NOTE Confidence: 0.81272729

00:20:58.186 --> 00:20:59.916 adopted by pulmonologists universally.  
NOTE Confidence: 0.81272729

00:20:59.916 --> 00:21:03.192 It really does require some extra  
NOTE Confidence: 0.81272729

00:21:03.192 --> 00:21:05.970 training and expertise and obviously  
NOTE Confidence: 0.81272729

00:21:05.970 --> 00:21:09.390 the bronchoscopic skills to do it.  
NOTE Confidence: 0.81272729

00:21:09.390 --> 00:21:12.540 There's definitely a learning  
NOTE Confidence: 0.81272729

00:21:12.540 --> 00:21:15.106 curve associated with it and so I don't  
NOTE Confidence: 0.81272729

00:21:15.106 --> 00:21:16.876 think it will be universally adopted.  
NOTE Confidence: 0.81272729

00:21:16.880 --> 00:21:18.924 And so it's really just in large  
NOTE Confidence: 0.81272729

00:21:18.924 --> 00:21:20.070 hospital systems right now.  
NOTE Confidence: 0.691018506

00:21:21.520 --> 00:21:22.780 And second,  
NOTE Confidence: 0.691018506

00:21:22.780 --> 00:21:24.796 when we think about robotics  
NOTE Confidence: 0.691018506

00:21:24.800 --> 00:21:27.880 it certainly has started to really make  
NOTE Confidence: 0.691018506

00:21:27.880 --> 00:21:31.399 its foray into the surgical subspecialty.  
NOTE Confidence: 0.691018506

00:21:31.400 --> 00:21:33.585 So certainly we've talked on  
NOTE Confidence: 0.691018506

00:21:33.585 --> 00:21:36.349 this show about how robotics have  
NOTE Confidence: 0.691018506

00:21:36.349 --> 00:21:38.839 entered the operating room for  
NOTE Confidence: 0.691018506

00:21:38.839 --> 00:21:40.831 cancers like prostate cancer,

NOTE Confidence: 0.691018506

00:21:40.840 --> 00:21:43.384 gynecologic cancers, et cetera.

NOTE Confidence: 0.691018506

00:21:43.384 --> 00:21:47.676 But that technology has a cost, right.

00:21:51.010 --> 00:21:52.888 I realize that this is newer

NOTE Confidence: 0.691018506

00:21:52.888 --> 00:21:55.000 technology in terms of bronchoscopy,

NOTE Confidence: 0.691018506

00:21:55.000 --> 00:21:58.248 but have people looked at the cost of

NOTE Confidence: 0.691018506

00:21:58.248 --> 00:22:00.395 robotic bronchoscopy and compared it

NOTE Confidence: 0.691018506

00:22:00.395 --> 00:22:02.915 to standard bronchoscopy?

NOTE Confidence: 0.691018506

00:22:02.920 --> 00:22:06.454 A cost effectiveness analysis to see

NOTE Confidence: 0.691018506

00:22:06.454 --> 00:22:10.389 whether or not this actually does

NOTE Confidence: 0.691018506

00:22:10.390 --> 00:22:14.358 add value and if it is more expensive,

NOTE Confidence: 0.691018506

00:22:14.360 --> 00:22:17.416 who bears the brunt of that cost?

NOTE Confidence: 0.691018506

00:22:17.420 --> 00:22:19.852 Is it the patient or is that really

NOTE Confidence: 0.691018506

00:22:19.852 --> 00:22:22.360 something that is being covered by insurance?

NOTE Confidence: 0.691018506

NOTE Confidence: 0.798083749230769

00:22:28.540 --> 00:22:31.980 Yeah. So when we we are comparing the

NOTE Confidence: 0.798083749230769

00:22:31.980 --> 00:22:35.419 robotic with the traditional bronchoscopy,

NOTE Confidence: 0.798083749230769

00:22:35.420 --> 00:22:38.780 I would also add that the navigational  
NOTE Confidence: 0.798083749230769

00:22:38.780 --> 00:22:41.098 bronchoscopy part of that  
NOTE Confidence: 0.798083749230769

00:22:41.100 --> 00:22:43.756 already has been there for several years now.  
NOTE Confidence: 0.798083749230769

00:22:43.760 --> 00:22:46.448 It was just not as good as  
NOTE Confidence: 0.798083749230769

00:22:46.448 --> 00:22:47.600 the robotic bronchoscopy.  
NOTE Confidence: 0.798083749230769

00:22:47.600 --> 00:22:49.988 So when you think about switching  
NOTE Confidence: 0.798083749230769

00:22:49.988 --> 00:22:51.580 from the traditional approaches  
NOTE Confidence: 0.798083749230769

00:22:51.644 --> 00:22:53.360 to the robotic bronchoscopy,  
NOTE Confidence: 0.798083749230769

00:22:53.360 --> 00:22:56.020 yes, a hospital has to  
NOTE Confidence: 0.798083749230769

00:22:56.020 --> 00:22:57.956 make some investment up front  
NOTE Confidence: 0.798083749230769

00:22:57.956 --> 00:23:00.110 to get this kind of technology.  
NOTE Confidence: 0.798083749230769

00:23:00.110 --> 00:23:02.528 But the cause that drips down  
NOTE Confidence: 0.798083749230769

00:23:02.528 --> 00:23:04.880 to the patient that has not,  
NOTE Confidence: 0.798083749230769

00:23:04.880 --> 00:23:06.945 it's not going to change compared  
NOTE Confidence: 0.798083749230769

00:23:06.945 --> 00:23:09.752 to what we are already doing with  
NOTE Confidence: 0.798083749230769

00:23:09.752 --> 00:23:11.147 the navigational bronchoscopy.

NOTE Confidence: 0.798083749230769

00:23:11.150 --> 00:23:14.106 So that's an important part to note.

NOTE Confidence: 0.798083749230769

00:23:14.106 --> 00:23:16.134 The second part to that question

NOTE Confidence: 0.798083749230769

00:23:16.134 --> 00:23:18.467 is that is it adding any value?

NOTE Confidence: 0.798083749230769

00:23:18.470 --> 00:23:21.152 And I do think that it does add

NOTE Confidence: 0.798083749230769

00:23:21.152 --> 00:23:23.488 value in two ways.

NOTE Confidence: 0.798083749230769

00:23:23.490 --> 00:23:25.740 You're going to improve

NOTE Confidence: 0.798083749230769

00:23:25.740 --> 00:23:27.090 the diagnostic success.

NOTE Confidence: 0.798083749230769

00:23:27.090 --> 00:23:27.930 And two,

NOTE Confidence: 0.798083749230769

00:23:27.930 --> 00:23:30.870 when we do the robotic bronchoscopy,

NOTE Confidence: 0.798083749230769

00:23:30.870 --> 00:23:36.288 it also allows us to do a second procedure

NOTE Confidence: 0.798083749230769

00:23:36.288 --> 00:23:39.050 what we call endobronchial ultrasound,

NOTE Confidence: 0.798083749230769

00:23:39.050 --> 00:23:40.990 which is really important for

NOTE Confidence: 0.798083749230769

00:23:40.990 --> 00:23:42.542 those lung cancer patients.

NOTE Confidence: 0.798083749230769

00:23:42.550 --> 00:23:45.172 Because that allows us to take

NOTE Confidence: 0.798083749230769

00:23:45.172 --> 00:23:47.899 samples of those lymph nodes in

NOTE Confidence: 0.798083749230769

00:23:47.899 --> 00:23:50.134 the chest, in the mediastinum,  
NOTE Confidence: 0.798083749230769

00:23:50.140 --> 00:23:52.660 which helps us with the lung cancer staging.  
NOTE Confidence: 0.798083749230769

00:23:52.660 --> 00:23:54.645 Because when we think about  
NOTE Confidence: 0.798083749230769

00:23:54.645 --> 00:23:55.836 lung cancer diagnosis,  
NOTE Confidence: 0.798083749230769

00:23:55.840 --> 00:23:58.690 we're thinking about the diagnosis  
NOTE Confidence: 0.798083749230769

00:23:58.690 --> 00:24:00.400 and staging simultaneously.  
NOTE Confidence: 0.798083749230769

00:24:00.400 --> 00:24:03.058 Those are not two separate things.  
NOTE Confidence: 0.798083749230769

00:24:03.060 --> 00:24:05.136 When you look at national data,  
NOTE Confidence: 0.798083749230769

00:24:05.140 --> 00:24:07.908 every time a person who has a nodule  
NOTE Confidence: 0.798083749230769

00:24:07.908 --> 00:24:11.038 that is suspected to be a lung cancer,  
NOTE Confidence: 0.798083749230769

00:24:11.040 --> 00:24:12.504 the number of biopsy  
NOTE Confidence: 0.798083749230769

00:24:12.504 --> 00:24:15.170 that you do on separate days,  
NOTE Confidence: 0.798083749230769

00:24:15.170 --> 00:24:17.588 that delays their care by on  
NOTE Confidence: 0.798083749230769

00:24:17.588 --> 00:24:19.710 an average about 17 days.  
NOTE Confidence: 0.798083749230769

00:24:19.710 --> 00:24:24.390 So what you want to focus on is to not  
NOTE Confidence: 0.798083749230769

00:24:24.390 --> 00:24:26.750 just improve the diagnostic success,

NOTE Confidence: 0.798083749230769  
00:24:26.750 --> 00:24:28.778 but you also want to minimize  
NOTE Confidence: 0.798083749230769  
00:24:28.778 --> 00:24:31.347 the number of boxes that they go  
NOTE Confidence: 0.798083749230769  
00:24:31.347 --> 00:24:33.247 through on a separate occasion.  
NOTE Confidence: 0.798083749230769  
00:24:33.250 --> 00:24:35.637 Because what that's going to allow you  
NOTE Confidence: 0.798083749230769  
00:24:35.637 --> 00:24:38.410 is to not just finish the diagnosis  
NOTE Confidence: 0.798083749230769  
00:24:38.410 --> 00:24:40.924 but also the lung cancer staging.  
NOTE Confidence: 0.798083749230769  
00:24:40.930 --> 00:24:43.498 You're going to get them all the information  
NOTE Confidence: 0.798083749230769  
00:24:43.500 --> 00:24:45.684 that you need sooner and they can  
NOTE Confidence: 0.798083749230769  
00:24:45.684 --> 00:24:47.790 get the therapy sooner and that's  
NOTE Confidence: 0.798083749230769  
00:24:47.790 --> 00:24:49.998 the real value of this technology.  
NOTE Confidence: 0.867008407142857  
00:24:51.150 --> 00:24:53.068 And so Kyle picking up on that,  
NOTE Confidence: 0.867008407142857  
00:24:53.070 --> 00:24:55.968 I mean before the robot came  
NOTE Confidence: 0.867008407142857  
00:24:55.968 --> 00:24:58.850 along in terms of staging,  
NOTE Confidence: 0.867008407142857  
00:24:58.850 --> 00:25:01.048 was that done on a different day  
NOTE Confidence: 0.867008407142857  
00:25:01.048 --> 00:25:03.149 because a different test was required?  
NOTE Confidence: 0.867008407142857

00:25:03.150 --> 00:25:05.635 In other words, you would need to  
NOTE Confidence: 0.867008407142857

00:25:05.635 --> 00:25:07.745 do a mediastinoscopy or something  
NOTE Confidence: 0.867008407142857

00:25:07.745 --> 00:25:10.185 different than a standard bronchoscopy.  
NOTE Confidence: 0.774864176666667

00:25:10.970 --> 00:25:13.790 Yeah, in patients who we have  
NOTE Confidence: 0.774864176666667

00:25:13.790 --> 00:25:15.848 any concern that the cancer  
NOTE Confidence: 0.774864176666667

00:25:15.848 --> 00:25:17.922 may have spread to the lymph nodes  
00:25:19.620 --> 00:25:20.764 they need their mediastinum staged,  
NOTE Confidence: 0.774864176666667

00:25:20.764 --> 00:25:22.480 and there's two ways to do that.  
NOTE Confidence: 0.774864176666667

00:25:22.480 --> 00:25:24.180 One is with a mediastinoscopy,  
NOTE Confidence: 0.774864176666667

00:25:24.180 --> 00:25:26.329 which is an older technique that's still  
NOTE Confidence: 0.774864176666667

00:25:26.329 --> 00:25:29.177 in use for patients who need confirmation.  
NOTE Confidence: 0.774864176666667

00:25:29.180 --> 00:25:31.882 But because we can do it minimally  
NOTE Confidence: 0.774864176666667

00:25:31.882 --> 00:25:33.477 invasive with endobronchial ultrasound  
NOTE Confidence: 0.774864176666667

00:25:33.477 --> 00:25:35.715 as Sanket was talking about,  
NOTE Confidence: 0.774864176666667

00:25:35.720 --> 00:25:37.750 that's really become the first  
NOTE Confidence: 0.774864176666667

00:25:37.750 --> 00:25:39.374 choice for mediastinal staging.  
NOTE Confidence: 0.774864176666667

00:25:39.380 --> 00:25:41.851 And so we have lots of patients  
NOTE Confidence: 0.774864176666667

00:25:41.851 --> 00:25:43.720 who undergo that procedure.  
NOTE Confidence: 0.774864176666667

00:25:43.720 --> 00:25:45.932 But if a diagnosis is not made, well,  
NOTE Confidence: 0.774864176666667

00:25:45.932 --> 00:25:47.788 it's good news because it means that the  
NOTE Confidence: 0.774864176666667

00:25:47.788 --> 00:25:49.517 cancer hasn't spread to the lymph nodes.  
NOTE Confidence: 0.774864176666667

00:25:49.520 --> 00:25:51.224 But a lot of those patients end up  
NOTE Confidence: 0.774864176666667

00:25:51.224 --> 00:25:53.035 going on for a second test to get a  
NOTE Confidence: 0.774864176666667

00:25:53.035 --> 00:25:54.808 biopsy of the actual nodule if they  
NOTE Confidence: 0.774864176666667

00:25:54.808 --> 00:25:56.542 needed that before they underwent their  
NOTE Confidence: 0.774864176666667

00:25:56.550 --> 00:25:58.670 definitive treatment for their cancer.  
NOTE Confidence: 0.774864176666667

00:25:58.670 --> 00:26:00.866 And so in terms of cost,  
NOTE Confidence: 0.774864176666667

00:26:00.870 --> 00:26:03.456 certainly there's a time cost  
NOTE Confidence: 0.774864176666667

00:26:03.456 --> 00:26:06.652 that's going to be improved by  
NOTE Confidence: 0.774864176666667

00:26:06.652 --> 00:26:09.784 having two procedures done at once,  
NOTE Confidence: 0.774864176666667

00:26:09.790 --> 00:26:12.364 but also the just the cost of the procedures,  
NOTE Confidence: 0.774864176666667

00:26:12.370 --> 00:26:13.834 I think too having two procedures

NOTE Confidence: 0.774864176666667  
00:26:13.834 --> 00:26:16.019 is going to be more expensive and  
NOTE Confidence: 0.774864176666667  
00:26:16.019 --> 00:26:17.563 especially if there's complications  
NOTE Confidence: 0.774864176666667  
00:26:17.563 --> 00:26:19.296 from those procedures then that's  
NOTE Confidence: 0.774864176666667  
00:26:19.296 --> 00:26:20.856 going to add to the patients healthcare costs.  
00:26:24.340 --> 00:26:27.412 Sanket, where do you see the  
NOTE Confidence: 0.848135956666667  
00:26:27.412 --> 00:26:30.189 field going now that you have the  
NOTE Confidence: 0.848135956666667  
00:26:30.189 --> 00:26:33.548 robot and this ability to do  
NOTE Confidence: 0.848135956666667  
00:26:33.548 --> 00:26:35.798 a bronchial ultrasound and biopsy  
NOTE Confidence: 0.848135956666667  
00:26:35.798 --> 00:26:38.460 these lymph nodes at the same time?  
NOTE Confidence: 0.848135956666667  
00:26:38.460 --> 00:26:40.145 It sounds like that certainly  
NOTE Confidence: 0.848135956666667  
00:26:40.145 --> 00:26:41.984 has been one of the,  
NOTE Confidence: 0.848135956666667  
00:26:41.984 --> 00:26:44.700 if not the major advance in terms  
NOTE Confidence: 0.848135956666667  
00:26:44.787 --> 00:26:47.457 of diagnosis of lung cancer.  
NOTE Confidence: 0.848135956666667  
00:26:47.460 --> 00:26:49.623 Are there other things coming down on  
NOTE Confidence: 0.848135956666667  
00:26:49.623 --> 00:26:51.352 the horizon that you're particularly  
NOTE Confidence: 0.848135956666667  
00:26:51.352 --> 00:26:53.935 excited about in terms of lung cancer?

00:26:56.120 --> 00:27:00.178 Yes. So there there are a lot of things  
NOTE Confidence: 0.43032807

00:27:00.178 --> 00:27:03.166 coming down the pipeline I would think and  
NOTE Confidence: 0.43032807

00:27:03.170 --> 00:27:05.655 our expertise is more on the diagnosis  
NOTE Confidence: 0.43032807

00:27:05.655 --> 00:27:08.640 part of that, but on the therapeutic part  
NOTE Confidence: 0.43032807

00:27:08.640 --> 00:27:11.386 a lot of exciting development coming up,  
NOTE Confidence: 0.43032807

00:27:11.386 --> 00:27:13.396 down the pipeline as well.  
NOTE Confidence: 0.43032807

00:27:13.400 --> 00:27:16.580 In terms of newer targeted therapies,  
NOTE Confidence: 0.43032807

00:27:16.580 --> 00:27:19.472 there are new targeted therapies every  
NOTE Confidence: 0.43032807

00:27:19.472 --> 00:27:22.740 other month when you look up literature.  
NOTE Confidence: 0.43032807

00:27:22.740 --> 00:27:25.489 So those things going to continue to improve.  
NOTE Confidence: 0.43032807

00:27:25.490 --> 00:27:27.830 When we focus on the robotic  
NOTE Confidence: 0.43032807

00:27:27.830 --> 00:27:29.390 bronchoscopy and all generally  
NOTE Confidence: 0.43032807

00:27:29.455 --> 00:27:31.165 we're thinking about the early  
NOTE Confidence: 0.43032807

00:27:31.165 --> 00:27:33.180 stage diagnosis and one of the  
NOTE Confidence: 0.43032807

00:27:33.180 --> 00:27:35.455 important things that we  
NOTE Confidence: 0.43032807

00:27:35.455 --> 00:27:37.441 need to focus on moving forward

NOTE Confidence: 0.43032807

00:27:37.441 --> 00:27:40.258 would be how can we cut down on

NOTE Confidence: 0.43032807

00:27:40.258 --> 00:27:42.830 the time from the nodule was found

NOTE Confidence: 0.43032807

00:27:42.830 --> 00:27:46.190 to the time when we treat them?

NOTE Confidence: 0.43032807

00:27:46.190 --> 00:27:49.462 And I think that's going to have a

NOTE Confidence: 0.43032807

00:27:49.462 --> 00:27:51.747 significant impact on an outcome here

NOTE Confidence: 0.43032807

00:27:51.747 --> 00:27:54.350 and try to get that cancer early

NOTE Confidence: 0.43032807

00:27:54.350 --> 00:27:56.990 because we are focusing on something

NOTE Confidence: 0.43032807

00:27:56.990 --> 00:27:58.641 called a stage shift.

NOTE Confidence: 0.43032807

00:27:58.641 --> 00:28:01.289 We know that when lung cancer

NOTE Confidence: 0.43032807

00:28:01.289 --> 00:28:03.526 is diagnosed in a late stage

NOTE Confidence: 0.43032807

00:28:03.530 --> 00:28:07.163 it has an outcome and

NOTE Confidence: 0.43032807

00:28:07.163 --> 00:28:09.699 identified survival under 10%

NOTE Confidence: 0.43032807

00:28:09.700 --> 00:28:12.496 compared to when you diagnose lung

NOTE Confidence: 0.43032807

00:28:12.496 --> 00:28:15.359 cancer early in stage one or two,

NOTE Confidence: 0.43032807

00:28:15.360 --> 00:28:18.080 then that survival is

NOTE Confidence: 0.43032807

00:28:18.080 --> 00:28:20.448 well above 70%.  
NOTE Confidence: 0.43032807

00:28:20.448 --> 00:28:21.680 So that's our focus.  
NOTE Confidence: 0.43032807

00:28:21.680 --> 00:28:24.060 We want to diagnose them as early  
NOTE Confidence: 0.43032807

00:28:24.060 --> 00:28:26.505 as possible so that we can treat  
NOTE Confidence: 0.43032807

00:28:26.505 --> 00:28:28.195 them as well as possible.  
NOTE Confidence: 0.8769057853333333

00:28:28.910 --> 00:28:30.860 Doctor Sanket Thakore is an instructor  
NOTE Confidence: 0.8769057853333333

00:28:30.860 --> 00:28:32.837 of medicine and doctor Kyle Bramley  
NOTE Confidence: 0.8769057853333333

00:28:32.837 --> 00:28:34.691 is an assistant professor of medicine  
NOTE Confidence: 0.8769057853333333

00:28:34.691 --> 00:28:36.535 in the Department of Interventional  
NOTE Confidence: 0.8769057853333333

00:28:36.535 --> 00:28:39.265 Pulmonology at the Yale School of Medicine.  
NOTE Confidence: 0.8769057853333333

00:28:39.270 --> 00:28:41.258 If you have questions,  
NOTE Confidence: 0.8769057853333333

00:28:41.258 --> 00:28:43.196 the address is canceranswers@yale.edu,  
NOTE Confidence: 0.8769057853333333

00:28:43.196 --> 00:28:45.872 and past editions of the program  
NOTE Confidence: 0.8769057853333333

00:28:45.872 --> 00:28:48.198 are available in audio and written  
NOTE Confidence: 0.8769057853333333

00:28:48.198 --> 00:28:49.113 form at yalecancercenter.org.  
NOTE Confidence: 0.8769057853333333

00:28:49.113 --> 00:28:51.537 We hope you'll join us next week to

NOTE Confidence: 0.876905785333333

00:28:51.537 --> 00:28:53.380 learn more about the fight against

NOTE Confidence: 0.876905785333333

00:28:53.380 --> 00:28:55.210 cancer here on Connecticut Public Radio.

NOTE Confidence: 0.876905785333333

00:28:55.210 --> 00:28:57.670 Funding for Yale Cancer Answers is

NOTE Confidence: 0.876905785333333

00:28:57.670 --> 00:29:00.000 provided by Smilow Cancer Hospital.