WEBVTT

00:00:00.000 --> 00:00:03.198 Funding for Yale Cancer Answers is NOTE Confidence: 0.41334265 00:00:03.198 --> 00:00:06.240 provided by Smilow Cancer Hospital. NOTE Confidence: 0.41334265 00:00:06.240 --> 00:00:08.460 Welcome to Yale Cancer Answers NOTE Confidence: 0.41334265 $00:00:08.460 \rightarrow 00:00:10.236$ with Doctor Anees Chappar. NOTE Confidence: 0.41334265 $00:00:10.240 \rightarrow 00:00:12.044$ Yale Cancer Answers features the NOTE Confidence: 0.41334265 00:00:12.044 --> 00:00:13.849 latest information on cancer care NOTE Confidence: 0.41334265 $00:00:13.849 \rightarrow 00:00:15.368$ by welcoming oncologists and NOTE Confidence: 0.41334265 $00:00:15.368 \rightarrow 00:00:17.564$ specialists who are on the forefront NOTE Confidence: 0.41334265 $00:00:17.564 \longrightarrow 00:00:19.516$ of the battle to fight cancer. NOTE Confidence: 0.41334265 00:00:19.520 --> 00:00:21.956 This week it's a conversation about NOTE Confidence: 0.41334265 00:00:21.956 --> 00:00:24.519 pancreatic cancer with Doctor Thiru Muniraj. NOTE Confidence: 0.41334265 00:00:24.520 --> 00:00:26.405 Doctor Muniraj is an associate NOTE Confidence: 0.41334265 00:00:26.405 --> 00:00:28.290 professor of medicine and digestive NOTE Confidence: 0.41334265 $00:00:28.348 \dashrightarrow 00:00:30.595$ diseases at the Yale School of Medicine, NOTE Confidence: 0.41334265 $00:00:30.600 \rightarrow 00:00:32.784$ where Doctor Chagpar is a professor NOTE Confidence: 0.41334265

 $00:00:32.784 \longrightarrow 00:00:33.876$ of surgical oncology.

NOTE Confidence: 0.42510977

 $00{:}00{:}35{.}120 \dashrightarrow 00{:}00{:}36{.}912$ Maybe we can start off

NOTE Confidence: 0.42510977

 $00{:}00{:}36{.}912 \dashrightarrow 00{:}00{:}38{.}994$ by you telling us a little bit more

NOTE Confidence: 0.42510977

 $00:00:38.994 \rightarrow 00:00:40.839$ about yourself and what it is you do.

NOTE Confidence: 0.42510977

00:00:41.160 --> 00:00:44.035 I'm a gas
troenterologist and advanced

NOTE Confidence: 0.42510977

 $00{:}00{:}44.035 \dashrightarrow 00{:}00{:}46.910$ endoscopist with a special interest NOTE Confidence: 0.42510977

00:00:46.990 --> 00:00:50.266 and expertise in pancreas and my

NOTE Confidence: 0.42510977

00:00:50.266 --> 00:00:52.878 journey was not straightforward.

NOTE Confidence: 0.42510977

00:00:52.880 --> 00:00:55.196 I have been a physician for 25 years

NOTE Confidence: 0.42510977

 $00:00:55.196 \longrightarrow 00:00:56.354$ in different continents,

NOTE Confidence: 0.42510977

 $00{:}00{:}56.360 \dashrightarrow 00{:}00{:}58.838$ kept open mind throughout and then

NOTE Confidence: 0.42510977

 $00:00:58.838 \rightarrow 00:01:01.605$ got into the pancreas and advanced

NOTE Confidence: 0.42510977

00:01:01.605 --> 00:01:05.315 endoscopy field where I think it's a

NOTE Confidence: 0.42510977

 $00:01:05.315 \rightarrow 00:01:07.832$ perfect balance between good critical

NOTE Confidence: 0.42510977

 $00:01:07.832 \dashrightarrow 00:01:10.568$ thinking and procedural aspects to make NOTE Confidence: 0.42510977

00:01:10.568 --> 00:01:13.798 a good difference in someone's life,

- NOTE Confidence: 0.42510977
- $00:01:13.800 \rightarrow 00:01:15.720$ especially when dealing with

00:01:15.720 --> 00:01:17.640 problems like pancreatic cancer.

NOTE Confidence: 0.42510977

00:01:17.640 --> 00:01:21.200 So predominantly I do endoscopies,

NOTE Confidence: 0.42510977

 $00:01:21.200 \rightarrow 00:01:23.318$ especially for pancreas and bile ducts.

NOTE Confidence: 0.6713272

 $00{:}01{:}23.800 \dashrightarrow 00{:}01{:}26.020$ So as we're thinking about

NOTE Confidence: 0.6713272

00:01:26.020 --> 00:01:27.796 pancreatic cancer awareness month,

NOTE Confidence: 0.6713272

 $00:01:27.800 \longrightarrow 00:01:29.384$ it's one of those months that

NOTE Confidence: 0.6713272

 $00:01:29.384 \longrightarrow 00:01:31.079$ we know a little bit about.

NOTE Confidence: 0.6713272

00:01:31.080 --> 00:01:32.872 I think all of us have heard

NOTE Confidence: 0.6713272

 $00:01:32.872 \longrightarrow 00:01:33.640$ about pancreatic cancer.

NOTE Confidence: 0.6713272

 $00:01:33.640 \longrightarrow 00:01:35.200$ Certainly there have been a

NOTE Confidence: 0.6713272

00:01:35.200 --> 00:01:36.760 number of celebrities who have

NOTE Confidence: 0.6713272

 $00:01:36.814 \rightarrow 00:01:38.319$ passed away of this disease,

NOTE Confidence: 0.6713272

00:01:38.320 --> 00:01:40.576 but it's not one of the ones that's

NOTE Confidence: 0.6713272

00:01:40.576 --> 00:01:42.895 top of mind like breast cancer or

 $00:01:42.895 \longrightarrow 00:01:45.120$ colon cancer or lung cancer.

NOTE Confidence: 0.6713272

 $00:01:45.120 \longrightarrow 00:01:48.250$ So can you give us a sense of

NOTE Confidence: 0.6713272

 $00:01:48.340 \rightarrow 00:01:51.560$ the epidemiology of pancreatic cancer?

NOTE Confidence: 0.6713272

00:01:51.560 --> 00:01:52.800 How common is it?

NOTE Confidence: 0.6713272

 $00:01:52.800 \longrightarrow 00:01:54.040$ How lethal is it?

NOTE Confidence: 0.6713272

 $00{:}01{:}54.040 \dashrightarrow 00{:}01{:}55.300$ Are there different kinds,

NOTE Confidence: 0.6713272

 $00:01:55.300 \longrightarrow 00:01:56.560$ that kind of thing?

NOTE Confidence: 0.75026006

 $00:01:57.960 \longrightarrow 00:01:58.884$ Yeah, sure.

NOTE Confidence: 0.75026006

00:01:58.884 $\operatorname{-->}$ 00:02:01.194 Like you already pointed out,

NOTE Confidence: 0.75026006

 $00:02:01.200 \rightarrow 00:02:03.172$ this pancreatic cancer prevalence

NOTE Confidence: 0.75026006

 $00:02:03.172 \rightarrow 00:02:05.637$ is going up every year.

NOTE Confidence: 0.75026006

 $00:02:05.640 \longrightarrow 00:02:07.672$ And more than that, the

NOTE Confidence: 0.75026006

 $00{:}02{:}07{.}672 \dashrightarrow 00{:}02{:}09{.}704$ National Cancer Institute predicts

NOTE Confidence: 0.75026006

 $00:02:09.704 \longrightarrow 00:02:12.133$ that by 2030 pancreatic cancer

NOTE Confidence: 0.75026006

 $00{:}02{:}12.133 \dashrightarrow 00{:}02{:}14.959$ will be the second leading cause of

NOTE Confidence: 0.75026006

 $00:02:14.959 \rightarrow 00:02:17.558$ cancer death in the United States,

- NOTE Confidence: 0.75026006
- $00{:}02{:}17.560 \dashrightarrow 00{:}02{:}20.180$ leading the top three with

 $00{:}02{:}20{.}180 \dashrightarrow 00{:}02{:}22{.}800$ lung cancer and colon cancer.

NOTE Confidence: 0.75026006

00:02:22.800 --> 00:02:26.048 Every year we see around 60,000 patients

NOTE Confidence: 0.75026006

 $00:02:26.048 \rightarrow 00:02:28.750$ with pancreatic, a new diagnosis,

NOTE Confidence: 0.75026006

00:02:28.750 --> 00:02:32.025 but almost 50,000 patients die

NOTE Confidence: 0.75026006

 $00:02:32.025 \longrightarrow 00:02:34.480$ with pancreatic cancer too.

NOTE Confidence: 0.75026006

 $00:02:34.480 \longrightarrow 00:02:37.636$ We see in several other cancers,

NOTE Confidence: 0.75026006

 $00:02:37.640 \longrightarrow 00:02:40.712$ we are making a good change in the

NOTE Confidence: 0.75026006

 $00{:}02{:}40.712 \dashrightarrow 00{:}02{:}43.240$ prognosis and the cancer treatment.

NOTE Confidence: 0.75026006

00:02:43.240 --> 00:02:44.280 But unfortunately,

NOTE Confidence: 0.75026006

00:02:44.280 --> 00:02:46.360 pancreatic cancer death rates

NOTE Confidence: 0.75026006

 $00{:}02{:}46{.}360 \dashrightarrow 00{:}02{:}47{.}920$ are not falling at par with

NOTE Confidence: 0.75026006

 $00:02:47.920 \longrightarrow 00:02:49.280$ other cancers we deal with.

NOTE Confidence: 0.6986193

 $00:02:49.640 \longrightarrow 00:02:51.872$ Why is that? I mean, why is

NOTE Confidence: 0.6986193

 $00:02:51.872 \rightarrow 00:02:53.360$ pancreatic cancer increasing?

 $00:02:53.920 \longrightarrow 00:02:55.600$ Yeah, there are a lot of risk factors,

NOTE Confidence: 0.6986193

 $00{:}02{:}55{.}600 \dashrightarrow 00{:}02{:}58{.}876$ but some of the risk factors

NOTE Confidence: 0.6986193

 $00:02:58.876 \longrightarrow 00:03:00.514$ are not straightforward,

NOTE Confidence: 0.6986193

 $00{:}03{:}00{.}520 \dashrightarrow 00{:}03{:}03{.}824$ like smoking is one of the risk

NOTE Confidence: 0.6986193

 $00:03:03.824 \rightarrow 00:03:06.399$ factors, but a modifiable risk factor,

NOTE Confidence: 0.6986193

 $00{:}03{:}06{.}400 \dashrightarrow 00{:}03{:}09{.}022$ but the risk it causes pancreatic

NOTE Confidence: 0.6986193

 $00:03:09.022 \rightarrow 00:03:12.320$ cancer is not that great. And again,

NOTE Confidence: 0.6986193

 $00:03:12.320 \rightarrow 00:03:15.296$ obesity is increasing in the country.

NOTE Confidence: 0.6986193

 $00{:}03{:}15{.}296 \dashrightarrow 00{:}03{:}19{.}358$ Right now there's a prediction that by 2030

NOTE Confidence: 0.6986193

 $00:03:19.360 \rightarrow 00:03:22.120$ the incidence of obesity will be like 50%,

NOTE Confidence: 0.6986193

 $00:03:22.120 \dashrightarrow 00:03:23.920$ like everyone and every second

NOTE Confidence: 0.6986193

 $00:03:23.920 \longrightarrow 00:03:26.200$ person we meet will be obese.

NOTE Confidence: 0.6986193

 $00:03:26.200 \dashrightarrow 00:03:28.390$ And obesity also causes a higher

NOTE Confidence: 0.6986193

 $00{:}03{:}28{.}390 \dashrightarrow 00{:}03{:}31{.}359$ risk to get a pancreatic cancer.

NOTE Confidence: 0.6986193

 $00:03:31.360 \rightarrow 00:03:34.240$ But even though those risks are very minimal,

NOTE Confidence: 0.6986193

 $00:03:34.240 \rightarrow 00:03:35.920$ there are genetic risks too,

- NOTE Confidence: 0.6986193
- $00:03:35.920 \longrightarrow 00:03:37.624$ which are not modifiable.

 $00:03:37.624 \rightarrow 00:03:41.050$ And the family history,

NOTE Confidence: 0.6986193

 $00:03:41.050 \longrightarrow 00:03:42.475$ if someone has breast cancer,

NOTE Confidence: 0.6986193

 $00:03:42.480 \longrightarrow 00:03:43.112$ ovarian cancer,

NOTE Confidence: 0.6986193

 $00{:}03{:}43.112 \dashrightarrow 00{:}03{:}45.324$ that puts them at a higher risk

NOTE Confidence: 0.6986193

 $00{:}03{:}45{.}324 \dashrightarrow 00{:}03{:}47{.}480$ of getting a pancreatic cancer.

NOTE Confidence: 0.6986193

 $00:03:47.480 \longrightarrow 00:03:49.562$ And same that if someone

NOTE Confidence: 0.6986193

 $00{:}03{:}49{.}562 \dashrightarrow 00{:}03{:}52{.}420$ has a first degree relative or a

NOTE Confidence: 0.6986193

 $00:03:52.420 \dashrightarrow 00:03:54.280$ sibling with pancreatic cancer,

NOTE Confidence: 0.6986193

 $00:03:54.280 \longrightarrow 00:03:56.253$ they are four to five times higher

NOTE Confidence: 0.6986193

 $00{:}03{:}56{.}253 \dashrightarrow 00{:}03{:}57{.}826$ chance of getting a pancreatic

NOTE Confidence: 0.6986193

 $00{:}03{:}57.826$ --> $00{:}03{:}59.760$ cancer than the general population.

NOTE Confidence: 0.774854

 $00:04:02.800 \rightarrow 00:04:05.640$ So when we think about those risk factors,

NOTE Confidence: 0.774854

00:04:05.640 --> 00:04:08.706 I mean, presumably the genetics of

NOTE Confidence: 0.774854

 $00:04:08.706 \rightarrow 00:04:11.850$ the population are going to remain

 $00:04:11.850 \longrightarrow 00:04:14.158$ relatively the same over time

NOTE Confidence: 0.774854

 $00{:}04{:}14.158 \dashrightarrow 00{:}04{:}15.754$ unless there's some predisposition

NOTE Confidence: 0.774854

 $00{:}04{:}15.754 \dashrightarrow 00{:}04{:}18.028$ for people with a particular

NOTE Confidence: 0.774854

 $00:04:18.028 \rightarrow 00:04:20.624$ mutation to be more proliferative

NOTE Confidence: 0.774854

 $00:04:20.624 \rightarrow 00:04:23.600$ in their birth rate than others.

NOTE Confidence: 0.774854

 $00{:}04{:}23.600 \dashrightarrow 00{:}04{:}25.294$ We know that the rates of smoking

NOTE Confidence: 0.774854

 $00{:}04{:}25{.}294 \dashrightarrow 00{:}04{:}26{.}520$ in general have declined.

NOTE Confidence: 0.774854

 $00{:}04{:}26{.}520 \dashrightarrow 00{:}04{:}29{.}488$ So is the reason why the pancreatic

NOTE Confidence: 0.774854

 $00{:}04{:}29{.}488 \dashrightarrow 00{:}04{:}31{.}765$ cancer rates are increasing really

NOTE Confidence: 0.774854

 $00:04:31.765 \longrightarrow 00:04:34.847$ tied to the obesity rate or

NOTE Confidence: 0.774854

 $00:04:34.847 \longrightarrow 00:04:36.482$ is there something else

NOTE Confidence: 0.774854

 $00:04:36.482 \longrightarrow 00:04:38.397$ that's driving those rates up or

NOTE Confidence: 0.774854

 $00:04:38.397 \longrightarrow 00:04:39.762$ is that something that's just

NOTE Confidence: 0.774854

 $00:04:39.762 \longrightarrow 00:04:41.398$ not very clear at the moment?

NOTE Confidence: 0.92663205

00:04:42.880 --> 00:04:44.360 Yeah, I think it's really

NOTE Confidence: 0.92663205

 $00:04:44.360 \longrightarrow 00:04:45.840$ not clear at this moment.

- NOTE Confidence: 0.92663205
- 00:04:45.840 --> 00:04:47.597 A lot of research goes into that,
- NOTE Confidence: 0.92663205
- $00:04:47.600 \longrightarrow 00:04:49.510$ like predicting why the
- NOTE Confidence: 0.92663205
- $00:04:49.510 \longrightarrow 00:04:51.038$ prevalence is going up.
- NOTE Confidence: 0.92663205
- $00:04:51.040 \longrightarrow 00:04:53.406$ And also a lot of research is
- NOTE Confidence: 0.92663205
- $00{:}04{:}53{.}406 \dashrightarrow 00{:}04{:}55{.}410$ going into how can we diagnose
- NOTE Confidence: 0.92663205
- $00:04:55.410 \longrightarrow 00:04:57.210$ these pancreatic cancer
- NOTE Confidence: 0.92663205
- $00:04:57.210 \longrightarrow 00:05:00.154$ patients early enough so that we can
- NOTE Confidence: 0.92663205
- $00{:}05{:}00{.}154 \dashrightarrow 00{:}05{:}02{.}146$ really give a curative surgery or
- NOTE Confidence: 0.92663205
- $00{:}05{:}02{.}146 \dashrightarrow 00{:}05{:}04{.}384$ curative treatment so that we can
- NOTE Confidence: 0.92663205
- $00:05:04.384 \dashrightarrow 00:05:06.639$ minimize the cancer deaths as well.
- NOTE Confidence: 0.74862117
- $00{:}05{:}07{.}920 \dashrightarrow 00{:}05{:}10.846$ So let's dive into the screening
- NOTE Confidence: 0.74862117
- $00:05:10.846 \longrightarrow 00:05:13.039$ in the prevention part of it.
- NOTE Confidence: 0.74862117
- $00:05:13.040 \longrightarrow 00:05:15.464$ So certainly in terms of primary
- NOTE Confidence: 0.74862117
- 00:05:15.464 --> 00:05:17.480 prevention or reducing one's risk,
- NOTE Confidence: 0.74862117
- $00:05:17.480 \longrightarrow 00:05:19.000$ it sounds like
- NOTE Confidence: 0.74862117

 $00:05:19.000 \longrightarrow 00:05:22.640$ the usual things that we advise almost

NOTE Confidence: 0.74862117

 $00{:}05{:}22{.}640 \dashrightarrow 00{:}05{:}24{.}960$ every body, maintain an ideal body weight,

NOTE Confidence: 0.74862117

00:05:24.960 --> 00:05:26.960 eat right, exercise, don't smoke,

NOTE Confidence: 0.74862117

00:05:26.960 - 00:05:29.879 don't drink, would apply here as well.

NOTE Confidence: 0.74862117

 $00{:}05{:}29{.}880 \dashrightarrow 00{:}05{:}33{.}100$ But when we think about prevention and

NOTE Confidence: 0.74862117

 $00:05:33.100 \longrightarrow 00:05:35.824$ we think about screening, you know,

NOTE Confidence: 0.74862117

 $00{:}05{:}35{.}824 \dashrightarrow 00{:}05{:}38{.}512$ for many of the other cancers,

NOTE Confidence: 0.74862117

 $00:05:38.520 \rightarrow 00:05:40.200$ we have screening tests, right?

NOTE Confidence: 0.74862117

 $00{:}05{:}40.200 \dashrightarrow 00{:}05{:}42.798$ We have mammograms for breast cancer,

NOTE Confidence: 0.74862117

 $00:05:42.800 \dashrightarrow 00:05:46.040$ we have colonoscopies for colon cancer.

NOTE Confidence: 0.74862117

00:05:46.040 --> 00:05:49.072 Now we even have low dose CT for people

NOTE Confidence: 0.74862117

 $00{:}05{:}49{.}072 \dashrightarrow 00{:}05{:}51{.}920$ who are at high risk of lung cancer.

NOTE Confidence: 0.74862117

 $00:05:51.920 \longrightarrow 00:05:53.985$ Do we have any screening

NOTE Confidence: 0.74862117

 $00:05:53.985 \longrightarrow 00:05:55.637$ tests for pancreatic cancer?

NOTE Confidence: 0.34698266

 $00:05:57.160 \rightarrow 00:05:59.043$ That's a really good point you're bringing

NOTE Confidence: 0.34698266

 $00:05:59.043 \rightarrow 00:06:01.358$ up and is like most cancers right now.

- NOTE Confidence: 0.34698266
- $00:06:01.360 \rightarrow 00:06:04.024$ We have a good screening tool to pick

 $00{:}06{:}04.024 \dashrightarrow 00{:}06{:}05.891$ these cancers early enough where

NOTE Confidence: 0.34698266

 $00{:}06{:}05{.}891 \dashrightarrow 00{:}06{:}08{.}153$ we can give a curative treatment.

NOTE Confidence: 0.34698266

 $00:06:08.160 \longrightarrow 00:06:09.888$ But unfortunately for pancreatic

NOTE Confidence: 0.34698266

 $00{:}06{:}09{.}888 \dashrightarrow 00{:}06{:}13.055$ cancer still we do not have an

NOTE Confidence: 0.34698266

 $00{:}06{:}13.055 \dashrightarrow 00{:}06{:}15.520$ effective and reliable screening test,

NOTE Confidence: 0.34698266

 $00:06:15.520 \rightarrow 00:06:19.120$ especially for someone totally asymptomatic.

NOTE Confidence: 0.34698266

00:06:19.120 --> 00:06:20.960 There is no good screening

NOTE Confidence: 0.34698266

 $00{:}06{:}20.960 \dashrightarrow 00{:}06{:}22.800$ test where we can recommend

NOTE Confidence: 0.34698266

 $00:06:22.800 \rightarrow 00:06:24.200$ in our current tools.

NOTE Confidence: 0.34698266

 $00:06:25.000 \rightarrow 00:06:26.480$ But at the same time,

NOTE Confidence: 0.34698266

00:06:26.480 --> 00:06:29.364 if someone has a strong family history

NOTE Confidence: 0.34698266

 $00:06:29.364 \longrightarrow 00:06:31.995$ of pancreatic cancer or other cancers

NOTE Confidence: 0.34698266

 $00{:}06{:}31{.}995 \dashrightarrow 00{:}06{:}34{.}320$ like breast and ovarian cancers,

NOTE Confidence: 0.34698266

 $00:06:34.320 \longrightarrow 00:06:36.176$ we have screening programs

 $00:06:36.176 \longrightarrow 00:06:38.416$ available which will help early

NOTE Confidence: 0.34698266

 $00{:}06{:}38{.}416 \dashrightarrow 00{:}06{:}40{.}880$ diagnosis and improve outcomes.

NOTE Confidence: 0.34698266

00:06:40.880 --> 00:06:43.917 But most of these screening tools

NOTE Confidence: 0.34698266

00:06:43.917 --> 00:06:47.019 rely on imaging such as

NOTE Confidence: 0.34698266

00:06:47.019 --> 00:06:50.917 MRI scans or sometimes we do

NOTE Confidence: 0.34698266

 $00{:}06{:}50{.}917 \dashrightarrow 00{:}06{:}53{.}905$ endoscopic ultrasound which would NOTE Confidence: 0.34698266

 $00{:}06{:}53{.}905 \dashrightarrow 00{:}06{:}56{.}254$ need an esthesia and sometimes

NOTE Confidence: 0.34698266

 $00{:}06{:}56{.}254 \dashrightarrow 00{:}06{:}58{.}389$ a combination we switch between

NOTE Confidence: 0.34698266

 $00{:}06{:}58{.}389 \dashrightarrow 00{:}07{:}00{.}480$ MRI and endoscopic ultrasound.

NOTE Confidence: 0.34698266

 $00{:}07{:}00{.}480 \dashrightarrow 00{:}07{:}02{.}635$ But for general population who

NOTE Confidence: 0.34698266

 $00{:}07{:}02.635 \dashrightarrow 00{:}07{:}05.318$ are asymptomatic or do not have

NOTE Confidence: 0.34698266

00:07:05.318 --> 00:07:06.677 any family history,

NOTE Confidence: 0.34698266

 $00{:}07{:}06.680 \dashrightarrow 00{:}07{:}08.780$ there is still no good screening tool

NOTE Confidence: 0.34698266

 $00:07:08.780 \rightarrow 00:07:11.000$ to pick these cancers early enough.

NOTE Confidence: 0.65979654

 $00{:}07{:}12.520 \dashrightarrow 00{:}07{:}14.758$ And so if there

NOTE Confidence: 0.65979654

 $00:07:14.760 \longrightarrow 00:07:16.950$ is no good screening

- NOTE Confidence: 0.65979654
- $00:07:16.950 \rightarrow 00:07:19.280$ tools for the general population,
- NOTE Confidence: 0.65979654
- $00{:}07{:}19.280 \dashrightarrow 00{:}07{:}21.541$ one of the things that we often
- NOTE Confidence: 0.65979654
- $00{:}07{:}21.541 \dashrightarrow 00{:}07{:}23.972$ recommend is that people know the signs
- NOTE Confidence: 0.65979654
- $00{:}07{:}23{.}972 \dashrightarrow 00{:}07{:}26{.}696$ and symptoms so that at least you can
- NOTE Confidence: 0.65979654
- 00:07:26.696 --> 00:07:29.089 present to your doctor and not bury
- NOTE Confidence: 0.65979654
- $00:07:29.089 \longrightarrow 00:07:31.553$ your head in the sand if you have
- NOTE Confidence: 0.65979654
- $00:07:31.560 \longrightarrow 00:07:33.504$ what might be otherwise
- NOTE Confidence: 0.65979654
- $00{:}07{:}33.504 \dashrightarrow 00{:}07{:}34.800$ considered a red flag.
- NOTE Confidence: 0.65979654
- 00:07:34.800 --> 00:07:37.208 So can you talk a little bit
- NOTE Confidence: 0.65979654
- $00:07:37.208 \longrightarrow 00:07:39.300$ more about how pancreatic cancer
- NOTE Confidence: 0.65979654
- $00{:}07{:}39{.}300 \dashrightarrow 00{:}07{:}42{.}240$ presents and what might be the
- NOTE Confidence: 0.65979654
- $00:07:42.240 \longrightarrow 00:07:44.118$ signs and symptoms that our
- NOTE Confidence: 0.65979654
- $00:07:44.118 \rightarrow 00:07:45.640$ listeners should be watching for?
- NOTE Confidence: 0.944041
- $00{:}07{:}46.960 \dashrightarrow 00{:}07{:}48.800$ Yeah, I'm happy to share.
- NOTE Confidence: 0.944041
- 00:07:48.800 --> 00:07:51.180 Often pancreatic cancer goes unnoticed
- NOTE Confidence: 0.944041

- $00:07:51.180 \dashrightarrow 00:07:54.360$ and undiagnosed for quite a long time.
- NOTE Confidence: 0.944041
- $00:07:54.360 \longrightarrow 00:07:55.150$ That's the really,
- NOTE Confidence: 0.944041
- $00:07:55.150 \rightarrow 00:07:57.915$ really scary part and sad part too.
- NOTE Confidence: 0.944041
- $00{:}07{:}57{.}920 \dashrightarrow 00{:}08{:}01{.}550$ The reason? Many times the pancreatic
- NOTE Confidence: 0.944041
- $00:08:01.550 \longrightarrow 00:08:06.483$ cancer when it presents itself, it's too late.
- NOTE Confidence: 0.944041
- $00{:}08{:}06{.}483 \dashrightarrow 00{:}08{:}10{.}130$ Often the symptoms are so mild like
- NOTE Confidence: 0.944041
- $00{:}08{:}10.235 \dashrightarrow 00{:}08{:}13.490$ abdominal discomfort or mild nausea,
- NOTE Confidence: 0.944041
- 00:08:13.490 > 00:08:15.951 which could be from anything, right?
- NOTE Confidence: 0.944041
- $00{:}08{:}15{.}951 \dashrightarrow 00{:}08{:}18{.}506$ One won't think of pancreatic
- NOTE Confidence: 0.944041
- $00{:}08{:}18.506 \dashrightarrow 00{:}08{:}20.039$ cancer right away.
- NOTE Confidence: 0.944041
- $00:08:20.040 \longrightarrow 00:08:22.092$ The only problem is if that
- NOTE Confidence: 0.944041
- $00{:}08{:}22.092 \dashrightarrow 00{:}08{:}23.460$ discomfort persists and it's
- NOTE Confidence: 0.944041
- 00:08:23.527 --> 00:08:25.237 not going away in few weeks,
- NOTE Confidence: 0.944041
- $00:08:25.240 \rightarrow 00:08:27.615$ then I would suggest patients
- NOTE Confidence: 0.944041
- 00:08:27.615 --> 00:08:29.515 should contact their primary
- NOTE Confidence: 0.944041
- $00:08:29.515 \longrightarrow 00:08:31.498$ doctor or a gastroenterologist

- NOTE Confidence: 0.944041
- $00:08:31.498 \longrightarrow 00:08:33.873$ to initiate further work up.

00:08:33.880 - > 00:08:36.676 But sometimes it's not that easy.

NOTE Confidence: 0.944041

 $00{:}08{:}36{.}680 \dashrightarrow 00{:}08{:}38{.}787$ I had a patient a few months

NOTE Confidence: 0.944041

 $00{:}08{:}38{.}787 \dashrightarrow 00{:}08{:}40{.}519$ ago who had back pain.

NOTE Confidence: 0.944041

 $00{:}08{:}40{.}520 \dashrightarrow 00{:}08{:}43{.}439$ Months of back pain and first went to

NOTE Confidence: 0.944041

 $00{:}08{:}43{.}439 \dashrightarrow 00{:}08{:}45{.}679$ orthopedic surgeon before coming to me.

NOTE Confidence: 0.944041

 $00{:}08{:}45{.}680 \dashrightarrow 00{:}08{:}47{.}051$ Sometimes pancreatic cancer

NOTE Confidence: 0.944041

 $00{:}08{:}47.051 \dashrightarrow 00{:}08{:}49.793$ presents like a back pain too.

NOTE Confidence: 0.944041

 $00{:}08{:}49{.}800 \dashrightarrow 00{:}08{:}53{.}984$ But if someone has a jaundice that is

NOTE Confidence: 0.944041

00:08:53.984 --> 00:08:58.197 dark urine or yellow skin pigmentation,

NOTE Confidence: 0.944041

 $00:08:58.200 \longrightarrow 00:08:59.469$ that's somewhat easy.

NOTE Confidence: 0.944041

 $00{:}08{:}59{.}469 \dashrightarrow 00{:}02{.}861$ That prompts the patient to go to the

NOTE Confidence: 0.944041

00:09:02.861 --> 00:09:05.332 doctor right away and then you get

NOTE Confidence: 0.944041

 $00{:}09{:}05{.}332 \dashrightarrow 00{:}09{:}08{.}199$ work up with either CT scan or MRI.

NOTE Confidence: 0.944041

00:09:08.200 --> 00:09:10.380 Occasionally pancreatic cancers can

 $00:09:10.380 \rightarrow 00:09:13.240$ present like a pancreatitis and that

NOTE Confidence: 0.944041

 $00:09:13.240 \longrightarrow 00:09:15.960$ could be one of the red flags to

NOTE Confidence: 0.944041

00:09:16.046 --> 00:09:19.928 think of pancreatic cancer like hidden

NOTE Confidence: 0.944041

 $00:09:19.928 \dashrightarrow 00:09:22.516$ pancreatic cancer causing pancreatitis.

NOTE Confidence: 0.944041

 $00:09:22.520 \rightarrow 00:09:27.434$ Another very peculiar thing is weight loss.

NOTE Confidence: 0.944041

 $00:09:27.440 \rightarrow 00:09:32.240$ Sometimes we see unrecognized weight loss.

NOTE Confidence: 0.944041

 $00{:}09{:}32.240 \dashrightarrow 00{:}09{:}34.354$ I know every one wants to lose weight,

NOTE Confidence: 0.944041

 $00:09:34.360 \rightarrow 00:09:37.840$ but it's not easy to achieve weight loss.

NOTE Confidence: 0.944041

00:09:37.840 --> 00:09:39.208 And if you know,

NOTE Confidence: 0.944041

 $00:09:39.208 \dashrightarrow 00:09:42.116$ someone says that I lost 30 pounds in

NOTE Confidence: 0.944041

 $00:09:42.116 \dashrightarrow 00:09:44.832$ one month and haven't been working out,

NOTE Confidence: 0.944041

 $00:09:44.840 \longrightarrow 00:09:47.480$ unless you're

NOTE Confidence: 0.944041

 $00:09:47.480 \longrightarrow 00:09:50.000$ doing some major lifestyle change,

NOTE Confidence: 0.944041

 $00:09:50.000 \rightarrow 00:09:51.416$ it's not that easy.

NOTE Confidence: 0.944041

 $00{:}09{:}51.416 \dashrightarrow 00{:}09{:}54.745$ I usually ask them was it easy to lose

NOTE Confidence: 0.944041

 $00:09:54.745 \rightarrow 00:09:57.199$ weight and if they say, yes it was very easy,

- NOTE Confidence: 0.944041
- $00:09:57.200 \longrightarrow 00:09:59.754$ then that's kind of red flag to

 $00{:}09{:}59{.}754 \dashrightarrow 00{:}10{:}02{.}512$ dig deeper to see what is

NOTE Confidence: 0.944041

 $00:10:02.512 \longrightarrow 00:10:04.439$ causing the weight loss.

NOTE Confidence: 0.944041

 $00:10:04.440 \longrightarrow 00:10:06.590$ Another thing which I would

NOTE Confidence: 0.944041

 $00:10:06.590 \longrightarrow 00:10:08.517$ point out is diabetes.

NOTE Confidence: 0.944041

 $00:10:08.517 \rightarrow 00:10:12.339$ There is some strange link between

NOTE Confidence: 0.944041

 $00:10:12.339 \dashrightarrow 00:10:15.000$ diabetes and pancreatic cancer.

NOTE Confidence: 0.944041

 $00:10:15.000 \rightarrow 00:10:17.680$ There is some research going on in this too.

NOTE Confidence: 0.944041

00:10:17.680 --> 00:10:22.188 A new onset diabetes for someone 50

NOTE Confidence: 0.944041

 $00{:}10{:}22.188 \dashrightarrow 00{:}10{:}25.560$ or over that should prompt thinking

NOTE Confidence: 0.944041

 $00{:}10{:}25{.}560 \dashrightarrow 00{:}10{:}28{.}160$ about a hidden pancreatic cancer.

NOTE Confidence: 0.944041

00:10:28.160 --> 00:10:30.880 But of course I want to alert the

NOTE Confidence: 0.944041

 $00:10:30.880 \rightarrow 00:10:32.906$ listeners that not every diabetic

NOTE Confidence: 0.944041

00:10:32.906 --> 00:10:34.606 patient gets pancreatic cancer

NOTE Confidence: 0.944041

 $00{:}10{:}34.606 \dashrightarrow 00{:}10{:}37.440$ or is at risk of pancreatic cancer.

- $00:10:37.440 \longrightarrow 00:10:38.665$ There are 30 million diabetics
- NOTE Confidence: 0.944041
- $00:10:38.665 \rightarrow 00:10:39.400$ in the country,
- NOTE Confidence: 0.944041
- $00:10:39.400 \longrightarrow 00:10:42.160$ but there's only 50 to
- NOTE Confidence: 0.944041
- 00:10:42.160 --> 00:10:45.080 60,000 pancreatic cancers per year.
- NOTE Confidence: 0.944041
- $00{:}10{:}45.080 \dashrightarrow 00{:}10{:}47.555$ But in the pancreatic cancer
- NOTE Confidence: 0.944041
- 00:10:47.555 --> 00:10:49.040 patients after diagnosis,
- NOTE Confidence: 0.944041
- $00:10:49.040 \longrightarrow 00:10:50.280$ if you look at them,
- NOTE Confidence: 0.944041
- $00:10:50.280 \rightarrow 00:10:52.926$ they can lose the diabetes control
- NOTE Confidence: 0.944041
- $00{:}10{:}52{.}926$ --> $00{:}10{:}55{.}000$ the blood sugar showed up.
- NOTE Confidence: 0.944041
- $00:10:55.000 \rightarrow 00:10:58.304$ So any acute change in diabetes control
- NOTE Confidence: 0.944041
- $00{:}10{:}58{.}304 \dashrightarrow 00{:}11{:}02{.}226$ or a new onset diabetes that should
- NOTE Confidence: 0.944041
- 00:11:02.226 --> 00:11:05.826 also prompt someone to look deeper
- NOTE Confidence: 0.944041
- 00:11:05.932 --> 00:11:08.530 if there's any hidden malignancy,
- NOTE Confidence: 0.944041
- $00:11:08.530 \rightarrow 00:11:10.120$ especially pancreatic cancer.
- NOTE Confidence: 0.7120253
- 00:11:12.320 --> 00:11:15.137 Yeah, I have a good friend who actually
- NOTE Confidence: 0.7120253
- $00:11:15.137 \rightarrow 00:11:17.476$ falls into that latter category who,

- NOTE Confidence: 0.7120253
- 00:11:17.480 --> 00:11:18.600 you know, was diabetic.

00:11:18.600 --> 00:11:20.988 But all of a sudden she

NOTE Confidence: 0.7120253

00:11:20.988 --> 00:11:23.211 found that her, her diabetes really

NOTE Confidence: 0.7120253

00:11:23.211 --> 00:11:25.713 wasn't under control and it was

NOTE Confidence: 0.7120253

 $00{:}11{:}25{.}720 \dashrightarrow 00{:}11{:}27{.}925$ very hard to

NOTE Confidence: 0.7120253

 $00:11:27.925 \longrightarrow 00:11:29.745$ keep her blood sugars under

NOTE Confidence: 0.7120253

 $00:11:29.745 \longrightarrow 00:11:32.160$ control as she had in the past.

NOTE Confidence: 0.7120253

 $00:11:32.160 \longrightarrow 00:11:33.568$ And lo and behold,

NOTE Confidence: 0.7120253

 $00{:}11{:}33{.}568 \dashrightarrow 00{:}11{:}36{.}163$ she went and she presented to her

NOTE Confidence: 0.7120253

00:11:36.163 --> 00:11:38.213 primary care doctor and ultimately

NOTE Confidence: 0.7120253

 $00{:}11{:}38{.}213 \dashrightarrow 00{:}11{:}41{.}400$ was found to have a pancreatic cancer.

NOTE Confidence: 0.7120253

00:11:41.400 --> 00:11:44.109 So can you talk a little bit now that

NOTE Confidence: 0.7120253

 $00{:}11{:}44{.}109 \dashrightarrow 00{:}11{:}46{.}609$ you've nicely laid out kind of the

NOTE Confidence: 0.7120253

 $00{:}11{:}46.609 \dashrightarrow 00{:}11{:}49.200$ landscape of what people should look for.

NOTE Confidence: 0.7120253

 $00{:}11{:}49{.}200 \dashrightarrow 00{:}11{:}51{.}288$ If you have any of those signs or

 $00:11:51.288 \rightarrow 00:11:53.074$ symptoms and are concerned and you

NOTE Confidence: 0.7120253

00:11:53.074 --> 00:11:54.880 go to your primary care doctor,

NOTE Confidence: 0.7120253

00:11:54.880 --> 00:11:56.973 can you talk a little bit about

NOTE Confidence: 0.7120253

 $00:11:56.973 \rightarrow 00:11:59.640$ what the work up is to try to

NOTE Confidence: 0.7120253

 $00:11:59.640 \rightarrow 00:12:01.000$ find these pancreatic cancers?

NOTE Confidence: 0.7120253

 $00{:}12{:}01{.}000 \dashrightarrow 00{:}12{:}03{.}611$ What can people expect and how is NOTE Confidence: $0{.}7120253$

 $00:12:03.611 \rightarrow 00:12:05.120$ the diagnosis ultimately made?

NOTE Confidence: 0.41537875

 $00:12:06.640 \longrightarrow 00:12:09.818$ Yes. If someone has this kind of

NOTE Confidence: 0.41537875

 $00{:}12{:}09{.}818 \dashrightarrow 00{:}12{:}13{.}199$ red flags or high risk symptoms, NOTE Confidence: 0.41537875

 $00:12:13.200 \rightarrow 00:12:15.825$ then the first work up of course NOTE Confidence: 0.41537875

 $00{:}12{:}15.825 \dashrightarrow 00{:}12{:}19.218$ a lab test of blood work to look NOTE Confidence: 0.41537875

 $00:12:19.218 \rightarrow 00:12:21.398$ for elevation in liver test.

NOTE Confidence: 0.41537875

 $00:12:21.400 \longrightarrow 00:12:23.840$ And then the most important

NOTE Confidence: 0.41537875

 $00{:}12{:}23.840 \dashrightarrow 00{:}12{:}26.633$ aspect of the work up is some

NOTE Confidence: 0.41537875

 $00{:}12{:}26.633 \dashrightarrow 00{:}12{:}28.360$ kind of cross-sectional scans,

NOTE Confidence: 0.41537875

 $00{:}12{:}28{.}360 \dashrightarrow 00{:}12{:}31{.}918$ either CT scan or MRI scan.

- NOTE Confidence: 0.41537875
- 00:12:31.920 --> 00:12:36.740 Often CT or MRI will find the mass,
- NOTE Confidence: 0.41537875
- $00:12:36.740 \longrightarrow 00:12:38.274$ the pancreatic cancer mass
- NOTE Confidence: 0.41537875
- $00:12:38.274 \longrightarrow 00:12:40.359$ in one or two centimeters.
- NOTE Confidence: 0.41537875
- $00:12:40.360 \rightarrow 00:12:42.880$ But occasionally if it's smaller than that,
- NOTE Confidence: 0.41537875
- $00{:}12{:}42.880 \dashrightarrow 00{:}12{:}46.240$ sometimes scans can miss that too.
- NOTE Confidence: 0.41537875
- $00:12:46.240 \longrightarrow 00:12:49.236$ Then we rely on what is called
- NOTE Confidence: 0.41537875
- 00:12:49.236 --> 00:12:50.520 as endoscopic ultrasound,
- NOTE Confidence: 0.41537875
- $00:12:50.520 \rightarrow 00:12:52.660$ which is done by gastroenterologists
- NOTE Confidence: 0.41537875
- $00:12:52.660 \longrightarrow 00:12:53.516$ like myself.
- NOTE Confidence: 0.41537875
- $00:12:53.520 \longrightarrow 00:12:55.560$ Then the patient needs to go
- NOTE Confidence: 0.41537875
- $00{:}12{:}55{.}560 \dashrightarrow 00{:}12{:}57{.}320$ under an esthesia and the endoscope
- NOTE Confidence: 0.41537875
- $00:12:57.320 \longrightarrow 00:12:59.273$ goes through the mouth and
- NOTE Confidence: 0.41537875
- $00{:}12{:}59{.}273 \dashrightarrow 00{:}13{:}01{.}838$ scan through the stomach wall.
- NOTE Confidence: 0.41537875
- 00:13:01.840 --> 00:13:03.300 As listeners may know,
- NOTE Confidence: 0.41537875
- $00:13:03.300 \rightarrow 00:13:06.080$ the pancreas lies just behind the stomach.
- NOTE Confidence: 0.41537875

 $00:13:06.080 \rightarrow 00:13:07.928$ So once you go inside the stomach

NOTE Confidence: 0.41537875

 $00{:}13{:}07{.}928 \dashrightarrow 00{:}13{:}09{.}680$ and scan through the stomach wall,

NOTE Confidence: 0.41537875

00:13:09.680 --> 00:13:12.592 you can get a precise look at the

NOTE Confidence: 0.41537875

 $00{:}13{:}12{.}592 \dashrightarrow 00{:}13{:}14{.}922$ pancreas and even pick up subtle

NOTE Confidence: 0.41537875

 $00{:}13{:}14.922 \dashrightarrow 00{:}13{:}17.600$ masses or very small tiny masses too.

NOTE Confidence: 0.41537875

00:13:17.600 --> 00:13:21.800 Sometimes we rely on cancer biomarkers

NOTE Confidence: 0.41537875

00:13:21.800 --> 00:13:25.280 like one called California 19-9,

NOTE Confidence: 0.41537875

 $00:13:25.280 \longrightarrow 00:13:28.388$ but we often don't use that as

NOTE Confidence: 0.41537875

 $00{:}13{:}28{.}388 \dashrightarrow 00{:}13{:}31{.}916$ the first test to screen or

NOTE Confidence: 0.41537875

00:13:31.916 --> 00:13:33.680 diagnose pancreatic cancer.

NOTE Confidence: 0.41537875

 $00{:}13{:}33{.}680 \dashrightarrow 00{:}13{:}36{.}686$ The reason behind is most pancreatic

NOTE Confidence: 0.41537875

00:13:36.686 - 00:13:39.150 cancer patients may have very

NOTE Confidence: 0.41537875

00:13:39.150 --> 00:13:41.584 high numbers in California 99,

NOTE Confidence: 0.41537875

 $00:13:41.584 \rightarrow 00:13:45.124$ but there are some blood group patients

NOTE Confidence: 0.41537875

 $00:13:45.124 \longrightarrow 00:13:47.788$ may not mount that California 99

NOTE Confidence: 0.41537875

 $00:13:47.788 \longrightarrow 00:13:50.878$ so it could be falsely negative.

 $00:13:50.880 \longrightarrow 00:13:52.632$ At the same time,

NOTE Confidence: 0.41537875

 $00{:}13{:}52{.}632 \dashrightarrow 00{:}13{:}56{.}159$ if someone has a bile duct stone or

NOTE Confidence: 0.41537875

 $00:13:56.160 \longrightarrow 00:13:58.799$ a benign problem in the bile duct

NOTE Confidence: 0.41537875

 $00{:}13{:}58{.}800 \dashrightarrow 00{:}14{:}02{.}321$ or just a pancreatitis that can also

NOTE Confidence: 0.41537875

00:14:02.321 --> 00:14:04.760 spuriously falsely show very high

NOTE Confidence: 0.41537875

 $00{:}14{:}04.760 \dashrightarrow 00{:}14{:}08.112$ levels of this cancer biomarker C in 99.

NOTE Confidence: 0.41537875

 $00:14:08.120 \longrightarrow 00:14:10.288$ So for that reason we don't rely on

NOTE Confidence: 0.41537875

 $00:14:10.288 \longrightarrow 00:14:12.477$ that a lot, especially to diagnose,

NOTE Confidence: 0.41537875

 $00:14:12.477 \longrightarrow 00:14:15.111$ but we definitely rely on CT

NOTE Confidence: 0.41537875

 $00{:}14{:}15{.}111 \dashrightarrow 00{:}14{:}17{.}598$ scan or MRI scan to start with.

NOTE Confidence: 0.6394128

 $00{:}14{:}18{.}320 \dashrightarrow 00{:}14{:}20{.}497$ Fantastic. Well, we're going to take a

NOTE Confidence: 0.6394128

 $00{:}14{:}20{.}497 \dashrightarrow 00{:}14{:}22{.}679$ short break here for a medical minute,

NOTE Confidence: 0.6394128

00:14:22.680 --> 00:14:24.528 but please stay tuned to learn more

NOTE Confidence: 0.6394128

00:14:24.528 --> 00:14:26.328 about the care of pancreatic cancers

NOTE Confidence: 0.6394128

 $00{:}14{:}26{.}328 \dashrightarrow 00{:}14{:}28{.}480$ with my guest, Doctor Thiru Muniraj.

00:14:29.480 --> 00:14:31.520 Funding for Yale Cancer Answers

NOTE Confidence: 0.5122998

 $00{:}14{:}31{.}520 \dashrightarrow 00{:}14{:}33{.}560$ comes from Smilow Cancer Hospital,

NOTE Confidence: 0.5122998

 $00{:}14{:}33.560 \dashrightarrow 00{:}14{:}35.795$ where their Center for Gastro intestinal

NOTE Confidence: 0.5122998

 $00:14:35.795 \rightarrow 00:14:38.501$ Cancers is committed to detecting pancreatic

NOTE Confidence: 0.5122998

 $00{:}14{:}38{.}501 \dashrightarrow 00{:}14{:}40{.}546$ cancer early and using state-of-the-art

NOTE Confidence: 0.5122998

 $00{:}14{:}40.546 \dashrightarrow 00{:}14{:}42.676$ technology to treat the condition.

NOTE Confidence: 0.5122998

00:14:42.680 --> 00:14:47.280 Learn more at smilowcancerhospital.org.

NOTE Confidence: 0.5122998

00:14:47.280 --> 00:14:49.380 The American Cancer Society

NOTE Confidence: 0.5122998

 $00:14:49.380 \longrightarrow 00:14:51.740$ estimates that nearly 150,000 people

NOTE Confidence: 0.5122998

 $00:14:51.740 \longrightarrow 00:14:54.470$ in the US will be diagnosed with

NOTE Confidence: 0.5122998

 $00{:}14{:}54{.}470 \dashrightarrow 00{:}14{:}56{.}480$ colorectal cancer this year alone.

NOTE Confidence: 0.5122998

 $00:14:56.480 \longrightarrow 00:14:57.728$ When detected early,

NOTE Confidence: 0.5122998

 $00:14:57.728 \longrightarrow 00:14:59.392$ colorectal cancer is easily

NOTE Confidence: 0.5122998

 $00:14:59.392 \rightarrow 00:15:01.200$ treated and highly curable,

NOTE Confidence: 0.5122998

 $00{:}15{:}01{.}200 \dashrightarrow 00{:}15{:}03{.}540$ and men and women over the age of 45

NOTE Confidence: 0.5122998

 $00:15:03.540 \rightarrow 00:15:05.070$ should have regular colonoscopies

- NOTE Confidence: 0.5122998
- $00{:}15{:}05{.}070 \dashrightarrow 00{:}15{:}07{.}075$ to screen for the disease.
- NOTE Confidence: 0.5122998
- $00{:}15{:}07{.}080 \dashrightarrow 00{:}15{:}08{.}520$ Patients with colorectal cancer
- NOTE Confidence: 0.5122998
- $00:15:08.520 \rightarrow 00:15:10.680$ have more hope than ever before,
- NOTE Confidence: 0.5122998
- $00{:}15{:}10.680 \dashrightarrow 00{:}15{:}13.512$ thanks to increased access to advanced
- NOTE Confidence: 0.5122998
- $00:15:13.512 \dashrightarrow 00:15:15.400$ the rapies and specialized care.
- NOTE Confidence: 0.5122998
- $00:15:15.400 \rightarrow 00:15:17.408$ Clinical trials are currently
- NOTE Confidence: 0.5122998
- $00:15:17.408 \rightarrow 00:15:19.416$ underway at federally designated
- NOTE Confidence: 0.5122998
- $00:15:19.416 \rightarrow 00:15:21.143$ comprehensive cancer centers such
- NOTE Confidence: 0.5122998
- 00:15:21.143 --> 00:15:23.432 as Yale Cancer Center and Smilow
- NOTE Confidence: 0.5122998
- $00{:}15{:}23{.}432 \dashrightarrow 00{:}15{:}25{.}570$ Cancer Hospital to test innovative
- NOTE Confidence: 0.5122998
- $00:15:25.570 \longrightarrow 00:15:27.755$ new treatments for colorectal cancer.
- NOTE Confidence: 0.5122998
- $00:15:27.760 \longrightarrow 00:15:30.514$ Tumor gene analysis has helped improve
- NOTE Confidence: 0.5122998
- $00{:}15{:}30{.}514 \dashrightarrow 00{:}15{:}32{.}863$ management of colorectal cancer by
- NOTE Confidence: 0.5122998
- $00{:}15{:}32{.}863 \dashrightarrow 00{:}15{:}35{.}093$ identifying the patients most likely
- NOTE Confidence: 0.5122998
- $00{:}15{:}35{.}093 \dashrightarrow 00{:}15{:}37{.}408$ to be nefit from chemotherapy and
- NOTE Confidence: 0.5122998

 $00:15:37.408 \rightarrow 00:15:39.733$ newer targeted agents resulting in

NOTE Confidence: 0.5122998

 $00{:}15{:}39{.}733 \dashrightarrow 00{:}15{:}41{.}593$ more patient specific treatment.

NOTE Confidence: 0.5122998

00:15:41.600 --> 00:15:43.968 More information is available

NOTE Confidence: 0.5122998

 $00:15:43.968 \rightarrow 00:15:44.994$ at yalecancercenter.org.

NOTE Confidence: 0.5122998

00:15:44.994 --> 00:15:47.598 You're listening to Connecticut Public Radio.

NOTE Confidence: 0.38696218

 $00{:}15{:}48.560 \dashrightarrow 00{:}15{:}50.438$ Welcome back to Yale Cancer Answers.

NOTE Confidence: 0.38696218

 $00:15:50.440 \dashrightarrow 00:15:52.474$ This is Doctor Anees Chagpar and

NOTE Confidence: 0.38696218

00:15:52.474 --> 00:15:54.680 I am joined tonight by my guest,

NOTE Confidence: 0.38696218

00:15:54.680 --> 00:15:55.925 Doctor Thiru Muniraj.

NOTE Confidence: 0.38696218

 $00{:}15{:}55{.}925 \dashrightarrow 00{:}15{:}58{.}415$ We're talking about the care of

NOTE Confidence: 0.38696218

 $00:15:58.415 \longrightarrow 00:16:00.685$ pancreatic cancer patients in honor

NOTE Confidence: 0.38696218

00:16:00.685 --> 00:16:02.920 of Pancreatic Cancer Awareness Month.

NOTE Confidence: 0.38696218

00:16:02.920 --> 00:16:05.384 Now right before the break we talked

NOTE Confidence: 0.38696218

00:16:05.384 --> 00:16:07.942 about the fact that pancreatic cancer

NOTE Confidence: 0.38696218

 $00{:}16{:}07{.}942 \dashrightarrow 00{:}16{:}10{.}798$ incidence is increasing in this country

NOTE Confidence: 0.38696218

 $00:16:10.800 \rightarrow 00:16:13.159$ for reasons that are not entirely clear,

 $00{:}16{:}13.160 \dashrightarrow 00{:}16{:}15.998$ although may be related to obesity.

NOTE Confidence: 0.38696218

00:16:16.000 $\operatorname{-->}$ 00:16:18.288 We talked about the fact that for the

NOTE Confidence: 0.38696218

 $00{:}16{:}18{.}288 \dashrightarrow 00{:}16{:}20{.}227$ vast majority of the general population

NOTE Confidence: 0.38696218

 $00{:}16{:}20{.}227 \dashrightarrow 00{:}16{:}22{.}520$ we really don't have a screening test.

NOTE Confidence: 0.38696218

 $00{:}16{:}22.520 \dashrightarrow 00{:}16{:}25.008$ So there are a number of things that

NOTE Confidence: 0.38696218

 $00{:}16{:}25{.}008 \dashrightarrow 00{:}16{:}27{.}633$ you can look for and talk to your

NOTE Confidence: 0.38696218

 $00{:}16{:}27.633 \dashrightarrow 00{:}16{:}29.719$ doctor about if you have symptoms

NOTE Confidence: 0.38696218

 $00:16:29.719 \dashrightarrow 00:16:31.957$ or signs that might be concerning.

NOTE Confidence: 0.38696218

 $00:16:31.960 \longrightarrow 00:16:33.560$ Right before the break,

NOTE Confidence: 0.38696218

 $00{:}16{:}33{.}560 \dashrightarrow 00{:}16{:}36{.}664$ you talked about the fact that often times

NOTE Confidence: 0.38696218

 $00:16:36.664 \rightarrow 00:16:39.580$ the next step is cross-sectional imaging

NOTE Confidence: 0.38696218

 $00{:}16{:}39{.}580 \dashrightarrow 00{:}16{:}43{.}680$ and biomarkers are not really perfect

NOTE Confidence: 0.38696218

 $00{:}16{:}43.680 \dashrightarrow 00{:}16{:}45.720$ in this regard.

NOTE Confidence: 0.38696218

 $00{:}16{:}45.720 \dashrightarrow 00{:}16{:}48.483$ But can you talk a little bit about how

NOTE Confidence: 0.38696218

 $00{:}16{:}48{.}483 \dashrightarrow 00{:}16{:}51{.}078$ exactly we go about making that diagnosis?

 $00:16:51.080 \longrightarrow 00:16:53.000$ I mean for many cancers,

NOTE Confidence: 0.38696218

 $00:16:53.000 \rightarrow 00:16:55.555$ there's actually a biopsy that takes place.

NOTE Confidence: 0.38696218

 $00:16:55.560 \rightarrow 00:16:58.360$ Is that the same for pancreatic cancer?

NOTE Confidence: 0.38696218

 $00:16:58.360 \rightarrow 00:16:59.464$ And if so,

NOTE Confidence: 0.38696218

 $00{:}16{:}59{.}464 \dashrightarrow 00{:}17{:}02{.}919$ how is that done and what's the next step?

NOTE Confidence: 0.648787278333334

00:17:04.320 --> 00:17:06.777 That's true and once we

NOTE Confidence: 0.648787278333334

00:17:06.777 --> 00:17:09.389 do a CT scan or MRI scan and if

NOTE Confidence: 0.648787278333334

 $00:17:09.389 \longrightarrow 00:17:12.646$ we find a mass or even if we see

NOTE Confidence: 0.648787278333334

 $00:17:12.646 \rightarrow 00:17:14.771$ subtle signs which are prompting

NOTE Confidence: 0.648787278333334

 $00:17:14.771 \longrightarrow 00:17:16.520$ that there could be a mass,

NOTE Confidence: 0.648787278333334

 $00:17:16.520 \longrightarrow 00:17:19.131$ the next best test is to get

NOTE Confidence: 0.648787278333334

 $00:17:19.131 \longrightarrow 00:17:21.128$ a biopsy without a tissue.

NOTE Confidence: 0.648787278333334

 $00:17:21.128 \longrightarrow 00:17:23.624$ Then it's pretty hard to even

NOTE Confidence: 0.648787278333334

 $00{:}17{:}23.624 \dashrightarrow 00{:}17{:}25.781$ establish the diagnosis and for

NOTE Confidence: 0.648787278333334

 $00{:}17{:}25.781 \dashrightarrow 00{:}17{:}28.277$ that matter to start the treatment.

NOTE Confidence: 0.648787278333334

 $00:17:28.280 \longrightarrow 00:17:31.160$ So the biopsies are often done

- NOTE Confidence: 0.648787278333334
- $00:17:31.160 \longrightarrow 00:17:32.120$ by a gastroenterologist,
- NOTE Confidence: 0.648787278333334
- $00:17:32.120 \longrightarrow 00:17:35.040$ advanced endoscopist who performs what
- NOTE Confidence: 0.648787278333334
- $00:17:35.040 \longrightarrow 00:17:37.960$ is called as endoscopic ultrasound.
- NOTE Confidence: 0.648787278333334
- $00:17:37.960 \longrightarrow 00:17:40.135$ So the endoscopic ultrasound is
- NOTE Confidence: 0.648787278333334
- $00:17:40.135 \longrightarrow 00:17:42.785$ a type of endoscopy which is
- NOTE Confidence: 0.648787278333334
- $00{:}17{:}42.785 \dashrightarrow 00{:}17{:}44.755$ done often as an outpatient.
- NOTE Confidence: 0.648787278333334
- $00:17:44.760 \longrightarrow 00:17:47.688$ The patient can come in and
- NOTE Confidence: 0.648787278333334
- $00:17:47.688 \longrightarrow 00:17:50.550$ go home the same day and it's
- NOTE Confidence: 0.648787278333334
- 00:17:50.550 --> 00:17:52.625 done under an
esthesia like someone
- NOTE Confidence: 0.648787278333334
- $00:17:52.625 \rightarrow 00:17:55.278$ has a colonoscopy under anesthesia.
- NOTE Confidence: 0.648787278333334
- $00:17:55.280 \longrightarrow 00:17:58.675$ Most often that's how it is done.
- NOTE Confidence: 0.648787278333334
- $00{:}17{:}58{.}680 \dashrightarrow 00{:}18{:}00{.}996$ The endoscope goes through the mouth
- NOTE Confidence: 0.648787278333334
- $00{:}18{:}01{.}000 \dashrightarrow 00{:}18{:}03{.}892$ and then we enter the stomach and
- NOTE Confidence: 0.648787278333334
- $00{:}18{:}03{.}892 \dashrightarrow 00{:}18{:}06{.}776$ then we scan through the stomach wall
- NOTE Confidence: 0.648787278333334
- $00:18:06.776 \rightarrow 00:18:09.999$ and find where the pancreatic mass is NOTE Confidence: 0.648787278333334

 $00:18:10.000 \rightarrow 00:18:13.276$ and precisely locate and identify that.

NOTE Confidence: 0.648787278333334

 $00{:}18{:}13.280 \dashrightarrow 00{:}18{:}14.760$ And once we identify,

NOTE Confidence: 0.648787278333334

 $00:18:14.760 \longrightarrow 00:18:17.558$ then we pass a very tiny thin

NOTE Confidence: 0.648787278333334

 $00:18:17.558 \rightarrow 00:18:20.038$ needle through the stomach wall.

NOTE Confidence: 0.648787278333334

 $00{:}18{:}20{.}040 \dashrightarrow 00{:}18{:}22{.}355$ That needle is often thinner

NOTE Confidence: 0.648787278333334

 $00{:}18{:}22{.}355 \dashrightarrow 00{:}18{:}25{.}272$ than the IV needle what patients

NOTE Confidence: 0.648787278333334

 $00{:}18{:}25{.}272 \dashrightarrow 00{:}18{:}27{.}797$ often have for IV fluids.

NOTE Confidence: 0.648787278333334

 $00{:}18{:}27{.}800 \dashrightarrow 00{:}18{:}30{.}568$ And then once we get a good sample

NOTE Confidence: 0.648787278333334

 $00{:}18{:}30{.}568 \dashrightarrow 00{:}18{:}34{.}172$ from that pancreatic mass and we have a

NOTE Confidence: 0.648787278333334

 $00:18:34.172 \rightarrow 00:18:38.279$ facility called rapid onsite cytology.

NOTE Confidence: 0.648787278333334

 $00{:}18{:}38{.}280 \dashrightarrow 00{:}18{:}40{.}912$ What that means is we have a luxury

NOTE Confidence: 0.648787278333334

 $00{:}18{:}40{.}912 \dashrightarrow 00{:}18{:}43{.}768$ of having a pathologist come to the

NOTE Confidence: 0.648787278333334

 $00:18:43.768 \rightarrow 00:18:46.596$ endoscopy suite and look at the sample

NOTE Confidence: 0.648787278333334

 $00:18:46.596 \rightarrow 00:18:49.103$ under microscope in real time when

NOTE Confidence: 0.648787278333334

 $00{:}18{:}49{.}103 \dashrightarrow 00{:}18{:}52{.}468$ we are still doing the procedure and

NOTE Confidence: 0.648787278333334

 $00:18:52.468 \rightarrow 00:18:55.756$ we have world class endoscopy cytologists,

 $00{:}18{:}55{.}760 \dashrightarrow 00{:}19{:}00{.}198$ they will diagnose then and there often

NOTE Confidence: 0.648787278333334

 $00{:}19{:}00{.}200 \dashrightarrow 00{:}19{:}02{.}444$ sometimes they would take the slides

NOTE Confidence: 0.648787278333334

 $00{:}19{:}02{.}444 \dashrightarrow 00{:}19{:}05{.}472$ to their lab to process more and we

NOTE Confidence: 0.648787278333334

 $00:19:05.472 \rightarrow 00:19:07.840$ also do what is called a score biopsy,

NOTE Confidence: 0.648787278333334

 $00:19:07.840 \longrightarrow 00:19:10.276$ getting more tissue from the

NOTE Confidence: 0.648787278333334

 $00{:}19{:}10.276 \dashrightarrow 00{:}19{:}12.744$ pancreatic mass and that is very

NOTE Confidence: 0.648787278333334

 $00:19:12.744 \longrightarrow 00:19:14.674$ helpful to do further testing,

NOTE Confidence: 0.648787278333334

 $00:19:14.680 \rightarrow 00:19:17.632$ especially genetic testing on that sample

NOTE Confidence: 0.648787278333334

 $00:19:17.632 \rightarrow 00:19:20.835$ to determine what is the best treatment,

NOTE Confidence: 0.648787278333334

 $00:19:20.835 \longrightarrow 00:19:22.895$ especially a personalized treatment

NOTE Confidence: 0.648787278333334

 $00:19:22.895 \longrightarrow 00:19:24.955$ for that particular patient.

NOTE Confidence: 0.648787278333334

 $00:19:24.960 \rightarrow 00:19:27.235$ So everything is done as an outpatient.

NOTE Confidence: 0.648787278333334

 $00{:}19{:}27{.}240 \dashrightarrow 00{:}19{:}29{.}700$ That procedure takes 30 minutes to

NOTE Confidence: 0.648787278333334

 $00{:}19{:}29{.}700 \dashrightarrow 00{:}19{:}32{.}486$ one hour and the patients leave

NOTE Confidence: 0.648787278333334

 $00{:}19{:}32{.}486 \dashrightarrow 00{:}19{:}34{.}692$ the endoscopy unit after half an

 $00:19:34.692 \longrightarrow 00:19:35.916$ hour of the procedure is over.

NOTE Confidence: 0.4744714

00:19:38.040 --> 00:19:39.468 So let's talk a little

NOTE Confidence: 0.4744714

 $00{:}19{:}39{.}468 \dashrightarrow 00{:}19{:}40{.}858$ bit more about this personalized

NOTE Confidence: 0.4744714

 $00{:}19{:}40.858 \dashrightarrow 00{:}19{:}42.798$ medicine that you were mentioning.

NOTE Confidence: 0.4744714

00:19:42.800 --> 00:19:44.648 I mean, we've talked a lot on the

NOTE Confidence: 0.4744714

00:19:44.648 --> 00:19:46.320 show about personalized medicine.

NOTE Confidence: 0.4744714

00:19:46.320 $\operatorname{-->}$ 00:19:49.560 It seems to be the buzzword these

NOTE Confidence: 0.4744714

00:19:49.560 --> 00:19:51.960 days in terms of cancer treatment,

NOTE Confidence: 0.4744714

00:19:51.960 --> 00:19:54.753 especially as we discover more and more

NOTE Confidence: 0.4744714

 $00:19:54.753 \rightarrow 00:19:57.198$ about the genetics of these cancers.

NOTE Confidence: 0.4744714

00:19:57.200 --> 00:20:00.840 So can you talk a little bit about

NOTE Confidence: 0.4744714

 $00{:}20{:}00{.}840 \dashrightarrow 00{:}20{:}03{.}960$ what kinds of the rapies patients

NOTE Confidence: 0.4744714

 $00:20:03.960 \longrightarrow 00:20:06.920$ might find themselves

NOTE Confidence: 0.4744714

 $00:20:06.920 \longrightarrow 00:20:09.880$ facing after a biopsy.

NOTE Confidence: 0.4744714

00:20:09.880 --> 00:20:12.360 I mean, is this chemotherapy,

NOTE Confidence: 0.4744714

 $00:20:12.360 \longrightarrow 00:20:14.796$ is it surgery, is it radiation,

- NOTE Confidence: 0.4744714
- $00:20:14.800 \longrightarrow 00:20:16.069$ is it immunotherapy?

00:20:16.069 --> 00:20:18.607 Kind of give us a landscape

NOTE Confidence: 0.4744714

 $00:20:18.607 \longrightarrow 00:20:21.280$ of what people can expect.

NOTE Confidence: 0.86300063

00:20:22.800 --> 00:20:28.155 Yeah. So surgery is the curative treatment.

NOTE Confidence: 0.86300063

 $00:20:28.160 \longrightarrow 00:20:31.576$ But unfortunately when we see a pancreatic

NOTE Confidence: 0.86300063

 $00:20:31.576 \longrightarrow 00:20:34.560$ cancer patient over 50% of the time

NOTE Confidence: 0.86300063

 $00:20:34.560 \longrightarrow 00:20:36.960$ the cancer has already metastasized.

NOTE Confidence: 0.86300063

 $00:20:36.960 \rightarrow 00:20:39.837$ That means gone to a different organ.

NOTE Confidence: 0.86300063

 $00:20:41.840 \longrightarrow 00:20:44.204$ That's for diagnosis and

NOTE Confidence: 0.86300063

 $00{:}20{:}44{.}204 \dashrightarrow 00{:}20{:}46{.}648$ screening and picking up the subtle

NOTE Confidence: 0.86300063

 $00{:}20{:}46.648 \dashrightarrow 00{:}20{:}49.520$ findings of the symptoms and the

NOTE Confidence: 0.86300063

 $00{:}20{:}49{.}520 \dashrightarrow 00{:}20{:}53{.}516$ rest 50% of the patients, around 10 to 20%,

NOTE Confidence: 0.86300063

 $00{:}20{:}53.516 \dashrightarrow 00{:}20{:}56.210$ they'll be eligible for a

NOTE Confidence: 0.86300063

 $00{:}20{:}56{.}299 \dashrightarrow 00{:}20{:}58{.}199$ surgery right away.

NOTE Confidence: 0.86300063

 $00:20:58.200 \longrightarrow 00:21:00.727$ But again another 30% of patients have

 $00:21:00.727 \longrightarrow 00:21:03.880$ what is called locally advanced.

NOTE Confidence: 0.86300063

 $00:21:03.880 \rightarrow 00:21:06.316$ That means they have to go through

NOTE Confidence: 0.86300063

 $00{:}21{:}06{.}320 \dashrightarrow 00{:}21{:}08{.}552$ chemotherapy or radiation first

NOTE Confidence: 0.86300063

 $00:21:08.552 \longrightarrow 00:21:11.900$ to shrink the tumor down and

NOTE Confidence: 0.86300063

 $00:21:12.003 \rightarrow 00:21:15.800$ then eventually go for surgery.

NOTE Confidence: 0.86300063

00:21:15.800 --> 00:21:17.210 Like you mentioned,

NOTE Confidence: 0.86300063

 $00{:}21{:}17{.}210 \dashrightarrow 00{:}21{:}19{.}560$ there's personalized medicine that is

NOTE Confidence: 0.86300063

 $00:21:19.560 \rightarrow 00:21:23.532$ directing the treatment of chemotherapy or

NOTE Confidence: 0.86300063

 $00{:}21{:}23.532 \dashrightarrow 00{:}21{:}26.224$ immuno therapy towards that particular tumor.

NOTE Confidence: 0.86300063

00:21:26.224 --> 00:21:27.236 Each tumor,

NOTE Confidence: 0.86300063

 $00:21:27.240 \longrightarrow 00:21:28.536$ each body is different.

NOTE Confidence: 0.86300063

 $00:21:28.536 \longrightarrow 00:21:30.480$ We respond in a different way.

NOTE Confidence: 0.86300063

 $00:21:30.480 \longrightarrow 00:21:32.742$ And once the genetic

NOTE Confidence: 0.86300063

 $00{:}21{:}32{.}742 \dashrightarrow 00{:}21{:}34{.}800$ makeup of that particular tissue,

NOTE Confidence: 0.86300063

 $00{:}21{:}34{.}800 \dashrightarrow 00{:}21{:}37{.}104$ then we can direct the treatment

NOTE Confidence: 0.86300063

 $00:21:37.104 \rightarrow 00:21:38.640$ towards that particular tissue,

- NOTE Confidence: 0.86300063
- $00:21:38.640 \longrightarrow 00:21:40.764$ that particular patient who

 $00:21:40.764 \longrightarrow 00:21:43.040$ will respond better.

NOTE Confidence: 0.86300063

00:21:43.040 --> 00:21:45.464 It's like in a Petri dish,

NOTE Confidence: 0.86300063

 $00:21:45.464 \rightarrow 00:21:47.530$ how you do a culture for bacteria

NOTE Confidence: 0.86300063

 $00{:}21{:}47{.}530 \dashrightarrow 00{:}21{:}49{.}942$ and figure out which antibiotics acts

NOTE Confidence: 0.86300063

 $00:21:49.942 \dashrightarrow 00:21:52.519$ better for that particular bacteria.

NOTE Confidence: 0.86300063

 $00:21:52.520 \longrightarrow 00:21:54.560$ Same concept applies here and

NOTE Confidence: 0.86300063

 $00{:}21{:}54{.}560 \dashrightarrow 00{:}21{:}56{.}600$ recently NCI has recommended that

NOTE Confidence: 0.86300063

 $00{:}21{:}56.670 \dashrightarrow 00{:}21{:}59.120$ we do that kind of molecular level

NOTE Confidence: 0.86300063

 $00{:}21{:}59{.}120 \dashrightarrow 00{:}22{:}01{.}079$ genetic testing for most samples.

NOTE Confidence: 0.87740964

 $00:22:03.920 \longrightarrow 00:22:07.176$ And when you say

NOTE Confidence: 0.87740964

 $00{:}22{:}07{.}176 \dashrightarrow 00{:}22{:}10{.}320$ many of these patients the

NOTE Confidence: 0.87740964

 $00:22:10.320 \rightarrow 00:22:12.080$ cancer has already metastasized.

NOTE Confidence: 0.87740964

 $00:22:12.080 \longrightarrow 00:22:14.740$ So surgery really wouldn't be

NOTE Confidence: 0.87740964

 $00{:}22{:}14.740 \dashrightarrow 00{:}22{:}17.400$ indicated as a curative treatment.

 $00:22:17.400 \longrightarrow 00:22:20.240$ Is that why the prognosis is so poor?

NOTE Confidence: 0.87740964

 $00{:}22{:}20{.}240 \dashrightarrow 00{:}22{:}23{.}720$ And can you talk a little bit

NOTE Confidence: 0.87740964

 $00:22:23.720 \longrightarrow 00:22:26.560$ about trends in terms of of prognosis?

NOTE Confidence: 0.87740964

00:22:26.560 --> 00:22:30.060 So first off, what kind of prognosis

NOTE Confidence: 0.87740964

00:22:30.060 --> 00:22:32.160 does pancreatic cancer carry?

NOTE Confidence: 0.87740964

 $00{:}22{:}32{.}160 \dashrightarrow 00{:}22{:}35{.}373$ And second, while we've seen the increase

NOTE Confidence: 0.87740964

 $00{:}22{:}35{.}373 \dashrightarrow 00{:}22{:}38{.}279$ in incidence of pancreatic cancer,

NOTE Confidence: 0.87740964

 $00:22:38.280 \longrightarrow 00:22:40.471$ are we making any dent in terms

NOTE Confidence: 0.87740964

 $00{:}22{:}40{.}471 \dashrightarrow 00{:}22{:}42{.}680$ of survival for pancreatic cancer?

NOTE Confidence: 0.68044835

 $00:22:44.840 \rightarrow 00:22:47.040$ That's a very important question.

NOTE Confidence: 0.68044835

 $00{:}22{:}47.040 \dashrightarrow 00{:}22{:}49.644$ We spoke about why the pancreatic

NOTE Confidence: 0.68044835

 $00{:}22{:}49{.}644 \dashrightarrow 00{:}22{:}52{.}626$ cancer soon is going to be the second most

NOTE Confidence: 0.68044835

 $00{:}22{:}52.626 \dashrightarrow 00{:}22{:}55.714$ common cause of cancer death in the country.

NOTE Confidence: 0.68044835

 $00{:}22{:}55{.}720 \dashrightarrow 00{:}22{:}58{.}816$ The reason behind that is although a lot

NOTE Confidence: 0.68044835

00:22:58.816 --> 00:23:01.600 of progress is being made in survival,

NOTE Confidence: 0.68044835

 $00{:}23{:}01{.}600 \dashrightarrow 00{:}23{:}04{.}000$ like prolonging the survival for

- NOTE Confidence: 0.68044835
- $00:23:04.000 \rightarrow 00:23:06.400$ someone who has pancreatic cancer

 $00:23:06.400 \longrightarrow 00:23:07.772$ making them live longer,

NOTE Confidence: 0.68044835

 $00{:}23{:}07{.}772 \dashrightarrow 00{:}23{:}10{.}841$ still we are not able to cure

NOTE Confidence: 0.68044835

 $00:23:10.841 \rightarrow 00:23:12.717$ completely the pancreatic cancer.

NOTE Confidence: 0.68044835

 $00{:}23{:}12.720 \dashrightarrow 00{:}23{:}14.976$ So that's the reason the cancer

NOTE Confidence: 0.68044835

 $00:23:14.976 \longrightarrow 00:23:16.853$ deaths are still not dropping

NOTE Confidence: 0.68044835

00:23:16.853 --> 00:23:19.160 down as we would like.

NOTE Confidence: 0.68044835

 $00{:}23{:}19{.}160 \dashrightarrow 00{:}23{:}21{.}931$ The medical community is working a lot

NOTE Confidence: 0.68044835

 $00{:}23{:}21{.}931 \dashrightarrow 00{:}23{:}24{.}755$ to put research and their minds into it.

NOTE Confidence: 0.68044835

 $00{:}23{:}24.760 \dashrightarrow 00{:}23{:}27.888$ How we can change and make a meaningful

NOTE Confidence: 0.68044835

 $00:23:27.888 \longrightarrow 00:23:31.677$ dent in the prognosis of pancreatic cancer.

NOTE Confidence: 0.68044835

 $00:23:31.680 \longrightarrow 00:23:32.272$ Currently,

NOTE Confidence: 0.68044835

 $00{:}23{:}32{.}272 \dashrightarrow 00{:}23{:}36{.}356$ if you want to give a cure,

NOTE Confidence: 0.68044835

 $00{:}23{:}36{.}360 \dashrightarrow 00{:}23{:}38{.}635$ you want to get the tumour out.

NOTE Confidence: 0.68044835

 $00{:}23{:}38.640 \dashrightarrow 00{:}23{:}41.342$ That can be done with the curative

 $00:23:41.342 \rightarrow 00:23:43.912$ surgery only if we find the tumour

NOTE Confidence: 0.68044835

 $00:23:43.912 \rightarrow 00:23:46.759$ very early on when it is very tiny,

NOTE Confidence: 0.68044835

 $00{:}23{:}46{.}760$ --> $00{:}23{:}49{.}602$ which has not involved any blood vessels NOTE Confidence: 0.68044835

 $00:23:49.602 \rightarrow 00:23:52.280$ or travelled to the distant organs.

NOTE Confidence: 0.68044835

 $00{:}23{:}52{.}280 \dashrightarrow 00{:}23{:}55{.}458$ So a lot of effort goes into picking

NOTE Confidence: 0.68044835

00:23:55.458 - 00:23:58.717 the tumors in a very early stage,

NOTE Confidence: 0.68044835

 $00{:}23{:}58{.}720 \dashrightarrow 00{:}24{:}01{.}240$ do multiple clinical trials and

NOTE Confidence: 0.68044835

 $00{:}24{:}01{.}240 \dashrightarrow 00{:}24{:}03{.}760$ research or focus towards that

NOTE Confidence: 0.68044835

 $00{:}24{:}03.760 \dashrightarrow 00{:}24{:}07.280$ mainly to change the prognosis,

NOTE Confidence: 0.68044835

 $00{:}24{:}07{.}280 \dashrightarrow 00{:}24{:}09{.}655$ change the landscape of pancreatic

NOTE Confidence: 0.68044835

 $00{:}24{:}09{.}655 \dashrightarrow 00{:}24{:}12{.}520$ cancer to drop the death rate.

NOTE Confidence: 0.7811066

00:24:14.880 --> 00:24:16.952 Can you talk a little bit more about

NOTE Confidence: 0.7811066

 $00{:}24{:}16.952 \dashrightarrow 00{:}24{:}18.869$ those clinical trials that are

NOTE Confidence: 0.7811066

 $00:24:18.869 \rightarrow 00:24:20.879$ aimed at finding these cancers early?

NOTE Confidence: 0.7811066

 $00{:}24{:}20.880 \dashrightarrow 00{:}24{:}23.694$ I mean, are they really focused on

NOTE Confidence: 0.7811066

 $00:24:23.694 \rightarrow 00:24:26.531$ people who we know are at higher

 $00:24:26.531 \rightarrow 00:24:28.428$ risk due to baseline genetics?

NOTE Confidence: 0.7811066

 $00{:}24{:}28{.}428 \dashrightarrow 00{:}24{:}31{.}885$ For example, having a BRCA one or

NOTE Confidence: 0.7811066

00:24:31.885 --> 00:24:34.844 two gene mutation and then trying

NOTE Confidence: 0.7811066

 $00{:}24{:}34{.}844 \dashrightarrow 00{:}24{:}36{.}799$ to screen them with cross-sectional

NOTE Confidence: 0.7811066

 $00{:}24{:}36{.}799 \dashrightarrow 00{:}24{:}39{.}260$ imaging or talk a little bit more

NOTE Confidence: 0.7811066

 $00{:}24{:}39{.}260 \dashrightarrow 00{:}24{:}40{.}956$ about these clinical trials and

NOTE Confidence: 0.7811066

 $00:24:40.956 \longrightarrow 00:24:42.993$ what we can expect in the future?

NOTE Confidence: 0.6955803

 $00{:}24{:}44{.}880 \dashrightarrow 00{:}24{:}47{.}400$ Yeah, sure. So these clinical trials

NOTE Confidence: 0.6955803

00:24:47.400 --> 00:24:50.106 are again focused on enriched patient

NOTE Confidence: 0.6955803

00:24:50.106 --> 00:24:53.184 population because as we spoke we

NOTE Confidence: 0.6955803

00:24:53.184 --> 00:24:56.581 cannot be doing a screening test for

NOTE Confidence: 0.6955803

 $00{:}24{:}56{.}581 \dashrightarrow 00{:}24{:}58{.}736$ every general population because one,

NOTE Confidence: 0.6955803

 $00:24:58.736 \rightarrow 00:25:02.903$ if we start picking up a small raise in CN

NOTE Confidence: 0.6955803

 $00{:}25{:}02{.}903 \dashrightarrow 00{:}25{:}05{.}862$ 99 that will only increase anxiety and

NOTE Confidence: 0.6955803

 $00:25:05.862 \rightarrow 00:25:08.672$ put patients through totally unnecessary NOTE Confidence: 0.6955803

 $00:25:08.672 \rightarrow 00:25:11.705$ testing and that will only increase

NOTE Confidence: 0.6955803

 $00{:}25{:}11.705 \dashrightarrow 00{:}25{:}13.677$ anxiety among general population.

NOTE Confidence: 0.6955803

 $00:25:13.680 \longrightarrow 00:25:15.756$ So we're trying to focus on

NOTE Confidence: 0.6955803

00:25:15.760 --> 00:25:16.900 high risk patients.

NOTE Confidence: 0.6955803

 $00{:}25{:}16{.}900 \dashrightarrow 00{:}25{:}19{.}560$ High risk patients means some one who has

NOTE Confidence: 0.6955803

 $00{:}25{:}19.623 \dashrightarrow 00{:}25{:}22.225$ family history of pancreatic cancer or

NOTE Confidence: 0.6955803

 $00:25:22.225 \rightarrow 00:25:24.920$ like you pointed out the BRCA mutation.

NOTE Confidence: 0.6955803

 $00{:}25{:}24{.}920 \dashrightarrow 00{:}25{:}27{.}736$ One and two especially BRCA 2 has a

NOTE Confidence: 0.6955803

 $00{:}25{:}27{.}736 \dashrightarrow 00{:}25{:}30{.}457$ higher risk of having a pancreatic

NOTE Confidence: 0.6955803

 $00:25:30.457 \rightarrow 00:25:32.872$ cancer than the general population.

NOTE Confidence: 0.6955803

 $00{:}25{:}32.880 \dashrightarrow 00{:}25{:}35.968$ So once we find a high risk enriched

NOTE Confidence: 0.6955803

 $00{:}25{:}35{.}968 \dashrightarrow 00{:}25{:}38{.}099$ population like also we spoke

NOTE Confidence: 0.6955803

 $00{:}25{:}38.099 \dashrightarrow 00{:}25{:}39.799$ about and diabetes.

NOTE Confidence: 0.6955803

 $00{:}25{:}39{.}800 \dashrightarrow 00{:}25{:}42{.}558$ So once we find that enriched population,

NOTE Confidence: 0.6955803

 $00{:}25{:}42.560 \dashrightarrow 00{:}25{:}45.125$ we have different screening programs

NOTE Confidence: 0.6955803

 $00:25:45.125 \rightarrow 00:25:48.417$ where we alternate between MRI scan in and

 $00{:}25{:}48{.}417 \dashrightarrow 00{:}25{:}51{.}453$ US and most of these are all done

NOTE Confidence: 0.6955803

 $00{:}25{:}51{.}453 \dashrightarrow 00{:}25{:}54{.}517$ on an annual basis to catch early cancer.

NOTE Confidence: 0.3810309

 $00:25:56.840 \longrightarrow 00:25:59.017$ So is this now just on clinical

NOTE Confidence: 0.3810309

 $00:25:59.017 \rightarrow 00:26:01.701$ trial or is this something that if

NOTE Confidence: 0.3810309

 $00{:}26{:}01.701 \dashrightarrow 00{:}26{:}04.215$ we have some body who's listening to

NOTE Confidence: 0.3810309

 $00{:}26{:}04.295 \dashrightarrow 00{:}26{:}06.521$ this show now and let's say they

NOTE Confidence: 0.3810309

 $00:26:06.521 \longrightarrow 00:26:09.144$ do fit into one of those criteria,

NOTE Confidence: 0.3810309

 $00:26:09.144 \longrightarrow 00:26:12.628$ let's say they have had new onset

NOTE Confidence: 0.3810309

00:26:12.628 --> 00:26:15.346 diabetes or they have been losing

NOTE Confidence: 0.3810309

00:26:15.346 --> 00:26:20.016 weight and it's been quote easy,

NOTE Confidence: 0.3810309

 $00{:}26{:}20.016 \dashrightarrow 00{:}26{:}23.644$ should they be getting this scan

NOTE Confidence: 0.3810309

 $00{:}26{:}23.644 \dashrightarrow 00{:}26{:}27.158$ done as part of standard of care?

NOTE Confidence: 0.3810309

 $00{:}26{:}27.160 \dashrightarrow 00{:}26{:}29.320$ If if people have a genetic mutation,

NOTE Confidence: 0.3810309

 $00{:}26{:}29{.}320 \dashrightarrow 00{:}26{:}31{.}540$ should they be having annual scans

NOTE Confidence: 0.3810309

 $00{:}26{:}31{.}540 \dashrightarrow 00{:}26{:}34{.}249$ as part of standard of care or do

 $00:26:34.249 \rightarrow 00:26:36.393$ they need to find a clinical trial

NOTE Confidence: 0.3810309

 $00{:}26{:}36{.}393 \dashrightarrow 00{:}26{:}38{.}360$ near them that is offering this?

NOTE Confidence: 0.5588484

 $00:26:39.960 \longrightarrow 00:26:42.408$ As of now major centers in

NOTE Confidence: 0.5588484

 $00:26:42.408 \longrightarrow 00:26:44.040$ the country including Yale,

NOTE Confidence: 0.5588484

 $00{:}26{:}44.040 \dashrightarrow 00{:}26{:}46.230$ we offer clinical trials for the

NOTE Confidence: 0.5588484

 $00:26:46.230 \rightarrow 00:26:48.439$ same question what you asked for,

NOTE Confidence: 0.5588484

 $00{:}26{:}48{.}440 \dashrightarrow 00{:}26{:}51{.}120$ but it's still not a standard of care

NOTE Confidence: 0.5588484

 $00:26:51.120 \rightarrow 00:26:53.476$ to perform routine scans for patients

NOTE Confidence: 0.5588484

 $00{:}26{:}53{.}476 \dashrightarrow 00{:}26{:}56{.}408$ who have family history of an aunt or

NOTE Confidence: 0.5588484

 $00{:}26{:}56{.}408 \dashrightarrow 00{:}26{:}58{.}558$ uncle having a pancreatic cancer.

NOTE Confidence: 0.5588484

 $00{:}26{:}58{.}560 \dashrightarrow 00{:}27{:}01{.}640$ So if some one has a family member having

NOTE Confidence: 0.5588484

 $00:27:01.640 \rightarrow 00:27:04.186$ a pancreatic cancer especially first

NOTE Confidence: 0.5588484

 $00{:}27{:}04.186 \dashrightarrow 00{:}27{:}06.875$ degree relative or if someone has a

NOTE Confidence: 0.5588484

00:27:06.875 --> 00:27:09.376 personal history of having a BRCA mutation.

NOTE Confidence: 0.5588484

 $00{:}27{:}09{.}376 \dashrightarrow 00{:}27{:}12{.}516$ Then it's advisable to contact

NOTE Confidence: 0.5588484

00:27:12.516 --> 00:27:14.400 your primary physician,

- NOTE Confidence: 0.5588484
- $00:27:14.400 \rightarrow 00:27:17.940$ gastroenterologist and reach out to

00:27:17.940 --> 00:27:20.617 the nearest multi speciality centre

NOTE Confidence: 0.5588484

00:27:20.617 --> 00:27:23.550 where we have access

NOTE Confidence: 0.5588484

 $00{:}27{:}23.629 \dashrightarrow 00{:}27{:}25.945$ for the clinical trial to enroll

NOTE Confidence: 0.5588484

 $00{:}27{:}25{.}945 \dashrightarrow 00{:}27{:}27{.}746$ and start putting the patients

NOTE Confidence: 0.5588484

 $00{:}27{:}27{.}746 \dashrightarrow 00{:}27{:}29{.}456$ into alternating between MRI and

NOTE Confidence: 0.5588484

 $00{:}27{:}29{.}456 \dashrightarrow 00{:}27{:}31{.}598$ EUS and having a close follow up.

NOTE Confidence: 0.4057434

 $00:27:32.800 \rightarrow 00:27:35.302$ When do you anticipate having the

NOTE Confidence: 0.4057434

 $00{:}27{:}35{.}302 \dashrightarrow 00{:}27{:}37{.}709$ results of those clinical trials so

NOTE Confidence: 0.4057434

 $00{:}27{:}37{.}709 \dashrightarrow 00{:}27{:}39{.}712$ that the general population who's

NOTE Confidence: 0.4057434

 $00{:}27{:}39{.}712 \dashrightarrow 00{:}27{:}42{.}220$ at higher risk can avail themselves

NOTE Confidence: 0.4057434

 $00{:}27{:}42.285 \dashrightarrow 00{:}27{:}44.336$ of it as standard of care rather

NOTE Confidence: 0.4057434

 $00:27:44.336 \longrightarrow 00:27:46.400$ than only on a clinical trial?

NOTE Confidence: 0.8668077

 $00{:}27{:}47.840 \dashrightarrow 00{:}27{:}50.272$ Yeah, we have a

NOTE Confidence: 0.8668077

 $00{:}27{:}50{.}272 \dashrightarrow 00{:}27{:}52{.}980$ population of 350 million and the pancreatic

 $00:27:52.980 \longrightarrow 00:27:55.800$ cancer only 50,000 or 60,000 per year.

NOTE Confidence: 0.8668077

 $00{:}27{:}55{.}800 \dashrightarrow 00{:}27{:}59{.}256$ So the goal is to find an enriched

NOTE Confidence: 0.8668077

 $00{:}27{:}59{.}256 \dashrightarrow 00{:}28{:}02{.}469$ population who will be higher risk of NOTE Confidence: 0.8668077

 $00{:}28{:}02{.}469 \dashrightarrow 00{:}28{:}05{.}449$ pancreatic cancer and use a screening

NOTE Confidence: 0.8668077

 $00{:}28{:}05{.}449 \dashrightarrow 00{:}28{:}07{.}472$ test to that particular population.

NOTE Confidence: 0.8668077

 $00{:}28{:}07{.}472 \dashrightarrow 00{:}28{:}10{.}778$ So that if we are not driving

NOTE Confidence: 0.8668077

00:28:10.778 --> 00:28:13.452 everyone anxious and also we are picking

NOTE Confidence: 0.8668077

 $00:28:13.525 \rightarrow 00:28:15.640$ up some meaningful early cancers

NOTE Confidence: 0.8668077

 $00{:}28{:}15.640 \dashrightarrow 00{:}28{:}18.104$ where we can change patient's life.

NOTE Confidence: 0.8668077

 $00{:}28{:}18{.}104 \dashrightarrow 00{:}28{:}21{.}680$ Lot of work is still going on in this area.

NOTE Confidence: 0.8668077

 $00:28:21.680 \longrightarrow 00:28:24.464$ I'm hopeful that at least in the next few NOTE Confidence: 0.8668077

 $00{:}28{:}24.464 \dashrightarrow 00{:}28{:}26.570$ years there'll be some standard of

NOTE Confidence: 0.8668077

00:28:26.570 --> 00:28:28.900 care which a primary care physician can

NOTE Confidence: 0.8668077

 $00{:}28{:}28{.}900 \dashrightarrow 00{:}28{:}31{.}439$ use to pick this cancers early enough.

NOTE Confidence: 0.6144946

00:28:32.000 --> 00:28:34.196 Doctor Thiru Muniraj is an associate

NOTE Confidence: 0.6144946

 $00:28:34.196 \rightarrow 00:28:36.093$ professor of medicine and digestive

- NOTE Confidence: 0.6144946
- $00{:}28{:}36.093 \dashrightarrow 00{:}28{:}38.676$ diseases at the Yale School of Medicine.

 $00:28:38.680 \longrightarrow 00:28:40.688$ If you have questions,

NOTE Confidence: 0.6144946

 $00:28:40.688 \rightarrow 00:28:42.660$ the address is canceranswers@yale.edu,

NOTE Confidence: 0.6144946

 $00{:}28{:}42.660 \dashrightarrow 00{:}28{:}45.420$ and past editions of the program

NOTE Confidence: 0.6144946

 $00{:}28{:}45{.}420 \dashrightarrow 00{:}28{:}47{.}809$ are available in audio and written

NOTE Confidence: 0.6144946

 $00{:}28{:}47.809 \dashrightarrow 00{:}28{:}48.746$ form at yale cancercenter.org.

NOTE Confidence: 0.6144946

00:28:48.746 --> 00:28:51.194 We hope you'll join us next week to

NOTE Confidence: 0.6144946

 $00{:}28{:}51{.}194 \dashrightarrow 00{:}28{:}53{.}068$ learn more about the fight against

NOTE Confidence: 0.6144946

 $00{:}28{:}53.068 \dashrightarrow 00{:}28{:}54.920$ cancer here on Connecticut Public Radio.

NOTE Confidence: 0.6144946

 $00{:}28{:}54{.}920 \dashrightarrow 00{:}28{:}57{.}524$ Funding for Yale Cancer Answers is

NOTE Confidence: 0.6144946

00:28:57.524 --> 00:29:00.000 provided by Smilow Cancer Hospital.