

WEBVTT

NOTE duration:"01:45:27"

NOTE recognizability:0.836

NOTE language:en-us

NOTE Confidence: 0.675597325

00:00:00.000 --> 00:00:01.760 Sugar I'm a professor of

NOTE Confidence: 0.675597325

00:00:01.760 --> 00:00:03.960 medicine in medical oncology.

NOTE Confidence: 0.675597325

00:00:03.960 --> 00:00:05.878 I see patients with kidney and

NOTE Confidence: 0.675597325

00:00:05.880 --> 00:00:08.328 skin cancers wanna thank you all

NOTE Confidence: 0.675597325

00:00:08.328 --> 00:00:10.400 for joining us tonight we have

NOTE Confidence: 0.675597325

00:00:10.400 --> 00:00:11.605 a wonderful panel of speakers.

NOTE Confidence: 0.675597325

00:00:11.605 --> 00:00:13.390 You're going to talk to us specifically.

NOTE Confidence: 0.852767516666667

00:00:13.400 --> 00:00:16.600 Bad kidney cancer. We

NOTE Confidence: 0.8007348875

00:00:16.610 --> 00:00:19.830 will have 4 presentations total

NOTE Confidence: 0.8007348875

00:00:19.830 --> 00:00:21.078 and after that there'll be some

NOTE Confidence: 0.8007348875

00:00:21.078 --> 00:00:23.030 time for questions and answers.

NOTE Confidence: 0.8007348875

00:00:23.030 --> 00:00:25.494 If you have any questions feel free

NOTE Confidence: 0.8007348875

00:00:25.494 --> 00:00:28.340 to put them in the chat and we will.

NOTE Confidence: 0.8007348875

00:00:28.340 --> 00:00:30.818 We will try to answer them at the end of
NOTE Confidence: 0.8007348875

00:00:30.818 --> 00:00:34.260 each session to the best of our ability.
NOTE Confidence: 0.8007348875

00:00:34.260 --> 00:00:37.915 So we have four of the four speakers.
NOTE Confidence: 0.8007348875

00:00:37.920 --> 00:00:39.498 I'm going to start introducing by
NOTE Confidence: 0.8007348875

00:00:39.498 --> 00:00:40.550 introducing the first speaker.
NOTE Confidence: 0.8007348875

00:00:40.550 --> 00:00:42.114 It's doctor Patrick Kenny.
NOTE Confidence: 0.8007348875

00:00:42.114 --> 00:00:44.610 He is one of our urologic surgeons
NOTE Confidence: 0.8007348875

00:00:44.610 --> 00:00:46.746 and he's going to talk to us about
NOTE Confidence: 0.8007348875

00:00:46.746 --> 00:00:49.313 surgical approaches to kidney cancer.
NOTE Confidence: 0.8007348875

00:00:49.313 --> 00:00:51.268 So Pat take it away.
NOTE Confidence: 0.676605824

00:00:53.660 --> 00:00:54.550 Thank you so much Mary.
NOTE Confidence: 0.676605824

00:00:54.550 --> 00:00:57.126 It's a pleasure to be here with everybody
NOTE Confidence: 0.676605824

00:00:57.126 --> 00:00:59.518 and as Doctor Krueger mentioned,
NOTE Confidence: 0.676605824

00:00:59.520 --> 00:01:02.565 I think we'll be taking some questions
NOTE Confidence: 0.676605824

00:01:02.565 --> 00:01:05.468 at the end and as a surgeon.
NOTE Confidence: 0.676605824

00:01:05.470 --> 00:01:09.222 I have the pleasure of helping take

NOTE Confidence: 0.676605824

00:01:09.222 --> 00:01:13.269 care of patients throughout a variety.

NOTE Confidence: 0.676605824

00:01:13.270 --> 00:01:16.448 Of different parts of their cancer journey,

NOTE Confidence: 0.676605824

00:01:16.450 --> 00:01:18.358 but also throughout a variety of

NOTE Confidence: 0.676605824

00:01:18.358 --> 00:01:20.579 different kind of kidney cancer problems.

NOTE Confidence: 0.676605824

00:01:20.580 --> 00:01:23.900 So I think it'd be really helpful to kind

NOTE Confidence: 0.676605824

00:01:23.900 --> 00:01:26.245 of first talk about some patient resources,

NOTE Confidence: 0.676605824

00:01:26.250 --> 00:01:28.882 but then also to review a little bit

NOTE Confidence: 0.676605824

00:01:28.882 --> 00:01:31.150 just about kind of kidney cancer.

NOTE Confidence: 0.676605824

00:01:31.150 --> 00:01:33.202 101 and we'll talk about we

NOTE Confidence: 0.676605824

00:01:33.202 --> 00:01:34.570 call localized kidney cancers.

NOTE Confidence: 0.676605824

00:01:34.570 --> 00:01:35.668 That's kidney cancer.

NOTE Confidence: 0.676605824

00:01:35.668 --> 00:01:37.864 That's in in the kidney itself,

NOTE Confidence: 0.676605824

00:01:37.870 --> 00:01:41.237 as well as the role for surgery.

NOTE Confidence: 0.676605824

00:01:41.240 --> 00:01:43.178 To kind of more advanced or

NOTE Confidence: 0.676605824

00:01:43.178 --> 00:01:44.147 higher risk cancers.

NOTE Confidence: 0.875122285

00:01:47.780 --> 00:01:49.104 So some patient resources
NOTE Confidence: 0.875122285

00:01:49.104 --> 00:01:50.428 I think are excellent.
NOTE Confidence: 0.875122285

00:01:50.430 --> 00:01:52.020 There's a group called the
NOTE Confidence: 0.875122285

00:01:52.020 --> 00:01:52.974 Kidney Cancer Association.
NOTE Confidence: 0.875122285

00:01:52.980 --> 00:01:54.264 If you're not familiar,
NOTE Confidence: 0.875122285

00:01:54.264 --> 00:01:55.548 it's a really fantastic
NOTE Confidence: 0.875122285

00:01:55.548 --> 00:01:56.938 organization. The URL is
NOTE Confidence: 0.929773813333333

00:01:59.450 --> 00:02:00.020 www.kidneycancer.org.
NOTE Confidence: 0.929773813333333

00:02:00.020 --> 00:02:02.870 They have fantastic patient resources,
NOTE Confidence: 0.929773813333333

00:02:02.870 --> 00:02:07.190 very good pamphlets, information, blogs.
NOTE Confidence: 0.929773813333333

00:02:07.190 --> 00:02:09.278 There's some great videos as well
NOTE Confidence: 0.929773813333333

00:02:09.278 --> 00:02:11.684 as the ability to to really kind
NOTE Confidence: 0.929773813333333

00:02:11.684 --> 00:02:13.882 of getting in touch and be part
NOTE Confidence: 0.929773813333333

00:02:13.952 --> 00:02:16.067 of the kidney cancer community.
NOTE Confidence: 0.929773813333333

00:02:16.070 --> 00:02:18.295 The Urology Care Foundation also
NOTE Confidence: 0.929773813333333

00:02:18.295 --> 00:02:20.520 has some excellent resources at

NOTE Confidence: 0.929773813333333

00:02:20.520 --> 00:02:21.909 urologyhealth.org, in particular,

NOTE Confidence: 0.929773813333333

00:02:21.909 --> 00:02:24.224 this kidney cancer patient guide,

NOTE Confidence: 0.929773813333333

00:02:24.230 --> 00:02:28.343 I think is a very good and brief review,

NOTE Confidence: 0.929773813333333

00:02:28.350 --> 00:02:30.850 so I do have some kind of this is a

NOTE Confidence: 0.929773813333333

00:02:30.929 --> 00:02:33.217 a picture of a of a biopsy specimen

NOTE Confidence: 0.929773813333333

00:02:33.217 --> 00:02:35.796 of a benign tumor of the kidney,

NOTE Confidence: 0.929773813333333

00:02:35.800 --> 00:02:37.680 and I think one of the most important

NOTE Confidence: 0.929773813333333

00:02:37.680 --> 00:02:39.429 things for patients to know is that

NOTE Confidence: 0.929773813333333

00:02:39.429 --> 00:02:41.175 if you're diagnosed or if a patient

NOTE Confidence: 0.929773813333333

00:02:41.175 --> 00:02:42.820 is diagnosed with a mass of the

NOTE Confidence: 0.929773813333333

00:02:42.820 --> 00:02:44.188 kidney or a tumor of the kidney,

NOTE Confidence: 0.929773813333333

00:02:44.190 --> 00:02:47.010 it's not necessarily cancer.

NOTE Confidence: 0.929773813333333

00:02:47.010 --> 00:02:49.792 About 7% of kidney tumors or

NOTE Confidence: 0.929773813333333

00:02:49.792 --> 00:02:51.164 something called an oncocytoma,

NOTE Confidence: 0.929773813333333

00:02:51.170 --> 00:02:53.818 which is a benign tumor of the kidney.

NOTE Confidence: 0.929773813333333

00:02:53.820 --> 00:02:55.495 Although it's difficult to distinguish
NOTE Confidence: 0.9297738133333333

00:02:55.495 --> 00:02:57.640 on biopsy from some kidney cancers,
NOTE Confidence: 0.9297738133333333

00:02:57.640 --> 00:02:59.092 they're quite common and I see
NOTE Confidence: 0.9297738133333333

00:02:59.092 --> 00:03:00.779 them a lot in my practice.
NOTE Confidence: 0.9297738133333333

00:03:00.780 --> 00:03:03.377 They're very often treated it because on
NOTE Confidence: 0.9297738133333333

00:03:03.377 --> 00:03:06.184 imaging they can look very much like a
NOTE Confidence: 0.9297738133333333

00:03:06.184 --> 00:03:08.076 kidney cancer at the bottom of the screen.
NOTE Confidence: 0.9297738133333333

00:03:08.080 --> 00:03:10.396 Here is something called an angiomyolipoma,
NOTE Confidence: 0.9297738133333333

00:03:10.400 --> 00:03:12.332 and this is a fat containing
NOTE Confidence: 0.9297738133333333

00:03:12.332 --> 00:03:13.620 tumor of the kidney.
NOTE Confidence: 0.9297738133333333

00:03:13.620 --> 00:03:14.800 I highlighted it in yellow,
NOTE Confidence: 0.9297738133333333

00:03:14.800 --> 00:03:16.318 'cause it could be a little
NOTE Confidence: 0.9297738133333333

00:03:16.318 --> 00:03:17.330 bit difficult to see.
NOTE Confidence: 0.9297738133333333

00:03:17.330 --> 00:03:19.592 Because it's near the the fat
NOTE Confidence: 0.9297738133333333

00:03:19.592 --> 00:03:21.640 that's normally around the kidney,
NOTE Confidence: 0.9297738133333333

00:03:21.640 --> 00:03:23.908 the vast majority of these are benign.

NOTE Confidence: 0.929773813333333
00:03:23.910 --> 00:03:25.830 They're they don't spread elsewhere,
NOTE Confidence: 0.929773813333333
00:03:25.830 --> 00:03:26.934 but they can bleed,
NOTE Confidence: 0.929773813333333
00:03:26.934 --> 00:03:29.638 so we often do treat them for that reason,
NOTE Confidence: 0.929773813333333
00:03:29.640 --> 00:03:32.293 but important to keep in mind that
NOTE Confidence: 0.929773813333333
00:03:32.293 --> 00:03:34.527 kidney tumor does not necessarily
NOTE Confidence: 0.929773813333333
00:03:34.527 --> 00:03:36.057 mean kidney cancer.
NOTE Confidence: 0.929773813333333
00:03:36.060 --> 00:03:37.866 Now the majority of the kidney
NOTE Confidence: 0.929773813333333
00:03:37.866 --> 00:03:39.580 tumors we see are cancer.
NOTE Confidence: 0.929773813333333
00:03:39.580 --> 00:03:41.770 About 90% of the malignant or
NOTE Confidence: 0.929773813333333
00:03:41.770 --> 00:03:43.790 cancerous tumors of the kidney,
NOTE Confidence: 0.929773813333333
00:03:43.790 --> 00:03:46.490 or something called renal cell carcinoma.
NOTE Confidence: 0.929773813333333
00:03:46.490 --> 00:03:48.042 That's a family, really.
NOTE Confidence: 0.929773813333333
00:03:48.042 --> 00:03:50.892 A family of kidney cancers that are
NOTE Confidence: 0.929773813333333
00:03:50.892 --> 00:03:53.127 all separate distinct tumors that
NOTE Confidence: 0.929773813333333
00:03:53.127 --> 00:03:55.505 arise from different kind of different
NOTE Confidence: 0.929773813333333

00:03:55.505 --> 00:03:57.575 parts of what's called the nephron.
NOTE Confidence: 0.9297738133333333

00:03:57.580 --> 00:03:59.986 The functional unit of the kidney,
NOTE Confidence: 0.9297738133333333

00:03:59.990 --> 00:04:02.312 about 5% of malignant kidney tumors
NOTE Confidence: 0.9297738133333333

00:04:02.312 --> 00:04:04.350 are what's called urothelial cancer.
NOTE Confidence: 0.9297738133333333

00:04:04.350 --> 00:04:06.090 That's the same type of cancer.
NOTE Confidence: 0.9297738133333333

00:04:06.090 --> 00:04:07.250 That impacts the bladder.
NOTE Confidence: 0.9297738133333333

00:04:07.250 --> 00:04:08.990 It really arises from the lining
NOTE Confidence: 0.9297738133333333

00:04:09.040 --> 00:04:10.088 of the urinary tract,
NOTE Confidence: 0.9297738133333333

00:04:10.090 --> 00:04:11.250 which you can see here,
NOTE Confidence: 0.9297738133333333

00:04:11.250 --> 00:04:14.330 which is this tan kind of urine
NOTE Confidence: 0.9297738133333333

00:04:14.330 --> 00:04:17.562 collecting system and only about 1%
NOTE Confidence: 0.9297738133333333

00:04:17.562 --> 00:04:19.795 of malignant or cancerous tumors of
NOTE Confidence: 0.9297738133333333

00:04:19.795 --> 00:04:22.183 the kidney or tumors that have spread
NOTE Confidence: 0.9297738133333333

00:04:22.183 --> 00:04:24.223 to the kidney from another location.
NOTE Confidence: 0.9297738133333333

00:04:24.230 --> 00:04:26.186 We can see it from cancer,
NOTE Confidence: 0.9297738133333333

00:04:26.190 --> 00:04:28.927 a cancer called Melanoma or breast cancers,

NOTE Confidence: 0.929773813333333

00:04:28.930 --> 00:04:29.966 lung cancers,

NOTE Confidence: 0.929773813333333

00:04:29.966 --> 00:04:33.592 and the most common other cancer that

NOTE Confidence: 0.929773813333333

00:04:33.592 --> 00:04:36.477 spreads to the kidney is lymphoma.

NOTE Confidence: 0.929773813333333

00:04:36.480 --> 00:04:38.461 But the focus of what we're speaking

NOTE Confidence: 0.929773813333333

00:04:38.461 --> 00:04:40.558 about tonight really is renal cell carcinoma.

NOTE Confidence: 0.929773813333333

00:04:40.560 --> 00:04:43.146 That family of related tumors that

NOTE Confidence: 0.929773813333333

00:04:43.146 --> 00:04:45.830 arise from what's called the nephron.

NOTE Confidence: 0.929773813333333

00:04:45.830 --> 00:04:48.098 This represents about 4% of new

NOTE Confidence: 0.929773813333333

00:04:48.098 --> 00:04:50.424 kidney of new cancers in the

NOTE Confidence: 0.929773813333333

00:04:50.424 --> 00:04:51.900 United States last year,

NOTE Confidence: 0.929773813333333

00:04:51.900 --> 00:04:54.010 about 76,000 patients across the

NOTE Confidence: 0.929773813333333

00:04:54.010 --> 00:04:56.120 United States were diagnosed with

NOTE Confidence: 0.929773813333333

00:04:56.188 --> 00:04:58.019 kidney cancer and about 14,000

NOTE Confidence: 0.929773813333333

00:04:58.019 --> 00:04:59.814 patients died of kidney cancer

NOTE Confidence: 0.929773813333333

00:04:59.814 --> 00:05:02.190 last year in the United States

NOTE Confidence: 0.920303013333333

00:05:02.190 --> 00:05:04.746 over their lifetimes, up to 2% of the
NOTE Confidence: 0.9203030133333333

00:05:04.746 --> 00:05:06.624 population will develop a kidney cancer.
NOTE Confidence: 0.9203030133333333

00:05:06.630 --> 00:05:08.406 It predominantly happens as people age,
NOTE Confidence: 0.9203030133333333

00:05:08.410 --> 00:05:11.150 so in the 6th, 7th and 8th decades of life.
NOTE Confidence: 0.9203030133333333

00:05:11.150 --> 00:05:13.054 But we do see it in younger patients
NOTE Confidence: 0.9203030133333333

00:05:13.054 --> 00:05:15.201 and you'll hear about that this evening
NOTE Confidence: 0.9203030133333333

00:05:15.201 --> 00:05:17.138 that there are hereditary syndromes that
NOTE Confidence: 0.9203030133333333

00:05:17.138 --> 00:05:18.993 can impact the risk of kidney cancer.
NOTE Confidence: 0.9203030133333333

00:05:19.000 --> 00:05:21.765 Risk factors is a very common question.
NOTE Confidence: 0.9203030133333333

00:05:21.770 --> 00:05:23.642 I think the most important thing to know is
NOTE Confidence: 0.9203030133333333

00:05:23.642 --> 00:05:25.497 that if someone developed a kidney cancer,
NOTE Confidence: 0.9203030133333333

00:05:25.500 --> 00:05:27.876 it is very rarely do to something that
NOTE Confidence: 0.9203030133333333

00:05:27.876 --> 00:05:30.540 they did. It's more common by chance,
NOTE Confidence: 0.9203030133333333

00:05:30.540 --> 00:05:32.022 but there is an association with
NOTE Confidence: 0.9203030133333333

00:05:32.022 --> 00:05:33.460 things like high blood pressure,
NOTE Confidence: 0.9203030133333333

00:05:33.460 --> 00:05:34.840 smoking, being overweight,

NOTE Confidence: 0.920303013333333

00:05:34.840 --> 00:05:37.600 chronic kidney disease or dialysis can

NOTE Confidence: 0.920303013333333

00:05:37.600 --> 00:05:39.952 increase the risk of developing a kidney

NOTE Confidence: 0.920303013333333

00:05:39.952 --> 00:05:42.679 cancer as well as some exposures to

NOTE Confidence: 0.920303013333333

00:05:42.679 --> 00:05:44.599 chemicals like chlorinated solvents.

NOTE Confidence: 0.920303013333333

00:05:44.600 --> 00:05:45.148 We'll again.

NOTE Confidence: 0.920303013333333

00:05:45.148 --> 00:05:47.340 You'll also will hear about the idea of

NOTE Confidence: 0.920303013333333

00:05:47.396 --> 00:05:49.650 hereditary risk, and is there a gene?

NOTE Confidence: 0.920303013333333

00:05:49.650 --> 00:05:51.778 Or set of genes that may have impacted

NOTE Confidence: 0.920303013333333

00:05:51.778 --> 00:05:53.637 the risk of developing a kidney cancer.

NOTE Confidence: 0.920303013333333

00:05:53.637 --> 00:05:56.319 Again, kidney cancer renal cell carcinoma

NOTE Confidence: 0.920303013333333

00:05:56.319 --> 00:05:59.499 really is a family of kidney tumors.

NOTE Confidence: 0.920303013333333

00:05:59.500 --> 00:06:01.225 The most common is something

NOTE Confidence: 0.920303013333333

00:06:01.225 --> 00:06:02.950 called clear cell kidney cancer.

NOTE Confidence: 0.920303013333333

00:06:02.950 --> 00:06:05.512 About that represents about 3/4 of cases

NOTE Confidence: 0.920303013333333

00:06:05.512 --> 00:06:07.441 of kidney cancer papillary kidney cancer,

NOTE Confidence: 0.920303013333333

00:06:07.441 --> 00:06:09.103 of which there are two types,
NOTE Confidence: 0.9203030133333333

00:06:09.110 --> 00:06:12.016 represents about 15 to 20% of kidney
NOTE Confidence: 0.9203030133333333

00:06:12.016 --> 00:06:14.618 tumor of kidney cancers and chromophobe.
NOTE Confidence: 0.9203030133333333

00:06:14.618 --> 00:06:17.388 Kidney cancer represents about 7%.
NOTE Confidence: 0.9203030133333333

00:06:17.390 --> 00:06:19.022 The remainder are much less common
NOTE Confidence: 0.9203030133333333

00:06:19.022 --> 00:06:19.566 things like.
NOTE Confidence: 0.9203030133333333

00:06:19.570 --> 00:06:22.270 Medullary collecting duct and translocation.
NOTE Confidence: 0.9203030133333333

00:06:22.270 --> 00:06:23.068 Kidney cancers.
NOTE Confidence: 0.9203030133333333

00:06:23.068 --> 00:06:25.861 The reason this is important is although
NOTE Confidence: 0.9203030133333333

00:06:25.861 --> 00:06:28.189 these are all renal cell carcinoma,
NOTE Confidence: 0.9203030133333333

00:06:28.190 --> 00:06:30.510 they really have a very wide spectrum of
NOTE Confidence: 0.9203030133333333

00:06:30.510 --> 00:06:32.674 behaviors so this is really important for
NOTE Confidence: 0.9203030133333333

00:06:32.674 --> 00:06:34.810 deciding about what type of treatment,
NOTE Confidence: 0.9203030133333333

00:06:34.810 --> 00:06:36.075 how aggressive a treatment might
NOTE Confidence: 0.9203030133333333

00:06:36.075 --> 00:06:38.289 be needed or the risk of a cancer
NOTE Confidence: 0.9203030133333333

00:06:38.289 --> 00:06:38.889 spreading elsewhere.

NOTE Confidence: 0.920303013333333

00:06:38.890 --> 00:06:41.585 It also can impact the types of

NOTE Confidence: 0.920303013333333

00:06:41.585 --> 00:06:43.948 treatments we offer and how people,

NOTE Confidence: 0.920303013333333

00:06:43.950 --> 00:06:46.519 how people tumors respond to that treatment.

NOTE Confidence: 0.876023231666667

00:06:48.950 --> 00:06:51.698 We often are asked questions about how

NOTE Confidence: 0.876023231666667

00:06:51.698 --> 00:06:54.470 is what's the stage of my tumor and what

NOTE Confidence: 0.876023231666667

00:06:54.545 --> 00:06:57.489 tumor stage is really is rather simple.

NOTE Confidence: 0.876023231666667

00:06:57.490 --> 00:07:00.958 It's where are the cancer cells and

NOTE Confidence: 0.876023231666667

00:07:00.958 --> 00:07:04.094 as as a surgeon, I often see patients

NOTE Confidence: 0.876023231666667

00:07:04.094 --> 00:07:06.570 with stage one or two kidney cancers,

NOTE Confidence: 0.876023231666667

00:07:06.570 --> 00:07:08.565 and those are tumors that are confined

NOTE Confidence: 0.876023231666667

00:07:08.565 --> 00:07:10.847 to the kidney and their stage one if

NOTE Confidence: 0.876023231666667

00:07:10.847 --> 00:07:12.916 it's 7 centimeters or less, stage two,

NOTE Confidence: 0.876023231666667

00:07:12.916 --> 00:07:15.004 if they're greater than 7 centimeters,

NOTE Confidence: 0.876023231666667

00:07:15.010 --> 00:07:18.298 a stage three kidney cancer is shown here.

NOTE Confidence: 0.876023231666667

00:07:18.300 --> 00:07:20.650 On the left I I think you can see my

NOTE Confidence: 0.876023231666667

00:07:20.718 --> 00:07:22.706 cursor and it's a tumor that might
NOTE Confidence: 0.876023231666667

00:07:22.706 --> 00:07:24.419 involve the fat around the kidney,
NOTE Confidence: 0.876023231666667

00:07:24.420 --> 00:07:26.640 not just push against the fat,
NOTE Confidence: 0.876023231666667

00:07:26.640 --> 00:07:28.128 but actually microscopically grow
NOTE Confidence: 0.876023231666667

00:07:28.128 --> 00:07:30.360 into the fat around the kidney.
NOTE Confidence: 0.876023231666667

00:07:30.360 --> 00:07:32.130 Or it might involve the urine
NOTE Confidence: 0.876023231666667

00:07:32.130 --> 00:07:33.768 collecting system, or even the blood
NOTE Confidence: 0.876023231666667

00:07:33.768 --> 00:07:35.078 vessels that drain the kidney,
NOTE Confidence: 0.876023231666667

00:07:35.080 --> 00:07:37.960 called a tumor thrombus.
NOTE Confidence: 0.876023231666667

00:07:37.960 --> 00:07:39.899 Or it may be a tumor that's
NOTE Confidence: 0.876023231666667

00:07:39.899 --> 00:07:41.410 otherwise confined to the kidney,
NOTE Confidence: 0.876023231666667

00:07:41.410 --> 00:07:42.929 but which has spread to lymph nodes.
NOTE Confidence: 0.876023231666667

00:07:42.930 --> 00:07:44.350 These little green areas here,
NOTE Confidence: 0.876023231666667

00:07:44.350 --> 00:07:46.150 which some of which have
NOTE Confidence: 0.876023231666667

00:07:46.150 --> 00:07:47.590 yellow cancer within them.
NOTE Confidence: 0.876023231666667

00:07:47.590 --> 00:07:49.020 A stage four kidney cancer,

NOTE Confidence: 0.876023231666667

00:07:49.020 --> 00:07:53.090 on the other hand, maybe in the kidney,

NOTE Confidence: 0.876023231666667

00:07:53.090 --> 00:07:55.470 but growing directly into an organ nearby,

NOTE Confidence: 0.876023231666667

00:07:55.470 --> 00:07:56.845 not spreading to it through

NOTE Confidence: 0.876023231666667

00:07:56.845 --> 00:07:57.670 the bloodstream necessarily.

NOTE Confidence: 0.876023231666667

00:07:57.670 --> 00:07:59.190 But growing into it,

NOTE Confidence: 0.876023231666667

00:07:59.190 --> 00:08:01.900 such as into the adrenal gland or a

NOTE Confidence: 0.876023231666667

00:08:01.900 --> 00:08:03.190 tumor that's confined to the kidney,

NOTE Confidence: 0.876023231666667

00:08:03.190 --> 00:08:05.626 but which has spread through the

NOTE Confidence: 0.876023231666667

00:08:05.626 --> 00:08:07.800 bloodstream to other places either.

NOTE Confidence: 0.876023231666667

00:08:07.800 --> 00:08:09.880 Places like the lung,

NOTE Confidence: 0.876023231666667

00:08:09.880 --> 00:08:10.400 liver,

NOTE Confidence: 0.876023231666667

00:08:10.400 --> 00:08:12.422 bones or also through the lymph

NOTE Confidence: 0.876023231666667

00:08:12.422 --> 00:08:14.489 nodes outside of the area near

NOTE Confidence: 0.876023231666667

00:08:14.489 --> 00:08:16.433 the kidney such as the lymph

NOTE Confidence: 0.876023231666667

00:08:16.433 --> 00:08:18.059 nodes above the diaphragm.

NOTE Confidence: 0.30638543

00:08:20.420 --> 00:08:22.182 It's important to know that
NOTE Confidence: 0.30638543

00:08:22.182 --> 00:08:24.197 at the time of diagnosis,
NOTE Confidence: 0.30638543

00:08:24.200 --> 00:08:26.230 the vast majority of patients have a
NOTE Confidence: 0.30638543

00:08:26.230 --> 00:08:27.860 tumor that's confined to the kidney.
NOTE Confidence: 0.30638543

00:08:27.860 --> 00:08:31.144 About 70% of patients, about 14%,
NOTE Confidence: 0.30638543

00:08:31.144 --> 00:08:33.692 about 14% of patients in the United
NOTE Confidence: 0.30638543

00:08:33.692 --> 00:08:35.540 States have tumors that are regional,
NOTE Confidence: 0.30638543

00:08:35.540 --> 00:08:38.221 so they either are growing outside of
NOTE Confidence: 0.30638543

00:08:38.221 --> 00:08:41.399 the kidney or into adjacent lymph nodes.
NOTE Confidence: 0.30638543

00:08:41.400 --> 00:08:42.725 The classic way that patients
NOTE Confidence: 0.30638543

00:08:42.725 --> 00:08:44.500 used to come in to see us.
NOTE Confidence: 0.30638543

00:08:44.500 --> 00:08:46.986 But this only happens at about 5% or
NOTE Confidence: 0.30638543

00:08:46.986 --> 00:08:49.331 less of the time now is with symptoms,
NOTE Confidence: 0.30638543

00:08:49.331 --> 00:08:51.740 so a mass that they could feel on their side,
NOTE Confidence: 0.30638543

00:08:51.740 --> 00:08:55.496 blood in the urine, or pain.
NOTE Confidence: 0.30638543

00:08:55.500 --> 00:08:57.564 This cancer type used to be

NOTE Confidence: 0.30638543

00:08:57.564 --> 00:08:58.940 called the internist tumor,

NOTE Confidence: 0.30638543

00:08:58.940 --> 00:09:00.370 because when it is larger

NOTE Confidence: 0.30638543

00:09:00.370 --> 00:09:01.514 or as spread elsewhere,

NOTE Confidence: 0.30638543

00:09:01.520 --> 00:09:02.940 it's very common for patients

NOTE Confidence: 0.30638543

00:09:02.940 --> 00:09:04.717 to have other symptoms and they

NOTE Confidence: 0.30638543

00:09:04.717 --> 00:09:06.237 might be difficult to diagnose.

NOTE Confidence: 0.30638543

00:09:06.240 --> 00:09:11.090 Weight loss, loss of energy, fevers even.

NOTE Confidence: 0.30638543

00:09:11.090 --> 00:09:14.678 And then blood changes in the values

NOTE Confidence: 0.30638543

00:09:14.678 --> 00:09:16.622 on their blood tests like anemia

NOTE Confidence: 0.30638543

00:09:16.622 --> 00:09:18.987 or even high red blood cell count.

NOTE Confidence: 0.30638543

00:09:18.990 --> 00:09:21.660 High calcium changes in their liver

NOTE Confidence: 0.30638543

00:09:21.660 --> 00:09:23.866 function tests in the modern era,

NOTE Confidence: 0.30638543

00:09:23.866 --> 00:09:25.840 though most patients don't have any

NOTE Confidence: 0.30638543

00:09:25.909 --> 00:09:28.299 symptoms and these are discovered

NOTE Confidence: 0.30638543

00:09:28.299 --> 00:09:28.777 incidentally.

NOTE Confidence: 0.30638543

00:09:28.780 --> 00:09:30.958 This instant idea of incidental diagnosis,
NOTE Confidence: 0.30638543

00:09:30.960 --> 00:09:32.899 I think, is a really important one.
NOTE Confidence: 0.30638543

00:09:32.900 --> 00:09:35.224 It brings up this idea of what's
NOTE Confidence: 0.30638543

00:09:35.224 --> 00:09:36.220 called over diagnosis.
NOTE Confidence: 0.30638543

00:09:36.220 --> 00:09:38.467 This is a chart that shows that
NOTE Confidence: 0.30638543

00:09:38.467 --> 00:09:40.359 over the past few decades,
NOTE Confidence: 0.30638543

00:09:40.360 --> 00:09:43.244 more and more people in the United
NOTE Confidence: 0.30638543

00:09:43.244 --> 00:09:46.179 States are being exposed to CT scans,
NOTE Confidence: 0.30638543

00:09:46.180 --> 00:09:48.836 and so we have more and more opportunity
NOTE Confidence: 0.30638543

00:09:48.836 --> 00:09:51.489 to find incidental tumors that might
NOTE Confidence: 0.30638543

00:09:51.489 --> 00:09:54.357 otherwise not cause patients or problem.
NOTE Confidence: 0.30638543

00:09:54.360 --> 00:09:58.170 And so the concept of overdiagnosis
NOTE Confidence: 0.30638543

00:09:58.170 --> 00:10:01.190 is when the diagnosis of a tumor
NOTE Confidence: 0.30638543

00:10:01.190 --> 00:10:02.940 is increasing and throughout the
NOTE Confidence: 0.30638543

00:10:03.002 --> 00:10:04.230 90s and early 2000s.
NOTE Confidence: 0.30638543

00:10:04.230 --> 00:10:06.211 It seemed like there was an epidemic

NOTE Confidence: 0.30638543

00:10:06.211 --> 00:10:08.420 of new kidney cancer being diagnosed,

NOTE Confidence: 0.30638543

00:10:08.420 --> 00:10:10.191 but at the same time the number

NOTE Confidence: 0.30638543

00:10:10.191 --> 00:10:11.920 of patients who were dying from

NOTE Confidence: 0.30638543

00:10:11.920 --> 00:10:13.435 kidney cancer did not change.

NOTE Confidence: 0.30638543

00:10:13.440 --> 00:10:15.384 And So what this means is that we

NOTE Confidence: 0.30638543

00:10:15.384 --> 00:10:16.745 were diagnosing tumors that were

NOTE Confidence: 0.30638543

00:10:16.745 --> 00:10:18.395 not going to be harming patients,

NOTE Confidence: 0.30638543

00:10:18.400 --> 00:10:20.900 and so this is overdiagnosis.

NOTE Confidence: 0.30638543

00:10:20.900 --> 00:10:22.972 This is a really interesting study that

NOTE Confidence: 0.30638543

00:10:22.972 --> 00:10:25.648 the map of the United States here shows.

NOTE Confidence: 0.30638543

00:10:25.650 --> 00:10:27.326 Variation from different regions

NOTE Confidence: 0.30638543

00:10:27.326 --> 00:10:30.514 in the use of CAT scans and so

NOTE Confidence: 0.30638543

00:10:30.514 --> 00:10:32.873 over a five year period of time,

NOTE Confidence: 0.30638543

00:10:32.880 --> 00:10:34.794 more than 40% of patients across

NOTE Confidence: 0.30638543

00:10:34.794 --> 00:10:36.676 the United States who have Medicare

NOTE Confidence: 0.30638543

00:10:36.676 --> 00:10:38.852 had a CAT scan of their chest or
NOTE Confidence: 0.30638543

00:10:38.912 --> 00:10:41.060 cat scan of their abdomen and this
NOTE Confidence: 0.30638543

00:10:41.060 --> 00:10:43.405 varied by regions as low as 30%
NOTE Confidence: 0.30638543

00:10:43.410 --> 00:10:44.720 in one area of California,
NOTE Confidence: 0.30638543

00:10:44.720 --> 00:10:47.067 higher than 50% in Sun City, AZ.
NOTE Confidence: 0.30638543

00:10:47.067 --> 00:10:48.948 And really interestingly,
NOTE Confidence: 0.30638543

00:10:48.948 --> 00:10:51.432 the more frequently cat scans
NOTE Confidence: 0.30638543

00:10:51.432 --> 00:10:52.937 were happening in an area,
NOTE Confidence: 0.30638543

00:10:52.940 --> 00:10:53.788 the more frequently patients
NOTE Confidence: 0.30638543

00:10:53.788 --> 00:10:54.636 were having an affair.
NOTE Confidence: 0.30638543

00:10:54.640 --> 00:10:56.504 Ectomy meaning their kidneys.
NOTE Confidence: 0.30638543

00:10:56.504 --> 00:10:58.622 Removed and so if you if a patient
NOTE Confidence: 0.30638543

00:10:58.622 --> 00:11:00.739 lives in a high scanning region,
NOTE Confidence: 0.30638543

00:11:00.740 --> 00:11:02.216 they're actually at higher
NOTE Confidence: 0.30638543

00:11:02.216 --> 00:11:04.924 risk of losing a kidney and the
NOTE Confidence: 0.30638543

00:11:04.924 --> 00:11:06.620 risks associated with that.

NOTE Confidence: 0.30638543

00:11:06.620 --> 00:11:08.454 So this brings up something really important.

NOTE Confidence: 0.30638543

00:11:08.460 --> 00:11:10.868 How do we decide and how to treat

NOTE Confidence: 0.30638543

00:11:10.868 --> 00:11:13.080 a patient who has a kidney tumor

NOTE Confidence: 0.30638543

00:11:13.080 --> 00:11:14.809 and what I would argue is that

NOTE Confidence: 0.30638543

00:11:14.809 --> 00:11:16.600 for small kidney mass is one of

NOTE Confidence: 0.30638543

00:11:16.600 --> 00:11:18.082 the first things we should think

NOTE Confidence: 0.926085595238095

00:11:18.144 --> 00:11:20.172 about. Is something called active

NOTE Confidence: 0.926085595238095

00:11:20.172 --> 00:11:21.612 surveillance, and this is the

NOTE Confidence: 0.926085595238095

00:11:21.612 --> 00:11:23.500 idea where we need to uncouple the

NOTE Confidence: 0.926085595238095

00:11:23.500 --> 00:11:25.060 idea of diagnosing that tumor,

NOTE Confidence: 0.926085595238095

00:11:25.060 --> 00:11:27.348 the one that's incidental on a cat scan

NOTE Confidence: 0.926085595238095

00:11:27.348 --> 00:11:29.838 from the treatment of that kidney tumor,

NOTE Confidence: 0.926085595238095

00:11:29.840 --> 00:11:31.792 we know that 20 to 30% of those

NOTE Confidence: 0.926085595238095

00:11:31.792 --> 00:11:33.360 small masses are benign, like those

NOTE Confidence: 0.926085595238095

00:11:33.360 --> 00:11:35.040 tumors I mentioned at the beginning.

NOTE Confidence: 0.926085595238095

00:11:35.040 --> 00:11:37.080 And if they're cancer, they're commonly.

NOTE Confidence: 0.926085595238095

00:11:37.080 --> 00:11:40.810 It's called indolent, not aggressive.

NOTE Confidence: 0.926085595238095

00:11:40.810 --> 00:11:42.994 This is an ideal approach for masses

NOTE Confidence: 0.926085595238095

00:11:42.994 --> 00:11:45.308 that are less than 3 centimeters in size

NOTE Confidence: 0.926085595238095

00:11:45.308 --> 00:11:47.810 or even up to 4 centimeters that are

NOTE Confidence: 0.926085595238095

00:11:47.810 --> 00:11:50.184 low stage and what we do is we image

NOTE Confidence: 0.926085595238095

00:11:50.184 --> 00:11:52.427 every six months and we look to see if

NOTE Confidence: 0.926085595238095

00:11:52.427 --> 00:11:54.019 it's growing faster than we'd like,

NOTE Confidence: 0.926085595238095

00:11:54.020 --> 00:11:56.036 so more than 5 millimeters a year,

NOTE Confidence: 0.926085595238095

00:11:56.040 --> 00:11:58.452 or if it's going to be above 3 centimeters

NOTE Confidence: 0.926085595238095

00:11:58.452 --> 00:12:00.598 and in some patients 4 centimeters.

NOTE Confidence: 0.926085595238095

00:12:00.600 --> 00:12:03.296 And at that point that's when we would

NOTE Confidence: 0.926085595238095

00:12:03.296 --> 00:12:05.606 intervene and do a procedure to treat

NOTE Confidence: 0.926085595238095

00:12:05.606 --> 00:12:07.860 the tumor. So what are the outcomes?

NOTE Confidence: 0.926085595238095

00:12:07.860 --> 00:12:08.913 Well, with this,

NOTE Confidence: 0.926085595238095

00:12:08.913 --> 00:12:11.019 with ten years of follow-up in

NOTE Confidence: 0.926085595238095

00:12:11.019 --> 00:12:13.239 a large series of patients,

NOTE Confidence: 0.926085595238095

00:12:13.240 --> 00:12:15.106 there was no difference in what's

NOTE Confidence: 0.926085595238095

00:12:15.106 --> 00:12:16.350 called cancer specific survival,

NOTE Confidence: 0.926085595238095

00:12:16.350 --> 00:12:19.008 meaning being alive.

NOTE Confidence: 0.926085595238095

00:12:19.010 --> 00:12:21.752 And not having died of kidney

NOTE Confidence: 0.926085595238095

00:12:21.752 --> 00:12:25.270 cancer and so 99% in either group.

NOTE Confidence: 0.926085595238095

00:12:25.270 --> 00:12:27.575 Whether you had treatment upfront or

NOTE Confidence: 0.926085595238095

00:12:27.575 --> 00:12:29.250 whether you went on surveillance,

NOTE Confidence: 0.926085595238095

00:12:29.250 --> 00:12:31.918 there was 99 greater than 99% cancer

NOTE Confidence: 0.926085595238095

00:12:31.918 --> 00:12:34.088 specific survival at 10 years.

NOTE Confidence: 0.926085595238095

00:12:34.090 --> 00:12:34.760 And importantly,

NOTE Confidence: 0.926085595238095

00:12:34.760 --> 00:12:37.105 2/3 of patients didn't meet a trigger

NOTE Confidence: 0.926085595238095

00:12:37.105 --> 00:12:39.067 for coming off of surveillance,

NOTE Confidence: 0.926085595238095

00:12:39.070 --> 00:12:41.578 so it didn't really either either

NOTE Confidence: 0.926085595238095

00:12:41.578 --> 00:12:43.890 didn't grow or grow slowly,

NOTE Confidence: 0.926085595238095

00:12:43.890 --> 00:12:44.790 and also really,
NOTE Confidence: 0.926085595238095

00:12:44.790 --> 00:12:45.090 importantly,
NOTE Confidence: 0.926085595238095

00:12:45.090 --> 00:12:47.278 half of the patients in that this
NOTE Confidence: 0.926085595238095

00:12:47.278 --> 00:12:49.294 group who came off surveillance came
NOTE Confidence: 0.926085595238095

00:12:49.294 --> 00:12:51.079 off surveillance 'cause they chose to.
NOTE Confidence: 0.926085595238095

00:12:51.080 --> 00:12:53.030 And so had treatment for for
NOTE Confidence: 0.926085595238095

00:12:53.030 --> 00:12:53.680 their preference,
NOTE Confidence: 0.926085595238095

00:12:53.680 --> 00:12:55.120 really important to know that
NOTE Confidence: 0.926085595238095

00:12:55.120 --> 00:12:56.560 active surveillance is an option.
NOTE Confidence: 0.926085595238095

00:12:56.560 --> 00:13:00.778 It's a safe option and the risk of
NOTE Confidence: 0.926085595238095

00:13:00.778 --> 00:13:03.313 spread in published active surveillance
NOTE Confidence: 0.926085595238095

00:13:03.313 --> 00:13:06.040 series ranges from from up to 2%.
NOTE Confidence: 0.926085595238095

00:13:06.040 --> 00:13:07.642 But it's really important to know
NOTE Confidence: 0.926085595238095

00:13:07.642 --> 00:13:09.633 that's only been in mass is greater
NOTE Confidence: 0.926085595238095

00:13:09.633 --> 00:13:11.379 than 3 centimeters that are growing,
NOTE Confidence: 0.926085595238095

00:13:11.380 --> 00:13:12.316 so it's a very,

NOTE Confidence: 0.926085595238095

00:13:12.316 --> 00:13:13.720 very safe option for mass is

NOTE Confidence: 0.926085595238095

00:13:13.773 --> 00:13:15.049 less than 3 centimeters,

NOTE Confidence: 0.926085595238095

00:13:15.050 --> 00:13:15.902 particularly if they're growing

NOTE Confidence: 0.926085595238095

00:13:15.902 --> 00:13:17.510 at a slow rate or not at all.

NOTE Confidence: 0.859755856666667

00:13:19.610 --> 00:13:22.706 Maslow said something in the 1960s.

NOTE Confidence: 0.859755856666667

00:13:22.710 --> 00:13:24.366 I suppose it's tempting if the

NOTE Confidence: 0.859755856666667

00:13:24.366 --> 00:13:26.522 only tool you have is a hammer to

NOTE Confidence: 0.859755856666667

00:13:26.522 --> 00:13:28.350 treat everything as if it's a nail,

NOTE Confidence: 0.859755856666667

00:13:28.350 --> 00:13:30.393 and so as a surgeon it can be really

NOTE Confidence: 0.859755856666667

00:13:30.393 --> 00:13:31.704 tempting to treat every patient

NOTE Confidence: 0.859755856666667

00:13:31.704 --> 00:13:33.571 with a small renal mass with surgery

NOTE Confidence: 0.859755856666667

00:13:33.571 --> 00:13:35.426 and it's just not the right thing.

NOTE Confidence: 0.859755856666667

00:13:35.430 --> 00:13:36.710 Sometimes doing nothing can

NOTE Confidence: 0.859755856666667

00:13:36.710 --> 00:13:37.990 be very difficult for.

NOTE Confidence: 0.859755856666667

00:13:37.990 --> 00:13:40.650 For patients can also be very difficult

NOTE Confidence: 0.859755856666667

00:13:40.650 --> 00:13:42.740 to not intervene on something.
NOTE Confidence: 0.859755856666667

00:13:42.740 --> 00:13:44.936 But this is a very innovative,
NOTE Confidence: 0.859755856666667

00:13:44.940 --> 00:13:46.017 very innovative approach.
NOTE Confidence: 0.859755856666667

00:13:46.017 --> 00:13:48.171 That's an important one for all
NOTE Confidence: 0.859755856666667

00:13:48.171 --> 00:13:50.295 of us to recognize that sometimes
NOTE Confidence: 0.859755856666667

00:13:50.295 --> 00:13:52.600 doing nothing is the right approach.
NOTE Confidence: 0.859755856666667

00:13:52.600 --> 00:13:53.509 Kidney mass biopsy.
NOTE Confidence: 0.859755856666667

00:13:53.509 --> 00:13:56.040 This is a question that comes up a lot.
NOTE Confidence: 0.859755856666667

00:13:56.040 --> 00:13:58.511 It used to not really be done
NOTE Confidence: 0.859755856666667

00:13:58.511 --> 00:14:00.565 unless we suspected lymphoma cancer.
NOTE Confidence: 0.859755856666667

00:14:00.565 --> 00:14:02.980 Having spread to the kidney or infection,
NOTE Confidence: 0.859755856666667

00:14:02.980 --> 00:14:04.870 but because kidney mass biopsy in
NOTE Confidence: 0.859755856666667

00:14:04.870 --> 00:14:07.181 the modern era is so much better
NOTE Confidence: 0.859755856666667

00:14:07.181 --> 00:14:09.155 with a low rate of complications,
NOTE Confidence: 0.859755856666667

00:14:09.160 --> 00:14:11.841 very little risk or no risk really
NOTE Confidence: 0.859755856666667

00:14:11.841 --> 00:14:14.253 of tumor seeding. And high accuracy.

NOTE Confidence: 0.859755856666667

00:14:14.253 --> 00:14:16.779 Kidney mass biopsy can be really

NOTE Confidence: 0.859755856666667

00:14:16.779 --> 00:14:18.870 helpful so it has what's called

NOTE Confidence: 0.859755856666667

00:14:18.870 --> 00:14:20.540 a positive predictive value of

NOTE Confidence: 0.859755856666667

00:14:20.607 --> 00:14:21.705 greater than 99%,

NOTE Confidence: 0.859755856666667

00:14:21.705 --> 00:14:24.545 meaning that if it diagnosis a kidney cancer,

NOTE Confidence: 0.859755856666667

00:14:24.550 --> 00:14:27.070 we can trust that diagnosis.

NOTE Confidence: 0.859755856666667

00:14:27.070 --> 00:14:29.420 The non diagnostic rate is

NOTE Confidence: 0.859755856666667

00:14:29.420 --> 00:14:31.450 about 10% up to 14%,

NOTE Confidence: 0.859755856666667

00:14:31.450 --> 00:14:34.550 but if we do a repeat biopsy

NOTE Confidence: 0.859755856666667

00:14:34.550 --> 00:14:38.114 that that increases the the rate

NOTE Confidence: 0.859755856666667

00:14:38.114 --> 00:14:39.896 of diagnosis substantially.

NOTE Confidence: 0.859755856666667

00:14:39.900 --> 00:14:40.564 Really importantly,

NOTE Confidence: 0.859755856666667

00:14:40.564 --> 00:14:42.556 is there are limitations of biopsy.

NOTE Confidence: 0.859755856666667

00:14:42.560 --> 00:14:45.038 The kidney tumors can be heterogeneous,

NOTE Confidence: 0.859755856666667

00:14:45.040 --> 00:14:46.846 so not all areas of kidney tumors

NOTE Confidence: 0.859755856666667

00:14:46.846 --> 00:14:47.620 are the same,
NOTE Confidence: 0.859755856666667

00:14:47.620 --> 00:14:50.008 and biopsy isn't perfect for grade.
NOTE Confidence: 0.859755856666667

00:14:50.010 --> 00:14:52.894 If it's an aggressive cancer or not.
NOTE Confidence: 0.859755856666667

00:14:52.900 --> 00:14:55.384 So there we shouldn't always do
NOTE Confidence: 0.859755856666667

00:14:55.384 --> 00:14:57.040 a kidney mass biopsy,
NOTE Confidence: 0.859755856666667

00:14:57.040 --> 00:14:58.300 but there are really important
NOTE Confidence: 0.859755856666667

00:14:58.300 --> 00:14:59.840 times where it's a great tool.
NOTE Confidence: 0.859755856666667

00:14:59.840 --> 00:15:01.310 This is what it looks like
NOTE Confidence: 0.859755856666667

00:15:01.310 --> 00:15:02.940 where a patient has a CAT scan.
NOTE Confidence: 0.859755856666667

00:15:02.940 --> 00:15:05.005 This white line is a needle that's
NOTE Confidence: 0.859755856666667

00:15:05.005 --> 00:15:05.890 entering the kidney,
NOTE Confidence: 0.859755856666667

00:15:05.890 --> 00:15:07.291 the kidney mass.
NOTE Confidence: 0.859755856666667

00:15:07.291 --> 00:15:09.626 This shows a needle entering
NOTE Confidence: 0.859755856666667

00:15:09.626 --> 00:15:11.612 the mass and then and taking
NOTE Confidence: 0.859755856666667

00:15:11.612 --> 00:15:13.190 out a small sample of tissue.
NOTE Confidence: 0.924048291111111

00:15:15.860 --> 00:15:18.533 So the idea of when to obtain a biopsy.

NOTE Confidence: 0.9240482911111111

00:15:18.540 --> 00:15:20.820 It's sometimes it really is.

NOTE Confidence: 0.9240482911111111

00:15:20.820 --> 00:15:23.298 Sometimes, as one of my colleagues said,

NOTE Confidence: 0.9240482911111111

00:15:23.300 --> 00:15:25.337 more than never, but less than always,

NOTE Confidence: 0.9240482911111111

00:15:25.340 --> 00:15:26.400 and so we do it.

NOTE Confidence: 0.9240482911111111

00:15:26.400 --> 00:15:29.640 If we suspect lymphoma, Abscess,

NOTE Confidence: 0.9240482911111111

00:15:29.640 --> 00:15:32.208 or spread to the kid spread of

NOTE Confidence: 0.9240482911111111

00:15:32.208 --> 00:15:34.478 another cancer to the kidney.

NOTE Confidence: 0.9240482911111111

00:15:34.480 --> 00:15:37.788 If the patient is.

NOTE Confidence: 0.9240482911111111

00:15:37.790 --> 00:15:39.498 If the patients candidate

NOTE Confidence: 0.9240482911111111

00:15:39.498 --> 00:15:40.779 for active surveillance,

NOTE Confidence: 0.9240482911111111

00:15:40.780 --> 00:15:42.180 depending on a biopsy result,

NOTE Confidence: 0.9240482911111111

00:15:42.180 --> 00:15:43.940 we might do a biopsy.

NOTE Confidence: 0.9240482911111111

00:15:43.940 --> 00:15:45.638 If we're planning on doing an

NOTE Confidence: 0.9240482911111111

00:15:45.638 --> 00:15:47.339 ablation and not removing the tumor,

NOTE Confidence: 0.9240482911111111

00:15:47.340 --> 00:15:48.635 that's the time to do a biopsy,

NOTE Confidence: 0.9240482911111111

00:15:48.640 --> 00:15:50.649 so we can define what it is,
NOTE Confidence: 0.9240482911111111

00:15:50.650 --> 00:15:53.322 and if the patient end the the treatment
NOTE Confidence: 0.9240482911111111

00:15:53.322 --> 00:15:55.899 team are willing to observe a tumor.
NOTE Confidence: 0.9240482911111111

00:15:55.900 --> 00:15:57.500 Depending on the biopsy result,
NOTE Confidence: 0.9240482911111111

00:15:57.500 --> 00:15:58.680 a biopsy can be really,
NOTE Confidence: 0.9240482911111111

00:15:58.680 --> 00:15:59.400 really helpful.
NOTE Confidence: 0.87978075

00:16:00.830 --> 00:16:01.878 It's not just biopsy,
NOTE Confidence: 0.920222582307692

00:16:01.890 --> 00:16:03.591 though that can help us decide whether
NOTE Confidence: 0.920222582307692

00:16:03.591 --> 00:16:05.488 a mass is safe for surveillance.
NOTE Confidence: 0.920222582307692

00:16:05.490 --> 00:16:07.680 There is an imaging study
NOTE Confidence: 0.920222582307692

00:16:07.680 --> 00:16:09.432 called a SESTAMIBI scan,
NOTE Confidence: 0.920222582307692

00:16:09.440 --> 00:16:11.372 and this is used typically for something
NOTE Confidence: 0.920222582307692

00:16:11.372 --> 00:16:12.950 else other than kidney tumors.
NOTE Confidence: 0.920222582307692

00:16:12.950 --> 00:16:15.438 But over the past five years or so
NOTE Confidence: 0.920222582307692

00:16:15.438 --> 00:16:17.700 it's it's got an increasing use.
NOTE Confidence: 0.920222582307692

00:16:17.700 --> 00:16:18.930 You can see at the top.

NOTE Confidence: 0.920222582307692

00:16:18.930 --> 00:16:20.470 This is what's called an

NOTE Confidence: 0.920222582307692

00:16:20.470 --> 00:16:21.702 uncle Cytoma benign tumor,

NOTE Confidence: 0.920222582307692

00:16:21.710 --> 00:16:24.445 and on a sestamibi that

NOTE Confidence: 0.920222582307692

00:16:24.445 --> 00:16:26.633 oncocytoma lights up bright.

NOTE Confidence: 0.920222582307692

00:16:26.640 --> 00:16:27.785 This is a kidney tumor

NOTE Confidence: 0.920222582307692

00:16:27.785 --> 00:16:28.930 down here at the bottom,

NOTE Confidence: 0.920222582307692

00:16:28.930 --> 00:16:30.729 a kidney cancer down at the bottom.

NOTE Confidence: 0.920222582307692

00:16:30.730 --> 00:16:32.394 You can see it's what we call cold.

NOTE Confidence: 0.920222582307692

00:16:32.400 --> 00:16:34.689 It does not take up the sestamibi.

NOTE Confidence: 0.920222582307692

00:16:34.690 --> 00:16:36.634 Basically the kidney cancers have a

NOTE Confidence: 0.920222582307692

00:16:36.634 --> 00:16:38.980 little pump in them that pumps the

NOTE Confidence: 0.920222582307692

00:16:38.980 --> 00:16:40.630 sestamibi out and the oncocytoma's

NOTE Confidence: 0.920222582307692

00:16:40.630 --> 00:16:42.610 have have are packed with something

NOTE Confidence: 0.920222582307692

00:16:42.610 --> 00:16:43.928 called mitochondria that take

NOTE Confidence: 0.920222582307692

00:16:43.928 --> 00:16:45.782 up the sestamibi and they don't

NOTE Confidence: 0.920222582307692

00:16:45.782 --> 00:16:47.566 have the pumps to get rid of it,
NOTE Confidence: 0.920222582307692

00:16:47.570 --> 00:16:49.778 so that's why it's so hot.
NOTE Confidence: 0.920222582307692

00:16:49.780 --> 00:16:51.628 It's a very active area of investigation.
NOTE Confidence: 0.920222582307692

00:16:51.630 --> 00:16:54.006 We are using this here to help our
NOTE Confidence: 0.920222582307692

00:16:54.006 --> 00:16:55.759 patients decide on treatment for
NOTE Confidence: 0.920222582307692

00:16:55.759 --> 00:16:57.684 small kidney masses. It is a good.
NOTE Confidence: 0.920222582307692

00:16:57.684 --> 00:17:00.049 It seems to be a good adjunct to biopsy,
NOTE Confidence: 0.920222582307692

00:17:00.050 --> 00:17:03.130 but it is still an area of investigation.
NOTE Confidence: 0.920222582307692

00:17:03.130 --> 00:17:05.490 So how do we treat localized kidney cancer?
NOTE Confidence: 0.920222582307692

00:17:05.490 --> 00:17:07.625 I ask my patients to think about
NOTE Confidence: 0.920222582307692

00:17:07.625 --> 00:17:09.150 3 areas to consider.
NOTE Confidence: 0.920222582307692

00:17:09.150 --> 00:17:10.970 Three things cancer control
NOTE Confidence: 0.920222582307692

00:17:10.970 --> 00:17:12.335 if that's important.
NOTE Confidence: 0.920222582307692

00:17:12.340 --> 00:17:13.624 If that's necessary,
NOTE Confidence: 0.920222582307692

00:17:13.624 --> 00:17:15.764 sparing kidney function and then
NOTE Confidence: 0.920222582307692

00:17:15.764 --> 00:17:17.949 risks recovery and quality of life.

NOTE Confidence: 0.920222582307692

00:17:17.950 --> 00:17:19.365 So what is the evolution

NOTE Confidence: 0.920222582307692

00:17:19.365 --> 00:17:20.497 of kidney cancer surgery?

NOTE Confidence: 0.920222582307692

00:17:20.500 --> 00:17:22.388 What does it look like from the 50s,

NOTE Confidence: 0.920222582307692

00:17:22.390 --> 00:17:23.842 sixties, 70s and 80s?

NOTE Confidence: 0.920222582307692

00:17:23.842 --> 00:17:26.290 We really did radical nephric to me,

NOTE Confidence: 0.920222582307692

00:17:26.290 --> 00:17:28.387 and so this is removal of the whole kidney,

NOTE Confidence: 0.920222582307692

00:17:28.390 --> 00:17:29.365 including lymph nodes

NOTE Confidence: 0.920222582307692

00:17:29.365 --> 00:17:30.665 including the adrenal gland,

NOTE Confidence: 0.920222582307692

00:17:30.670 --> 00:17:32.566 all the fat around the kidney,

NOTE Confidence: 0.920222582307692

00:17:32.570 --> 00:17:33.340 radical meaning.

NOTE Confidence: 0.920222582307692

00:17:33.340 --> 00:17:35.265 From the word meaning roots

NOTE Confidence: 0.920222582307692

00:17:35.265 --> 00:17:37.644 right to take the cancer up by

NOTE Confidence: 0.920222582307692

00:17:37.644 --> 00:17:39.570 its roots and we only did what's

NOTE Confidence: 0.920222582307692

00:17:39.570 --> 00:17:40.380 called partial nephrectomy.

NOTE Confidence: 0.920222582307692

00:17:40.380 --> 00:17:41.712 Me just removing the mass in

NOTE Confidence: 0.920222582307692

00:17:41.712 --> 00:17:43.400 a thin rim of normal tissue.
NOTE Confidence: 0.920222582307692

00:17:43.400 --> 00:17:45.500 Only in very select cases,
NOTE Confidence: 0.920222582307692

00:17:45.500 --> 00:17:48.236 such as if the patient only had one
NOTE Confidence: 0.920222582307692

00:17:48.236 --> 00:17:50.272 kidney starting in the 90s and the
NOTE Confidence: 0.920222582307692

00:17:50.272 --> 00:17:52.236 2000s we realized that we were able
NOTE Confidence: 0.920222582307692

00:17:52.236 --> 00:17:54.049 to not take out the adrenal gland
NOTE Confidence: 0.920222582307692

00:17:54.112 --> 00:17:56.200 because imaging had improved so much.
NOTE Confidence: 0.920222582307692

00:17:56.200 --> 00:17:57.520 If the adrenal looks normal,
NOTE Confidence: 0.920222582307692

00:17:57.520 --> 00:17:58.420 we don't take it out.
NOTE Confidence: 0.920222582307692

00:17:58.420 --> 00:17:59.540 Same thing for lymph nodes.
NOTE Confidence: 0.920222582307692

00:17:59.540 --> 00:18:01.406 We don't take them out unless
NOTE Confidence: 0.920222582307692

00:18:01.406 --> 00:18:02.898 they're abnormal and then we started
NOTE Confidence: 0.920222582307692

00:18:02.898 --> 00:18:03.983 to do what's called elective.
NOTE Confidence: 0.920222582307692

00:18:03.990 --> 00:18:05.585 Partial nephrectomy so doing a
NOTE Confidence: 0.920222582307692

00:18:05.585 --> 00:18:06.861 partial nephrectomy in patients
NOTE Confidence: 0.920222582307692

00:18:06.861 --> 00:18:08.050 who have two kidneys.

NOTE Confidence: 0.867870512

00:18:10.190 --> 00:18:12.900 From 2010, kind of beyond,

NOTE Confidence: 0.867870512

00:18:12.900 --> 00:18:14.402 we've done increasingly complex,

NOTE Confidence: 0.867870512

00:18:14.402 --> 00:18:15.728 minimally invasive surgery,

NOTE Confidence: 0.867870512

00:18:15.728 --> 00:18:18.380 including use of the surgical robot.

NOTE Confidence: 0.867870512

00:18:18.380 --> 00:18:20.940 A big advance has been in something called

NOTE Confidence: 0.867870512

00:18:20.940 --> 00:18:22.928 Irraz enhanced recovery after surgery,

NOTE Confidence: 0.867870512

00:18:22.930 --> 00:18:25.276 where we're getting patients home and

NOTE Confidence: 0.867870512

00:18:25.276 --> 00:18:27.810 back to their usual lives faster.

NOTE Confidence: 0.867870512

00:18:27.810 --> 00:18:29.847 A lot of focus on preventing the

NOTE Confidence: 0.867870512

00:18:29.847 --> 00:18:31.694 complications of surgery such as blood

NOTE Confidence: 0.867870512

00:18:31.694 --> 00:18:33.224 clot and surgical site infections.

NOTE Confidence: 0.867870512

00:18:33.230 --> 00:18:34.930 I think most importantly,

NOTE Confidence: 0.867870512

00:18:34.930 --> 00:18:36.205 integrating surgery with

NOTE Confidence: 0.867870512

00:18:36.205 --> 00:18:38.199 medications to treat the cancer.

NOTE Confidence: 0.867870512

00:18:38.200 --> 00:18:40.088 Why is this important?

NOTE Confidence: 0.867870512

00:18:40.088 --> 00:18:41.805 Well, surgical advances really
NOTE Confidence: 0.867870512

00:18:41.805 --> 00:18:43.880 have focused on risks recovery,
NOTE Confidence: 0.867870512

00:18:43.880 --> 00:18:44.993 quality of life,
NOTE Confidence: 0.867870512

00:18:44.993 --> 00:18:46.106 sparing kidney function,
NOTE Confidence: 0.867870512

00:18:46.110 --> 00:18:47.797 and by doing that we've really done
NOTE Confidence: 0.867870512

00:18:47.797 --> 00:18:49.251 less so doing surveillance doing
NOTE Confidence: 0.867870512

00:18:49.251 --> 00:18:51.788 partial nephric to me, doing ablation.
NOTE Confidence: 0.867870512

00:18:51.788 --> 00:18:54.758 Doing minimally invasive surgery but
NOTE Confidence: 0.867870512

00:18:54.758 --> 00:18:57.818 surgical advances have not really done
NOTE Confidence: 0.867870512

00:18:57.818 --> 00:19:00.206 much from a cancer control perspective.
NOTE Confidence: 0.867870512

00:19:00.210 --> 00:19:01.602 What's done that really
NOTE Confidence: 0.867870512

00:19:01.602 --> 00:19:02.994 is doing more meaning,
NOTE Confidence: 0.867870512

00:19:03.000 --> 00:19:05.715 not just surgery but integrating
NOTE Confidence: 0.867870512

00:19:05.715 --> 00:19:07.887 surgery with other treatment
NOTE Confidence: 0.867870512

00:19:07.887 --> 00:19:09.949 modalities such as medication.
NOTE Confidence: 0.867870512

00:19:09.950 --> 00:19:12.030 I'd like to quickly go through some of

NOTE Confidence: 0.867870512

00:19:12.030 --> 00:19:13.807 the treatment options one is ablation.

NOTE Confidence: 0.867870512

00:19:13.810 --> 00:19:15.854 This is freezing or frying the mass.

NOTE Confidence: 0.867870512

00:19:15.860 --> 00:19:17.708 Most commonly here we do what's called

NOTE Confidence: 0.867870512

00:19:17.708 --> 00:19:18.930 percutaneous or through the skin,

NOTE Confidence: 0.867870512

00:19:18.930 --> 00:19:19.864 cryo ablation.

NOTE Confidence: 0.867870512

00:19:19.864 --> 00:19:22.666 It's done by the interventional radiologist.

NOTE Confidence: 0.867870512

00:19:22.670 --> 00:19:23.930 It's a great option for mass,

NOTE Confidence: 0.867870512

00:19:23.930 --> 00:19:25.652 is less than 3 centimeters in

NOTE Confidence: 0.867870512

00:19:25.652 --> 00:19:27.809 size to very low risk procedure.

NOTE Confidence: 0.867870512

00:19:27.810 --> 00:19:29.255 Very well tolerated people go

NOTE Confidence: 0.867870512

00:19:29.255 --> 00:19:31.280 home the same day no incision.

NOTE Confidence: 0.837130346

00:19:33.330 --> 00:19:35.280 It has its pairs kidney function

NOTE Confidence: 0.837130346

00:19:35.280 --> 00:19:36.580 similar to partial nephrectomy.

NOTE Confidence: 0.837130346

00:19:36.580 --> 00:19:38.350 Me, that's great.

NOTE Confidence: 0.837130346

00:19:38.350 --> 00:19:40.942 It does have a slightly higher risk of

NOTE Confidence: 0.837130346

00:19:40.942 --> 00:19:42.689 cancer recurrence than surgery does,
NOTE Confidence: 0.837130346

00:19:42.690 --> 00:19:45.723 but the good news is a second ablation takes
NOTE Confidence: 0.837130346

00:19:45.723 --> 00:19:48.404 care of of the vast majority of those,
NOTE Confidence: 0.837130346

00:19:48.410 --> 00:19:50.777 so it's a very very good option if patients
NOTE Confidence: 0.837130346

00:19:50.777 --> 00:19:52.789 are not great surgical candidates,
NOTE Confidence: 0.837130346

00:19:52.790 --> 00:19:53.910 or in a very small,
NOTE Confidence: 0.837130346

00:19:53.910 --> 00:19:55.954 very accessible tumor in a patient who
NOTE Confidence: 0.837130346

00:19:55.954 --> 00:19:57.720 doesn't feel comfortable with surveillance.
NOTE Confidence: 0.837130346

00:19:57.720 --> 00:19:59.500 The key thing is location.
NOTE Confidence: 0.837130346

00:19:59.500 --> 00:20:01.324 This is an ideally situated tumor
NOTE Confidence: 0.837130346

00:20:01.324 --> 00:20:03.179 for ablation far away from the
NOTE Confidence: 0.837130346

00:20:03.179 --> 00:20:04.639 blood vessels in the kidney.
NOTE Confidence: 0.837130346

00:20:04.640 --> 00:20:06.089 But if there there can be tumors
NOTE Confidence: 0.837130346

00:20:06.089 --> 00:20:07.763 that are close to the blood vessels
NOTE Confidence: 0.837130346

00:20:07.763 --> 00:20:09.269 close to the urine collecting system
NOTE Confidence: 0.837130346

00:20:09.320 --> 00:20:10.909 where ablation is not a good option.

NOTE Confidence: 0.884521502857143
00:20:13.100 --> 00:20:15.179 This is just what ablation looks like.
NOTE Confidence: 0.884521502857143
00:20:15.180 --> 00:20:16.404 This is a tumor at the
NOTE Confidence: 0.884521502857143
00:20:16.404 --> 00:20:17.660 top of the left kidney.
NOTE Confidence: 0.884521502857143
00:20:17.660 --> 00:20:20.425 A biopsy was done, then an ultrasound,
NOTE Confidence: 0.884521502857143
00:20:20.430 --> 00:20:24.038 then a cryotherapy probe was put in here.
NOTE Confidence: 0.884521502857143
00:20:24.040 --> 00:20:24.950 The patient did have a
NOTE Confidence: 0.884521502857143
00:20:24.950 --> 00:20:25.678 little bit of bleeding.
NOTE Confidence: 0.884521502857143
00:20:25.680 --> 00:20:28.659 You can see after the procedure which is OK.
NOTE Confidence: 0.884521502857143
00:20:28.660 --> 00:20:31.396 They then had a small recurrence.
NOTE Confidence: 0.884521502857143
00:20:31.400 --> 00:20:32.648 They cut off the blood flow
NOTE Confidence: 0.884521502857143
00:20:32.648 --> 00:20:34.029 to that portion of the kidney.
NOTE Confidence: 0.884521502857143
00:20:34.030 --> 00:20:34.942 Then it was frozen.
NOTE Confidence: 0.884521502857143
00:20:34.942 --> 00:20:36.310 This is from a research paper,
NOTE Confidence: 0.884521502857143
00:20:36.310 --> 00:20:37.582 not from our center.
NOTE Confidence: 0.884521502857143
00:20:37.582 --> 00:20:39.863 It was frozen again and then four
NOTE Confidence: 0.884521502857143

00:20:39.863 --> 00:20:42.287 years later no sign of any cancer.
NOTE Confidence: 0.884521502857143

00:20:42.290 --> 00:20:43.406 It's a lot to go through,
NOTE Confidence: 0.884521502857143

00:20:43.410 --> 00:20:47.078 but the patient did not need surgery.
NOTE Confidence: 0.884521502857143

00:20:47.080 --> 00:20:49.680 Partial nephrectomy like ablation,
NOTE Confidence: 0.884521502857143

00:20:49.680 --> 00:20:50.424 spares kidney,
NOTE Confidence: 0.884521502857143

00:20:50.424 --> 00:20:52.656 but it's surgery and in that
NOTE Confidence: 0.884521502857143

00:20:52.656 --> 00:20:54.877 surgery we remove the tumor suture.
NOTE Confidence: 0.884521502857143

00:20:54.877 --> 00:20:56.956 The rest of the kidney back together.
NOTE Confidence: 0.884521502857143

00:20:56.960 --> 00:20:58.820 This can be done open laparoscopic
NOTE Confidence: 0.884521502857143

00:20:58.820 --> 00:21:00.554 Lee or much more commonly
NOTE Confidence: 0.884521502857143

00:21:00.554 --> 00:21:02.258 now it's done robotically.
NOTE Confidence: 0.884521502857143

00:21:02.260 --> 00:21:04.843 We prioritize partial nephrectomy to me even
NOTE Confidence: 0.884521502857143

00:21:04.843 --> 00:21:07.739 when the tumors are highly highly complex.
NOTE Confidence: 0.884521502857143

00:21:07.740 --> 00:21:09.854 If a patient has only one kidney,
NOTE Confidence: 0.884521502857143

00:21:09.860 --> 00:21:12.485 if there's tumors in both kidneys or
NOTE Confidence: 0.884521502857143

00:21:12.485 --> 00:21:15.450 if they have chronic kidney disease.

NOTE Confidence: 0.884521502857143
00:21:15.450 --> 00:21:17.025 We know from retrospective research
NOTE Confidence: 0.884521502857143
00:21:17.025 --> 00:21:18.974 looking back at the patients we've
NOTE Confidence: 0.884521502857143
00:21:18.974 --> 00:21:20.270 treated that partial effectively
NOTE Confidence: 0.884521502857143
00:21:20.270 --> 00:21:22.258 reduces the risk of chronic kidney
NOTE Confidence: 0.884521502857143
00:21:22.258 --> 00:21:24.118 disease compared to removing the whole
NOTE Confidence: 0.884521502857143
00:21:24.118 --> 00:21:25.926 thing compared to radical nephrectomy,
NOTE Confidence: 0.884521502857143
00:21:25.926 --> 00:21:28.116 and it provides the exact
NOTE Confidence: 0.884521502857143
00:21:28.116 --> 00:21:29.430 same cancer control.
NOTE Confidence: 0.884521502857143
00:21:29.430 --> 00:21:31.006 This is a really,
NOTE Confidence: 0.884521502857143
00:21:31.006 --> 00:21:32.976 really important option for our
NOTE Confidence: 0.884521502857143
00:21:32.976 --> 00:21:35.487 patients and is very commonly employed,
NOTE Confidence: 0.884521502857143
00:21:35.490 --> 00:21:38.170 so partial direct to me these days is
NOTE Confidence: 0.884521502857143
00:21:38.170 --> 00:21:40.782 still done at many centers open they
NOTE Confidence: 0.884521502857143
00:21:40.782 --> 00:21:44.056 with an open incision, and that's OK.
NOTE Confidence: 0.884521502857143
00:21:44.056 --> 00:21:44.980 The key?
NOTE Confidence: 0.884521502857143

00:21:44.980 --> 00:21:46.280 The advantage of minimally
NOTE Confidence: 0.884521502857143

00:21:46.280 --> 00:21:47.255 invasive surgery though,
NOTE Confidence: 0.884521502857143

00:21:47.260 --> 00:21:49.368 is a really significant
NOTE Confidence: 0.884521502857143

00:21:49.368 --> 00:21:51.476 improvement in patients recovery,
NOTE Confidence: 0.884521502857143

00:21:51.480 --> 00:21:52.608 even for highly complicated
NOTE Confidence: 0.884521502857143

00:21:52.608 --> 00:21:54.300 tumors like you see down here,
NOTE Confidence: 0.884521502857143

00:21:54.300 --> 00:21:56.316 we do the vast majority of our partial
NOTE Confidence: 0.884521502857143

00:21:56.316 --> 00:21:58.953 infectees with robotic surgery. Here I am.
NOTE Confidence: 0.884521502857143

00:21:58.953 --> 00:22:04.560 I am a really big fan of the surgical robot.
NOTE Confidence: 0.884521502857143

00:22:04.560 --> 00:22:06.228 It's made by a company called
NOTE Confidence: 0.884521502857143

00:22:06.228 --> 00:22:06.784 Intuitive Surgical.
NOTE Confidence: 0.884521502857143

00:22:06.790 --> 00:22:07.753 It's pictured here.
NOTE Confidence: 0.884521502857143

00:22:07.753 --> 00:22:10.340 This is the console where the surgeon sits.
NOTE Confidence: 0.884521502857143

00:22:10.340 --> 00:22:12.240 It has a dual eyepiece
NOTE Confidence: 0.884521502857143

00:22:12.240 --> 00:22:14.140 that provides a 3D view.
NOTE Confidence: 0.884521502857143

00:22:14.140 --> 00:22:16.107 This is the robot itself that has.

NOTE Confidence: 0.884521502857143
00:22:16.110 --> 00:22:18.610 Four different minimally invasive
NOTE Confidence: 0.884521502857143
00:22:18.610 --> 00:22:21.735 instruments that that we use.
NOTE Confidence: 0.884521502857143
00:22:21.740 --> 00:22:23.160 To do the operation itself,
NOTE Confidence: 0.884521502857143
00:22:23.160 --> 00:22:24.736 and this is what's called the vision cart,
NOTE Confidence: 0.884521502857143
00:22:24.740 --> 00:22:26.420 where my assistant who's at the
NOTE Confidence: 0.884521502857143
00:22:26.420 --> 00:22:28.678 bedside is able to also see what's
NOTE Confidence: 0.884521502857143
00:22:28.678 --> 00:22:30.118 happening inside the abdomen.
NOTE Confidence: 0.884521502857143
00:22:30.120 --> 00:22:31.520 This is the eyepiece I look through.
NOTE Confidence: 0.884521502857143
00:22:31.520 --> 00:22:33.230 There's a.
NOTE Confidence: 0.884521502857143
00:22:33.230 --> 00:22:35.108 These are the handpieces that control
NOTE Confidence: 0.884521502857143
00:22:35.108 --> 00:22:36.360 whole variety of instruments,
NOTE Confidence: 0.884521502857143
00:22:36.360 --> 00:22:38.922 including a 3D camera and a variety
NOTE Confidence: 0.884521502857143
00:22:38.922 --> 00:22:40.939 of other instruments for suturing,
NOTE Confidence: 0.884521502857143
00:22:40.940 --> 00:22:44.100 and for cauterizing and
NOTE Confidence: 0.884521502857143
00:22:44.100 --> 00:22:46.470 otherwise treating tissue.
NOTE Confidence: 0.884521502857143

00:22:46.470 --> 00:22:47.080 Radical nephrectomy,
NOTE Confidence: 0.884521502857143

00:22:47.080 --> 00:22:48.605 unlike partial nephric to me,
NOTE Confidence: 0.884521502857143

00:22:48.610 --> 00:22:50.188 is we remove the entire kidney.
NOTE Confidence: 0.884521502857143

00:22:50.190 --> 00:22:52.286 We remove the fat around it, we remove.
NOTE Confidence: 0.884521502857143

00:22:52.286 --> 00:22:53.852 In some cases, the adrenal gland,
NOTE Confidence: 0.884521502857143

00:22:53.852 --> 00:22:54.788 and, in some cases,
NOTE Confidence: 0.884521502857143

00:22:54.790 --> 00:22:57.681 cases lymph nodes and the factors that
NOTE Confidence: 0.884521502857143

00:22:57.681 --> 00:23:00.945 make us remove the entire kidney is if
NOTE Confidence: 0.884521502857143

00:23:00.945 --> 00:23:03.990 a partial fraction be just not feasible,
NOTE Confidence: 0.884521502857143

00:23:03.990 --> 00:23:05.270 it's the radical nephrectomy
NOTE Confidence: 0.884521502857143

00:23:05.270 --> 00:23:06.870 is the standard approach for
NOTE Confidence: 0.884521502857143

00:23:06.870 --> 00:23:08.290 what's called a T1B tumor,
NOTE Confidence: 0.884521502857143

00:23:08.290 --> 00:23:08.930 or higher.
NOTE Confidence: 0.884521502857143

00:23:08.930 --> 00:23:10.850 If the tumor is just highly
NOTE Confidence: 0.818451556363636

00:23:10.924 --> 00:23:12.774 complicated, if it's locally advanced,
NOTE Confidence: 0.818451556363636

00:23:12.774 --> 00:23:14.999 if it's involving the vein or lymph nodes,

NOTE Confidence: 0.818451556363636
00:23:15.000 --> 00:23:16.896 a standard approach is to remove the whole.
NOTE Confidence: 0.818451556363636
00:23:16.900 --> 00:23:19.130 The whole kidney in general.
NOTE Confidence: 0.818451556363636
00:23:19.130 --> 00:23:20.102 There are fewer complications
NOTE Confidence: 0.818451556363636
00:23:20.102 --> 00:23:21.074 with radical and effectively
NOTE Confidence: 0.818451556363636
00:23:21.074 --> 00:23:22.319 than with partial nephrectomy.
NOTE Confidence: 0.818451556363636
00:23:22.320 --> 00:23:24.540 Me, but obviously with losing the
NOTE Confidence: 0.818451556363636
00:23:24.540 --> 00:23:27.095 whole kidney there is increased risk
NOTE Confidence: 0.818451556363636
00:23:27.095 --> 00:23:29.595 of developing chronic kidney disease.
NOTE Confidence: 0.818451556363636
00:23:29.600 --> 00:23:31.385 There is a time where we almost
NOTE Confidence: 0.818451556363636
00:23:31.385 --> 00:23:32.779 always do surgery these days.
NOTE Confidence: 0.818451556363636
00:23:32.780 --> 00:23:35.426 Still with open surgery, and that's if
NOTE Confidence: 0.818451556363636
00:23:35.426 --> 00:23:38.220 the kidney tumor invades a blood vessel,
NOTE Confidence: 0.818451556363636
00:23:38.220 --> 00:23:40.389 and so kidney tumors can invade a big vein
NOTE Confidence: 0.818451556363636
00:23:40.389 --> 00:23:42.620 in the belly called inferior vena cava,
NOTE Confidence: 0.818451556363636
00:23:42.620 --> 00:23:44.258 and that can even extend all
NOTE Confidence: 0.818451556363636

00:23:44.258 --> 00:23:46.362 the way up into the heart and.
NOTE Confidence: 0.818451556363636

00:23:46.362 --> 00:23:47.538 In those cases,
NOTE Confidence: 0.818451556363636

00:23:47.538 --> 00:23:51.360 we have a team here of liver surgeons,
NOTE Confidence: 0.818451556363636

00:23:51.360 --> 00:23:52.226 heart surgeons,
NOTE Confidence: 0.818451556363636

00:23:52.226 --> 00:23:54.391 and neurologists who treat those
NOTE Confidence: 0.818451556363636

00:23:54.391 --> 00:23:55.745 patients primarily with open
NOTE Confidence: 0.818451556363636

00:23:55.745 --> 00:23:57.880 surgery to remove the kidney and to
NOTE Confidence: 0.818451556363636

00:23:57.945 --> 00:23:59.780 remove the entire tumor thrombus.
NOTE Confidence: 0.84257074

00:24:03.260 --> 00:24:04.880 Kidney surgery for many patients,
NOTE Confidence: 0.84257074

00:24:04.880 --> 00:24:07.519 though, may not be enough in some.
NOTE Confidence: 0.84257074

00:24:07.520 --> 00:24:08.500 Obviously it's not necessary,
NOTE Confidence: 0.84257074

00:24:08.500 --> 00:24:10.350 in others it may not be enough,
NOTE Confidence: 0.84257074

00:24:10.350 --> 00:24:11.454 and so we've investigated
NOTE Confidence: 0.84257074

00:24:11.454 --> 00:24:12.834 what we call adjuvant therapy,
NOTE Confidence: 0.84257074

00:24:12.840 --> 00:24:16.920 and this is medications after surgery.
NOTE Confidence: 0.84257074

00:24:16.920 --> 00:24:19.755 To reduce the risk of the cancer coming back,

NOTE Confidence: 0.84257074

00:24:19.760 --> 00:24:21.944 there have been dozens of trials done in

NOTE Confidence: 0.84257074

00:24:21.944 --> 00:24:24.120 kidney cancer dating back more than 50 years.

NOTE Confidence: 0.84257074

00:24:24.120 --> 00:24:25.898 All of them were negative until recently

NOTE Confidence: 0.84257074

00:24:25.898 --> 00:24:28.035 there was a medication that has an FDA

NOTE Confidence: 0.84257074

00:24:28.035 --> 00:24:29.800 approval for in the agement setting.

NOTE Confidence: 0.84257074

00:24:29.800 --> 00:24:32.440 It's used by some medical oncologists.

NOTE Confidence: 0.84257074

00:24:32.440 --> 00:24:34.105 It's generally not used here, though,

NOTE Confidence: 0.84257074

00:24:34.105 --> 00:24:36.100 and this is a medication called sunitinib.

NOTE Confidence: 0.84257074

00:24:36.100 --> 00:24:38.364 It tends to cause a fair amount of

NOTE Confidence: 0.84257074

00:24:38.364 --> 00:24:40.487 complications and what you can see here is

NOTE Confidence: 0.84257074

00:24:40.487 --> 00:24:42.689 this is what's called the overall survival.

NOTE Confidence: 0.84257074

00:24:42.690 --> 00:24:43.586 Survival curves.

NOTE Confidence: 0.84257074

00:24:43.586 --> 00:24:46.274 There's actually 2 lines there overlapping,

NOTE Confidence: 0.84257074

00:24:46.280 --> 00:24:47.966 and that drug does not seem.

NOTE Confidence: 0.84257074

00:24:47.970 --> 00:24:49.790 To help patients live longer,

NOTE Confidence: 0.84257074

00:24:49.790 --> 00:24:51.430 we generally don't use it.
NOTE Confidence: 0.84257074

00:24:51.430 --> 00:24:55.300 There's a very promising study.
NOTE Confidence: 0.84257074

00:24:55.300 --> 00:24:58.366 Called keynote 564 studying a what's called
NOTE Confidence: 0.84257074

00:24:58.366 --> 00:25:00.919 an immune checkpoint drug or pembroke.
NOTE Confidence: 0.84257074

00:25:00.920 --> 00:25:03.120 It's a pembrolizumab or Pembroke
NOTE Confidence: 0.84257074

00:25:03.120 --> 00:25:04.470 and this showed a significant
NOTE Confidence: 0.84257074

00:25:04.470 --> 00:25:05.820 improvement in what's called disease.
NOTE Confidence: 0.84257074

00:25:05.820 --> 00:25:11.350 Free survival and some promising.
NOTE Confidence: 0.84257074

00:25:11.350 --> 00:25:12.862 Promising appearing curve for
NOTE Confidence: 0.84257074

00:25:12.862 --> 00:25:14.374 what's called overall survival
NOTE Confidence: 0.84257074

00:25:14.374 --> 00:25:16.309 or helping patients live longer.
NOTE Confidence: 0.84257074

00:25:16.310 --> 00:25:18.086 It is FDA authorized and we're
NOTE Confidence: 0.84257074

00:25:18.086 --> 00:25:19.270 still at this point,
NOTE Confidence: 0.84257074

00:25:19.270 --> 00:25:19.690 I think,
NOTE Confidence: 0.84257074

00:25:19.690 --> 00:25:21.160 very much as a whole field trying
NOTE Confidence: 0.84257074

00:25:21.160 --> 00:25:23.133 to sort out which patients are the

NOTE Confidence: 0.84257074

00:25:23.133 --> 00:25:24.560 appropriate patients for this drug.

NOTE Confidence: 0.84257074

00:25:24.560 --> 00:25:26.985 And we're all anxiously awaiting

NOTE Confidence: 0.84257074

00:25:26.985 --> 00:25:28.925 the overall survival data.

NOTE Confidence: 0.84257074

00:25:28.930 --> 00:25:30.526 I think the summary here is that

NOTE Confidence: 0.84257074

00:25:30.526 --> 00:25:32.178 not all kidney cancer is the same.

NOTE Confidence: 0.84257074

00:25:32.180 --> 00:25:34.276 It's important to know that typed the size,

NOTE Confidence: 0.84257074

00:25:34.280 --> 00:25:35.696 the stage, the location.

NOTE Confidence: 0.84257074

00:25:35.696 --> 00:25:37.466 It's important to decide on

NOTE Confidence: 0.84257074

00:25:37.466 --> 00:25:38.910 treatment if it's necessary,

NOTE Confidence: 0.84257074

00:25:38.910 --> 00:25:40.597 and if it if treatment is necessary.

NOTE Confidence: 0.84257074

00:25:40.600 --> 00:25:42.399 Which is the best one we should

NOTE Confidence: 0.84257074

00:25:42.399 --> 00:25:44.299 do less when we safely can and

NOTE Confidence: 0.84257074

00:25:44.299 --> 00:25:46.392 use a team approach to the most

NOTE Confidence: 0.84257074

00:25:46.392 --> 00:25:48.217 challenging cases and very clearly

NOTE Confidence: 0.84257074

00:25:48.217 --> 00:25:49.853 integrating surgery and medication

NOTE Confidence: 0.84257074

00:25:49.853 --> 00:25:51.989 therapy is really a key frontier
NOTE Confidence: 0.84257074

00:25:51.989 --> 00:25:53.687 for us over the next decade.
NOTE Confidence: 0.84257074

00:25:53.690 --> 00:25:54.866 Thank you very much for your time.
NOTE Confidence: 0.922029282

00:25:56.030 --> 00:25:57.118 Thank you so much,
NOTE Confidence: 0.922029282

00:25:57.118 --> 00:25:58.510 doctor Kenny, that was great.
NOTE Confidence: 0.922029282

00:25:58.510 --> 00:26:01.570 I earned. I learned a lot.
NOTE Confidence: 0.922029282

00:26:01.570 --> 00:26:03.327 There are some questions in the chat
NOTE Confidence: 0.922029282

00:26:03.330 --> 00:26:05.042 that have been answered and some
NOTE Confidence: 0.922029282

00:26:05.042 --> 00:26:07.044 that happen, so if OK with you,
NOTE Confidence: 0.922029282

00:26:07.050 --> 00:26:08.310 I'd just like to ask you those
NOTE Confidence: 0.922029282

00:26:08.310 --> 00:26:11.540 that have not been answered yet.
NOTE Confidence: 0.922029282

00:26:11.540 --> 00:26:14.153 So there's a question about how
NOTE Confidence: 0.922029282

00:26:14.153 --> 00:26:16.571 often do you see a diagnosis
NOTE Confidence: 0.922029282

00:26:16.571 --> 00:26:18.320 of metastatic kidney cancer
NOTE Confidence: 0.8471812633333333

00:26:18.330 --> 00:26:20.470 without a clear primary tumor?
NOTE Confidence: 0.9030093383333333

00:26:21.570 --> 00:26:23.718 That's a, that's a great question.

NOTE Confidence: 0.903009338333333
00:26:23.720 --> 00:26:25.910 We we really don't at that happens
NOTE Confidence: 0.903009338333333
00:26:25.910 --> 00:26:27.350 a lot in other tumor types,
NOTE Confidence: 0.903009338333333
00:26:27.350 --> 00:26:30.510 but most often in kidney cancer there's a.
NOTE Confidence: 0.903009338333333
00:26:30.510 --> 00:26:32.330 There's an obvious primary tumor.
NOTE Confidence: 0.903009338333333
00:26:32.330 --> 00:26:34.283 I myself have not taken care of
NOTE Confidence: 0.903009338333333
00:26:34.283 --> 00:26:35.976 a patient who's had metastatic
NOTE Confidence: 0.903009338333333
00:26:35.976 --> 00:26:37.966 kidney cancer without a primary.
NOTE Confidence: 0.903009338333333
00:26:37.970 --> 00:26:39.100 I'm not sure Harriet or
NOTE Confidence: 0.903009338333333
00:26:39.100 --> 00:26:40.520 Michael or David if you have.
NOTE Confidence: 0.610090824
00:26:42.330 --> 00:26:43.620 Yeah, I've seen it once.
NOTE Confidence: 0.78168272375
00:26:43.660 --> 00:26:44.752 Yeah, we have it.
NOTE Confidence: 0.78168272375
00:26:44.752 --> 00:26:46.310 It happens a little, you know.
NOTE Confidence: 0.78168272375
00:26:46.310 --> 00:26:48.150 Uncommonly, I I think the question let me.
NOTE Confidence: 0.78168272375
00:26:48.150 --> 00:26:49.634 Maybe I'll answer this a little bit.
NOTE Confidence: 0.78168272375
00:26:49.640 --> 00:26:51.512 You know there's sort of a few different
NOTE Confidence: 0.78168272375

00:26:51.512 --> 00:26:52.608 possibilities every once in a long,
NOTE Confidence: 0.78168272375

00:26:52.610 --> 00:26:53.675 long, long while,
NOTE Confidence: 0.78168272375

00:26:53.675 --> 00:26:55.805 even though there's a tumor there,
NOTE Confidence: 0.78168272375

00:26:55.810 --> 00:26:57.442 you can't exactly see it because
NOTE Confidence: 0.78168272375

00:26:57.442 --> 00:26:59.120 it's about the same density on
NOTE Confidence: 0.78168272375

00:26:59.120 --> 00:27:00.728 the scans as the other tissue.
NOTE Confidence: 0.78168272375

00:27:00.730 --> 00:27:01.700 So there's really something there,
NOTE Confidence: 0.78168272375

00:27:01.700 --> 00:27:03.350 but no one really detected it.
NOTE Confidence: 0.78168272375

00:27:03.350 --> 00:27:05.310 And then the other thing that we know
NOTE Confidence: 0.78168272375

00:27:05.310 --> 00:27:06.671 that happens sometimes in kidney
NOTE Confidence: 0.78168272375

00:27:06.671 --> 00:27:08.589 cancer is that there's a tumor there
NOTE Confidence: 0.78168272375

00:27:08.642 --> 00:27:10.210 that get then sort of went away,
NOTE Confidence: 0.78168272375

00:27:10.210 --> 00:27:12.868 even though other tumors have remained.
NOTE Confidence: 0.78168272375

00:27:12.870 --> 00:27:15.254 And I think all of us who treat
NOTE Confidence: 0.78168272375

00:27:15.254 --> 00:27:16.828 metastatic cancer have seen that.
NOTE Confidence: 0.78168272375

00:27:16.830 --> 00:27:18.580 That happens and not that many cancers,

NOTE Confidence: 0.78168272375

00:27:18.580 --> 00:27:19.810 but it does sometimes happen

NOTE Confidence: 0.78168272375

00:27:19.810 --> 00:27:20.794 in kidney and Melanoma.

NOTE Confidence: 0.78168272375

00:27:20.800 --> 00:27:23.102 Actually, which Doctor Cooper treats that?

NOTE Confidence: 0.78168272375

00:27:23.102 --> 00:27:24.920 You'll see a tumor start and then go away.

NOTE Confidence: 0.78168272375

00:27:24.920 --> 00:27:27.236 So maybe the tumor was there,

NOTE Confidence: 0.78168272375

00:27:27.240 --> 00:27:29.128 then something spread and then it went away.

NOTE Confidence: 0.810333901

00:27:30.560 --> 00:27:32.260 There's something called the abscopal

NOTE Confidence: 0.810333901

00:27:32.260 --> 00:27:33.960 effect or the Lazarus effect,

NOTE Confidence: 0.810333901

00:27:33.960 --> 00:27:37.497 where it happens we see it in kidney cancer,

NOTE Confidence: 0.810333901

00:27:37.500 --> 00:27:39.649 especially if there's been a few reports

NOTE Confidence: 0.810333901

00:27:39.649 --> 00:27:42.032 of patients who have had a metastasis

NOTE Confidence: 0.810333901

00:27:42.032 --> 00:27:44.138 treated either with ablation or radiation,

NOTE Confidence: 0.810333901

00:27:44.140 --> 00:27:46.534 and then the primary tumor or metastasis

NOTE Confidence: 0.810333901

00:27:46.534 --> 00:27:48.660 and other sites have melted away.

NOTE Confidence: 0.810333901

00:27:48.660 --> 00:27:50.819 It happens in kidney cancer, but quite rare.

NOTE Confidence: 0.9443812333333333

00:27:53.050 --> 00:27:53.599 So there was
NOTE Confidence: 0.742122146470588

00:27:53.610 --> 00:27:55.150 a question about whether papillary
NOTE Confidence: 0.742122146470588

00:27:55.150 --> 00:27:57.068 renal cell carcinoma is the same
NOTE Confidence: 0.742122146470588

00:27:57.068 --> 00:27:58.668 as papillary thyroid and actually
NOTE Confidence: 0.742122146470588

00:27:58.668 --> 00:28:00.270 Doctor Brown who's got the orange
NOTE Confidence: 0.742122146470588

00:28:00.270 --> 00:28:01.968 tie for kidney cancer, answered it,
NOTE Confidence: 0.946061990769231

00:28:02.230 --> 00:28:03.484 but I don't know that everybody
NOTE Confidence: 0.946061990769231

00:28:03.484 --> 00:28:04.939 saw that and the answer is no,
NOTE Confidence: 0.948248885

00:28:04.950 --> 00:28:06.516 it's not. It just looks the
NOTE Confidence: 0.72858499

00:28:06.530 --> 00:28:07.940 same under them. It has similar
NOTE Confidence: 0.80573501

00:28:07.950 --> 00:28:09.820 features in the under the microscope
NOTE Confidence: 0.7034327789

00:28:09.950 --> 00:28:12.140 that the cell of origin of origin
NOTE Confidence: 0.933363186666667

00:28:12.150 --> 00:28:13.539 is quite different.
NOTE Confidence: 0.8173160485

00:28:14.720 --> 00:28:17.387 Then Patrick there was a question about
NOTE Confidence: 0.8173160485

00:28:17.387 --> 00:28:20.391 how often you have clear cell renal
NOTE Confidence: 0.8173160485

00:28:20.391 --> 00:28:23.067 cell carcinoma that has both sarcomatoid

NOTE Confidence: 0.7406541333333333

00:28:23.100 --> 00:28:24.678 and rhabdoid features.

NOTE Confidence: 0.864913397272727

00:28:26.060 --> 00:28:27.956 So Sarcomatoid and Rhabdoid

NOTE Confidence: 0.864913397272727

00:28:27.956 --> 00:28:29.378 features themselves are

NOTE Confidence: 0.864913397272727

00:28:29.378 --> 00:28:31.680 relatively rare in combination.

NOTE Confidence: 0.864913397272727

00:28:31.680 --> 00:28:35.416 We do see it, but also relatively rare.

NOTE Confidence: 0.864913397272727

00:28:35.420 --> 00:28:38.535 They are higher grade features of a

NOTE Confidence: 0.864913397272727

00:28:38.535 --> 00:28:41.788 kidney tumor that tends to mean the

NOTE Confidence: 0.864913397272727

00:28:41.788 --> 00:28:44.574 tumor itself is more aggressive and

NOTE Confidence: 0.864913397272727

00:28:44.574 --> 00:28:47.538 also may impact our treatment selection.

NOTE Confidence: 0.864913397272727

00:28:47.540 --> 00:28:50.240 For instance, if a patient

NOTE Confidence: 0.864913397272727

00:28:50.240 --> 00:28:52.400 has metastatic kidney cancer,

NOTE Confidence: 0.864913397272727

00:28:52.400 --> 00:28:54.638 sometimes surgery itself can can be

NOTE Confidence: 0.864913397272727

00:28:54.638 --> 00:28:56.840 appropriate as a first treatment.

NOTE Confidence: 0.864913397272727

00:28:56.840 --> 00:28:58.891 Option and if we know that a

NOTE Confidence: 0.864913397272727

00:28:58.891 --> 00:29:00.713 patient has a sarcomatoid kidney

NOTE Confidence: 0.864913397272727

00:29:00.713 --> 00:29:03.311 cancer or a rhabdoid kidney cancer
NOTE Confidence: 0.864913397272727

00:29:03.311 --> 00:29:05.439 that has spread elsewhere.
NOTE Confidence: 0.864913397272727

00:29:05.440 --> 00:29:05.734 Oftentimes,
NOTE Confidence: 0.864913397272727

00:29:05.734 --> 00:29:07.498 surgery may not be the right
NOTE Confidence: 0.864913397272727

00:29:07.498 --> 00:29:09.180 first approach for those patients,
NOTE Confidence: 0.864913397272727

00:29:09.180 --> 00:29:11.520 and where medication may be
NOTE Confidence: 0.864913397272727

00:29:11.520 --> 00:29:13.392 the first right approach.
NOTE Confidence: 0.864913397272727

00:29:13.400 --> 00:29:15.696 And in the case where the medication has
NOTE Confidence: 0.864913397272727

00:29:15.696 --> 00:29:18.163 done a good job of stabilizing the tumor
NOTE Confidence: 0.864913397272727

00:29:18.163 --> 00:29:21.157 or the tumor has responded to the medication,
NOTE Confidence: 0.864913397272727

00:29:21.160 --> 00:29:21.486 surgery,
NOTE Confidence: 0.864913397272727

00:29:21.486 --> 00:29:23.116 then might be an option.
NOTE Confidence: 0.864913397272727

00:29:23.120 --> 00:29:26.110 But but Sarcomatoid and Rhabdoid
NOTE Confidence: 0.864913397272727

00:29:26.110 --> 00:29:27.306 together relatively.
NOTE Confidence: 0.864913397272727

00:29:27.310 --> 00:29:30.158 Rare I I don't have a good sense
NOTE Confidence: 0.864913397272727

00:29:30.158 --> 00:29:32.620 of whether that would change

NOTE Confidence: 0.864913397272727
00:29:32.620 --> 00:29:34.279 a patient's prognosis.
NOTE Confidence: 0.864913397272727
00:29:34.280 --> 00:29:36.130 They're all still grade 4.
NOTE Confidence: 0.18372774
00:29:37.570 --> 00:29:40.080 Then there's a question about
NOTE Confidence: 0.789478326
00:29:40.080 --> 00:29:42.010 you. You made a comment about kidney
NOTE Confidence: 0.789478326
00:29:42.010 --> 00:29:43.470 disease, and I think sometimes
NOTE Confidence: 0.789478326
00:29:43.470 --> 00:29:45.375 as physicians we use terminology.
NOTE Confidence: 0.789478326
00:29:45.375 --> 00:29:47.670 That's not not all that clear.
NOTE Confidence: 0.789478326
00:29:47.670 --> 00:29:49.874 So there was a request for
NOTE Confidence: 0.789478326
00:29:49.874 --> 00:29:51.338 clarification about kidney disease
NOTE Confidence: 0.845146333333333
00:29:51.350 --> 00:29:52.598 versus kidney cancer.
NOTE Confidence: 0.8809406125
00:29:54.070 --> 00:29:54.560 Great question.
NOTE Confidence: 0.8809406125
00:29:54.560 --> 00:29:56.030 Thank you for pointing that out.
NOTE Confidence: 0.8809406125
00:29:56.030 --> 00:29:57.970 I I have to I have to say I I
NOTE Confidence: 0.8809406125
00:29:58.040 --> 00:30:00.007 I do tend to slip into medical
NOTE Confidence: 0.8809406125
00:30:00.007 --> 00:30:02.392 words and I I'm sorry I so kidney
NOTE Confidence: 0.8809406125

00:30:02.392 --> 00:30:04.454 disease has to do with the ability
NOTE Confidence: 0.8809406125

00:30:04.454 --> 00:30:06.498 of the kidneys to fill the to
NOTE Confidence: 0.8809406125

00:30:06.498 --> 00:30:08.288 perform their job of filtration.
NOTE Confidence: 0.8809406125

00:30:08.290 --> 00:30:09.565 So we have various different
NOTE Confidence: 0.8809406125

00:30:09.565 --> 00:30:10.585 ways of measuring that.
NOTE Confidence: 0.8809406125

00:30:10.590 --> 00:30:12.648 One of them is a blood test
NOTE Confidence: 0.8809406125

00:30:12.648 --> 00:30:13.530 called serum creatinine,
NOTE Confidence: 0.8809406125

00:30:13.530 --> 00:30:15.636 and when the creatinine is elevated
NOTE Confidence: 0.8809406125

00:30:15.636 --> 00:30:17.437 that indicates a reduction in
NOTE Confidence: 0.8809406125

00:30:17.437 --> 00:30:19.441 kidney function and we call that
NOTE Confidence: 0.8809406125

00:30:19.441 --> 00:30:21.376 chronic kidney disease, or CKD,
NOTE Confidence: 0.8809406125

00:30:21.376 --> 00:30:24.617 and that's when it's persistent over the
NOTE Confidence: 0.8809406125

00:30:24.617 --> 00:30:27.609 course of weeks or months or longer.
NOTE Confidence: 0.8809406125

00:30:27.610 --> 00:30:29.842 Like one of the key things
NOTE Confidence: 0.8809406125

00:30:29.842 --> 00:30:30.958 about partial nephrectomy,
NOTE Confidence: 0.8809406125

00:30:30.960 --> 00:30:33.004 me active surveillance ablation

NOTE Confidence: 0.8809406125

00:30:33.004 --> 00:30:35.646 compared to radical nephrectomy is that

NOTE Confidence: 0.8809406125

00:30:35.646 --> 00:30:37.434 for patients who have kidney disease

NOTE Confidence: 0.8809406125

00:30:37.434 --> 00:30:39.549 or who are trying to prevent it,

NOTE Confidence: 0.8809406125

00:30:39.550 --> 00:30:41.878 those what we call nephron sparing

NOTE Confidence: 0.8809406125

00:30:41.878 --> 00:30:43.765 or kidney sparing approaches may

NOTE Confidence: 0.8809406125

00:30:43.765 --> 00:30:45.524 be a better option because they're

NOTE Confidence: 0.8809406125

00:30:45.524 --> 00:30:47.546 associated with a lower risk of

NOTE Confidence: 0.8809406125

00:30:47.546 --> 00:30:48.900 developing kidney dysfunction.

NOTE Confidence: 0.800739297777778

00:30:49.890 --> 00:30:51.190 Thank you for that,

NOTE Confidence: 0.800739297777778

00:30:51.190 --> 00:30:52.815 that was a great answer.

NOTE Confidence: 0.800739297777778

00:30:52.820 --> 00:30:54.866 Then there's a question

NOTE Confidence: 0.800739297777778

00:30:54.866 --> 00:30:56.914 about stage three cancer.

NOTE Confidence: 0.800739297777778

00:30:56.920 --> 00:30:57.991 There's a comment.

NOTE Confidence: 0.800739297777778

00:30:57.991 --> 00:31:00.313 From somebody who had a 4.6

NOTE Confidence: 0.800739297777778

00:31:00.313 --> 00:31:01.379 centimeter tumor,

NOTE Confidence: 0.800739297777778

00:31:01.380 --> 00:31:03.380 but it was called stage three.
NOTE Confidence: 0.800739297777778

00:31:03.380 --> 00:31:04.943 Can you clarify that
NOTE Confidence: 0.800739297777778

00:31:04.943 --> 00:31:06.350 how that's possible?
NOTE Confidence: 0.846104521666667

00:31:08.090 --> 00:31:14.105 So so a 4.6 centimeter tumor that can be
NOTE Confidence: 0.846104521666667

00:31:14.105 --> 00:31:17.110 stage three really kind of for two reasons.
NOTE Confidence: 0.846104521666667

00:31:17.110 --> 00:31:20.053 One would be if it there was a the
NOTE Confidence: 0.846104521666667

00:31:20.053 --> 00:31:22.478 tumor had associated in lymph nodes.
NOTE Confidence: 0.846104521666667

00:31:22.478 --> 00:31:24.023 So meaning if there was
NOTE Confidence: 0.846104521666667

00:31:24.023 --> 00:31:25.690 involvement of the lymph nodes,
NOTE Confidence: 0.846104521666667

00:31:25.690 --> 00:31:27.868 then no matter what the the,
NOTE Confidence: 0.846104521666667

00:31:27.870 --> 00:31:31.350 the tumor size or or T stage is,
NOTE Confidence: 0.846104521666667

00:31:31.350 --> 00:31:33.009 it would be a stage 3 tumor.
NOTE Confidence: 0.846104521666667

00:31:33.010 --> 00:31:34.966 Or if that tumor was involving
NOTE Confidence: 0.846104521666667

00:31:34.966 --> 00:31:36.977 the fat around the kidney or
NOTE Confidence: 0.846104521666667

00:31:36.977 --> 00:31:38.873 in the center of the kidney.
NOTE Confidence: 0.846104521666667

00:31:38.880 --> 00:31:41.603 The urine collecting system or a blood

NOTE Confidence: 0.846104521666667

00:31:41.603 --> 00:31:44.289 vessel within the kidney and that would

NOTE Confidence: 0.846104521666667

00:31:44.289 --> 00:31:47.300 be stage 3 even for very small tumors,

NOTE Confidence: 0.846104521666667

00:31:47.300 --> 00:31:48.728 and so I've taken care of

NOTE Confidence: 0.846104521666667

00:31:48.728 --> 00:31:50.150 patients who've had very, very,

NOTE Confidence: 0.846104521666667

00:31:50.150 --> 00:31:52.970 very small tumors that were stage

NOTE Confidence: 0.846104521666667

00:31:52.970 --> 00:31:54.752 three just based on involvement

NOTE Confidence: 0.846104521666667

00:31:54.752 --> 00:31:56.064 of those other features.

NOTE Confidence: 0.900235694545454

00:31:57.580 --> 00:32:00.130 Then are there instances where somebody

NOTE Confidence: 0.900235694545454

00:32:00.130 --> 00:32:02.090 has metastatic kidney cancer and

NOTE Confidence: 0.927050535

00:32:02.100 --> 00:32:03.408 there's no surgery done?

NOTE Confidence: 0.799882283333333

00:32:04.860 --> 00:32:06.255 Very, very commonly.

NOTE Confidence: 0.799882283333333

00:32:06.255 --> 00:32:09.045 So you the paradigm starting about

NOTE Confidence: 0.799882283333333

00:32:09.045 --> 00:32:11.940 20 years ago, was to do something

NOTE Confidence: 0.799882283333333

00:32:11.940 --> 00:32:13.095 called cytoreductive nephrectomy.

NOTE Confidence: 0.799882283333333

00:32:13.100 --> 00:32:15.877 So they're mean to remove the kidney when

NOTE Confidence: 0.799882283333333

00:32:15.877 --> 00:32:18.096 in the setting of kidney cancer spread,
NOTE Confidence: 0.7998822833333333

00:32:18.100 --> 00:32:19.930 and for a variety of reasons
NOTE Confidence: 0.7998822833333333

00:32:19.930 --> 00:32:22.119 we do that less commonly now.
NOTE Confidence: 0.7998822833333333

00:32:22.120 --> 00:32:23.880 It's very, very nuanced,
NOTE Confidence: 0.7998822833333333

00:32:23.880 --> 00:32:26.520 but there was an important study
NOTE Confidence: 0.7998822833333333

00:32:26.601 --> 00:32:28.368 a few years ago called Carmina,
NOTE Confidence: 0.7998822833333333

00:32:28.368 --> 00:32:30.496 and it was a study looking at
NOTE Confidence: 0.7998822833333333

00:32:30.496 --> 00:32:32.629 use of a medication alone or
NOTE Confidence: 0.7998822833333333

00:32:32.629 --> 00:32:34.037 a medication plus surgery,
NOTE Confidence: 0.7998822833333333

00:32:34.040 --> 00:32:36.028 and it showed that that medication alone.
NOTE Confidence: 0.7998822833333333

00:32:36.030 --> 00:32:38.088 Performed just as well as surgery,
NOTE Confidence: 0.7998822833333333

00:32:38.090 --> 00:32:40.454 plus the medication so very commonly
NOTE Confidence: 0.7998822833333333

00:32:40.454 --> 00:32:43.539 these days we take care of patients with
NOTE Confidence: 0.7998822833333333

00:32:43.539 --> 00:32:44.984 kidney cancer that spread elsewhere
NOTE Confidence: 0.7998822833333333

00:32:44.984 --> 00:32:46.960 and they don't have to have surgery.
NOTE Confidence: 0.7661024933333333

00:32:48.340 --> 00:32:49.849 Thank you, director

NOTE Confidence: 0.831497165555556
00:32:49.860 --> 00:32:51.990 Kitty. Thank you so much for
NOTE Confidence: 0.831497165555556
00:32:51.990 --> 00:32:53.055 a wonderful presentation.
NOTE Confidence: 0.831497165555556
00:32:53.060 --> 00:32:55.498 And now I've got the distinct pleasure
NOTE Confidence: 0.831497165555556
00:32:55.500 --> 00:32:57.530 of introducing our second speaker.
NOTE Confidence: 0.831497165555556
00:32:57.530 --> 00:33:00.000 It's doctor Michael Hurwitz,
NOTE Confidence: 0.831497165555556
00:33:00.000 --> 00:33:02.820 who is one of my fellow oncologists Mike.
NOTE Confidence: 0.505305606666667
00:33:03.560 --> 00:33:05.438 Yeah, so I share screen here.
NOTE Confidence: 0.505305606666667
00:33:05.440 --> 00:33:06.665 See if I can get the store.
NOTE Confidence: 0.763474305555556
00:33:09.910 --> 00:33:13.156 Is it visible? Yes, we've got
NOTE Confidence: 0.763474305555556
00:33:13.156 --> 00:33:15.362 your slide sorter hold on.
NOTE Confidence: 0.763474305555556
00:33:15.362 --> 00:33:17.480 Let me go to the beginning again.
NOTE Confidence: 0.46049228
00:33:20.190 --> 00:33:24.760 Oh wait a minute. Sorry folks.
NOTE Confidence: 0.46049228
00:33:24.760 --> 00:33:27.690 Why isn't it going to?
NOTE Confidence: 0.46049228
00:33:27.690 --> 00:33:29.978 Now can everybody spit?
NOTE Confidence: 0.46049228
00:33:29.978 --> 00:33:33.070 Yep. OK alright great so.
NOTE Confidence: 0.46049228

00:33:33.070 --> 00:33:35.010 Hi everyone, welcome again.

NOTE Confidence: 0.46049228

00:33:35.010 --> 00:33:37.240 As Harriet said, I'm I'm I'm one of

NOTE Confidence: 0.46049228

00:33:37.240 --> 00:33:38.208 the medical oncologists tonight.

NOTE Confidence: 0.46049228

00:33:38.210 --> 00:33:40.898 I treat kidney cancers and also

NOTE Confidence: 0.46049228

00:33:40.898 --> 00:33:42.690 bladder and prostate cancers.

NOTE Confidence: 0.46049228

00:33:42.690 --> 00:33:44.652 And I'm going to talk about

NOTE Confidence: 0.46049228

00:33:44.652 --> 00:33:45.960 treatment of metastatic cancer.

NOTE Confidence: 0.46049228

00:33:45.960 --> 00:33:46.650 You know, I,

NOTE Confidence: 0.46049228

00:33:46.650 --> 00:33:48.645 I know that the topic here is supposed

NOTE Confidence: 0.46049228

00:33:48.645 --> 00:33:50.913 to be kidney cancer and all the

NOTE Confidence: 0.46049228

00:33:50.913 --> 00:33:52.330 various treatments that we give,

NOTE Confidence: 0.46049228

00:33:52.330 --> 00:33:54.696 but to some degree I wanted to

NOTE Confidence: 0.46049228

00:33:54.696 --> 00:33:57.139 backtrack a little bit and the reason

NOTE Confidence: 0.46049228

00:33:57.139 --> 00:33:59.590 for that is that not everybody knows

NOTE Confidence: 0.46049228

00:33:59.590 --> 00:34:01.036 some of these basics about cancer.

NOTE Confidence: 0.46049228

00:34:01.040 --> 00:34:03.518 And when I say not everybody,

NOTE Confidence: 0.46049228

00:34:03.520 --> 00:34:05.690 I mean a lot of doctors who

NOTE Confidence: 0.46049228

00:34:05.690 --> 00:34:07.440 are not kidney or cancer.

NOTE Confidence: 0.46049228

00:34:07.440 --> 00:34:10.024 Doctors aren't exactly aware of a lot of

NOTE Confidence: 0.46049228

00:34:10.024 --> 00:34:13.355 the basics of cancer in it, and the reason?

NOTE Confidence: 0.46049228

00:34:13.355 --> 00:34:14.960 That I wanna.

NOTE Confidence: 0.46049228

00:34:14.960 --> 00:34:17.104 Talk about it this way is that I

NOTE Confidence: 0.46049228

00:34:17.104 --> 00:34:19.601 think to understand how we decide to

NOTE Confidence: 0.46049228

00:34:19.601 --> 00:34:22.020 treat metastatic cancer in the kidney,

NOTE Confidence: 0.46049228

00:34:22.020 --> 00:34:23.742 it makes sense to think about

NOTE Confidence: 0.46049228

00:34:23.742 --> 00:34:25.539 sort of what cancer really is.

NOTE Confidence: 0.46049228

00:34:25.540 --> 00:34:27.540 OK, so let's start with what is cancer?

NOTE Confidence: 0.46049228

00:34:27.540 --> 00:34:29.633 Something really basic and so cancer is

NOTE Confidence: 0.46049228

00:34:29.633 --> 00:34:32.569 made up of cells that don't behave normally.

NOTE Confidence: 0.46049228

00:34:32.570 --> 00:34:34.466 And what I mean by that is that

NOTE Confidence: 0.46049228

00:34:34.466 --> 00:34:36.497 cancer is really a disease of cells.

NOTE Confidence: 0.46049228

00:34:36.500 --> 00:34:38.376 It's a disease of individual cells that
NOTE Confidence: 0.46049228

00:34:38.376 --> 00:34:40.476 are doing what they should not be doing,
NOTE Confidence: 0.46049228

00:34:40.480 --> 00:34:42.664 and they they're really three specific
NOTE Confidence: 0.46049228

00:34:42.664 --> 00:34:44.810 things that they do that that.
NOTE Confidence: 0.46049228

00:34:44.810 --> 00:34:48.660 Are the hallmarks of cancers so number
NOTE Confidence: 0.46049228

00:34:48.660 --> 00:34:50.845 one they conceded to divide even
NOTE Confidence: 0.46049228

00:34:50.845 --> 00:34:53.190 when they are not told to divide?
NOTE Confidence: 0.46049228

00:34:53.190 --> 00:34:55.048 OK two,
NOTE Confidence: 0.46049228

00:34:55.048 --> 00:34:57.196 they even continue to divide when
NOTE Confidence: 0.46049228

00:34:57.196 --> 00:34:59.308 they are told not to divide,
NOTE Confidence: 0.46049228

00:34:59.310 --> 00:35:00.570 so one is they can do divide
NOTE Confidence: 0.46049228

00:35:00.570 --> 00:35:02.094 on their own and other is when
NOTE Confidence: 0.46049228

00:35:02.094 --> 00:35:03.264 they're told to stop dividing.
NOTE Confidence: 0.46049228

00:35:03.270 --> 00:35:04.594 They continue to divide.
NOTE Confidence: 0.46049228

00:35:04.594 --> 00:35:06.249 And lastly they won't die
NOTE Confidence: 0.46049228

00:35:06.249 --> 00:35:07.848 when they're supposed to.

NOTE Confidence: 0.46049228
00:35:07.850 --> 00:35:09.062 Now some of this may not
NOTE Confidence: 0.46049228
00:35:09.062 --> 00:35:10.130 make sense to everyone here,
NOTE Confidence: 0.46049228
00:35:10.130 --> 00:35:11.744 but I think it's worth pointing
NOTE Confidence: 0.46049228
00:35:11.744 --> 00:35:13.835 out that all cells in the human
NOTE Confidence: 0.46049228
00:35:13.835 --> 00:35:15.743 body are are really in continuous
NOTE Confidence: 0.46049228
00:35:15.743 --> 00:35:16.978 conversation with each other.
NOTE Confidence: 0.46049228
00:35:16.980 --> 00:35:19.036 Cells talk to each other in various ways.
NOTE Confidence: 0.46049228
00:35:19.040 --> 00:35:20.838 I'm going to go into that a little bit
NOTE Confidence: 0.46049228
00:35:20.840 --> 00:35:22.946 and they're always sending signals to
NOTE Confidence: 0.46049228
00:35:22.946 --> 00:35:26.017 each other to say things like don't divide,
NOTE Confidence: 0.46049228
00:35:26.020 --> 00:35:27.108 do, divide,
NOTE Confidence: 0.46049228
00:35:27.108 --> 00:35:30.916 make something like make insulin for example,
NOTE Confidence: 0.46049228
00:35:30.920 --> 00:35:32.678 and they're also told the die.
NOTE Confidence: 0.46049228
00:35:32.680 --> 00:35:34.432 Sometimes a lot of cells are
NOTE Confidence: 0.46049228
00:35:34.432 --> 00:35:36.199 dying on purpose all the time.
NOTE Confidence: 0.46049228

00:35:36.200 --> 00:35:38.054 That is the way the society
NOTE Confidence: 0.46049228

00:35:38.054 --> 00:35:39.290 in your body works,
NOTE Confidence: 0.46049228

00:35:39.290 --> 00:35:40.240 so.
NOTE Confidence: 0.46049228

00:35:40.240 --> 00:35:42.996 Cancer is a disease where the cells
NOTE Confidence: 0.46049228

00:35:42.996 --> 00:35:45.169 have lost the ability to communicate,
NOTE Confidence: 0.46049228

00:35:45.170 --> 00:35:47.936 and they're dividing when they shouldn't.
NOTE Confidence: 0.46049228

00:35:47.940 --> 00:35:50.540 And you know the vast majority of of
NOTE Confidence: 0.46049228

00:35:50.540 --> 00:35:53.020 cells also that that form cancers in
NOTE Confidence: 0.46049228

00:35:53.020 --> 00:35:55.410 adults form the lining of tissues.
NOTE Confidence: 0.46049228

00:35:55.410 --> 00:35:57.378 Doctor Kenny actually referred to this
NOTE Confidence: 0.46049228

00:35:57.378 --> 00:35:58.700 before, and a lot of the linings.
NOTE Confidence: 0.46049228

00:35:58.700 --> 00:36:00.293 I don't know if everyone can see my cursor.
NOTE Confidence: 0.46049228

00:36:00.300 --> 00:36:02.523 Is that just me or can people see it?
NOTE Confidence: 0.46049228

00:36:02.530 --> 00:36:03.714 Pat, you're the only one who I can.
NOTE Confidence: 0.46049228

00:36:03.720 --> 00:36:04.643 I don't know if you're, but yeah,
NOTE Confidence: 0.46049228

00:36:04.643 --> 00:36:05.608 we can see well oh,

NOTE Confidence: 0.864843839733333

00:36:05.610 --> 00:36:07.818 good, good, OK, alright so so normally we

NOTE Confidence: 0.864843839733333

00:36:07.818 --> 00:36:10.047 have these things called called it doesn't

NOTE Confidence: 0.864843839733333

00:36:10.047 --> 00:36:12.285 matter the linings of tissues and obvious

NOTE Confidence: 0.864843839733333

00:36:12.285 --> 00:36:14.533 and often these cells are neatly on them.

NOTE Confidence: 0.864843839733333

00:36:14.540 --> 00:36:16.205 And I show a cell wasn't called a nucleus,

NOTE Confidence: 0.864843839733333

00:36:16.210 --> 00:36:18.226 middle of the cell. And then there's this

NOTE Confidence: 0.864843839733333

00:36:18.226 --> 00:36:19.910 process that happens when can't when,

NOTE Confidence: 0.864843839733333

00:36:19.910 --> 00:36:22.367 when when normal cells turn into cancers?

NOTE Confidence: 0.864843839733333

00:36:22.370 --> 00:36:24.434 And I also do this grayish junk here

NOTE Confidence: 0.864843839733333

00:36:24.434 --> 00:36:26.797 and that's that's called the there's a

NOTE Confidence: 0.864843839733333

00:36:26.797 --> 00:36:28.582 there's something called a submucosa,

NOTE Confidence: 0.864843839733333

00:36:28.590 --> 00:36:30.966 or there's something called ground substance,

NOTE Confidence: 0.864843839733333

00:36:30.970 --> 00:36:33.274 and that's what these cells are sitting on.

NOTE Confidence: 0.864843839733333

00:36:33.280 --> 00:36:34.995 OK, and that's a normal

NOTE Confidence: 0.864843839733333

00:36:34.995 --> 00:36:36.710 thing in in most tissues.

NOTE Confidence: 0.864843839733333

00:36:36.710 --> 00:36:38.375 So the first thing that can happen is the
NOTE Confidence: 0.864843839733333

00:36:38.375 --> 00:36:39.628 cells can divide inappropriately and then
NOTE Confidence: 0.864843839733333

00:36:39.628 --> 00:36:41.602 you get a lot of cells, but they're not.
NOTE Confidence: 0.864843839733333

00:36:41.602 --> 00:36:42.498 They don't look wrong,
NOTE Confidence: 0.864843839733333

00:36:42.500 --> 00:36:45.048 they're not doing anything all that abnormal.
NOTE Confidence: 0.864843839733333

00:36:45.050 --> 00:36:47.006 Then you have a precancerous stage,
NOTE Confidence: 0.864843839733333

00:36:47.010 --> 00:36:48.475 so sometimes we call these
NOTE Confidence: 0.864843839733333

00:36:48.475 --> 00:36:49.940 things adenoma or breast cancer.
NOTE Confidence: 0.864843839733333

00:36:49.940 --> 00:36:53.140 We often call it DCIS or LCIS,
NOTE Confidence: 0.864843839733333

00:36:53.140 --> 00:36:54.892 and then this is when the
NOTE Confidence: 0.864843839733333

00:36:54.892 --> 00:36:56.060 cells start looking funny,
NOTE Confidence: 0.864843839733333

00:36:56.060 --> 00:36:59.160 but they haven't done anything
NOTE Confidence: 0.864843839733333

00:36:59.160 --> 00:37:01.020 definitively cancerous yet.
NOTE Confidence: 0.864843839733333

00:37:01.020 --> 00:37:03.512 We call it cancer when they have
NOTE Confidence: 0.864843839733333

00:37:03.512 --> 00:37:05.239 actually invaded into a tissue.
NOTE Confidence: 0.864843839733333

00:37:05.240 --> 00:37:07.530 OK, and invasion means breaking

NOTE Confidence: 0.864843839733333
00:37:07.530 --> 00:37:09.820 out of this underlying membrane.
NOTE Confidence: 0.864843839733333
00:37:09.820 --> 00:37:11.556 That is the way we define cancer,
NOTE Confidence: 0.864843839733333
00:37:11.560 --> 00:37:12.126 and again,
NOTE Confidence: 0.864843839733333
00:37:12.126 --> 00:37:14.950 the cause of it is what I said before.
NOTE Confidence: 0.924385166666667
00:37:17.970 --> 00:37:20.294 There we go. OK, so.
NOTE Confidence: 0.924385166666667
00:37:20.294 --> 00:37:23.038 I said cancer is a disease where
NOTE Confidence: 0.924385166666667
00:37:23.038 --> 00:37:25.370 cells misbehave and the question
NOTE Confidence: 0.924385166666667
00:37:25.370 --> 00:37:27.530 is why aren't they behaving and
NOTE Confidence: 0.924385166666667
00:37:27.530 --> 00:37:29.866 the basic answer is that there
NOTE Confidence: 0.924385166666667
00:37:29.866 --> 00:37:32.006 is something called DNA mutation.
NOTE Confidence: 0.924385166666667
00:37:32.010 --> 00:37:36.050 So DNA is the is the blueprint for
NOTE Confidence: 0.924385166666667
00:37:36.050 --> 00:37:38.450 everything that is done by a solid body.
NOTE Confidence: 0.924385166666667
00:37:38.450 --> 00:37:40.340 So everything that is done in your
NOTE Confidence: 0.924385166666667
00:37:40.340 --> 00:37:43.106 body is done based on a code and that
NOTE Confidence: 0.924385166666667
00:37:43.106 --> 00:37:46.056 blueprint that encodes it is made up of
NOTE Confidence: 0.924385166666667

00:37:46.056 --> 00:37:48.562 DNA which the string of actually code.
NOTE Confidence: 0.924385166666667

00:37:48.570 --> 00:37:51.307 I've drawn it here. Everyones got 2.
NOTE Confidence: 0.924385166666667

00:37:51.310 --> 00:37:54.550 Of the same piece of code in their body.
NOTE Confidence: 0.924385166666667

00:37:54.550 --> 00:37:56.070 So we have we have we have paired
NOTE Confidence: 0.924385166666667

00:37:56.070 --> 00:37:57.359 what are called chromosomes.
NOTE Confidence: 0.924385166666667

00:37:57.360 --> 00:37:58.170 I only drew 2 here.
NOTE Confidence: 0.924385166666667

00:37:58.170 --> 00:38:02.670 We actually have 23 pairs but but either way,
NOTE Confidence: 0.924385166666667

00:38:02.670 --> 00:38:03.806 when a cell starts,
NOTE Confidence: 0.924385166666667

00:38:03.806 --> 00:38:05.730 it's maybe there's a mutation in it.
NOTE Confidence: 0.924385166666667

00:38:05.730 --> 00:38:07.466 OK, and I've drawn it as an X.
NOTE Confidence: 0.924385166666667

00:38:07.470 --> 00:38:08.073 Alright,
NOTE Confidence: 0.924385166666667

00:38:08.073 --> 00:38:11.088 what distinguishes cancer from other?
NOTE Confidence: 0.924385166666667

00:38:11.090 --> 00:38:13.742 Disease in the body is that
NOTE Confidence: 0.924385166666667

00:38:13.742 --> 00:38:15.430 cancer cannot control.
NOTE Confidence: 0.924385166666667

00:38:15.430 --> 00:38:19.102 Cancer cells are very bad at
NOTE Confidence: 0.924385166666667

00:38:19.102 --> 00:38:20.818 fixing DNA mutations.

NOTE Confidence: 0.924385166666667
00:38:20.818 --> 00:38:21.390 Normally.
NOTE Confidence: 0.924385166666667
00:38:21.390 --> 00:38:22.608 If you have a DNA mutation,
NOTE Confidence: 0.924385166666667
00:38:22.610 --> 00:38:24.130 either it will be fixed or the cell
NOTE Confidence: 0.924385166666667
00:38:24.130 --> 00:38:25.585 will say you know I can't fix it.
NOTE Confidence: 0.924385166666667
00:38:25.590 --> 00:38:26.750 The cell will kill itself.
NOTE Confidence: 0.924385166666667
00:38:26.750 --> 00:38:28.085 That doesn't happen with cancer
NOTE Confidence: 0.924385166666667
00:38:28.085 --> 00:38:29.830 and this leads to two things.
NOTE Confidence: 0.924385166666667
00:38:29.830 --> 00:38:30.790 First of all,
NOTE Confidence: 0.924385166666667
00:38:30.790 --> 00:38:32.682 what happens is more mutations
NOTE Confidence: 0.924385166666667
00:38:32.682 --> 00:38:35.478 develop as the cells divide OK,
NOTE Confidence: 0.924385166666667
00:38:35.480 --> 00:38:38.624 the second thing that happens is in every
NOTE Confidence: 0.924385166666667
00:38:38.624 --> 00:38:40.820 cell division you're going to get different.
NOTE Confidence: 0.924385166666667
00:38:40.820 --> 00:38:41.810 Cells right?
NOTE Confidence: 0.924385166666667
00:38:41.810 --> 00:38:43.295 Because mutations are
NOTE Confidence: 0.924385166666667
00:38:43.295 --> 00:38:45.275 developing all the time,
NOTE Confidence: 0.924385166666667

00:38:45.280 --> 00:38:46.696 but the same mutation that happens
NOTE Confidence: 0.924385166666667

00:38:46.696 --> 00:38:47.944 in this cell isn't necessarily
NOTE Confidence: 0.924385166666667

00:38:47.944 --> 00:38:49.504 going to happen in this cell.
NOTE Confidence: 0.924385166666667

00:38:49.510 --> 00:38:50.970 So every time there's division,
NOTE Confidence: 0.924385166666667

00:38:50.970 --> 00:38:53.546 you can get more and more mutations.
NOTE Confidence: 0.924385166666667

00:38:53.550 --> 00:38:55.290 Is this healthy?
NOTE Confidence: 0.924385166666667

00:38:55.290 --> 00:38:56.450 No, many,
NOTE Confidence: 0.924385166666667

00:38:56.450 --> 00:38:59.266 many of the cells and cancers will die.
NOTE Confidence: 0.924385166666667

00:38:59.270 --> 00:39:01.430 Cancer cells are not particularly healthy,
NOTE Confidence: 0.924385166666667

00:39:01.430 --> 00:39:03.362 but some of them will develop what
NOTE Confidence: 0.924385166666667

00:39:03.362 --> 00:39:05.012 we call malignant clones and they
NOTE Confidence: 0.924385166666667

00:39:05.012 --> 00:39:06.797 will go on to form these cancers
NOTE Confidence: 0.924385166666667

00:39:06.851 --> 00:39:08.483 that are very hard to control
NOTE Confidence: 0.924385166666667

00:39:08.483 --> 00:39:10.590 because the blueprint is wrong.
NOTE Confidence: 0.924385166666667

00:39:10.590 --> 00:39:12.175 They're no longer doing what
NOTE Confidence: 0.924385166666667

00:39:12.175 --> 00:39:13.760 they're supposed to be doing.

NOTE Confidence: 0.924385166666667

00:39:13.760 --> 00:39:15.376 And the last thing I want to talk

NOTE Confidence: 0.924385166666667

00:39:15.376 --> 00:39:16.937 about is sort of what is cancer?

NOTE Confidence: 0.924385166666667

00:39:16.940 --> 00:39:18.276 Is something called metastasis.

NOTE Confidence: 0.924385166666667

00:39:18.276 --> 00:39:20.685 I know we've all heard the term

NOTE Confidence: 0.924385166666667

00:39:20.685 --> 00:39:22.410 metastasis means when there is

NOTE Confidence: 0.924385166666667

00:39:22.410 --> 00:39:24.326 spread of a of a cancer from

NOTE Confidence: 0.924385166666667

00:39:24.326 --> 00:39:26.129 one area to another area and

NOTE Confidence: 0.924385166666667

00:39:26.129 --> 00:39:27.859 it means it's not continuous,

NOTE Confidence: 0.924385166666667

00:39:27.860 --> 00:39:29.740 meaning it's not the whole

NOTE Confidence: 0.924385166666667

00:39:29.740 --> 00:39:30.868 tumor mass growing.

NOTE Confidence: 0.924385166666667

00:39:30.870 --> 00:39:32.796 It's actually a cell breaking off

NOTE Confidence: 0.924385166666667

00:39:32.796 --> 00:39:34.799 and going somewhere else in the body.

NOTE Confidence: 0.924385166666667

00:39:34.800 --> 00:39:35.682 OK, so first,

NOTE Confidence: 0.924385166666667

00:39:35.682 --> 00:39:37.446 it's worth pointing out if everyone

NOTE Confidence: 0.924385166666667

00:39:37.446 --> 00:39:38.867 doesn't know this and there's

NOTE Confidence: 0.924385166666667

00:39:38.867 --> 00:39:40.475 no reason you would know this,
NOTE Confidence: 0.924385166666667

00:39:40.480 --> 00:39:43.170 that many cells in the body are able to move.
NOTE Confidence: 0.924385166666667

00:39:43.170 --> 00:39:44.694 They can migrate and that is
NOTE Confidence: 0.924385166666667

00:39:44.694 --> 00:39:45.710 what happens in cancer,
NOTE Confidence: 0.924385166666667

00:39:45.710 --> 00:39:47.750 so that's what's required for
NOTE Confidence: 0.924385166666667

00:39:47.750 --> 00:39:49.256 metastasis once they move somewhere,
NOTE Confidence: 0.924385166666667

00:39:49.256 --> 00:39:51.279 they have to find a place that
NOTE Confidence: 0.924385166666667

00:39:51.279 --> 00:39:52.567 can support their growth.
NOTE Confidence: 0.924385166666667

00:39:52.570 --> 00:39:54.250 OK, and there's this idea of a
NOTE Confidence: 0.924385166666667

00:39:54.250 --> 00:39:55.910 seal seed and soil hypothesis,
NOTE Confidence: 0.924385166666667

00:39:55.910 --> 00:39:56.542 for example,
NOTE Confidence: 0.924385166666667

00:39:56.542 --> 00:39:58.438 kidney cancers often go to bones.
NOTE Confidence: 0.924385166666667

00:39:58.440 --> 00:39:59.590 They often go to lung,
NOTE Confidence: 0.924385166666667

00:39:59.590 --> 00:40:01.230 sometimes they go to liver,
NOTE Confidence: 0.924385166666667

00:40:01.230 --> 00:40:03.386 other cancers don't go to those places,
NOTE Confidence: 0.910809890555556

00:40:03.390 --> 00:40:05.454 and that's because in addition to

NOTE Confidence: 0.910809890555556
00:40:05.454 --> 00:40:07.615 the fact there's the blood supply
NOTE Confidence: 0.910809890555556
00:40:07.615 --> 00:40:09.763 that sends it to certain places,
NOTE Confidence: 0.910809890555556
00:40:09.770 --> 00:40:11.943 they can only go and land in
NOTE Confidence: 0.910809890555556
00:40:11.943 --> 00:40:14.780 certain places and grow there. OK.
NOTE Confidence: 0.910809890555556
00:40:14.780 --> 00:40:16.980 And then lastly, once they do get there,
NOTE Confidence: 0.910809890555556
00:40:16.980 --> 00:40:19.440 they have to be able to set up a food supply,
NOTE Confidence: 0.910809890555556
00:40:19.440 --> 00:40:20.715 which really means the blood
NOTE Confidence: 0.910809890555556
00:40:20.715 --> 00:40:22.575 supply and that we have a term
NOTE Confidence: 0.910809890555556
00:40:22.575 --> 00:40:23.905 for that which is angiogenesis.
NOTE Confidence: 0.910809890555556
00:40:23.910 --> 00:40:25.098 And that's gonna be really important
NOTE Confidence: 0.910809890555556
00:40:25.098 --> 00:40:26.489 for how we treat kidney cancers.
NOTE Confidence: 0.910809890555556
00:40:26.490 --> 00:40:28.394 OK, moving on,
NOTE Confidence: 0.910809890555556
00:40:28.394 --> 00:40:30.250 I want to talk about how the cells
NOTE Confidence: 0.910809890555556
00:40:30.301 --> 00:40:32.095 actually talk to each other because
NOTE Confidence: 0.910809890555556
00:40:32.095 --> 00:40:34.006 I mentioned that cells talk to each
NOTE Confidence: 0.910809890555556

00:40:34.006 --> 00:40:35.783 other all the time and the way they
NOTE Confidence: 0.910809890555556

00:40:35.783 --> 00:40:37.567 talk to each other is they send things
NOTE Confidence: 0.910809890555556

00:40:37.567 --> 00:40:39.391 out of 1 cell and it goes to something
NOTE Confidence: 0.910809890555556

00:40:39.391 --> 00:40:41.225 on the other cell and the other cell
NOTE Confidence: 0.910809890555556

00:40:41.225 --> 00:40:42.976 has what's called a receptor to bind it.
NOTE Confidence: 0.910809890555556

00:40:42.976 --> 00:40:44.440 Sort of like a lock and key.
NOTE Confidence: 0.910809890555556

00:40:44.440 --> 00:40:45.532 So here's an example.
NOTE Confidence: 0.910809890555556

00:40:45.532 --> 00:40:47.809 I have the outside of the cell here,
NOTE Confidence: 0.910809890555556

00:40:47.810 --> 00:40:50.180 and here's the cell membrane and
NOTE Confidence: 0.910809890555556

00:40:50.180 --> 00:40:52.105 here's a receptor or a lock.
NOTE Confidence: 0.910809890555556

00:40:52.105 --> 00:40:53.820 OK, and this thing is a key,
NOTE Confidence: 0.910809890555556

00:40:53.820 --> 00:40:54.948 it's something called EGF.
NOTE Confidence: 0.910809890555556

00:40:54.948 --> 00:40:56.358 It's sent from somewhere else,
NOTE Confidence: 0.910809890555556

00:40:56.360 --> 00:40:58.922 and when it binds to this thing
NOTE Confidence: 0.910809890555556

00:40:58.922 --> 00:41:01.169 this thing turns or it changes.
NOTE Confidence: 0.910809890555556

00:41:01.170 --> 00:41:02.808 And actually there are things called

NOTE Confidence: 0.910809890555556
00:41:02.808 --> 00:41:04.400 phosphorylated groups that end up on that.
NOTE Confidence: 0.910809890555556
00:41:04.400 --> 00:41:07.200 Once those things are there.
NOTE Confidence: 0.910809890555556
00:41:07.200 --> 00:41:09.108 Something inside the cell.
NOTE Confidence: 0.910809890555556
00:41:09.108 --> 00:41:10.539 We'll find it.
NOTE Confidence: 0.910809890555556
00:41:10.540 --> 00:41:11.630 They're moving around each other
NOTE Confidence: 0.910809890555556
00:41:11.630 --> 00:41:13.440 all the time and it will bind to it,
NOTE Confidence: 0.910809890555556
00:41:13.440 --> 00:41:15.740 because this thing recognizes it,
NOTE Confidence: 0.910809890555556
00:41:15.740 --> 00:41:19.459 so it'll bind to it and it brings
NOTE Confidence: 0.910809890555556
00:41:19.459 --> 00:41:21.058 in a friend.
NOTE Confidence: 0.910809890555556
00:41:21.060 --> 00:41:23.700 And that friend brings in yet
NOTE Confidence: 0.910809890555556
00:41:23.700 --> 00:41:26.029 another thing that binds to it.
NOTE Confidence: 0.910809890555556
00:41:26.030 --> 00:41:27.770 And this thing called wrasses.
NOTE Confidence: 0.910809890555556
00:41:27.770 --> 00:41:29.135 Very important cancer.
NOTE Confidence: 0.910809890555556
00:41:29.135 --> 00:41:31.865 These things that I'm talking about.
NOTE Confidence: 0.910809890555556
00:41:31.870 --> 00:41:33.020 They're not just little things
NOTE Confidence: 0.910809890555556

00:41:33.020 --> 00:41:34.170 that bind to each other.
NOTE Confidence: 0.910809890555556

00:41:34.170 --> 00:41:37.070 They're actually little molecular machines,
NOTE Confidence: 0.910809890555556

00:41:37.070 --> 00:41:41.830 OK? This machine just sticks things together.
NOTE Confidence: 0.910809890555556

00:41:41.830 --> 00:41:43.306 OK, it's an adapter,
NOTE Confidence: 0.910809890555556

00:41:43.306 --> 00:41:45.520 but this is a machine that
NOTE Confidence: 0.910809890555556

00:41:45.600 --> 00:41:47.574 turns this machine on OK,
NOTE Confidence: 0.910809890555556

00:41:47.574 --> 00:41:49.518 and once this thing is on,
NOTE Confidence: 0.910809890555556

00:41:49.520 --> 00:41:52.103 it's a general on switch oops that
NOTE Confidence: 0.910809890555556

00:41:52.103 --> 00:41:54.165 turns on another protein which
NOTE Confidence: 0.910809890555556

00:41:54.165 --> 00:41:56.370 turns on another protein which
NOTE Confidence: 0.910809890555556

00:41:56.370 --> 00:41:59.101 turns on another protein and that
NOTE Confidence: 0.910809890555556

00:41:59.101 --> 00:42:00.877 results in cells dividing.
NOTE Confidence: 0.910809890555556

00:42:00.880 --> 00:42:02.670 That's actually a normal process.
NOTE Confidence: 0.910809890555556

00:42:02.670 --> 00:42:04.286 We want that a lot of the time
NOTE Confidence: 0.910809890555556

00:42:04.286 --> 00:42:05.910 you often need cells that divide.
NOTE Confidence: 0.910809890555556

00:42:05.910 --> 00:42:07.710 OK, you need it every day.

NOTE Confidence: 0.910809890555556
00:42:07.710 --> 00:42:09.816 But you don't always want it,
NOTE Confidence: 0.910809890555556
00:42:09.820 --> 00:42:10.488 and cancer,
NOTE Confidence: 0.910809890555556
00:42:10.488 --> 00:42:12.158 it's happening when it shouldn't
NOTE Confidence: 0.910809890555556
00:42:12.158 --> 00:42:13.550 be happening all right.
NOTE Confidence: 0.910809890555556
00:42:13.550 --> 00:42:14.525 So what's unique about kidney
NOTE Confidence: 0.910809890555556
00:42:14.525 --> 00:42:15.640 cancer that those are sort of?
NOTE Confidence: 0.910809890555556
00:42:15.640 --> 00:42:17.264 That's my general view of what cancer is,
NOTE Confidence: 0.910809890555556
00:42:17.270 --> 00:42:17.600 alright,
NOTE Confidence: 0.910809890555556
00:42:17.600 --> 00:42:19.250 so kidney cancer is actually
NOTE Confidence: 0.910809890555556
00:42:19.250 --> 00:42:20.850 as Doctor Kenny pointed out,
NOTE Confidence: 0.910809890555556
00:42:20.850 --> 00:42:22.896 a whole big group of cancers.
NOTE Confidence: 0.910809890555556
00:42:22.900 --> 00:42:25.945 Now the vast majority of of it.
NOTE Confidence: 0.910809890555556
00:42:25.950 --> 00:42:28.236 You know about 90% of it or more,
NOTE Confidence: 0.910809890555556
00:42:28.236 --> 00:42:30.028 are the types that some of which
NOTE Confidence: 0.910809890555556
00:42:30.028 --> 00:42:31.330 were mentioned by Doctor Kenny.
NOTE Confidence: 0.910809890555556

00:42:31.330 --> 00:42:33.024 Clear cell carcinoma is the most common.
NOTE Confidence: 0.910809890555556

00:42:33.030 --> 00:42:34.390 It's about 75% of it.
NOTE Confidence: 0.910809890555556

00:42:34.390 --> 00:42:35.690 There's something called papillary
NOTE Confidence: 0.910809890555556

00:42:35.690 --> 00:42:36.340 and chromophobe,
NOTE Confidence: 0.91616855

00:42:36.350 --> 00:42:37.538 which was mentioned before.
NOTE Confidence: 0.886594573125

00:42:39.480 --> 00:42:41.145 In addition to the fact that we know there
NOTE Confidence: 0.886594573125

00:42:41.145 --> 00:42:42.740 are certain types of types of cancers,
NOTE Confidence: 0.886594573125

00:42:42.740 --> 00:42:44.642 there's also something called kidney cancer
NOTE Confidence: 0.886594573125

00:42:44.642 --> 00:42:46.520 syndromes where they run in families,
NOTE Confidence: 0.886594573125

00:42:46.520 --> 00:42:48.984 and the reason they have these cancers
NOTE Confidence: 0.886594573125

00:42:48.984 --> 00:42:51.810 is because one of their genes has a
NOTE Confidence: 0.886594573125

00:42:51.810 --> 00:42:54.341 DNA mutation that that results in a
NOTE Confidence: 0.886594573125

00:42:54.341 --> 00:42:56.633 predisposition for these things to occur,
NOTE Confidence: 0.886594573125

00:42:56.640 --> 00:42:58.107 and the one I want to talk about is
NOTE Confidence: 0.886594573125

00:42:58.107 --> 00:42:59.844 something called Von Hippel, Lindau Sovon.
NOTE Confidence: 0.886594573125

00:42:59.844 --> 00:43:03.380 Hippel. Lindau is a is a disease that

NOTE Confidence: 0.886594573125

00:43:03.470 --> 00:43:07.194 results in tumors in many different organs,

NOTE Confidence: 0.886594573125

00:43:07.200 --> 00:43:09.180 but probably the most famous one

NOTE Confidence: 0.886594573125

00:43:09.180 --> 00:43:10.500 is in the kidneys.

NOTE Confidence: 0.886594573125

00:43:10.500 --> 00:43:13.137 So what is von Hippel Lindau so von Hippel?

NOTE Confidence: 0.886594573125

00:43:13.140 --> 00:43:15.254 Lindau is a protein that is important

NOTE Confidence: 0.886594573125

00:43:15.254 --> 00:43:17.009 in something called oxygen sensing.

NOTE Confidence: 0.886594573125

00:43:17.010 --> 00:43:19.066 So the cells in your body are able

NOTE Confidence: 0.886594573125

00:43:19.066 --> 00:43:20.598 to actually sense when there's

NOTE Confidence: 0.886594573125

00:43:20.598 --> 00:43:22.512 oxygen there and when there isn't

NOTE Confidence: 0.886594573125

00:43:22.512 --> 00:43:24.507 much much oxygen there they think.

NOTE Confidence: 0.886594573125

00:43:24.510 --> 00:43:26.450 Why isn't there oxygen there?

NOTE Confidence: 0.886594573125

00:43:26.450 --> 00:43:28.669 Probably there's no blood supply and what

NOTE Confidence: 0.886594573125

00:43:28.669 --> 00:43:30.900 happens is they send out more signals,

NOTE Confidence: 0.886594573125

00:43:30.900 --> 00:43:34.320 developed blood vessels so.

NOTE Confidence: 0.886594573125

00:43:34.320 --> 00:43:36.960 When there's normal oxygen.

NOTE Confidence: 0.886594573125

00:43:36.960 --> 00:43:38.296 This protein, called DHL,
NOTE Confidence: 0.886594573125

00:43:38.296 --> 00:43:41.629 is on what VHL does is it turns the
NOTE Confidence: 0.886594573125

00:43:41.629 --> 00:43:43.719 oxygen sensing pathway off alright,
NOTE Confidence: 0.886594573125

00:43:43.720 --> 00:43:47.380 so oxygen present VHL is on.
NOTE Confidence: 0.886594573125

00:43:47.380 --> 00:43:50.296 Nothing happens if the pathways off
NOTE Confidence: 0.886594573125

00:43:50.300 --> 00:43:52.624 nothing that the machines are all off.
NOTE Confidence: 0.886594573125

00:43:52.630 --> 00:43:54.660 But when there's a low oxygen level,
NOTE Confidence: 0.886594573125

00:43:54.660 --> 00:43:56.348 VHL is turned off.
NOTE Confidence: 0.886594573125

00:43:56.348 --> 00:43:58.880 And then the oxygen sensing pathway
NOTE Confidence: 0.886594573125

00:43:58.967 --> 00:44:01.157 is on and that results oops.
NOTE Confidence: 0.886594573125

00:44:01.160 --> 00:44:03.626 In blood vessel growth in cell
NOTE Confidence: 0.886594573125

00:44:03.626 --> 00:44:06.489 division and in some cell movement.
NOTE Confidence: 0.886594573125

00:44:06.490 --> 00:44:08.626 In kidney cancer and people who
NOTE Confidence: 0.886594573125

00:44:08.626 --> 00:44:10.709 have mutations in this VHL gene.
NOTE Confidence: 0.886594573125

00:44:10.710 --> 00:44:13.654 The HL is always off 'cause it's broken.
NOTE Confidence: 0.886594573125

00:44:13.660 --> 00:44:15.630 So the oxygen sensing pathway

NOTE Confidence: 0.886594573125

00:44:15.630 --> 00:44:17.600 is on all the time,

NOTE Confidence: 0.886594573125

00:44:17.600 --> 00:44:19.292 and so that predisposes

NOTE Confidence: 0.886594573125

00:44:19.292 --> 00:44:20.984 these cancer to develop.

NOTE Confidence: 0.956326103333333

00:44:23.610 --> 00:44:26.190 And why is that so important?

NOTE Confidence: 0.956326103333333

00:44:26.190 --> 00:44:29.760 Because it turns out that we have

NOTE Confidence: 0.956326103333333

00:44:29.760 --> 00:44:31.690 medications that actually block parts

NOTE Confidence: 0.956326103333333

00:44:31.690 --> 00:44:33.465 of that oxygen sensing pathway,

NOTE Confidence: 0.956326103333333

00:44:33.470 --> 00:44:35.182 and actually there's a new one that I

NOTE Confidence: 0.956326103333333

00:44:35.182 --> 00:44:36.684 didn't put on here called bills udaff

NOTE Confidence: 0.956326103333333

00:44:36.684 --> 00:44:38.445 and I don't know if Doctor Brown is

NOTE Confidence: 0.956326103333333

00:44:38.445 --> 00:44:40.022 going to talk about that. He's nodding.

NOTE Confidence: 0.956326103333333

00:44:40.022 --> 00:44:41.534 He is going to talk about that.

NOTE Confidence: 0.956326103333333

00:44:41.540 --> 00:44:44.004 So it's we got about Bill Sudafed,

NOTE Confidence: 0.956326103333333

00:44:44.010 --> 00:44:46.080 but these are all medications

NOTE Confidence: 0.956326103333333

00:44:46.080 --> 00:44:48.676 that work similarly to turn off

NOTE Confidence: 0.956326103333333

00:44:48.676 --> 00:44:50.476 the oxygen sensing pathway.
NOTE Confidence: 0.9563261033333333

00:44:50.480 --> 00:44:52.776 The other medications that we use in kidney
NOTE Confidence: 0.9563261033333333

00:44:52.776 --> 00:44:54.556 cancer are generally things that turn
NOTE Confidence: 0.9563261033333333

00:44:54.556 --> 00:44:57.239 on the immune system in one way or the other.
NOTE Confidence: 0.9563261033333333

00:44:57.240 --> 00:44:59.445 And this sounds like a distinction without
NOTE Confidence: 0.9563261033333333

00:44:59.445 --> 00:45:00.816 a difference, but is it difference?
NOTE Confidence: 0.9563261033333333

00:45:00.816 --> 00:45:02.399 And that's how I'm going to end this
NOTE Confidence: 0.9563261033333333

00:45:02.399 --> 00:45:03.499 by talking about the difference.
NOTE Confidence: 0.9563261033333333

00:45:03.500 --> 00:45:05.900 Oops, one are things that actually
NOTE Confidence: 0.9563261033333333

00:45:05.900 --> 00:45:08.358 activate the immune system and turn on,
NOTE Confidence: 0.9563261033333333

00:45:08.360 --> 00:45:10.584 and the other type are ones that prevent
NOTE Confidence: 0.9563261033333333

00:45:10.584 --> 00:45:12.789 the immune system from being turned off.
NOTE Confidence: 0.9563261033333333

00:45:12.790 --> 00:45:16.010 Notably, these things are all pills,
NOTE Confidence: 0.9563261033333333

00:45:16.010 --> 00:45:18.936 everything else is actually given by vein,
NOTE Confidence: 0.9563261033333333

00:45:18.940 --> 00:45:21.334 and the last thing is we do not use
NOTE Confidence: 0.9563261033333333

00:45:21.334 --> 00:45:22.660 chemotherapy and kidney cancer.

NOTE Confidence: 0.9563261033333333
00:45:22.660 --> 00:45:24.020 It does not work there.
NOTE Confidence: 0.9563261033333333
00:45:24.020 --> 00:45:25.316 Various theories where it doesn't work,
NOTE Confidence: 0.9563261033333333
00:45:25.320 --> 00:45:26.200 which we can talk about,
NOTE Confidence: 0.9563261033333333
00:45:26.200 --> 00:45:26.990 but it just doesn't work,
NOTE Confidence: 0.9563261033333333
00:45:26.990 --> 00:45:28.780 so we don't use it.
NOTE Confidence: 0.9563261033333333
00:45:28.780 --> 00:45:30.420 But all the other drugs,
NOTE Confidence: 0.9563261033333333
00:45:30.420 --> 00:45:32.275 aside from the ones that are mentioned
NOTE Confidence: 0.9563261033333333
00:45:32.275 --> 00:45:33.997 that through with oxygen sensing in DHL
NOTE Confidence: 0.9563261033333333
00:45:33.997 --> 00:45:36.020 they have to do with the immune system.
NOTE Confidence: 0.9563261033333333
00:45:36.020 --> 00:45:36.463 Alright,
NOTE Confidence: 0.9563261033333333
00:45:36.463 --> 00:45:39.564 let's talk a little bit about immunity.
NOTE Confidence: 0.9563261033333333
00:45:39.570 --> 00:45:40.900 The immune system is something
NOTE Confidence: 0.9563261033333333
00:45:40.900 --> 00:45:41.964 that all it does.
NOTE Confidence: 0.9563261033333333
00:45:41.970 --> 00:45:43.710 Its whole job is to distinguish
NOTE Confidence: 0.9563261033333333
00:45:43.710 --> 00:45:45.455 the self from foreigners and then
NOTE Confidence: 0.9563261033333333

00:45:45.455 --> 00:45:47.045 mostly to get rid of foreigners.
NOTE Confidence: 0.9563261033333333

00:45:47.050 --> 00:45:49.196 So the way you distinguish yourself
NOTE Confidence: 0.9563261033333333

00:45:49.196 --> 00:45:51.877 is that every cell in our body
NOTE Confidence: 0.9563261033333333

00:45:51.877 --> 00:45:54.261 is continuously taking bits of
NOTE Confidence: 0.9563261033333333

00:45:54.261 --> 00:45:56.046 the cell from the inside,
NOTE Confidence: 0.9563261033333333

00:45:56.050 --> 00:45:57.950 sticking them on the surface
NOTE Confidence: 0.9563261033333333

00:45:57.950 --> 00:45:59.670 and telling our immune system.
NOTE Confidence: 0.9563261033333333

00:45:59.670 --> 00:46:01.462 This is part of the immune system called
NOTE Confidence: 0.9563261033333333

00:46:01.462 --> 00:46:04.410 T cells and saying, hey, this is me.
NOTE Confidence: 0.9563261033333333

00:46:04.410 --> 00:46:07.553 I'm part of us and T cells
NOTE Confidence: 0.9563261033333333

00:46:07.553 --> 00:46:09.500 generally the ones that.
NOTE Confidence: 0.9563261033333333

00:46:09.500 --> 00:46:11.840 That used to recognize this stuff.
NOTE Confidence: 0.9563261033333333

00:46:11.840 --> 00:46:14.400 They mostly gone away because if a T
NOTE Confidence: 0.9563261033333333

00:46:14.400 --> 00:46:16.280 cell recognizes something strongly,
NOTE Confidence: 0.9563261033333333

00:46:16.280 --> 00:46:17.943 it tries to kill it, OK?
NOTE Confidence: 0.9563261033333333

00:46:17.943 --> 00:46:20.484 And that's sort of how immunity works.

NOTE Confidence: 0.9563261033333333
00:46:20.490 --> 00:46:21.816 So when you get a bacterial,
NOTE Confidence: 0.9563261033333333
00:46:21.820 --> 00:46:23.940 let's say that invades one of your cells.
NOTE Confidence: 0.9563261033333333
00:46:23.940 --> 00:46:26.300 The cell doesn't just show bits of itself,
NOTE Confidence: 0.9563261033333333
00:46:26.300 --> 00:46:28.596 it also shows bits of the bacteria and
NOTE Confidence: 0.9563261033333333
00:46:28.596 --> 00:46:31.179 that he saw may recognize that and say,
NOTE Confidence: 0.9563261033333333
00:46:31.180 --> 00:46:32.200 oh, this is a problem.
NOTE Confidence: 0.9563261033333333
00:46:32.200 --> 00:46:34.372 I better kill that cell because
NOTE Confidence: 0.9563261033333333
00:46:34.372 --> 00:46:35.820 it harbors bad bacteria.
NOTE Confidence: 0.9563261033333333
00:46:35.820 --> 00:46:38.030 Turns out that isn't enough.
NOTE Confidence: 0.9563261033333333
00:46:38.030 --> 00:46:41.009 You need a second signal and that 2nd signal.
NOTE Confidence: 0.9563261033333333
00:46:41.010 --> 00:46:42.578 Don't worry about the name of it,
NOTE Confidence: 0.9563261033333333
00:46:42.580 --> 00:46:43.606 but you need a second signal.
NOTE Confidence: 0.9563261033333333
00:46:43.610 --> 00:46:45.505 Basically cells that are invaded
NOTE Confidence: 0.9563261033333333
00:46:45.505 --> 00:46:48.112 by bad things send out a second
NOTE Confidence: 0.9563261033333333
00:46:48.112 --> 00:46:50.331 flag saying not only do they show
NOTE Confidence: 0.9563261033333333

00:46:50.331 --> 00:46:52.585 you the bacteria is part of it,
NOTE Confidence: 0.9563261033333333

00:46:52.590 --> 00:46:54.270 but they say something is going very
NOTE Confidence: 0.9563261033333333

00:46:54.270 --> 00:46:55.909 wrong and that's recognized by the
NOTE Confidence: 0.9563261033333333

00:46:55.909 --> 00:46:57.474 immune system, particularly T cells,
NOTE Confidence: 0.9563261033333333

00:46:57.474 --> 00:46:59.114 and that turns them on.
NOTE Confidence: 0.9563261033333333

00:46:59.120 --> 00:47:01.375 We call that costimulation and
NOTE Confidence: 0.9563261033333333

00:47:01.375 --> 00:47:03.630 this is the hopefully the
NOTE Confidence: 0.931328424166667

00:47:03.714 --> 00:47:05.268 end point. Oh oh,
NOTE Confidence: 0.931328424166667

00:47:05.268 --> 00:47:07.138 there we go that's over,
NOTE Confidence: 0.931328424166667

00:47:07.140 --> 00:47:09.511 it kills it and that's the
NOTE Confidence: 0.931328424166667

00:47:09.511 --> 00:47:10.596 way the immune system works.
NOTE Confidence: 0.931328424166667

00:47:10.600 --> 00:47:11.758 Why am I talking about this?
NOTE Confidence: 0.931328424166667

00:47:11.760 --> 00:47:14.128 What does it have to do with cancer?
NOTE Confidence: 0.931328424166667

00:47:14.130 --> 00:47:16.286 Oh sorry, before I get to that
NOTE Confidence: 0.931328424166667

00:47:16.290 --> 00:47:18.152 there are two other things in
NOTE Confidence: 0.931328424166667

00:47:18.152 --> 00:47:20.564 addition to having that thing called

NOTE Confidence: 0.931328424166667
00:47:20.564 --> 00:47:22.209 costimulation that turns it on.
NOTE Confidence: 0.931328424166667
00:47:22.210 --> 00:47:23.848 We also have things that turn the
NOTE Confidence: 0.931328424166667
00:47:23.848 --> 00:47:25.285 immune system off 'cause you don't
NOTE Confidence: 0.931328424166667
00:47:25.285 --> 00:47:27.170 want the immune system on all the time,
NOTE Confidence: 0.931328424166667
00:47:27.170 --> 00:47:30.746 and one way is to block the flag.
NOTE Confidence: 0.931328424166667
00:47:30.750 --> 00:47:32.745 The T cell blocks that flag with
NOTE Confidence: 0.931328424166667
00:47:32.745 --> 00:47:34.898 this protein and with it the T
NOTE Confidence: 0.931328424166667
00:47:34.898 --> 00:47:36.448 cell doesn't recognize it anymore.
NOTE Confidence: 0.931328424166667
00:47:36.450 --> 00:47:38.291 And another way is that we have
NOTE Confidence: 0.931328424166667
00:47:38.291 --> 00:47:40.165 another set of thing called PD One
NOTE Confidence: 0.931328424166667
00:47:40.165 --> 00:47:42.249 and PDL one and that also is a
NOTE Confidence: 0.931328424166667
00:47:42.249 --> 00:47:43.936 signal that says turn T cells on.
NOTE Confidence: 0.931328424166667
00:47:43.940 --> 00:47:47.728 OK. Getting back to cancer.
NOTE Confidence: 0.931328424166667
00:47:47.728 --> 00:47:49.536 So as I said,
NOTE Confidence: 0.931328424166667
00:47:49.540 --> 00:47:50.964 we distinguish ourselves from
NOTE Confidence: 0.931328424166667

00:47:50.964 --> 00:47:53.100 foreigners by taking bits of us,
NOTE Confidence: 0.931328424166667

00:47:53.100 --> 00:47:54.760 putting them on our surfaces,
NOTE Confidence: 0.931328424166667

00:47:54.760 --> 00:47:57.960 and it's not recognized by the immune system.
NOTE Confidence: 0.931328424166667

00:47:57.960 --> 00:48:00.270 But when you have cancer.
NOTE Confidence: 0.931328424166667

00:48:00.270 --> 00:48:02.505 The cancer cells are abnormal and
NOTE Confidence: 0.931328424166667

00:48:02.505 --> 00:48:04.290 a lot of what's on their insides
NOTE Confidence: 0.931328424166667

00:48:04.290 --> 00:48:06.202 are abnormal and they put that on
NOTE Confidence: 0.931328424166667

00:48:06.202 --> 00:48:07.552 the surface and it's recognized
NOTE Confidence: 0.931328424166667

00:48:07.610 --> 00:48:10.198 as foreign by the T cell.
NOTE Confidence: 0.931328424166667

00:48:10.200 --> 00:48:12.181 So I said that those two other
NOTE Confidence: 0.931328424166667

00:48:12.181 --> 00:48:14.148 types of things that we used to
NOTE Confidence: 0.931328424166667

00:48:14.148 --> 00:48:16.501 kill cancer that we use for to treat
NOTE Confidence: 0.931328424166667

00:48:16.501 --> 00:48:18.256 them are both immune modulators
NOTE Confidence: 0.931328424166667

00:48:18.260 --> 00:48:19.436 in one way that we did,
NOTE Confidence: 0.931328424166667

00:48:19.440 --> 00:48:22.736 it was to turn T cells on the most.
NOTE Confidence: 0.931328424166667

00:48:22.736 --> 00:48:23.420 The best examples.

NOTE Confidence: 0.931328424166667
00:48:23.420 --> 00:48:24.144 I called interleukin 2.
NOTE Confidence: 0.931328424166667
00:48:24.144 --> 00:48:24.868 We still use it,
NOTE Confidence: 0.931328424166667
00:48:24.870 --> 00:48:26.580 but not that commonly anymore.
NOTE Confidence: 0.931328424166667
00:48:26.580 --> 00:48:29.060 It doesn't work that well to be honest.
NOTE Confidence: 0.931328424166667
00:48:29.060 --> 00:48:29.840 We can talk about that.
NOTE Confidence: 0.931328424166667
00:48:29.840 --> 00:48:31.204 More people have questions,
NOTE Confidence: 0.931328424166667
00:48:31.204 --> 00:48:33.619 but basically just activating the cell on on,
NOTE Confidence: 0.931328424166667
00:48:33.620 --> 00:48:35.660 on, on, on, on in.
NOTE Confidence: 0.931328424166667
00:48:35.660 --> 00:48:36.524 That works somewhat,
NOTE Confidence: 0.931328424166667
00:48:36.524 --> 00:48:38.252 but we found that works much,
NOTE Confidence: 0.931328424166667
00:48:38.260 --> 00:48:38.754 much,
NOTE Confidence: 0.931328424166667
00:48:38.754 --> 00:48:40.236 much better really.
NOTE Confidence: 0.931328424166667
00:48:40.236 --> 00:48:43.022 And more consistently is to stop
NOTE Confidence: 0.931328424166667
00:48:43.022 --> 00:48:46.060 the signals that turn T cells off,
NOTE Confidence: 0.931328424166667
00:48:46.060 --> 00:48:47.746 and that's what most of the
NOTE Confidence: 0.931328424166667

00:48:47.746 --> 00:48:49.130 medications we use nowadays are.
NOTE Confidence: 0.69845515

00:48:51.570 --> 00:48:55.590 So whoops, sorry folks.
NOTE Confidence: 0.69845515

00:48:55.590 --> 00:48:57.372 OK, so going back to our
NOTE Confidence: 0.69845515

00:48:57.372 --> 00:48:59.189 treatments and then I'm going to.
NOTE Confidence: 0.69845515

00:48:59.190 --> 00:49:01.020 Then I'm going to end.
NOTE Confidence: 0.69845515

00:49:01.020 --> 00:49:04.670 We have we can treat by blocking oxygen
NOTE Confidence: 0.69845515

00:49:04.670 --> 00:49:07.960 sensing which turns off the cell division.
NOTE Confidence: 0.69845515

00:49:07.960 --> 00:49:09.068 Probably of those cells.
NOTE Confidence: 0.69845515

00:49:09.068 --> 00:49:10.730 The cancer cells and also prevents
NOTE Confidence: 0.69845515

00:49:10.784 --> 00:49:12.290 a lot of blood vessel formation,
NOTE Confidence: 0.69845515

00:49:12.290 --> 00:49:14.378 which is important for kidney cancers.
NOTE Confidence: 0.69845515

00:49:14.380 --> 00:49:17.236 We can. Turned the immune system on,
NOTE Confidence: 0.69845515

00:49:17.240 --> 00:49:19.679 but again these are have a lot of toxicities.
NOTE Confidence: 0.69845515

00:49:19.680 --> 00:49:21.177 They don't work that well.
NOTE Confidence: 0.69845515

00:49:21.177 --> 00:49:22.976 They can only be done by specialists
NOTE Confidence: 0.69845515

00:49:22.976 --> 00:49:24.579 at very specialized centers.

NOTE Confidence: 0.69845515

00:49:24.580 --> 00:49:26.796 We do it here, but most places don't

NOTE Confidence: 0.69845515

00:49:26.800 --> 00:49:28.240 and then there's this large group.

NOTE Confidence: 0.69845515

00:49:28.240 --> 00:49:30.249 There's other group of sort of growing

NOTE Confidence: 0.69845515

00:49:30.249 --> 00:49:32.124 group of drugs that prevent the

NOTE Confidence: 0.69845515

00:49:32.124 --> 00:49:34.038 immune system from being turned off,

NOTE Confidence: 0.69845515

00:49:34.040 --> 00:49:35.584 and to be brief,

NOTE Confidence: 0.69845515

00:49:35.584 --> 00:49:37.514 we use these a lot.

NOTE Confidence: 0.69845515

00:49:37.520 --> 00:49:39.460 We use these a lot and we use them in

NOTE Confidence: 0.69845515

00:49:39.517 --> 00:49:41.029 combinations because in combinations

NOTE Confidence: 0.69845515

00:49:41.029 --> 00:49:43.633 they work better than working alone and

NOTE Confidence: 0.69845515

00:49:43.633 --> 00:49:46.297 that's what I was going to say today.

NOTE Confidence: 0.69845515

00:49:46.300 --> 00:49:46.756 Oh sorry,

NOTE Confidence: 0.69845515

00:49:46.756 --> 00:49:48.580 the last thing I was going to talk

NOTE Confidence: 0.69845515

00:49:48.640 --> 00:49:50.458 about was why don't therapies work?

NOTE Confidence: 0.69845515

00:49:50.460 --> 00:49:54.186 We've all had friends or or or even us.

NOTE Confidence: 0.69845515

00:49:54.186 --> 00:49:56.006 We have cancer therapy works
NOTE Confidence: 0.69845515

00:49:56.006 --> 00:49:58.157 and then it stops working.
NOTE Confidence: 0.69845515

00:49:58.160 --> 00:50:00.638 So one reason that things stop working
NOTE Confidence: 0.69845515

00:50:00.640 --> 00:50:02.327 is what I said before about cancers.
NOTE Confidence: 0.69845515

00:50:02.330 --> 00:50:04.409 Remember how I said that every time
NOTE Confidence: 0.69845515

00:50:04.409 --> 00:50:06.354 the cells divide you can develop
NOTE Confidence: 0.69845515

00:50:06.354 --> 00:50:08.830 new mutations in every cell that is
NOTE Confidence: 0.69845515

00:50:08.830 --> 00:50:10.278 different mutations is essentially
NOTE Confidence: 0.69845515

00:50:10.278 --> 00:50:12.335 a different is going to act
NOTE Confidence: 0.69845515

00:50:12.335 --> 00:50:14.400 differently and so at some point,
NOTE Confidence: 0.69845515

00:50:14.400 --> 00:50:15.164 even though you're controlling
NOTE Confidence: 0.69845515

00:50:15.164 --> 00:50:16.119 a lot of the growth,
NOTE Confidence: 0.69845515

00:50:16.120 --> 00:50:18.296 you're going to get growth of things that
NOTE Confidence: 0.69845515

00:50:18.296 --> 00:50:20.180 are resistant because they're different.
NOTE Confidence: 0.69845515

00:50:20.180 --> 00:50:22.544 The other thing that's really important
NOTE Confidence: 0.69845515

00:50:22.544 --> 00:50:24.982 is that cancers have the ability

NOTE Confidence: 0.69845515
00:50:24.982 --> 00:50:26.952 overtime by mutating to develop
NOTE Confidence: 0.69845515
00:50:26.952 --> 00:50:29.129 evasion from the immune system.
NOTE Confidence: 0.69845515
00:50:29.130 --> 00:50:30.305 Another reason why it's hard
NOTE Confidence: 0.69845515
00:50:30.305 --> 00:50:31.010 to treat cancers,
NOTE Confidence: 0.69845515
00:50:31.010 --> 00:50:34.104 why therapies don't work is that parks.
NOTE Confidence: 0.69845515
00:50:34.110 --> 00:50:34.970 The tumors aren't getting
NOTE Confidence: 0.69845515
00:50:34.970 --> 00:50:36.045 a blood supply very well,
NOTE Confidence: 0.69845515
00:50:36.050 --> 00:50:37.706 so they're not getting a lot of drug into.
NOTE Confidence: 0.69845515
00:50:37.710 --> 00:50:38.454 Treat them,
NOTE Confidence: 0.69845515
00:50:38.454 --> 00:50:40.686 and tumors are actually under pressure,
NOTE Confidence: 0.69845515
00:50:40.690 --> 00:50:42.283 so there it's really hard to get drug in,
NOTE Confidence: 0.69845515
00:50:42.290 --> 00:50:44.450 and that's a major reason why big tumors,
NOTE Confidence: 0.69845515
00:50:44.450 --> 00:50:46.760 especially that have a lot of what's
NOTE Confidence: 0.69845515
00:50:46.760 --> 00:50:48.950 called necrosis or cell death in them,
NOTE Confidence: 0.69845515
00:50:48.950 --> 00:50:51.294 aren't very well treated.
NOTE Confidence: 0.69845515

00:50:51.294 --> 00:50:52.466 And lastly,
NOTE Confidence: 0.69845515

00:50:52.470 --> 00:50:54.514 many of the tumors that we have
NOTE Confidence: 0.69845515

00:50:54.514 --> 00:50:56.490 tumor cells that we have a lot of.
NOTE Confidence: 0.69845515

00:50:56.490 --> 00:50:57.998 The cells are very,
NOTE Confidence: 0.69845515

00:50:57.998 --> 00:50:59.129 very slow growing.
NOTE Confidence: 0.69845515

00:50:59.130 --> 00:51:00.738 It's very hard to kill things
NOTE Confidence: 0.69845515

00:51:00.738 --> 00:51:02.396 that are slow growing for various
NOTE Confidence: 0.69845515

00:51:02.396 --> 00:51:04.402 reasons that we can talk about.
NOTE Confidence: 0.69845515

00:51:04.402 --> 00:51:06.267 With that thanks for listening.
NOTE Confidence: 0.69845515

00:51:06.270 --> 00:51:07.694 I don't know if there are any questions,
NOTE Confidence: 0.69845515

00:51:07.700 --> 00:51:09.820 but I will stop sharing.
NOTE Confidence: 0.781790785

00:51:11.980 --> 00:51:13.510 If I went way over or
NOTE Confidence: 0.475626762

00:51:14.480 --> 00:51:16.380 no, that's a wonderful overview.
NOTE Confidence: 0.475626762

00:51:16.380 --> 00:51:17.922 I think on the foundations of cancer,
NOTE Confidence: 0.475626762

00:51:17.922 --> 00:51:19.530 which is a really good thing to understand,
NOTE Confidence: 0.475626762

00:51:19.530 --> 00:51:20.725 and there's definitely comments in

NOTE Confidence: 0.475626762

00:51:20.725 --> 00:51:22.282 the chat about how that fundamental

NOTE Confidence: 0.475626762

00:51:22.282 --> 00:51:24.160 understanding is helpful for most people.

NOTE Confidence: 0.475626762

00:51:24.160 --> 00:51:26.293 Is it and are really good level as well

NOTE Confidence: 0.475626762

00:51:26.293 --> 00:51:28.147 to understand the process that's going

NOTE Confidence: 0.475626762

00:51:28.147 --> 00:51:30.719 on and then to talk about treatments?

NOTE Confidence: 0.475626762

00:51:30.720 --> 00:51:32.400 A couple questions have come up,

NOTE Confidence: 0.475626762

00:51:32.400 --> 00:51:34.782 so the first is about Opdivo

NOTE Confidence: 0.475626762

00:51:34.782 --> 00:51:35.576 therapy specifically.

NOTE Confidence: 0.475626762

00:51:35.580 --> 00:51:38.424 So immunotherapy and you hear a lot about it.

NOTE Confidence: 0.475626762

00:51:38.430 --> 00:51:40.278 And there's a just a a base question.

NOTE Confidence: 0.475626762

00:51:40.280 --> 00:51:41.590 Does it actually cure cancer?

NOTE Confidence: 0.8168361111111111

00:51:42.550 --> 00:51:44.990 Yeah, so at Devo is one of the ones I put

NOTE Confidence: 0.8168361111111111

00:51:44.990 --> 00:51:47.146 there so because we're sort of academic,

NOTE Confidence: 0.8168361111111111

00:51:47.150 --> 00:51:48.770 we don't put the trade names.

NOTE Confidence: 0.8168361111111111

00:51:48.770 --> 00:51:52.150 We only put the names of the drugs that are

NOTE Confidence: 0.8168361111111111

00:51:52.150 --> 00:51:54.454 that that are sort of the generic names.

NOTE Confidence: 0.8168361111111111

00:51:54.460 --> 00:51:57.057 New volume AB is up Devo and

NOTE Confidence: 0.8168361111111111

00:51:57.057 --> 00:51:58.730 there are probably cures,

NOTE Confidence: 0.8168361111111111

00:51:58.730 --> 00:52:00.990 especially with combinations of

NOTE Confidence: 0.8168361111111111

00:52:00.990 --> 00:52:05.129 Opdivo and this other guy let me Mab.

NOTE Confidence: 0.8168361111111111

00:52:05.130 --> 00:52:06.792 It's hard to say definitively, honestly,

NOTE Confidence: 0.8168361111111111

00:52:06.792 --> 00:52:08.556 because can't kidney cancers can come back.

NOTE Confidence: 0.8168361111111111

00:52:08.560 --> 00:52:11.030 Many, many, many years later,

NOTE Confidence: 0.8168361111111111

00:52:11.030 --> 00:52:14.292 and we probably first started treating people

NOTE Confidence: 0.8168361111111111

00:52:14.292 --> 00:52:17.418 with these drugs about 10-12 years ago.

NOTE Confidence: 0.8168361111111111

00:52:17.420 --> 00:52:19.500 You know, maybe a few patients were treated

NOTE Confidence: 0.8168361111111111

00:52:19.500 --> 00:52:21.715 a little bit before that but but but yeah,

NOTE Confidence: 0.8168361111111111

00:52:21.720 --> 00:52:24.852 there are people who appear to

NOTE Confidence: 0.8168361111111111

00:52:24.852 --> 00:52:27.130 be cured from that. And

NOTE Confidence: 0.8342667555555556

00:52:27.140 --> 00:52:29.132 so another one is sort of

NOTE Confidence: 0.8342667555555556

00:52:29.132 --> 00:52:30.128 clarification about terminology.

NOTE Confidence: 0.789814112857143

00:52:30.300 --> 00:52:32.596 It's someone who that is so bad.

NOTE Confidence: 0.789814112857143

00:52:32.600 --> 00:52:34.424 Yeah, yeah. So the question was the patient

NOTE Confidence: 0.789814112857143

00:52:34.424 --> 00:52:36.476 we we got cabozantinib the paperwork

NOTE Confidence: 0.789814112857143

00:52:36.476 --> 00:52:38.016 we received indicated chemotherapy.

NOTE Confidence: 0.789814112857143

00:52:38.020 --> 00:52:39.798 Is that the question that you're asking?

NOTE Confidence: 0.789814112857143

00:52:39.800 --> 00:52:41.578 Yeah, that was terrible on my part.

NOTE Confidence: 0.789814112857143

00:52:41.580 --> 00:52:45.074 I apologize so. You know, I'm.

NOTE Confidence: 0.789814112857143

00:52:45.074 --> 00:52:47.290 Chemotherapy is a very

NOTE Confidence: 0.789814112857143

00:52:47.290 --> 00:52:49.506 poorly bandied about term,

NOTE Confidence: 0.789814112857143

00:52:49.510 --> 00:52:52.890 so chemotherapy originally was discussed.

NOTE Confidence: 0.789814112857143

00:52:52.890 --> 00:52:55.346 It was described in the 1960s and it

NOTE Confidence: 0.789814112857143

00:52:55.346 --> 00:52:57.690 was because we have radiation therapy.

NOTE Confidence: 0.789814112857143

00:52:57.690 --> 00:52:59.160 We have surgical therapy, but are we

NOTE Confidence: 0.789814112857143

00:52:59.160 --> 00:53:00.809 going to call therapy with medicines?

NOTE Confidence: 0.789814112857143

00:53:00.810 --> 00:53:03.738 We'll call it chemotherapy.

NOTE Confidence: 0.789814112857143

00:53:03.740 --> 00:53:05.804 That and then in the 70s and 80s
NOTE Confidence: 0.789814112857143

00:53:05.804 --> 00:53:07.150 chemotherapy became this thing that
NOTE Confidence: 0.789814112857143

00:53:07.150 --> 00:53:08.698 people think about as drugs given
NOTE Confidence: 0.789814112857143

00:53:08.698 --> 00:53:10.202 by vein that caused nausea and
NOTE Confidence: 0.789814112857143

00:53:10.202 --> 00:53:12.651 hair loss and act in a certain way.
NOTE Confidence: 0.789814112857143

00:53:12.651 --> 00:53:14.319 You are absolutely right.
NOTE Confidence: 0.789814112857143

00:53:14.320 --> 00:53:15.340 All of its chemotherapy.
NOTE Confidence: 0.789814112857143

00:53:15.340 --> 00:53:16.615 What I was talking about,
NOTE Confidence: 0.789814112857143

00:53:16.620 --> 00:53:18.126 and it was not being clear.
NOTE Confidence: 0.789814112857143

00:53:18.130 --> 00:53:20.295 We don't use traditional chemotherapy
NOTE Confidence: 0.789814112857143

00:53:20.295 --> 00:53:23.430 or what we call cytotoxic chemotherapy.
NOTE Confidence: 0.789814112857143

00:53:23.430 --> 00:53:25.600 That is a little bit less specific,
NOTE Confidence: 0.789814112857143

00:53:25.600 --> 00:53:29.270 but kills abnormally growing cells.
NOTE Confidence: 0.789814112857143

00:53:29.270 --> 00:53:29.440 So
NOTE Confidence: 0.945626002

00:53:29.450 --> 00:53:30.590 there's a couple more questions.
NOTE Confidence: 0.945626002

00:53:30.590 --> 00:53:32.050 One is about biomarkers analogy.

NOTE Confidence: 0.945626002
00:53:32.050 --> 00:53:33.550 Talk about that a little
NOTE Confidence: 0.945626002
00:53:33.550 --> 00:53:35.050 bit in the next session.
NOTE Confidence: 0.945626002
00:53:35.050 --> 00:53:36.190 There's a couple more questions,
NOTE Confidence: 0.945626002
00:53:36.190 --> 00:53:38.045 so one that's what that come up.
NOTE Confidence: 0.945626002
00:53:38.050 --> 00:53:39.466 That's sort of more general is
NOTE Confidence: 0.945626002
00:53:39.466 --> 00:53:40.927 sort of the importance about being
NOTE Confidence: 0.945626002
00:53:40.927 --> 00:53:42.579 treated as sort of a center of
NOTE Confidence: 0.945626002
00:53:42.579 --> 00:53:43.750 excellence and academic center.
NOTE Confidence: 0.945626002
00:53:43.750 --> 00:53:45.784 That sort of sees a lot of kidney cancer.
NOTE Confidence: 0.945626002
00:53:45.790 --> 00:53:46.732 And maybe if you could speak
NOTE Confidence: 0.945626002
00:53:46.732 --> 00:53:47.570 a little bit about that,
NOTE Confidence: 0.945626002
00:53:47.570 --> 00:53:49.298 why that might be helpful in certain cases.
NOTE Confidence: 0.949576571666667
00:53:50.030 --> 00:53:53.518 Yeah, so so I think that the job
NOTE Confidence: 0.949576571666667
00:53:53.518 --> 00:53:56.182 of a general oncologist is almost
NOTE Confidence: 0.949576571666667
00:53:56.182 --> 00:53:59.027 impossible that there's so much to know.
NOTE Confidence: 0.949576571666667

00:53:59.030 --> 00:54:00.577 And not only do you have to
NOTE Confidence: 0.949576571666667

00:54:00.577 --> 00:54:01.690 know every single disease,
NOTE Confidence: 0.949576571666667

00:54:01.690 --> 00:54:03.430 but you don't have other people
NOTE Confidence: 0.949576571666667

00:54:03.430 --> 00:54:04.951 floating around you who do
NOTE Confidence: 0.949576571666667

00:54:04.951 --> 00:54:06.446 other things that are relevant.
NOTE Confidence: 0.949576571666667

00:54:06.450 --> 00:54:08.781 So one of the great great joys of my
NOTE Confidence: 0.949576571666667

00:54:08.781 --> 00:54:10.453 existence is when something that I
NOTE Confidence: 0.949576571666667

00:54:10.453 --> 00:54:12.714 have no idea that comes up that may
NOTE Confidence: 0.949576571666667

00:54:12.714 --> 00:54:14.406 have to do with localized treatment
NOTE Confidence: 0.949576571666667

00:54:14.406 --> 00:54:16.038 or with taking something out.
NOTE Confidence: 0.949576571666667

00:54:16.038 --> 00:54:19.114 I can call Pat and and and he's right
NOTE Confidence: 0.949576571666667

00:54:19.114 --> 00:54:21.413 there just to answer it and and so
NOTE Confidence: 0.949576571666667

00:54:21.413 --> 00:54:23.286 one of the things that you get from
NOTE Confidence: 0.949576571666667

00:54:23.286 --> 00:54:25.169 going to a center of excellence is
NOTE Confidence: 0.949576571666667

00:54:25.169 --> 00:54:27.005 that there are a lot of us around.
NOTE Confidence: 0.949576571666667

00:54:27.010 --> 00:54:29.354 We all can communicate with each other and.

NOTE Confidence: 0.949576571666667
00:54:29.360 --> 00:54:30.700 We have as a group.
NOTE Confidence: 0.949576571666667
00:54:30.700 --> 00:54:33.857 We have seen a huge amount of
NOTE Confidence: 0.949576571666667
00:54:33.857 --> 00:54:34.759 different things.
NOTE Confidence: 0.949576571666667
00:54:34.760 --> 00:54:36.812 The other thing is that because
NOTE Confidence: 0.949576571666667
00:54:36.812 --> 00:54:38.530 people like Doctor Braun and
NOTE Confidence: 0.949576571666667
00:54:38.530 --> 00:54:40.210 and and Doctor Cooper and I.
NOTE Confidence: 0.949576571666667
00:54:40.210 --> 00:54:43.052 Really only treat one or two diseases
NOTE Confidence: 0.949576571666667
00:54:43.052 --> 00:54:46.478 or my case for diseases or whatever.
NOTE Confidence: 0.949576571666667
00:54:46.480 --> 00:54:48.480 You see a lot of the same thing,
NOTE Confidence: 0.949576571666667
00:54:48.480 --> 00:54:49.690 and you've probably seen a
NOTE Confidence: 0.949576571666667
00:54:49.690 --> 00:54:50.658 lot more of things.
NOTE Confidence: 0.949576571666667
00:54:50.660 --> 00:54:52.754 Maybe sometimes we're a little more
NOTE Confidence: 0.949576571666667
00:54:52.754 --> 00:54:55.618 up to date because we can follow only
NOTE Confidence: 0.949576571666667
00:54:55.618 --> 00:54:57.712 four things rather than 100 things,
NOTE Confidence: 0.949576571666667
00:54:57.720 --> 00:54:59.394 but I think the best thing
NOTE Confidence: 0.949576571666667

00:54:59.394 --> 00:55:01.459 about the center is just the
NOTE Confidence: 0.949576571666667

00:55:01.459 --> 00:55:03.235 multidisciplinary features we have.
NOTE Confidence: 0.949576571666667

00:55:03.240 --> 00:55:03.493 Pat,
NOTE Confidence: 0.949576571666667

00:55:03.493 --> 00:55:04.758 we have pathologists who know
NOTE Confidence: 0.949576571666667

00:55:04.758 --> 00:55:06.586 a ton about the stuff who can
NOTE Confidence: 0.949576571666667

00:55:06.586 --> 00:55:08.104 really tell us what we're looking
NOTE Confidence: 0.949576571666667

00:55:08.104 --> 00:55:09.480 at under the microscope,
NOTE Confidence: 0.949576571666667

00:55:09.480 --> 00:55:10.820 and sometimes other people can't.
NOTE Confidence: 0.949576571666667

00:55:10.820 --> 00:55:11.152 Frankly,
NOTE Confidence: 0.949576571666667

00:55:11.152 --> 00:55:12.812 we have fantastic radiologists who
NOTE Confidence: 0.949576571666667

00:55:12.812 --> 00:55:15.226 are using with a lot of cancer and
NOTE Confidence: 0.949576571666667

00:55:15.226 --> 00:55:16.450 we have interventional radiologists
NOTE Confidence: 0.949576571666667

00:55:16.450 --> 00:55:17.980 who can do amazing things.
NOTE Confidence: 0.949576571666667

00:55:17.980 --> 00:55:19.250 And radiation oncologists who know
NOTE Confidence: 0.949576571666667

00:55:19.250 --> 00:55:20.880 how to deal with kidney cancer.
NOTE Confidence: 0.949576571666667

00:55:20.880 --> 00:55:22.770 And many don't because it's not thought

NOTE Confidence: 0.949576571666667

00:55:22.770 --> 00:55:24.794 to be a radiation treated disease,

NOTE Confidence: 0.949576571666667

00:55:24.794 --> 00:55:27.013 even though in many ways it is.

NOTE Confidence: 0.949576571666667

00:55:27.020 --> 00:55:27.940 That would be my answer.

NOTE Confidence: 0.949576571666667

00:55:27.940 --> 00:55:29.218 I'm sure everyone else has a

NOTE Confidence: 0.949576571666667

00:55:29.218 --> 00:55:30.869 has his own or her own answer.

NOTE Confidence: 0.90551827

00:55:31.320 --> 00:55:33.154 I couldn't agree with you more Michael.

NOTE Confidence: 0.90551827

00:55:33.160 --> 00:55:35.329 I mean, I, I think there's

NOTE Confidence: 0.90551827

00:55:35.329 --> 00:55:37.474 there's other specialties too that

NOTE Confidence: 0.90551827

00:55:37.474 --> 00:55:39.570 don't immediately come to mind.

NOTE Confidence: 0.90551827

00:55:39.570 --> 00:55:42.804 You know, we have nephrology team here,

NOTE Confidence: 0.90551827

00:55:42.810 --> 00:55:43.905 including someone who

NOTE Confidence: 0.90551827

00:55:43.905 --> 00:55:45.740 specializes in onco nephrology.

NOTE Confidence: 0.90551827

00:55:45.740 --> 00:55:47.370 So nephrology is medical doctors

NOTE Confidence: 0.90551827

00:55:47.370 --> 00:55:49.000 for the kidney for chronic.

NOTE Confidence: 0.90551827

00:55:49.000 --> 00:55:50.108 Kidney disease that we

NOTE Confidence: 0.90551827

00:55:50.108 --> 00:55:51.216 had talked about earlier,
NOTE Confidence: 0.90551827

00:55:51.220 --> 00:55:52.780 and there's someone who specializes
NOTE Confidence: 0.90551827

00:55:52.780 --> 00:55:54.760 in that in patients with cancer.
NOTE Confidence: 0.90551827

00:55:54.760 --> 00:55:56.400 That's an extraordinary resource
NOTE Confidence: 0.90551827

00:55:56.400 --> 00:55:58.040 from a surgical standpoint.
NOTE Confidence: 0.90551827

00:55:58.040 --> 00:56:00.238 I had put up a slide very
NOTE Confidence: 0.90551827

00:56:00.238 --> 00:56:01.880 briefly about tumor thrombus,
NOTE Confidence: 0.90551827

00:56:01.880 --> 00:56:02.945 or, you know,
NOTE Confidence: 0.90551827

00:56:02.945 --> 00:56:05.798 other that's when the tumor can extend even
NOTE Confidence: 0.90551827

00:56:05.798 --> 00:56:08.715 up into the heart as a General Hospital,
NOTE Confidence: 0.90551827

00:56:08.715 --> 00:56:09.080 right?
NOTE Confidence: 0.90551827

00:56:09.080 --> 00:56:11.510 We have a we have liver transplant
NOTE Confidence: 0.90551827

00:56:11.510 --> 00:56:13.435 programs and liver transplant surgeons.
NOTE Confidence: 0.90551827

00:56:13.440 --> 00:56:15.736 We have cardiac surgeons who are
NOTE Confidence: 0.90551827

00:56:15.736 --> 00:56:16.760 extraordinarily experienced,
NOTE Confidence: 0.90551827

00:56:16.760 --> 00:56:18.601 and we can call on those resources

NOTE Confidence: 0.90551827

00:56:18.601 --> 00:56:19.620 when we need to.

NOTE Confidence: 0.90551827

00:56:19.620 --> 00:56:21.768 And that's something that I think

NOTE Confidence: 0.90551827

00:56:21.768 --> 00:56:23.200 is really pretty incredible,

NOTE Confidence: 0.90551827

00:56:23.200 --> 00:56:25.950 so the advantage even just

NOTE Confidence: 0.90551827

00:56:25.950 --> 00:56:27.600 having trainees around,

NOTE Confidence: 0.90551827

00:56:27.600 --> 00:56:29.020 there's a lot of data that having

NOTE Confidence: 0.90551827

00:56:29.020 --> 00:56:31.116 trainees around helps improve outcomes.

NOTE Confidence: 0.90551827

00:56:31.116 --> 00:56:33.436 There's something really kind of

NOTE Confidence: 0.90551827

00:56:33.436 --> 00:56:37.670 magic in the water and and hopefully.

NOTE Confidence: 0.90551827

00:56:37.670 --> 00:56:39.022 That translates into better

NOTE Confidence: 0.90551827

00:56:39.022 --> 00:56:40.540 outcomes and hopefully better care.

NOTE Confidence: 0.87877738625

00:56:41.590 --> 00:56:43.030 Now when you think of even this call,

NOTE Confidence: 0.87877738625

00:56:43.030 --> 00:56:45.250 we have, you know, urology surgery.

NOTE Confidence: 0.87877738625

00:56:45.250 --> 00:56:46.438 We have medical oncology.

NOTE Confidence: 0.87877738625

00:56:46.438 --> 00:56:47.329 We have genetics.

NOTE Confidence: 0.87877738625

00:56:47.330 --> 00:56:49.088 We have even this one call.
NOTE Confidence: 0.87877738625

00:56:49.090 --> 00:56:50.588 Sort of a a few different specialties
NOTE Confidence: 0.87877738625

00:56:50.588 --> 00:56:51.940 represented and so I think that's
NOTE Confidence: 0.87877738625

00:56:51.940 --> 00:56:53.272 something unique about places like Yale
NOTE Confidence: 0.87877738625

00:56:53.272 --> 00:56:54.800 and then these centers of excellence.
NOTE Confidence: 0.87877738625

00:56:54.800 --> 00:56:57.210 I really, really enable that.
NOTE Confidence: 0.87877738625

00:56:57.210 --> 00:56:58.538 So maybe in the interest of time we
NOTE Confidence: 0.87877738625

00:56:58.538 --> 00:56:59.670 might move forward a little bit.
NOTE Confidence: 0.87877738625

00:56:59.670 --> 00:57:01.014 I think there's still a couple of questions,
NOTE Confidence: 0.87877738625

00:57:01.020 --> 00:57:02.329 but I think we'll hopefully have time
NOTE Confidence: 0.87877738625

00:57:02.329 --> 00:57:03.799 at the end to loop back to those.
NOTE Confidence: 0.808035647272727

00:57:04.010 --> 00:57:04.930 Yeah David, you can answer
NOTE Confidence: 0.808035647272727

00:57:04.930 --> 00:57:06.070 some of those when you're done.
NOTE Confidence: 0.808035647272727

00:57:06.070 --> 00:57:07.180 Maybe if there are more
NOTE Confidence: 0.808035647272727

00:57:07.180 --> 00:57:08.068 questions for you specifically,
NOTE Confidence: 0.808035647272727

00:57:08.070 --> 00:57:10.890 'cause I see what they are.

NOTE Confidence: 0.808035647272727
00:57:10.890 --> 00:57:11.538 So you're up
NOTE Confidence: 0.933484831666667
00:57:12.050 --> 00:57:13.268 OK. Can you see my screen?
NOTE Confidence: 0.933484831666667
00:57:13.270 --> 00:57:15.794 OK? Yep, OK great.
NOTE Confidence: 0.933484831666667
00:57:15.794 --> 00:57:18.930 So I'm tasked with a relatively large topic,
NOTE Confidence: 0.933484831666667
00:57:18.930 --> 00:57:20.502 which is to talk about researching
NOTE Confidence: 0.933484831666667
00:57:20.502 --> 00:57:21.990 kidney cancer and really the focus
NOTE Confidence: 0.933484831666667
00:57:21.990 --> 00:57:23.550 of what I'm going to talk about is
NOTE Confidence: 0.933484831666667
00:57:23.602 --> 00:57:25.070 basic and translational research.
NOTE Confidence: 0.933484831666667
00:57:25.070 --> 00:57:26.686 That's often research that's
NOTE Confidence: 0.933484831666667
00:57:26.686 --> 00:57:28.706 done in a laboratory bench,
NOTE Confidence: 0.933484831666667
00:57:28.710 --> 00:57:30.708 and that's brought back to patients.
NOTE Confidence: 0.933484831666667
00:57:30.710 --> 00:57:32.534 So try to think about how we can
NOTE Confidence: 0.933484831666667
00:57:32.534 --> 00:57:33.589 better understand the disease,
NOTE Confidence: 0.933484831666667
00:57:33.590 --> 00:57:34.340 and most importantly,
NOTE Confidence: 0.933484831666667
00:57:34.340 --> 00:57:36.399 how we can better, better treat it.
NOTE Confidence: 0.933484831666667

00:57:36.399 --> 00:57:38.164 There's a lot to cover,
NOTE Confidence: 0.933484831666667

00:57:38.170 --> 00:57:39.570 so I'm going to warn you in advance.
NOTE Confidence: 0.933484831666667

00:57:39.570 --> 00:57:40.774 I'm going to editorialize.
NOTE Confidence: 0.933484831666667

00:57:40.774 --> 00:57:42.180 A fair bit of, uh,
NOTE Confidence: 0.933484831666667

00:57:42.180 --> 00:57:43.980 what I think I should have some of the
NOTE Confidence: 0.933484831666667

00:57:44.031 --> 00:57:45.795 big open questions in kidney cancer and
NOTE Confidence: 0.933484831666667

00:57:45.795 --> 00:57:47.795 just a little bit a little taste of it.
NOTE Confidence: 0.933484831666667

00:57:47.800 --> 00:57:49.578 How we are beginning to address it.
NOTE Confidence: 0.933484831666667

00:57:49.580 --> 00:57:50.745 And there's a huge amount
NOTE Confidence: 0.933484831666667

00:57:50.745 --> 00:57:51.677 of research going on.
NOTE Confidence: 0.933484831666667

00:57:51.680 --> 00:57:53.710 A lot that I won't be able to cover here,
NOTE Confidence: 0.933484831666667

00:57:53.710 --> 00:57:55.550 but hopefully my my my real hope for
NOTE Confidence: 0.933484831666667

00:57:55.550 --> 00:57:57.390 this sort of talk is to give you kind
NOTE Confidence: 0.933484831666667

00:57:57.390 --> 00:57:59.310 of a sense of the excitement in the
NOTE Confidence: 0.933484831666667

00:57:59.310 --> 00:58:01.158 field about how much things are changing,
NOTE Confidence: 0.933484831666667

00:58:01.158 --> 00:58:01.980 how much things,

NOTE Confidence: 0.933484831666667
00:58:01.980 --> 00:58:03.588 how many things are being studied,
NOTE Confidence: 0.933484831666667
00:58:03.590 --> 00:58:06.040 and how I think the future is
NOTE Confidence: 0.933484831666667
00:58:06.040 --> 00:58:08.190 very bright for this disease.
NOTE Confidence: 0.933484831666667
00:58:08.190 --> 00:58:10.066 So I think before we get started,
NOTE Confidence: 0.933484831666667
00:58:10.070 --> 00:58:11.729 it's helpful to take a step back
NOTE Confidence: 0.933484831666667
00:58:11.729 --> 00:58:13.529 and I always think to sort of
NOTE Confidence: 0.933484831666667
00:58:13.529 --> 00:58:15.077 know where you're going you have
NOTE Confidence: 0.933484831666667
00:58:15.134 --> 00:58:16.681 to sort of know where you came
NOTE Confidence: 0.933484831666667
00:58:16.681 --> 00:58:18.430 from and so to take a step back.
NOTE Confidence: 0.933484831666667
00:58:18.430 --> 00:58:22.189 Not that long ago. 20 years ago.
NOTE Confidence: 0.933484831666667
00:58:22.190 --> 00:58:25.208 To look at what kidney cancer
NOTE Confidence: 0.933484831666667
00:58:25.208 --> 00:58:27.220 treatment was like that.
NOTE Confidence: 0.933484831666667
00:58:27.220 --> 00:58:29.040 Like this?
NOTE Confidence: 0.933484831666667
00:58:29.040 --> 00:58:29.970 Sorry about that.
NOTE Confidence: 0.868118583
00:58:37.070 --> 00:58:38.596 Are you able to see the screen
NOTE Confidence: 0.868118583

00:58:38.596 --> 00:58:40.380 out right now? Yeah, perfect.
NOTE Confidence: 0.86352612

00:58:44.670 --> 00:58:47.220 I apologize, computed,
NOTE Confidence: 0.86352612

00:58:47.220 --> 00:58:49.838 decided a bad time to freeze so
NOTE Confidence: 0.86352612

00:58:49.840 --> 00:58:51.690 try one more time to restart this.
NOTE Confidence: 0.25288135

00:58:56.350 --> 00:58:57.240 My apologies.
NOTE Confidence: 0.79548671

00:59:06.450 --> 00:59:07.488 How about now?
NOTE Confidence: 0.79548671

00:59:07.490 --> 00:59:09.002 Perfect, it's perfect, OK?
NOTE Confidence: 0.79548671

00:59:09.002 --> 00:59:10.346 Third times the charm.
NOTE Confidence: 0.79548671

00:59:10.350 --> 00:59:12.055 Thank you everyone sticking with me,
NOTE Confidence: 0.79548671

00:59:12.055 --> 00:59:13.694 so I'm saying I think it's really
NOTE Confidence: 0.79548671

00:59:13.694 --> 00:59:14.550 helpful to look historically.
NOTE Confidence: 0.79548671

00:59:14.550 --> 00:59:17.329 But what kidney cancer treatment was like?
NOTE Confidence: 0.79548671

00:59:17.330 --> 00:59:19.370 You know, just 20 years ago,
NOTE Confidence: 0.79548671

00:59:19.370 --> 00:59:21.413 and so if we look at the historical data
NOTE Confidence: 0.79548671

00:59:21.413 --> 00:59:23.469 and this is largely patients treated with
NOTE Confidence: 0.79548671

00:59:23.469 --> 00:59:25.585 as doctor her which was saying things

NOTE Confidence: 0.79548671

00:59:25.585 --> 00:59:27.650 like interferon and high dose I'll two.

NOTE Confidence: 0.79548671

00:59:27.650 --> 00:59:29.386 And again we show a survival curve.

NOTE Confidence: 0.79548671

00:59:29.390 --> 00:59:30.820 This is something that doctor

NOTE Confidence: 0.79548671

00:59:30.820 --> 00:59:31.964 Kenny showed which is.

NOTE Confidence: 0.79548671

00:59:31.970 --> 00:59:33.038 Shown over time,

NOTE Confidence: 0.79548671

00:59:33.038 --> 00:59:35.174 the number of patients that are

NOTE Confidence: 0.79548671

00:59:35.174 --> 00:59:37.130 surviving at one year or 12 months,

NOTE Confidence: 0.79548671

00:59:37.130 --> 00:59:38.518 two years, three years,

NOTE Confidence: 0.79548671

00:59:38.518 --> 00:59:40.253 four years or five years,

NOTE Confidence: 0.79548671

00:59:40.260 --> 00:59:40.874 and unfortunately,

NOTE Confidence: 0.79548671

00:59:40.874 --> 00:59:43.023 20 years ago we saw this curve

NOTE Confidence: 0.79548671

00:59:43.023 --> 00:59:44.723 drop down quickly and so that we

NOTE Confidence: 0.79548671

00:59:44.723 --> 00:59:46.692 if we go to that five year mark

NOTE Confidence: 0.79548671

00:59:46.692 --> 00:59:48.598 that 60 month Mark we see you as

NOTE Confidence: 0.79548671

00:59:48.598 --> 00:59:49.886 in the single digits in terms of

NOTE Confidence: 0.79548671

00:59:49.886 --> 00:59:51.443 the number of patients who are
NOTE Confidence: 0.79548671

00:59:51.443 --> 00:59:52.507 actually surviving that long.
NOTE Confidence: 0.79548671

00:59:52.510 --> 00:59:54.278 With advanced kidney cancers,
NOTE Confidence: 0.79548671

00:59:54.278 --> 00:59:56.488 probably around 5 to 10%.
NOTE Confidence: 0.79548671

00:59:56.490 --> 00:59:57.636 Now if we contrast that with
NOTE Confidence: 0.79548671

00:59:57.636 --> 00:59:58.850 some of the modern therapies,
NOTE Confidence: 0.79548671

00:59:58.850 --> 01:00:00.152 we have the the ones that
NOTE Confidence: 0.79548671

01:00:00.152 --> 01:00:00.803 doctor Hurwitz mentioned,
NOTE Confidence: 0.79548671

01:00:00.810 --> 01:00:02.845 like Epilim AB and volume
NOTE Confidence: 0.79548671

01:00:02.845 --> 01:00:04.473 of these immuno therapies.
NOTE Confidence: 0.79548671

01:00:04.480 --> 01:00:05.956 We're starting to have longer follow-up,
NOTE Confidence: 0.79548671

01:00:05.960 --> 01:00:07.952 so five year follow-up of of
NOTE Confidence: 0.79548671

01:00:07.952 --> 01:00:09.280 those two drugs together.
NOTE Confidence: 0.79548671

01:00:09.280 --> 01:00:11.336 Some of you call that Nebo and hippie,
NOTE Confidence: 0.79548671

01:00:11.340 --> 01:00:13.350 and we see a dramatic improvement.
NOTE Confidence: 0.79548671

01:00:13.350 --> 01:00:14.670 Now, 40%,

NOTE Confidence: 0.79548671
01:00:14.670 --> 01:00:17.970 nearly half of people with
NOTE Confidence: 0.79548671
01:00:17.970 --> 01:00:19.620 advanced kidney cancer are alive.
NOTE Confidence: 0.79548671
01:00:19.620 --> 01:00:20.910 Five years later.
NOTE Confidence: 0.79548671
01:00:20.910 --> 01:00:23.060 This is an incredible improvement,
NOTE Confidence: 0.79548671
01:00:23.060 --> 01:00:23.600 but also,
NOTE Confidence: 0.79548671
01:00:23.600 --> 01:00:25.760 I think shows the road that we still
NOTE Confidence: 0.79548671
01:00:25.819 --> 01:00:27.748 need to take in the the sort of
NOTE Confidence: 0.79548671
01:00:27.748 --> 01:00:29.829 mountain we over we need to overcome.
NOTE Confidence: 0.79548671
01:00:29.830 --> 01:00:31.954 48 percent is incredibly
NOTE Confidence: 0.79548671
01:00:31.954 --> 01:00:34.609 different from 5 or 7%.
NOTE Confidence: 0.79548671
01:00:34.610 --> 01:00:37.389 But it's not 50%, it's not 70%.
NOTE Confidence: 0.79548671
01:00:37.390 --> 01:00:38.146 It's not 90%,
NOTE Confidence: 0.79548671
01:00:38.146 --> 01:00:40.570 and it's just we sell a huge way to go.
NOTE Confidence: 0.79548671
01:00:40.570 --> 01:00:42.450 And that's where really fundamental
NOTE Confidence: 0.79548671
01:00:42.450 --> 01:00:44.950 research into the disease comes into play.
NOTE Confidence: 0.79548671

01:00:44.950 --> 01:00:46.630 And so out of all of the
NOTE Confidence: 0.79548671

01:00:46.630 --> 01:00:47.910 potential areas of research,
NOTE Confidence: 0.79548671

01:00:47.910 --> 01:00:49.000 there's a couple that I
NOTE Confidence: 0.79548671

01:00:49.000 --> 01:00:50.090 really want to focus on,
NOTE Confidence: 0.79548671

01:00:50.090 --> 01:00:51.692 and these are some of the what I think
NOTE Confidence: 0.79548671

01:00:51.692 --> 01:00:53.227 of as this of critical questions.
NOTE Confidence: 0.79548671

01:00:53.230 --> 01:00:55.785 The big open questions in kidney cancer.
NOTE Confidence: 0.79548671

01:00:55.790 --> 01:00:57.206 One of them was actually brought
NOTE Confidence: 0.79548671

01:00:57.206 --> 01:00:58.150 up in the chat,
NOTE Confidence: 0.79548671

01:00:58.150 --> 01:00:59.650 which is a great segue.
NOTE Confidence: 0.79548671

01:00:59.650 --> 01:01:00.954 One is how do we select the right
NOTE Confidence: 0.79548671

01:01:00.954 --> 01:01:02.069 drug for the right patients?
NOTE Confidence: 0.79548671

01:01:02.070 --> 01:01:04.986 We know one drug might not work for everyone.
NOTE Confidence: 0.79548671

01:01:04.990 --> 01:01:05.806 This drug might drug.
NOTE Confidence: 0.79548671

01:01:05.806 --> 01:01:07.510 He might work for a group of people.
NOTE Confidence: 0.79548671

01:01:07.510 --> 01:01:09.134 Drug B might work for a different

NOTE Confidence: 0.79548671
01:01:09.134 --> 01:01:09.830 group of people.
NOTE Confidence: 0.79548671
01:01:09.830 --> 01:01:11.090 So how do we select that right
NOTE Confidence: 0.79548671
01:01:11.090 --> 01:01:12.269 drug for the right patient?
NOTE Confidence: 0.79548671
01:01:12.270 --> 01:01:14.088 Another word for that as biomarker,
NOTE Confidence: 0.79548671
01:01:14.090 --> 01:01:15.700 a test we can do.
NOTE Confidence: 0.79548671
01:01:15.700 --> 01:01:18.759 To try to select the right therapy.
NOTE Confidence: 0.79548671
01:01:18.760 --> 01:01:20.648 The second is how do we increase that
NOTE Confidence: 0.79548671
01:01:20.648 --> 01:01:22.827 number of patients with long term survival?
NOTE Confidence: 0.79548671
01:01:22.830 --> 01:01:24.440 I showed what I called the tale
NOTE Confidence: 0.79548671
01:01:24.440 --> 01:01:26.340 of the curve that was sort of
NOTE Confidence: 0.79548671
01:01:26.340 --> 01:01:27.780 flattening out overtime where you
NOTE Confidence: 0.79548671
01:01:27.780 --> 01:01:29.378 know nearly half of patients.
NOTE Confidence: 0.79548671
01:01:29.380 --> 01:01:32.036 48% of patients were alive five years later,
NOTE Confidence: 0.79548671
01:01:32.040 --> 01:01:34.120 but 48% is not 70%.
NOTE Confidence: 0.79548671
01:01:34.120 --> 01:01:35.440 So how can we continue to
NOTE Confidence: 0.79548671

01:01:35.440 --> 01:01:36.100 increase that number?
NOTE Confidence: 0.801326754666666

01:01:36.100 --> 01:01:37.882 And I would argue that understanding
NOTE Confidence: 0.801326754666666

01:01:37.882 --> 01:01:40.051 as as doctor Hertz was talking about
NOTE Confidence: 0.801326754666666

01:01:40.051 --> 01:01:41.899 how the immune biology of kidney
NOTE Confidence: 0.801326754666666

01:01:41.899 --> 01:01:43.641 cancer works and understanding other
NOTE Confidence: 0.801326754666666

01:01:43.641 --> 01:01:45.711 elements of biology to develop new
NOTE Confidence: 0.801326754666666

01:01:45.720 --> 01:01:47.136 therapies is going to be critical.
NOTE Confidence: 0.871131916

01:01:49.220 --> 01:01:52.334 As Doctor Hurwitz mentioned, getting anti PD,
NOTE Confidence: 0.871131916

01:01:52.334 --> 01:01:54.203 one therapy or immune based therapy is
NOTE Confidence: 0.871131916

01:01:54.203 --> 01:01:56.356 not really a standard in kidney cancer.
NOTE Confidence: 0.871131916

01:01:56.360 --> 01:01:58.824 Most patients with advanced clear cell kidney
NOTE Confidence: 0.871131916

01:01:58.824 --> 01:02:01.239 cancer would receive this but unfortunately
NOTE Confidence: 0.871131916

01:02:01.239 --> 01:02:02.975 many patients ultimately progress.
NOTE Confidence: 0.871131916

01:02:02.980 --> 01:02:04.834 I'll the the therapy stops working
NOTE Confidence: 0.871131916

01:02:04.834 --> 01:02:07.168 after a certain amount of time and so
NOTE Confidence: 0.871131916

01:02:07.168 --> 01:02:09.058 another huge challenge is what do we

NOTE Confidence: 0.871131916

01:02:09.058 --> 01:02:10.955 do next after we've we've used that

NOTE Confidence: 0.871131916

01:02:10.955 --> 01:02:12.032 that really potent medicine.

NOTE Confidence: 0.871131916

01:02:12.032 --> 01:02:13.362 What are other options that

NOTE Confidence: 0.871131916

01:02:13.362 --> 01:02:14.738 we might be able to do?

NOTE Confidence: 0.871131916

01:02:14.740 --> 01:02:16.024 And this is where thinking about

NOTE Confidence: 0.871131916

01:02:16.024 --> 01:02:17.496 new types of treatment and really

NOTE Confidence: 0.871131916

01:02:17.496 --> 01:02:18.360 understanding the disease.

NOTE Confidence: 0.871131916

01:02:18.360 --> 01:02:19.740 Biology is important.

NOTE Confidence: 0.871131916

01:02:19.740 --> 01:02:20.660 And lastly,

NOTE Confidence: 0.871131916

01:02:20.660 --> 01:02:23.040 I'll talk just very briefly about variant

NOTE Confidence: 0.871131916

01:02:23.040 --> 01:02:24.758 histologies or what's historically known

NOTE Confidence: 0.871131916

01:02:24.758 --> 01:02:27.310 as sort of non clear cell kidney cancer.

NOTE Confidence: 0.871131916

01:02:27.310 --> 01:02:29.011 I would think it's never good to be just

NOTE Confidence: 0.871131916

01:02:29.011 --> 01:02:30.390 defined by something that you're not,

NOTE Confidence: 0.871131916

01:02:30.390 --> 01:02:32.035 so this is the bucket of diseases

NOTE Confidence: 0.871131916

01:02:32.035 --> 01:02:33.480 that doctor Kenny was mentioning,
NOTE Confidence: 0.871131916

01:02:33.480 --> 01:02:35.640 which are individually uncommon,
NOTE Confidence: 0.871131916

01:02:35.640 --> 01:02:38.880 but in aggregate make up about
NOTE Confidence: 0.871131916

01:02:38.880 --> 01:02:41.028 25% of all renal cell carcinomas.
NOTE Confidence: 0.871131916

01:02:41.030 --> 01:02:43.700 And honestly we extrapolate a lot.
NOTE Confidence: 0.871131916

01:02:43.700 --> 01:02:45.429 We don't know how to treat individual
NOTE Confidence: 0.871131916

01:02:45.429 --> 01:02:47.216 ones nearly as well as we do clears.
NOTE Confidence: 0.871131916

01:02:47.220 --> 01:02:47.458 Also,
NOTE Confidence: 0.871131916

01:02:47.458 --> 01:02:49.830 we borrow a lot of the same drugs and so.
NOTE Confidence: 0.871131916

01:02:49.830 --> 01:02:51.926 How can we do a better job of
NOTE Confidence: 0.871131916

01:02:51.926 --> 01:02:53.590 treating those specific diseases?
NOTE Confidence: 0.871131916

01:02:53.590 --> 01:02:55.309 So we'll tackle these one at a time and
NOTE Confidence: 0.871131916

01:02:55.309 --> 01:02:57.157 it's gonna be a little bit of a worldwind.
NOTE Confidence: 0.871131916

01:02:57.160 --> 01:02:57.532 'cause again,
NOTE Confidence: 0.871131916

01:02:57.532 --> 01:02:59.465 I just want to give a sort of a hint
NOTE Confidence: 0.871131916

01:02:59.465 --> 01:03:00.858 of flavor of kind of the research

NOTE Confidence: 0.871131916

01:03:00.858 --> 01:03:02.611 going on so one is how do we select

NOTE Confidence: 0.871131916

01:03:02.611 --> 01:03:04.369 the right drug for the right patient?

NOTE Confidence: 0.871131916

01:03:04.370 --> 01:03:05.959 How do we develop biomarkers and the

NOTE Confidence: 0.871131916

01:03:05.959 --> 01:03:07.489 true answer is for kidney cancer.

NOTE Confidence: 0.871131916

01:03:07.490 --> 01:03:09.226 This has not been nearly as successful.

NOTE Confidence: 0.871131916

01:03:09.230 --> 01:03:11.176 If you think of things like advanced

NOTE Confidence: 0.871131916

01:03:11.176 --> 01:03:12.688 lung cancer, they have to have a much,

NOTE Confidence: 0.871131916

01:03:12.690 --> 01:03:15.336 much more success in picking up DNA

NOTE Confidence: 0.871131916

01:03:15.336 --> 01:03:17.484 changes or mutations that might serve

NOTE Confidence: 0.871131916

01:03:17.484 --> 01:03:19.758 as a marker for responsiveness to drugs.

NOTE Confidence: 0.871131916

01:03:19.758 --> 01:03:22.649 This is true of other tumor types as well.

NOTE Confidence: 0.871131916

01:03:22.650 --> 01:03:24.228 Kidney cancer has not been there.

NOTE Confidence: 0.871131916

01:03:24.230 --> 01:03:24.415 That,

NOTE Confidence: 0.871131916

01:03:24.415 --> 01:03:25.895 but my hope is that with a lot

NOTE Confidence: 0.871131916

01:03:25.895 --> 01:03:27.616 of the new tools that are coming

NOTE Confidence: 0.871131916

01:03:27.616 --> 01:03:28.604 out in the laboratory,
NOTE Confidence: 0.871131916

01:03:28.610 --> 01:03:30.255 that might ultimately translate into
NOTE Confidence: 0.871131916

01:03:30.255 --> 01:03:32.550 tools we can use to develop biomarkers
NOTE Confidence: 0.871131916

01:03:32.550 --> 01:03:35.465 and select and so I have a what I think
NOTE Confidence: 0.871131916

01:03:35.465 --> 01:03:37.481 is a little bit of a silly cartoon,
NOTE Confidence: 0.871131916

01:03:37.490 --> 01:03:38.690 but hopefully start hammers home.
NOTE Confidence: 0.871131916

01:03:38.690 --> 01:03:41.084 Why this is a really difficult problem.
NOTE Confidence: 0.871131916

01:03:41.090 --> 01:03:43.250 So we have two patients.
NOTE Confidence: 0.871131916

01:03:43.250 --> 01:03:45.626 One of them has a tumor that responds
NOTE Confidence: 0.871131916

01:03:45.626 --> 01:03:47.869 really well to therapy that's in blue.
NOTE Confidence: 0.871131916

01:03:47.870 --> 01:03:50.286 One has a tumor that in Portuguese resisted
NOTE Confidence: 0.871131916

01:03:50.286 --> 01:03:52.080 the therapy, and when we want to study it,
NOTE Confidence: 0.871131916

01:03:52.080 --> 01:03:53.600 to try to come up with a biomarker
NOTE Confidence: 0.871131916

01:03:53.600 --> 01:03:54.678 to try to figure out.
NOTE Confidence: 0.871131916

01:03:54.680 --> 01:03:55.776 What's going on now?
NOTE Confidence: 0.871131916

01:03:55.776 --> 01:03:57.920 If we look at the tumor itself,

NOTE Confidence: 0.871131916

01:03:57.920 --> 01:04:00.233 we think as a tumor is just one thing.

NOTE Confidence: 0.871131916

01:04:00.240 --> 01:04:00.878 It's not.

NOTE Confidence: 0.871131916

01:04:00.878 --> 01:04:03.111 It's actually a collection of many different

NOTE Confidence: 0.871131916

01:04:03.111 --> 01:04:05.295 types of cells within that tumor itself.

NOTE Confidence: 0.871131916

01:04:05.300 --> 01:04:07.625 Within that mass that we've

NOTE Confidence: 0.871131916

01:04:07.625 --> 01:04:10.480 seen as tumor cells minus else,

NOTE Confidence: 0.871131916

01:04:10.480 --> 01:04:11.860 other supportive cells,

NOTE Confidence: 0.871131916

01:04:11.860 --> 01:04:12.780 blood vessels.

NOTE Confidence: 0.871131916

01:04:12.780 --> 01:04:14.682 And there's a lot of heterogeneity

NOTE Confidence: 0.871131916

01:04:14.682 --> 01:04:15.633 differences between them.

NOTE Confidence: 0.941778891666667

01:04:15.640 --> 01:04:16.762 But what do we typically do

NOTE Confidence: 0.941778891666667

01:04:16.762 --> 01:04:18.040 when we want to study that?

NOTE Confidence: 0.941778891666667

01:04:18.040 --> 01:04:19.540 Even with things like sequencing,

NOTE Confidence: 0.941778891666667

01:04:19.540 --> 01:04:22.432 we put that all in a blender and what comes

NOTE Confidence: 0.941778891666667

01:04:22.432 --> 01:04:24.120 out on the other side looks like this.

NOTE Confidence: 0.941778891666667

01:04:24.120 --> 01:04:25.002 It's all looks.
NOTE Confidence: 0.941778891666667

01:04:25.002 --> 01:04:27.060 Pretty much the same when you blend
NOTE Confidence: 0.941778891666667

01:04:27.126 --> 01:04:29.158 it together and then we try to look
NOTE Confidence: 0.941778891666667

01:04:29.158 --> 01:04:31.251 back and squint and say why did one
NOTE Confidence: 0.941778891666667

01:04:31.251 --> 01:04:33.128 drug work for one patient and one
NOTE Confidence: 0.941778891666667

01:04:33.128 --> 01:04:34.844 drug not work for another patient,
NOTE Confidence: 0.941778891666667

01:04:34.850 --> 01:04:37.338 when in actuality we're really having a hard
NOTE Confidence: 0.941778891666667

01:04:37.338 --> 01:04:39.670 time after we blend everything together,
NOTE Confidence: 0.941778891666667

01:04:39.670 --> 01:04:42.326 picking out the individual cells in a tumor?
NOTE Confidence: 0.941778891666667

01:04:42.330 --> 01:04:44.154 The Kiwi that might be responsible
NOTE Confidence: 0.941778891666667

01:04:44.154 --> 01:04:45.370 for a drug working,
NOTE Confidence: 0.941778891666667

01:04:45.370 --> 01:04:46.732 or the strawberry that might be
NOTE Confidence: 0.941778891666667

01:04:46.732 --> 01:04:48.010 responsible for drug not working.
NOTE Confidence: 0.941778891666667

01:04:48.010 --> 01:04:49.445 And so this is a silly example,
NOTE Confidence: 0.941778891666667

01:04:49.450 --> 01:04:51.097 but kind of gets to the hint that the
NOTE Confidence: 0.941778891666667

01:04:51.097 --> 01:04:52.942 the idea that we really have to look at

NOTE Confidence: 0.941778891666667
01:04:52.942 --> 01:04:54.402 the cells individually and so there's
NOTE Confidence: 0.941778891666667
01:04:54.402 --> 01:04:57.022 now new tools that enable us to do that and.
NOTE Confidence: 0.941778891666667
01:04:57.022 --> 01:05:00.076 So we began to do that in various domains,
NOTE Confidence: 0.941778891666667
01:05:00.080 --> 01:05:02.870 and so we've we've started to do that and
NOTE Confidence: 0.941778891666667
01:05:02.870 --> 01:05:05.500 not the problem of this drug work or not.
NOTE Confidence: 0.941778891666667
01:05:05.500 --> 01:05:07.565 But how does a kidney cancer progress,
NOTE Confidence: 0.941778891666667
01:05:07.570 --> 01:05:09.415 and so the way we did that was to
NOTE Confidence: 0.941778891666667
01:05:09.415 --> 01:05:11.330 take patients and their tumors who
NOTE Confidence: 0.941778891666667
01:05:11.330 --> 01:05:12.980 had either early stage disease.
NOTE Confidence: 0.941778891666667
01:05:12.980 --> 01:05:15.052 As Doctor Kenny mentioned things that were
NOTE Confidence: 0.941778891666667
01:05:15.052 --> 01:05:16.920 really confined to the kidney locally.
NOTE Confidence: 0.941778891666667
01:05:16.920 --> 01:05:19.020 To answer that just began to spread,
NOTE Confidence: 0.941778891666667
01:05:19.020 --> 01:05:20.917 or patients who had tumors that were
NOTE Confidence: 0.941778891666667
01:05:20.917 --> 01:05:22.644 more advanced that really had spread
NOTE Confidence: 0.941778891666667
01:05:22.644 --> 01:05:24.354 to distant sites or or metastatic.
NOTE Confidence: 0.941778891666667

01:05:24.360 --> 01:05:25.830 And we actually broke those
NOTE Confidence: 0.941778891666667

01:05:25.830 --> 01:05:27.006 tumors down into individual.
NOTE Confidence: 0.941778891666667

01:05:27.010 --> 01:05:29.512 Cells and sequence 1 cell at a time and
NOTE Confidence: 0.941778891666667

01:05:29.512 --> 01:05:32.148 that's what this sort of cloud of dots shows.
NOTE Confidence: 0.941778891666667

01:05:32.150 --> 01:05:34.481 Each of these individual dots is actually
NOTE Confidence: 0.941778891666667

01:05:34.481 --> 01:05:36.629 one individual cell from a kidney tumor,
NOTE Confidence: 0.941778891666667

01:05:36.630 --> 01:05:38.576 and we can use that information to
NOTE Confidence: 0.941778891666667

01:05:38.576 --> 01:05:40.902 try to say what is actually there.
NOTE Confidence: 0.941778891666667

01:05:40.902 --> 01:05:42.767 What's different between an advanced
NOTE Confidence: 0.941778891666667

01:05:42.767 --> 01:05:44.378 kidney cancer versus an early
NOTE Confidence: 0.941778891666667

01:05:44.378 --> 01:05:46.148 cancer as it starts to spread?
NOTE Confidence: 0.941778891666667

01:05:46.150 --> 01:05:47.878 And how are the the communications
NOTE Confidence: 0.941778891666667

01:05:47.878 --> 01:05:49.370 that Doctor Hurwitz talked about?
NOTE Confidence: 0.941778891666667

01:05:49.370 --> 01:05:51.395 The how do the cells talk to each other?
NOTE Confidence: 0.941778891666667

01:05:51.400 --> 01:05:53.758 How does that differ between more
NOTE Confidence: 0.941778891666667

01:05:53.758 --> 01:05:56.250 advanced cancer in earlier stage cancer?

NOTE Confidence: 0.941778891666667
01:05:56.250 --> 01:05:58.266 That's what we've we've been working on.
NOTE Confidence: 0.941778891666667
01:05:58.270 --> 01:05:59.812 Now we're we're really working on
NOTE Confidence: 0.941778891666667
01:05:59.812 --> 01:06:01.278 the next step, which is to say,
NOTE Confidence: 0.941778891666667
01:06:01.278 --> 01:06:01.450 OK,
NOTE Confidence: 0.941778891666667
01:06:01.450 --> 01:06:03.431 can we use these newer and advanced
NOTE Confidence: 0.941778891666667
01:06:03.431 --> 01:06:05.843 tools to begin to ask those questions of
NOTE Confidence: 0.941778891666667
01:06:05.843 --> 01:06:08.030 why certain drugs work that they don't?
NOTE Confidence: 0.941778891666667
01:06:08.030 --> 01:06:09.074 What are the?
NOTE Confidence: 0.941778891666667
01:06:09.074 --> 01:06:10.466 What's the underlying biology?
NOTE Confidence: 0.941778891666667
01:06:10.470 --> 01:06:11.570 What's changing in the way?
NOTE Confidence: 0.941778891666667
01:06:11.570 --> 01:06:13.738 Cells talk to each other between a tumor
NOTE Confidence: 0.941778891666667
01:06:13.738 --> 01:06:15.789 that responds really well to immunotherapy,
NOTE Confidence: 0.941778891666667
01:06:15.790 --> 01:06:18.028 and one that unfortunately seems resistant.
NOTE Confidence: 0.941778891666667
01:06:18.030 --> 01:06:19.854 And that's work that our collaborative
NOTE Confidence: 0.941778891666667
01:06:19.854 --> 01:06:21.906 group with Doctor Hurwitz and and Doctor
NOTE Confidence: 0.941778891666667

01:06:21.906 --> 01:06:23.733 Ken and everyone is working on together.

NOTE Confidence: 0.9389272

01:06:25.760 --> 01:06:27.044 A second big open question

NOTE Confidence: 0.9389272

01:06:27.044 --> 01:06:28.700 is how do we do better?

NOTE Confidence: 0.9389272

01:06:28.700 --> 01:06:30.442 How do we get that 48% of

NOTE Confidence: 0.9389272

01:06:30.442 --> 01:06:32.308 patients who might be having a

NOTE Confidence: 0.9389272

01:06:32.308 --> 01:06:33.998 survival out of five years to

NOTE Confidence: 0.9389272

01:06:34.000 --> 01:06:36.418 70% to 80% higher and higher?

NOTE Confidence: 0.9389272

01:06:36.420 --> 01:06:38.148 And I think again the the

NOTE Confidence: 0.9389272

01:06:38.148 --> 01:06:39.300 key is really understanding

NOTE Confidence: 0.9389272

01:06:39.364 --> 01:06:40.889 the biology with the scenes.

NOTE Confidence: 0.7726474222222222

01:06:42.960 --> 01:06:44.850 The the steps that need to happen

NOTE Confidence: 0.7726474222222222

01:06:44.850 --> 01:06:46.864 for the immune system to actually

NOTE Confidence: 0.7726474222222222

01:06:46.864 --> 01:06:48.764 work and recognize eliminate tumor.

NOTE Confidence: 0.7726474222222222

01:06:48.770 --> 01:06:50.030 I think Doctor Howard did a

NOTE Confidence: 0.7726474222222222

01:06:50.030 --> 01:06:51.110 really good job outlining that,

NOTE Confidence: 0.7726474222222222

01:06:51.110 --> 01:06:53.228 but it's a really complicated process

NOTE Confidence: 0.7726474222222222

01:06:53.228 --> 01:06:55.496 that the cancer has to actually

NOTE Confidence: 0.7726474222222222

01:06:55.496 --> 01:06:57.476 release targets that the immune

NOTE Confidence: 0.7726474222222222

01:06:57.476 --> 01:06:59.424 system can recognize that the immune

NOTE Confidence: 0.7726474222222222

01:06:59.424 --> 01:07:01.200 system has to pick it up has to

NOTE Confidence: 0.7726474222222222

01:07:01.257 --> 01:07:03.241 take it and deliver it to the right

NOTE Confidence: 0.7726474222222222

01:07:03.241 --> 01:07:04.910 cell that's able to recognize it,

NOTE Confidence: 0.7726474222222222

01:07:04.910 --> 01:07:06.692 but that immune cell has to

NOTE Confidence: 0.7726474222222222

01:07:06.692 --> 01:07:08.578 then recognize it, turn on,

NOTE Confidence: 0.7726474222222222

01:07:08.578 --> 01:07:10.563 travel back to the tumor,

NOTE Confidence: 0.7726474222222222

01:07:10.570 --> 01:07:11.930 actually get into the tumor,

NOTE Confidence: 0.7726474222222222

01:07:11.930 --> 01:07:13.274 and actually be able to attack him.

NOTE Confidence: 0.7726474222222222

01:07:13.280 --> 01:07:13.943 Go to ourselves.

NOTE Confidence: 0.7726474222222222

01:07:13.943 --> 01:07:15.490 There's a lot of things that have

NOTE Confidence: 0.7726474222222222

01:07:15.538 --> 01:07:17.482 to go right and we really have to

NOTE Confidence: 0.7726474222222222

01:07:17.482 --> 01:07:18.814 critically understand what are all the

NOTE Confidence: 0.7726474222222222

01:07:18.814 --> 01:07:21.010 things that need to go right in order
NOTE Confidence: 0.7726474222222222

01:07:21.010 --> 01:07:23.510 to effectively design immune therapies.
NOTE Confidence: 0.7726474222222222

01:07:23.510 --> 01:07:25.138 As Doctor Hurwitz mentioned.
NOTE Confidence: 0.7726474222222222

01:07:25.138 --> 01:07:27.580 These cells talk to each other
NOTE Confidence: 0.7726474222222222

01:07:27.654 --> 01:07:29.850 and he mentioned he showed one
NOTE Confidence: 0.7726474222222222

01:07:29.850 --> 01:07:31.660 really good example of EGF.
NOTE Confidence: 0.7726474222222222

01:07:31.660 --> 01:07:33.220 I'm showing here probably 20
NOTE Confidence: 0.7726474222222222

01:07:33.220 --> 01:07:35.695 examples of waste cells of the in the
NOTE Confidence: 0.7726474222222222

01:07:35.695 --> 01:07:37.399 tumor actually talk to each other,
NOTE Confidence: 0.7726474222222222

01:07:37.400 --> 01:07:38.216 and if you can believe it,
NOTE Confidence: 0.7726474222222222

01:07:38.220 --> 01:07:40.537 this is actually a really simplified diagram,
NOTE Confidence: 0.7726474222222222

01:07:40.540 --> 01:07:42.476 and so what's going on is a lot
NOTE Confidence: 0.7726474222222222

01:07:42.476 --> 01:07:44.680 of lot of complicated cross stop,
NOTE Confidence: 0.7726474222222222

01:07:44.680 --> 01:07:46.864 and this is what's going to be
NOTE Confidence: 0.7726474222222222

01:07:46.864 --> 01:07:48.282 critical to understand how cells
NOTE Confidence: 0.7726474222222222

01:07:48.282 --> 01:07:50.210 talk to each other and when a tumor

NOTE Confidence: 0.772647422222222

01:07:50.265 --> 01:07:51.980 responds really well to therapy,

NOTE Confidence: 0.772647422222222

01:07:51.980 --> 01:07:53.420 what are those connections?

NOTE Confidence: 0.772647422222222

01:07:53.420 --> 01:07:55.910 Or what conversations are happening and when?

NOTE Confidence: 0.772647422222222

01:07:55.910 --> 01:07:57.710 Appropriate therapy doesn't work.

NOTE Confidence: 0.772647422222222

01:07:57.710 --> 01:07:59.960 What are the different conversations

NOTE Confidence: 0.772647422222222

01:07:59.960 --> 01:08:01.678 that happen in that case?

NOTE Confidence: 0.772647422222222

01:08:01.680 --> 01:08:03.094 The other area that we go on,

NOTE Confidence: 0.772647422222222

01:08:03.100 --> 01:08:04.852 we've talked about a lot about

NOTE Confidence: 0.772647422222222

01:08:04.852 --> 01:08:06.634 Immunomodulation, which is, you know,

NOTE Confidence: 0.772647422222222

01:08:06.634 --> 01:08:08.860 either slamming on the gas pedal,

NOTE Confidence: 0.772647422222222

01:08:08.860 --> 01:08:10.164 things like Hydrocele 2,

NOTE Confidence: 0.772647422222222

01:08:10.164 --> 01:08:12.485 which really work to to turn on

NOTE Confidence: 0.772647422222222

01:08:12.485 --> 01:08:14.291 the immune system or taking away

NOTE Confidence: 0.772647422222222

01:08:14.291 --> 01:08:16.000 some of those checkpoints,

NOTE Confidence: 0.772647422222222

01:08:16.000 --> 01:08:17.062 immune checkpoint inhibition,

NOTE Confidence: 0.772647422222222

01:08:17.062 --> 01:08:19.186 which essentially serves to release or
NOTE Confidence: 0.7726474222222222

01:08:19.186 --> 01:08:21.219 cut the brakes and let them use some.
NOTE Confidence: 0.7726474222222222

01:08:21.220 --> 01:08:23.340 Let them use system go.
NOTE Confidence: 0.7726474222222222

01:08:23.340 --> 01:08:24.528 I think moving forward we want
NOTE Confidence: 0.7726474222222222

01:08:24.528 --> 01:08:26.313 to try to get a little bit more
NOTE Confidence: 0.7726474222222222

01:08:26.313 --> 01:08:27.723 specific in the way to potentially
NOTE Confidence: 0.7726474222222222

01:08:27.768 --> 01:08:29.344 do that is to add a steering wheel.
NOTE Confidence: 0.7726474222222222

01:08:29.350 --> 01:08:31.261 If we think of those older therapies
NOTE Confidence: 0.7726474222222222

01:08:31.261 --> 01:08:33.589 like I'll 2 is really the gas pedal
NOTE Confidence: 0.7726474222222222

01:08:33.589 --> 01:08:35.840 and newer therapies like no volume AB
NOTE Confidence: 0.7726474222222222

01:08:35.840 --> 01:08:38.060 and pembrolizumab as releasing the brakes.
NOTE Confidence: 0.7726474222222222

01:08:38.060 --> 01:08:38.717 The question is,
NOTE Confidence: 0.7726474222222222

01:08:38.717 --> 01:08:40.250 can we actually make the therapy more
NOTE Confidence: 0.7726474222222222

01:08:40.296 --> 01:08:41.760 precise and add that steering wheel?
NOTE Confidence: 0.7726474222222222

01:08:41.760 --> 01:08:43.544 There's lots of different ways to do that.
NOTE Confidence: 0.7726474222222222

01:08:43.550 --> 01:08:45.550 This had been trials here at Yale and

NOTE Confidence: 0.772647422222222

01:08:45.550 --> 01:08:46.942 elsewhere that have explored cancer

NOTE Confidence: 0.772647422222222

01:08:46.942 --> 01:08:48.895 vaccines that really try to steer the

NOTE Confidence: 0.772647422222222

01:08:48.950 --> 01:08:51.116 immune system specifically towards the tumor,

NOTE Confidence: 0.772647422222222

01:08:51.120 --> 01:08:53.824 but there's really a whole world of ways.

NOTE Confidence: 0.772647422222222

01:08:53.830 --> 01:08:56.266 To really target the tumor directly,

NOTE Confidence: 0.772647422222222

01:08:56.270 --> 01:08:58.952 the tumor, the thing in the tumor that they

NOTE Confidence: 0.772647422222222

01:08:58.952 --> 01:09:01.428 need to recognize is called an antigen,

NOTE Confidence: 0.772647422222222

01:09:01.430 --> 01:09:04.055 and so can we design antigen directed

NOTE Confidence: 0.772647422222222

01:09:04.055 --> 01:09:05.650 therapies, things like CAR T cells,

NOTE Confidence: 0.772647422222222

01:09:05.650 --> 01:09:08.387 which are a lot in the news,

NOTE Confidence: 0.772647422222222

01:09:08.390 --> 01:09:09.806 vaccines, other approaches,

NOTE Confidence: 0.772647422222222

01:09:09.806 --> 01:09:10.750 and afterwards.

NOTE Confidence: 0.772647422222222

01:09:10.750 --> 01:09:12.790 Actually a lot of experience working

NOTE Confidence: 0.772647422222222

01:09:12.790 --> 01:09:15.053 with these cell based therapies in

NOTE Confidence: 0.772647422222222

01:09:15.053 --> 01:09:17.172 many different contexts to try to

NOTE Confidence: 0.772647422222222

01:09:17.172 --> 01:09:19.160 figure out how we can get towards
NOTE Confidence: 0.877123096153846

01:09:19.233 --> 01:09:21.018 antigen directed therapies.
NOTE Confidence: 0.877123096153846

01:09:21.020 --> 01:09:23.396 So, next briefly, you know we,
NOTE Confidence: 0.877123096153846

01:09:23.400 --> 01:09:26.898 we hope that we start off in a patient who
NOTE Confidence: 0.877123096153846

01:09:26.898 --> 01:09:28.580 has metastatic disease with an anti PD,
NOTE Confidence: 0.877123096153846

01:09:28.580 --> 01:09:29.576 one based therapy.
NOTE Confidence: 0.877123096153846

01:09:29.576 --> 01:09:31.236 But unfortunately for many patients
NOTE Confidence: 0.877123096153846

01:09:31.236 --> 01:09:32.619 that ultimately stops working.
NOTE Confidence: 0.877123096153846

01:09:32.620 --> 01:09:34.475 So what can we do after that?
NOTE Confidence: 0.877123096153846

01:09:34.480 --> 01:09:36.292 And that's where I think really
NOTE Confidence: 0.877123096153846

01:09:36.292 --> 01:09:37.838 thinking about the biology of
NOTE Confidence: 0.877123096153846

01:09:37.838 --> 01:09:39.268 the tumor is really important.
NOTE Confidence: 0.877123096153846

01:09:39.270 --> 01:09:40.518 Doctor Hurwitz really outlined
NOTE Confidence: 0.877123096153846

01:09:40.518 --> 01:09:42.390 very nicely the types of therapy
NOTE Confidence: 0.877123096153846

01:09:42.447 --> 01:09:44.351 that we use and when we think about
NOTE Confidence: 0.877123096153846

01:09:44.351 --> 01:09:45.722 the systemic therapies that we

NOTE Confidence: 0.877123096153846
01:09:45.722 --> 01:09:47.408 use for clear cell kidney cancer,
NOTE Confidence: 0.877123096153846
01:09:47.410 --> 01:09:48.700 there really are certain pillars
NOTE Confidence: 0.877123096153846
01:09:48.700 --> 01:09:49.990 that Doctor Harris talked about.
NOTE Confidence: 0.877123096153846
01:09:49.990 --> 01:09:50.514 There's immunotherapy,
NOTE Confidence: 0.877123096153846
01:09:50.514 --> 01:09:52.086 which I would argue is really
NOTE Confidence: 0.877123096153846
01:09:52.086 --> 01:09:53.050 a strong backbone.
NOTE Confidence: 0.877123096153846
01:09:53.050 --> 01:09:55.460 Now there's those anti angiogenic,
NOTE Confidence: 0.877123096153846
01:09:55.460 --> 01:09:57.532 those those pills that help to block
NOTE Confidence: 0.877123096153846
01:09:57.532 --> 01:09:59.189 new blood vessels from forming,
NOTE Confidence: 0.877123096153846
01:09:59.190 --> 01:10:00.558 essentially helping to starve
NOTE Confidence: 0.877123096153846
01:10:00.558 --> 01:10:01.926 the tumor of food.
NOTE Confidence: 0.877123096153846
01:10:01.930 --> 01:10:04.666 But we really need a new a new pillar.
NOTE Confidence: 0.877123096153846
01:10:04.666 --> 01:10:06.150 We need a new target and that's
NOTE Confidence: 0.877123096153846
01:10:06.202 --> 01:10:07.987 really been lacking and the way that
NOTE Confidence: 0.877123096153846
01:10:07.987 --> 01:10:09.875 we're starting to get there is by
NOTE Confidence: 0.877123096153846

01:10:09.875 --> 01:10:11.489 understanding the biology of the disease.

NOTE Confidence: 0.877123096153846

01:10:11.490 --> 01:10:13.490 And this is going to be a slightly

NOTE Confidence: 0.877123096153846

01:10:13.490 --> 01:10:14.674 more complicated version than

NOTE Confidence: 0.877123096153846

01:10:14.674 --> 01:10:16.244 Doctor Hurwitz had really kindly

NOTE Confidence: 0.877123096153846

01:10:16.244 --> 01:10:17.829 pointed out really nicely pointed

NOTE Confidence: 0.877123096153846

01:10:17.829 --> 01:10:19.593 out about how cells sense oxygen,

NOTE Confidence: 0.877123096153846

01:10:19.600 --> 01:10:21.178 and I bring up this slightly

NOTE Confidence: 0.877123096153846

01:10:21.178 --> 01:10:21.967 more complicated version,

NOTE Confidence: 0.877123096153846

01:10:21.970 --> 01:10:23.867 and this is a a system that

NOTE Confidence: 0.877123096153846

01:10:23.867 --> 01:10:26.092 was worked out by a number of

NOTE Confidence: 0.877123096153846

01:10:26.092 --> 01:10:27.772 investigators and actually led to

NOTE Confidence: 0.877123096153846

01:10:27.772 --> 01:10:30.237 the Nobel Prize in medicine in 2019.

NOTE Confidence: 0.877123096153846

01:10:30.240 --> 01:10:32.300 Just because it is complicated.

NOTE Confidence: 0.877123096153846

01:10:32.300 --> 01:10:34.470 And that's why I think the fundamental

NOTE Confidence: 0.877123096153846

01:10:34.470 --> 01:10:36.958 research that the basic biology so important,

NOTE Confidence: 0.877123096153846

01:10:36.960 --> 01:10:38.224 because that's what ultimately

NOTE Confidence: 0.877123096153846
01:10:38.224 --> 01:10:39.804 leads to these new therapies.
NOTE Confidence: 0.877123096153846
01:10:39.810 --> 01:10:41.766 So as Doctor Hurwitz had mentioned.
NOTE Confidence: 0.877123096153846
01:10:41.770 --> 01:10:43.366 Under normal oxygen condition,
NOTE Confidence: 0.877123096153846
01:10:43.366 --> 01:10:46.390 so we have oxygen floating around normoxia,
NOTE Confidence: 0.877123096153846
01:10:46.390 --> 01:10:49.390 then VHL is active and it helps to
NOTE Confidence: 0.877123096153846
01:10:49.390 --> 01:10:51.610 basically breakdown thrown to the trash.
NOTE Confidence: 0.877123096153846
01:10:51.610 --> 01:10:53.578 Certain proteins like HIF two and
NOTE Confidence: 0.877123096153846
01:10:53.578 --> 01:10:56.459 HIP two ends up being really a key
NOTE Confidence: 0.877123096153846
01:10:56.459 --> 01:10:58.709 protein for clear cell kidney cancer.
NOTE Confidence: 0.877123096153846
01:10:58.710 --> 01:10:59.970 In normal parts of our body.
NOTE Confidence: 0.877123096153846
01:10:59.970 --> 01:11:02.196 If we don't have enough oxygen
NOTE Confidence: 0.877123096153846
01:11:02.196 --> 01:11:04.310 then the HL is not active,
NOTE Confidence: 0.877123096153846
01:11:04.310 --> 01:11:05.996 it's turned off as Doctor Hurwitz
NOTE Confidence: 0.877123096153846
01:11:05.996 --> 01:11:08.011 said this hip two is then it's
NOTE Confidence: 0.877123096153846
01:11:08.011 --> 01:11:09.667 not thrown in the trash anymore.
NOTE Confidence: 0.877123096153846

01:11:09.670 --> 01:11:11.362 It can go and do its job which is
NOTE Confidence: 0.877123096153846

01:11:11.362 --> 01:11:13.285 to make new blood vessels or empty.
NOTE Confidence: 0.877123096153846

01:11:13.290 --> 01:11:15.442 Angiogenesis helped the cells
NOTE Confidence: 0.877123096153846

01:11:15.442 --> 01:11:17.056 grow and survive.
NOTE Confidence: 0.877123096153846

01:11:17.060 --> 01:11:18.750 In clear cell kidney cancer,
NOTE Confidence: 0.877123096153846

01:11:18.750 --> 01:11:20.942 we know that this VHL protein is missing
NOTE Confidence: 0.877123096153846

01:11:20.942 --> 01:11:23.143 and so this hip is on all the time
NOTE Confidence: 0.877123096153846

01:11:23.143 --> 01:11:25.406 and so even when it's not supposed to,
NOTE Confidence: 0.877123096153846

01:11:25.410 --> 01:11:27.804 the cells are grown new blood vessels.
NOTE Confidence: 0.877123096153846

01:11:27.810 --> 01:11:29.052 They're growing themselves.
NOTE Confidence: 0.877123096153846

01:11:29.052 --> 01:11:29.880 They're surviving.
NOTE Confidence: 0.877123096153846

01:11:29.880 --> 01:11:32.430 They're becoming clear cell kidney cancer,
NOTE Confidence: 0.877123096153846

01:11:32.430 --> 01:11:33.417 and so this.
NOTE Confidence: 0.877123096153846

01:11:33.417 --> 01:11:36.430 Now when we know we know this biology,
NOTE Confidence: 0.877123096153846

01:11:36.430 --> 01:11:37.422 it's the natural question.
NOTE Confidence: 0.877123096153846

01:11:37.422 --> 01:11:39.192 Can we just have a drug that

NOTE Confidence: 0.877123096153846

01:11:39.192 --> 01:11:40.347 might help to shut off?

NOTE Confidence: 0.877123096153846

01:11:40.350 --> 01:11:42.609 If too that might help to stop all these

NOTE Confidence: 0.877123096153846

01:11:42.609 --> 01:11:44.530 things that are happening downstream,

NOTE Confidence: 0.877123096153846

01:11:44.530 --> 01:11:46.114 and that's where a new drug

NOTE Confidence: 0.877123096153846

01:11:46.114 --> 01:11:47.170 belzu dibbin which is.

NOTE Confidence: 0.877123096153846

01:11:47.170 --> 01:11:49.280 Now approved for specific patients.

NOTE Confidence: 0.877123096153846

01:11:49.280 --> 01:11:49.642 Really,

NOTE Confidence: 0.877123096153846

01:11:49.642 --> 01:11:51.090 for patients with hereditary

NOTE Confidence: 0.877123096153846

01:11:51.090 --> 01:11:52.900 kidney cancer with VHL syndrome,

NOTE Confidence: 0.877123096153846

01:11:52.900 --> 01:11:54.770 but is being actively tested

NOTE Confidence: 0.877123096153846

01:11:54.770 --> 01:11:56.266 more broadly and preliminarily,

NOTE Confidence: 0.877123096153846

01:11:56.270 --> 01:11:57.898 has some encouraging results.

NOTE Confidence: 0.877123096153846

01:11:57.898 --> 01:12:00.340 Really acts to block this hip

NOTE Confidence: 0.832039765294117

01:12:00.414 --> 01:12:02.969 too and stop those down trip signals,

NOTE Confidence: 0.832039765294117

01:12:02.970 --> 01:12:04.489 and so this is just an example

NOTE Confidence: 0.832039765294117

01:12:04.489 --> 01:12:06.305 of how the basic biology really
NOTE Confidence: 0.832039765294117

01:12:06.305 --> 01:12:07.785 understanding of fundamental process
NOTE Confidence: 0.832039765294117

01:12:07.785 --> 01:12:10.321 like how our cells sends oxygen leads
NOTE Confidence: 0.832039765294117

01:12:10.321 --> 01:12:12.026 to advancements in kidney cancer.
NOTE Confidence: 0.901648026785714

01:12:14.380 --> 01:12:15.852 The other thing I just want to briefly
NOTE Confidence: 0.901648026785714

01:12:15.852 --> 01:12:17.366 mention is I talk a lot about new
NOTE Confidence: 0.901648026785714

01:12:17.366 --> 01:12:18.558 drugs and new technologies and those
NOTE Confidence: 0.901648026785714

01:12:18.558 --> 01:12:19.800 are things that I'm excited about,
NOTE Confidence: 0.901648026785714

01:12:19.800 --> 01:12:21.090 but I think there's also the
NOTE Confidence: 0.901648026785714

01:12:21.090 --> 01:12:22.400 question can we just optimize?
NOTE Confidence: 0.901648026785714

01:12:22.400 --> 01:12:23.465 Can we actually do better
NOTE Confidence: 0.901648026785714

01:12:23.465 --> 01:12:24.800 with the things that we have?
NOTE Confidence: 0.901648026785714

01:12:24.800 --> 01:12:26.712 And this is something from when I
NOTE Confidence: 0.901648026785714

01:12:26.712 --> 01:12:28.200 was at at Dana Farber in the past.
NOTE Confidence: 0.901648026785714

01:12:28.200 --> 01:12:29.280 That always sort of struck me.
NOTE Confidence: 0.901648026785714

01:12:29.280 --> 01:12:30.990 This is borrowing a lesson

NOTE Confidence: 0.901648026785714
01:12:30.990 --> 01:12:32.016 from pediatric leukemia,
NOTE Confidence: 0.901648026785714
01:12:32.020 --> 01:12:34.260 so these are survival curves that children,
NOTE Confidence: 0.901648026785714
01:12:34.260 --> 01:12:35.508 unfortunately with pediatric
NOTE Confidence: 0.901648026785714
01:12:35.508 --> 01:12:38.004 leukemia and trials done at Dana
NOTE Confidence: 0.901648026785714
01:12:38.004 --> 01:12:40.104 Farber in the nineteen 1973,
NOTE Confidence: 0.901648026785714
01:12:40.104 --> 01:12:42.920 nineteen 7719, eighty 1985.
NOTE Confidence: 0.901648026785714
01:12:42.920 --> 01:12:45.286 So over the course around 15 years.
NOTE Confidence: 0.901648026785714
01:12:45.290 --> 01:12:47.802 And we can see this is a dramatic
NOTE Confidence: 0.901648026785714
01:12:47.802 --> 01:12:49.752 improvement that in the 1973 less than
NOTE Confidence: 0.901648026785714
01:12:49.752 --> 01:12:52.200 half of fewer than half of children with
NOTE Confidence: 0.901648026785714
01:12:52.200 --> 01:12:54.468 leukemia were surviving by the mid 80s,
NOTE Confidence: 0.901648026785714
01:12:54.470 --> 01:12:56.584 nearly 80% were what I found so
NOTE Confidence: 0.901648026785714
01:12:56.584 --> 01:12:58.118 remarkable about this is that
NOTE Confidence: 0.901648026785714
01:12:58.118 --> 01:13:00.113 this was a period where there was
NOTE Confidence: 0.901648026785714
01:13:00.113 --> 01:13:01.708 actually no new drug discovery.
NOTE Confidence: 0.901648026785714

01:13:01.710 --> 01:13:03.250 This is all just optimizing
NOTE Confidence: 0.901648026785714

01:13:03.250 --> 01:13:04.790 the drugs that they had,
NOTE Confidence: 0.901648026785714

01:13:04.790 --> 01:13:06.700 and they had this dramatic
NOTE Confidence: 0.901648026785714

01:13:06.700 --> 01:13:07.846 improvement in survival,
NOTE Confidence: 0.901648026785714

01:13:07.850 --> 01:13:09.544 and so I think it's sometimes not.
NOTE Confidence: 0.901648026785714

01:13:09.550 --> 01:13:11.330 As you know, it's not as hot a topic to say.
NOTE Confidence: 0.901648026785714

01:13:11.330 --> 01:13:13.208 Let's just optimize what we have,
NOTE Confidence: 0.901648026785714

01:13:13.210 --> 01:13:15.178 but that sometimes is one of
NOTE Confidence: 0.901648026785714

01:13:15.178 --> 01:13:16.490 the most effective things.
NOTE Confidence: 0.901648026785714

01:13:16.490 --> 01:13:18.047 And that started to be done in kidney cancer,
NOTE Confidence: 0.901648026785714

01:13:18.050 --> 01:13:19.810 particularly for patients who had
NOTE Confidence: 0.901648026785714

01:13:19.810 --> 01:13:21.570 received immunotherapy in the past.
NOTE Confidence: 0.901648026785714

01:13:21.570 --> 01:13:22.770 People are beginning to ask,
NOTE Confidence: 0.901648026785714

01:13:22.770 --> 01:13:24.495 can we actually just optimize
NOTE Confidence: 0.901648026785714

01:13:24.495 --> 01:13:25.530 and tweak things?
NOTE Confidence: 0.901648026785714

01:13:25.530 --> 01:13:26.122 You know,

NOTE Confidence: 0.901648026785714
01:13:26.122 --> 01:13:27.898 a standard after someone got immune
NOTE Confidence: 0.901648026785714
01:13:27.898 --> 01:13:30.161 therapy would be to get a drug like
NOTE Confidence: 0.901648026785714
01:13:30.161 --> 01:13:31.241 tablets anti neighbor tivozanib.
NOTE Confidence: 0.901648026785714
01:13:31.250 --> 01:13:32.998 So asking really simple
NOTE Confidence: 0.901648026785714
01:13:32.998 --> 01:13:34.309 and fundamental questions.
NOTE Confidence: 0.901648026785714
01:13:34.310 --> 01:13:36.350 Can we actually add another
NOTE Confidence: 0.901648026785714
01:13:36.350 --> 01:13:37.982 immunotherapy agent to that?
NOTE Confidence: 0.901648026785714
01:13:37.990 --> 01:13:39.542 Same that same drugs?
NOTE Confidence: 0.901648026785714
01:13:39.542 --> 01:13:41.482 Or having Kevin cabozantinib alone,
NOTE Confidence: 0.901648026785714
01:13:41.490 --> 01:13:43.044 can we actually add at Tesla Lizama?
NOTE Confidence: 0.901648026785714
01:13:43.050 --> 01:13:44.210 Have another immunotherapy and
NOTE Confidence: 0.901648026785714
01:13:44.210 --> 01:13:45.950 get a better response and how
NOTE Confidence: 0.901648026785714
01:13:46.000 --> 01:13:47.160 patients to live longer.
NOTE Confidence: 0.901648026785714
01:13:47.160 --> 01:13:48.321 There's multiple trials
NOTE Confidence: 0.901648026785714
01:13:48.321 --> 01:13:49.869 that are exploring this,
NOTE Confidence: 0.901648026785714

01:13:49.870 --> 01:13:51.130 but I think goes up with
NOTE Confidence: 0.901648026785714

01:13:51.130 --> 01:13:51.760 the overall principle.
NOTE Confidence: 0.901648026785714

01:13:51.760 --> 01:13:54.808 Can we optimize the tools that we have?
NOTE Confidence: 0.901648026785714

01:13:54.810 --> 01:13:55.378 And then,
NOTE Confidence: 0.901648026785714

01:13:55.378 --> 01:13:55.946 very briefly,
NOTE Confidence: 0.901648026785714

01:13:55.946 --> 01:13:58.350 how do we treat these variant histologies?
NOTE Confidence: 0.901648026785714

01:13:58.350 --> 01:13:59.235 Essentially everything I've
NOTE Confidence: 0.901648026785714

01:13:59.235 --> 01:14:01.005 talked about so far is really
NOTE Confidence: 0.901648026785714

01:14:01.005 --> 01:14:02.569 for clear cell kidney cancer,
NOTE Confidence: 0.901648026785714

01:14:02.570 --> 01:14:05.354 but we know that 25% one and four renal
NOTE Confidence: 0.901648026785714

01:14:05.354 --> 01:14:07.490 cell carcinomas are not clear cell.
NOTE Confidence: 0.901648026785714

01:14:07.490 --> 01:14:08.860 There are these variant histologies
NOTE Confidence: 0.901648026785714

01:14:08.860 --> 01:14:10.950 and you just look at them and
NOTE Confidence: 0.901648026785714

01:14:10.950 --> 01:14:12.286 they are dramatically different,
NOTE Confidence: 0.901648026785714

01:14:12.290 --> 01:14:15.286 so these are what they look like.
NOTE Confidence: 0.901648026785714

01:14:15.290 --> 01:14:16.760 Both when you look at the tumor

NOTE Confidence: 0.901648026785714
01:14:16.760 --> 01:14:18.400 itself and then next to it is what
NOTE Confidence: 0.901648026785714
01:14:18.400 --> 01:14:19.634 they look like under the microscope
NOTE Confidence: 0.901648026785714
01:14:19.634 --> 01:14:21.418 and I just have a couple of examples
NOTE Confidence: 0.901648026785714
01:14:21.418 --> 01:14:23.238 of papillary tumor under microscope.
NOTE Confidence: 0.901648026785714
01:14:23.238 --> 01:14:25.223 This one that type one.
NOTE Confidence: 0.901648026785714
01:14:25.230 --> 01:14:26.034 This one is,
NOTE Confidence: 0.901648026785714
01:14:26.034 --> 01:14:27.910 which is historically called a Type 2.
NOTE Confidence: 0.901648026785714
01:14:27.910 --> 01:14:29.422 This is a chromophobe and you don't
NOTE Confidence: 0.901648026785714
01:14:29.422 --> 01:14:31.247 have to be a pathologist to look at
NOTE Confidence: 0.901648026785714
01:14:31.247 --> 01:14:33.040 these and say they look dramatically,
NOTE Confidence: 0.901648026785714
01:14:33.040 --> 01:14:33.930 dramatically different.
NOTE Confidence: 0.901648026785714
01:14:33.930 --> 01:14:36.600 They're really not the same disease.
NOTE Confidence: 0.901648026785714
01:14:36.600 --> 01:14:38.272 And in a table similar to what doctor
NOTE Confidence: 0.901648026785714
01:14:38.272 --> 01:14:39.860 Kenny and Doctor Hurwitz had shown,
NOTE Confidence: 0.901648026785714
01:14:39.860 --> 01:14:41.110 these have a different biology
NOTE Confidence: 0.901648026785714

01:14:41.110 --> 01:14:42.360 and so lumping them all
NOTE Confidence: 0.903946581333333

01:14:42.414 --> 01:14:44.066 together and assuming they will act in
NOTE Confidence: 0.903946581333333

01:14:44.066 --> 01:14:46.389 the same way and will respond to the exact
NOTE Confidence: 0.903946581333333

01:14:46.389 --> 01:14:48.042 same treatment is probably just not right.
NOTE Confidence: 0.903946581333333

01:14:48.042 --> 01:14:49.266 We really have to think about
NOTE Confidence: 0.903946581333333

01:14:49.266 --> 01:14:50.557 how to do this intelligently,
NOTE Confidence: 0.903946581333333

01:14:50.560 --> 01:14:52.691 and I think the field is really really
NOTE Confidence: 0.903946581333333

01:14:52.691 --> 01:14:54.238 coming around and beginning to do this.
NOTE Confidence: 0.903946581333333

01:14:54.240 --> 01:14:55.738 I think for the first time there
NOTE Confidence: 0.903946581333333

01:14:55.738 --> 01:14:57.500 was a large trial is a large base,
NOTE Confidence: 0.903946581333333

01:14:57.500 --> 01:14:59.840 two trial that really targeted specifically
NOTE Confidence: 0.903946581333333

01:14:59.840 --> 01:15:02.220 papillary cancer and had a positive
NOTE Confidence: 0.903946581333333

01:15:02.220 --> 01:15:04.105 result that was really encouraging,
NOTE Confidence: 0.903946581333333

01:15:04.110 --> 01:15:06.054 and this has paved the way for new trials.
NOTE Confidence: 0.903946581333333

01:15:06.060 --> 01:15:06.828 This is just.
NOTE Confidence: 0.903946581333333

01:15:06.828 --> 01:15:09.229 One of many that are are starting to emerge.

NOTE Confidence: 0.903946581333333

01:15:09.230 --> 01:15:10.910 This is something called the CIMETTA trial.

NOTE Confidence: 0.903946581333333

01:15:10.910 --> 01:15:12.886 This is mostly when actually out of Europe,

NOTE Confidence: 0.903946581333333

01:15:12.890 --> 01:15:15.066 but it's a trial where it's for patient,

NOTE Confidence: 0.903946581333333

01:15:15.070 --> 01:15:16.438 specifically with papillary cancer,

NOTE Confidence: 0.903946581333333

01:15:16.438 --> 01:15:17.806 and specifically even that

NOTE Confidence: 0.903946581333333

01:15:17.806 --> 01:15:19.390 Type 1 papillary cancer.

NOTE Confidence: 0.903946581333333

01:15:19.390 --> 01:15:22.120 So those that have a specific alteration

NOTE Confidence: 0.903946581333333

01:15:22.120 --> 01:15:25.279 in the DNA ones that are driven by

NOTE Confidence: 0.903946581333333

01:15:25.279 --> 01:15:27.480 this protein met and those those

NOTE Confidence: 0.903946581333333

01:15:27.480 --> 01:15:29.230 patients which are very specifically

NOTE Confidence: 0.903946581333333

01:15:29.230 --> 01:15:31.262 selected then are getting one of

NOTE Confidence: 0.903946581333333

01:15:31.262 --> 01:15:32.852 three different types of therapies,

NOTE Confidence: 0.903946581333333

01:15:32.860 --> 01:15:34.274 and so this is just one example

NOTE Confidence: 0.903946581333333

01:15:34.274 --> 01:15:35.200 of an ongoing trial,

NOTE Confidence: 0.903946581333333

01:15:35.200 --> 01:15:36.850 but gets the the overall point.

NOTE Confidence: 0.903946581333333

01:15:36.850 --> 01:15:38.957 We have to better understand these tumors.

NOTE Confidence: 0.903946581333333

01:15:38.960 --> 01:15:40.245 These variant histologies and that

NOTE Confidence: 0.903946581333333

01:15:40.245 --> 01:15:41.960 we can't always lump them together.

NOTE Confidence: 0.903946581333333

01:15:41.960 --> 01:15:44.088 We we really have to think about

NOTE Confidence: 0.903946581333333

01:15:44.088 --> 01:15:45.779 how they're different and unique

NOTE Confidence: 0.903946581333333

01:15:45.779 --> 01:15:47.584 and treat that individual biology.

NOTE Confidence: 0.903946581333333

01:15:47.590 --> 01:15:49.134 And so that's briefly what we talked about.

NOTE Confidence: 0.903946581333333

01:15:49.140 --> 01:15:51.163 Some of the big open questions and

NOTE Confidence: 0.903946581333333

01:15:51.163 --> 01:15:52.311 research biomarker developments like

NOTE Confidence: 0.903946581333333

01:15:52.311 --> 01:15:53.956 the right drug for the right patients,

NOTE Confidence: 0.903946581333333

01:15:53.960 --> 01:15:55.778 getting more patients to survive long

NOTE Confidence: 0.903946581333333

01:15:55.778 --> 01:15:57.530 term really hopefully get into that.

NOTE Confidence: 0.903946581333333

01:15:57.530 --> 01:15:59.784 That word cure for more and more

NOTE Confidence: 0.903946581333333

01:15:59.784 --> 01:16:00.750 and more patients.

NOTE Confidence: 0.903946581333333

01:16:00.750 --> 01:16:03.094 How can we treat patients for which the

NOTE Confidence: 0.903946581333333

01:16:03.094 --> 01:16:04.920 initial therapies haven't worked as well?

NOTE Confidence: 0.903946581333333

01:16:04.920 --> 01:16:06.711 And how can we treat that one out of

NOTE Confidence: 0.903946581333333

01:16:06.711 --> 01:16:08.401 four patients that don't have that

NOTE Confidence: 0.903946581333333

01:16:08.401 --> 01:16:10.113 the classic clear cell kidney cancer

NOTE Confidence: 0.903946581333333

01:16:10.113 --> 01:16:11.905 and the way we're hoping to do that

NOTE Confidence: 0.903946581333333

01:16:11.905 --> 01:16:14.145 and and Yale by working between

NOTE Confidence: 0.903946581333333

01:16:14.145 --> 01:16:17.030 physicians and and lab based scientists.

NOTE Confidence: 0.903946581333333

01:16:17.030 --> 01:16:18.470 The way we're really hoping to do that.

NOTE Confidence: 0.903946581333333

01:16:18.470 --> 01:16:20.312 Is through really a process of

NOTE Confidence: 0.903946581333333

01:16:20.312 --> 01:16:22.269 bedside to bench and back again?

NOTE Confidence: 0.903946581333333

01:16:22.270 --> 01:16:24.013 Kind of research and the the basic

NOTE Confidence: 0.903946581333333

01:16:24.013 --> 01:16:25.945 idea here is that we work with

NOTE Confidence: 0.903946581333333

01:16:25.945 --> 01:16:27.631 patients who are who are interested

NOTE Confidence: 0.903946581333333

01:16:27.692 --> 01:16:29.180 in contributing to research.

NOTE Confidence: 0.903946581333333

01:16:29.180 --> 01:16:31.150 We study their kidney cancer.

NOTE Confidence: 0.903946581333333

01:16:31.150 --> 01:16:31.409 Specifically,

NOTE Confidence: 0.903946581333333

01:16:31.409 --> 01:16:33.481 we go back through the lab and we
NOTE Confidence: 0.903946581333333

01:16:33.481 --> 01:16:35.469 really try to learn things about their
NOTE Confidence: 0.903946581333333

01:16:35.469 --> 01:16:36.970 kidney cancer about kidney cancer.
NOTE Confidence: 0.903946581333333

01:16:36.970 --> 01:16:37.628 More generally,
NOTE Confidence: 0.903946581333333

01:16:37.628 --> 01:16:39.931 we think about what are the new
NOTE Confidence: 0.903946581333333

01:16:39.931 --> 01:16:42.021 questions that we have to answer
NOTE Confidence: 0.903946581333333

01:16:42.021 --> 01:16:43.381 about improving immuno therapies
NOTE Confidence: 0.903946581333333

01:16:43.381 --> 01:16:45.288 and other types of treatments.
NOTE Confidence: 0.903946581333333

01:16:45.290 --> 01:16:47.180 We try to use that in a laboratory to
NOTE Confidence: 0.903946581333333

01:16:47.180 --> 01:16:49.218 figure out how we're going to design better.
NOTE Confidence: 0.903946581333333

01:16:49.220 --> 01:16:49.962 Diagnostic tests,
NOTE Confidence: 0.903946581333333

01:16:49.962 --> 01:16:50.704 better biomarkers,
NOTE Confidence: 0.903946581333333

01:16:50.704 --> 01:16:52.930 better therapies and then try to
NOTE Confidence: 0.903946581333333

01:16:52.991 --> 01:16:54.863 actually bring that back to the
NOTE Confidence: 0.903946581333333

01:16:54.863 --> 01:16:56.869 patient and translate that into better
NOTE Confidence: 0.903946581333333

01:16:56.869 --> 01:16:58.969 therapies and better tests for patients.

NOTE Confidence: 0.903946581333333
01:16:58.970 --> 01:17:00.405 And it's an iterative process
NOTE Confidence: 0.903946581333333
01:17:00.405 --> 01:17:02.404 really going back and forth to try
NOTE Confidence: 0.903946581333333
01:17:02.404 --> 01:17:03.916 to do this in continuous fashion,
NOTE Confidence: 0.903946581333333
01:17:03.920 --> 01:17:06.494 and so with that I I'm thankful
NOTE Confidence: 0.903946581333333
01:17:06.494 --> 01:17:08.996 to all the patients and families
NOTE Confidence: 0.903946581333333
01:17:08.996 --> 01:17:09.830 and caregivers
NOTE Confidence: 0.88185257
01:17:09.904 --> 01:17:11.780 who really this research is only
NOTE Confidence: 0.88185257
01:17:11.780 --> 01:17:13.255 possible because of their generosity
NOTE Confidence: 0.88185257
01:17:13.255 --> 01:17:14.983 and the medical providers that really
NOTE Confidence: 0.88185257
01:17:14.983 --> 01:17:17.192 make it happen and happy at this time
NOTE Confidence: 0.88185257
01:17:17.192 --> 01:17:18.746 to hopefully answer a few questions.
NOTE Confidence: 0.82432199
01:17:19.950 --> 01:17:20.452 That's fantastic.
NOTE Confidence: 0.82432199
01:17:20.452 --> 01:17:22.460 I think there's a little bit of time,
NOTE Confidence: 0.82432199
01:17:22.460 --> 01:17:23.348 and then we'll go to Claire.
NOTE Confidence: 0.82432199
01:17:23.350 --> 01:17:24.841 I don't care that I wanna know
NOTE Confidence: 0.82432199

01:17:24.841 --> 01:17:25.988 what she's going to say so.

NOTE Confidence: 0.82432199

01:17:25.990 --> 01:17:28.744 So let me start with some of the questions.

NOTE Confidence: 0.82432199

01:17:28.750 --> 01:17:30.465 So one of the questions wasn't movie.

NOTE Confidence: 0.82432199

01:17:30.470 --> 01:17:31.178 I'll be interesting to

NOTE Confidence: 0.82432199

01:17:31.178 --> 01:17:32.063 see to hear your answer,

NOTE Confidence: 0.82432199

01:17:32.070 --> 01:17:34.050 'cause our answers might differ

NOTE Confidence: 0.82432199

01:17:34.050 --> 01:17:35.730 slightly is 1 combination of an

NOTE Confidence: 0.82432199

01:17:35.730 --> 01:17:37.813 inib and a new mab better than

NOTE Confidence: 0.82432199

01:17:37.813 --> 01:17:40.015 another for cancer that has spread.

NOTE Confidence: 0.82432199

01:17:40.020 --> 01:17:41.284 So let me just clarify for one second,

NOTE Confidence: 0.82432199

01:17:41.290 --> 01:17:42.976 for for the people there that

NOTE Confidence: 0.82432199

01:17:42.976 --> 01:17:44.100 we generally start treatments

NOTE Confidence: 0.82432199

01:17:44.152 --> 01:17:45.677 with metastatic cancer with a

NOTE Confidence: 0.82432199

01:17:45.677 --> 01:17:47.202 combination of two medications and

NOTE Confidence: 0.82432199

01:17:47.252 --> 01:17:48.607 often those combinations are one

NOTE Confidence: 0.82432199

01:17:48.607 --> 01:17:50.301 of those pills we talked about.

NOTE Confidence: 0.82432199

01:17:50.301 --> 01:17:51.956 The anti VHL type well.

NOTE Confidence: 0.82432199

01:17:51.960 --> 01:17:54.066 The anti that shaft pathway ones

NOTE Confidence: 0.82432199

01:17:54.066 --> 01:17:56.819 and one of the immune therapies.

NOTE Confidence: 0.82432199

01:17:56.820 --> 01:17:58.555 So David are the combinations

NOTE Confidence: 0.82432199

01:17:58.555 --> 01:18:00.590 different from each other or not?

NOTE Confidence: 0.818290918235294

01:18:01.650 --> 01:18:02.670 It's a great question.

NOTE Confidence: 0.818290918235294

01:18:02.670 --> 01:18:05.112 I think if you ask 10 different kidney

NOTE Confidence: 0.818290918235294

01:18:05.112 --> 01:18:07.227 cancer experts across the country,

NOTE Confidence: 0.818290918235294

01:18:07.230 --> 01:18:09.240 you're gonna get probably three

NOTE Confidence: 0.818290918235294

01:18:09.240 --> 01:18:10.848 or four different answers.

NOTE Confidence: 0.818290918235294

01:18:10.850 --> 01:18:12.458 But I'll say a couple things.

NOTE Confidence: 0.818290918235294

01:18:12.460 --> 01:18:14.020 So I sort of lumped them

NOTE Confidence: 0.818290918235294

01:18:14.020 --> 01:18:15.570 together into two big buckets.

NOTE Confidence: 0.818290918235294

01:18:15.570 --> 01:18:17.112 Are you going to get 2

NOTE Confidence: 0.818290918235294

01:18:17.112 --> 01:18:17.883 immunotherapy drugs together?

NOTE Confidence: 0.818290918235294

01:18:17.890 --> 01:18:18.622 That's one option,
NOTE Confidence: 0.818290918235294

01:18:18.622 --> 01:18:20.721 or are you going to get one immunotherapy
NOTE Confidence: 0.818290918235294

01:18:20.721 --> 01:18:23.059 drug and one of those blood vessel
NOTE Confidence: 0.818290918235294

01:18:23.059 --> 01:18:24.849 blocking drugs and anti angiogenic?
NOTE Confidence: 0.818290918235294

01:18:24.850 --> 01:18:26.054 That's the other bucket.
NOTE Confidence: 0.818290918235294

01:18:26.054 --> 01:18:27.860 Now if you're in this bucket
NOTE Confidence: 0.818290918235294

01:18:27.916 --> 01:18:30.600 of A1 immunotherapy and a a
NOTE Confidence: 0.818290918235294

01:18:30.600 --> 01:18:32.656 blood vessel blocking drug.
NOTE Confidence: 0.818290918235294

01:18:32.660 --> 01:18:34.050 Are there differences between them?
NOTE Confidence: 0.818290918235294

01:18:34.050 --> 01:18:34.995 There's actually 4
NOTE Confidence: 0.818290918235294

01:18:34.995 --> 01:18:36.255 regimens that are approved.
NOTE Confidence: 0.818290918235294

01:18:36.260 --> 01:18:37.886 The answer is is probably slight
NOTE Confidence: 0.818290918235294

01:18:37.886 --> 01:18:38.699 differences between them,
NOTE Confidence: 0.818290918235294

01:18:38.700 --> 01:18:39.940 but it's probably pretty slight.
NOTE Confidence: 0.818290918235294

01:18:39.940 --> 01:18:42.034 I think the things that matter
NOTE Confidence: 0.818290918235294

01:18:42.034 --> 01:18:43.980 probably more than anything else is.

NOTE Confidence: 0.818290918235294
01:18:43.980 --> 01:18:45.954 If you're within that class of drugs,
NOTE Confidence: 0.818290918235294
01:18:45.960 --> 01:18:46.833 the physicians comfort
NOTE Confidence: 0.818290918235294
01:18:46.833 --> 01:18:47.997 level in prescribing them.
NOTE Confidence: 0.818290918235294
01:18:48.000 --> 01:18:49.364 So people who prescribe
NOTE Confidence: 0.818290918235294
01:18:49.364 --> 01:18:51.069 cabozantinib alot are going to
NOTE Confidence: 0.818290918235294
01:18:51.069 --> 01:18:52.819 probably prescribe Cowboys anthem,
NOTE Confidence: 0.818290918235294
01:18:52.820 --> 01:18:54.000 and that's probably a better
NOTE Confidence: 0.818290918235294
01:18:54.000 --> 01:18:55.180 option than people who prescribe.
NOTE Confidence: 0.818290918235294
01:18:55.180 --> 01:18:56.770 That's it novel Otter, another drug.
NOTE Confidence: 0.818290918235294
01:18:56.770 --> 01:18:58.435 And so I think once you're in that class,
NOTE Confidence: 0.818290918235294
01:18:58.440 --> 01:18:59.800 there might be subtle differences,
NOTE Confidence: 0.818290918235294
01:18:59.800 --> 01:19:02.026 but they're by and large pretty
NOTE Confidence: 0.818290918235294
01:19:02.026 --> 01:19:03.124 pretty similar, especially.
NOTE Confidence: 0.818290918235294
01:19:03.124 --> 01:19:05.248 The latest generations there might be
NOTE Confidence: 0.818290918235294
01:19:05.248 --> 01:19:07.148 differences in how toxic they are,
NOTE Confidence: 0.818290918235294

01:19:07.150 --> 01:19:08.610 meaning how many side effects
NOTE Confidence: 0.818290918235294

01:19:08.610 --> 01:19:09.486 they might cause,
NOTE Confidence: 0.818290918235294

01:19:09.490 --> 01:19:10.828 and that might help the guide
NOTE Confidence: 0.818290918235294

01:19:10.828 --> 01:19:12.444 which among those I think a big
NOTE Confidence: 0.818290918235294

01:19:12.444 --> 01:19:13.782 question is how do you choose
NOTE Confidence: 0.818290918235294

01:19:13.782 --> 01:19:15.107 between those two big branches.
NOTE Confidence: 0.818290918235294

01:19:15.110 --> 01:19:16.346 I think that's a bigger question.
NOTE Confidence: 0.818290918235294

01:19:16.350 --> 01:19:18.422 How do you choose between 2 immune
NOTE Confidence: 0.818290918235294

01:19:18.422 --> 01:19:20.180 therapies and an immunotherapy?
NOTE Confidence: 0.818290918235294

01:19:20.180 --> 01:19:22.260 And and I think again you can go
NOTE Confidence: 0.818290918235294

01:19:22.260 --> 01:19:24.347 to many experts and there's no.
NOTE Confidence: 0.818290918235294

01:19:24.350 --> 01:19:26.186 There's no trial comparing them head-to-head,
NOTE Confidence: 0.818290918235294

01:19:26.190 --> 01:19:26.763 so no one,
NOTE Confidence: 0.818290918235294

01:19:26.763 --> 01:19:28.560 no one can tell you that answer for sure,
NOTE Confidence: 0.818290918235294

01:19:28.560 --> 01:19:30.610 but I'll give you sort of my my two cents.
NOTE Confidence: 0.818290918235294

01:19:30.610 --> 01:19:32.188 I think the thing that's been

NOTE Confidence: 0.818290918235294
01:19:32.188 --> 01:19:33.660 transformative about I mean therapy.
NOTE Confidence: 0.818290918235294
01:19:33.660 --> 01:19:35.382 Is not only that they lead to
NOTE Confidence: 0.818290918235294
01:19:35.382 --> 01:19:35.874 tumor shrinkage,
NOTE Confidence: 0.818290918235294
01:19:35.880 --> 01:19:37.320 but really that for some patients
NOTE Confidence: 0.818290918235294
01:19:37.320 --> 01:19:39.278 they lead to a long term survival.
NOTE Confidence: 0.818290918235294
01:19:39.280 --> 01:19:40.980 Maybe even for that subset
NOTE Confidence: 0.818290918235294
01:19:40.980 --> 01:19:42.340 of patients a cure.
NOTE Confidence: 0.818290918235294
01:19:42.340 --> 01:19:44.620 And while we don't know this for sure,
NOTE Confidence: 0.818290918235294
01:19:44.620 --> 01:19:46.312 I think there's there's some reason
NOTE Confidence: 0.818290918235294
01:19:46.312 --> 01:19:48.204 to think that having those two
NOTE Confidence: 0.818290918235294
01:19:48.204 --> 01:19:49.616 immune therapies together might
NOTE Confidence: 0.818290918235294
01:19:49.616 --> 01:19:51.385 actually increase the chance of
NOTE Confidence: 0.818290918235294
01:19:51.385 --> 01:19:52.900 having that longer term survival,
NOTE Confidence: 0.818290918235294
01:19:52.900 --> 01:19:55.280 and so all other things being equal,
NOTE Confidence: 0.818290918235294
01:19:55.280 --> 01:19:56.936 I tend to lean towards that.
NOTE Confidence: 0.818290918235294

01:19:56.940 --> 01:19:58.080 But it's not for everyone.

NOTE Confidence: 0.818290918235294

01:19:58.080 --> 01:19:59.837 And then the question is why one

NOTE Confidence: 0.818290918235294

01:19:59.837 --> 01:20:01.421 is those those can in certain

NOTE Confidence: 0.818290918235294

01:20:01.421 --> 01:20:02.457 ways be more toxic.

NOTE Confidence: 0.818290918235294

01:20:02.460 --> 01:20:04.735 They have more immune related side effects.

NOTE Confidence: 0.818290918235294

01:20:04.740 --> 01:20:06.966 That's a. That's a really important thing.

NOTE Confidence: 0.818290918235294

01:20:06.970 --> 01:20:08.140 The second is.

NOTE Confidence: 0.818290918235294

01:20:08.140 --> 01:20:10.090 While they might work better,

NOTE Confidence: 0.818290918235294

01:20:10.090 --> 01:20:11.790 arguably that's arguably in the

NOTE Confidence: 0.818290918235294

01:20:11.790 --> 01:20:13.870 long term in the short term,

NOTE Confidence: 0.818290918235294

01:20:13.870 --> 01:20:15.030 they probably don't shrink

NOTE Confidence: 0.818290918235294

01:20:15.030 --> 01:20:16.480 the tumor quite as well,

NOTE Confidence: 0.818290918235294

01:20:16.480 --> 01:20:18.340 and so there are patients who

NOTE Confidence: 0.818290918235294

01:20:18.340 --> 01:20:19.580 unfortunately have disease that

NOTE Confidence: 0.818290918235294

01:20:19.634 --> 01:20:21.159 might be really rapidly grown,

NOTE Confidence: 0.818290918235294

01:20:21.160 --> 01:20:22.420 or they might have a lot of

NOTE Confidence: 0.818290918235294
01:20:22.420 --> 01:20:23.310 symptoms from their disease,
NOTE Confidence: 0.818290918235294
01:20:23.310 --> 01:20:25.046 where the most important thing is really
NOTE Confidence: 0.818290918235294
01:20:25.046 --> 01:20:26.589 shrinking it as soon as possible,
NOTE Confidence: 0.818290918235294
01:20:26.590 --> 01:20:28.630 in which case having to immunotherapy's
NOTE Confidence: 0.818290918235294
01:20:28.630 --> 01:20:29.830 might always be the best option.
NOTE Confidence: 0.882886821818182
01:20:29.830 --> 01:20:31.862 So the overall answer is it tends to
NOTE Confidence: 0.882886821818182
01:20:31.862 --> 01:20:33.592 be a patient, specific conversation.
NOTE Confidence: 0.882886821818182
01:20:33.592 --> 01:20:35.670 At least that's my. My two cents,
NOTE Confidence: 0.882886821818182
01:20:35.670 --> 01:20:37.420 but Michael curious with your thoughts are
NOTE Confidence: 0.847985168761905
01:20:37.700 --> 01:20:38.680 I'm actually very relieved.
NOTE Confidence: 0.847985168761905
01:20:38.680 --> 01:20:40.150 I don't have to say anything
NOTE Confidence: 0.847985168761905
01:20:40.198 --> 01:20:41.333 'cause that's the exact answer
NOTE Confidence: 0.847985168761905
01:20:41.333 --> 01:20:42.740 I would have liked to give.
NOTE Confidence: 0.847985168761905
01:20:42.740 --> 01:20:44.716 I mean, almost you know word for word,
NOTE Confidence: 0.847985168761905
01:20:44.720 --> 01:20:46.400 except except said better so
NOTE Confidence: 0.847985168761905

01:20:46.400 --> 01:20:47.744 that that that's fantastic.
NOTE Confidence: 0.847985168761905

01:20:47.750 --> 01:20:48.620 That makes me very happy,
NOTE Confidence: 0.847985168761905

01:20:48.620 --> 01:20:49.815 but it's absolutely true that
NOTE Confidence: 0.847985168761905

01:20:49.815 --> 01:20:51.385 you can talk to 10 different
NOTE Confidence: 0.847985168761905

01:20:51.385 --> 01:20:53.323 kidney cancer docs and get 10
NOTE Confidence: 0.847985168761905

01:20:53.323 --> 01:20:54.750 different similar similar answers,
NOTE Confidence: 0.847985168761905

01:20:54.750 --> 01:20:56.010 usually alright.
NOTE Confidence: 0.847985168761905

01:20:56.010 --> 01:20:59.134 The second question is when will
NOTE Confidence: 0.847985168761905

01:20:59.134 --> 01:21:00.644 real information as to biomarkers
NOTE Confidence: 0.847985168761905

01:21:00.644 --> 01:21:02.304 and patients and they're likely
NOTE Confidence: 0.847985168761905

01:21:02.304 --> 01:21:03.696 response to immune therapies
NOTE Confidence: 0.847985168761905

01:21:03.696 --> 01:21:05.088 or to targeted therapies.
NOTE Confidence: 0.847985168761905

01:21:05.090 --> 01:21:07.322 Happen and what makes one patient
NOTE Confidence: 0.847985168761905

01:21:07.322 --> 01:21:08.438 responder versus something
NOTE Confidence: 0.847985168761905

01:21:08.438 --> 01:21:09.979 versus unlikely to respond?
NOTE Confidence: 0.51712245

01:21:11.210 --> 01:21:12.715 Yeah, it's a. It's a great

NOTE Confidence: 0.51712245

01:21:12.715 --> 01:21:13.780 question and one that I

NOTE Confidence: 0.904568576833333

01:21:13.837 --> 01:21:15.469 wish we had the answer to today and

NOTE Confidence: 0.904568576833333

01:21:15.469 --> 01:21:17.498 so the the real answer is we don't

NOTE Confidence: 0.904568576833333

01:21:17.498 --> 01:21:18.816 have read biomarkers right now,

NOTE Confidence: 0.904568576833333

01:21:18.816 --> 01:21:20.412 and I think we we absolutely

NOTE Confidence: 0.904568576833333

01:21:20.412 --> 01:21:22.434 need to do better and think

NOTE Confidence: 0.904568576833333

01:21:22.434 --> 01:21:23.986 about every possible domain.

NOTE Confidence: 0.904568576833333

01:21:23.990 --> 01:21:25.145 Honestly, one of them may

NOTE Confidence: 0.904568576833333

01:21:25.145 --> 01:21:26.069 be the better biomarkers.

NOTE Confidence: 0.904568576833333

01:21:26.070 --> 01:21:28.261 That's out there is not any fancy

NOTE Confidence: 0.904568576833333

01:21:28.261 --> 01:21:30.376 sequencing that I talked about is

NOTE Confidence: 0.904568576833333

01:21:30.376 --> 01:21:32.221 actually looking under the microscope

NOTE Confidence: 0.904568576833333

01:21:32.221 --> 01:21:34.806 we had talked about these sarcomatoid

NOTE Confidence: 0.904568576833333

01:21:34.806 --> 01:21:36.590 and rhabdoid tumors before.

NOTE Confidence: 0.904568576833333

01:21:36.590 --> 01:21:38.410 Those are ones which historically

NOTE Confidence: 0.904568576833333

01:21:38.410 --> 01:21:39.866 unfortunately have not responded
NOTE Confidence: 0.904568576833333

01:21:39.866 --> 01:21:41.327 nearly as well to the pills.
NOTE Confidence: 0.904568576833333

01:21:41.330 --> 01:21:43.920 Does anti angiogenic get medicines,
NOTE Confidence: 0.904568576833333

01:21:43.920 --> 01:21:45.774 but for some reason seem to have a much,
NOTE Confidence: 0.904568576833333

01:21:45.780 --> 01:21:47.540 much better response to immunotherapy's
NOTE Confidence: 0.904568576833333

01:21:47.540 --> 01:21:49.300 the number of actually patients
NOTE Confidence: 0.904568576833333

01:21:49.354 --> 01:21:50.932 who have a complete response being
NOTE Confidence: 0.904568576833333

01:21:50.932 --> 01:21:52.779 the tumor seems to just disappear,
NOTE Confidence: 0.904568576833333

01:21:52.780 --> 01:21:54.952 is actually higher in those patients
NOTE Confidence: 0.904568576833333

01:21:54.952 --> 01:21:56.400 with sarcomatoid features because
NOTE Confidence: 0.904568576833333

01:21:56.455 --> 01:21:58.345 you only really find by looking
NOTE Confidence: 0.904568576833333

01:21:58.345 --> 01:21:59.984 under the microscope compared to
NOTE Confidence: 0.904568576833333

01:21:59.984 --> 01:22:01.579 other patients with kidney cancer,
NOTE Confidence: 0.904568576833333

01:22:01.580 --> 01:22:03.944 and so sometimes the old traditional
NOTE Confidence: 0.904568576833333

01:22:03.944 --> 01:22:06.300 tests are still the best ones,
NOTE Confidence: 0.904568576833333

01:22:06.300 --> 01:22:08.252 but I wish I could say today we

NOTE Confidence: 0.904568576833333

01:22:08.252 --> 01:22:09.885 have the absolute molecular test

NOTE Confidence: 0.904568576833333

01:22:09.885 --> 01:22:12.405 that tells us about the drug works.

NOTE Confidence: 0.904568576833333

01:22:12.410 --> 01:22:14.336 Or doesn't we're working on it,

NOTE Confidence: 0.904568576833333

01:22:14.340 --> 01:22:15.150 but we don't have it yet.

NOTE Confidence: 0.660254796

01:22:15.850 --> 01:22:17.150 OK, and two more questions.

NOTE Confidence: 0.660254796

01:22:17.150 --> 01:22:20.594 One is are there metastasis into lung

NOTE Confidence: 0.660254796

01:22:20.594 --> 01:22:23.930 and liver still for chromophobe? Like,

NOTE Confidence: 0.754506872857143

01:22:24.020 --> 01:22:25.300 yeah, yeah, absolutely so.

NOTE Confidence: 0.754506872857143

01:22:25.300 --> 01:22:26.800 It's this is, I think,

NOTE Confidence: 0.754506872857143

01:22:26.800 --> 01:22:27.880 a common question terminology.

NOTE Confidence: 0.754506872857143

01:22:27.880 --> 01:22:29.584 If someone has a kidney cancer

NOTE Confidence: 0.754506872857143

01:22:29.584 --> 01:22:31.040 but then move somewhere else,

NOTE Confidence: 0.754506872857143

01:22:31.040 --> 01:22:32.360 it's moved to the lungs.

NOTE Confidence: 0.754506872857143

01:22:32.360 --> 01:22:34.140 Is it still kidney cancer?

NOTE Confidence: 0.754506872857143

01:22:34.140 --> 01:22:36.228 And really it matters less where it is

NOTE Confidence: 0.754506872857143

01:22:36.228 --> 01:22:38.282 and more where it came from in terms
NOTE Confidence: 0.754506872857143

01:22:38.282 --> 01:22:40.318 of how we define the tumor and how,
NOTE Confidence: 0.754506872857143

01:22:40.320 --> 01:22:41.428 how those tumors might
NOTE Confidence: 0.754506872857143

01:22:41.428 --> 01:22:42.536 actually respond to therapy.
NOTE Confidence: 0.754506872857143

01:22:42.540 --> 01:22:44.157 So if it's a chromophobe that then
NOTE Confidence: 0.754506872857143

01:22:44.157 --> 01:22:46.057 moved to the lungs and they they did
NOTE Confidence: 0.754506872857143

01:22:46.057 --> 01:22:47.793 a biopsy or surgery and really looked
NOTE Confidence: 0.754506872857143

01:22:47.793 --> 01:22:49.648 it under the microscope and it looks
NOTE Confidence: 0.754506872857143

01:22:49.648 --> 01:22:51.456 the same but the doctors are really
NOTE Confidence: 0.754506872857143

01:22:51.456 --> 01:22:53.050 confident it came from the kidney.
NOTE Confidence: 0.754506872857143

01:22:53.050 --> 01:22:55.100 That would still be the same cancer.
NOTE Confidence: 0.8174047533333333

01:22:55.440 --> 01:22:57.300 Yeah? And it's although it's
NOTE Confidence: 0.8174047533333333

01:22:57.300 --> 01:22:58.788 rare homophobes do metastasize.
NOTE Confidence: 0.8174047533333333

01:22:58.790 --> 01:23:01.118 You know, we we see it to to
NOTE Confidence: 0.8174047533333333

01:23:01.118 --> 01:23:02.388 answer that question and then
NOTE Confidence: 0.72141991

01:23:03.170 --> 01:23:04.210 I think I'm sorry.

NOTE Confidence: 0.72141991

01:23:04.210 --> 01:23:05.770 I think really important point about

NOTE Confidence: 0.72141991

01:23:05.770 --> 01:23:07.708 Chromophobe's is that it's much more

NOTE Confidence: 0.72141991

01:23:07.708 --> 01:23:09.869 common for patients who have metastatic

NOTE Confidence: 0.72141991

01:23:09.870 --> 01:23:12.900 chromophobe kidney cancer to have had

NOTE Confidence: 0.72141991

01:23:12.900 --> 01:23:15.090 metastases at the time of diagnosis.

NOTE Confidence: 0.72141991

01:23:15.090 --> 01:23:17.740 It's much less common for

NOTE Confidence: 0.72141991

01:23:17.740 --> 01:23:19.970 someone who's had on imaging.

NOTE Confidence: 0.72141991

01:23:19.970 --> 01:23:21.890 It looks localized they've had surgery.

NOTE Confidence: 0.72141991

01:23:21.890 --> 01:23:24.018 It's much less common for those patients.

NOTE Confidence: 0.72141991

01:23:24.020 --> 01:23:27.520 To develop cancer spread and you know,

NOTE Confidence: 0.72141991

01:23:27.520 --> 01:23:29.936 I think for a lot of our patients

NOTE Confidence: 0.72141991

01:23:29.940 --> 01:23:33.070 who have had surgery for,

NOTE Confidence: 0.72141991

01:23:33.070 --> 01:23:35.706 you know, a large or higher stage.

NOTE Confidence: 0.72141991

01:23:35.706 --> 01:23:38.116 But localized chromophobe kidney cancer.

NOTE Confidence: 0.72141991

01:23:38.120 --> 01:23:40.640 I think it's really important to know

NOTE Confidence: 0.72141991

01:23:40.640 --> 01:23:42.807 that those patients often do very
NOTE Confidence: 0.72141991

01:23:42.807 --> 01:23:44.853 do quite well and don't necessarily
NOTE Confidence: 0.72141991

01:23:44.853 --> 01:23:46.962 have some of the same level of
NOTE Confidence: 0.72141991

01:23:46.962 --> 01:23:48.470 risks as other more aggressive
NOTE Confidence: 0.72141991

01:23:48.470 --> 01:23:50.690 types of kidney cancers like as
NOTE Confidence: 0.72141991

01:23:50.690 --> 01:23:53.109 like a high grade sarcomatoid,
NOTE Confidence: 0.72141991

01:23:53.110 --> 01:23:54.374 clear cell kidney cancer.
NOTE Confidence: 0.72141991

01:23:54.374 --> 01:23:55.006 For instance,
NOTE Confidence: 0.638930075

01:23:56.010 --> 01:23:57.150 it's really important point.
NOTE Confidence: 0.889158266666667

01:23:58.650 --> 01:23:59.754 So the last question,
NOTE Confidence: 0.889158266666667

01:23:59.754 --> 01:24:01.134 which I don't exactly understand,
NOTE Confidence: 0.889158266666667

01:24:01.140 --> 01:24:03.220 but I'll say it word for word and
NOTE Confidence: 0.889158266666667

01:24:03.220 --> 01:24:05.439 it's is as a stage four Survivor
NOTE Confidence: 0.889158266666667

01:24:05.439 --> 01:24:07.675 now 18 years thanks to surgery
NOTE Confidence: 0.889158266666667

01:24:07.675 --> 01:24:09.700 and high dose interleukin 2.
NOTE Confidence: 0.889158266666667

01:24:09.700 --> 01:24:11.576 Why not review the value of that

NOTE Confidence: 0.889158266666667

01:24:11.576 --> 01:24:13.453 treatment in light of our better

NOTE Confidence: 0.889158266666667

01:24:13.453 --> 01:24:14.805 understanding of kidney cancer?

NOTE Confidence: 0.843513057

01:24:16.390 --> 01:24:19.594 So my search sense I could be wrong is

NOTE Confidence: 0.843513057

01:24:19.594 --> 01:24:21.714 that maybe why not go back to Hydrocele

NOTE Confidence: 0.843513057

01:24:21.714 --> 01:24:23.534 2 and surgery things that might have

NOTE Confidence: 0.843513057

01:24:23.534 --> 01:24:25.837 worked in the in the past and I I

NOTE Confidence: 0.843513057

01:24:25.837 --> 01:24:27.307 think it's a really good question.

NOTE Confidence: 0.843513057

01:24:27.310 --> 01:24:29.810 If you know we we look back and high dose

NOTE Confidence: 0.843513057

01:24:29.872 --> 01:24:32.188 is not something that's commonly used,

NOTE Confidence: 0.843513057

01:24:32.190 --> 01:24:33.702 but there were actually patients who

NOTE Confidence: 0.843513057

01:24:33.702 --> 01:24:35.419 had a really long term response.

NOTE Confidence: 0.843513057

01:24:35.420 --> 01:24:36.068 Probably cure.

NOTE Confidence: 0.843513057

01:24:36.068 --> 01:24:38.336 It was probably on the order of

NOTE Confidence: 0.843513057

01:24:38.336 --> 01:24:40.005 around 5 to 7%, so not frequent,

NOTE Confidence: 0.843513057

01:24:40.005 --> 01:24:42.210 and it's something that can be really toxic,

NOTE Confidence: 0.843513057

01:24:42.210 --> 01:24:43.430 so it's typically administered
NOTE Confidence: 0.843513057

01:24:43.430 --> 01:24:44.955 and it really monitored setting
NOTE Confidence: 0.843513057

01:24:44.955 --> 01:24:46.410 'cause people can get very sick.
NOTE Confidence: 0.843513057

01:24:46.410 --> 01:24:48.230 So the question is, why don't we do it more?
NOTE Confidence: 0.843513057

01:24:48.230 --> 01:24:51.200 More commonly I think the short answer is 1.
NOTE Confidence: 0.843513057

01:24:51.200 --> 01:24:52.382 We have tools that we think
NOTE Confidence: 0.843513057

01:24:52.382 --> 01:24:53.170 are maybe slightly better.
NOTE Confidence: 0.843513057

01:24:53.170 --> 01:24:55.180 These immune checkpoint drugs and two
NOTE Confidence: 0.843513057

01:24:55.180 --> 01:24:57.079 was actually being studied are similar
NOTE Confidence: 0.843513057

01:24:57.079 --> 01:24:59.087 medicines to high dose IL 2 but that
NOTE Confidence: 0.843513057

01:24:59.146 --> 01:25:01.114 have been modified to try to make them
NOTE Confidence: 0.843513057

01:25:01.114 --> 01:25:03.272 a little bit less toxic and maybe a
NOTE Confidence: 0.843513057

01:25:03.272 --> 01:25:05.069 little more efficacious and so those
NOTE Confidence: 0.843513057

01:25:05.069 --> 01:25:06.644 drugs are actually these modified.
NOTE Confidence: 0.843513057

01:25:06.650 --> 01:25:08.150 I'll twos are actually in
NOTE Confidence: 0.843513057

01:25:08.150 --> 01:25:09.050 clinical trials now.

NOTE Confidence: 0.877681455

01:25:09.920 --> 01:25:10.796 Yeah, so I would. I would.

NOTE Confidence: 0.877681455

01:25:10.800 --> 01:25:12.416 I would add that a little bit which

NOTE Confidence: 0.877681455

01:25:12.416 --> 01:25:14.235 is that it is happening is the point.

NOTE Confidence: 0.877681455

01:25:14.240 --> 01:25:16.184 There are a bunch of drugs out there

NOTE Confidence: 0.877681455

01:25:16.184 --> 01:25:18.215 that are thought to be better ILD who's

NOTE Confidence: 0.877681455

01:25:18.215 --> 01:25:20.808 but but use the I O2 biology that are

NOTE Confidence: 0.877681455

01:25:20.808 --> 01:25:22.348 being studied currently and they're

NOTE Confidence: 0.877681455

01:25:22.350 --> 01:25:23.771 going to be doing it in combination

NOTE Confidence: 0.877681455

01:25:23.771 --> 01:25:25.120 with the other types of therapy.

NOTE Confidence: 0.877681455

01:25:25.120 --> 01:25:26.695 So it's all happening and

NOTE Confidence: 0.877681455

01:25:26.695 --> 01:25:27.640 hopefully it'll it'll.

NOTE Confidence: 0.877681455

01:25:27.640 --> 01:25:28.984 It'll be great.

NOTE Confidence: 0.877681455

01:25:28.984 --> 01:25:32.154 Alright, let's move on to Eric Healey.

NOTE Confidence: 0.877681455

01:25:32.154 --> 01:25:36.170 One more geneticists and one comments.

NOTE Confidence: 0.877681455

01:25:36.170 --> 01:25:37.750 What was that? Oh

NOTE Confidence: 0.8778238733333333

01:25:37.780 --> 01:25:39.076 no, sorry there was just one
NOTE Confidence: 0.8778238733333333

01:25:39.076 --> 01:25:40.403 more question in the Q&A and
NOTE Confidence: 0.8778238733333333

01:25:40.403 --> 01:25:41.657 it just said asked about that.
NOTE Confidence: 0.8778238733333333

01:25:41.660 --> 01:25:43.753 How severe are the side effects of
NOTE Confidence: 0.8778238733333333

01:25:43.753 --> 01:25:45.246 the oral medications for kidney
NOTE Confidence: 0.8778238733333333

01:25:45.246 --> 01:25:46.848 cancer compared to what we think
NOTE Confidence: 0.8778238733333333

01:25:46.848 --> 01:25:48.799 of as traditional chemotherapy,
NOTE Confidence: 0.8778238733333333

01:25:48.800 --> 01:25:52.330 nausea, hair loss, things like that.
NOTE Confidence: 0.911047368571429

01:25:52.330 --> 01:25:55.158 So so in brief, they're quite different,
NOTE Confidence: 0.911047368571429

01:25:55.160 --> 01:26:00.500 so and and and and it it depends so so.
NOTE Confidence: 0.911047368571429

01:26:00.500 --> 01:26:02.820 I think the the they're not as bad.
NOTE Confidence: 0.911047368571429

01:26:02.820 --> 01:26:03.848 Acutely I would say,
NOTE Confidence: 0.911047368571429

01:26:03.848 --> 01:26:05.560 although other people could disagree with me,
NOTE Confidence: 0.911047368571429

01:26:05.560 --> 01:26:06.634 but the problem is that you
NOTE Confidence: 0.911047368571429

01:26:06.634 --> 01:26:07.820 take him for a long time.
NOTE Confidence: 0.911047368571429

01:26:07.820 --> 01:26:09.492 You take him every day and they can

NOTE Confidence: 0.911047368571429
01:26:09.492 --> 01:26:10.818 be incredibly wearing and some people
NOTE Confidence: 0.911047368571429
01:26:10.818 --> 01:26:12.490 just do have very bad side effects,
NOTE Confidence: 0.911047368571429
01:26:12.490 --> 01:26:13.846 but the side effect profile is
NOTE Confidence: 0.911047368571429
01:26:13.846 --> 01:26:15.680 quite different. I would say the
NOTE Confidence: 0.911047368571429
01:26:15.680 --> 01:26:17.750 number one thing is GI issues.
NOTE Confidence: 0.911047368571429
01:26:17.750 --> 01:26:19.969 A lot of diarrhea for some people,
NOTE Confidence: 0.911047368571429
01:26:19.970 --> 01:26:22.147 maybe a lot of rash for some
NOTE Confidence: 0.911047368571429
01:26:22.147 --> 01:26:24.499 people that can be quite difficult.
NOTE Confidence: 0.911047368571429
01:26:24.500 --> 01:26:27.204 Appetite can go down, there can be nausea.
NOTE Confidence: 0.911047368571429
01:26:27.210 --> 01:26:30.906 You know a lot of fatigue can happen.
NOTE Confidence: 0.911047368571429
01:26:30.910 --> 01:26:31.660 And so.
NOTE Confidence: 0.911047368571429
01:26:31.660 --> 01:26:33.910 It it's it's almost it's very
NOTE Confidence: 0.911047368571429
01:26:33.910 --> 01:26:36.080 hard to compare because.
NOTE Confidence: 0.911047368571429
01:26:36.080 --> 01:26:38.264 It's a chronic thing,
NOTE Confidence: 0.911047368571429
01:26:38.264 --> 01:26:39.594 usually versus chemo,
NOTE Confidence: 0.911047368571429

01:26:39.594 --> 01:26:41.232 which is sort of happens and then
NOTE Confidence: 0.911047368571429

01:26:41.232 --> 01:26:42.828 gets better happens and gets better.
NOTE Confidence: 0.864974437777778

01:26:45.060 --> 01:26:46.260 I don't there's probably a better
NOTE Confidence: 0.864974437777778

01:26:46.260 --> 01:26:48.088 answer out there. I don't know David.
NOTE Confidence: 0.864974437777778

01:26:48.088 --> 01:26:50.210 You have a better way to put
NOTE Confidence: 0.633011926666667

01:26:50.220 --> 01:26:52.453 no, I think that's sort of short,
NOTE Confidence: 0.633011926666667

01:26:52.453 --> 01:26:54.718 but more severe versus longer,
NOTE Confidence: 0.633011926666667

01:26:54.720 --> 01:26:56.463 but kind of wearing is is probably
NOTE Confidence: 0.633011926666667

01:26:56.463 --> 01:26:58.152 a really good thing and everyone
NOTE Confidence: 0.633011926666667

01:26:58.152 --> 01:27:00.224 everyone sort of is different in terms
NOTE Confidence: 0.633011926666667

01:27:00.276 --> 01:27:01.956 of the side effects they experience
NOTE Confidence: 0.633011926666667

01:27:01.956 --> 01:27:03.986 I I think probably on average people
NOTE Confidence: 0.633011926666667

01:27:03.986 --> 01:27:06.030 think of these as being, you know,
NOTE Confidence: 0.633011926666667

01:27:06.030 --> 01:27:07.885 they feel less bad than than the
NOTE Confidence: 0.633011926666667

01:27:07.885 --> 01:27:08.828 conventional cytotoxic chemotherapy
NOTE Confidence: 0.633011926666667

01:27:08.828 --> 01:27:10.706 that would make people lose their

NOTE Confidence: 0.633011926666667

01:27:10.706 --> 01:27:12.398 hair and make people nauseous.

NOTE Confidence: 0.633011926666667

01:27:12.400 --> 01:27:14.264 But you can imagine it's one thing to.

NOTE Confidence: 0.633011926666667

01:27:14.270 --> 01:27:15.920 Have that dose of chemotherapy and

NOTE Confidence: 0.633011926666667

01:27:15.920 --> 01:27:18.150 feel really sick for a couple of weeks

NOTE Confidence: 0.633011926666667

01:27:18.150 --> 01:27:19.770 versus something that you know maybe

NOTE Confidence: 0.633011926666667

01:27:19.820 --> 01:27:21.780 makes you feel a little bit tired but

NOTE Confidence: 0.633011926666667

01:27:21.780 --> 01:27:23.626 kinda wears on day after day, after day,

NOTE Confidence: 0.633011926666667

01:27:23.630 --> 01:27:25.366 that after months or years of it.

NOTE Confidence: 0.633011926666667

01:27:25.370 --> 01:27:26.707 It might sort of build up that

NOTE Confidence: 0.633011926666667

01:27:26.707 --> 01:27:27.959 I think that's the difference,

NOTE Confidence: 0.633011926666667

01:27:27.960 --> 01:27:29.040 and so it's you're absolutely.

NOTE Confidence: 0.633011926666667

01:27:29.040 --> 01:27:30.048 I think it's hard to compare.

NOTE Confidence: 0.865799554

01:27:31.590 --> 01:27:33.246 Let's move on.

NOTE Confidence: 0.865799554

01:27:33.246 --> 01:27:35.102 So yes, someone said that hand

NOTE Confidence: 0.865799554

01:27:35.102 --> 01:27:36.042 Foot syndrome is not really.

NOTE Confidence: 0.865799554

01:27:36.050 --> 01:27:37.702 It absolutely is so.
NOTE Confidence: 0.865799554

01:27:37.702 --> 01:27:39.767 So there is a question,
NOTE Confidence: 0.865799554

01:27:39.770 --> 01:27:40.805 but you're going to hopefully
NOTE Confidence: 0.865799554

01:27:40.805 --> 01:27:42.101 answer it 'cause it's one of
NOTE Confidence: 0.865799554

01:27:42.101 --> 01:27:42.767 the genetic predispositions
NOTE Confidence: 0.865799554

01:27:42.767 --> 01:27:44.099 for RCC and other things so.
NOTE Confidence: 0.745198198571429

01:27:45.540 --> 01:27:48.837 Started so my name is Claire Healy.
NOTE Confidence: 0.745198198571429

01:27:48.840 --> 01:27:50.958 I'm one of the genetic counselors
NOTE Confidence: 0.745198198571429

01:27:50.958 --> 01:27:52.967 in the smilow cancer genetics
NOTE Confidence: 0.745198198571429

01:27:52.967 --> 01:27:54.539 and prevention program.
NOTE Confidence: 0.745198198571429

01:27:54.540 --> 01:27:57.510 Can everyone see my slides?
NOTE Confidence: 0.745198198571429

01:27:57.510 --> 01:27:59.918 Alright, perfect, so I'm going to do
NOTE Confidence: 0.745198198571429

01:27:59.918 --> 01:28:02.532 just a brief overview of hereditary
NOTE Confidence: 0.745198198571429

01:28:02.532 --> 01:28:05.037 kidney tumor and cancer syndromes.
NOTE Confidence: 0.745198198571429

01:28:05.040 --> 01:28:07.008 It would be impossible to do a deep
NOTE Confidence: 0.745198198571429

01:28:07.008 --> 01:28:08.877 dive in a short period of time,

NOTE Confidence: 0.745198198571429
01:28:08.880 --> 01:28:11.120 but I'll do my best to give
NOTE Confidence: 0.745198198571429
01:28:11.120 --> 01:28:13.469 kind of a brief overview,
NOTE Confidence: 0.745198198571429
01:28:13.470 --> 01:28:15.780 so we'll start just by kind
NOTE Confidence: 0.745198198571429
01:28:15.780 --> 01:28:17.890 of pointing out that while.
NOTE Confidence: 0.745198198571429
01:28:17.890 --> 01:28:19.630 We're gonna talk about hereditary
NOTE Confidence: 0.745198198571429
01:28:19.630 --> 01:28:20.674 kidney cancer syndromes.
NOTE Confidence: 0.745198198571429
01:28:20.680 --> 01:28:22.960 Hereditary hereditary kidney cancer and
NOTE Confidence: 0.745198198571429
01:28:22.960 --> 01:28:25.610 tumor syndromes are actually fairly rare,
NOTE Confidence: 0.745198198571429
01:28:25.610 --> 01:28:29.618 and most cancer is not hereditary or genetic.
NOTE Confidence: 0.745198198571429
01:28:29.620 --> 01:28:32.872 So most cancer 70% of cancer
NOTE Confidence: 0.745198198571429
01:28:32.872 --> 01:28:34.498 is actually sporadic,
NOTE Confidence: 0.745198198571429
01:28:34.500 --> 01:28:37.396 and that just means that it's caused by
NOTE Confidence: 0.745198198571429
01:28:37.400 --> 01:28:39.776 things like the normal aging process,
NOTE Confidence: 0.745198198571429
01:28:39.780 --> 01:28:42.516 overtime, lifestyle factors,
NOTE Confidence: 0.745198198571429
01:28:42.516 --> 01:28:44.340 environmental exposures,
NOTE Confidence: 0.745198198571429

01:28:44.340 --> 01:28:46.594 and in most cases when we look
NOTE Confidence: 0.745198198571429

01:28:46.594 --> 01:28:48.704 at a patient's personal history,
NOTE Confidence: 0.745198198571429

01:28:48.704 --> 01:28:49.680 family history,
NOTE Confidence: 0.745198198571429

01:28:49.680 --> 01:28:51.395 when the cancer sporadic will
NOTE Confidence: 0.745198198571429

01:28:51.395 --> 01:28:53.110 expect to see those cancers
NOTE Confidence: 0.745198198571429

01:28:53.172 --> 01:28:55.279 occurring kind of at at later ages.
NOTE Confidence: 0.745198198571429

01:28:55.280 --> 01:28:56.396 General population ages.
NOTE Confidence: 0.745198198571429

01:28:56.396 --> 01:28:59.000 When we look at the family history,
NOTE Confidence: 0.745198198571429

01:28:59.000 --> 01:29:00.656 we'll expect to see.
NOTE Confidence: 0.745198198571429

01:29:00.656 --> 01:29:04.409 A random mix of cancer types in the family.
NOTE Confidence: 0.745198198571429

01:29:04.410 --> 01:29:07.890 Another 20% of cancer is explained
NOTE Confidence: 0.745198198571429

01:29:07.890 --> 01:29:10.210 by a familial predisposition,
NOTE Confidence: 0.745198198571429

01:29:10.210 --> 01:29:13.073 so these are families where we might
NOTE Confidence: 0.745198198571429

01:29:13.073 --> 01:29:15.812 see multiple people in the family who
NOTE Confidence: 0.745198198571429

01:29:15.812 --> 01:29:18.550 are developing the same type of cancer,
NOTE Confidence: 0.745198198571429

01:29:18.550 --> 01:29:21.750 and so we might see.

NOTE Confidence: 0.745198198571429
01:29:21.750 --> 01:29:24.252 And a higher than average risk
NOTE Confidence: 0.745198198571429
01:29:24.252 --> 01:29:26.860 for a certain type of cancer.
NOTE Confidence: 0.745198198571429
01:29:26.860 --> 01:29:29.261 But we would still expect to see
NOTE Confidence: 0.745198198571429
01:29:29.261 --> 01:29:31.646 most of those cancers developing
NOTE Confidence: 0.745198198571429
01:29:31.646 --> 01:29:33.569 average population ages.
NOTE Confidence: 0.745198198571429
01:29:33.570 --> 01:29:35.874 In most cases we wouldn't see
NOTE Confidence: 0.745198198571429
01:29:35.874 --> 01:29:38.319 rare or unusual types of cancers,
NOTE Confidence: 0.745198198571429
01:29:38.320 --> 01:29:40.756 and these are really clusters of
NOTE Confidence: 0.745198198571429
01:29:40.756 --> 01:29:43.406 cancers that are likely explained by
NOTE Confidence: 0.745198198571429
01:29:43.406 --> 01:29:45.786 some shared genetic risk factors.
NOTE Confidence: 0.745198198571429
01:29:45.790 --> 01:29:48.875 But alongside a shared combination
NOTE Confidence: 0.745198198571429
01:29:48.875 --> 01:29:51.343 of lifestyle and environmental
NOTE Confidence: 0.745198198571429
01:29:51.343 --> 01:29:52.709 exposures as well.
NOTE Confidence: 0.745198198571429
01:29:52.710 --> 01:29:55.426 And then really only 5 to 10%
NOTE Confidence: 0.745198198571429
01:29:55.430 --> 01:29:58.706 of her cancer is explained by
NOTE Confidence: 0.745198198571429

01:29:58.706 --> 01:30:00.890 a Hereditary Cancer syndrome.
NOTE Confidence: 0.745198198571429

01:30:00.890 --> 01:30:03.596 And so these are situations where
NOTE Confidence: 0.745198198571429

01:30:03.596 --> 01:30:06.990 there is a greater lifetime risk of
NOTE Confidence: 0.745198198571429

01:30:06.990 --> 01:30:09.538 cancer that cancers are typically
NOTE Confidence: 0.745198198571429

01:30:09.538 --> 01:30:12.610 diagnosed at younger than expected ages.
NOTE Confidence: 0.745198198571429

01:30:12.610 --> 01:30:14.900 There's a greater chance of
NOTE Confidence: 0.745198198571429

01:30:14.900 --> 01:30:16.732 developing a second cancer,
NOTE Confidence: 0.745198198571429

01:30:16.740 --> 01:30:18.972 and we usually see more rare
NOTE Confidence: 0.745198198571429

01:30:18.972 --> 01:30:20.930 types of cancers as well.
NOTE Confidence: 0.745198198571429

01:30:20.930 --> 01:30:22.310 And in these families,
NOTE Confidence: 0.745198198571429

01:30:22.310 --> 01:30:25.884 we may see the same type of cancer or
NOTE Confidence: 0.745198198571429

01:30:25.884 --> 01:30:28.728 related types of cancers clustering together.
NOTE Confidence: 0.745198198571429

01:30:28.730 --> 01:30:31.386 So in terms of what we look for,
NOTE Confidence: 0.745198198571429

01:30:31.390 --> 01:30:32.670 what you should look for,
NOTE Confidence: 0.745198198571429

01:30:32.670 --> 01:30:34.386 what your doctors are looking for,
NOTE Confidence: 0.745198198571429

01:30:34.390 --> 01:30:36.394 and what your genetic counselors are

NOTE Confidence: 0.745198198571429

01:30:36.394 --> 01:30:38.926 looking for to kind of give clues

NOTE Confidence: 0.745198198571429

01:30:38.926 --> 01:30:41.182 as to whether there's a hereditary

NOTE Confidence: 0.745198198571429

01:30:41.182 --> 01:30:43.120 predisposition for cancer in the family.

NOTE Confidence: 0.745198198571429

01:30:43.120 --> 01:30:45.280 Are things like cancers that are

NOTE Confidence: 0.745198198571429

01:30:45.280 --> 01:30:47.659 diagnosed at earlier than expected ages?

NOTE Confidence: 0.745198198571429

01:30:47.660 --> 01:30:50.096 So for kidney cancer we usually

NOTE Confidence: 0.745198198571429

01:30:50.096 --> 01:30:52.738 say that's under the age of 4746.

NOTE Confidence: 0.745198198571429

01:30:52.740 --> 01:30:53.480 Forty seven.

NOTE Confidence: 0.745198198571429

01:30:53.480 --> 01:30:56.440 I know that sounds like sort of a

NOTE Confidence: 0.745198198571429

01:30:56.523 --> 01:30:59.338 very arbitrary and specific number,

NOTE Confidence: 0.745198198571429

01:30:59.340 --> 01:31:01.937 but there is research out there that

NOTE Confidence: 0.745198198571429

01:31:01.937 --> 01:31:03.904 says really anything under 4647

NOTE Confidence: 0.745198198571429

01:31:03.904 --> 01:31:06.688 is where the risk for Hereditary

NOTE Confidence: 0.745198198571429

01:31:06.688 --> 01:31:09.089 syndrome really starts to increase.

NOTE Confidence: 0.745198198571429

01:31:09.090 --> 01:31:11.456 We would also expect to see multiple

NOTE Confidence: 0.745198198571429

01:31:11.456 --> 01:31:13.420 family members on the same side
NOTE Confidence: 0.745198198571429

01:31:13.420 --> 01:31:15.478 of the family with this same type
NOTE Confidence: 0.951835637586207

01:31:15.547 --> 01:31:17.787 of cancer or related type of cancer
NOTE Confidence: 0.951835637586207

01:31:17.787 --> 01:31:20.326 or tumors, so this might be a mother
NOTE Confidence: 0.951835637586207

01:31:20.326 --> 01:31:23.479 and a child who have both had the same
NOTE Confidence: 0.951835637586207

01:31:23.479 --> 01:31:26.209 type of kidney cancer or two siblings
NOTE Confidence: 0.951835637586207

01:31:26.209 --> 01:31:29.142 with the same type of kidney cancer.
NOTE Confidence: 0.951835637586207

01:31:29.150 --> 01:31:32.550 And then we can see rare cancers or
NOTE Confidence: 0.951835637586207

01:31:32.550 --> 01:31:34.978 rare tumors such as angiomyolipomas
NOTE Confidence: 0.951835637586207

01:31:34.978 --> 01:31:37.608 or chromophobe tumors that have
NOTE Confidence: 0.951835637586207

01:31:37.608 --> 01:31:40.140 already been mentioned tonight.
NOTE Confidence: 0.951835637586207

01:31:40.140 --> 01:31:42.900 And we might also see a person who's
NOTE Confidence: 0.951835637586207

01:31:42.900 --> 01:31:44.758 developing multiple cancers or tumors.
NOTE Confidence: 0.951835637586207

01:31:44.760 --> 01:31:46.020 Sometimes this is multiple
NOTE Confidence: 0.951835637586207

01:31:46.020 --> 01:31:47.280 tumors in the kidney,
NOTE Confidence: 0.951835637586207

01:31:47.280 --> 01:31:49.460 but other times it's multiple

NOTE Confidence: 0.951835637586207
01:31:49.460 --> 01:31:52.240 different types of cancers or tumors.
NOTE Confidence: 0.951835637586207
01:31:52.240 --> 01:31:53.416 And rare benign tumors.
NOTE Confidence: 0.951835637586207
01:31:53.416 --> 01:31:55.862 So in a lot of our hereditary
NOTE Confidence: 0.951835637586207
01:31:55.862 --> 01:31:57.698 kidney cancer syndromes,
NOTE Confidence: 0.951835637586207
01:31:57.700 --> 01:31:59.900 these are going to be rare benign tumors
NOTE Confidence: 0.951835637586207
01:31:59.900 --> 01:32:01.917 that are developing in the kidney,
NOTE Confidence: 0.951835637586207
01:32:01.920 --> 01:32:04.668 but also rare benign tumors that
NOTE Confidence: 0.951835637586207
01:32:04.668 --> 01:32:07.000 are developing on this skin.
NOTE Confidence: 0.951835637586207
01:32:07.000 --> 01:32:09.262 Sometimes those are lesions on the
NOTE Confidence: 0.951835637586207
01:32:09.262 --> 01:32:12.445 skin that might be very subtle and that
NOTE Confidence: 0.951835637586207
01:32:12.445 --> 01:32:14.839 you might not even notice yourself,
NOTE Confidence: 0.951835637586207
01:32:14.840 --> 01:32:16.660 but that a dermatologist might
NOTE Confidence: 0.951835637586207
01:32:16.660 --> 01:32:18.116 be able to see.
NOTE Confidence: 0.951835637586207
01:32:18.120 --> 01:32:18.710 Other times,
NOTE Confidence: 0.951835637586207
01:32:18.710 --> 01:32:21.360 those might be things on your skin that are,
NOTE Confidence: 0.951835637586207

01:32:21.360 --> 01:32:23.117 you know, sort of just skin colored.
NOTE Confidence: 0.951835637586207

01:32:23.120 --> 01:32:25.192 But maybe you notice that they're really
NOTE Confidence: 0.951835637586207

01:32:25.192 --> 01:32:27.599 sensitive to the cold or when you touch them.
NOTE Confidence: 0.951835637586207

01:32:27.600 --> 01:32:29.660 They're a little bit painful.
NOTE Confidence: 0.951835637586207

01:32:29.660 --> 01:32:31.628 Sometimes these rare tumors are things
NOTE Confidence: 0.951835637586207

01:32:31.628 --> 01:32:34.236 that develop in the brain or in the lungs,
NOTE Confidence: 0.951835637586207

01:32:34.240 --> 01:32:35.998 and so they're not things that
NOTE Confidence: 0.951835637586207

01:32:35.998 --> 01:32:36.877 you would encounter,
NOTE Confidence: 0.951835637586207

01:32:36.880 --> 01:32:40.468 kind of in the the general
NOTE Confidence: 0.951835637586207

01:32:40.468 --> 01:32:42.262 population very often.
NOTE Confidence: 0.951835637586207

01:32:42.270 --> 01:32:44.370 And when we talk about
NOTE Confidence: 0.951835637586207

01:32:44.370 --> 01:32:45.630 hereditary syndromes really,
NOTE Confidence: 0.951835637586207

01:32:45.630 --> 01:32:47.412 what we're talking about and what
NOTE Confidence: 0.951835637586207

01:32:47.412 --> 01:32:49.030 what's already been mentioned tonight,
NOTE Confidence: 0.951835637586207

01:32:49.030 --> 01:32:51.016 are these genes that normally are
NOTE Confidence: 0.951835637586207

01:32:51.016 --> 01:32:53.369 kind of helping to prevent cancer,

NOTE Confidence: 0.951835637586207
01:32:53.370 --> 01:32:55.610 so they're keeping the cells in our body,
NOTE Confidence: 0.951835637586207
01:32:55.610 --> 01:32:57.720 kind of growing and dividing
NOTE Confidence: 0.951835637586207
01:32:57.720 --> 01:32:59.408 into really regimented way.
NOTE Confidence: 0.951835637586207
01:32:59.410 --> 01:33:00.294 And so,
NOTE Confidence: 0.951835637586207
01:33:00.294 --> 01:33:02.504 like what's been mentioned previously,
NOTE Confidence: 0.951835637586207
01:33:02.510 --> 01:33:05.795 most of the time people are born with two
NOTE Confidence: 0.951835637586207
01:33:05.795 --> 01:33:08.470 healthy working copies of those genes,
NOTE Confidence: 0.951835637586207
01:33:08.470 --> 01:33:09.950 and when that's the case,
NOTE Confidence: 0.951835637586207
01:33:09.950 --> 01:33:12.080 the way they develop a tumor.
NOTE Confidence: 0.951835637586207
01:33:12.080 --> 01:33:13.226 Or a cancer?
NOTE Confidence: 0.951835637586207
01:33:13.226 --> 01:33:16.640 Is that both copies have to become damaged,
NOTE Confidence: 0.951835637586207
01:33:16.640 --> 01:33:19.634 or what we call mutated overtime to
NOTE Confidence: 0.951835637586207
01:33:19.634 --> 01:33:22.496 allow the cell to start growing,
NOTE Confidence: 0.951835637586207
01:33:22.500 --> 01:33:23.940 dividing out of control,
NOTE Confidence: 0.951835637586207
01:33:23.940 --> 01:33:25.020 forming that tumor,
NOTE Confidence: 0.951835637586207

01:33:25.020 --> 01:33:27.112 and eventually the cancer.
NOTE Confidence: 0.951835637586207

01:33:27.112 --> 01:33:30.250 In individuals who have an inherited
NOTE Confidence: 0.951835637586207

01:33:30.342 --> 01:33:32.919 cancer predisposition syndrome,
NOTE Confidence: 0.951835637586207

01:33:32.920 --> 01:33:34.915 what happens is they actually
NOTE Confidence: 0.951835637586207

01:33:34.915 --> 01:33:37.397 start their life one step into
NOTE Confidence: 0.951835637586207

01:33:37.397 --> 01:33:40.580 that process so they are born with
NOTE Confidence: 0.951835637586207

01:33:40.580 --> 01:33:43.570 one healthy working copy of these
NOTE Confidence: 0.951835637586207

01:33:43.570 --> 01:33:45.990 genes and then the other copy,
NOTE Confidence: 0.951835637586207

01:33:45.990 --> 01:33:48.342 and every cell of their body
NOTE Confidence: 0.951835637586207

01:33:48.342 --> 01:33:50.710 contains a mutation and so they're
NOTE Confidence: 0.951835637586207

01:33:50.710 --> 01:33:53.244 sort of down one line of defense
NOTE Confidence: 0.951835637586207

01:33:53.244 --> 01:33:55.337 when we think about cancer,
NOTE Confidence: 0.951835637586207

01:33:55.340 --> 01:33:57.620 because now it's going to take just one.
NOTE Confidence: 0.951835637586207

01:33:57.620 --> 01:34:00.068 Random event to occur before the
NOTE Confidence: 0.951835637586207

01:34:00.068 --> 01:34:02.720 tumor or the cancer can develop,
NOTE Confidence: 0.951835637586207

01:34:02.720 --> 01:34:05.128 and that's why we would expect to see

NOTE Confidence: 0.951835637586207

01:34:05.128 --> 01:34:07.298 younger ages at the time of diagnosis.

NOTE Confidence: 0.951835637586207

01:34:07.300 --> 01:34:09.980 A higher cancer risk overall,

NOTE Confidence: 0.951835637586207

01:34:09.980 --> 01:34:14.028 and why we can see multiple tumors and

NOTE Confidence: 0.951835637586207

01:34:14.028 --> 01:34:16.727 multiple different areas of the body.

NOTE Confidence: 0.951835637586207

01:34:16.730 --> 01:34:19.299 So this is a very busy slide,

NOTE Confidence: 0.951835637586207

01:34:19.300 --> 01:34:22.128 and I apologize that it's so cluttered.

NOTE Confidence: 0.951835637586207

01:34:22.130 --> 01:34:24.734 But when we think about our hereditary

NOTE Confidence: 0.951835637586207

01:34:24.734 --> 01:34:27.089 kidney tumor or cancer syndromes,

NOTE Confidence: 0.951835637586207

01:34:27.090 --> 01:34:28.656 these are the most common ones.

NOTE Confidence: 0.951835637586207

01:34:28.660 --> 01:34:30.170 There are some other ones,

NOTE Confidence: 0.941316832727273

01:34:30.170 --> 01:34:32.006 but these are the the ones

NOTE Confidence: 0.941316832727273

01:34:32.006 --> 01:34:33.640 we think about the most.

NOTE Confidence: 0.941316832727273

01:34:33.640 --> 01:34:35.866 And you can see that when your

NOTE Confidence: 0.941316832727273

01:34:35.866 --> 01:34:37.459 doctors are meeting with you,

NOTE Confidence: 0.941316832727273

01:34:37.460 --> 01:34:39.644 or if you meet with a genetic

NOTE Confidence: 0.941316832727273

01:34:39.644 --> 01:34:41.345 counselor really what we're thinking
NOTE Confidence: 0.941316832727273

01:34:41.345 --> 01:34:43.774 about first are what type of kidney,
NOTE Confidence: 0.941316832727273

01:34:43.780 --> 01:34:47.542 tumor or cancer do you have that helps
NOTE Confidence: 0.941316832727273

01:34:47.542 --> 01:34:49.929 us kind of narrow down what syndrome
NOTE Confidence: 0.941316832727273

01:34:49.929 --> 01:34:52.080 might might we be thinking about?
NOTE Confidence: 0.941316832727273

01:34:52.080 --> 01:34:55.258 So we've already talked about VHL tonight,
NOTE Confidence: 0.941316832727273

01:34:55.260 --> 01:34:57.155 which is associated with the
NOTE Confidence: 0.941316832727273

01:34:57.155 --> 01:34:59.620 clear cell type of kidney cancer,
NOTE Confidence: 0.941316832727273

01:34:59.620 --> 01:35:01.888 but we also have hereditary syndromes
NOTE Confidence: 0.941316832727273

01:35:01.888 --> 01:35:04.199 that are associated with other types.
NOTE Confidence: 0.941316832727273

01:35:04.200 --> 01:35:06.900 I have kidney cancers like papillary
NOTE Confidence: 0.941316832727273

01:35:06.900 --> 01:35:09.222 kidney cancer, chromophobe tumors,
NOTE Confidence: 0.941316832727273

01:35:09.222 --> 01:35:12.066 the angiomyolipomas that were
NOTE Confidence: 0.941316832727273

01:35:12.066 --> 01:35:14.199 mentioned earlier tonight.
NOTE Confidence: 0.941316832727273

01:35:14.200 --> 01:35:15.496 And then so that helps us
NOTE Confidence: 0.941316832727273

01:35:15.496 --> 01:35:16.360 kind of narrow down.

NOTE Confidence: 0.941316832727273
01:35:16.360 --> 01:35:18.538 OK, What syndrome are we thinking
NOTE Confidence: 0.941316832727273
01:35:18.538 --> 01:35:20.930 about in that individual or the family?
NOTE Confidence: 0.941316832727273
01:35:20.930 --> 01:35:22.280 And then we think about?
NOTE Confidence: 0.941316832727273
01:35:22.280 --> 01:35:24.152 Are there any of those other
NOTE Confidence: 0.941316832727273
01:35:24.152 --> 01:35:26.420 features that we would expect to see
NOTE Confidence: 0.941316832727273
01:35:26.420 --> 01:35:28.334 in that individual or the family?
NOTE Confidence: 0.941316832727273
01:35:28.340 --> 01:35:31.740 Like some of those non cancerous or the
NOTE Confidence: 0.941316832727273
01:35:31.740 --> 01:35:34.378 benign tumors in other areas of the body?
NOTE Confidence: 0.941316832727273
01:35:34.380 --> 01:35:36.900 So when you meet with a genetic counselor,
NOTE Confidence: 0.941316832727273
01:35:36.900 --> 01:35:39.573 we spend a lot of time talking about your
NOTE Confidence: 0.941316832727273
01:35:39.573 --> 01:35:41.877 medical history and your family history.
NOTE Confidence: 0.941316832727273
01:35:41.880 --> 01:35:44.092 We ask you what feels probably like
NOTE Confidence: 0.941316832727273
01:35:44.092 --> 01:35:46.308 a laundry list of questions about.
NOTE Confidence: 0.941316832727273
01:35:46.310 --> 01:35:47.940 Different aspects of your medical
NOTE Confidence: 0.941316832727273
01:35:47.940 --> 01:35:49.570 care and your family members.
NOTE Confidence: 0.941316832727273

01:35:49.570 --> 01:35:50.314 Medical history.
NOTE Confidence: 0.941316832727273

01:35:50.314 --> 01:35:51.058 But really,
NOTE Confidence: 0.941316832727273

01:35:51.058 --> 01:35:53.290 the reason we're asking those detailed
NOTE Confidence: 0.941316832727273

01:35:53.350 --> 01:35:54.875 questions is 'cause we're trying
NOTE Confidence: 0.941316832727273

01:35:54.875 --> 01:35:57.129 to narrow down as much as possible.
NOTE Confidence: 0.941316832727273

01:35:57.130 --> 01:35:59.020 What hereditary syndrome?
NOTE Confidence: 0.941316832727273

01:35:59.020 --> 01:36:02.800 What might we be thinking of?
NOTE Confidence: 0.941316832727273

01:36:02.800 --> 01:36:05.271 And then just in terms of basics
NOTE Confidence: 0.941316832727273

01:36:05.271 --> 01:36:06.330 of genetic testing,
NOTE Confidence: 0.941316832727273

01:36:06.330 --> 01:36:08.220 if you are thinking about genetic testing
NOTE Confidence: 0.941316832727273

01:36:08.220 --> 01:36:10.637 and you do meet with a genetic counselor,
NOTE Confidence: 0.941316832727273

01:36:10.640 --> 01:36:12.590 a genetic counselor will kind of
NOTE Confidence: 0.941316832727273

01:36:12.590 --> 01:36:14.383 go over different test options
NOTE Confidence: 0.941316832727273

01:36:14.383 --> 01:36:16.087 with you insurance coverage.
NOTE Confidence: 0.941316832727273

01:36:16.090 --> 01:36:17.620 Answer all of those questions.
NOTE Confidence: 0.941316832727273

01:36:17.620 --> 01:36:19.517 But just to give you a little

NOTE Confidence: 0.941316832727273
01:36:19.517 --> 01:36:20.330 bit of background,
NOTE Confidence: 0.941316832727273
01:36:20.330 --> 01:36:22.425 genetic testing can be completed
NOTE Confidence: 0.941316832727273
01:36:22.425 --> 01:36:24.520 from blood or from saliva.
NOTE Confidence: 0.941316832727273
01:36:24.520 --> 01:36:28.405 It is covered by most insurance companies,
NOTE Confidence: 0.941316832727273
01:36:28.410 --> 01:36:30.727 especially if you have a personal or
NOTE Confidence: 0.941316832727273
01:36:30.727 --> 01:36:32.635 a family history that's suggestive
NOTE Confidence: 0.941316832727273
01:36:32.635 --> 01:36:33.910 of a hereditary.
NOTE Confidence: 0.941316832727273
01:36:33.910 --> 01:36:35.382 Cancer syndrome, so again,
NOTE Confidence: 0.941316832727273
01:36:35.382 --> 01:36:37.590 if you're young when you're diagnosed,
NOTE Confidence: 0.941316832727273
01:36:37.590 --> 01:36:39.526 if you have a family history of a
NOTE Confidence: 0.941316832727273
01:36:39.526 --> 01:36:41.711 first or second or relative who was
NOTE Confidence: 0.941316832727273
01:36:41.711 --> 01:36:44.110 young when they were diagnosed with cancer?
NOTE Confidence: 0.941316832727273
01:36:44.110 --> 01:36:47.197 If you have some of those benign rare tumors,
NOTE Confidence: 0.941316832727273
01:36:47.200 --> 01:36:49.200 all of those things are going to suggest
NOTE Confidence: 0.941316832727273
01:36:49.200 --> 01:36:50.789 that there is a hereditary risk,
NOTE Confidence: 0.941316832727273

01:36:50.790 --> 01:36:53.646 and in most cases you will have
NOTE Confidence: 0.941316832727273

01:36:53.646 --> 01:36:55.580 coverage for genetic testing.
NOTE Confidence: 0.941316832727273

01:36:55.580 --> 01:36:55.926 Luckily,
NOTE Confidence: 0.941316832727273

01:36:55.926 --> 01:36:58.694 the price of genetic testing has come down,
NOTE Confidence: 0.941316832727273

01:36:58.700 --> 01:37:00.956 so if in the unlikely event you do
NOTE Confidence: 0.941316832727273

01:37:00.956 --> 01:37:03.497 not have coverage for genetic testing,
NOTE Confidence: 0.941316832727273

01:37:03.500 --> 01:37:06.293 most of the time we can complete
NOTE Confidence: 0.941316832727273

01:37:06.293 --> 01:37:08.560 that genetic testing for an out
NOTE Confidence: 0.941316832727273

01:37:08.560 --> 01:37:10.877 of pocket cost of around \$250 and
NOTE Confidence: 0.941316832727273

01:37:10.880 --> 01:37:12.890 a lot of the genetic testing
NOTE Confidence: 0.941316832727273

01:37:12.890 --> 01:37:15.130 laboratories that we use do offer
NOTE Confidence: 0.941316832727273

01:37:15.130 --> 01:37:17.210 patient financial assistance as well.
NOTE Confidence: 0.941316832727273

01:37:17.210 --> 01:37:20.227 And there are federal laws that prohibit
NOTE Confidence: 0.941316832727273

01:37:20.227 --> 01:37:22.126 genetic discrimination by health
NOTE Confidence: 0.941316832727273

01:37:22.126 --> 01:37:24.270 insurance companies and employers,
NOTE Confidence: 0.941316832727273

01:37:24.270 --> 01:37:26.574 with some rare exceptions,

NOTE Confidence: 0.941316832727273
01:37:26.574 --> 01:37:28.878 particularly for our active
NOTE Confidence: 0.941316832727273
01:37:28.878 --> 01:37:30.810 duty service members.
NOTE Confidence: 0.941316832727273
01:37:30.810 --> 01:37:33.300 And that was my last slide.
NOTE Confidence: 0.92082357
01:37:36.570 --> 01:37:38.148 I was on mute. That's fantastic.
NOTE Confidence: 0.92082357
01:37:38.150 --> 01:37:39.342 Excellent. It was great.
NOTE Confidence: 0.92082357
01:37:39.342 --> 01:37:41.575 So in in there there are questions
NOTE Confidence: 0.92082357
01:37:41.575 --> 01:37:43.867 that are absolutely up your alley.
NOTE Confidence: 0.92082357
01:37:43.870 --> 01:37:46.662 So the first question is what are the
NOTE Confidence: 0.92082357
01:37:46.662 --> 01:37:49.138 the genetic predispositions for RCC?
NOTE Confidence: 0.92082357
01:37:49.140 --> 01:37:49.885 And now you know the
NOTE Confidence: 0.92082357
01:37:49.885 --> 01:37:50.630 answers to the others too.
NOTE Confidence: 0.92082357
01:37:50.630 --> 01:37:52.220 And skin or bladder cancer.
NOTE Confidence: 0.891762633076923
01:37:53.150 --> 01:37:56.180 So there's not necessarily one syndrome
NOTE Confidence: 0.891762633076923
01:37:56.180 --> 01:37:59.729 that connects all three of those together.
NOTE Confidence: 0.891762633076923
01:37:59.730 --> 01:38:01.638 But there are a number of
NOTE Confidence: 0.891762633076923

01:38:01.638 --> 01:38:02.910 hereditary kidney cancer syndromes.
NOTE Confidence: 0.891762633076923

01:38:02.910 --> 01:38:04.510 Some of those increase the
NOTE Confidence: 0.891762633076923

01:38:04.510 --> 01:38:06.110 risk for Melanoma as well.
NOTE Confidence: 0.891762633076923

01:38:06.110 --> 01:38:07.966 So if we're talking about a skin cancer,
NOTE Confidence: 0.891762633076923

01:38:07.970 --> 01:38:09.064 that's Melanoma.
NOTE Confidence: 0.891762633076923

01:38:09.064 --> 01:38:11.799 That could be a concern.
NOTE Confidence: 0.891762633076923

01:38:11.800 --> 01:38:13.815 There is a hereditary cancer
NOTE Confidence: 0.891762633076923

01:38:13.815 --> 01:38:15.427 syndrome that does increase
NOTE Confidence: 0.891762633076923

01:38:15.427 --> 01:38:17.816 the risk for bladder cancer and
NOTE Confidence: 0.891762633076923

01:38:17.816 --> 01:38:20.270 collecting duct tumors of the kidney.
NOTE Confidence: 0.891762633076923

01:38:20.270 --> 01:38:22.486 So if you have a family history or
NOTE Confidence: 0.891762633076923

01:38:22.486 --> 01:38:24.408 personal history of all of those cancers,
NOTE Confidence: 0.891762633076923

01:38:24.410 --> 01:38:25.677 good idea to ask for or for
NOTE Confidence: 0.891762633076923

01:38:25.677 --> 01:38:27.179 all to a genetic counselor.
NOTE Confidence: 0.893513397

01:38:28.360 --> 01:38:30.900 Great and second question was
NOTE Confidence: 0.893513397

01:38:30.900 --> 01:38:33.824 my dad had a tumor, no, no.

NOTE Confidence: 0.893513397

01:38:33.824 --> 01:38:34.722 There's another one. Sorry.

NOTE Confidence: 0.893513397

01:38:34.722 --> 01:38:36.976 My brother and I were both diagnosed

NOTE Confidence: 0.893513397

01:38:36.976 --> 01:38:39.238 with clear cell kidney kidney cancer.

NOTE Confidence: 0.893513397

01:38:39.240 --> 01:38:40.648 We both completed genetic

NOTE Confidence: 0.893513397

01:38:40.648 --> 01:38:42.056 testing with no concerns.

NOTE Confidence: 0.893513397

01:38:42.060 --> 01:38:43.650 How concerned should we be

NOTE Confidence: 0.893513397

01:38:43.650 --> 01:38:44.922 for our children inheriting

NOTE Confidence: 0.893513397

01:38:44.922 --> 01:38:46.298 clear cell kidney cancer?

NOTE Confidence: 0.865557488333333

01:38:47.130 --> 01:38:48.929 So one thing that I would say

NOTE Confidence: 0.865557488333333

01:38:48.929 --> 01:38:50.630 is just like most medicine,

NOTE Confidence: 0.865557488333333

01:38:50.630 --> 01:38:52.988 genetic testing gets better with time.

NOTE Confidence: 0.865557488333333

01:38:52.990 --> 01:38:54.730 So if your genetic testing

NOTE Confidence: 0.865557488333333

01:38:54.730 --> 01:38:56.470 was performed a while ago,

NOTE Confidence: 0.865557488333333

01:38:56.470 --> 01:38:59.206 we likely have newer genetic testing

NOTE Confidence: 0.865557488333333

01:38:59.206 --> 01:39:01.460 technology that can evaluate the

NOTE Confidence: 0.865557488333333

01:39:01.460 --> 01:39:03.917 same genes but pick up mutations that

NOTE Confidence: 0.865557488333333

01:39:03.917 --> 01:39:06.310 may have been missed previously.

NOTE Confidence: 0.865557488333333

01:39:06.310 --> 01:39:07.760 So if your genetic testing

NOTE Confidence: 0.865557488333333

01:39:07.760 --> 01:39:09.210 was completed a while ago,

NOTE Confidence: 0.865557488333333

01:39:09.210 --> 01:39:11.120 good idea to contact whoever

NOTE Confidence: 0.865557488333333

01:39:11.120 --> 01:39:13.030 performed that genetic testing or

NOTE Confidence: 0.865557488333333

01:39:13.099 --> 01:39:15.388 ask your doctor for a referral to

NOTE Confidence: 0.865557488333333

01:39:15.388 --> 01:39:17.048 a genetic counselor to see if.

NOTE Confidence: 0.865557488333333

01:39:17.050 --> 01:39:20.470 Updated testing with the appropriate.

NOTE Confidence: 0.865557488333333

01:39:20.470 --> 01:39:23.386 In families where there are multiple

NOTE Confidence: 0.865557488333333

01:39:23.386 --> 01:39:27.428 relatives with a tumor type where we do

NOTE Confidence: 0.865557488333333

01:39:27.428 --> 01:39:29.943 not identify a genetic predisposition,

NOTE Confidence: 0.865557488333333

01:39:29.950 --> 01:39:31.889 it doesn't mean that one doesn't exist.

NOTE Confidence: 0.865557488333333

01:39:31.890 --> 01:39:34.642 We don't know of all genes that are

NOTE Confidence: 0.865557488333333

01:39:34.642 --> 01:39:37.073 associated with these hereditary cancer

NOTE Confidence: 0.865557488333333

01:39:37.073 --> 01:39:39.380 syndromes and also there's still that

NOTE Confidence: 0.865557488333333

01:39:39.380 --> 01:39:41.130 risk of a familial predisposition,

NOTE Confidence: 0.865557488333333

01:39:41.130 --> 01:39:43.362 so not one single genetic factor

NOTE Confidence: 0.865557488333333

01:39:43.362 --> 01:39:45.490 but a combination of factors.

NOTE Confidence: 0.865557488333333

01:39:45.490 --> 01:39:47.022 So in that case,

NOTE Confidence: 0.865557488333333

01:39:47.022 --> 01:39:49.320 with two relatives closely related to

NOTE Confidence: 0.865557488333333

01:39:49.394 --> 01:39:52.019 one another with the same tumor type.

NOTE Confidence: 0.865557488333333

01:39:52.020 --> 01:39:54.036 I would still estimate that their risk

NOTE Confidence: 0.865557488333333

01:39:54.036 --> 01:39:55.817 for other family members to develop

NOTE Confidence: 0.865557488333333

01:39:55.817 --> 01:39:57.833 that same tumor type would be higher

NOTE Confidence: 0.865557488333333

01:39:57.886 --> 01:39:59.506 than in the general population.

NOTE Confidence: 0.727620841666667

01:40:00.810 --> 01:40:02.826 And that that's a great answer,

NOTE Confidence: 0.727620841666667

01:40:02.830 --> 01:40:04.933 I let me let me add one or two things and and

NOTE Confidence: 0.727620841666667

01:40:04.933 --> 01:40:06.653 other people can correct me if I'm wrong.

NOTE Confidence: 0.727620841666667

01:40:06.660 --> 01:40:09.324 You know, sometimes it helps to know a

NOTE Confidence: 0.727620841666667

01:40:09.324 --> 01:40:11.969 little bit more about the situation so.

NOTE Confidence: 0.727620841666667

01:40:11.970 --> 01:40:15.022 You know, are the tumors bigger? They small.

NOTE Confidence: 0.727620841666667

01:40:15.022 --> 01:40:17.070 How old were you when you got that?

NOTE Confidence: 0.727620841666667

01:40:17.070 --> 01:40:20.046 If if if you're both 80 years old,

NOTE Confidence: 0.727620841666667

01:40:20.050 --> 01:40:20.731 still it's it's.

NOTE Confidence: 0.727620841666667

01:40:20.731 --> 01:40:22.320 It's not super common that you both

NOTE Confidence: 0.727620841666667

01:40:22.372 --> 01:40:24.334 have that, but it may not be so

NOTE Confidence: 0.727620841666667

01:40:24.334 --> 01:40:26.170 uncommon if you're both 55 years old.

NOTE Confidence: 0.727620841666667

01:40:26.170 --> 01:40:29.108 That's different so but but but

NOTE Confidence: 0.727620841666667

01:40:29.108 --> 01:40:31.332 I think that point you made is so

NOTE Confidence: 0.727620841666667

01:40:31.332 --> 01:40:33.278 important that just because we don't.

NOTE Confidence: 0.727620841666667

01:40:33.280 --> 01:40:34.036 Have a name for.

NOTE Confidence: 0.727620841666667

01:40:34.036 --> 01:40:35.424 It doesn't mean there isn't a genetic

NOTE Confidence: 0.727620841666667

01:40:35.424 --> 01:40:37.278 thing out there that we don't know of yet.

NOTE Confidence: 0.727620841666667

01:40:37.280 --> 01:40:39.040 Is that yeah, and

NOTE Confidence: 0.894119902777778

01:40:39.050 --> 01:40:40.922 doctor Kenny is reminding me that

NOTE Confidence: 0.894119902777778

01:40:40.922 --> 01:40:43.290 I said a while ago but didn't

NOTE Confidence: 0.894119902777778
01:40:43.290 --> 01:40:45.040 really define what that was,
NOTE Confidence: 0.894119902777778
01:40:45.040 --> 01:40:47.616 so anything more than five years ago,
NOTE Confidence: 0.894119902777778
01:40:47.620 --> 01:40:49.310 we always recommend our patients
NOTE Confidence: 0.894119902777778
01:40:49.310 --> 01:40:51.705 contact us every five years to see
NOTE Confidence: 0.894119902777778
01:40:51.705 --> 01:40:53.631 if there's any new genetic testing
NOTE Confidence: 0.894119902777778
01:40:53.631 --> 01:40:55.788 technology that they would be worthwhile
NOTE Confidence: 0.894119902777778
01:40:55.788 --> 01:40:57.603 updating their genetic test with.
NOTE Confidence: 0.910100393846154
01:40:58.750 --> 01:41:00.280 And and so this person actually
NOTE Confidence: 0.910100393846154
01:41:00.280 --> 01:41:01.930 answered and said they're in their 50s.
NOTE Confidence: 0.910100393846154
01:41:01.930 --> 01:41:04.718 And and my answer to that is,
NOTE Confidence: 0.910100393846154
01:41:04.718 --> 01:41:08.213 go see Claire because you know what
NOTE Confidence: 0.910100393846154
01:41:08.213 --> 01:41:10.026 you're going to do and maybe you would
NOTE Confidence: 0.910100393846154
01:41:10.026 --> 01:41:11.754 say this already is that you do a
NOTE Confidence: 0.910100393846154
01:41:11.754 --> 01:41:13.292 whole history about what's going on
NOTE Confidence: 0.910100393846154
01:41:13.292 --> 01:41:15.070 with the family and all those things.
NOTE Confidence: 0.910100393846154

01:41:15.070 --> 01:41:16.570 You get a lot more information
NOTE Confidence: 0.910100393846154

01:41:16.570 --> 01:41:17.420 by that, right?
NOTE Confidence: 0.898177013

01:41:17.630 --> 01:41:18.466 Yeah, absolutely.
NOTE Confidence: 0.898177013

01:41:18.466 --> 01:41:20.556 And even if there's not
NOTE Confidence: 0.898177013

01:41:20.556 --> 01:41:21.810 updated genetic testing,
NOTE Confidence: 0.898177013

01:41:21.810 --> 01:41:24.967 we can talk about risks to relatives,
NOTE Confidence: 0.898177013

01:41:24.970 --> 01:41:26.510 what those risks may be,
NOTE Confidence: 0.898177013

01:41:26.510 --> 01:41:28.680 and can also help make connections for.
NOTE Confidence: 0.898177013

01:41:28.680 --> 01:41:30.225 Unaffected people in the family
NOTE Confidence: 0.898177013

01:41:30.225 --> 01:41:31.770 with high risk providers who
NOTE Confidence: 0.898177013

01:41:31.829 --> 01:41:33.425 may be able to offer screening.
NOTE Confidence: 0.740896525

01:41:34.510 --> 01:41:35.758 OK, and the last
NOTE Confidence: 0.743664041272727

01:41:35.770 --> 01:41:37.726 another really important thing to think
NOTE Confidence: 0.743664041272727

01:41:37.726 --> 01:41:40.988 about too is shared exposures and and
NOTE Confidence: 0.743664041272727

01:41:40.988 --> 01:41:43.452 so sometimes if a patient has a kidney
NOTE Confidence: 0.743664041272727

01:41:43.452 --> 01:41:46.320 cancer and a bladder cancer, it may not

NOTE Confidence: 0.743664041272727

01:41:46.320 --> 01:41:48.660 be a genetic predisposition to that.

NOTE Confidence: 0.743664041272727

01:41:48.660 --> 01:41:50.756 But perhaps they had an exposure that may

NOTE Confidence: 0.743664041272727

01:41:50.756 --> 01:41:53.298 have increased the risk of of both and.

NOTE Confidence: 0.743664041272727

01:41:53.298 --> 01:41:56.868 And so I I do think we we see that a lot.

NOTE Confidence: 0.743664041272727

01:41:56.870 --> 01:41:58.949 I think we also see it's fairly

NOTE Confidence: 0.743664041272727

01:41:58.949 --> 01:42:00.683 common to diagnose the second cancer

NOTE Confidence: 0.743664041272727

01:42:00.683 --> 01:42:02.990 in a patient who has had a cancer,

NOTE Confidence: 0.743664041272727

01:42:02.990 --> 01:42:05.000 and because we're doing imaging.

NOTE Confidence: 0.743664041272727

01:42:05.000 --> 01:42:07.310 And and we might find something

NOTE Confidence: 0.743664041272727

01:42:07.310 --> 01:42:09.560 that wasn't causing any symptoms.

NOTE Confidence: 0.743664041272727

01:42:09.560 --> 01:42:10.991 You know we're doing a chest scan

NOTE Confidence: 0.743664041272727

01:42:10.991 --> 01:42:12.680 because someone has a bladder cancer.

NOTE Confidence: 0.743664041272727

01:42:12.680 --> 01:42:14.410 It shows a thyroid nodule,

NOTE Confidence: 0.743664041272727

01:42:14.410 --> 01:42:15.475 which leads to an ultrasound

NOTE Confidence: 0.743664041272727

01:42:15.475 --> 01:42:16.540 which leads to a biopsy,

NOTE Confidence: 0.743664041272727

01:42:16.540 --> 01:42:17.650 which leads to a diagnosis
NOTE Confidence: 0.743664041272727

01:42:17.650 --> 01:42:18.968 of papillary thyroid cancer.
NOTE Confidence: 0.743664041272727

01:42:18.968 --> 01:42:21.332 And that's that's a very very
NOTE Confidence: 0.743664041272727

01:42:21.332 --> 01:42:22.859 common course of events,
NOTE Confidence: 0.743664041272727

01:42:22.860 --> 01:42:26.255 and so sometimes these clusters of a
NOTE Confidence: 0.743664041272727

01:42:26.255 --> 01:42:29.390 couple cancers may just be by chance,
NOTE Confidence: 0.743664041272727

01:42:29.390 --> 01:42:32.687 or could be from an exposure or
NOTE Confidence: 0.743664041272727

01:42:32.690 --> 01:42:34.150 or or genetics, but.
NOTE Confidence: 0.802470765882353

01:42:35.660 --> 01:42:36.794 Hugely important point.
NOTE Confidence: 0.802470765882353

01:42:36.794 --> 01:42:39.440 Yeah, that we're sort of more biased
NOTE Confidence: 0.802470765882353

01:42:39.512 --> 01:42:41.465 once we hear it from one thing.
NOTE Confidence: 0.802470765882353

01:42:41.470 --> 01:42:45.160 Let me go to the last question that I stay.
NOTE Confidence: 0.802470765882353

01:42:45.160 --> 01:42:47.024 Actually two more, but one is my dad
NOTE Confidence: 0.802470765882353

01:42:47.024 --> 01:42:49.155 had a tumor in his bladder and had
NOTE Confidence: 0.802470765882353

01:42:49.155 --> 01:42:51.059 a urostomy can that be hereditary?
NOTE Confidence: 0.802470765882353

01:42:51.060 --> 01:42:52.985 But instead of the cancer being in

NOTE Confidence: 0.802470765882353

01:42:52.985 --> 01:42:55.568 my bladder, it was in my left kidney.

NOTE Confidence: 0.802470765882353

01:42:55.570 --> 01:42:56.642 So in other words,

NOTE Confidence: 0.802470765882353

01:42:56.642 --> 01:42:57.579 yeah, you got that

NOTE Confidence: 0.594439213333333

01:42:58.030 --> 01:43:01.129 yeah, great question.

NOTE Confidence: 0.594439213333333

01:43:01.130 --> 01:43:03.375 So is it possible? Yes, absolutely.

NOTE Confidence: 0.594439213333333

01:43:03.375 --> 01:43:05.400 It's possible that there could

NOTE Confidence: 0.594439213333333

01:43:05.400 --> 01:43:07.893 be a genetic syndrome that links

NOTE Confidence: 0.594439213333333

01:43:07.893 --> 01:43:09.497 those two cancers together.

NOTE Confidence: 0.594439213333333

01:43:09.500 --> 01:43:12.068 But it's also possible that they're

NOTE Confidence: 0.594439213333333

01:43:12.068 --> 01:43:14.250 completely unrelated to each other,

NOTE Confidence: 0.594439213333333

01:43:14.250 --> 01:43:17.028 and both just occurred by chance.

NOTE Confidence: 0.594439213333333

01:43:17.030 --> 01:43:19.478 So again, I'd I'd have to have more

NOTE Confidence: 0.594439213333333

01:43:19.478 --> 01:43:21.736 information about ages at the time of

NOTE Confidence: 0.594439213333333

01:43:21.736 --> 01:43:23.321 diagnosis and other family history,

NOTE Confidence: 0.594439213333333

01:43:23.330 --> 01:43:25.594 which is why a genetics visit is probably.

NOTE Confidence: 0.594439213333333

01:43:25.600 --> 01:43:27.808 The best step if you have those questions.
NOTE Confidence: 0.743523915

01:43:28.440 --> 01:43:29.880 Yeah, as Doctor Kennedy pointed out,
NOTE Confidence: 0.743523915

01:43:29.880 --> 01:43:31.256 there are cancers that are in the kidney
NOTE Confidence: 0.743523915

01:43:31.256 --> 01:43:32.799 that are really more like bladder cancers,
NOTE Confidence: 0.743523915

01:43:32.800 --> 01:43:34.180 but they're really different from
NOTE Confidence: 0.743523915

01:43:34.180 --> 01:43:35.560 what we consider kidney cancers.
NOTE Confidence: 0.743523915

01:43:35.560 --> 01:43:37.495 If you have a what we consider a kidney
NOTE Confidence: 0.743523915

01:43:37.495 --> 01:43:39.494 cancer and your father had a bladder cancer,
NOTE Confidence: 0.743523915

01:43:39.500 --> 01:43:40.373 probably not related.
NOTE Confidence: 0.743523915

01:43:40.373 --> 01:43:42.119 I think it's a fair statement,
NOTE Confidence: 0.743523915

01:43:42.120 --> 01:43:45.640 but and then the last thing was can we
NOTE Confidence: 0.743523915

01:43:45.640 --> 01:43:47.577 go through your place to do a test?
NOTE Confidence: 0.827726395

01:43:48.370 --> 01:43:51.226 Yes, absolutely. So the smilow cancer
NOTE Confidence: 0.827726395

01:43:51.226 --> 01:43:53.130 genetics and prevention program.
NOTE Confidence: 0.827726395

01:43:53.130 --> 01:43:55.524 Our main hub is in New Haven,
NOTE Confidence: 0.827726395

01:43:55.530 --> 01:43:57.546 but we also see patients throughout

NOTE Confidence: 0.827726395

01:43:57.546 --> 01:43:59.333 the state of Connecticut at

NOTE Confidence: 0.827726395

01:43:59.333 --> 01:44:00.470 various other hospitals,

NOTE Confidence: 0.827726395

01:44:00.470 --> 01:44:02.022 so we're in Trumbull.

NOTE Confidence: 0.827726395

01:44:02.022 --> 01:44:04.761 We see patients in Waterford we're in

NOTE Confidence: 0.827726395

01:44:04.761 --> 01:44:07.092 Greenwich and we also have an outreach

NOTE Confidence: 0.827726395

01:44:07.092 --> 01:44:10.465 arm up at Saint Francis Hospital in Hartford,

NOTE Confidence: 0.827726395

01:44:10.470 --> 01:44:13.540 so you can if you if you need a a

NOTE Confidence: 0.827726395

01:44:13.642 --> 01:44:17.062 contact information you can actually

NOTE Confidence: 0.827726395

01:44:17.062 --> 01:44:19.798 email smilow cancer genetics.

NOTE Confidence: 0.827726395

01:44:19.800 --> 01:44:23.829 Why nhh.org let us know where you live

NOTE Confidence: 0.827726395

01:44:23.829 --> 01:44:26.072 and we can help find the best clinic

NOTE Confidence: 0.827726395

01:44:26.072 --> 01:44:28.572 for you and we can tell you how to

NOTE Confidence: 0.827726395

01:44:28.572 --> 01:44:30.570 get your doctor to refer you over.

NOTE Confidence: 0.856052571428572

01:44:31.080 --> 01:44:32.750 It was actually put into

NOTE Confidence: 0.856052571428572

01:44:32.750 --> 01:44:34.032 the chat that number.

NOTE Confidence: 0.856052571428572

01:44:34.032 --> 01:44:36.174 Some people aren't great with the web.

NOTE Confidence: 0.856052571428572

01:44:36.180 --> 01:44:37.750 Is there a phone number

NOTE Confidence: 0.645168339090909

01:44:38.240 --> 01:44:40.184 and it looks like Renee actually

NOTE Confidence: 0.645168339090909

01:44:40.184 --> 01:44:41.780 put the website there too,

NOTE Confidence: 0.645168339090909

01:44:41.780 --> 01:44:45.332 but the phone number is 2032

NOTE Confidence: 0.645168339090909

01:44:45.332 --> 01:44:50.660 hundred for DNA. Perfect.

NOTE Confidence: 0.902416652

01:44:50.660 --> 01:44:53.040 That's that's very very fitting.

NOTE Confidence: 0.902416652

01:44:53.040 --> 01:44:56.828 Alright, I think I think we're done.

NOTE Confidence: 0.964303693333333

01:44:59.640 --> 01:45:03.396 Anyone have anything else to add?

NOTE Confidence: 0.964303693333333

01:45:03.400 --> 01:45:04.850 Well, this has been exceptionally

NOTE Confidence: 0.964303693333333

01:45:04.850 --> 01:45:07.415 informative to me, so I hope it's been

NOTE Confidence: 0.964303693333333

01:45:07.415 --> 01:45:09.110 informative to everybody else here.

NOTE Confidence: 0.964303693333333

01:45:09.110 --> 01:45:12.865 It's great and. By everyone if

NOTE Confidence: 0.964303693333333

01:45:12.865 --> 01:45:14.155 you have questions you can always.

NOTE Confidence: 0.964303693333333

01:45:14.160 --> 01:45:15.968 I'm sure there are ways to reach out

NOTE Confidence: 0.964303693333333

01:45:15.968 --> 01:45:20.220 to any of us and have a great evening.

NOTE Confidence: 0.964303693333333

01:45:20.220 --> 01:45:22.430 Thank you, I learned a lot too, so thank you.

NOTE Confidence: 0.594276266666667

01:45:22.640 --> 01:45:23.390 This was wonderful.