WEBVTT

NOTE duration: ”00:49:35.189”

NOTE Confidence: 0.9741852

00:00:03.919 --> 00:00:04.980 Hello, everyone.

NOTE Confidence: 0.93605405

00:00:05.519 --> 00:00:07.120 I am Francis Lee. I'm

NOTE Confidence: 0.93605405

00:00:07.120 --> 00:00:09.539 a tumor surgeon, orthopedic oncology

NOTE Confidence: 0.9757414

00:00:10.320 --> 00:00:11.440 at the Yale School of

NOTE Confidence: 0.9757414

00:00:11.440 --> 00:00:13.460 Medicine. It's so much pleasure

NOTE Confidence: 0.9757414

00:00:13.519 --> 00:00:14.980 to meet you on Zoom,

NOTE Confidence: 0.8779931

00:00:15.625 --> 00:00:16.985 and I work with doctor

NOTE Confidence: 0.8779931

00:00:16.985 --> 00:00:19.325 Deshpande, doctor Olino, doctor Ladich.

NOTE Confidence: 0.977108

00:00:19.945 --> 00:00:20.185 And,

NOTE Confidence: 0.9994689

00:00:20.985 --> 00:00:22.285 we have a very strong

NOTE Confidence: 0.98876005

00:00:22.825 --> 00:00:25.005 team for connective tissue oncology,

NOTE Confidence: 0.98876005

00:00:25.065 --> 00:00:25.565 meaning

NOTE Confidence: 0.98462564

00:00:26.185 --> 00:00:28.025 sarcomas in the muscles and

NOTE Confidence: 0.98462564

00:00:28.025 --> 00:00:28.525 bone.

NOTE Confidence: 0.9994188

00:00:28.980 --> 00:00:30.199 At the same time,

NOTE Confidence: 0.9997484

00:00:30.740 --> 00:00:31.560 we provide

NOTE Confidence: 0.93380505

00:00:32.180 --> 00:00:33.079 all the metastasis

NOTE Confidence: 0.9917017

00:00:33.940 --> 00:00:35.800 from lung, kidney, prostate,

NOTE Confidence: 0.9988263

00:00:36.340 --> 00:00:36.840 thyroid,

NOTE Confidence: 0.9996421

00:00:37.379 --> 00:00:37.879 melanoma

NOTE Confidence: 0.895467

00:00:38.500 --> 00:00:39.879 to bone, including

NOTE Confidence: 0.9181485

00:00:40.580 --> 00:00:41.800 myeloma and the lymphoma.

NOTE Confidence: 0.9952484

00:00:43.635 --> 00:00:45.235 It has been very exciting

NOTE Confidence: 0.9952484

00:00:45.235 --> 00:00:45.735 year,

NOTE Confidence: 0.97005653

00:00:46.515 --> 00:00:48.055 over the past ten years.

NOTE Confidence: 0.97005653

00:00:48.354 --> 00:00:50.675 My my pain is And,

NOTE Confidence: 0.97005653

00:00:50.915 --> 00:00:52.034 this is what we do

NOTE Confidence: 0.97005653

00:00:52.034 --> 00:00:53.395 all the time. I cannot

NOTE Confidence: 0.97005653

00:00:53.475 --> 00:00:54.755 This patient had a breast

NOTE Confidence: 0.97005653

00:00:54.755 --> 00:00:55.255 cancer,

NOTE Confidence: 0.9900843

00:00:56.360 --> 00:00:57.899 and the pain is unbearable

NOTE Confidence: 0.8677826

00:00:58.280 --> 00:01:00.280 after radiation, chemo and the

NOTE Confidence: 0.8677826

00:01:00.280 --> 00:01:02.600 Prolia. Nothing worked. And you

NOTE Confidence: 0.8677826

00:01:02.600 --> 00:01:04.040 can see actually the femoral

NOTE Confidence: 0.8677826

00:01:04.040 --> 00:01:06.060 head seen through the pelvis.

NOTE Confidence: 0.95357615

00:01:06.920 --> 00:01:08.280 And these are the treatments

NOTE Confidence: 0.95357615

00:01:08.280 --> 00:01:09.560 we are doing now, twelve

NOTE Confidence: 0.95357615

00:01:09.560 --> 00:01:10.060 treatments.

NOTE Confidence: 0.891067

00:01:11.175 --> 00:01:12.375 And most of them are

NOTE Confidence: 0.891067

00:01:12.375 --> 00:01:13.275 open procedure,

NOTE Confidence: 0.96597314

00:01:14.215 --> 00:01:15.895 and we just stabilize the

NOTE Confidence: 0.96597314

00:01:15.895 --> 00:01:16.395 bone.

NOTE Confidence: 0.6819054

00:01:16.935 --> 00:01:19.194 So, but But from oncology

NOTE Confidence: 0.9556227

00:01:19.975 --> 00:01:21.334 perspective It it's

NOTE Confidence: 0.88270086

00:01:21.735 --> 00:01:22.615 I do not think this

NOTE Confidence: 0.88270086

00:01:22.615 --> 00:01:23.915 is really right treatment

NOTE Confidence: 0.99930257

00:01:24.950 --> 00:01:26.310 because we are not really

NOTE Confidence: 0.99930257

00:01:26.310 --> 00:01:26.810 addressing

NOTE Confidence: 0.95594716

00:01:27.110 --> 00:01:29.130 the radio or chemo resistant

NOTE Confidence: 0.95594716

00:01:29.270 --> 00:01:29.770 cancers.

NOTE Confidence: 0.99552345

00:01:31.509 --> 00:01:32.789 And this is what we

NOTE Confidence: 0.99552345

00:01:32.789 --> 00:01:33.770 have been doing

NOTE Confidence: 0.9727278

00:01:34.229 --> 00:01:35.850 until twenty sixteen

NOTE Confidence: 0.7057589

00:01:36.229 --> 00:01:36.729 nationwide,

NOTE Confidence: 0.90285265

00:01:37.270 --> 00:01:38.729 actually all over the world.

NOTE Confidence: 0.99804527

00:01:39.314 --> 00:01:40.435 We make a very big

NOTE Confidence: 0.99804527

00:01:40.435 --> 00:01:42.215 skin cut to expose

NOTE Confidence: 0.8629178

00:01:42.755 --> 00:01:43.414 the hip.

NOTE Confidence: 0.9586489

00:01:43.795 --> 00:01:45.235 This particular case is a

NOTE Confidence: 0.9586489

00:01:45.235 --> 00:01:45.735 thyroid

NOTE Confidence: 0.9762181

00:01:46.194 --> 00:01:47.334 papillary cancer

NOTE Confidence: 0.8221655

00:01:48.115 --> 00:01:49.335 destroying the bone.

NOTE Confidence: 0.97002685

00:01:50.034 --> 00:01:51.475 And then we replace the

NOTE Confidence: 0.97002685

00:01:51.475 --> 00:01:53.255 hip using very big implants.

NOTE Confidence: 0.99679613

00:01:54.270 --> 00:01:55.330 But after radiation,

NOTE Confidence: 0.96632344

00:01:56.350 --> 00:01:57.810 patient can get infected,

NOTE Confidence: 0.99890256

00:01:58.430 --> 00:02:00.290 and we cannot continue

NOTE Confidence: 0.99884826

00:02:00.750 --> 00:02:03.170 oncological care due to infection.

NOTE Confidence: 0.9831244

00:02:04.830 --> 00:02:07.330 I moved from Columbia University

NOTE Confidence: 0.9831244

00:02:07.390 --> 00:02:08.750 to Yale in two thousand

NOTE Confidence: 0.9831244

00:02:08.750 --> 00:02:09.250 sixteen,

NOTE Confidence: 0.9663799

00:02:10.165 --> 00:02:11.625 and I was very fortunate

NOTE Confidence: 0.9663799

00:02:11.845 --> 00:02:13.065 to meet doctor Ladich.

NOTE Confidence: 0.9827941

00:02:13.925 --> 00:02:15.044 And this is what I

NOTE Confidence: 0.9827941

00:02:15.044 --> 00:02:16.565 have been dreaming about over

NOTE Confidence: 0.9827941

00:02:16.565 --> 00:02:17.945 the past twenty years.

NOTE Confidence: 0.9985069

00:02:18.565 --> 00:02:19.785 And we

NOTE Confidence: 0.99259835

00:02:20.085 --> 00:02:20.825 have developed

NOTE Confidence: 0.9991208

00:02:21.525 --> 00:02:23.465 a minimally invasive procedure

NOTE Confidence: 0.86798114

00:02:24.770 --> 00:02:26.470 for all the skeletal metastases,

NOTE Confidence: 0.97097474

00:02:27.330 --> 00:02:29.269 just like for all percutaneous

NOTE Confidence: 0.8435443

00:02:29.730 --> 00:02:31.110 procedures for aneurysm

NOTE Confidence: 0.98477966

00:02:31.889 --> 00:02:34.629 and cardiac valve replacement surgery.

NOTE Confidence: 0.95340693

00:02:35.489 --> 00:02:37.590 Instead of making big incision,

NOTE Confidence: 0.977547

00:02:38.375 --> 00:02:39.415 we are doing the same

NOTE Confidence: 0.977547

00:02:39.415 --> 00:02:39.915 procedure

NOTE Confidence: 0.9568196

00:02:40.215 --> 00:02:41.655 through a very small tiny

NOTE Confidence: 0.9568196

00:02:41.655 --> 00:02:42.155 incision.

NOTE Confidence: 0.78766006

00:02:44.375 --> 00:02:45.974 Doctor Ladich, can you join

NOTE Confidence: 0.78766006

00:02:45.974 --> 00:02:46.474 or

NOTE Confidence: 0.90428555

00:02:47.095 --> 00:02:48.055 if you cannot join,

NOTE Confidence: 0.92534363

00:02:49.175 --> 00:02:50.635 I I am here, unfortunately.

NOTE Confidence: 0.92534363

00:02:50.775 --> 00:02:52.110 I had a solitary tooth,

NOTE Confidence: 0.92534363

00:02:52.110 --> 00:02:53.310 I can only join by

NOTE Confidence: 0.92534363

00:02:53.310 --> 00:02:54.350 audio, but I can hear

NOTE Confidence: 0.92534363

00:02:54.350 --> 00:02:54.850 you.

NOTE Confidence: 0.9075731

00:02:55.310 --> 00:02:56.270 Do you see any of

NOTE Confidence: 0.9075731

00:02:56.270 --> 00:02:57.470 my slides? Do you see

NOTE Confidence: 0.9075731

00:02:57.630 --> 00:02:58.430 Yes. I I see all

NOTE Confidence: 0.9075731

00:02:58.430 --> 00:03:00.050 of your slides. Correct. Can

NOTE Confidence: 0.9075731

00:03:00.110 --> 00:03:01.970 you add some, with statements?

NOTE Confidence: 0.9075731

00:03:02.110 --> 00:03:03.310 This is the movie you

NOTE Confidence: 0.9075731

00:03:03.310 --> 00:03:03.810 made.

NOTE Confidence: 0.91998214

00:03:06.135 --> 00:03:07.975 Yes. This movie, has a

NOTE Confidence: 0.91998214

00:03:07.975 --> 00:03:09.255 a long backstory, and I

NOTE Confidence: 0.91998214

00:03:09.255 --> 00:03:09.415 will,

NOTE Confidence: 0.94982386

00:03:10.215 --> 00:03:11.655 spare you, from some of

NOTE Confidence: 0.94982386

00:03:11.655 --> 00:03:13.575 the, jufier details because it

NOTE Confidence: 0.94982386

00:03:13.575 --> 00:03:14.615 might be in violation of

NOTE Confidence: 0.94982386

00:03:14.615 --> 00:03:15.735 some of our present day

NOTE Confidence: 0.94982386

00:03:15.735 --> 00:03:16.235 narratives.

NOTE Confidence: 0.83392537

00:03:17.709 --> 00:03:17.950 But,

NOTE Confidence: 0.982954

00:03:18.669 --> 00:03:19.569 this shows,

NOTE Confidence: 0.8306823

00:03:19.870 --> 00:03:22.110 the the procedure that, doctor

NOTE Confidence: 0.8306823

00:03:22.110 --> 00:03:23.069 Lee, in fact, is out

NOTE Confidence: 0.8306823

00:03:23.069 --> 00:03:23.650 to AORIF,

NOTE Confidence: 0.9564788

00:03:24.349 --> 00:03:26.050 which is a a modification

NOTE Confidence: 0.95361066

00:03:26.989 --> 00:03:27.730 of another,

NOTE Confidence: 0.88697577

00:03:28.510 --> 00:03:29.230 well known,

NOTE Confidence: 0.9590041

00:03:29.935 --> 00:03:31.114 surgical acronym,

NOTE Confidence: 0.8688322

00:03:31.694 --> 00:03:34.275 where a stands for, ablation,

NOTE Confidence: 0.8688322

00:03:34.334 --> 00:03:35.394 o stands

NOTE Confidence: 0.96096647

00:03:35.855 --> 00:03:36.435 for osteoplasty,

NOTE Confidence: 0.92527264

00:03:37.215 --> 00:03:39.155 with a compliant balloon, typically.

NOTE Confidence: 0.83079696

00:03:39.775 --> 00:03:41.314 R is reinforcement,

NOTE Confidence: 0.9994215

00:03:41.775 --> 00:03:42.275 typically

NOTE Confidence: 0.8910402

00:03:42.575 --> 00:03:44.915 cement reinforcement and internal fixation.

NOTE Confidence: 0.9068736

00:03:45.440 --> 00:03:46.240 So as you can see

NOTE Confidence: 0.9068736

00:03:46.240 --> 00:03:47.600 from the animation, this is

NOTE Confidence: 0.9068736

00:03:47.600 --> 00:03:49.060 all done for continuously

NOTE Confidence: 0.98128414

00:03:49.360 --> 00:03:51.300 using a combination of fluoroscopy,

NOTE Confidence: 0.9162421

00:03:52.480 --> 00:03:53.860 and cone beam CT.

NOTE Confidence: 0.9743395

00:03:54.880 --> 00:03:56.480 We are also able to

NOTE Confidence: 0.9743395

00:03:56.480 --> 00:03:58.720 do these with conventional CT

NOTE Confidence: 0.9743395

00:03:58.720 --> 00:03:59.920 in some cases, and we're

NOTE Confidence: 0.9743395

00:03:59.920 --> 00:04:00.980 looking to actually

NOTE Confidence: 0.961314

00:04:02.705 --> 00:04:04.245 make this even more precise,

NOTE Confidence: 0.9483787

00:04:05.305 --> 00:04:05.665 and,

NOTE Confidence: 0.7091517

00:04:07.025 --> 00:04:08.785 probably even less minimally invasive.

NOTE Confidence: 0.7091517

00:04:08.785 --> 00:04:10.065 That is actually even possible

NOTE Confidence: 0.7091517

00:04:10.065 --> 00:04:10.805 by using

NOTE Confidence: 0.92180157

00:04:11.105 --> 00:04:13.605 navigation and hopefully robotics someday.

NOTE Confidence: 0.94585305

00:04:15.390 --> 00:04:17.490 So the, the approach is

NOTE Confidence: 0.94585305

00:04:17.550 --> 00:04:17.870 that,

NOTE Confidence: 0.9625716

00:04:18.509 --> 00:04:19.009 using,

NOTE Confidence: 0.7776245

00:04:19.710 --> 00:04:20.930 horoscopic guidance,

NOTE Confidence: 0.9743925

00:04:21.550 --> 00:04:23.789 and basic anatomical landmarks, we

NOTE Confidence: 0.9743925

00:04:23.789 --> 00:04:25.150 make a tiny little incision

NOTE Confidence: 0.9743925

00:04:25.150 --> 00:04:26.190 just wide enough to be

NOTE Confidence: 0.9743925

00:04:26.190 --> 00:04:27.089 able to accommodate,

NOTE Confidence: 0.9563259

00:04:28.430 --> 00:04:29.889 one of our guide wires,

NOTE Confidence: 0.79966915

00:04:30.875 --> 00:04:32.975 and then advance it using

NOTE Confidence: 0.79966915

00:04:33.275 --> 00:04:34.495 multi plane velocities,

NOTE Confidence: 0.9743904

00:04:36.154 --> 00:04:37.615 into and through our lesion,

NOTE Confidence: 0.92657626

00:04:37.995 --> 00:04:39.675 target lesion. Typically, in this

NOTE Confidence: 0.92657626

00:04:39.675 --> 00:04:40.875 case, for example, in the

NOTE Confidence: 0.92657626

00:04:40.875 --> 00:04:41.375 acetabulum,

NOTE Confidence: 0.9714776

00:04:42.075 --> 00:04:43.275 we may place a few

NOTE Confidence: 0.9714776

00:04:43.275 --> 00:04:44.075 guide wires,

NOTE Confidence: 0.99910766

00:04:44.555 --> 00:04:45.455 depending on

NOTE Confidence: 0.9314556

00:04:46.140 --> 00:04:47.660 the size and location of

NOTE Confidence: 0.9314556

00:04:47.660 --> 00:04:49.500 the lesion and the need

NOTE Confidence: 0.9314556

00:04:49.500 --> 00:04:50.240 for stabilization.

NOTE Confidence: 0.98827934

00:04:51.420 --> 00:04:52.540 Once we have the guide

NOTE Confidence: 0.98827934

00:04:52.540 --> 00:04:53.920 wire in place, essentially,

NOTE Confidence: 0.96382123

00:04:54.860 --> 00:04:55.820 half the battle is,

NOTE Confidence: 0.722083

00:04:57.020 --> 00:04:58.560 is, you know, is complete.

NOTE Confidence: 0.9305336

00:04:59.285 --> 00:05:01.385 Now we have our access,

NOTE Confidence: 0.99119955

00:05:01.845 --> 00:05:02.505 and then,

NOTE Confidence: 0.90695685

00:05:03.125 --> 00:05:04.645 over the guide wire, we

NOTE Confidence: 0.90695685

00:05:04.645 --> 00:05:05.145 placed

NOTE Confidence: 0.7928577

00:05:05.845 --> 00:05:07.764 a a cannulated screw that

NOTE Confidence: 0.7928577

00:05:07.764 --> 00:05:10.104 has an, open inner channel,

NOTE Confidence: 0.7928577

00:05:10.165 --> 00:05:10.665 obviously.

NOTE Confidence: 0.89805573

00:05:11.060 --> 00:05:12.520 And now through that channel,

NOTE Confidence: 0.89805573

00:05:12.660 --> 00:05:13.540 that's so we have a

NOTE Confidence: 0.89805573

00:05:13.540 --> 00:05:15.000 portal into the lesion.

NOTE Confidence: 0.96286327

00:05:15.540 --> 00:05:17.060 So through that channel, now

NOTE Confidence: 0.96286327

00:05:17.060 --> 00:05:18.520 we can perform an ablation,

NOTE Confidence: 0.9379596

00:05:18.980 --> 00:05:20.660 thermal ablation. Typically, we do

NOTE Confidence: 0.9379596

00:05:20.660 --> 00:05:22.180 radio frequency, but one can

NOTE Confidence: 0.9379596

00:05:22.180 --> 00:05:23.940 perform any type of an

NOTE Confidence: 0.9379596

00:05:23.940 --> 00:05:24.440 ablated

NOTE Confidence: 0.9699714

00:05:25.955 --> 00:05:27.414 procedure one would like.

NOTE Confidence: 0.8250553

00:05:28.595 --> 00:05:30.275 Some places, some centers use

NOTE Confidence: 0.8250553

00:05:30.275 --> 00:05:30.775 cryoablation.

NOTE Confidence: 0.94414455

00:05:31.875 --> 00:05:33.335 There can be some challenges

NOTE Confidence: 0.94414455

00:05:33.395 --> 00:05:35.395 with cryoablation and injection of

NOTE Confidence: 0.94414455

00:05:35.395 --> 00:05:37.414 cement because they can obviously

NOTE Confidence: 0.8475151

00:05:37.794 --> 00:05:40.110 cryo create a general size

NOTE Confidence: 0.8475151

00:05:40.110 --> 00:05:40.670 fall. It might be a

NOTE Confidence: 0.8475151

00:05:40.670 --> 00:05:42.110 little harder to inject cement.

NOTE Confidence: 0.8475151

00:05:42.110 --> 00:05:43.230 So we typically will use

NOTE Confidence: 0.8475151

00:05:43.230 --> 00:05:44.050 heat ablation.

NOTE Confidence: 0.9459381

00:05:44.990 --> 00:05:46.750 Once we are, done with,

NOTE Confidence: 0.9459381

00:05:46.990 --> 00:05:47.490 ablating,

NOTE Confidence: 0.9486494

00:05:48.430 --> 00:05:50.210 we remove our ablation probe,

NOTE Confidence: 0.9972203

00:05:51.470 --> 00:05:51.970 and

NOTE Confidence: 0.78842133

00:05:52.604 --> 00:05:54.865 typically place the, the compliance

NOTE Confidence: 0.78842133

00:05:55.005 --> 00:05:56.944 balloon. And by the way,

NOTE Confidence: 0.88442916

00:05:58.125 --> 00:05:59.565 we initially borrowed much of

NOTE Confidence: 0.88442916

00:05:59.565 --> 00:06:00.845 this tool kit from the,

NOTE Confidence: 0.5494022

00:06:01.645 --> 00:06:03.724 from, the protein block here,

NOTE Confidence: 0.5494022

00:06:03.724 --> 00:06:04.224 kyphoplasty

NOTE Confidence: 0.87870055

00:06:04.525 --> 00:06:06.365 set. So it's essentially much

NOTE Confidence: 0.87870055

00:06:06.365 --> 00:06:07.810 of the same tool. So

NOTE Confidence: 0.87870055

00:06:07.810 --> 00:06:09.089 with the balloon, we pushed

NOTE Confidence: 0.87870055

00:06:09.089 --> 00:06:10.529 away some of that scar

NOTE Confidence: 0.87870055

00:06:10.529 --> 00:06:11.990 to destroy super tissue

NOTE Confidence: 0.9829114

00:06:12.529 --> 00:06:14.150 to create a central cavity

NOTE Confidence: 0.7603361

00:06:14.850 --> 00:06:16.210 because, believe it or not,

NOTE Confidence: 0.7603361

00:06:16.210 --> 00:06:17.110 as I know,

NOTE Confidence: 0.91035306

00:06:17.890 --> 00:06:19.490 even with litig lesions, there's

NOTE Confidence: 0.91035306

00:06:19.490 --> 00:06:21.005 still it's not an empty

NOTE Confidence: 0.91035306

00:06:21.005 --> 00:06:22.625 space, obviously. It's not entirely

NOTE Confidence: 0.91035306

00:06:22.845 --> 00:06:23.645 a a hole in the

NOTE Confidence: 0.91035306

00:06:23.645 --> 00:06:25.324 bone. There's still some matrix

NOTE Confidence: 0.91035306

00:06:25.324 --> 00:06:27.105 there whether it's mucinous, sigma,

NOTE Confidence: 0.91035306

00:06:27.245 --> 00:06:28.604 something else. So once we

NOTE Confidence: 0.91035306

00:06:28.604 --> 00:06:30.125 have ablated, we push that

NOTE Confidence: 0.91035306

00:06:30.125 --> 00:06:31.165 tissue out of the way

NOTE Confidence: 0.91035306

00:06:31.165 --> 00:06:32.705 to create a a central

NOTE Confidence: 0.91035306

00:06:32.764 --> 00:06:33.264 pocket

NOTE Confidence: 0.97614336

00:06:33.710 --> 00:06:34.990 that'll allow us to now

NOTE Confidence: 0.97614336

00:06:34.990 --> 00:06:36.290 inject bone cement

NOTE Confidence: 0.9675667

00:06:37.150 --> 00:06:38.930 to help with reinforcement.

NOTE Confidence: 0.995442

00:06:39.950 --> 00:06:41.310 And now that we once

NOTE Confidence: 0.995442

00:06:41.310 --> 00:06:43.410 we have, cement deposited,

NOTE Confidence: 0.9514815

00:06:43.870 --> 00:06:45.710 we drill the crew through

NOTE Confidence: 0.9514815

00:06:45.710 --> 00:06:47.230 it into their final resting

NOTE Confidence: 0.9514815

00:06:47.230 --> 00:06:48.964 position. Now we also have

NOTE Confidence: 0.9514815

00:06:48.964 --> 00:06:49.604 access to,

NOTE Confidence: 0.90615684

00:06:50.245 --> 00:06:52.004 screws that have side holes

NOTE Confidence: 0.90615684

00:06:52.004 --> 00:06:53.205 along their lines. So now

NOTE Confidence: 0.90615684

00:06:53.205 --> 00:06:54.565 we can actually advance the

NOTE Confidence: 0.90615684

00:06:54.565 --> 00:06:55.944 screw into their,

NOTE Confidence: 0.9494385

00:06:56.404 --> 00:06:57.464 let's say, final,

NOTE Confidence: 0.98952293

00:06:57.845 --> 00:06:58.745 resting position

NOTE Confidence: 0.95982146

00:06:59.125 --> 00:07:00.504 before we inject cement.

NOTE Confidence: 0.93428874

00:07:00.884 --> 00:07:02.324 And once we inject cement,

NOTE Confidence: 0.93428874

00:07:02.324 --> 00:07:02.824 we,

NOTE Confidence: 0.9442353

00:07:03.750 --> 00:07:05.529 usually within about twenty minutes

NOTE Confidence: 0.93643165

00:07:05.910 --> 00:07:06.870 of the time when we

NOTE Confidence: 0.93643165

00:07:06.870 --> 00:07:08.010 mix up the cement.

NOTE Confidence: 0.8337485

00:07:08.550 --> 00:07:10.070 Within twenty minutes minutes, that

NOTE Confidence: 0.8337485

00:07:10.070 --> 00:07:11.510 cement is rock solid and

NOTE Confidence: 0.8337485

00:07:11.510 --> 00:07:12.169 the construct

NOTE Confidence: 0.6207493

00:07:12.630 --> 00:07:13.370 is stable.

NOTE Confidence: 0.98855084

00:07:14.470 --> 00:07:15.450 We come out,

NOTE Confidence: 0.83659154

00:07:16.015 --> 00:07:17.555 close the tiny little incisions,

NOTE Confidence: 0.83659154

00:07:17.695 --> 00:07:19.935 the features, staples, etcetera, put

NOTE Confidence: 0.83659154

00:07:19.935 --> 00:07:22.015 little bandages on, patient goes

NOTE Confidence: 0.83659154

00:07:22.015 --> 00:07:23.795 to recovery, and typically,

NOTE Confidence: 0.9715856

00:07:24.175 --> 00:07:25.855 most of the time, goes

NOTE Confidence: 0.9715856

00:07:25.855 --> 00:07:27.535 home the, the same night.

NOTE Confidence: 0.9715856

00:07:27.535 --> 00:07:28.655 So that's the, the long

NOTE Confidence: 0.9715856

00:07:28.655 --> 00:07:30.060 and short of the, the

NOTE Confidence: 0.9715856

00:07:30.060 --> 00:07:31.260 procedure. So I'll turn it

NOTE Confidence: 0.9715856

00:07:31.260 --> 00:07:32.640 over back to doctor Lima.

NOTE Confidence: 0.9951055

00:07:33.260 --> 00:07:34.540 Thank you so much. So

NOTE Confidence: 0.9951055

00:07:34.540 --> 00:07:36.560 this, technique was developed

NOTE Confidence: 0.92442214

00:07:37.020 --> 00:07:37.840 at Yale,

NOTE Confidence: 0.9419195

00:07:38.220 --> 00:07:39.820 and the patient's actually flying

NOTE Confidence: 0.9419195

00:07:39.820 --> 00:07:40.320 in.

NOTE Confidence: 0.88612133

00:07:40.700 --> 00:07:42.460 And, patients go somewhere the

NOTE Confidence: 0.88612133

00:07:42.460 --> 00:07:43.200 same day.

NOTE Confidence: 0.8943142

00:07:43.625 --> 00:07:44.845 So we are provide,

NOTE Confidence: 0.9426827

00:07:45.945 --> 00:07:47.485 really care. We are providing

NOTE Confidence: 0.9426827

00:07:47.545 --> 00:07:49.245 care for medical oncologist

NOTE Confidence: 0.9879093

00:07:50.025 --> 00:07:52.345 so that oncologist can give

NOTE Confidence: 0.9879093

00:07:52.345 --> 00:07:54.445 chemotherapy the next day without

NOTE Confidence: 0.9879093

00:07:54.505 --> 00:07:56.125 waiting two or three weeks.

NOTE Confidence: 0.99881434

00:07:56.505 --> 00:07:57.385 That used to be the

NOTE Confidence: 0.99881434

00:07:57.385 --> 00:07:59.005 case after open surgery.

NOTE Confidence: 0.9957805

00:08:00.050 --> 00:08:01.569 So we see patients in

NOTE Confidence: 0.9957805

00:08:01.569 --> 00:08:02.870 Trumbull, New Haven,

NOTE Confidence: 0.8519149

00:08:03.569 --> 00:08:04.789 and also Stanford,

NOTE Confidence: 0.7786238

00:08:05.490 --> 00:08:06.530 and we are well

NOTE Confidence: 0.9749898

00:08:07.330 --> 00:08:08.849 we'll be glad to assist

NOTE Confidence: 0.9749898

00:08:08.849 --> 00:08:10.789 to your medical oncology care.

NOTE Confidence: 0.9412762

00:08:12.544 --> 00:08:14.165 So this is another example,

NOTE Confidence: 0.9412762

00:08:14.465 --> 00:08:16.324 three year breast cancer patients.

NOTE Confidence: 0.89290017

00:08:17.745 --> 00:08:19.105 Patient couldn't walk. This is

NOTE Confidence: 0.89290017

00:08:19.105 --> 00:08:20.465 a de novo diagnosis of

NOTE Confidence: 0.89290017

00:08:20.465 --> 00:08:21.525 a stage four,

NOTE Confidence: 0.9814275

00:08:22.145 --> 00:08:23.525 and we did

NOTE Confidence: 0.73438376

00:08:23.985 --> 00:08:24.465 our,

NOTE Confidence: 0.9460947

00:08:24.785 --> 00:08:26.405 minimally invasive procedure.

NOTE Confidence: 0.8614438

00:08:27.349 --> 00:08:28.710 And she was able to

NOTE Confidence: 0.8614438

00:08:28.710 --> 00:08:29.210 emulate

NOTE Confidence: 0.8471721

00:08:30.150 --> 00:08:31.050 the next day,

NOTE Confidence: 0.95979786

00:08:31.590 --> 00:08:32.809 and she sustained,

NOTE Confidence: 0.9991336

00:08:33.270 --> 00:08:34.250 for four years.

NOTE Confidence: 0.9648631

00:08:36.230 --> 00:08:37.830 This is another case, same

NOTE Confidence: 0.9648631

00:08:37.830 --> 00:08:39.130 breast cancer patient.

NOTE Confidence: 0.98863107

00:08:39.910 --> 00:08:42.010 Patient is now five year

NOTE Confidence: 0.97253907

00:08:43.135 --> 00:08:44.274 out of the procedure.

NOTE Confidence: 0.95695686

00:08:45.214 --> 00:08:45.954 And nowadays,

NOTE Confidence: 0.98345727

00:08:46.575 --> 00:08:47.454 all of you made a

NOTE Confidence: 0.98345727

00:08:47.454 --> 00:08:47.954 miracle.

NOTE Confidence: 0.96605015

00:08:48.415 --> 00:08:50.675 Cancers are manageable disease,

NOTE Confidence: 0.9763277

00:08:51.295 --> 00:08:52.675 and we can facilitate

NOTE Confidence: 0.9758494

00:08:53.454 --> 00:08:54.274 your oncological

NOTE Confidence: 0.9962921

00:08:54.575 --> 00:08:55.075 care.

NOTE Confidence: 0.87316

00:08:56.279 --> 00:08:56.920 Even though this is a

NOTE Confidence: 0.87316

00:08:57.079 --> 00:08:58.199 So another patient with a

NOTE Confidence: 0.87316

00:08:58.199 --> 00:08:59.639 renal cell cancer, you can

NOTE Confidence: 0.87316

00:08:59.639 --> 00:09:00.380 see hypervascularity,

NOTE Confidence: 0.9226119

00:09:02.040 --> 00:09:03.160 and the patient can go

NOTE Confidence: 0.9226119

00:09:03.160 --> 00:09:04.380 home on the same day.

NOTE Confidence: 0.9226119

00:09:04.519 --> 00:09:05.399 Can you get out of

NOTE Confidence: 0.9226119

00:09:05.399 --> 00:09:06.519 the bed? This is the

NOTE Confidence: 0.9226119

00:09:06.519 --> 00:09:07.019 movie

NOTE Confidence: 0.9246996

00:09:07.320 --> 00:09:08.860 at the recovery rooms.

NOTE Confidence: 0.97489667

00:09:09.559 --> 00:09:10.759 So three or four hours

NOTE Confidence: 0.97489667

00:09:10.759 --> 00:09:11.259 later,

NOTE Confidence: 0.92345417

00:09:12.205 --> 00:09:13.345 the one hour procedure,

NOTE Confidence: 0.75866354

00:09:14.765 --> 00:09:16.525 the patient really worked with

NOTE Confidence: 0.75866354

00:09:16.525 --> 00:09:17.585 all of them.

NOTE Confidence: 0.9297975

00:09:18.684 --> 00:09:19.565 So the problem is my

NOTE Confidence: 0.9297975

00:09:19.565 --> 00:09:21.085 throat can And this can

NOTE Confidence: 0.9297975

00:09:21.085 --> 00:09:22.684 be also very powerful for

NOTE Confidence: 0.9297975

00:09:22.684 --> 00:09:23.745 multiple lesions.

NOTE Confidence: 0.71959174

00:09:24.370 --> 00:09:25.890 Patient had a bilateral as

NOTE Confidence: 0.71959174

00:09:25.890 --> 00:09:26.790 couple of fractures,

NOTE Confidence: 0.87805593

00:09:27.809 --> 00:09:29.490 right to femoral lesions, left

NOTE Confidence: 0.87805593

00:09:29.490 --> 00:09:30.710 to femoral neck fracture,

NOTE Confidence: 0.9905729

00:09:31.410 --> 00:09:33.410 everything in one stage, and

NOTE Confidence: 0.9905729

00:09:33.410 --> 00:09:34.530 the patient went home on

NOTE Confidence: 0.9905729

00:09:34.530 --> 00:09:35.510 the same day.

NOTE Confidence: 0.91551733

00:09:37.775 --> 00:09:39.135 Patient also had a very,

NOTE Confidence: 0.91551733

00:09:39.455 --> 00:09:41.715 radiation and the chemo refractory

NOTE Confidence: 0.6257342

00:09:42.495 --> 00:09:43.535 had just a cell phone

NOTE Confidence: 0.6257342

00:09:43.535 --> 00:09:44.035 with

NOTE Confidence: 0.9408494

00:09:44.655 --> 00:09:45.855 the spine and the left

NOTE Confidence: 0.9408494

00:09:45.855 --> 00:09:46.595 hip lesion.

NOTE Confidence: 0.9321194

00:09:47.375 --> 00:09:48.835 We were able to address

NOTE Confidence: 0.9321194

00:09:48.895 --> 00:09:49.135 both,

NOTE Confidence: 0.99201894

00:09:50.490 --> 00:09:51.950 spine and hip

NOTE Confidence: 0.89519817

00:09:52.410 --> 00:09:53.550 on the one anesthesia,

NOTE Confidence: 0.9791479

00:09:54.330 --> 00:09:55.690 and patient was able to

NOTE Confidence: 0.9791479

00:09:55.690 --> 00:09:57.070 ambulate right away.

NOTE Confidence: 0.9496663

00:10:00.490 --> 00:10:02.190 Another case of breast cancer

NOTE Confidence: 0.9496663

00:10:02.490 --> 00:10:03.710 after five years.

NOTE Confidence: 0.9643499

00:10:04.205 --> 00:10:05.585 The breast cancer relapsed,

NOTE Confidence: 0.95557666

00:10:06.365 --> 00:10:07.105 and, unfortunately,

NOTE Confidence: 0.94250715

00:10:07.405 --> 00:10:09.005 the bone bone quality became

NOTE Confidence: 0.94250715

00:10:09.005 --> 00:10:09.825 very poor.

NOTE Confidence: 0.9041111

00:10:10.605 --> 00:10:11.665 We did the reconstruction,

NOTE Confidence: 0.87388545

00:10:12.365 --> 00:10:13.485 and the patient is still

NOTE Confidence: 0.87388545

00:10:13.485 --> 00:10:13.985 alive.

NOTE Confidence: 0.9771173

00:10:15.804 --> 00:10:16.705 So in summary,

NOTE Confidence: 0.98632085

00:10:17.565 --> 00:10:19.085 we will be very happy

NOTE Confidence: 0.98632085

00:10:19.085 --> 00:10:19.745 to provide

NOTE Confidence: 0.9978152

00:10:20.600 --> 00:10:22.300 a minimally invasive procedure

NOTE Confidence: 0.9960291

00:10:23.160 --> 00:10:25.579 for your effective oncology care

NOTE Confidence: 0.9683379

00:10:25.880 --> 00:10:26.779 without interruption.

NOTE Confidence: 0.9420244

00:10:27.320 --> 00:10:28.279 And I thank you so

NOTE Confidence: 0.9420244

00:10:28.279 --> 00:10:29.639 much for listening, and I

NOTE Confidence: 0.9420244

00:10:29.639 --> 00:10:30.920 will stop here. And if

NOTE Confidence: 0.9420244

00:10:30.920 --> 00:10:32.600 there are any questions, doctor

NOTE Confidence: 0.9420244

00:10:32.600 --> 00:10:33.100 Latician,

NOTE Confidence: 0.9988354

00:10:33.480 --> 00:10:35.100 I can answer any questions.

NOTE Confidence: 0.9988354

00:10:35.320 --> 00:10:35.985 Thank you.

NOTE Confidence: 0.9888203

00:10:38.945 --> 00:10:39.765 That's great,

NOTE Confidence: 0.8552059

00:10:40.385 --> 00:10:40.885 Francis.

NOTE Confidence: 0.9698781

00:10:41.505 --> 00:10:42.404 Really excellent

NOTE Confidence: 0.93458027

00:10:43.904 --> 00:10:45.345 demonstration of what you and,

NOTE Confidence: 0.93458027

00:10:45.665 --> 00:10:47.184 Igor can do. So thank

NOTE Confidence: 0.93458027

00:10:47.184 --> 00:10:48.005 you for

NOTE Confidence: 0.7709923

00:10:48.545 --> 00:10:49.445 sharing those.

NOTE Confidence: 0.9982297

00:10:50.304 --> 00:10:50.804 I

NOTE Confidence: 0.99975616

00:10:51.720 --> 00:10:53.800 don't see anything in the

NOTE Confidence: 0.99975616

00:10:53.800 --> 00:10:54.300 chat

NOTE Confidence: 0.9264932

00:10:54.920 --> 00:10:56.440 right now, but,

NOTE Confidence: 0.98466045

00:10:57.959 --> 00:10:59.160 if there are any, then

NOTE Confidence: 0.98466045

00:10:59.160 --> 00:11:00.620 I think Emily can,

NOTE Confidence: 0.9994378

00:11:01.800 --> 00:11:03.019 send them to you.

NOTE Confidence: 0.957791

00:11:04.355 --> 00:11:05.714 But in the meantime, while

NOTE Confidence: 0.957791

00:11:05.714 --> 00:11:07.334 people are thinking of questions,

NOTE Confidence: 0.9990556

00:11:08.035 --> 00:11:09.334 I'll just move on

NOTE Confidence: 0.9884473

00:11:09.875 --> 00:11:10.375 to,

NOTE Confidence: 0.939474

00:11:12.115 --> 00:11:13.554 the the next part of

NOTE Confidence: 0.939474

00:11:13.554 --> 00:11:14.295 the slide,

NOTE Confidence: 0.9432683

00:11:14.834 --> 00:11:15.654 of the talk.

NOTE Confidence: 0.96382827

00:11:17.300 --> 00:11:18.580 And if I can figure

NOTE Confidence: 0.96382827

00:11:18.580 --> 00:11:19.800 out how to share my

NOTE Confidence: 0.91556454

00:11:22.980 --> 00:11:23.480 slide.

NOTE Confidence: 0.5903733

00:11:29.775 --> 00:11:30.275 I

NOTE Confidence: 0.99653244

00:11:41.615 --> 00:11:42.115 apologize.

NOTE Confidence: 0.99024874

00:11:42.495 --> 00:11:44.255 Technology is not my best

NOTE Confidence: 0.99024874

00:11:44.255 --> 00:11:44.755 friend.

NOTE Confidence: 0.9876045

00:11:46.440 --> 00:11:47.640 Is that can you see

NOTE Confidence: 0.9876045

00:11:47.640 --> 00:11:48.700 the slides now?

NOTE Confidence: 0.9332678

00:11:51.800 --> 00:11:53.100 I can see that. Yes.

NOTE Confidence: 0.9332678

00:11:53.320 --> 00:11:53.980 Oh, great.

NOTE Confidence: 0.98787874

00:11:54.839 --> 00:11:55.339 So

NOTE Confidence: 0.89816886

00:11:55.720 --> 00:11:57.559 thank you, doctor Ladich and

NOTE Confidence: 0.89816886

00:11:57.559 --> 00:11:59.559 doctor Lee for starting this

NOTE Confidence: 0.89816886

00:11:59.559 --> 00:12:00.645 seminar, and

NOTE Confidence: 0.9994557

00:12:01.125 --> 00:12:02.885 I'm also very proud to

NOTE Confidence: 0.9994557

00:12:02.885 --> 00:12:04.645 be a part of such

NOTE Confidence: 0.9994557

00:12:04.645 --> 00:12:05.225 a great

NOTE Confidence: 0.9601521

00:12:05.765 --> 00:12:08.085 team that involves also doctor

NOTE Confidence: 0.9601521

00:12:08.085 --> 00:12:09.684 Alino as well, who should

NOTE Confidence: 0.9601521

00:12:09.684 --> 00:12:12.245 be hopefully joining us fairly

NOTE Confidence: 0.9601521

00:12:12.245 --> 00:12:12.745 soon.

NOTE Confidence: 0.9567542

00:12:13.769 --> 00:12:14.970 So we've heard about some

NOTE Confidence: 0.9567542

00:12:14.970 --> 00:12:16.990 of the newer surgical techniques

NOTE Confidence: 0.9567542

00:12:17.209 --> 00:12:19.290 from doctor Lee and doctor

NOTE Confidence: 0.9567542

00:12:19.290 --> 00:12:19.790 Laddich.

NOTE Confidence: 0.99526834

00:12:21.290 --> 00:12:22.250 I'll spend the rest of

NOTE Confidence: 0.99526834

00:12:22.250 --> 00:12:23.389 the time focusing

NOTE Confidence: 0.9992983

00:12:23.690 --> 00:12:25.790 on soft tissue and

NOTE Confidence: 0.9687362

00:12:26.774 --> 00:12:27.675 bone sarcomas.

NOTE Confidence: 0.99418473

00:12:28.535 --> 00:12:29.754 Now the WHO

NOTE Confidence: 0.99914896

00:12:30.054 --> 00:12:30.954 has classified

NOTE Confidence: 0.98879004

00:12:31.415 --> 00:12:32.795 soft tissue and bone

NOTE Confidence: 0.9994142

00:12:33.254 --> 00:12:33.754 tumors

NOTE Confidence: 0.97611666

00:12:34.774 --> 00:12:36.934 into four different categories. Many

NOTE Confidence: 0.97611666

00:12:36.934 --> 00:12:38.235 of you will be familiar

NOTE Confidence: 0.97611666

00:12:38.454 --> 00:12:40.640 with benign lesions such as

NOTE Confidence: 0.97611666

00:12:40.640 --> 00:12:41.140 lipomas

NOTE Confidence: 0.9709262

00:12:42.000 --> 00:12:43.540 and malignant lesions,

NOTE Confidence: 0.8456394

00:12:44.080 --> 00:12:45.540 which include sarcomas.

NOTE Confidence: 0.9908033

00:12:46.320 --> 00:12:47.679 But there are also two

NOTE Confidence: 0.9908033

00:12:47.679 --> 00:12:48.820 other categories,

NOTE Confidence: 0.9991213

00:12:49.600 --> 00:12:50.340 and these

NOTE Confidence: 0.979759

00:12:50.720 --> 00:12:53.440 include intermediate grade tumors that

NOTE Confidence: 0.979759

00:12:53.440 --> 00:12:55.135 are rarely metastasizing.

NOTE Confidence: 0.9911413

00:12:55.675 --> 00:12:57.054 And I put one example

NOTE Confidence: 0.96922797

00:12:57.515 --> 00:12:59.135 as a giant cell tumor

NOTE Confidence: 0.9145566

00:12:59.595 --> 00:13:01.535 and intermediate grade tumors

NOTE Confidence: 0.98207057

00:13:02.075 --> 00:13:04.175 that are locally aggressive.

NOTE Confidence: 0.99874884

00:13:04.875 --> 00:13:06.015 And these include

NOTE Confidence: 0.99563706

00:13:06.519 --> 00:13:07.559 something I'm gonna spend a

NOTE Confidence: 0.99563706

00:13:07.559 --> 00:13:09.079 little more time on, which

NOTE Confidence: 0.99563706

00:13:09.079 --> 00:13:10.380 is desmoid tumors.

NOTE Confidence: 0.9894333

00:13:13.079 --> 00:13:15.019 The management of soft tissue

NOTE Confidence: 0.9894333

00:13:15.160 --> 00:13:17.420 and bone tumors in general

NOTE Confidence: 0.99517983

00:13:18.040 --> 00:13:19.240 is similar to many of

NOTE Confidence: 0.99517983

00:13:19.240 --> 00:13:19.820 the malignancies

NOTE Confidence: 0.9950529

00:13:20.200 --> 00:13:21.815 that we see in oncology.

NOTE Confidence: 0.9950529

00:13:21.955 --> 00:13:23.335 So the main treatment

NOTE Confidence: 0.9427505

00:13:24.275 --> 00:13:26.054 historically has been surgery.

NOTE Confidence: 0.98463655

00:13:27.075 --> 00:13:28.054 But these days,

NOTE Confidence: 0.89221174

00:13:28.835 --> 00:13:30.035 as just like you heard

NOTE Confidence: 0.89221174

00:13:30.035 --> 00:13:31.395 from doctor Lee and doctor

NOTE Confidence: 0.89221174

00:13:31.395 --> 00:13:31.895 Ladich,

NOTE Confidence: 0.96858776

00:13:32.515 --> 00:13:34.195 other techniques have been used

NOTE Confidence: 0.96858776

00:13:34.195 --> 00:13:35.760 because surgery can be very

NOTE Confidence: 0.96858776

00:13:35.760 --> 00:13:37.220 morbid or it might delay

NOTE Confidence: 0.96858776

00:13:37.360 --> 00:13:38.179 other treatments.

NOTE Confidence: 0.98485124

00:13:39.120 --> 00:13:42.160 So various ablative techniques similar

NOTE Confidence: 0.98485124

00:13:42.160 --> 00:13:43.279 to what you've just seen

NOTE Confidence: 0.98485124

00:13:43.279 --> 00:13:44.179 have been tried

NOTE Confidence: 0.7526181

00:13:44.880 --> 00:13:45.540 as well

NOTE Confidence: 0.99932694

00:13:45.840 --> 00:13:46.500 as radiotherapy

NOTE Confidence: 0.9694912

00:13:47.655 --> 00:13:48.555 and medical management.

NOTE Confidence: 0.96765435

00:13:49.095 --> 00:13:50.635 So this includes chemotherapy,

NOTE Confidence: 0.99811465

00:13:51.575 --> 00:13:52.555 targeted therapy,

NOTE Confidence: 0.9997126

00:13:53.175 --> 00:13:54.155 and immunotherapy.

NOTE Confidence: 0.9960525

00:13:56.695 --> 00:13:58.055 So my first case is

NOTE Confidence: 0.9960525

00:13:58.055 --> 00:13:59.175 actually a case of a

NOTE Confidence: 0.9960525

00:13:59.175 --> 00:14:01.095 patient with a desmoid tumor.

NOTE Confidence: 0.9960525

00:14:01.095 --> 00:14:01.995 This is also

NOTE Confidence: 0.99920356

00:14:02.615 --> 00:14:03.515 known as

NOTE Confidence: 0.9744527

00:14:04.160 --> 00:14:04.639 a

NOTE Confidence: 0.9943047

00:14:05.040 --> 00:14:06.579 an aggressive fibromatosis.

NOTE Confidence: 0.9997301

00:14:07.120 --> 00:14:08.480 It goes by many different

NOTE Confidence: 0.9997301

00:14:08.480 --> 00:14:08.980 names.

NOTE Confidence: 0.99974626

00:14:09.679 --> 00:14:10.880 This is a thirty nine

NOTE Confidence: 0.99974626

00:14:10.880 --> 00:14:11.860 year old woman

NOTE Confidence: 0.9451005

00:14:12.559 --> 00:14:14.639 who, in September last year,

NOTE Confidence: 0.9451005

00:14:14.639 --> 00:14:15.139 noted

NOTE Confidence: 0.9950575

00:14:15.519 --> 00:14:16.880 a lump in the right

NOTE Confidence: 0.9950575

00:14:16.880 --> 00:14:17.380 axilla.

NOTE Confidence: 0.9956687

00:14:18.304 --> 00:14:19.365 The following month,

NOTE Confidence: 0.97470725

00:14:19.745 --> 00:14:21.505 she had an ultrasound which

NOTE Confidence: 0.97470725

00:14:21.505 --> 00:14:23.505 confirmed a mass and measured

NOTE Confidence: 0.97470725

00:14:23.505 --> 00:14:25.425 it at six point nine

NOTE Confidence: 0.97470725

00:14:25.425 --> 00:14:27.525 by three by five centimeters.

NOTE Confidence: 0.9894438

00:14:28.545 --> 00:14:30.225 This was confirmed on an

NOTE Confidence: 0.9894438

00:14:30.225 --> 00:14:31.365 MRI scan,

NOTE Confidence: 0.9927495

00:14:31.790 --> 00:14:33.070 which suggested it was a

NOTE Confidence: 0.9927495

00:14:33.070 --> 00:14:35.070 little bit larger, seven point

NOTE Confidence: 0.9927495

00:14:35.070 --> 00:14:37.070 nine by five point two

NOTE Confidence: 0.9927495

00:14:37.070 --> 00:14:38.770 by four point eight centimeters.

NOTE Confidence: 0.9977401

00:14:39.790 --> 00:14:41.970 And an ultrasound guided biopsy

NOTE Confidence: 0.9941716

00:14:42.670 --> 00:14:43.490 showed pathological

NOTE Confidence: 0.99978095

00:14:44.030 --> 00:14:44.530 features

NOTE Confidence: 0.9901768

00:14:45.310 --> 00:14:47.330 consistent with a desmoid tumor.

NOTE Confidence: 0.99865025

00:14:49.605 --> 00:14:50.885 So I don't know if,

NOTE Confidence: 0.98938715

00:14:51.445 --> 00:14:52.665 Igor, if you're still

NOTE Confidence: 0.9793121

00:14:53.365 --> 00:14:55.125 able to talk, but, I

NOTE Confidence: 0.9793121

00:14:55.125 --> 00:14:55.845 I don't know if you

NOTE Confidence: 0.9793121

00:14:55.845 --> 00:14:57.305 can take us through this

NOTE Confidence: 0.99532086

00:14:57.685 --> 00:14:58.825 MRI picture.

NOTE Confidence: 0.8951878

00:15:00.500 --> 00:15:01.540 Yes. I am I am

NOTE Confidence: 0.8951878

00:15:01.540 --> 00:15:03.000 I am here. Okay.

NOTE Confidence: 0.9585299

00:15:03.700 --> 00:15:04.200 So

NOTE Confidence: 0.9243514

00:15:05.220 --> 00:15:07.220 we see this, irregular. If

NOTE Confidence: 0.9243514

00:15:07.220 --> 00:15:08.180 if you were looking at

NOTE Confidence: 0.9243514

00:15:08.180 --> 00:15:09.540 an X-ray, I suppose one

NOTE Confidence: 0.9243514

00:15:09.540 --> 00:15:11.140 could almost call it a

NOTE Confidence: 0.9243514

00:15:11.140 --> 00:15:11.640 spiculated,

NOTE Confidence: 0.99646264

00:15:12.180 --> 00:15:12.680 lesion,

NOTE Confidence: 0.9009824

00:15:13.220 --> 00:15:15.384 which is fairly characteristic,

NOTE Confidence: 0.97872883

00:15:16.084 --> 00:15:17.125 appearance for a lot of

NOTE Confidence: 0.97872883

00:15:17.125 --> 00:15:17.625 these,

NOTE Confidence: 0.8662527

00:15:19.444 --> 00:15:19.944 desmoid

NOTE Confidence: 0.6046505

00:15:20.324 --> 00:15:21.785 and aggressive fibro motility.

NOTE Confidence: 0.93629277

00:15:22.485 --> 00:15:24.564 They're typically not very well

NOTE Confidence: 0.93629277

00:15:24.564 --> 00:15:26.165 circumscribed. They they tend to

NOTE Confidence: 0.93629277

00:15:26.165 --> 00:15:27.064 kind of invaginate

NOTE Confidence: 0.8966761

00:15:27.365 --> 00:15:28.725 themselves to all sorts of

NOTE Confidence: 0.8966761

00:15:28.725 --> 00:15:30.480 tissue planes, which is what

NOTE Confidence: 0.8966761

00:15:30.480 --> 00:15:32.320 sometimes makes them a challenge

NOTE Confidence: 0.8966761

00:15:32.320 --> 00:15:34.480 to, surgically respect for instance.

NOTE Confidence: 0.8966761

00:15:34.480 --> 00:15:35.760 It's it's not always easy

NOTE Confidence: 0.8966761

00:15:35.760 --> 00:15:37.840 to get very clean margins

NOTE Confidence: 0.8966761

00:15:37.840 --> 00:15:38.900 because they are,

NOTE Confidence: 0.7193383

00:15:39.280 --> 00:15:41.540 they're they're so easy regular,

NOTE Confidence: 0.7193383

00:15:41.840 --> 00:15:43.220 jagged almost. And,

NOTE Confidence: 0.92905486

00:15:43.920 --> 00:15:45.060 you can see this

NOTE Confidence: 0.9523562

00:15:45.735 --> 00:15:46.235 fairly

NOTE Confidence: 0.898804

00:15:46.855 --> 00:15:48.055 typical appearance of it being

NOTE Confidence: 0.898804

00:15:48.055 --> 00:15:48.555 very

NOTE Confidence: 0.7920313

00:15:48.935 --> 00:15:49.435 white,

NOTE Confidence: 0.88622105

00:15:50.055 --> 00:15:50.635 on, this

NOTE Confidence: 0.8371301

00:15:52.855 --> 00:15:54.455 sequence or contrast enhanced sequence.

NOTE Confidence: 0.8371301

00:15:54.455 --> 00:15:55.975 Either way, they they tend

NOTE Confidence: 0.8371301

00:15:55.975 --> 00:15:57.735 to really light up, quite

NOTE Confidence: 0.8371301

00:15:57.735 --> 00:15:58.235 obviously.

NOTE Confidence: 0.91141355

00:16:00.069 --> 00:16:01.690 And you can see them,

NOTE Confidence: 0.77752787

00:16:02.470 --> 00:16:03.670 the the prongs of the

NOTE Confidence: 0.77752787

00:16:03.670 --> 00:16:04.810 lesion kind of,

NOTE Confidence: 0.8507099

00:16:05.829 --> 00:16:07.509 sticking into various tissue planes

NOTE Confidence: 0.8507099

00:16:07.509 --> 00:16:08.569 in between muscles,

NOTE Confidence: 0.8775218

00:16:09.750 --> 00:16:11.589 and and and tendons and

NOTE Confidence: 0.8775218

00:16:11.589 --> 00:16:12.329 fat planes.

NOTE Confidence: 0.7870971

00:16:13.910 --> 00:16:14.149 So,

NOTE Confidence: 0.94310164

00:16:15.125 --> 00:16:16.485 this is precisely, like I

NOTE Confidence: 0.94310164

00:16:16.485 --> 00:16:17.764 said, what what causes them

NOTE Confidence: 0.94310164

00:16:17.764 --> 00:16:18.665 to be a

NOTE Confidence: 0.95633173

00:16:19.125 --> 00:16:20.825 a bit of a surgical

NOTE Confidence: 0.95633173

00:16:20.885 --> 00:16:22.805 dilemma, particularly in this area.

NOTE Confidence: 0.95633173

00:16:22.805 --> 00:16:23.845 Now I can't see on

NOTE Confidence: 0.95633173

00:16:23.845 --> 00:16:26.165 this one sequence exactly how

NOTE Confidence: 0.95633173

00:16:26.165 --> 00:16:28.404 close the brachial plexus is,

NOTE Confidence: 0.95633173

00:16:28.404 --> 00:16:29.285 but, you know, in the

NOTE Confidence: 0.95633173

00:16:29.285 --> 00:16:30.330 axilla, that

NOTE Confidence: 0.98270637

00:16:30.810 --> 00:16:31.850 that can always be a

NOTE Confidence: 0.98270637

00:16:31.850 --> 00:16:34.350 problem, from a management standpoint

NOTE Confidence: 0.8989025

00:16:34.890 --> 00:16:36.250 to try to peel away

NOTE Confidence: 0.8989025

00:16:36.250 --> 00:16:36.990 all these,

NOTE Confidence: 0.929365

00:16:37.530 --> 00:16:39.390 prongs of the lesion away.

NOTE Confidence: 0.8516284

00:16:40.090 --> 00:16:40.590 But,

NOTE Confidence: 0.8777147

00:16:41.050 --> 00:16:42.250 Jen, this is pretty much

NOTE Confidence: 0.8777147

00:16:42.250 --> 00:16:43.690 the classical appearance of the

NOTE Confidence: 0.8777147

00:16:43.690 --> 00:16:44.190 lesion.

NOTE Confidence: 0.9479529

00:16:45.285 --> 00:16:46.665 Right. Thank you. And

NOTE Confidence: 0.9357115

00:16:47.285 --> 00:16:48.885 and, actually, it's exactly as

NOTE Confidence: 0.9357115

00:16:48.885 --> 00:16:49.865 you said. She

NOTE Confidence: 0.9681988

00:16:50.245 --> 00:16:52.165 first saw doctor Alino, and

NOTE Confidence: 0.9681988

00:16:52.165 --> 00:16:53.065 she pretty much

NOTE Confidence: 0.9784538

00:16:53.445 --> 00:16:54.644 said word for word what

NOTE Confidence: 0.9784538

00:16:54.644 --> 00:16:56.005 you said. Because of its

NOTE Confidence: 0.9784538

00:16:56.005 --> 00:16:56.505 location

NOTE Confidence: 0.9875152

00:16:57.380 --> 00:16:58.980 near the brachial plexus, it

NOTE Confidence: 0.9875152

00:16:58.980 --> 00:17:00.120 would have made surgery

NOTE Confidence: 0.9991611

00:17:00.900 --> 00:17:02.260 very challenging to try and

NOTE Confidence: 0.9991611

00:17:02.260 --> 00:17:03.860 get all of this tumor

NOTE Confidence: 0.9991611

00:17:03.860 --> 00:17:04.359 out.

NOTE Confidence: 0.98400605

00:17:05.380 --> 00:17:07.300 So desoid tumors are quite

NOTE Confidence: 0.98400605

00:17:07.300 --> 00:17:09.700 rare. They affect somewhere between

NOTE Confidence: 0.98400605

00:17:09.700 --> 00:17:10.920 three and six

NOTE Confidence: 0.9998671

00:17:11.494 --> 00:17:11.994 cases

NOTE Confidence: 0.999119

00:17:12.375 --> 00:17:13.755 per million population

NOTE Confidence: 0.99942195

00:17:14.455 --> 00:17:14.955 every

NOTE Confidence: 0.9026926

00:17:15.575 --> 00:17:16.315 year. But

NOTE Confidence: 0.9919929

00:17:16.855 --> 00:17:18.775 and this, accounts for about

NOTE Confidence: 0.9919929

00:17:18.775 --> 00:17:20.775 fifteen hundred cases a year

NOTE Confidence: 0.9919929

00:17:20.775 --> 00:17:21.994 in this country.

NOTE Confidence: 0.9772861

00:17:22.615 --> 00:17:24.695 However, most patients do not

NOTE Confidence: 0.9772861

00:17:24.695 --> 00:17:25.915 die of their disease.

NOTE Confidence: 0.98027605

00:17:26.500 --> 00:17:27.700 So there are many, many

NOTE Confidence: 0.98027605

00:17:27.700 --> 00:17:29.960 more patients living with desmoid

NOTE Confidence: 0.98027605

00:17:30.100 --> 00:17:30.600 tumors,

NOTE Confidence: 0.99966323

00:17:31.140 --> 00:17:32.340 and this is why the

NOTE Confidence: 0.99966323

00:17:32.340 --> 00:17:34.359 prevalence is so much higher.

NOTE Confidence: 0.96610165

00:17:35.460 --> 00:17:37.220 The median age, it's a

NOTE Confidence: 0.96610165

00:17:37.220 --> 00:17:39.480 young person's disease, so we

NOTE Confidence: 0.96610165

00:17:39.744 --> 00:17:41.505 tend to see cancer in

NOTE Confidence: 0.96610165

00:17:41.505 --> 00:17:43.845 older populations. But desmoid tumors

NOTE Confidence: 0.99210817

00:17:44.225 --> 00:17:45.265 tend to have a median

NOTE Confidence: 0.99210817

00:17:45.265 --> 00:17:46.784 age of twenty to forty

NOTE Confidence: 0.99210817

00:17:46.784 --> 00:17:47.984 four, but it is quite

NOTE Confidence: 0.99210817

00:17:47.984 --> 00:17:49.684 variable. I have seen patients

NOTE Confidence: 0.99686617

00:17:50.145 --> 00:17:51.265 who are much older, and

NOTE Confidence: 0.99686617

00:17:51.265 --> 00:17:53.024 we've also seen desmoid tumors

NOTE Confidence: 0.99686617

00:17:53.024 --> 00:17:53.765 in children.

NOTE Confidence: 0.9968503

00:17:54.859 --> 00:17:57.359 Most desmoid tumors are sporadic,

NOTE Confidence: 0.99948525

00:17:57.660 --> 00:17:58.400 but there

NOTE Confidence: 0.97702134

00:17:58.700 --> 00:18:00.080 are some that are associated,

NOTE Confidence: 0.9981825

00:18:00.460 --> 00:18:01.740 as many of you will

NOTE Confidence: 0.9981825

00:18:01.740 --> 00:18:02.240 know,

NOTE Confidence: 0.98165244

00:18:02.540 --> 00:18:04.460 with the FAP gene or

NOTE Confidence: 0.98165244

00:18:04.460 --> 00:18:05.680 familial adenomatous

NOTE Confidence: 0.99421954

00:18:06.220 --> 00:18:07.440 polyposis gene.

NOTE Confidence: 0.9919582

00:18:10.065 --> 00:18:12.385 Desmoid tumors can occur anywhere

NOTE Confidence: 0.9919582

00:18:12.385 --> 00:18:13.585 in the body as shown

NOTE Confidence: 0.9919582

00:18:13.585 --> 00:18:15.205 on this particular slide.

NOTE Confidence: 0.9996824

00:18:15.585 --> 00:18:16.804 There is a slight

NOTE Confidence: 0.9765622

00:18:17.424 --> 00:18:19.765 increase in incidence in the

NOTE Confidence: 0.9765622

00:18:19.984 --> 00:18:21.845 intra abdominal or abdominal

NOTE Confidence: 0.98594904

00:18:22.145 --> 00:18:22.965 wall area,

NOTE Confidence: 0.9892916

00:18:23.659 --> 00:18:24.559 but their symptoms

NOTE Confidence: 0.93922806

00:18:25.340 --> 00:18:27.179 really depend on where the

NOTE Confidence: 0.93922806

00:18:27.179 --> 00:18:28.940 tumors are. As as, again,

NOTE Confidence: 0.93922806

00:18:28.940 --> 00:18:30.140 you can imagine if there's

NOTE Confidence: 0.93922806

00:18:30.140 --> 00:18:31.359 a big mass somewhere,

NOTE Confidence: 0.9934521

00:18:31.740 --> 00:18:33.679 it's gonna cause symptoms related

NOTE Confidence: 0.9934521

00:18:33.740 --> 00:18:34.859 to the size of the

NOTE Confidence: 0.9934521

00:18:34.859 --> 00:18:36.480 mass. So this can be

NOTE Confidence: 0.9934521

00:18:36.700 --> 00:18:37.980 trouble breathing if it's in

NOTE Confidence: 0.9934521

00:18:37.980 --> 00:18:39.039 the chest wall,

NOTE Confidence: 0.9648617

00:18:39.795 --> 00:18:41.395 abdominal distension if it's in

NOTE Confidence: 0.9648617

00:18:41.395 --> 00:18:42.215 the abdomen,

NOTE Confidence: 0.99028206

00:18:42.915 --> 00:18:45.415 and masses or restricted mobility

NOTE Confidence: 0.9966887

00:18:45.715 --> 00:18:47.335 if it's in the extremities.

NOTE Confidence: 0.9983197

00:18:48.835 --> 00:18:50.375 Over the last few decades,

NOTE Confidence: 0.9983197

00:18:50.595 --> 00:18:51.715 a lot of work has

NOTE Confidence: 0.9983197

00:18:51.715 --> 00:18:53.715 been done, however, into what

NOTE Confidence: 0.9983197

00:18:53.715 --> 00:18:54.215 causes

NOTE Confidence: 0.98712736

00:18:54.730 --> 00:18:55.789 desmoid tumors.

NOTE Confidence: 0.9975437

00:18:56.250 --> 00:18:57.210 And one of the first

NOTE Confidence: 0.9975437

00:18:57.210 --> 00:18:58.889 things that was realized is

NOTE Confidence: 0.9975437

00:18:58.889 --> 00:19:00.269 it seems to have

NOTE Confidence: 0.9917389

00:19:00.889 --> 00:19:01.710 an effect

NOTE Confidence: 0.94371486

00:19:02.409 --> 00:19:03.070 be more,

NOTE Confidence: 0.6712787

00:19:05.690 --> 00:19:06.190 prominent

NOTE Confidence: 0.94806945

00:19:06.730 --> 00:19:08.590 in patients who have hypereestrogenic

NOTE Confidence: 0.8363003

00:19:09.450 --> 00:19:09.950 states.

NOTE Confidence: 0.9988162

00:19:10.625 --> 00:19:12.165 And this can include recent

NOTE Confidence: 0.9988162

00:19:12.305 --> 00:19:12.805 pregnancies

NOTE Confidence: 0.975029

00:19:13.665 --> 00:19:15.345 as well as women more

NOTE Confidence: 0.975029

00:19:15.345 --> 00:19:16.085 than men.

NOTE Confidence: 0.9989935

00:19:17.105 --> 00:19:18.625 It actually led to one

NOTE Confidence: 0.9989935

00:19:18.625 --> 00:19:19.525 of the first

NOTE Confidence: 0.999607

00:19:19.905 --> 00:19:21.845 medical treatments being tried

NOTE Confidence: 0.96253103

00:19:22.305 --> 00:19:23.285 as being tamoxifen,

NOTE Confidence: 0.97700804

00:19:23.744 --> 00:19:25.740 which is an estrogen receptor

NOTE Confidence: 0.9544208

00:19:26.140 --> 00:19:26.640 modifier

NOTE Confidence: 0.9947096

00:19:27.020 --> 00:19:28.460 that we use to treat

NOTE Confidence: 0.9947096

00:19:28.460 --> 00:19:29.359 breast cancer.

NOTE Confidence: 0.9997304

00:19:29.900 --> 00:19:30.640 It wasn't

NOTE Confidence: 0.9964629

00:19:31.020 --> 00:19:33.100 very successful, but we still

NOTE Confidence: 0.9964629

00:19:33.100 --> 00:19:34.960 very occasionally use that medication

NOTE Confidence: 0.9964629

00:19:35.100 --> 00:19:35.600 today.

NOTE Confidence: 0.9996823

00:19:36.780 --> 00:19:37.280 Similarly,

NOTE Confidence: 0.9961767

00:19:37.915 --> 00:19:39.994 some desmoid tumors occurred at

NOTE Confidence: 0.9961767

00:19:39.994 --> 00:19:41.775 the site of prior surgery

NOTE Confidence: 0.98610353

00:19:42.315 --> 00:19:44.635 or prior trauma, suggesting that

NOTE Confidence: 0.98610353

00:19:44.635 --> 00:19:46.575 it was that traumatic event

NOTE Confidence: 0.9993706

00:19:47.035 --> 00:19:48.555 that ended up causing the

NOTE Confidence: 0.9993706

00:19:48.555 --> 00:19:49.055 tumor.

NOTE Confidence: 0.9984992

00:19:51.650 --> 00:19:53.090 Most of us get our

NOTE Confidence: 0.9984992

00:19:53.090 --> 00:19:54.850 treatment guidelines from something called

NOTE Confidence: 0.9984992

00:19:54.850 --> 00:19:55.670 the NCCN,

NOTE Confidence: 0.9987516

00:19:56.050 --> 00:19:57.670 which is a national guideline

NOTE Confidence: 0.9987516

00:19:57.730 --> 00:19:58.470 for treating

NOTE Confidence: 0.96812236

00:19:58.770 --> 00:19:59.670 every cancer.

NOTE Confidence: 0.9538569

00:20:00.290 --> 00:20:02.130 And the treatment guidelines for

NOTE Confidence: 0.9538569

00:20:02.130 --> 00:20:03.910 Desmoid tumors have changed

NOTE Confidence: 0.9989151

00:20:04.290 --> 00:20:04.790 extensively

NOTE Confidence: 0.9996964

00:20:05.684 --> 00:20:07.304 over the last few decades.

NOTE Confidence: 0.9972956

00:20:08.644 --> 00:20:10.325 What we suggest these days

NOTE Confidence: 0.9972956

00:20:10.325 --> 00:20:11.524 is if you have a

NOTE Confidence: 0.9972956

00:20:11.524 --> 00:20:13.384 patient with a desmoid tumor,

NOTE Confidence: 0.9996056

00:20:13.684 --> 00:20:14.744 they should be

NOTE Confidence: 0.99805164

00:20:16.005 --> 00:20:17.625 evaluated by a multidisciplinary

NOTE Confidence: 0.9613466

00:20:18.404 --> 00:20:19.845 team such as the one

NOTE Confidence: 0.9613466

00:20:19.845 --> 00:20:21.150 we have here at Yale.

NOTE Confidence: 0.94994974

00:20:22.190 --> 00:20:23.650 This way we can decide

NOTE Confidence: 0.94994974

00:20:23.790 --> 00:20:25.310 whether we should go with

NOTE Confidence: 0.94994974

00:20:25.310 --> 00:20:26.290 the standard

NOTE Confidence: 0.9696311

00:20:26.990 --> 00:20:28.590 first line treatment, which is

NOTE Confidence: 0.9696311

00:20:28.590 --> 00:20:29.810 actually surveillance,

NOTE Confidence: 0.9986014

00:20:30.510 --> 00:20:31.790 or whether they need any

NOTE Confidence: 0.9986014

00:20:31.790 --> 00:20:33.810 of our other techniques that

NOTE Confidence: 0.9986014

00:20:34.109 --> 00:20:35.390 have been mentioned in this

NOTE Confidence: 0.9986014

00:20:35.390 --> 00:20:35.890 talk.

NOTE Confidence: 0.958098

00:20:38.405 --> 00:20:40.565 So as usual for any

NOTE Confidence: 0.958098

00:20:40.565 --> 00:20:42.244 medical condition, we need to

NOTE Confidence: 0.958098

00:20:42.244 --> 00:20:43.605 do a good history and

NOTE Confidence: 0.958098

00:20:43.605 --> 00:20:44.665 fit and physical.

NOTE Confidence: 0.9723781

00:20:45.125 --> 00:20:46.405 And this is really for

NOTE Confidence: 0.9723781

00:20:46.405 --> 00:20:47.765 patients who have just been

NOTE Confidence: 0.9723781

00:20:47.765 --> 00:20:49.285 diagnosed to see whether they

NOTE Confidence: 0.9723781

00:20:49.285 --> 00:20:50.744 need further workup

NOTE Confidence: 0.9581485

00:20:52.119 --> 00:20:53.500 for familial adenomatous

NOTE Confidence: 0.92732286

00:20:53.880 --> 00:20:54.380 polyposis.

NOTE Confidence: 0.9975299

00:20:55.320 --> 00:20:56.760 Because if they do have

NOTE Confidence: 0.9975299

00:20:56.760 --> 00:20:58.440 that condition, especially if they're

NOTE Confidence: 0.9975299

00:20:58.440 --> 00:20:59.179 very young,

NOTE Confidence: 0.99829865

00:20:59.640 --> 00:21:01.500 then they'll need much more

NOTE Confidence: 0.99829865

00:21:01.559 --> 00:21:04.460 intense screening for colorectal cancer

NOTE Confidence: 0.9724887

00:21:04.920 --> 00:21:06.380 as shown on this particular

NOTE Confidence: 0.9724887

00:21:06.600 --> 00:21:07.100 slide.

NOTE Confidence: 0.99870694

00:21:07.715 --> 00:21:08.215 Otherwise,

NOTE Confidence: 0.9995076

00:21:08.835 --> 00:21:10.135 we need to do surveillance

NOTE Confidence: 0.9995076

00:21:10.355 --> 00:21:10.855 imaging

NOTE Confidence: 0.995476

00:21:11.475 --> 00:21:13.395 to see whether the tumors

NOTE Confidence: 0.995476

00:21:13.395 --> 00:21:14.855 are staying the same,

NOTE Confidence: 0.95951295

00:21:15.234 --> 00:21:16.595 but whether they're growing, or

NOTE Confidence: 0.95951295

00:21:16.595 --> 00:21:17.975 whether they're even regressing.

NOTE Confidence: 0.97266316

00:21:22.280 --> 00:21:23.800 So because some of the

NOTE Confidence: 0.97266316

00:21:23.800 --> 00:21:25.720 tumors can regress, as shown

NOTE Confidence: 0.97266316

00:21:25.720 --> 00:21:27.740 on this particular slide, over

NOTE Confidence: 0.97266316

00:21:27.800 --> 00:21:29.400 a quarter, so twenty eight

NOTE Confidence: 0.97266316

00:21:29.400 --> 00:21:29.900 percent,

NOTE Confidence: 0.99952567

00:21:30.520 --> 00:21:31.559 that's why we tend to

NOTE Confidence: 0.99952567

00:21:31.559 --> 00:21:32.460 use surveillance

NOTE Confidence: 0.99893385

00:21:33.000 --> 00:21:34.280 as the first line of

NOTE Confidence: 0.99893385

00:21:34.280 --> 00:21:34.780 treatment.

NOTE Confidence: 0.9931161

00:21:35.545 --> 00:21:37.145 A further thirty percent will

NOTE Confidence: 0.9931161

00:21:37.145 --> 00:21:38.425 be stable. So if they're

NOTE Confidence: 0.9931161

00:21:38.425 --> 00:21:39.865 not bothering the patient, if

NOTE Confidence: 0.9931161

00:21:39.865 --> 00:21:41.705 it was, for instance, just

NOTE Confidence: 0.9931161

00:21:41.705 --> 00:21:43.405 picked up on another imaging

NOTE Confidence: 0.9931161

00:21:43.465 --> 00:21:43.965 technique,

NOTE Confidence: 0.99954593

00:21:44.585 --> 00:21:45.705 then we would still just

NOTE Confidence: 0.99954593

00:21:45.705 --> 00:21:46.445 do surveillance

NOTE Confidence: 0.9991593

00:21:46.905 --> 00:21:48.685 to just follow them

NOTE Confidence: 0.99541265

00:21:49.359 --> 00:21:50.639 and be ready to start

NOTE Confidence: 0.99541265

00:21:50.639 --> 00:21:51.779 treatment if needed.

NOTE Confidence: 0.9968992

00:21:52.720 --> 00:21:54.740 About forty two percent, however,

NOTE Confidence: 0.9968992

00:21:54.799 --> 00:21:56.639 will have progressive disease and

NOTE Confidence: 0.9968992

00:21:56.639 --> 00:21:57.139 probably

NOTE Confidence: 0.99874204

00:21:57.760 --> 00:21:58.980 symptomatic disease.

NOTE Confidence: 0.9555496

00:21:59.840 --> 00:22:01.279 For those patients in the

NOTE Confidence: 0.9555496

00:22:01.279 --> 00:22:02.935 past, we used to do

NOTE Confidence: 0.9555496

00:22:02.935 --> 00:22:04.695 surgery. But as doctor Ladich

NOTE Confidence: 0.9555496

00:22:04.695 --> 00:22:05.195 mentioned,

NOTE Confidence: 0.99957263

00:22:05.734 --> 00:22:06.855 this can often be a

NOTE Confidence: 0.99957263

00:22:06.855 --> 00:22:08.315 very morbid procedure

NOTE Confidence: 0.92044353

00:22:09.015 --> 00:22:10.155 where patients

NOTE Confidence: 0.9986252

00:22:10.855 --> 00:22:12.295 will need a very, very

NOTE Confidence: 0.9986252

00:22:12.295 --> 00:22:14.135 big operation to remove a

NOTE Confidence: 0.9986252

00:22:14.135 --> 00:22:14.635 relatively

NOTE Confidence: 0.9994123

00:22:14.935 --> 00:22:15.915 small tumor.

NOTE Confidence: 0.9996432

00:22:17.730 --> 00:22:19.190 Over the past few years,

NOTE Confidence: 0.92061746

00:22:19.890 --> 00:22:21.730 doctor Ladich and doctor Lee

NOTE Confidence: 0.92061746

00:22:21.730 --> 00:22:22.630 have really

NOTE Confidence: 0.99965847

00:22:23.090 --> 00:22:25.350 pioneered the use of interventional

NOTE Confidence: 0.9500602

00:22:26.290 --> 00:22:27.670 techniques. And I know

NOTE Confidence: 0.9554322

00:22:28.609 --> 00:22:30.105 I've shared quite a few

NOTE Confidence: 0.9554322

00:22:30.105 --> 00:22:31.885 patients with doctor Lavich.

NOTE Confidence: 0.9966729

00:22:32.505 --> 00:22:34.445 And the ablative techniques

NOTE Confidence: 0.99212235

00:22:35.625 --> 00:22:37.085 for desmoid tumors,

NOTE Confidence: 0.9165489

00:22:37.945 --> 00:22:38.765 I would say,

NOTE Confidence: 0.97909045

00:22:39.225 --> 00:22:40.585 are they similar to what

NOTE Confidence: 0.97909045

00:22:40.585 --> 00:22:41.865 you just described on the

NOTE Confidence: 0.97909045

00:22:41.865 --> 00:22:43.545 first few slides, or are

NOTE Confidence: 0.97909045

00:22:43.545 --> 00:22:44.925 there any big differences

NOTE Confidence: 0.9170593

00:22:46.500 --> 00:22:48.340 from how you would treat

NOTE Confidence: 0.9170593

00:22:48.340 --> 00:22:50.180 a desmoid tumor as a

NOTE Confidence: 0.93518335

00:22:50.660 --> 00:22:52.500 It's it's all thermal ablation.

NOTE Confidence: 0.93518335

00:22:52.500 --> 00:22:53.000 However,

NOTE Confidence: 0.97035176

00:22:53.700 --> 00:22:55.240 like I mentioned or unlike

NOTE Confidence: 0.97035176

00:22:55.380 --> 00:22:56.680 in, the acetababulum,

NOTE Confidence: 0.9167154

00:22:57.380 --> 00:22:58.580 especially if we're looking to

NOTE Confidence: 0.9167154

00:22:58.580 --> 00:23:00.260 put in cement, I prefer

NOTE Confidence: 0.9167154

00:23:00.260 --> 00:23:00.920 to use

NOTE Confidence: 0.33673295

00:23:01.645 --> 00:23:03.165 e double h

NOTE Confidence: 0.985443

00:23:07.165 --> 00:23:08.605 Okay. Sorry. You were cutting

NOTE Confidence: 0.985443

00:23:08.605 --> 00:23:09.984 out a little bit there.

NOTE Confidence: 0.996523

00:23:14.480 --> 00:23:15.680 Maybe we can come back

NOTE Confidence: 0.996523

00:23:15.680 --> 00:23:16.340 to you

NOTE Confidence: 0.996202

00:23:16.960 --> 00:23:17.920 when you're in a better

NOTE Confidence: 0.996202

00:23:17.920 --> 00:23:18.420 area.

NOTE Confidence: 0.9006756

00:23:20.640 --> 00:23:22.160 But, otherwise, we do have

NOTE Confidence: 0.9006756

00:23:22.160 --> 00:23:24.080 new medical therapists, and the

NOTE Confidence: 0.9006756

00:23:24.080 --> 00:23:25.060 medical therapist

NOTE Confidence: 0.9014251

00:23:25.760 --> 00:23:26.720 sorry. Go ahead, Igor. Can

NOTE Confidence: 0.9014251

00:23:26.720 --> 00:23:28.065 you hear us? It? I

NOTE Confidence: 0.9014251

00:23:28.065 --> 00:23:29.184 can hear you better. Said,

NOTE Confidence: 0.9014251

00:23:29.265 --> 00:23:30.404 is the line choppy?

NOTE Confidence: 0.9563549

00:23:30.705 --> 00:23:32.065 Got it. I'm sorry. So,

NOTE Confidence: 0.9563549

00:23:32.065 --> 00:23:32.565 typically,

NOTE Confidence: 0.9471847

00:23:33.345 --> 00:23:35.524 with desmoids, we use cryoablation

NOTE Confidence: 0.8735714

00:23:36.385 --> 00:23:37.744 rather than a a heat

NOTE Confidence: 0.8735714

00:23:37.744 --> 00:23:38.244 ablation.

NOTE Confidence: 0.99626976

00:23:38.705 --> 00:23:40.085 And that is primarily

NOTE Confidence: 0.9735389

00:23:41.000 --> 00:23:43.000 because on CT, which is

NOTE Confidence: 0.9735389

00:23:43.000 --> 00:23:44.380 what we use for guidance,

NOTE Confidence: 0.9800507

00:23:44.760 --> 00:23:46.280 we can use we can

NOTE Confidence: 0.9800507

00:23:46.280 --> 00:23:48.280 see our ablation zones very

NOTE Confidence: 0.9800507

00:23:48.280 --> 00:23:48.780 nicely.

NOTE Confidence: 0.94999564

00:23:49.160 --> 00:23:51.000 We see these, so called

NOTE Confidence: 0.94999564

00:23:51.000 --> 00:23:51.820 ice balls

NOTE Confidence: 0.900526

00:23:52.280 --> 00:23:53.820 almost perfectly delineating,

NOTE Confidence: 0.9108178

00:23:54.440 --> 00:23:55.800 the, the margins of the

NOTE Confidence: 0.9108178

00:23:55.800 --> 00:23:57.945 tumor. Whereas with heat ablation,

NOTE Confidence: 0.98402876

00:23:58.404 --> 00:24:00.184 typically, let's say, with

NOTE Confidence: 0.86658645

00:24:00.484 --> 00:24:02.024 sarcomas, we would use

NOTE Confidence: 0.9936682

00:24:02.484 --> 00:24:03.625 microwave ablation

NOTE Confidence: 0.9075757

00:24:04.005 --> 00:24:05.845 for larger lesions. You do

NOTE Confidence: 0.9075757

00:24:05.845 --> 00:24:07.144 not see that margin

NOTE Confidence: 0.9304802

00:24:07.445 --> 00:24:08.984 on imaging at least immediately.

NOTE Confidence: 0.93016416

00:24:09.529 --> 00:24:10.889 You can anticipate it, but

NOTE Confidence: 0.93016416

00:24:10.889 --> 00:24:12.010 you don't know exactly where

NOTE Confidence: 0.93016416

00:24:12.010 --> 00:24:13.210 it is. Where where with

NOTE Confidence: 0.93016416

00:24:13.210 --> 00:24:14.750 cryo, you can see exactly

NOTE Confidence: 0.92907625

00:24:15.289 --> 00:24:16.409 the margin of the ice

NOTE Confidence: 0.92907625

00:24:16.409 --> 00:24:17.609 fall. So that's one of

NOTE Confidence: 0.92907625

00:24:17.609 --> 00:24:19.529 the advantages and that's the

NOTE Confidence: 0.92907625

00:24:19.529 --> 00:24:21.230 preferred modality for Desmos.

NOTE Confidence: 0.986458

00:24:22.544 --> 00:24:24.144 That's great. And then I

NOTE Confidence: 0.986458

00:24:24.144 --> 00:24:25.904 know you mentioned the brachial

NOTE Confidence: 0.986458

00:24:25.904 --> 00:24:27.664 plexus was a concern for

NOTE Confidence: 0.986458

00:24:27.664 --> 00:24:29.365 surgery. So how would you

NOTE Confidence: 0.986458

00:24:29.664 --> 00:24:31.504 get around that with doing

NOTE Confidence: 0.986458

00:24:31.504 --> 00:24:32.884 ablation, or would you

NOTE Confidence: 0.99951965

00:24:33.184 --> 00:24:34.384 refer them to me for

NOTE Confidence: 0.99951965

00:24:34.384 --> 00:24:35.365 medical therapy?

NOTE Confidence: 0.9553862

00:24:36.920 --> 00:24:38.359 So our preferred option would

NOTE Confidence: 0.9553862

00:24:38.359 --> 00:24:39.720 be, obviously, do no harm

NOTE Confidence: 0.9553862

00:24:39.720 --> 00:24:41.500 or do least harm first.

NOTE Confidence: 0.9553862

00:24:41.640 --> 00:24:43.320 So one would certainly start

NOTE Confidence: 0.9553862

00:24:43.320 --> 00:24:43.640 with,

NOTE Confidence: 0.97142035

00:24:44.200 --> 00:24:46.280 systemic therapy first, see how

NOTE Confidence: 0.97142035

00:24:46.280 --> 00:24:47.420 the patient responds.

NOTE Confidence: 0.42232907

00:24:50.975 --> 00:24:53.321 The pathology, obviously, will be

NOTE Confidence: 0.42232907

00:24:53.321 --> 00:24:54.994 for the treatment,

NOTE Confidence: 0.6972807

00:24:56.494 --> 00:24:57.475 plays out.

NOTE Confidence: 0.9471693

00:24:58.335 --> 00:24:59.615 If an ablation is still

NOTE Confidence: 0.9471693

00:24:59.615 --> 00:25:01.294 needed, one can still do

NOTE Confidence: 0.9471693

00:25:01.294 --> 00:25:02.975 stage the treatment to maybe

NOTE Confidence: 0.9471693

00:25:02.975 --> 00:25:03.475 manage,

NOTE Confidence: 0.94340134

00:25:03.850 --> 00:25:05.049 let's say, ninety percent of

NOTE Confidence: 0.94340134

00:25:05.049 --> 00:25:06.169 the lesion if we can't

NOTE Confidence: 0.94340134

00:25:06.169 --> 00:25:07.850 get the the entirety of

NOTE Confidence: 0.94340134

00:25:07.850 --> 00:25:08.350 it.

NOTE Confidence: 0.9580156

00:25:08.809 --> 00:25:10.090 But in many cases, we

NOTE Confidence: 0.9580156

00:25:10.090 --> 00:25:11.710 can do some of these,

NOTE Confidence: 0.9166987

00:25:12.250 --> 00:25:12.750 advanced,

NOTE Confidence: 0.9609215

00:25:13.129 --> 00:25:14.269 ablations using,

NOTE Confidence: 0.9290773

00:25:15.210 --> 00:25:16.730 neuro monitoring at the same

NOTE Confidence: 0.9290773

00:25:16.730 --> 00:25:17.929 time so we can tell

NOTE Confidence: 0.9290773

00:25:17.929 --> 00:25:19.455 in real time if we

NOTE Confidence: 0.9290773

00:25:19.455 --> 00:25:21.155 are causing any damage,

NOTE Confidence: 0.9553421

00:25:21.855 --> 00:25:23.135 to the plexus and and

NOTE Confidence: 0.9553421

00:25:23.135 --> 00:25:24.815 just gonna back off. But

NOTE Confidence: 0.9553421

00:25:24.815 --> 00:25:26.174 our preference will be to

NOTE Confidence: 0.9553421

00:25:26.174 --> 00:25:28.035 go with systemic treatment first

NOTE Confidence: 0.9553421

00:25:28.335 --> 00:25:29.715 to see if that perhaps,

NOTE Confidence: 0.85197026

00:25:31.215 --> 00:25:33.054 manages to a strength delusion

NOTE Confidence: 0.85197026

00:25:33.054 --> 00:25:34.095 or at least keep it

NOTE Confidence: 0.85197026

00:25:34.095 --> 00:25:34.755 at bay.

NOTE Confidence: 0.9987653

00:25:35.909 --> 00:25:37.049 Great. Thank you.

NOTE Confidence: 0.9908608

00:25:37.990 --> 00:25:39.269 And that brings us into

NOTE Confidence: 0.9908608

00:25:39.269 --> 00:25:41.590 the medical therapist. So there

NOTE Confidence: 0.9908608

00:25:41.590 --> 00:25:42.970 have been a few advances

NOTE Confidence: 0.9908608

00:25:43.029 --> 00:25:44.889 in the last few decades,

NOTE Confidence: 0.9939364

00:25:45.510 --> 00:25:46.950 and they have moved earlier

NOTE Confidence: 0.9939364

00:25:46.950 --> 00:25:48.775 in the treatment. So I

NOTE Confidence: 0.9939364

00:25:48.775 --> 00:25:50.215 would say now we tend

NOTE Confidence: 0.9939364

00:25:50.215 --> 00:25:51.415 to get most of our

NOTE Confidence: 0.9939364

00:25:51.415 --> 00:25:51.915 referrals

NOTE Confidence: 0.9939414

00:25:52.775 --> 00:25:54.934 from orthopedic surgeons who have

NOTE Confidence: 0.9939414

00:25:54.934 --> 00:25:56.475 seen these desmoid tumors.

NOTE Confidence: 0.98593587

00:25:57.095 --> 00:25:58.635 They know that there's medications

NOTE Confidence: 0.98593587

00:25:58.855 --> 00:26:00.635 available, and they'll send them

NOTE Confidence: 0.9989549

00:26:01.300 --> 00:26:02.119 for surveillance

NOTE Confidence: 0.9794419

00:26:02.500 --> 00:26:03.400 and possible,

NOTE Confidence: 0.998152

00:26:04.340 --> 00:26:06.500 medical treatment to me before

NOTE Confidence: 0.998152

00:26:06.500 --> 00:26:08.040 they attempt any surgery.

NOTE Confidence: 0.99807614

00:26:09.540 --> 00:26:10.820 And we used to use

NOTE Confidence: 0.99807614

00:26:10.820 --> 00:26:12.200 radiation a lot

NOTE Confidence: 0.9985667

00:26:12.660 --> 00:26:13.160 for

NOTE Confidence: 0.97651714

00:26:13.540 --> 00:26:15.060 desmoid tumors. I would have

NOTE Confidence: 0.97651714

00:26:15.060 --> 00:26:15.720 to say,

NOTE Confidence: 0.9995264

00:26:16.375 --> 00:26:17.914 I don't think I've seen

NOTE Confidence: 0.9995264

00:26:18.054 --> 00:26:19.975 radiation being used for desmoid

NOTE Confidence: 0.9995264

00:26:19.975 --> 00:26:20.475 tumors

NOTE Confidence: 0.99370897

00:26:21.335 --> 00:26:22.775 in the last five years.

NOTE Confidence: 0.99370897

00:26:22.775 --> 00:26:24.215 It just has fallen out

NOTE Confidence: 0.99370897

00:26:24.215 --> 00:26:25.734 of favor. And the main

NOTE Confidence: 0.99370897

00:26:25.734 --> 00:26:27.034 reason for that is,

NOTE Confidence: 0.999583

00:26:27.414 --> 00:26:28.315 as I mentioned

NOTE Confidence: 0.99939126

00:26:28.695 --> 00:26:29.195 earlier,

NOTE Confidence: 0.99062884

00:26:30.080 --> 00:26:32.000 these patients don't tend to

NOTE Confidence: 0.99062884

00:26:32.000 --> 00:26:33.600 die of their disease. This

NOTE Confidence: 0.99062884

00:26:33.600 --> 00:26:34.800 can be a very morbid

NOTE Confidence: 0.99062884

00:26:34.800 --> 00:26:35.840 disease. They can have a

NOTE Confidence: 0.99062884

00:26:35.840 --> 00:26:36.660 lot of pain,

NOTE Confidence: 0.98559207

00:26:37.040 --> 00:26:38.480 but they live for as

NOTE Confidence: 0.98559207

00:26:38.480 --> 00:26:39.680 long as if they didn't

NOTE Confidence: 0.98559207

00:26:39.680 --> 00:26:41.220 have the desmoid tumor,

NOTE Confidence: 0.99800986

00:26:41.600 --> 00:26:42.880 which means if you're giving

NOTE Confidence: 0.99800986

00:26:42.880 --> 00:26:43.380 radiation

NOTE Confidence: 0.991082

00:26:44.095 --> 00:26:45.295 or even doing a lot

NOTE Confidence: 0.991082

00:26:45.295 --> 00:26:47.155 of CAT scans, you're exposing

NOTE Confidence: 0.991082

00:26:47.375 --> 00:26:48.035 the patient

NOTE Confidence: 0.9876723

00:26:48.735 --> 00:26:49.875 to potentially

NOTE Confidence: 0.99951553

00:26:50.335 --> 00:26:50.995 a treatment

NOTE Confidence: 0.9956124

00:26:51.535 --> 00:26:52.895 that may result in a

NOTE Confidence: 0.9956124

00:26:52.895 --> 00:26:54.735 second malignancy. And that's the

NOTE Confidence: 0.9956124

00:26:54.735 --> 00:26:55.695 last thing we want to

NOTE Confidence: 0.9956124

00:26:55.695 --> 00:26:56.195 do

NOTE Confidence: 0.9964364

00:26:56.520 --> 00:26:57.640 is to take someone who

NOTE Confidence: 0.9964364

00:26:57.640 --> 00:26:59.020 has a an intermediate

NOTE Confidence: 0.9995378

00:26:59.480 --> 00:26:59.980 tumor

NOTE Confidence: 0.9751164

00:27:00.600 --> 00:27:01.800 and then give them a

NOTE Confidence: 0.9751164

00:27:01.800 --> 00:27:03.960 more malignant tumor. And so

NOTE Confidence: 0.9751164

00:27:03.960 --> 00:27:05.400 we have to be careful

NOTE Confidence: 0.9751164

00:27:05.400 --> 00:27:06.680 with our imaging techniques. We

NOTE Confidence: 0.9751164

00:27:06.680 --> 00:27:08.200 tend to use MRIs or

NOTE Confidence: 0.9751164

00:27:08.200 --> 00:27:08.700 ultrasounds

NOTE Confidence: 0.9685304

00:27:09.400 --> 00:27:10.840 to follow these patients rather

NOTE Confidence: 0.9685304

00:27:10.840 --> 00:27:11.900 than CAT scans,

NOTE Confidence: 0.9995718

00:27:12.205 --> 00:27:13.665 and we save radiation

NOTE Confidence: 0.9995333

00:27:14.285 --> 00:27:15.725 for patients who really have

NOTE Confidence: 0.9995333

00:27:15.725 --> 00:27:17.105 failed everything else.

NOTE Confidence: 0.9995733

00:27:21.325 --> 00:27:23.484 So one of the medical

NOTE Confidence: 0.9995733

00:27:23.484 --> 00:27:24.705 treatments that

NOTE Confidence: 0.99978936

00:27:25.165 --> 00:27:25.905 we have

NOTE Confidence: 0.9996136

00:27:27.740 --> 00:27:29.419 seen over the past few

NOTE Confidence: 0.9996136

00:27:29.419 --> 00:27:29.919 years

NOTE Confidence: 0.9444362

00:27:30.460 --> 00:27:32.480 is something called nirogacastat

NOTE Confidence: 0.9851559

00:27:33.820 --> 00:27:34.320 or

NOTE Confidence: 0.66392154

00:27:34.700 --> 00:27:35.200 OXIVIO.

NOTE Confidence: 0.99496484

00:27:35.740 --> 00:27:36.859 And I can say it

NOTE Confidence: 0.99496484

00:27:36.859 --> 00:27:37.840 because I've had

NOTE Confidence: 0.9713941

00:27:38.140 --> 00:27:39.744 five years of practice saying

NOTE Confidence: 0.9713941

00:27:39.744 --> 00:27:40.865 it, but like most of

NOTE Confidence: 0.9713941

00:27:40.865 --> 00:27:43.105 our oncology medicines, they don't

NOTE Confidence: 0.9713941

00:27:43.105 --> 00:27:45.045 exactly roll off the tongue.

NOTE Confidence: 0.9713941

00:27:45.265 --> 00:27:46.565 But this is a medication

NOTE Confidence: 0.9713941

00:27:46.625 --> 00:27:48.405 that's called a gamma secretase

NOTE Confidence: 0.9713941

00:27:48.625 --> 00:27:49.125 inhibitor,

NOTE Confidence: 0.8550719

00:27:49.744 --> 00:27:51.205 and then it inhibits

NOTE Confidence: 0.99957556

00:27:52.030 --> 00:27:53.330 some of the genetic

NOTE Confidence: 0.9641765

00:27:53.710 --> 00:27:55.730 changes that occur in desmoid

NOTE Confidence: 0.9641765

00:27:55.790 --> 00:27:56.850 tumors, either

NOTE Confidence: 0.9913953

00:27:57.550 --> 00:28:00.130 related to the FAP gene

NOTE Confidence: 0.99631476

00:28:00.430 --> 00:28:02.430 or the beta catenin gene.

NOTE Confidence: 0.99631476

00:28:02.430 --> 00:28:03.470 That's one of the other

NOTE Confidence: 0.99631476

00:28:03.470 --> 00:28:05.170 genes that can be mutated

NOTE Confidence: 0.99631476

00:28:05.390 --> 00:28:06.290 in this disease.

NOTE Confidence: 0.9996594

00:28:07.715 --> 00:28:08.215 So

NOTE Confidence: 0.9997149

00:28:08.595 --> 00:28:10.215 when this new medication

NOTE Confidence: 0.9998051

00:28:10.755 --> 00:28:11.575 was developed

NOTE Confidence: 0.9908667

00:28:12.115 --> 00:28:13.715 and they realized it had

NOTE Confidence: 0.9908667

00:28:13.715 --> 00:28:15.155 a lot of activity in

NOTE Confidence: 0.9908667

00:28:15.155 --> 00:28:16.615 the very early trials,

NOTE Confidence: 0.9971823

00:28:17.315 --> 00:28:18.675 they decided to test it

NOTE Confidence: 0.9971823

00:28:18.675 --> 00:28:19.555 in what we call a

NOTE Confidence: 0.9971823

00:28:19.555 --> 00:28:21.075 phase three trial. So this

NOTE Confidence: 0.9971823

00:28:21.075 --> 00:28:21.895 is a trial

NOTE Confidence: 0.999877

00:28:22.429 --> 00:28:23.650 where a new medication

NOTE Confidence: 0.9997492

00:28:24.429 --> 00:28:25.170 is tested

NOTE Confidence: 0.98375684

00:28:25.549 --> 00:28:27.390 against the standard of care.

NOTE Confidence: 0.98375684

00:28:27.390 --> 00:28:28.929 Now the standard of care

NOTE Confidence: 0.97943324

00:28:29.230 --> 00:28:31.170 for desmoid tumors is actually

NOTE Confidence: 0.97943324

00:28:31.230 --> 00:28:31.730 surveillance.

NOTE Confidence: 0.999611

00:28:32.510 --> 00:28:33.790 So it was tested in

NOTE Confidence: 0.999611

00:28:33.790 --> 00:28:35.490 this study against placebo.

NOTE Confidence: 0.99972516

00:28:36.695 --> 00:28:37.835 They had to have

NOTE Confidence: 0.9410446

00:28:38.215 --> 00:28:39.655 they patients had to have

NOTE Confidence: 0.9410446

00:28:39.655 --> 00:28:41.095 a desmoid tumor that was

NOTE Confidence: 0.9410446

00:28:41.095 --> 00:28:41.595 histologically

NOTE Confidence: 0.9939116

00:28:42.054 --> 00:28:42.554 confirmed.

NOTE Confidence: 0.9995533

00:28:43.335 --> 00:28:44.715 They had to be progressing

NOTE Confidence: 0.9989711

00:28:45.335 --> 00:28:45.835 after

NOTE Confidence: 0.9996079

00:28:46.375 --> 00:28:47.595 one line of therapy

NOTE Confidence: 0.9941739

00:28:48.615 --> 00:28:49.835 or refractory

NOTE Confidence: 0.9994874

00:28:50.600 --> 00:28:51.640 to more than one line

NOTE Confidence: 0.9994874

00:28:51.640 --> 00:28:52.300 of therapy

NOTE Confidence: 0.8914045

00:28:52.920 --> 00:28:54.680 and had and if they

NOTE Confidence: 0.8914045

00:28:54.680 --> 00:28:55.720 would have felt that if

NOTE Confidence: 0.8914045

00:28:55.720 --> 00:28:56.220 continued

NOTE Confidence: 0.99131

00:28:56.600 --> 00:28:57.100 progression,

NOTE Confidence: 0.99355656

00:28:57.640 --> 00:28:59.260 they would have an immediate

NOTE Confidence: 0.99355656

00:28:59.480 --> 00:28:59.980 significant,

NOTE Confidence: 0.9012106

00:29:01.560 --> 00:29:03.020 they wouldn't have an immediate

NOTE Confidence: 0.9856652

00:29:03.400 --> 00:29:04.460 significant risk,

NOTE Confidence: 0.96662277

00:29:05.615 --> 00:29:06.895 if they had to wait

NOTE Confidence: 0.96662277

00:29:06.895 --> 00:29:07.695 if they were on the

NOTE Confidence: 0.96662277

00:29:07.695 --> 00:29:08.915 placebo arm.

NOTE Confidence: 0.99955386

00:29:10.095 --> 00:29:11.395 They did need biopsy

NOTE Confidence: 0.97990924

00:29:12.095 --> 00:29:13.695 to confirm the disease so

NOTE Confidence: 0.97990924

00:29:13.695 --> 00:29:15.215 that everyone had the same

NOTE Confidence: 0.97990924

00:29:15.215 --> 00:29:16.915 disease going into the trial,

NOTE Confidence: 0.9970885

00:29:17.215 --> 00:29:18.095 and they had to have

NOTE Confidence: 0.9970885

00:29:18.095 --> 00:29:19.135 what we call a good

NOTE Confidence: 0.9970885

00:29:19.135 --> 00:29:21.075 performance status, which means

NOTE Confidence: 0.9997636

00:29:21.480 --> 00:29:22.679 they were able to do

NOTE Confidence: 0.9997636

00:29:22.679 --> 00:29:23.900 all of their activities

NOTE Confidence: 0.9928829

00:29:24.760 --> 00:29:26.360 without being in bed most

NOTE Confidence: 0.9928829

00:29:26.360 --> 00:29:27.400 of the day or in

NOTE Confidence: 0.9928829

00:29:27.400 --> 00:29:29.340 hospital or anything like that.

NOTE Confidence: 0.99791723

00:29:30.920 --> 00:29:32.040 They also had to have

NOTE Confidence: 0.99791723

00:29:32.040 --> 00:29:32.540 adequate

NOTE Confidence: 0.99971026

00:29:33.240 --> 00:29:35.260 organ and bone marrow function.

NOTE Confidence: 0.992105

00:29:35.985 --> 00:29:38.065 These medications, remember, had only

NOTE Confidence: 0.992105

00:29:38.065 --> 00:29:39.265 been tested on a few

NOTE Confidence: 0.992105

00:29:39.265 --> 00:29:40.245 patients before

NOTE Confidence: 0.9788929

00:29:40.705 --> 00:29:42.225 being tested in this big

NOTE Confidence: 0.9788929

00:29:42.225 --> 00:29:44.225 clinical trial, so we didn't

NOTE Confidence: 0.9788929

00:29:44.225 --> 00:29:45.765 know how it would affect

NOTE Confidence: 0.9995222

00:29:46.225 --> 00:29:47.585 patients in terms of side

NOTE Confidence: 0.9995222

00:29:47.585 --> 00:29:48.085 effects

NOTE Confidence: 0.9952774

00:29:48.465 --> 00:29:49.585 or in terms of some

NOTE Confidence: 0.9952774

00:29:49.585 --> 00:29:50.645 of their blood tests.

NOTE Confidence: 0.98978364

00:29:51.790 --> 00:29:53.730 The primary endpoint was progression

NOTE Confidence: 0.98978364

00:29:53.870 --> 00:29:55.630 free survival. How long did

NOTE Confidence: 0.98978364

00:29:55.630 --> 00:29:56.690 it keep the disease

NOTE Confidence: 0.98476374

00:29:57.470 --> 00:29:59.170 as it was or even

NOTE Confidence: 0.98476374

00:29:59.230 --> 00:30:00.450 keep it at a smaller

NOTE Confidence: 0.98476374

00:30:00.590 --> 00:30:01.090 size?

NOTE Confidence: 0.9992566

00:30:01.790 --> 00:30:02.690 And the secondary

NOTE Confidence: 0.97721875

00:30:03.150 --> 00:30:05.945 response rates included objective response,

NOTE Confidence: 0.97721875

00:30:05.945 --> 00:30:07.325 so how small

NOTE Confidence: 0.9690887

00:30:07.705 --> 00:30:09.465 could it make the cancer

NOTE Confidence: 0.9690887

00:30:09.465 --> 00:30:11.005 get or the tumor get,

NOTE Confidence: 0.9720655

00:30:11.384 --> 00:30:13.625 and also patient reported outcomes.

NOTE Confidence: 0.9720655

00:30:13.625 --> 00:30:14.345 So if they had a

NOTE Confidence: 0.9720655

00:30:14.345 --> 00:30:15.544 lot of pain to start

NOTE Confidence: 0.9720655

00:30:15.544 --> 00:30:16.284 off with,

NOTE Confidence: 0.9960571

00:30:16.789 --> 00:30:18.549 did this medication make them

NOTE Confidence: 0.9960571

00:30:18.549 --> 00:30:21.110 feel overall better despite any

NOTE Confidence: 0.9960571

00:30:21.110 --> 00:30:21.929 side effects?

NOTE Confidence: 0.99677515

00:30:23.350 --> 00:30:25.529 So patients were randomly assigned

NOTE Confidence: 0.9376518

00:30:26.070 --> 00:30:28.169 to receive this medication, nirogacastat,

NOTE Confidence: 0.9848241

00:30:29.465 --> 00:30:30.925 a hundred and fifty milligrams

NOTE Confidence: 0.9848241

00:30:31.065 --> 00:30:31.965 twice a day

NOTE Confidence: 0.87892306

00:30:32.425 --> 00:30:34.205 or a placebo, a similar

NOTE Confidence: 0.94853616

00:30:34.585 --> 00:30:35.725 appearing placebo

NOTE Confidence: 0.88074297

00:30:36.185 --> 00:30:37.165 twice a day.

NOTE Confidence: 0.9969617

00:30:37.465 --> 00:30:38.425 If they did well on

NOTE Confidence: 0.9969617

00:30:38.425 --> 00:30:39.865 the medication, they were able

NOTE Confidence: 0.9969617

00:30:39.865 --> 00:30:40.920 to continue it.

NOTE Confidence: 0.9797001

00:30:41.480 --> 00:30:42.860 If they got the placebo

NOTE Confidence: 0.9797001

00:30:43.080 --> 00:30:43.900 but progressed,

NOTE Confidence: 0.9780481

00:30:44.520 --> 00:30:45.720 they were able to cross

NOTE Confidence: 0.9780481

00:30:45.720 --> 00:30:47.080 over to get this new

NOTE Confidence: 0.9780481

00:30:47.080 --> 00:30:47.580 medication.

NOTE Confidence: 0.9981433

00:30:49.160 --> 00:30:51.180 All patients had their tumors

NOTE Confidence: 0.9897109

00:30:52.040 --> 00:30:55.025 measured using a standard radiological

NOTE Confidence: 0.86099625

00:30:55.325 --> 00:30:56.785 technique called recist,

NOTE Confidence: 0.99938637

00:30:57.805 --> 00:31:00.305 and they had patient reported

NOTE Confidence: 0.99938637

00:31:00.445 --> 00:31:02.625 outcomes very accurately measured

NOTE Confidence: 0.9653889

00:31:03.165 --> 00:31:04.845 as well as looking at

NOTE Confidence: 0.9653889

00:31:04.845 --> 00:31:06.545 the safety of the medication.

NOTE Confidence: 0.9977355

00:31:09.440 --> 00:31:10.640 In this study, as you

NOTE Confidence: 0.9977355

00:31:10.640 --> 00:31:12.560 can see, the majority of

NOTE Confidence: 0.9977355

00:31:12.560 --> 00:31:13.620 patients had

NOTE Confidence: 0.97582763

00:31:14.400 --> 00:31:16.240 disease that was outside the

NOTE Confidence: 0.97582763

00:31:16.240 --> 00:31:18.020 abdomen, unlike that particular

NOTE Confidence: 0.9808386

00:31:18.560 --> 00:31:20.420 slide that I've mentioned before

NOTE Confidence: 0.9877768

00:31:21.360 --> 00:31:23.060 for the general population.

NOTE Confidence: 0.9987433

00:31:25.035 --> 00:31:26.335 Patients either had

NOTE Confidence: 0.9997062

00:31:26.715 --> 00:31:27.215 single

NOTE Confidence: 0.9571096

00:31:27.835 --> 00:31:29.275 sites of disease or they

NOTE Confidence: 0.9571096

00:31:29.275 --> 00:31:30.095 were multifocal

NOTE Confidence: 0.9978113

00:31:30.715 --> 00:31:31.215 disease.

NOTE Confidence: 0.9804492

00:31:32.235 --> 00:31:33.515 The size of these tumors

NOTE Confidence: 0.9804492

00:31:33.515 --> 00:31:34.955 was quite large. So in

NOTE Confidence: 0.9804492

00:31:34.955 --> 00:31:37.275 the treatment arm, it was

NOTE Confidence: 0.9804492

00:31:37.275 --> 00:31:38.895 nine point one centimeters.

NOTE Confidence: 0.9983861

00:31:39.740 --> 00:31:41.340 And in the placebo arm,

NOTE Confidence: 0.9983861

00:31:41.340 --> 00:31:42.800 it was eleven centimeters.

NOTE Confidence: 0.97352296

00:31:44.300 --> 00:31:46.220 A minority of patients, less

NOTE Confidence: 0.97352296

00:31:46.220 --> 00:31:48.080 than twenty percent, had familial

NOTE Confidence: 0.97352296

00:31:48.300 --> 00:31:49.600 adenomatous polyposis.

NOTE Confidence: 0.99562794

00:31:50.540 --> 00:31:51.840 And these were the genes

NOTE Confidence: 0.99562794

00:31:52.140 --> 00:31:53.520 that were mutated.

NOTE Confidence: 0.99376696

00:31:54.455 --> 00:31:55.735 And you can see here

NOTE Confidence: 0.99376696

00:31:55.735 --> 00:31:57.195 the APC gene

NOTE Confidence: 0.9681256

00:31:57.575 --> 00:31:59.655 and the beta catenin gene.

NOTE Confidence: 0.9681256

00:31:59.655 --> 00:32:01.275 Some patients had no

NOTE Confidence: 0.9994968

00:32:01.655 --> 00:32:02.795 identified mutations.

NOTE Confidence: 0.99512756

00:32:04.695 --> 00:32:06.875 Many patients had already had

NOTE Confidence: 0.95592946

00:32:07.309 --> 00:32:08.830 quite a few treatments in

NOTE Confidence: 0.95592946

00:32:08.830 --> 00:32:09.570 some cases

NOTE Confidence: 0.94021

00:32:10.190 --> 00:32:12.350 up to fourteen lines of

NOTE Confidence: 0.94021

00:32:12.350 --> 00:32:13.250 prior treatment.

NOTE Confidence: 0.9750646

00:32:14.030 --> 00:32:15.070 And these are some of

NOTE Confidence: 0.9750646

00:32:15.070 --> 00:32:16.929 the treatments that they received.

NOTE Confidence: 0.86166096

00:32:19.150 --> 00:32:20.049 A vast,

NOTE Confidence: 0.98119456

00:32:20.665 --> 00:32:22.765 well, a a significant minority,

NOTE Confidence: 0.98119456

00:32:22.905 --> 00:32:24.525 I should say, of patients

NOTE Confidence: 0.98119456

00:32:24.825 --> 00:32:26.445 had significant pain

NOTE Confidence: 0.9990037

00:32:26.825 --> 00:32:28.425 at the time of enrollment

NOTE Confidence: 0.9990037

00:32:28.425 --> 00:32:29.965 in this particular trial.

NOTE Confidence: 0.9923431

00:32:30.505 --> 00:32:31.465 We were one of the

NOTE Confidence: 0.9923431

00:32:31.465 --> 00:32:32.665 sites for this trial, and

NOTE Confidence: 0.9923431

00:32:32.665 --> 00:32:33.885 it was very exciting

NOTE Confidence: 0.9997734

00:32:34.440 --> 00:32:36.220 being on a medication that

NOTE Confidence: 0.998181

00:32:36.760 --> 00:32:38.360 could be given to a

NOTE Confidence: 0.998181

00:32:38.360 --> 00:32:40.519 disease that previously had no

NOTE Confidence: 0.998181

00:32:40.519 --> 00:32:42.059 FDA approved treatment.

NOTE Confidence: 0.94377106

00:32:43.080 --> 00:32:44.039 And you can see that

NOTE Confidence: 0.94377106

00:32:44.039 --> 00:32:45.019 there was a significant

NOTE Confidence: 0.9893882

00:32:45.320 --> 00:32:47.500 difference in progression free survival

NOTE Confidence: 0.9893882

00:32:47.559 --> 00:32:49.179 on this particular graph.

NOTE Confidence: 0.9810984

00:32:50.174 --> 00:32:51.934 There's a wide separation of

NOTE Confidence: 0.9810984

00:32:51.934 --> 00:32:53.635 the curves between placebo

NOTE Confidence: 0.9960915

00:32:54.255 --> 00:32:55.635 and the study medication.

NOTE Confidence: 0.98475

00:32:57.615 --> 00:32:58.975 And this is a a

NOTE Confidence: 0.98475

00:32:58.975 --> 00:32:59.934 graph that we use a

NOTE Confidence: 0.98475

00:32:59.934 --> 00:33:01.455 lot in oncology called a

NOTE Confidence: 0.98475

00:33:01.455 --> 00:33:01.955 waterfall

NOTE Confidence: 0.9809142

00:33:02.960 --> 00:33:04.160 plot. Basically, where you see

NOTE Confidence: 0.9809142

00:33:04.160 --> 00:33:05.300 the zero line,

NOTE Confidence: 0.9965296

00:33:05.680 --> 00:33:06.960 that's the size of the

NOTE Confidence: 0.9965296

00:33:06.960 --> 00:33:09.200 tumor of each individual patient.

NOTE Confidence: 0.9965296

00:33:09.200 --> 00:33:10.740 Each bar is an individual

NOTE Confidence: 0.9965296

00:33:10.880 --> 00:33:11.380 patient.

NOTE Confidence: 0.98242474

00:33:12.000 --> 00:33:13.920 Anything that's going above the

NOTE Confidence: 0.98242474

00:33:13.920 --> 00:33:15.360 line means the tumors are

NOTE Confidence: 0.98242474

00:33:15.360 --> 00:33:15.860 growing,

NOTE Confidence: 0.9996052

00:33:16.235 --> 00:33:18.095 and anything below the line

NOTE Confidence: 0.998166

00:33:18.395 --> 00:33:19.935 means the tumors are responding

NOTE Confidence: 0.998166

00:33:20.075 --> 00:33:20.815 to treatment.

NOTE Confidence: 0.98911595

00:33:21.275 --> 00:33:22.635 And you can see on

NOTE Confidence: 0.98911595

00:33:22.635 --> 00:33:23.775 this first graph,

NOTE Confidence: 0.97720677

00:33:24.155 --> 00:33:25.755 the majority of patients, the

NOTE Confidence: 0.97720677

00:33:25.755 --> 00:33:27.135 tumors are getting smaller.

NOTE Confidence: 0.99609417

00:33:27.515 --> 00:33:29.560 And this dotted line is

NOTE Confidence: 0.99609417

00:33:29.560 --> 00:33:31.640 a thirty percent smaller line,

NOTE Confidence: 0.99609417

00:33:31.640 --> 00:33:32.300 and that's

NOTE Confidence: 0.9375696

00:33:32.760 --> 00:33:34.920 our arbitrary definition of a

NOTE Confidence: 0.9375696

00:33:34.920 --> 00:33:35.980 partial response.

NOTE Confidence: 0.99833906

00:33:36.600 --> 00:33:37.100 So

NOTE Confidence: 0.9547803

00:33:38.440 --> 00:33:40.440 over forty almost forty percent

NOTE Confidence: 0.9547803

00:33:40.440 --> 00:33:41.880 of patients had at least

NOTE Confidence: 0.9547803

00:33:41.880 --> 00:33:43.100 a partial response,

NOTE Confidence: 0.9907114

00:33:43.615 --> 00:33:44.815 and some of them even

NOTE Confidence: 0.9907114

00:33:44.815 --> 00:33:46.495 had a complete response. That's

NOTE Confidence: 0.9907114

00:33:46.495 --> 00:33:48.015 where when we do a

NOTE Confidence: 0.9907114

00:33:48.015 --> 00:33:50.355 follow-up scan, there's no evidence

NOTE Confidence: 0.9907114

00:33:50.414 --> 00:33:52.195 of disease on that scan.

NOTE Confidence: 0.9907114

00:33:52.414 --> 00:33:53.955 So this was really exciting

NOTE Confidence: 0.9950884

00:33:54.975 --> 00:33:56.995 stuff for a desmoid tumor.

NOTE Confidence: 0.9988105

00:33:57.570 --> 00:33:59.110 For the placebo group,

NOTE Confidence: 0.99124223

00:34:00.049 --> 00:34:02.049 again, some patients will have

NOTE Confidence: 0.99124223

00:34:02.049 --> 00:34:03.889 regression of disease without any

NOTE Confidence: 0.99124223

00:34:03.889 --> 00:34:05.090 treatment, and you can see

NOTE Confidence: 0.99124223

00:34:05.090 --> 00:34:05.990 that here.

NOTE Confidence: 0.97944534

00:34:06.529 --> 00:34:08.210 And others had progression of

NOTE Confidence: 0.97944534

00:34:08.210 --> 00:34:09.329 disease. And as I said,

NOTE Confidence: 0.97944534

00:34:09.329 --> 00:34:10.849 they were allowed to cross

NOTE Confidence: 0.97944534

00:34:10.849 --> 00:34:11.349 over

NOTE Confidence: 0.88949394

00:34:11.730 --> 00:34:13.715 and join the neurogastat

NOTE Confidence: 0.99912965

00:34:14.335 --> 00:34:14.835 group.

NOTE Confidence: 0.8932681

00:34:17.375 --> 00:34:18.675 So the nonmalignant

NOTE Confidence: 0.8830026

00:34:19.935 --> 00:34:21.315 soft tissues tumors,

NOTE Confidence: 0.973188

00:34:21.855 --> 00:34:23.535 which desmoid tumor is one

NOTE Confidence: 0.973188

00:34:23.535 --> 00:34:25.215 of them, they can either

NOTE Confidence: 0.973188

00:34:25.215 --> 00:34:26.515 be totally benign,

NOTE Confidence: 0.97335553

00:34:26.895 --> 00:34:28.114 like lipomas,

NOTE Confidence: 0.99961865

00:34:29.580 --> 00:34:30.240 or intermediate

NOTE Confidence: 0.91132176

00:34:30.620 --> 00:34:31.120 tumors,

NOTE Confidence: 0.9974006

00:34:32.220 --> 00:34:34.060 such as desmoid and giant

NOTE Confidence: 0.9974006

00:34:34.060 --> 00:34:34.880 cell tumors.

NOTE Confidence: 0.99728775

00:34:36.060 --> 00:34:38.240 Usually, survival is not affected

NOTE Confidence: 0.98659015

00:34:39.740 --> 00:34:41.740 by these particular types of

NOTE Confidence: 0.98659015

00:34:41.740 --> 00:34:42.700 tumors, so you have to

NOTE Confidence: 0.98659015

00:34:42.700 --> 00:34:44.205 be very careful about the

NOTE Confidence: 0.98659015

00:34:44.364 --> 00:34:45.344 treatments you give.

NOTE Confidence: 0.9985058

00:34:45.725 --> 00:34:46.925 You don't want to give

NOTE Confidence: 0.9985058

00:34:46.925 --> 00:34:47.425 chemotherapies

NOTE Confidence: 0.9992683

00:34:47.885 --> 00:34:48.625 or radiation

NOTE Confidence: 0.9534745

00:34:48.925 --> 00:34:49.425 necessarily,

NOTE Confidence: 0.99983054

00:34:50.364 --> 00:34:51.725 which might have a risk

NOTE Confidence: 0.99983054

00:34:51.725 --> 00:34:52.465 of secondary

NOTE Confidence: 0.9996898

00:34:52.765 --> 00:34:53.265 complications

NOTE Confidence: 0.9933684

00:34:53.725 --> 00:34:55.165 down the line as these

NOTE Confidence: 0.9933684

00:34:55.165 --> 00:34:56.525 patients can live for many

NOTE Confidence: 0.9933684

00:34:56.525 --> 00:34:57.025 years.

NOTE Confidence: 0.9973939

00:34:57.940 --> 00:34:59.719 Similarly, when you're doing surveillance,

NOTE Confidence: 0.99356556

00:35:00.420 --> 00:35:01.480 you should opt

NOTE Confidence: 0.96804315

00:35:01.860 --> 00:35:03.880 for imaging techniques such as

NOTE Confidence: 0.99589276

00:35:04.340 --> 00:35:05.800 ultrasound or MRI

NOTE Confidence: 0.98656404

00:35:06.180 --> 00:35:07.000 rather than

NOTE Confidence: 0.98793924

00:35:07.540 --> 00:35:08.440 CT scans.

NOTE Confidence: 0.9803716

00:35:09.060 --> 00:35:10.680 But there are newer medications,

NOTE Confidence: 0.9420655

00:35:11.484 --> 00:35:12.864 one of which I've mentioned,

NOTE Confidence: 0.9420655

00:35:13.005 --> 00:35:14.464 Oxivio or Niragakastat,

NOTE Confidence: 0.9963897

00:35:15.724 --> 00:35:17.425 and newer techniques available

NOTE Confidence: 0.9988806

00:35:18.125 --> 00:35:20.224 for more advanced symptomatic

NOTE Confidence: 0.9995378

00:35:20.525 --> 00:35:21.025 cases.

NOTE Confidence: 0.96597034

00:35:26.900 --> 00:35:28.739 So that's the benign and

NOTE Confidence: 0.96597034

00:35:28.739 --> 00:35:29.239 intermediate

NOTE Confidence: 0.7761092

00:35:29.540 --> 00:35:30.040 grade.

NOTE Confidence: 0.9939644

00:35:30.500 --> 00:35:31.880 And I'm going to finally

NOTE Confidence: 0.9879336

00:35:32.500 --> 00:35:33.780 use the last part of

NOTE Confidence: 0.9879336

00:35:33.780 --> 00:35:34.440 the talk

NOTE Confidence: 0.9996562

00:35:34.900 --> 00:35:35.880 to go over

NOTE Confidence: 0.99525136

00:35:36.580 --> 00:35:38.280 sarcomas, which are malignant

NOTE Confidence: 0.99977756

00:35:38.580 --> 00:35:39.080 tumors.

NOTE Confidence: 0.9943832

00:35:40.224 --> 00:35:42.224 Sarcomas can be divided into

NOTE Confidence: 0.9943832

00:35:42.224 --> 00:35:44.305 two groups. They're either bone

NOTE Confidence: 0.9943832

00:35:44.305 --> 00:35:44.805 sarcomas,

NOTE Confidence: 0.9965484

00:35:45.825 --> 00:35:48.145 which you've seen some pictures

NOTE Confidence: 0.9965484

00:35:48.145 --> 00:35:48.645 on

NOTE Confidence: 0.9041586

00:35:48.945 --> 00:35:50.805 doctor Lee's slides,

NOTE Confidence: 0.96187973

00:35:51.549 --> 00:35:53.250 or soft tissue sarcomas.

NOTE Confidence: 0.96319705

00:35:54.029 --> 00:35:56.190 And soft tissue sarcomas are

NOTE Confidence: 0.96319705

00:35:56.190 --> 00:35:58.109 the vast majority, so eighty

NOTE Confidence: 0.96319705

00:35:58.109 --> 00:35:59.569 percent of all sarcomas.

NOTE Confidence: 0.99801856

00:36:01.230 --> 00:36:03.250 There are over fifty subtypes

NOTE Confidence: 0.96416426

00:36:03.805 --> 00:36:04.864 of sarcomas,

NOTE Confidence: 0.9951494

00:36:05.645 --> 00:36:07.185 and this is why it's

NOTE Confidence: 0.9951494

00:36:07.325 --> 00:36:09.425 often very difficult for physicians,

NOTE Confidence: 0.9951494

00:36:09.565 --> 00:36:10.385 even for

NOTE Confidence: 0.96443325

00:36:10.925 --> 00:36:12.705 our oncology fellows, to

NOTE Confidence: 0.9458329

00:36:13.245 --> 00:36:15.005 to really learn about these

NOTE Confidence: 0.9458329

00:36:15.005 --> 00:36:16.364 disease just because there's so

NOTE Confidence: 0.9458329

00:36:16.364 --> 00:36:17.344 many of them,

NOTE Confidence: 0.99660844

00:36:17.950 --> 00:36:19.790 and they're quite rare. So

NOTE Confidence: 0.99660844

00:36:19.790 --> 00:36:21.969 we see about seventeen thousand

NOTE Confidence: 0.990966

00:36:22.670 --> 00:36:24.590 new sarcomas a year in

NOTE Confidence: 0.990966

00:36:24.590 --> 00:36:25.489 the whole country,

NOTE Confidence: 0.9933708

00:36:26.030 --> 00:36:27.630 whereas we see three hundred

NOTE Confidence: 0.9933708

00:36:27.630 --> 00:36:29.469 thousand new breast cancers a

NOTE Confidence: 0.9933708

00:36:29.469 --> 00:36:30.190 year. So it's

NOTE Confidence: 0.9783968

00:36:31.295 --> 00:36:33.135 unless you're dealing with these

NOTE Confidence: 0.9783968

00:36:33.135 --> 00:36:34.735 patients every day like the

NOTE Confidence: 0.9783968

00:36:34.735 --> 00:36:35.875 four of us do,

NOTE Confidence: 0.99972606

00:36:36.175 --> 00:36:37.635 then it's hard to really

NOTE Confidence: 0.99972606

00:36:37.695 --> 00:36:38.195 understand

NOTE Confidence: 0.99481946

00:36:38.575 --> 00:36:41.055 the nuances of diagnosis and

NOTE Confidence: 0.99481946

00:36:41.055 --> 00:36:41.555 treatment.

NOTE Confidence: 0.9304735

00:36:43.215 --> 00:36:45.469 Once again, though, for sarcomas,

NOTE Confidence: 0.99596417

00:36:45.770 --> 00:36:47.230 surgery is the mainstay

NOTE Confidence: 0.9729034

00:36:47.610 --> 00:36:48.430 of treatment.

NOTE Confidence: 0.9987161

00:36:49.530 --> 00:36:50.830 It can be augmented

NOTE Confidence: 0.982202

00:36:51.610 --> 00:36:52.910 with the use of radiation

NOTE Confidence: 0.982202

00:36:53.050 --> 00:36:54.670 for soft tissue sarcomas

NOTE Confidence: 0.98506117

00:36:55.369 --> 00:36:56.190 and chemotherapy

NOTE Confidence: 0.9906695

00:36:56.570 --> 00:36:57.630 for bone sarcomas.

NOTE Confidence: 0.99875396

00:36:58.734 --> 00:37:00.415 Bone sarcomas tend not to

NOTE Confidence: 0.99875396

00:37:00.415 --> 00:37:01.635 be sensitive

NOTE Confidence: 0.9995501

00:37:01.935 --> 00:37:02.594 to radiation.

NOTE Confidence: 0.9996713

00:37:03.855 --> 00:37:05.055 There is a role for

NOTE Confidence: 0.9996713

00:37:05.055 --> 00:37:05.555 chemotherapy

NOTE Confidence: 0.9275582

00:37:05.855 --> 00:37:07.775 also after surgery in very

NOTE Confidence: 0.9275582

00:37:07.775 --> 00:37:09.075 large high grade

NOTE Confidence: 0.9198886

00:37:09.535 --> 00:37:10.035 sarcomas.

NOTE Confidence: 0.99974495

00:37:11.460 --> 00:37:11.960 So

NOTE Confidence: 0.9427046

00:37:12.340 --> 00:37:13.780 it's something we should think

NOTE Confidence: 0.9427046

00:37:13.780 --> 00:37:15.239 about for the more aggressive

NOTE Confidence: 0.9427046

00:37:15.300 --> 00:37:15.800 lesions.

NOTE Confidence: 0.99917984

00:37:16.820 --> 00:37:18.599 And for metastatic cases

NOTE Confidence: 0.9887328

00:37:19.140 --> 00:37:21.000 and some large tumors,

NOTE Confidence: 0.95957124

00:37:21.300 --> 00:37:22.760 we would think about giving

NOTE Confidence: 0.9998707

00:37:23.140 --> 00:37:24.280 targeted therapy

NOTE Confidence: 0.9983631

00:37:24.739 --> 00:37:25.560 or immunotherapy.

NOTE Confidence: 0.9727728

00:37:28.525 --> 00:37:29.585 So I'm gonna,

NOTE Confidence: 0.99910325

00:37:30.525 --> 00:37:32.705 continue with another slide. Hopefully,

NOTE Confidence: 0.9615789

00:37:33.245 --> 00:37:35.105 doctor Alino will

NOTE Confidence: 0.9996953

00:37:35.405 --> 00:37:36.705 be able to join

NOTE Confidence: 0.9634143

00:37:37.565 --> 00:37:38.065 with,

NOTE Confidence: 0.9707975

00:37:38.925 --> 00:37:40.525 some comments. This was a

NOTE Confidence: 0.9707975

00:37:40.525 --> 00:37:42.125 patient, again, I shared with

NOTE Confidence: 0.9707975

00:37:42.125 --> 00:37:42.625 her.

NOTE Confidence: 0.9994377

00:37:43.219 --> 00:37:44.819 This is a sixty nine

NOTE Confidence: 0.9994377

00:37:44.819 --> 00:37:45.799 year old man

NOTE Confidence: 0.9611287

00:37:47.299 --> 00:37:49.380 who, back in August last

NOTE Confidence: 0.9611287

00:37:49.380 --> 00:37:50.279 year, presented

NOTE Confidence: 0.9996636

00:37:50.900 --> 00:37:52.279 to his primary physician

NOTE Confidence: 0.97545755

00:37:53.380 --> 00:37:54.739 with a two week history

NOTE Confidence: 0.97545755

00:37:54.739 --> 00:37:57.160 of bilateral lower extremity edema

NOTE Confidence: 0.99994737

00:37:57.924 --> 00:37:58.744 on the right

NOTE Confidence: 0.99250853

00:37:59.285 --> 00:38:00.825 as opposed to the left.

NOTE Confidence: 0.9305571

00:38:02.964 --> 00:38:04.085 But at the same time,

NOTE Confidence: 0.9305571

00:38:04.085 --> 00:38:05.684 he had an ultrasound. The

NOTE Confidence: 0.9305571

00:38:05.684 --> 00:38:07.464 primary physician quite rightly

NOTE Confidence: 0.94545305

00:38:08.005 --> 00:38:09.704 was worried about a DBT,

NOTE Confidence: 0.9780512

00:38:10.700 --> 00:38:12.620 But the ultrasound didn't show

NOTE Confidence: 0.9780512

00:38:12.620 --> 00:38:13.280 a DVT.

NOTE Confidence: 0.99710196

00:38:14.300 --> 00:38:14.800 But

NOTE Confidence: 0.9276759

00:38:15.100 --> 00:38:16.080 very astutely,

NOTE Confidence: 0.9878263

00:38:16.780 --> 00:38:18.540 the primary care physician followed

NOTE Confidence: 0.9878263

00:38:18.540 --> 00:38:20.060 this up with a CAT

NOTE Confidence: 0.9878263

00:38:20.060 --> 00:38:21.340 scan of the abdomen and

NOTE Confidence: 0.9878263

00:38:21.340 --> 00:38:21.840 pelvis.

NOTE Confidence: 0.9891447

00:38:22.460 --> 00:38:23.740 And this showed a very

NOTE Confidence: 0.9891447

00:38:23.740 --> 00:38:25.100 large mass. You can see

NOTE Confidence: 0.9891447

00:38:25.100 --> 00:38:26.844 it's seventeen by three

NOTE Confidence: 0.99946797

00:38:27.224 --> 00:38:29.005 seventeen point three by nineteen

NOTE Confidence: 0.99946797

00:38:29.065 --> 00:38:29.805 point one

NOTE Confidence: 0.9276537

00:38:30.105 --> 00:38:31.724 by twenty three centimeters,

NOTE Confidence: 0.9724113

00:38:32.744 --> 00:38:33.244 retroperitoneal,

NOTE Confidence: 0.9825585

00:38:33.864 --> 00:38:34.925 so in the abdomen,

NOTE Confidence: 0.99862844

00:38:35.545 --> 00:38:36.525 with extremely

NOTE Confidence: 0.99025667

00:38:37.145 --> 00:38:37.645 heterogeneous

NOTE Confidence: 0.99093544

00:38:38.265 --> 00:38:40.344 internal components. Now this is

NOTE Confidence: 0.99093544

00:38:40.344 --> 00:38:41.005 a sign

NOTE Confidence: 0.9951124

00:38:41.440 --> 00:38:42.260 of a very

NOTE Confidence: 0.99571216

00:38:42.960 --> 00:38:44.640 rapidly growing tumor when it

NOTE Confidence: 0.99571216

00:38:44.640 --> 00:38:45.920 doesn't look the same all

NOTE Confidence: 0.99571216

00:38:45.920 --> 00:38:46.820 the way through.

NOTE Confidence: 0.9686982

00:38:47.200 --> 00:38:49.140 Sometimes we'll see these sarcomas

NOTE Confidence: 0.9964055

00:38:49.920 --> 00:38:50.420 that

NOTE Confidence: 0.98480785

00:38:50.719 --> 00:38:52.560 patients present to us with

NOTE Confidence: 0.98480785

00:38:52.560 --> 00:38:54.400 a huge tumor, but when

NOTE Confidence: 0.98480785

00:38:54.400 --> 00:38:55.440 you ask them, they'll say,

NOTE Confidence: 0.98480785

00:38:55.440 --> 00:38:56.480 oh, yes. I've had this

NOTE Confidence: 0.98480785

00:38:56.480 --> 00:38:57.585 mass. It's It's been growing

NOTE Confidence: 0.98480785

00:38:57.585 --> 00:38:58.705 a little bit over the

NOTE Confidence: 0.98480785

00:38:58.705 --> 00:39:00.145 past twenty years, and it

NOTE Confidence: 0.98480785

00:39:00.145 --> 00:39:00.645 actually

NOTE Confidence: 0.9853024

00:39:01.185 --> 00:39:02.465 is a much more low

NOTE Confidence: 0.9853024

00:39:02.465 --> 00:39:04.085 grade, often a liposarcoma.

NOTE Confidence: 0.99854046

00:39:06.785 --> 00:39:08.305 In his case, however, he

NOTE Confidence: 0.99854046

00:39:08.305 --> 00:39:09.825 had obstruction of the right

NOTE Confidence: 0.99854046

00:39:09.825 --> 00:39:10.325 ureter

NOTE Confidence: 0.98222893

00:39:10.989 --> 00:39:12.210 with right hydronephrosis,

NOTE Confidence: 0.9993019

00:39:14.430 --> 00:39:16.610 and an ultrasound guided biopsy

NOTE Confidence: 0.97611094

00:39:17.230 --> 00:39:18.130 of the retroperitoneal

NOTE Confidence: 0.99558926

00:39:18.989 --> 00:39:19.890 mass was

NOTE Confidence: 0.9993703

00:39:20.350 --> 00:39:20.850 performed.

NOTE Confidence: 0.9997829

00:39:21.630 --> 00:39:22.290 The pathology

NOTE Confidence: 0.99819535

00:39:22.590 --> 00:39:24.130 was initially read

NOTE Confidence: 0.9998597

00:39:25.525 --> 00:39:26.185 as undifferentiated

NOTE Confidence: 0.9107061

00:39:26.965 --> 00:39:27.465 sarcoma,

NOTE Confidence: 0.9924507

00:39:28.245 --> 00:39:29.445 but now we have better

NOTE Confidence: 0.9924507

00:39:29.445 --> 00:39:31.385 techniques in pathology to

NOTE Confidence: 0.9968588

00:39:31.765 --> 00:39:33.364 actually place it in one

NOTE Confidence: 0.9968588

00:39:33.364 --> 00:39:35.705 of those individual fifty categories.

NOTE Confidence: 0.9958032

00:39:36.645 --> 00:39:37.844 And if they have this

NOTE Confidence: 0.9958032

00:39:37.844 --> 00:39:40.025 gene called MDM two

NOTE Confidence: 0.99924636

00:39:40.700 --> 00:39:42.160 with certain other features,

NOTE Confidence: 0.9915586

00:39:42.780 --> 00:39:43.820 then we call it a

NOTE Confidence: 0.9915586

00:39:43.820 --> 00:39:44.320 dedifferentiated

NOTE Confidence: 0.99836653

00:39:45.340 --> 00:39:45.840 liposarcoma.

NOTE Confidence: 0.99060744

00:39:49.020 --> 00:39:50.460 So this is some of

NOTE Confidence: 0.99060744

00:39:50.460 --> 00:39:50.960 his,

NOTE Confidence: 0.9374115

00:39:52.220 --> 00:39:52.720 imaging.

NOTE Confidence: 0.9839837

00:39:53.100 --> 00:39:54.300 And, again, I don't see

NOTE Confidence: 0.9839837

00:39:54.300 --> 00:39:55.760 Kelly on the line, so

NOTE Confidence: 0.9967503

00:39:56.344 --> 00:39:57.785 I will do my best

NOTE Confidence: 0.9967503

00:39:57.785 --> 00:39:58.765 in my nonradiology

NOTE Confidence: 0.9703392

00:40:02.424 --> 00:40:04.424 technique to to say, well,

NOTE Confidence: 0.9703392

00:40:04.424 --> 00:40:05.785 this is pretty obvious. This

NOTE Confidence: 0.9703392

00:40:05.785 --> 00:40:07.404 is a very large mass,

NOTE Confidence: 0.9703392

00:40:07.625 --> 00:40:08.664 and this is what they

NOTE Confidence: 0.9703392

00:40:08.664 --> 00:40:09.404 mean by

NOTE Confidence: 0.9953918

00:40:10.059 --> 00:40:10.719 the heterogeneous

NOTE Confidence: 0.96310496

00:40:11.260 --> 00:40:12.960 appearance in the abdomen.

NOTE Confidence: 0.9813086

00:40:13.500 --> 00:40:15.440 So areas that are lighter

NOTE Confidence: 0.9813086

00:40:15.500 --> 00:40:16.780 and areas that are darker.

NOTE Confidence: 0.9813086

00:40:16.780 --> 00:40:18.079 These darker areas

NOTE Confidence: 0.9859374

00:40:18.539 --> 00:40:20.239 probably represent necrosis.

NOTE Confidence: 0.99804074

00:40:20.780 --> 00:40:21.579 And if you see a

NOTE Confidence: 0.99804074

00:40:21.579 --> 00:40:22.559 lot of necrosis

NOTE Confidence: 0.98890215

00:40:23.180 --> 00:40:24.799 on a sarcoma specimen,

NOTE Confidence: 0.99332833

00:40:25.635 --> 00:40:28.035 then that immediately pushes its

NOTE Confidence: 0.99332833

00:40:28.035 --> 00:40:29.335 grade up. We use

NOTE Confidence: 0.9577142

00:40:29.715 --> 00:40:30.855 necrosis, mitosis,

NOTE Confidence: 0.99766666

00:40:31.235 --> 00:40:32.855 and the type of sarcoma

NOTE Confidence: 0.9990231

00:40:33.395 --> 00:40:34.675 to determine the grade of

NOTE Confidence: 0.9990231

00:40:34.675 --> 00:40:35.335 the lesion.

NOTE Confidence: 0.98504794

00:40:35.875 --> 00:40:37.575 And when staging cancers,

NOTE Confidence: 0.9968561

00:40:38.275 --> 00:40:39.155 many of you will have

NOTE Confidence: 0.9968561

00:40:39.155 --> 00:40:41.094 heard of the TNM staging

NOTE Confidence: 0.95568746

00:40:41.559 --> 00:40:42.760 system, where t is the

NOTE Confidence: 0.95568746

00:40:42.760 --> 00:40:44.039 size of the tumor and

NOTE Confidence: 0.95568746

00:40:44.039 --> 00:40:46.279 n is nodes, m is

NOTE Confidence: 0.95568746

00:40:46.279 --> 00:40:46.779 metastasis.

NOTE Confidence: 0.9485852

00:40:47.559 --> 00:40:49.500 But sarcomas have a fourth

NOTE Confidence: 0.9485852

00:40:49.640 --> 00:40:51.339 component, which is the grade.

NOTE Confidence: 0.9997309

00:40:51.719 --> 00:40:52.859 And it's so important

NOTE Confidence: 0.9975731

00:40:53.640 --> 00:40:55.160 that a tumor that's very

NOTE Confidence: 0.9975731

00:40:55.160 --> 00:40:55.660 small

NOTE Confidence: 0.98576933

00:40:57.204 --> 00:40:58.565 yet has a very high

NOTE Confidence: 0.98576933

00:40:58.565 --> 00:40:59.925 grade can be a stage

NOTE Confidence: 0.98576933

00:40:59.925 --> 00:41:00.425 three.

NOTE Confidence: 0.99146104

00:41:00.964 --> 00:41:02.405 Whereas if this was a

NOTE Confidence: 0.99146104

00:41:02.405 --> 00:41:04.005 low grade tumor, it would

NOTE Confidence: 0.99146104

00:41:04.005 --> 00:41:05.285 actually still only be a

NOTE Confidence: 0.99146104

00:41:05.285 --> 00:41:06.184 stage one.

NOTE Confidence: 0.9877979

00:41:06.484 --> 00:41:08.005 So that's how important grade

NOTE Confidence: 0.9877979

00:41:08.005 --> 00:41:08.505 is

NOTE Confidence: 0.97836083

00:41:08.805 --> 00:41:10.560 because it has such a

NOTE Confidence: 0.97836083

00:41:10.560 --> 00:41:11.380 key effect

NOTE Confidence: 0.99857134

00:41:11.760 --> 00:41:12.660 on the prognosis.

NOTE Confidence: 0.9993841

00:41:14.960 --> 00:41:16.340 So he underwent

NOTE Confidence: 0.9986018

00:41:16.880 --> 00:41:18.340 resection of the retroperitoneal

NOTE Confidence: 0.87892324

00:41:19.040 --> 00:41:20.260 tumor on block

NOTE Confidence: 0.9341699

00:41:20.880 --> 00:41:22.880 with the right adrenal band,

NOTE Confidence: 0.9341699

00:41:22.880 --> 00:41:23.620 the kidney,

NOTE Confidence: 0.99501336

00:41:24.080 --> 00:41:24.820 the IVC,

NOTE Confidence: 0.9750662

00:41:25.855 --> 00:41:27.775 the common iliac artery and

NOTE Confidence: 0.9750662

00:41:27.775 --> 00:41:29.235 vein, and reconstruction

NOTE Confidence: 0.9978506

00:41:29.535 --> 00:41:30.835 with vascular surgery.

NOTE Confidence: 0.9984104

00:41:31.455 --> 00:41:32.835 It was a huge operation.

NOTE Confidence: 0.9984104

00:41:32.895 --> 00:41:33.715 I'm so glad

NOTE Confidence: 0.9520694

00:41:34.255 --> 00:41:35.775 doctor Alino was there to

NOTE Confidence: 0.9520694

00:41:35.775 --> 00:41:36.975 do it because she's used

NOTE Confidence: 0.9520694

00:41:36.975 --> 00:41:38.515 to doing these big operations.

NOTE Confidence: 0.981757

00:41:39.295 --> 00:41:40.895 He needed thirty one units

NOTE Confidence: 0.981757

00:41:40.895 --> 00:41:42.730 of packed red blood cells,

NOTE Confidence: 0.9980696

00:41:43.190 --> 00:41:44.810 nineteen units of FFP,

NOTE Confidence: 0.98813534

00:41:45.510 --> 00:41:47.349 three units of cryo, and

NOTE Confidence: 0.98813534

00:41:47.349 --> 00:41:47.849 two

NOTE Confidence: 0.960377

00:41:48.150 --> 00:41:49.450 packs of platelets.

NOTE Confidence: 0.99472696

00:41:49.989 --> 00:41:51.750 And it involved three different

NOTE Confidence: 0.99472696

00:41:51.750 --> 00:41:52.890 surgical teams.

NOTE Confidence: 0.9912893

00:41:53.744 --> 00:41:55.505 And luckily, he did so

NOTE Confidence: 0.9912893

00:41:55.505 --> 00:41:56.864 well that he had an

NOTE Confidence: 0.9912893

00:41:56.864 --> 00:41:57.364 uneventful

NOTE Confidence: 0.99259776

00:41:57.984 --> 00:41:58.484 recovery.

NOTE Confidence: 0.98606735

00:41:59.025 --> 00:42:00.065 He was able to get

NOTE Confidence: 0.98606735

00:42:00.065 --> 00:42:01.204 home for the holidays,

NOTE Confidence: 0.81045866

00:42:01.984 --> 00:42:02.724 but unfortunately

NOTE Confidence: 0.9662465

00:42:03.424 --> 00:42:05.285 ended up with recurrent disease,

NOTE Confidence: 0.9662465

00:42:05.344 --> 00:42:07.204 including lung and retroperitoneal

NOTE Confidence: 0.8121331

00:42:07.825 --> 00:42:08.325 metastases.

NOTE Confidence: 0.9994314

00:42:09.140 --> 00:42:10.580 And I'm currently treating him

NOTE Confidence: 0.9994314

00:42:10.580 --> 00:42:12.120 for the metastatic disease.

NOTE Confidence: 0.89649457

00:42:13.780 --> 00:42:14.520 He technically

NOTE Confidence: 0.9728146

00:42:15.219 --> 00:42:17.060 would have been eligible for

NOTE Confidence: 0.9728146

00:42:17.060 --> 00:42:18.680 one of our clinical trials,

NOTE Confidence: 0.9728146

00:42:18.739 --> 00:42:19.239 however,

NOTE Confidence: 0.98806095

00:42:19.620 --> 00:42:20.820 and this is the schema

NOTE Confidence: 0.98806095

00:42:20.820 --> 00:42:22.280 for the trial. Basically,

NOTE Confidence: 0.9994727

00:42:22.885 --> 00:42:24.085 what we know with these

NOTE Confidence: 0.9994727

00:42:24.085 --> 00:42:24.985 very large

NOTE Confidence: 0.99671745

00:42:25.525 --> 00:42:26.025 retroperitoneal

NOTE Confidence: 0.99517757

00:42:26.885 --> 00:42:27.385 sarcomas

NOTE Confidence: 0.9827848

00:42:28.165 --> 00:42:28.905 is that

NOTE Confidence: 0.9870474

00:42:29.285 --> 00:42:30.985 surgery is a good treatment

NOTE Confidence: 0.9870474

00:42:31.045 --> 00:42:32.165 for them when they're very

NOTE Confidence: 0.9870474

00:42:32.165 --> 00:42:33.685 small, but the larger they

NOTE Confidence: 0.9870474

00:42:33.685 --> 00:42:34.185 get,

NOTE Confidence: 0.9991748

00:42:34.565 --> 00:42:36.085 the more likely they are

NOTE Confidence: 0.9991748

00:42:36.085 --> 00:42:37.065 to come back.

NOTE Confidence: 0.7766494

00:42:37.685 --> 00:42:38.185 So,

NOTE Confidence: 0.99894375

00:42:39.069 --> 00:42:39.569 historically,

NOTE Confidence: 0.8998447

00:42:40.349 --> 00:42:40.849 adding

NOTE Confidence: 0.99967194

00:42:41.230 --> 00:42:41.730 chemotherapy

NOTE Confidence: 0.9996664

00:42:42.030 --> 00:42:44.049 or radiation to these tumors

NOTE Confidence: 0.99965227

00:42:44.589 --> 00:42:45.869 has not made much of

NOTE Confidence: 0.99965227

00:42:45.869 --> 00:42:47.549 a difference in terms of

NOTE Confidence: 0.99965227

00:42:47.549 --> 00:42:48.049 survival.

NOTE Confidence: 0.9998399

00:42:48.750 --> 00:42:49.410 In fact,

NOTE Confidence: 0.9894186

00:42:49.790 --> 00:42:51.469 radiation was tested in a

NOTE Confidence: 0.9894186

00:42:51.469 --> 00:42:53.069 very similar trial called the

NOTE Confidence: 0.9894186

00:42:53.069 --> 00:42:53.565 STRAS

NOTE Confidence: 0.98818433

00:42:53.885 --> 00:42:54.385 one

NOTE Confidence: 0.9752709

00:42:54.844 --> 00:42:56.204 trial, where just like here,

NOTE Confidence: 0.9752709

00:42:56.204 --> 00:42:58.045 patients were randomized to either

NOTE Confidence: 0.9752709

00:42:58.045 --> 00:42:59.505 get surgery alone

NOTE Confidence: 0.989514

00:43:00.045 --> 00:43:00.864 or radiation

NOTE Confidence: 0.99238235

00:43:01.165 --> 00:43:02.305 followed by surgery.

NOTE Confidence: 0.9632288

00:43:02.844 --> 00:43:04.145 And this was a negative

NOTE Confidence: 0.9632288

00:43:04.204 --> 00:43:06.045 trial, the previous trial, the

NOTE Confidence: 0.9632288

00:43:06.045 --> 00:43:07.344 STRAS one trial.

NOTE Confidence: 0.9985263

00:43:07.900 --> 00:43:09.260 It ended up saying that

NOTE Confidence: 0.9985263

00:43:09.260 --> 00:43:11.760 radiation did not improve survival.

NOTE Confidence: 0.9985263

00:43:11.820 --> 00:43:12.480 In fact,

NOTE Confidence: 0.99750596

00:43:12.860 --> 00:43:13.920 in some cases,

NOTE Confidence: 0.999809

00:43:14.780 --> 00:43:16.160 it was even detrimental

NOTE Confidence: 0.99910223

00:43:16.619 --> 00:43:18.560 to get radiation plus surgery.

NOTE Confidence: 0.9620263

00:43:19.180 --> 00:43:20.140 There were a couple of

NOTE Confidence: 0.9620263

00:43:20.140 --> 00:43:20.640 histologies,

NOTE Confidence: 0.999633

00:43:20.940 --> 00:43:21.440 however,

NOTE Confidence: 0.9958211

00:43:21.954 --> 00:43:22.994 where it seemed like there

NOTE Confidence: 0.9958211

00:43:22.994 --> 00:43:24.694 may be a trend towards

NOTE Confidence: 0.9958211

00:43:24.755 --> 00:43:26.214 radiation being beneficial.

NOTE Confidence: 0.99760675

00:43:27.075 --> 00:43:28.594 But during that time, the

NOTE Confidence: 0.99760675

00:43:28.594 --> 00:43:29.094 chemotherapies

NOTE Confidence: 0.9995386

00:43:29.395 --> 00:43:30.775 that we were using

NOTE Confidence: 0.99641985

00:43:31.075 --> 00:43:32.674 and the supportive care that

NOTE Confidence: 0.99641985

00:43:32.674 --> 00:43:33.575 we were using

NOTE Confidence: 0.89996356

00:43:34.035 --> 00:43:35.335 has improved significantly.

NOTE Confidence: 0.99072504

00:43:36.515 --> 00:43:37.174 So that

NOTE Confidence: 0.99240965

00:43:38.619 --> 00:43:39.900 they decided to look at

NOTE Confidence: 0.99240965

00:43:39.900 --> 00:43:41.739 this question again. If we

NOTE Confidence: 0.99240965

00:43:41.739 --> 00:43:42.480 give chemotherapy

NOTE Confidence: 0.5935842

00:43:42.940 --> 00:43:43.440 upfront

NOTE Confidence: 0.9691078

00:43:44.300 --> 00:43:45.980 followed by surgery, is it

NOTE Confidence: 0.9691078

00:43:45.980 --> 00:43:48.000 any better than surgery alone?

NOTE Confidence: 0.90291727

00:43:48.540 --> 00:43:50.000 And they this was

NOTE Confidence: 0.95129645

00:43:50.780 --> 00:43:52.480 started a few years ago,

NOTE Confidence: 0.9847407

00:43:53.505 --> 00:43:55.204 just before COVID, unfortunately,

NOTE Confidence: 0.98394203

00:43:55.505 --> 00:43:56.625 and then it the study

NOTE Confidence: 0.98394203

00:43:56.625 --> 00:43:58.325 really didn't accrue very well.

NOTE Confidence: 0.98394203

00:43:58.545 --> 00:43:59.904 But now we're part of

NOTE Confidence: 0.98394203

00:43:59.904 --> 00:44:01.424 that particular study. So if

NOTE Confidence: 0.98394203

00:44:01.424 --> 00:44:02.645 you have any patients

NOTE Confidence: 0.9982532

00:44:03.105 --> 00:44:04.805 who have these retroperitoneal

NOTE Confidence: 0.9988076

00:44:05.424 --> 00:44:05.924 masses,

NOTE Confidence: 0.98513037

00:44:06.464 --> 00:44:07.904 definitely send them to the

NOTE Confidence: 0.98513037

00:44:07.904 --> 00:44:08.404 surgeon,

NOTE Confidence: 0.99427015

00:44:08.810 --> 00:44:10.010 but also send them to

NOTE Confidence: 0.99427015

00:44:10.010 --> 00:44:11.869 medical oncology to see if

NOTE Confidence: 0.99427015

00:44:11.930 --> 00:44:13.210 they would be eligible for

NOTE Confidence: 0.99427015

00:44:13.210 --> 00:44:14.830 this trial. And this trial

NOTE Confidence: 0.99624795

00:44:15.290 --> 00:44:16.570 is open at all of

NOTE Confidence: 0.99624795

00:44:16.570 --> 00:44:18.109 our network sites.

NOTE Confidence: 0.9862943

00:44:18.810 --> 00:44:19.770 In other words, you can

NOTE Confidence: 0.9862943

00:44:19.770 --> 00:44:20.890 refer them to a local

NOTE Confidence: 0.9862943

00:44:20.890 --> 00:44:22.410 oncologist, and they can get

NOTE Confidence: 0.9862943

00:44:22.410 --> 00:44:23.630 their treatment there.

NOTE Confidence: 0.9987509

00:44:24.315 --> 00:44:24.815 Basically,

NOTE Confidence: 0.99878275

00:44:25.435 --> 00:44:27.135 they will get three cycles

NOTE Confidence: 0.9931519

00:44:27.835 --> 00:44:29.675 of treatment depending on what

NOTE Confidence: 0.9931519

00:44:29.675 --> 00:44:31.035 histology they have. If they

NOTE Confidence: 0.9931519

00:44:31.035 --> 00:44:31.855 have liposarcoma,

NOTE Confidence: 0.9906049

00:44:32.954 --> 00:44:34.895 they get one particular regimen.

NOTE Confidence: 0.99625415

00:44:35.195 --> 00:44:36.415 And if they have leiomyosarcoma,

NOTE Confidence: 0.99895525

00:44:37.114 --> 00:44:38.494 they get a different regimen

NOTE Confidence: 0.99496543

00:44:38.840 --> 00:44:39.960 and then go on to

NOTE Confidence: 0.99496543

00:44:39.960 --> 00:44:41.420 surgery. So a very

NOTE Confidence: 0.95784974

00:44:41.719 --> 00:44:42.620 simple trial,

NOTE Confidence: 0.99931675

00:44:43.080 --> 00:44:44.920 but a very much needed

NOTE Confidence: 0.99931675

00:44:44.920 --> 00:44:45.960 trial to see if we

NOTE Confidence: 0.99931675

00:44:45.960 --> 00:44:46.700 can improve

NOTE Confidence: 0.99976

00:44:47.160 --> 00:44:48.520 on the treatment of these

NOTE Confidence: 0.99976

00:44:48.520 --> 00:44:49.020 patients.

NOTE Confidence: 0.97171694

00:44:51.320 --> 00:44:53.000 Doctor Alino has really been

NOTE Confidence: 0.97171694

00:44:53.000 --> 00:44:53.500 working

NOTE Confidence: 0.99980044

00:44:54.344 --> 00:44:55.965 extensively with immunotherapy

NOTE Confidence: 0.99698603

00:44:56.344 --> 00:44:57.725 in her lab and

NOTE Confidence: 0.95894027

00:44:58.265 --> 00:44:58.925 her patients.

NOTE Confidence: 0.98082316

00:44:59.705 --> 00:45:01.165 And you can see she's,

NOTE Confidence: 0.99928004

00:45:02.984 --> 00:45:04.425 mentioned that there are many

NOTE Confidence: 0.99928004

00:45:04.425 --> 00:45:05.484 different types

NOTE Confidence: 0.9894274

00:45:05.864 --> 00:45:06.364 of

NOTE Confidence: 0.9423852

00:45:07.250 --> 00:45:09.089 of soft tissue sarcoma as

NOTE Confidence: 0.9423852

00:45:09.089 --> 00:45:11.109 shown in this particular slide.

NOTE Confidence: 0.99801147

00:45:11.730 --> 00:45:12.230 And

NOTE Confidence: 0.999456

00:45:12.609 --> 00:45:14.290 some of them can affect

NOTE Confidence: 0.999456

00:45:14.290 --> 00:45:15.430 the immune system

NOTE Confidence: 0.99711263

00:45:15.969 --> 00:45:17.089 more than others. I'm not

NOTE Confidence: 0.99711263

00:45:17.089 --> 00:45:18.130 gonna go too much on

NOTE Confidence: 0.99711263

00:45:18.130 --> 00:45:19.829 this complicated slide.

NOTE Confidence: 0.99470794

00:45:21.645 --> 00:45:22.625 So she

NOTE Confidence: 0.96774864

00:45:23.005 --> 00:45:24.685 treated a seventy seven year

NOTE Confidence: 0.96774864

00:45:24.685 --> 00:45:26.864 old, very fit gentleman,

NOTE Confidence: 0.93001604

00:45:27.645 --> 00:45:29.165 found with a left adrenal

NOTE Confidence: 0.93001604

00:45:29.165 --> 00:45:29.665 mass,

NOTE Confidence: 0.977423

00:45:30.205 --> 00:45:31.565 resected and found to be

NOTE Confidence: 0.977423

00:45:31.565 --> 00:45:33.105 a different kind of sarcoma

NOTE Confidence: 0.977423

00:45:33.165 --> 00:45:34.125 from the one I just

NOTE Confidence: 0.977423

00:45:34.125 --> 00:45:35.585 mentioned. This is an undifferentiated

NOTE Confidence: 0.9980581

00:45:36.900 --> 00:45:37.400 pleomorphic

NOTE Confidence: 0.9991958

00:45:37.780 --> 00:45:38.280 sarcoma.

NOTE Confidence: 0.9890919

00:45:38.980 --> 00:45:40.760 It recurred in twenty nineteen,

NOTE Confidence: 0.9969859

00:45:41.380 --> 00:45:43.239 and he underwent a partial

NOTE Confidence: 0.9969859

00:45:43.299 --> 00:45:43.799 colectomy

NOTE Confidence: 0.99694353

00:45:44.579 --> 00:45:46.200 and partial left nephrectomy.

NOTE Confidence: 0.969876

00:45:46.980 --> 00:45:48.200 It recurred again,

NOTE Confidence: 0.9948572

00:45:49.555 --> 00:45:50.755 in twenty twenty, and he

NOTE Confidence: 0.9948572

00:45:50.755 --> 00:45:52.775 had completion of left nephrectomy

NOTE Confidence: 0.9817172

00:45:53.475 --> 00:45:55.015 and resection of the mass.

NOTE Confidence: 0.99406785

00:45:55.395 --> 00:45:56.295 And it recurred

NOTE Confidence: 0.9948295

00:45:56.594 --> 00:45:58.275 following that in twenty twenty

NOTE Confidence: 0.9948295

00:45:58.275 --> 00:45:58.775 two.

NOTE Confidence: 0.99780935

00:45:59.315 --> 00:46:00.355 And what they did was

NOTE Confidence: 0.99780935

00:46:00.355 --> 00:46:01.875 they tested his tumor at

NOTE Confidence: 0.99780935

00:46:01.875 --> 00:46:03.480 that time, and they found

NOTE Confidence: 0.99780935

00:46:03.480 --> 00:46:04.680 he had a very high

NOTE Confidence: 0.99780935

00:46:04.680 --> 00:46:05.180 score

NOTE Confidence: 0.9867343

00:46:05.480 --> 00:46:06.840 of PD L1. This is

NOTE Confidence: 0.9867343

00:46:06.840 --> 00:46:07.960 one of the markers that

NOTE Confidence: 0.9867343

00:46:07.960 --> 00:46:09.980 we use in other cancers

NOTE Confidence: 0.9867343

00:46:10.200 --> 00:46:10.940 to predict

NOTE Confidence: 0.99521965

00:46:11.239 --> 00:46:12.620 for response to immunotherapy.

NOTE Confidence: 0.996095

00:46:15.965 --> 00:46:17.585 Now we know that certain

NOTE Confidence: 0.996095

00:46:17.805 --> 00:46:18.945 sarcoma types

NOTE Confidence: 0.9978414

00:46:19.405 --> 00:46:20.625 respond to immunotherapy

NOTE Confidence: 0.9833455

00:46:21.805 --> 00:46:24.705 better than other sarcoma types.

NOTE Confidence: 0.99888444

00:46:25.405 --> 00:46:27.085 And this is a slide

NOTE Confidence: 0.99888444

00:46:27.085 --> 00:46:28.785 of all the different patients

NOTE Confidence: 0.99888444

00:46:28.844 --> 00:46:29.665 with sarcoma

NOTE Confidence: 0.9858804

00:46:30.140 --> 00:46:31.840 who have been treated with

NOTE Confidence: 0.9858804

00:46:31.900 --> 00:46:32.400 immunotherapy.

NOTE Confidence: 0.9399526

00:46:33.340 --> 00:46:34.540 And you can see the

NOTE Confidence: 0.9399526

00:46:34.540 --> 00:46:36.320 UPS, this is not the

NOTE Confidence: 0.9399526

00:46:36.540 --> 00:46:38.320 postal company, but this is

NOTE Confidence: 0.9399526

00:46:38.460 --> 00:46:38.960 undifferentiated

NOTE Confidence: 0.9946346

00:46:39.660 --> 00:46:40.160 pleomorphic

NOTE Confidence: 0.9441618

00:46:40.620 --> 00:46:41.120 sarcoma,

NOTE Confidence: 0.939904

00:46:42.060 --> 00:46:43.900 often can have a very

NOTE Confidence: 0.939904

00:46:43.900 --> 00:46:45.280 good response to immunotherapy,

NOTE Confidence: 0.9823665

00:46:46.194 --> 00:46:47.494 probably because they have

NOTE Confidence: 0.9587535

00:46:47.795 --> 00:46:48.855 a lot of heterogeneity,

NOTE Confidence: 0.99872303

00:46:49.635 --> 00:46:50.855 and this is a key

NOTE Confidence: 0.99872303

00:46:51.075 --> 00:46:52.855 for many cancers to respond

NOTE Confidence: 0.99857056

00:46:53.155 --> 00:46:54.454 to these immune treatments.

NOTE Confidence: 0.99928945

00:46:57.155 --> 00:46:58.515 So in twenty twenty two,

NOTE Confidence: 0.99928945

00:46:58.515 --> 00:46:59.795 he was treated with seven

NOTE Confidence: 0.99928945

00:46:59.795 --> 00:47:01.015 cycles of pembrolizumab.

NOTE Confidence: 0.9994627

00:47:02.349 --> 00:47:02.849 Unfortunately,

NOTE Confidence: 0.999889

00:47:03.310 --> 00:47:04.130 he had

NOTE Confidence: 0.98758113

00:47:04.510 --> 00:47:05.010 autoimmune

NOTE Confidence: 0.9172619

00:47:05.390 --> 00:47:05.890 hepatitis.

NOTE Confidence: 0.81804734

00:47:06.670 --> 00:47:07.730 And any time,

NOTE Confidence: 0.99359703

00:47:08.030 --> 00:47:09.469 as you've probably all seen

NOTE Confidence: 0.99359703

00:47:09.469 --> 00:47:10.589 in your practice, you have

NOTE Confidence: 0.99359703

00:47:10.589 --> 00:47:11.250 a patient

NOTE Confidence: 0.9661564

00:47:11.550 --> 00:47:13.250 who has an immune related

NOTE Confidence: 0.9661564

00:47:13.310 --> 00:47:13.995 side effect,

NOTE Confidence: 0.95190006

00:47:14.555 --> 00:47:15.755 The first thing to do

NOTE Confidence: 0.95190006

00:47:15.755 --> 00:47:17.055 if it's very severe

NOTE Confidence: 0.9932001

00:47:17.515 --> 00:47:18.655 is to give steroids.

NOTE Confidence: 0.95375186

00:47:19.355 --> 00:47:21.115 This will very quickly, in

NOTE Confidence: 0.95375186

00:47:21.115 --> 00:47:22.895 the vast majority of cases,

NOTE Confidence: 0.95375186

00:47:23.035 --> 00:47:24.495 reverse the side effect,

NOTE Confidence: 0.99920636

00:47:25.435 --> 00:47:26.555 but it does mean that

NOTE Confidence: 0.99920636

00:47:26.555 --> 00:47:28.655 you can't restart the immunotherapy

NOTE Confidence: 0.99428314

00:47:30.130 --> 00:47:30.869 until they've

NOTE Confidence: 0.9398467

00:47:31.170 --> 00:47:33.030 tapered their steroid down to

NOTE Confidence: 0.9398467

00:47:33.170 --> 00:47:35.190 the equivalent of ten milligrams

NOTE Confidence: 0.9398467

00:47:35.330 --> 00:47:36.869 of prednisone a day.

NOTE Confidence: 0.99938434

00:47:38.609 --> 00:47:40.369 In twenty twenty four, he

NOTE Confidence: 0.99938434

00:47:40.369 --> 00:47:42.290 was unable to restart the

NOTE Confidence: 0.99938434

00:47:42.290 --> 00:47:42.790 immunotherapy,

NOTE Confidence: 0.997018

00:47:43.090 --> 00:47:44.714 but he had still fairly

NOTE Confidence: 0.997018

00:47:44.714 --> 00:47:45.614 stable disease

NOTE Confidence: 0.9702501

00:47:46.315 --> 00:47:48.174 probably because of the immunotherapy

NOTE Confidence: 0.9702501

00:47:48.394 --> 00:47:49.434 that he's had all that

NOTE Confidence: 0.9702501

00:47:49.434 --> 00:47:50.174 time before.

NOTE Confidence: 0.9885295

00:47:50.714 --> 00:47:52.875 And he started pazopanib, which

NOTE Confidence: 0.9885295

00:47:52.875 --> 00:47:54.154 is what we call a

NOTE Confidence: 0.9885295

00:47:54.154 --> 00:47:55.295 targeted therapy.

NOTE Confidence: 0.9982256

00:47:55.835 --> 00:47:57.434 It goes after it's a

NOTE Confidence: 0.9982256

00:47:57.434 --> 00:47:58.974 tyrosine kinase inhibitor

NOTE Confidence: 0.9994902

00:47:59.510 --> 00:48:00.790 that goes after some of

NOTE Confidence: 0.9994902

00:48:00.790 --> 00:48:02.489 the enzymes that we think

NOTE Confidence: 0.9994902

00:48:02.710 --> 00:48:04.569 will promote cancer growth.

NOTE Confidence: 0.9799723

00:48:06.469 --> 00:48:07.750 Again, I won't spend too

NOTE Confidence: 0.9799723

00:48:07.750 --> 00:48:08.950 much time on this slide

NOTE Confidence: 0.9799723

00:48:08.950 --> 00:48:11.130 that doctor Alino put together,

NOTE Confidence: 0.99876946

00:48:11.605 --> 00:48:12.565 but you can see there

NOTE Confidence: 0.99876946

00:48:12.565 --> 00:48:15.225 are many ongoing clinical trials

NOTE Confidence: 0.9879656

00:48:16.005 --> 00:48:18.085 that we use now or

NOTE Confidence: 0.9879656

00:48:18.085 --> 00:48:19.785 that are being used now

NOTE Confidence: 0.9879656

00:48:20.005 --> 00:48:20.825 for immunotherapy.

NOTE Confidence: 0.9954456

00:48:21.765 --> 00:48:23.285 We just closed one that

NOTE Confidence: 0.9954456

00:48:23.285 --> 00:48:24.905 we had here, but we

NOTE Confidence: 0.9994862

00:48:25.260 --> 00:48:26.560 we will have others

NOTE Confidence: 0.9949395

00:48:26.860 --> 00:48:28.219 that will open either in

NOTE Confidence: 0.9949395

00:48:28.219 --> 00:48:30.300 our sarcoma group or in

NOTE Confidence: 0.9949395

00:48:30.300 --> 00:48:31.580 what we call our phase

NOTE Confidence: 0.9949395

00:48:31.580 --> 00:48:33.600 one early trials group.

NOTE Confidence: 0.99903667

00:48:34.940 --> 00:48:36.239 So I'm actually gonna

NOTE Confidence: 0.94879806

00:48:36.540 --> 00:48:37.900 end the talk there. I

NOTE Confidence: 0.94879806

00:48:37.900 --> 00:48:39.739 don't know, doctor Laditch or

NOTE Confidence: 0.94879806

00:48:39.739 --> 00:48:40.700 doctor Lee, if you have

NOTE Confidence: 0.94879806

00:48:40.700 --> 00:48:42.455 any closing comments.

NOTE Confidence: 0.90658927

00:48:44.835 --> 00:48:45.955 I I'm still here. I

NOTE Confidence: 0.90658927

00:48:45.955 --> 00:48:47.635 think doctor Lee, had to

NOTE Confidence: 0.90658927

00:48:47.635 --> 00:48:47.955 leave.

NOTE Confidence: 0.97539365

00:48:48.915 --> 00:48:50.115 I think this has been

NOTE Confidence: 0.97539365

00:48:50.115 --> 00:48:51.555 a whirlwind tour, and I

NOTE Confidence: 0.97539365

00:48:51.555 --> 00:48:53.315 think, there's nothing else that

NOTE Confidence: 0.97539365

00:48:53.315 --> 00:48:54.035 I can add that would

NOTE Confidence: 0.97539365

00:48:54.035 --> 00:48:55.315 make this any more glorious

NOTE Confidence: 0.97539365

00:48:55.315 --> 00:48:56.375 than it has been.

NOTE Confidence: 0.9691557

00:48:57.770 --> 00:48:59.050 Thanks, Igor. And,

NOTE Confidence: 0.9984188

00:49:00.090 --> 00:49:01.230 if any of you

NOTE Confidence: 0.9956613

00:49:01.770 --> 00:49:02.590 want to,

NOTE Confidence: 0.9978494

00:49:03.690 --> 00:49:04.670 refer a patient,

NOTE Confidence: 0.99974

00:49:05.210 --> 00:49:06.910 then feel free to

NOTE Confidence: 0.97431886

00:49:08.010 --> 00:49:09.290 contact us. We're all on

NOTE Confidence: 0.97431886

00:49:09.290 --> 00:49:10.109 the Yale

NOTE Confidence: 0.888273

00:49:10.410 --> 00:49:10.910 email,

NOTE Confidence: 0.9619055

00:49:11.895 --> 00:49:13.755 and in Epic as well.

NOTE Confidence: 0.9909897

00:49:14.935 --> 00:49:16.295 I'll just see if there

NOTE Confidence: 0.9909897

00:49:16.295 --> 00:49:16.875 are any

NOTE Confidence: 0.9995746

00:49:17.335 --> 00:49:18.955 questions at this time.

NOTE Confidence: 0.8532872

00:49:27.054 --> 00:49:28.514 We don't see any.

NOTE Confidence: 0.9148606

00:49:29.534 --> 00:49:30.514 So, Emily,

NOTE Confidence: 0.98067385

00:49:33.534 --> 00:49:34.414 are you still on the

NOTE Confidence: 0.98067385

00:49:34.414 --> 00:49:34.914 line?