WEBVTT

NOTE Confidence: 0.84976193

00:00:00.000 --> 00:00:02.800 All right, so again, welcome this evening.

NOTE Confidence: 0.84976193

00:00:02.800 --> 00:00:05.208 It's really a pleasure to have everybody

NOTE Confidence: 0.84976193

00:00:05.208 --> 00:00:07.497 here and thank you for being here.

NOTE Confidence: 0.84976193

00:00:07.500 --> 00:00:10.196 So first I have one disclosure

NOTE Confidence: 0.84976193

00:00:10.196 --> 00:00:12.380 which is not relevant to what

NOTE Confidence: 0.84976193

00:00:12.460 --> 00:00:14.746 we're going to be talking about.

NOTE Confidence: 0.84976193

00:00:14.750 --> 00:00:16.598 And actually I had my slides backwards,

NOTE Confidence: 0.84976193

00:00:16.600 --> 00:00:17.539 so I apologize.

NOTE Confidence: 0.84976193

00:00:17.540 --> 00:00:20.250 So first I want to start by

NOTE Confidence: 0.84976193

00:00:20.250 --> 00:00:21.714 thanking Connecticut brain tumor

NOTE Confidence: 0.84976193

00:00:21.714 --> 00:00:23.608 alliance and the national brain

NOTE Confidence: 0.84976193

00:00:23.608 --> 00:00:25.438 tumor society who have partnered

NOTE Confidence: 0.84976193

00:00:25.438 --> 00:00:27.698 with us in support of this seminar.

NOTE Confidence: 0.84976193

1

00:00:27.700 --> 00:00:30.250 They are wonderful organizations who.

NOTE Confidence: 0.84976193

00:00:30.250 --> 00:00:32.440 Really help and support patients with

NOTE Confidence: 0.84976193

00:00:32.440 --> 00:00:35.237 brain tumors and we are grateful for

NOTE Confidence: 0.84976193

00:00:35.237 --> 00:00:37.357 their support and their partnership.

NOTE Confidence: 0.84976193

00:00:37.360 --> 00:00:39.336 I want to talk a little bit and

NOTE Confidence: 0.84976193

00:00:39.336 --> 00:00:40.997 introduce Susie Barris to all of you.

NOTE Confidence: 0.84976193

00:00:41.000 --> 00:00:43.975 So she is become my dear friend.

NOTE Confidence: 0.84976193

00:00:43.980 --> 00:00:47.788 She was my patient and she was practicing

NOTE Confidence: 0.84976193

00:00:47.788 --> 00:00:51.750 as a pediatrician in Connecticut.

NOTE Confidence: 0.84976193

00:00:51.750 --> 00:00:53.690 Very beloved pediatrician and one

NOTE Confidence: 0.84976193

00:00:53.690 --> 00:00:56.700 day she had a seizure in her office.

NOTE Confidence: 0.84976193

00:00:56.700 --> 00:00:59.528 She was then diagnosed with a glioblastoma

NOTE Confidence: 0.84976193

00:00:59.528 --> 00:01:02.729 in her motor strip and so she was

NOTE Confidence: 0.84976193

00:01:02.729 --> 00:01:05.507 transferred to a local hospital and was

NOTE Confidence: 0.84976193

00:01:05.507 --> 00:01:07.877 told that her tumor was inoperable.

NOTE Confidence: 0.84976193

00:01:07.880 --> 00:01:10.379 Because of its location in the motor

00:01:10.379 --> 00:01:12.999 strip and that a biopsy was offered,

00:01:13.000 --> 00:01:13.338 Susie,

00:01:13.338 --> 00:01:14.352 being a physician,

00:01:14.352 --> 00:01:16.881 thought to to see if maybe there

00:01:16.881 --> 00:01:19.046 were some options or alternatives,

00:01:19.050 --> 00:01:20.890 or she sought opinions throughout

00:01:20.890 --> 00:01:21.994 the Northeast Corridor.

00:01:22.000 --> 00:01:24.135 I was thankful and privileged enough to

00:01:24.135 --> 00:01:26.638 be the one to end up caring for her.

00:01:26.640 --> 00:01:28.740 I performed in awake craniotomy on her.

00:01:28.740 --> 00:01:31.132 We removed all of the tumor safely and

00:01:31.132 --> 00:01:34.235 this is a picture of her and I at the

00:01:34.235 --> 00:01:36.540 Connecticut brain tumor lions path of hope.

00:01:36.540 --> 00:01:38.700 Two weeks after her surgery.

00:01:38.700 --> 00:01:40.110 They have, uh,

00:01:40.110 --> 00:01:41.421 their annual 5K.

NOTE Confidence: 0.84976193

00:01:41.421 --> 00:01:44.389 She ran it twice and I walked it

NOTE Confidence: 0.84976193

00:01:44.389 --> 00:01:47.398 once so she is an amazing person.

NOTE Confidence: 0.84976193

00:01:47.400 --> 00:01:50.022 And in gratitude for her success

NOTE Confidence: 0.84976193

00:01:50.022 --> 00:01:52.939 she is now about almost about

NOTE Confidence: 0.84976193

00:01:52.939 --> 00:01:55.619 four years after her surgery.

NOTE Confidence: 0.84976193

00:01:55.620 --> 00:01:57.591 In her gratitude,

NOTE Confidence: 0.84976193

00:01:57.591 --> 00:02:00.876 she has been incredibly generous

NOTE Confidence: 0.84976193

00:02:00.880 --> 00:02:02.710 to us and to our program,

NOTE Confidence: 0.84976193

00:02:02.710 --> 00:02:04.894 and so we recently named our

NOTE Confidence: 0.84976193

00:02:04.894 --> 00:02:06.350 Nurse Surgical Oncology program

NOTE Confidence: 0.84976193

00:02:06.420 --> 00:02:08.594 in her honor and her fund support.

NOTE Confidence: 0.84976193

00:02:08.594 --> 00:02:09.316 The seminar,

NOTE Confidence: 0.84976193

00:02:09.320 --> 00:02:11.441 as well as other efforts to try

NOTE Confidence: 0.84976193

00:02:11.441 --> 00:02:13.283 to educate the community patients

NOTE Confidence: 0.84976193

00:02:13.283 --> 00:02:15.428 and providers about the importance

NOTE Confidence: 0.84976193

00:02:15.428 --> 00:02:18.369 of of brain tumor care and and

NOTE Confidence: 0.84976193

00:02:18.369 --> 00:02:19.557 brain tumor management,

NOTE Confidence: 0.84976193

00:02:19.560 --> 00:02:21.920 so very grateful to her

NOTE Confidence: 0.84976193

00:02:21.920 --> 00:02:23.808 and to her friendship.

NOTE Confidence: 0.84976193

00:02:23.810 --> 00:02:24.314 So tonight,

NOTE Confidence: 0.84976193

00:02:24.314 --> 00:02:26.078 my portion of the talk is going

NOTE Confidence: 0.84976193

00:02:26.078 --> 00:02:27.897 to be talking about surgical

NOTE Confidence: 0.84976193

00:02:27.897 --> 00:02:29.782 strategies for primary brain tumors.

NOTE Confidence: 0.84976193

00:02:29.790 --> 00:02:31.662 We have Zach Corbin who's going

NOTE Confidence: 0.84976193

00:02:31.662 --> 00:02:33.960 to follow me talking about neural

NOTE Confidence: 0.84976193

00:02:33.960 --> 00:02:34.950 oncology approaches.

NOTE Confidence: 0.84976193

00:02:34.950 --> 00:02:37.030 Bruce Mcgibbons talking about

NOTE Confidence: 0.84976193

00:02:37.030 --> 00:02:38.590 radiation oncology approaches,

NOTE Confidence: 0.84976193

00:02:38.590 --> 00:02:40.858 and then the probably the most

NOTE Confidence: 0.84976193

00:02:40.858 --> 00:02:42.790 important aspect of the talk.

NOTE Confidence: 0.84976193

00:02:42.790 --> 00:02:45.989 Brian Jin talking about from social work,

NOTE Confidence: 0.84976193

00:02:45.990 --> 00:02:47.895 talking about the management and

NOTE Confidence: 0.84976193

00:02:47.895 --> 00:02:50.420 support of patients and their families.

NOTE Confidence: 0.84976193

00:02:50.420 --> 00:02:53.136 So again, one disclosure that's not relevant,

NOTE Confidence: 0.84976193

00:02:53.140 --> 00:02:55.135 so we are fortunate to perform the

NOTE Confidence: 0.84976193

00:02:55.135 --> 00:02:57.084 most number of brain tumor surgeries

NOTE Confidence: 0.84976193

00:02:57.084 --> 00:02:59.142 each year in Connecticut and care

NOTE Confidence: 0.84976193

00:02:59.142 --> 00:03:01.358 for the highest volume of patients.

NOTE Confidence: 0.84976193

00:03:01.360 --> 00:03:03.536 We do try to partner with the Community

NOTE Confidence: 0.84976193

00:03:03.536 --> 00:03:05.480 in that a lot of the Community,

NOTE Confidence: 0.84976193

00:03:05.480 --> 00:03:06.900 neurosurgeons and other providers,

NOTE Confidence: 0.84976193

00:03:06.900 --> 00:03:09.030 will refer patients to us for

NOTE Confidence: 0.899649423076923

00:03:09.086 --> 00:03:11.352 more complex cases, and I'll show some

NOTE Confidence: 0.899649423076923

00:03:11.352 --> 00:03:13.500 examples of where and how we can.

NOTE Confidence: 0.899649423076923

00:03:13.500 --> 00:03:14.604 We can be helpful.

NOTE Confidence: 0.899649423076923

00:03:14.604 --> 00:03:17.092 All of the tumors that we operate on

NOTE Confidence: 0.899649423076923

00:03:17.092 --> 00:03:19.773 undergo what we call whole exome sequencing,

NOTE Confidence: 0.899649423076923

00:03:19.780 --> 00:03:21.480 which is a really.

NOTE Confidence: 0.899649423076923

00:03:21.480 --> 00:03:23.180 Next generation sequencing technique

NOTE Confidence: 0.899649423076923

00:03:23.180 --> 00:03:26.005 that allows us to understand the tumor

NOTE Confidence: 0.899649423076923

00:03:26.005 --> 00:03:28.108 from a molecular standpoint and that

NOTE Confidence: 0.899649423076923

00:03:28.108 --> 00:03:30.420 enables us to to treat people from a

NOTE Confidence: 0.899649423076923

00:03:30.490 --> 00:03:32.870 very precise and personalized manner.

NOTE Confidence: 0.899649423076923

00:03:32.870 --> 00:03:34.718 And we discussed every patient in

NOTE Confidence: 0.899649423076923

00:03:34.718 --> 00:03:35.950 our multidisciplinary tumor board,

NOTE Confidence: 0.899649423076923

00:03:35.950 --> 00:03:38.610 which I direct and everybody here attends,

NOTE Confidence: 0.899649423076923

00:03:38.610 --> 00:03:40.455 as well as our precision

NOTE Confidence: 0.899649423076923

00:03:40.455 --> 00:03:42.300 brain tumor board each week.

NOTE Confidence: 0.899649423076923

00:03:42.300 --> 00:03:44.196 These are just an example of some cases.

NOTE Confidence: 0.899649423076923

00:03:44.200 --> 00:03:45.880 I always show my patients

NOTE Confidence: 0.899649423076923

00:03:45.880 --> 00:03:47.560 the preop and POSTOP scans.

NOTE Confidence: 0.899649423076923

00:03:47.560 --> 00:03:49.420 I don't know if you're seeing

NOTE Confidence: 0.899649423076923

00:03:49.420 --> 00:03:50.925 my my mouse or not,

NOTE Confidence: 0.899649423076923

00:03:50.925 --> 00:03:53.846 but preop is on the left post OP is on

NOTE Confidence: 0.899649423076923

00:03:53.846 --> 00:03:56.360 the right and you can see for instance,

NOTE Confidence: 0.899649423076923

00:03:56.360 --> 00:03:58.390 the glioblastoma Mirren and in

NOTE Confidence: 0.899649423076923

00:03:58.390 --> 00:04:00.940 the motor strip that was gross,

NOTE Confidence: 0.899649423076923

00:04:00.940 --> 00:04:01.910 totally resected,

NOTE Confidence: 0.899649423076923

00:04:01.910 --> 00:04:03.850 some more aggressive meningiomas

NOTE Confidence: 0.899649423076923

00:04:03.850 --> 00:04:05.305 that we manage,

NOTE Confidence: 0.899649423076923

00:04:05.310 --> 00:04:07.215 and take care of again

NOTE Confidence: 0.899649423076923

00:04:07.215 --> 00:04:07.977 vestibular schwannomas,

NOTE Confidence: 0.899649423076923

00:04:07.980 --> 00:04:10.206 which we'll talk a little bit

NOTE Confidence: 0.899649423076923

00:04:10.206 --> 00:04:11.319 about interventricular tumors,

NOTE Confidence: 0.899649423076923

00:04:11.320 --> 00:04:12.850 and again, pre and postop.

NOTE Confidence: 0.899649423076923

00:04:12.850 --> 00:04:14.800 With the comparisons with showing

NOTE Confidence: 0.899649423076923

00:04:14.800 --> 00:04:17.159 the extent of resection and we'll

NOTE Confidence: 0.899649423076923

00:04:17.159 --> 00:04:19.532 talk about how removing as much tumor

NOTE Confidence: 0.899649423076923

00:04:19.532 --> 00:04:21.718 as safely as possible is really the

NOTE Confidence: 0.899649423076923

00:04:21.718 --> 00:04:24.042 goal to any type of of neurosurgical

NOTE Confidence: 0.899649423076923

00:04:24.042 --> 00:04:26.247 care for brain tumor patients.

NOTE Confidence: 0.899649423076923

00:04:26.250 --> 00:04:28.074 So the goal of primary brain

NOTE Confidence: 0.899649423076923

00:04:28.074 --> 00:04:29.290 tumor surgery of course,

NOTE Confidence: 0.899649423076923

00:04:29.290 --> 00:04:32.650 to establish a diagnosis and and to

NOTE Confidence: 0.899649423076923

00:04:32.650 --> 00:04:35.367 establish sorry and to establish

NOTE Confidence: 0.899649423076923

00:04:35.367 --> 00:04:38.010 an accurate diagnosis to maintain,

NOTE Confidence: 0.899649423076923

00:04:38.010 --> 00:04:40.590 improve quality and quantity of life.

NOTE Confidence: 0.899649423076923

00:04:40.590 --> 00:04:41.442 And by what I.

NOTE Confidence: 0.899649423076923

00:04:41.442 --> 00:04:43.469 What I mean by that is that there's

NOTE Confidence: 0.899649423076923

00:04:43.469 --> 00:04:45.884 great evidence that shows the more tumor.

NOTE Confidence: 0.899649423076923

00:04:45.890 --> 00:04:47.970 We're able to remove safely.

NOTE Confidence: 0.899649423076923

00:04:47.970 --> 00:04:49.810 The better the patient does,

NOTE Confidence: 0.899649423076923

00:04:49.810 --> 00:04:52.030 this really has shown effect

NOTE Confidence: 0.899649423076923

00:04:52.030 --> 00:04:53.806 across all tumor types.

NOTE Confidence: 0.899649423076923

00:04:53.810 --> 00:04:55.358 Maybe without the the

NOTE Confidence: 0.899649423076923

00:04:55.358 --> 00:04:56.906 exception of of lymphomas.

NOTE Confidence: 0.899649423076923

00:04:56.910 --> 00:04:58.960 In small cell lung cancer,

NOTE Confidence: 0.899649423076923

00:04:58.960 --> 00:05:00.508 but otherwise brain tumors

NOTE Confidence: 0.899649423076923

00:05:00.508 --> 00:05:02.056 benefit from being gross,

NOTE Confidence: 0.899649423076923

00:05:02.060 --> 00:05:02.960 totally resected,

NOTE Confidence: 0.899649423076923

00:05:02.960 --> 00:05:06.110 and patients benefit from the resection while

NOTE Confidence: 0.899649423076923

00:05:06.110 --> 00:05:08.300 maintaining their neurological function,

NOTE Confidence: 0.899649423076923

00:05:08.300 --> 00:05:10.312 or even improving their

NOTE Confidence: 0.899649423076923

00:05:10.312 --> 00:05:11.318 neurological function.

NOTE Confidence: 0.899649423076923

00:05:11.320 --> 00:05:12.640 How do we do that?

NOTE Confidence: 0.899649423076923

00:05:12.640 --> 00:05:14.488 And so similar to Susie's tumor

NOTE Confidence: 0.899649423076923

00:05:14.488 --> 00:05:16.723 patients can be told that they have

NOTE Confidence: 0.899649423076923

00:05:16.723 --> 00:05:18.607 an inoperable tumor because it's in

NOTE Confidence: 0.899649423076923

00:05:18.607 --> 00:05:20.758 in an eloquent part of the brain,

NOTE Confidence: 0.899649423076923

00:05:20.760 --> 00:05:22.440 an eloquent meaning a highly

NOTE Confidence: 0.899649423076923

00:05:22.440 --> 00:05:24.120 functioning part of the brain,

NOTE Confidence: 0.899649423076923

00:05:24.120 --> 00:05:26.059 and So what are the secrets to

NOTE Confidence: 0.899649423076923

00:05:26.059 --> 00:05:28.192 the success we have all the the

NOTE Confidence: 0.899649423076923

00:05:28.192 --> 00:05:30.040 gadgets and and gazebos that that

NOTE Confidence: 0.899649423076923

00:05:30.109 --> 00:05:32.005 that gadgets and gizmos that that

NOTE Confidence: 0.899649423076923

00:05:32.005 --> 00:05:34.380 we need in our state of the art

NOTE Confidence: 0.899649423076923

00:05:34.380 --> 00:05:36.293 operating rooms with GPS systems and

NOTE Confidence: 0.899649423076923

00:05:36.293 --> 00:05:38.357 ultrasounds were the only center in

NOTE Confidence: 0.899649423076923

00:05:38.357 --> 00:05:40.930 the state to have an intraoperative MRI,

NOTE Confidence: 0.899649423076923

00:05:40.930 --> 00:05:42.526 which I'll show the benefit of.

NOTE Confidence: 0.899649423076923

00:05:42.530 --> 00:05:43.168 But really,

NOTE Confidence: 0.899649423076923

00:05:43.168 --> 00:05:45.720 I think a lot of it comes down

NOTE Confidence: 0.899649423076923

00:05:45.800 --> 00:05:47.928 to expertise and experience,

NOTE Confidence: 0.899649423076923

00:05:47.930 --> 00:05:51.190 and in fact that has a lot to do with

NOTE Confidence: 0.899649423076923

00:05:51.278 --> 00:05:53.142 more sophisticated microsurgical techniques,

NOTE Confidence: 0.899649423076923

00:05:53.142 --> 00:05:55.662 and especially when we're talking

NOTE Confidence: 0.899649423076923

00:05:55.662 --> 00:05:57.230 about preserving function.

NOTE Confidence: 0.899649423076923

00:05:57.230 --> 00:05:59.396 And really the gold standard for

NOTE Confidence: 0.899649423076923

00:05:59.396 --> 00:06:02.194 that is is neuromonitoring or use of

NOTE Confidence: 0.899649423076923

00:06:02.194 --> 00:06:03.910 neuromonitoring and functional mapping,

NOTE Confidence: 0.899649423076923

00:06:03.910 --> 00:06:05.170 as well as a weak surgery,

NOTE Confidence: 0.899649423076923

00:06:05.170 --> 00:06:07.696 which I'll show some examples of.

NOTE Confidence: 0.899649423076923

00:06:07.700 --> 00:06:09.373 This was a slide that was given

NOTE Confidence: 0.899649423076923

00:06:09.373 --> 00:06:10.090 to me by

NOTE Confidence: 0.91854044875

00:06:10.155 --> 00:06:12.489 the Chair of mass general Neurosurgery,

NOTE Confidence: 0.91854044875

00:06:12.490 --> 00:06:14.480 and I I really like it because I think it.

NOTE Confidence: 0.91854044875

00:06:14.480 --> 00:06:15.599 It speaks volumes.

NOTE Confidence: 0.91854044875

00:06:15.599 --> 00:06:17.837 This is as you can see,

NOTE Confidence: 0.91854044875

00:06:17.840 --> 00:06:21.536 as the case volume increases and this is

NOTE Confidence: 0.91854044875

00:06:21.536 --> 00:06:24.100 the percentage of of cranial specialization.

NOTE Confidence: 0.91854044875

00:06:24.100 --> 00:06:27.288 What this shows is that surgeons who do

NOTE Confidence: 0.91854044875

00:06:27.288 --> 00:06:29.268 higher volume and are more specialized

NOTE Confidence: 0.91854044875

00:06:29.268 --> 00:06:32.119 in a particular area of neurosurgery,

NOTE Confidence: 0.91854044875

00:06:32.120 --> 00:06:33.437 cranial versus spine,

NOTE Confidence: 0.91854044875

00:06:33.437 --> 00:06:36.071 that would even argue tumor versus

NOTE Confidence: 0.91854044875

00:06:36.071 --> 00:06:38.289 other aspects of neurosurgery.

NOTE Confidence: 0.91854044875

00:06:38.290 --> 00:06:39.946 Have better outcomes in terms of

NOTE Confidence: 0.91854044875

00:06:39.946 --> 00:06:41.661 their patients, and that's certainly

NOTE Confidence: 0.91854044875

00:06:41.661 --> 00:06:43.596 something that we see here.

NOTE Confidence: 0.91854044875

00:06:43.600 --> 00:06:46.694 I have a short video which I

NOTE Confidence: 0.91854044875

00:06:46.694 --> 00:06:47.936 hope you don't mind me sharing.

NOTE Confidence: 0.91854044875

00:06:47.940 --> 00:06:51.276 Unfortunately I have to pull it up elsewhere,

NOTE Confidence: 0.91854044875

00:06:51.280 --> 00:06:53.350 but this is a great example and

NOTE Confidence: 0.91854044875

00:06:53.350 --> 00:06:55.300 I've I've shown this before,

NOTE Confidence: 0.91854044875

13

00:06:55.300 --> 00:06:57.308 so forgive me if you've seen my talks

NOTE Confidence: 0.91854044875

00:06:57.308 --> 00:06:58.919 before and have seen the video,

NOTE Confidence: 0.91854044875

00:06:58.920 --> 00:07:00.733 but I think it's a real great

NOTE Confidence: 0.91854044875

00:07:00.733 --> 00:07:02.550 example of what we're able to do.

NOTE Confidence: 0.83483628

00:07:05.510 --> 00:07:07.720 205 Sixty one can you hear it OK?

NOTE Confidence: 0.897339499285714

00:07:09.250 --> 00:07:11.234 Surgery, waking up in the middle of the

NOTE Confidence: 0.897339499285714

00:07:11.234 --> 00:07:12.908 procedure and knowing what's going on.

NOTE Confidence: 0.897339499285714

00:07:12.910 --> 00:07:15.205 But in some cases that can be a lifesaver,

NOTE Confidence: 0.897339499285714

00:07:15.210 --> 00:07:15.957 lifesaver and necessary.

NOTE Confidence: 0.897339499285714

00:07:15.957 --> 00:07:18.050 We're going to explain that in a moment,

NOTE Confidence: 0.897339499285714

00:07:18.050 --> 00:07:19.986 but first we do want to introduce you

NOTE Confidence: 0.897339499285714

00:07:19.986 --> 00:07:22.345 to a man named Andy Andy is a husband

NOTE Confidence: 0.897339499285714

00:07:22.345 --> 00:07:24.376 and father of two kids and a nurse.

NOTE Confidence: 0.897339499285714

00:07:24.376 --> 00:07:26.406 Another interesting fact about him,

NOTE Confidence: 0.897339499285714

00:07:26.410 --> 00:07:28.680 he's also a professionally trained singer.

NOTE Confidence: 0.897339499285714

00:07:28.680 --> 00:07:30.150 He's even performed with his

00:07:30.150 --> 00:07:31.750 church choir at Carnegie Hall,

00:07:31.750 --> 00:07:34.586 but Andy felt his entire life come to a halt

00:07:34.586 --> 00:07:36.866 when he was diagnosed with brain cancer.

00:07:36.870 --> 00:07:38.380 He needed surgery to remove

00:07:38.380 --> 00:07:39.890 as much of a tumor.

00:07:39.890 --> 00:07:41.855 It's possible that tumor in the part

00:07:41.855 --> 00:07:43.907 of his brain that controls speech and,

00:07:43.907 --> 00:07:44.741 yes, singing.

00:07:44.741 --> 00:07:46.750 That's where a special surgery comes in.

00:07:46.750 --> 00:07:47.938 Surgeons at Yale,

00:07:47.940 --> 00:07:49.634 New Haven Smilow Cancer Hospital

00:07:49.634 --> 00:07:51.042 have perfected a procedure

00:07:51.042 --> 00:07:53.150 called in a weight craniotomy.

00:07:53.150 --> 00:07:54.635 They invited us into the operating

00:07:54.635 --> 00:07:56.923 room and we did not hesitate to see

00:07:56.923 --> 00:07:58.620 this incredible procedure first hand.

NOTE Confidence: 0.811637753333333

00:08:02.420 --> 00:08:04.076 In an operating room at Yale,

NOTE Confidence: 0.811637753333333

00:08:04.080 --> 00:08:06.798 New Haven Hospital.

NOTE Confidence: 0.811637753333333

00:08:06.800 --> 00:08:08.420 Doctors are working to remove

NOTE Confidence: 0.811637753333333

00:08:08.420 --> 00:08:10.229 the tumor from the brain of

NOTE Confidence: 0.811637753333333

00:08:10.229 --> 00:08:12.186 a 31 year old man named Andy.

NOTE Confidence: 0.811637753333333

00:08:12.190 --> 00:08:14.898 He is a singer.

NOTE Confidence: 0.811637753333333

00:08:14.900 --> 00:08:18.526 A husband and father of two for most

NOTE Confidence: 0.811637753333333

00:08:18.526 --> 00:08:20.717 surgeries waking up in the middle of

NOTE Confidence: 0.811637753333333

00:08:20.717 --> 00:08:23.009 the operation would be a disaster.

NOTE Confidence: 0.442832005

00:08:25.710 --> 00:08:28.921 And anesthesiologist doing his best

NOTE Confidence: 0.442832005

00:08:28.921 --> 00:08:32.960 to make sure Andy does just that.

NOTE Confidence: 0.442832005

00:08:32.960 --> 00:08:34.675 They still surgeons have drilled

NOTE Confidence: 0.442832005

00:08:34.675 --> 00:08:36.759 through his skull and have already

NOTE Confidence: 0.442832005

00:08:36.759 --> 00:08:38.894 begun to remove part of the tumor.

NOTE Confidence: 0.442832005

00:08:38.900 --> 00:08:40.575 Located on the left side

NOTE Confidence: 0.442832005

00:08:40.575 --> 00:08:41.915 of his temporal lobe.

NOTE Confidence: 0.442832005

00:08:41.920 --> 00:08:46.020 The area which controls language.

NOTE Confidence: 0.442832005

00:08:46.020 --> 00:08:48.820 Medical staff puts a microphone on him.

NOTE Confidence: 0.442832005

00:08:48.820 --> 00:08:50.270 It's not for our cameras,

NOTE Confidence: 0.442832005

00:08:50.270 --> 00:08:52.600 it's so the entire room,

NOTE Confidence: 0.442832005

00:08:52.600 --> 00:08:54.420 including the operating surgeon,

NOTE Confidence: 0.442832005

00:08:54.420 --> 00:08:56.366 can hear what Andy has to say.

NOTE Confidence: 0.816543502857143

00:08:58.550 --> 00:09:03.058 The procedure is called an awake craniotomy.

NOTE Confidence: 0.816543502857143

00:09:03.060 --> 00:09:05.472 I was telling you earlier I I don't know

NOTE Confidence: 0.816543502857143

00:09:05.472 --> 00:09:08.102 if it's from the brain surgery or the fact

NOTE Confidence: 0.816543502857143

00:09:08.102 --> 00:09:11.358 that I have to have a couple of copies

NOTE Confidence: 0.816543502857143

00:09:11.358 --> 00:09:13.040 for neurophysiologist. Brook Callahan

NOTE Confidence: 0.89438592

00:09:13.050 --> 00:09:16.020 sits next to him and begins her work. I

NOTE Confidence: 0.894180076666667

00:09:16.030 --> 00:09:17.814 am going to say a sentence and I

NOTE Confidence: 0.894180076666667

00:09:17.814 --> 00:09:19.520 want you to repeat it after me.

NOTE Confidence: 0.894180076666667

00:09:19.520 --> 00:09:23.210 The seashore smells like salt.

NOTE Confidence: 0.894180076666667

00:09:23.210 --> 00:09:26.382 It's like. Action can be heard

NOTE Confidence: 0.894180076666667

00:09:26.382 --> 00:09:28.020 on a speaker throughout the room.

NOTE Confidence: 0.894180076666667

00:09:28.020 --> 00:09:32.520 Neurosurgeon Doctor Jennifer moliterno.

NOTE Confidence: 0.894180076666667

00:09:32.520 --> 00:09:35.214 Has mastered multitasking,

NOTE Confidence: 0.894180076666667

00:09:35.214 --> 00:09:37.908 operating and listening.

NOTE Confidence: 0.894180076666667

00:09:37.910 --> 00:09:39.735 Great Doctor Moliterno and her

NOTE Confidence: 0.894180076666667

00:09:39.735 --> 00:09:41.560 team worked diligently to remove

NOTE Confidence: 0.894180076666667

00:09:41.618 --> 00:09:43.529 as much of the tumor as possible.

NOTE Confidence: 0.894180076666667

00:09:43.530 --> 00:09:45.888 What she can't see are critical

NOTE Confidence: 0.894180076666667

00:09:45.888 --> 00:09:47.460 microscopic language fibers which

NOTE Confidence: 0.894180076666667

00:09:47.525 --> 00:09:49.160 are splayed over the tumor.

NOTE Confidence: 0.894180076666667

00:09:49.160 --> 00:09:51.113 The best way to try to remove

NOTE Confidence: 0.894180076666667

00:09:51.113 --> 00:09:52.909 as much tumor and preserve his

NOTE Confidence: 0.894180076666667

00:09:52.909 --> 00:09:55.390 language is to do it with him away.

NOTE Confidence: 0.894180076666667

00:09:55.390 --> 00:09:57.826 Get too close to those critical fibers.

NOTE Confidence: 0.894180076666667

00:09:57.830 --> 00:09:59.880 You'll know it. What can you do in a chair?

NOTE Confidence: 0.713489226666667

00:10:04.950 --> 00:10:07.260 I don't know. Yeah,

NOTE Confidence: 0.713489226666667

00:10:07.260 --> 00:10:09.363 a little bit of confusion, so that's

NOTE Confidence: 0.713489226666667

00:10:09.363 --> 00:10:12.830 a great way to me to tell me to stop.

NOTE Confidence: 0.713489226666667

00:10:12.830 --> 00:10:14.066 And so even though there might

NOTE Confidence: 0.713489226666667

00:10:14.066 --> 00:10:15.609 be a little bit of tumor there,

NOTE Confidence: 0.713489226666667

00:10:15.610 --> 00:10:17.506 the risk and benefit of removing

NOTE Confidence: 0.713489226666667

00:10:17.510 --> 00:10:19.367 that tumor and having him not

NOTE Confidence: 0.713489226666667

00:10:19.367 --> 00:10:21.460 speak for the rest of his life.

NOTE Confidence: 0.713489226666667

00:10:21.460 --> 00:10:23.740 Tells you exactly what the right decision is.

NOTE Confidence: 0.713489226666667

00:10:23.740 --> 00:10:24.700 If he was asleep,

NOTE Confidence: 0.713489226666667

00:10:24.700 --> 00:10:26.140 I would have had no idea.

NOTE Confidence: 0.713489226666667

00:10:26.140 --> 00:10:27.744 As Doctor Moliterno continues

NOTE Confidence: 0.713489226666667

00:10:27.744 --> 00:10:30.610 operating at a safer spot and he

NOTE Confidence: 0.713489226666667

00:10:30.610 --> 00:10:32.535 surprises us when this happens.

NOTE Confidence: 0.817910971428572

00:10:38.810 --> 00:10:41.967 He does in the middle of surgery.

NOTE Confidence: 0.817910971428572

00:10:41.970 --> 00:10:43.442 Andy's a classically trained

NOTE Confidence: 0.817910971428572

00:10:43.442 --> 00:10:44.878 singer, shares his talent.

NOTE Confidence: 0.924678541666667

00:10:49.780 --> 00:10:51.676 2 1/2 hours into the procedure,

NOTE Confidence: 0.924678541666667

00:10:51.680 --> 00:10:52.790 doctor Moliterno decides

NOTE Confidence: 0.924678541666667

00:10:52.790 --> 00:10:54.640 it's time to wrap up.

NOTE Confidence: 0.924678541666667

00:10:54.640 --> 00:10:55.972 The surgeons are done with the

NOTE Confidence: 0.924678541666667

00:10:55.972 --> 00:10:57.280 first part of the surgery.

NOTE Confidence: 0.924678541666667

00:10:57.280 --> 00:10:58.804 So what's happening now is they're

NOTE Confidence: 0.924678541666667

00:10:58.804 --> 00:11:00.349 bringing in an MRI machine and

NOTE Confidence: 0.924678541666667

00:11:00.349 --> 00:11:02.022 they're going to look at the work

NOTE Confidence: 0.924678541666667

00:11:02.022 --> 00:11:03.759 that they did and see how much of

NOTE Confidence: 0.924678541666667

00:11:03.759 --> 00:11:05.580 the tumor they were able to remove.

NOTE Confidence: 0.801357611111111

00:11:07.850 --> 00:11:09.536 We go into another room that

NOTE Confidence: 0.801357611111111

00:11:09.536 --> 00:11:11.476 are able to sit with Doctor

NOTE Confidence: 0.801357611111111

00:11:11.476 --> 00:11:13.726 Moliterno as she analyzes her work.

NOTE Confidence: 0.801357611111111

00:11:13.730 --> 00:11:17.510 The before kierans think tumor and after.

NOTE Confidence: 0.922917755714286

00:11:20.570 --> 00:11:23.696 You don't have to go back in and feel

NOTE Confidence: 0.922917755714286

00:11:23.696 --> 00:11:26.974 satisfied pending a week allowed us to get

NOTE Confidence: 0.922917755714286

00:11:26.974 --> 00:11:30.160 that outcome and preserve this function.

NOTE Confidence: 0.922917755714286

00:11:30.160 --> 00:11:32.470 Now Andy was back home with his

NOTE Confidence: 0.922917755714286

00:11:32.470 --> 00:11:34.220 family two days after surgery,

NOTE Confidence: 0.922917755714286

00:11:34.220 --> 00:11:35.740 five days after the surgery,

NOTE Confidence: 0.922917755714286

00:11:35.740 --> 00:11:38.310 he was able to sing at his son's baptism.

NOTE Confidence: 0.922917755714286

00:11:38.310 --> 00:11:40.530 He's also saying again with his

NOTE Confidence: 0.922917755714286

00:11:40.530 --> 00:11:42.880 church choir and the Yale Camerata,

NOTE Confidence: 0.922917755714286

00:11:42.880 --> 00:11:44.640 which is a professional choir.

NOTE Confidence: 0.922917755714286

00:11:44.640 --> 00:11:46.940 Just a couple of weeks ago, Andy is

NOTE Confidence: 0.922917755714286

00:11:46.940 --> 00:11:48.446 undergoing chemotherapy and radiation,

NOTE Confidence: 0.922917755714286

00:11:48.446 --> 00:11:50.637 but he does say he's feeling good.

NOTE Confidence: 0.922917755714286

00:11:50.640 --> 00:11:52.696 And, of course, warm wishes to him.

NOTE Confidence: 0.922917755714286

00:11:52.696 --> 00:11:53.470 He is just.

NOTE Confidence: 0.923593222413793

00:11:55.740 --> 00:11:58.180 So that is a great example in my

NOTE Confidence: 0.923593222413793

00:11:58.180 --> 00:12:00.683 mind as to why we do what we do

NOTE Confidence: 0.923593222413793

00:12:00.683 --> 00:12:03.406 and how we can really push the

NOTE Confidence: 0.923593222413793

00:12:03.406 --> 00:12:05.736 limits from a surgical perspective.

NOTE Confidence: 0.876471472692308

00:12:08.700 --> 00:12:11.696 OK, another example of a patient of

NOTE Confidence: 0.876471472692308

00:12:11.696 --> 00:12:14.202 mine who underwent 10 away craniotomy

NOTE Confidence: 0.876471472692308

00:12:14.202 --> 00:12:17.476 and so this was an in another man

NOTE Confidence: 0.876471472692308

00:12:17.476 --> 00:12:20.116 who presented with language trouble.

NOTE Confidence: 0.876471472692308

00:12:20.120 --> 00:12:22.532 He was at a different hospital

NOTE Confidence: 0.876471472692308

00:12:22.532 --> 00:12:24.913 and outside hospital and you can

NOTE Confidence: 0.876471472692308

00:12:24.913 --> 00:12:26.995 see here was his initial scan.

NOTE Confidence: 0.876471472692308

00:12:27.000 --> 00:12:29.160 He had a glioblastoma just around

NOTE Confidence: 0.876471472692308

00:12:29.160 --> 00:12:31.469 his his language area and that

NOTE Confidence: 0.876471472692308

00:12:31.469 --> 00:12:33.479 was prohibiting him from speaking.

NOTE Confidence: 0.876471472692308

00:12:33.480 --> 00:12:35.818 You can see that he underwent a

22

NOTE Confidence: 0.876471472692308

00:12:35.818 --> 00:12:37.819 postop MRI just a short time.

NOTE Confidence: 0.876471472692308

00:12:37.820 --> 00:12:40.508 After and really there was not much tumor,

NOTE Confidence: 0.876471472692308

00:12:40.510 --> 00:12:41.870 if any that was removed,

NOTE Confidence: 0.876471472692308

00:12:41.870 --> 00:12:45.181 and so they had achieved a diagnosis

NOTE Confidence: 0.876471472692308

00:12:45.181 --> 00:12:46.127 of glioblastoma,

NOTE Confidence: 0.876471472692308

00:12:46.130 --> 00:12:47.720 but he was then referred to

NOTE Confidence: 0.876471472692308

00:12:47.720 --> 00:12:49.550 me because as you can imagine,

NOTE Confidence: 0.876471472692308

00:12:49.550 --> 00:12:52.022 which Zach and Bruce will will

NOTE Confidence: 0.876471472692308

00:12:52.022 --> 00:12:54.278 get to it can be quite hard to

NOTE Confidence: 0.876471472692308

00:12:54.278 --> 00:12:56.030 to radiate an area such as this,

NOTE Confidence: 0.876471472692308

00:12:56.030 --> 00:12:58.298 or to get patients through through

NOTE Confidence: 0.876471472692308

00:12:58.298 --> 00:13:00.160 chemotherapy when there's that much

NOTE Confidence: 0.876471472692308

00:13:00.160 --> 00:13:02.432 mass and and Mass Effect and and edema,

NOTE Confidence: 0.876471472692308

00:13:02.440 --> 00:13:05.350 especially near critical language structures.

NOTE Confidence: 0.876471472692308

00:13:05.350 --> 00:13:07.373 So we ended up getting a functional

NOTE Confidence: 0.876471472692308

23

00:13:07.373 --> 00:13:09.526 MRI similar to Andy. We kept him.

NOTE Confidence: 0.876471472692308

00:13:09.526 --> 00:13:11.398 Awake during surgery and we were

NOTE Confidence: 0.876471472692308

00:13:11.398 --> 00:13:14.229 able to remove the tumor and his

NOTE Confidence: 0.876471472692308

00:13:14.229 --> 00:13:15.456 language improved considerably.

NOTE Confidence: 0.876471472692308

00:13:15.460 --> 00:13:17.735 Not all patients need to be awake

NOTE Confidence: 0.876471472692308

00:13:17.735 --> 00:13:19.641 during surgery in order for us

NOTE Confidence: 0.876471472692308

00:13:19.641 --> 00:13:21.650 to safely remove and and get the

NOTE Confidence: 0.876471472692308

00:13:21.717 --> 00:13:23.757 the maximal extent of resection.

NOTE Confidence: 0.876471472692308

00:13:23.760 --> 00:13:26.357 This is one of my favorite stories

NOTE Confidence: 0.876471472692308

00:13:26.357 --> 00:13:29.460 and I have a lot that are similar,

NOTE Confidence: 0.876471472692308

00:13:29.460 --> 00:13:32.344 but I think this one really highlights

NOTE Confidence: 0.876471472692308

00:13:32.344 --> 00:13:33.976 the multidisciplinary effort that

NOTE Confidence: 0.876471472692308

00:13:33.976 --> 00:13:35.974 that we provide on every patient.

NOTE Confidence: 0.876471472692308

00:13:35.980 --> 00:13:38.154 So this is a gentleman in 2013.

NOTE Confidence: 0.876471472692308

00:13:38.154 --> 00:13:39.490 As you can see.

NOTE Confidence: 0.876471472692308

00:13:39.490 --> 00:13:42.480 He presented to another hospital.

00:13:42.480 --> 00:13:46.000 And and underwent a biopsy for this tumor.

00:13:46.000 --> 00:13:46.993 That's located here,

00:13:46.993 --> 00:13:48.979 turned out to be a glioblastoma.

00:13:48.980 --> 00:13:50.632 He was told that the mass was

00:13:50.632 --> 00:13:51.802 too risky to remove.

00:13:51.802 --> 00:13:54.476 He then was referred to me for

00:13:54.476 --> 00:13:56.429 consideration of another opinion.

00:13:56.430 --> 00:13:58.550 I thought that this could be safely removed,

00:13:58.550 --> 00:14:01.500 and so we did, and even for someone like me,

00:14:01.500 --> 00:14:04.545 who does brain tumor surgery every day,

00:14:04.550 --> 00:14:05.978 you can still get fooled and

00:14:05.978 --> 00:14:07.539 you can still miss some tumor.

00:14:07.540 --> 00:14:09.451 And so this is an example of

00:14:09.451 --> 00:14:10.270 our interoperative MRI,

00:14:10.270 --> 00:14:12.410 which you can see here.

00:14:12.410 --> 00:14:13.760 That's housed in our operating

NOTE Confidence: 0.876471472692308

00:14:13.760 --> 00:14:15.925 room and a little bit of tumor I

NOTE Confidence: 0.876471472692308

00:14:15.925 --> 00:14:17.449 left behind that got tucked and

NOTE Confidence: 0.876471472692308

00:14:17.449 --> 00:14:18.848 hidden underneath the brain.

NOTE Confidence: 0.876471472692308

00:14:18.850 --> 00:14:20.874 So while he was asleep on the table

NOTE Confidence: 0.876471472692308

00:14:20.874 --> 00:14:22.909 after I removed most of the mass,

NOTE Confidence: 0.876471472692308

00:14:22.910 --> 00:14:25.094 we got the intraoperative MRI saw that

NOTE Confidence: 0.876471472692308

00:14:25.094 --> 00:14:28.069 and I went back and was able to resect it.

NOTE Confidence: 0.876471472692308

00:14:28.070 --> 00:14:30.530 This pathology was confirmed as GPM,

NOTE Confidence: 0.876471472692308

00:14:30.530 --> 00:14:33.580 showing an unmethylated MGMT status,

NOTE Confidence: 0.876471472692308

00:14:33.580 --> 00:14:37.164 which is usually a poor prognostic factor.

NOTE Confidence: 0.876471472692308

00:14:37.170 --> 00:14:39.234 His care was then provided by

NOTE Confidence: 0.876471472692308

00:14:39.234 --> 00:14:41.390 Yocom bearing our neuro oncologist,

NOTE Confidence: 0.876471472692308

00:14:41.390 --> 00:14:43.358 as well as Renji.

NOTE Confidence: 0.876471472692308

00:14:43.360 --> 00:14:45.992 Who had the patient on our standard

NOTE Confidence: 0.876471472692308

00:14:45.992 --> 00:14:47.120 of of care?

NOTE Confidence: 0.876471472692308

00:14:47.120 --> 00:14:50.050 Stoop radiation and temozolomide and

NOTE Confidence: 0.876471472692308

00:14:50.050 --> 00:14:53.649 one of our fantastic homegrown Yale

NOTE Confidence: 0.876471472692308

00:14:53.649 --> 00:14:56.804 clinical trials that Ranjeet was Pi

NOTE Confidence: 0.876471472692308

00:14:56.804 --> 00:15:00.540 and and directed and and and really found it.

NOTE Confidence: 0.876471472692308

00:15:00.540 --> 00:15:01.700 He was enrolled on.

NOTE Confidence: 0.876471472692308

00:15:01.700 --> 00:15:03.848 He then was enrolled on other clinical

NOTE Confidence: 0.876471472692308

00:15:03.848 --> 00:15:06.249 trials that we offer and then switched

NOTE Confidence: 0.876471472692308

00:15:06.249 --> 00:15:08.086 on various chemotherapies until he

NOTE Confidence: 0.876471472692308

00:15:08.086 --> 00:15:10.613 progressed and when he did he welcome

NOTE Confidence: 0.8984197475

00:15:10.620 --> 00:15:13.308 sent him back to me with this recurrence.

NOTE Confidence: 0.8984197475

00:15:13.310 --> 00:15:15.502 So I operated on him again and here

NOTE Confidence: 0.8984197475

00:15:15.502 --> 00:15:18.100 you can see we did a wider resection

NOTE Confidence: 0.8984197475

00:15:18.100 --> 00:15:20.465 and of course pathology was the same

NOTE Confidence: 0.8984197475

00:15:20.465 --> 00:15:22.415 but the whole exome sequencing that

NOTE Confidence: 0.8984197475

00:15:22.415 --> 00:15:24.700 we performed that really helps us

NOTE Confidence: 0.8984197475

00:15:24.700 --> 00:15:26.660 understand the tumors better showed

NOTE Confidence: 0.8984197475

00:15:26.728 --> 00:15:29.056 he had what we call a hyper mutated

NOTE Confidence: 0.8984197475

00:15:29.056 --> 00:15:30.577 phenotype and the significance of

NOTE Confidence: 0.8984197475

00:15:30.577 --> 00:15:33.015 this is that we know based on the

NOTE Confidence: 0.8984197475

00:15:33.015 --> 00:15:35.780 literature that these tumors tend to be

NOTE Confidence: 0.8984197475

00:15:35.780 --> 00:15:37.789 more susceptible to immune checkpoint

NOTE Confidence: 0.8984197475

00:15:37.789 --> 00:15:40.878 inhibitors and so he was then started on

NOTE Confidence: 0.8984197475

00:15:40.878 --> 00:15:43.114 nivolumab and then also with Avastin.

NOTE Confidence: 0.8984197475

00:15:43.114 --> 00:15:43.546 Intermittently,

NOTE Confidence: 0.8984197475

00:15:43.546 --> 00:15:47.008 and he is currently about 8 1/2 years

NOTE Confidence: 0.8984197475

00:15:47.008 --> 00:15:49.535 from his initial time of diagnosis and

NOTE Confidence: 0.8984197475

00:15:49.535 --> 00:15:52.417 I love this story and when I presented

NOTE Confidence: 0.8984197475

00:15:52.417 --> 00:15:54.975 I always say that this is in no way

NOTE Confidence: 0.8984197475

00:15:54.975 --> 00:15:57.080 and I had rejected him one other time.

NOTE Confidence: 0.8984197475

00:15:57.080 --> 00:15:59.072 Sorry I forgot to mention that I in

NOTE Confidence: 0.8984197475

00:15:59.072 --> 00:16:01.801 no way I'm saying that all of our GBM

NOTE Confidence: 0.8984197475

00:16:01.801 --> 00:16:04.096 patients will survive 8 1/2 years or longer.

NOTE Confidence: 0.8984197475

00:16:04.100 --> 00:16:06.596 I really do wish that was the case,

NOTE Confidence: 0.8984197475

00:16:06.600 --> 00:16:09.136 but he is a great example of how

NOTE Confidence: 0.8984197475

00:16:09.136 --> 00:16:11.437 I believe if he had stopped it.

NOTE Confidence: 0.8984197475

00:16:11.440 --> 00:16:14.384 Just biopsy, there's no way in my mind.

NOTE Confidence: 0.8984197475

00:16:14.390 --> 00:16:16.532 That he would still be alive 8

NOTE Confidence: 0.8984197475

00:16:16.532 --> 00:16:18.119 1/2 years after a biopsy.

NOTE Confidence: 0.8984197475

00:16:18.120 --> 00:16:20.350 And so this is a great example of how when

NOTE Confidence: 0.8984197475

00:16:20.403 --> 00:16:22.575 we work together with aggressive surgery,

NOTE Confidence: 0.8984197475

00:16:22.580 --> 00:16:25.534 maximal safe resection even a few times,

NOTE Confidence: 0.8984197475

00:16:25.540 --> 00:16:27.815 we can really push the limits of

NOTE Confidence: 0.8984197475

00:16:27.815 --> 00:16:31.047 what we can do with with the other

NOTE Confidence: 0.8984197475

00:16:31.047 --> 00:16:33.227 clinical trials and other adjuvants.

NOTE Confidence: 0.8984197475

00:16:33.230 --> 00:16:35.216 This is a more recent example

NOTE Confidence: 0.8984197475

00:16:35.216 --> 00:16:38.183 of of a patient who was seen at

NOTE Confidence: 0.8984197475

00:16:38.183 --> 00:16:39.574 another hospital in Connecticut.

NOTE Confidence: 0.8984197475

00:16:39.574 --> 00:16:41.990 He had this large tumor that you can

NOTE Confidence: 0.8984197475

00:16:42.051 --> 00:16:43.965 see here in his fourth ventricle.

NOTE Confidence: 0.8984197475

00:16:43.970 --> 00:16:45.805 This actually caused some obstruction

NOTE Confidence: 0.8984197475

00:16:45.805 --> 00:16:46.906 of of fluid,

NOTE Confidence: 0.8984197475

00:16:46.910 --> 00:16:49.332 so at the outside hospital he underwent

NOTE Confidence: 0.8984197475

00:16:49.332 --> 00:16:52.007 a placement of a shunt to address the

NOTE Confidence: 0.8984197475

00:16:52.007 --> 00:16:54.604 management and build up of the fluid and

NOTE Confidence: 0.8984197475

00:16:54.604 --> 00:16:56.844 also underwent a biopsy of the mass.

NOTE Confidence: 0.8984197475

00:16:56.850 --> 00:16:58.465 The biopsy showed that it

NOTE Confidence: 0.8984197475

00:16:58.465 --> 00:16:59.757 was a malignant tumor,

NOTE Confidence: 0.8984197475

00:16:59.760 --> 00:17:01.604 but unfortunately it wasn't

NOTE Confidence: 0.8984197475

00:17:01.604 --> 00:17:03.448 able to to characterize.

NOTE Confidence: 0.8984197475

00:17:03.450 --> 00:17:05.655 What type of the tumor it was?

NOTE Confidence: 0.8984197475

00:17:05.660 --> 00:17:07.652 And so this patient was followed

NOTE Confidence: 0.8984197475

00:17:07.652 --> 00:17:10.349 with a serial scan a few months later

NOTE Confidence: 0.8984197475

00:17:10.349 --> 00:17:12.726 that showed increase in size of the

NOTE Confidence: 0.8984197475

00:17:12.726 --> 00:17:14.844 tumor and further backup of fluid.

NOTE Confidence: 0.8984197475

00:17:14.850 --> 00:17:16.962 Despite the shunt he was referred

NOTE Confidence: 0.8984197475

00:17:16.962 --> 00:17:19.120 to me for surgical resection.

NOTE Confidence: 0.8984197475

00:17:19.120 --> 00:17:21.361 We were able to remove all of the tumor

NOTE Confidence: 0.8984197475

00:17:21.361 --> 00:17:23.936 and now we can target his treatment better.

NOTE Confidence: 0.8984197475

00:17:23.940 --> 00:17:25.500 Now knowing exactly what type of

NOTE Confidence: 0.8984197475

00:17:25.500 --> 00:17:27.763 tumor it is and also the shunt was

NOTE Confidence: 0.8984197475

00:17:27.763 --> 00:17:29.515 removed because he doesn't need it.

NOTE Confidence: 0.8984197475

00:17:29.520 --> 00:17:31.920 Given the fact that the tumor was removed

NOTE Confidence: 0.8984197475

00:17:31.920 --> 00:17:34.477 and the backup of fluid was alleviated.

NOTE Confidence: 0.8984197475

00:17:34.480 --> 00:17:35.260 So again,

NOTE Confidence: 0.8984197475

00:17:35.260 --> 00:17:37.990 another great example for diagnosis how it

NOTE Confidence: 0.8984197475

00:17:37.990 --> 00:17:41.248 can really be helpful in guiding management.

NOTE Confidence: 0.8984197475

00:17:41.250 --> 00:17:44.764 The maximal set extent of resection doesn't

NOTE Confidence: 0.8984197475

00:17:44.764 --> 00:17:47.728 necessarily apply just to malignant tumors,

NOTE Confidence: 0.8984197475

00:17:47.730 --> 00:17:50.194 and so this is an example of a

NOTE Confidence: 0.8984197475

00:17:50.194 --> 00:17:51.314 vestibular schwannoma patient

NOTE Confidence: 0.8984197475

00:17:51.314 --> 00:17:53.070 and acoustic neuroma patient,

NOTE Confidence: 0.8984197475

00:17:53.070 --> 00:17:56.520 and these tumors are are 99.9% benign,

NOTE Confidence: 0.8984197475

00:17:56.520 --> 00:17:58.045 and so they're not malignant,

NOTE Confidence: 0.8984197475

00:17:58.050 --> 00:18:00.048 but they're tricky and that they

NOTE Confidence: 0.8984197475

00:18:00.048 --> 00:18:02.189 occur next to the brain stem,

NOTE Confidence: 0.8984197475

00:18:02.190 --> 00:18:04.266 and they have a very intimate

NOTE Confidence: 0.8984197475

00:18:04.266 --> 00:18:05.650 association and relationship with

NOTE Confidence: 0.897949013076923

00:18:05.714 --> 00:18:06.650 the facial nerve,

NOTE Confidence: 0.897949013076923

00:18:06.650 --> 00:18:09.065 and so this patient presents it elsewhere.

NOTE Confidence: 0.897949013076923

00:18:09.070 --> 00:18:11.530 He underwent a surgery by another.

NOTE Confidence: 0.897949013076923

00:18:11.530 --> 00:18:13.875 Surgeon and this is his preoperative scan.

NOTE Confidence: 0.897949013076923

00:18:13.880 --> 00:18:15.620 This is his post operative scan.

NOTE Confidence: 0.897949013076923

00:18:15.620 --> 00:18:18.311 Three months later in 2012 and you can see

NOTE Confidence: 0.897949013076923

00:18:18.311 --> 00:18:21.076 not much of a difference between the two.

NOTE Confidence: 0.897949013076923

00:18:21.080 --> 00:18:23.456 Not much tumor had been removed.

NOTE Confidence: 0.897949013076923

00:18:23.460 --> 00:18:27.116 They continued to monitor this and in 2017

NOTE Confidence: 0.897949013076923

00:18:27.120 --> 00:18:29.775 in conjunction with another radiation

NOTE Confidence: 0.897949013076923

00:18:29.775 --> 00:18:32.430 oncologist ended up giving focused

NOTE Confidence: 0.897949013076923

00:18:32.513 --> 00:18:35.318 radiation or gamma knife radiosurgery.

NOTE Confidence: 0.897949013076923

00:18:35.320 --> 00:18:38.414 She went on about a year later

NOTE Confidence: 0.897949013076923

00:18:38.414 --> 00:18:40.260 to start experiencing this,

NOTE Confidence: 0.897949013076923

00:18:40.260 --> 00:18:41.708 which is pretty bad.

NOTE Confidence: 0.897949013076923

00:18:41.708 --> 00:18:43.156 Swelling in her brainstem.

NOTE Confidence: 0.897949013076923

00:18:43.160 --> 00:18:44.540 As a result,

NOTE Confidence: 0.897949013076923

00:18:44.540 --> 00:18:47.760 she became pretty debilitated by this tumor,

NOTE Confidence: 0.897949013076923

00:18:47.760 --> 00:18:49.916 so much so that she required very,

NOTE Confidence: 0.897949013076923

00:18:49.920 --> 00:18:51.312 very high dose steroids,

NOTE Confidence: 0.897949013076923

00:18:51.312 --> 00:18:54.294 which led to a steroid myopathy which led

NOTE Confidence: 0.897949013076923

00:18:54.294 --> 00:18:56.766 to significant muscle wasting and weakness.

NOTE Confidence: 0.897949013076923

00:18:56.770 --> 00:18:58.720 She was confined to a wheelchair,

NOTE Confidence: 0.897949013076923

00:18:58.720 --> 00:19:00.316 and Zach was actually became involved

NOTE Confidence: 0.897949013076923

00:19:00.316 --> 00:19:01.979 with her care at that point,

NOTE Confidence: 0.897949013076923

00:19:01.980 --> 00:19:03.588 and and kindly referred

NOTE Confidence: 0.897949013076923

00:19:03.588 --> 00:19:05.920 her to me when he did this.

NOTE Confidence: 0.897949013076923

00:19:05.920 --> 00:19:07.928 Was her preoperative scan and that was

NOTE Confidence: 0.897949013076923

00:19:07.928 --> 00:19:10.128 when he had become involved with her care?

NOTE Confidence: 0.897949013076923

00:19:10.130 --> 00:19:12.426 You can still see the swelling in the

NOTE Confidence: 0.897949013076923

00:19:12.426 --> 00:19:14.639 brain stem over here and we took her

NOTE Confidence: 0.897949013076923

00:19:14.639 --> 00:19:16.770 to surgery and got a nice resection.

NOTE Confidence: 0.897949013076923

00:19:16.770 --> 00:19:20.047 So another example where working

NOTE Confidence: 0.897949013076923

00:19:20.047 --> 00:19:23.269 with people and and providing the

NOTE Confidence: 0.897949013076923

00:19:23.269 --> 00:19:25.559 best possible surgical outcome

NOTE Confidence: 0.897949013076923

00:19:25.559 --> 00:19:28.499 really does impact people's lives.

NOTE Confidence: 0.897949013076923

00:19:28.500 --> 00:19:31.740 Another type of brain tumor that

NOTE Confidence: 0.897949013076923

00:19:31.740 --> 00:19:34.536 everyone usually thinks of as being

NOTE Confidence: 0.897949013076923

00:19:34.536 --> 00:19:36.772 benign as meningioma and we at Yale

NOTE Confidence: 0.897949013076923

00:19:36.772 --> 00:19:39.020 have really done a lot of work to

NOTE Confidence: 0.897949013076923

00:19:39.020 --> 00:19:40.755 understand these tumors and the

NOTE Confidence: 0.897949013076923

00:19:40.755 --> 00:19:42.888 biology of these tumors and why

NOTE Confidence: 0.897949013076923

00:19:42.888 --> 00:19:44.593 sometimes they don't behave as

NOTE Confidence: 0.897949013076923

00:19:44.593 --> 00:19:46.912 benign as as one would think.

NOTE Confidence: 0.897949013076923

00:19:46.912 --> 00:19:49.360 So this is another patient who

NOTE Confidence: 0.897949013076923

00:19:49.447 --> 00:19:51.506 in 2015 underwent a resection.

NOTE Confidence: 0.897949013076923

00:19:51.506 --> 00:19:53.876 I don't have those films,

NOTE Confidence: 0.897949013076923

00:19:53.880 --> 00:19:56.584 but he had what we call a convexity

NOTE Confidence: 0.897949013076923

00:19:56.584 --> 00:19:58.079 meningioma and so another.

NOTE Confidence: 0.897949013076923

00:19:58.080 --> 00:20:00.760 Hospital in 2015 underwent resection.

NOTE Confidence: 0.897949013076923

00:20:00.760 --> 00:20:03.376 Was told it was a grade one meningioma,

NOTE Confidence: 0.897949013076923

00:20:03.380 --> 00:20:05.036 not to be worried about it.

NOTE Confidence: 0.897949013076923

35

00:20:05.040 --> 00:20:08.360 It was removed and he can go about his life.

NOTE Confidence: 0.897949013076923

00:20:08.360 --> 00:20:09.914 He ended up having some weakness

NOTE Confidence: 0.897949013076923

00:20:09.914 --> 00:20:11.459 due to as you can see,

NOTE Confidence: 0.897949013076923

00:20:11.460 --> 00:20:14.766 some swelling in 2017 that was

NOTE Confidence: 0.897949013076923

00:20:14.766 --> 00:20:16.512 associated with regrowth of the

NOTE Confidence: 0.897949013076923

00:20:16.512 --> 00:20:18.700 tumor and so he got this scan.

NOTE Confidence: 0.897949013076923

00:20:18.700 --> 00:20:21.085 He saw a few other surgeons not me at

NOTE Confidence: 0.897949013076923

00:20:21.085 --> 00:20:23.510 the time and the decision was to to

NOTE Confidence: 0.897949013076923

00:20:23.510 --> 00:20:25.899 do gamma knife radiosurgery targeted.

NOTE Confidence: 0.897949013076923

00:20:25.900 --> 00:20:28.052 Then two years after.

NOTE Confidence: 0.897949013076923

00:20:28.052 --> 00:20:31.280 The radio surgery he progressively worsened.

NOTE Confidence: 0.897949013076923

00:20:31.280 --> 00:20:33.830 He was confined to a wheelchair

NOTE Confidence: 0.897949013076923

00:20:33.830 --> 00:20:34.680 with weakness.

NOTE Confidence: 0.897949013076923

00:20:34.680 --> 00:20:37.504 The tumor had grown more and he had

NOTE Confidence: 0.897949013076923

00:20:37.504 --> 00:20:39.159 intractable seizures at that point.

NOTE Confidence: 0.897949013076923

00:20:39.160 --> 00:20:41.295 In 2019, he was sent to me.

NOTE Confidence: 0.897949013076923

00:20:41.300 --> 00:20:43.160 This was a pretty straightforward surgery,

NOTE Confidence: 0.897949013076923

00:20:43.160 --> 00:20:44.279 despite the radiation,

NOTE Confidence: 0.897949013076923

00:20:44.279 --> 00:20:47.678 and we were able to roast, totally remove it.

NOTE Confidence: 0.897949013076923

00:20:47.678 --> 00:20:48.836 His weakness improved,

NOTE Confidence: 0.897949013076923

00:20:48.840 --> 00:20:50.100 and his seizures went away.

NOTE Confidence: 0.897949013076923

00:20:50.100 --> 00:20:51.956 But the question that that I have and

NOTE Confidence: 0.897949013076923

00:20:51.956 --> 00:20:53.687 that we've been asking here at Yale,

NOTE Confidence: 0.897949013076923

00:20:53.690 --> 00:20:55.640 from a research perspective is,

NOTE Confidence: 0.897949013076923

00:20:55.640 --> 00:20:57.000 could this have been better

NOTE Confidence: 0.897949013076923

00:20:57.000 --> 00:20:58.650 predicted or manage the first time?

NOTE Confidence: 0.897949013076923

00:20:58.650 --> 00:20:59.770 And the answer is yes,

NOTE Confidence: 0.897949013076923

00:20:59.770 --> 00:21:01.846 and I'll show you briefly why.

NOTE Confidence: 0.897949013076923

00:21:01.850 --> 00:21:03.278 So the general lab,

NOTE Confidence: 0.897949013076923

00:21:03.278 --> 00:21:05.420 as well as others has really

NOTE Confidence: 0.897949013076923

00:21:05.503 --> 00:21:07.619 understood the genomics underlying

NOTE Confidence: 0.897949013076923

00:21:07.619 --> 00:21:10.793 sporadic meningiomas and we now know

00:21:10.870 --> 00:21:13.421 about 80 or 85% of sporadic

00:21:13.421 --> 00:21:16.306 meningiomas are caused by mutation.

00:21:16.310 --> 00:21:19.070 Somatic mutations in these genes,

00:21:19.070 --> 00:21:21.150 and so the most common and in the

00:21:21.150 --> 00:21:23.229 interest of time I won't get into

00:21:23.229 --> 00:21:24.729 everything but the most common

00:21:24.792 --> 00:21:26.446 mutation underlying sporadic

00:21:26.446 --> 00:21:28.670 meningiomas is somatic mutation.

00:21:28.670 --> 00:21:31.050 Involving NF2 with or without

00:21:31.050 --> 00:21:32.478 chromosome 22 loss.

00:21:32.480 --> 00:21:34.904 These this, this abnormality has been

00:21:34.904 --> 00:21:38.860 seen as part of the pathway to more

00:21:38.860 --> 00:21:40.558 aggressive meningioma formation,

00:21:40.560 --> 00:21:42.338 and I'll talk about that in a

00:21:42.338 --> 00:21:44.351 few minutes and so when we think

NOTE Confidence: 0.822025688260869

00:21:44.351 --> 00:21:45.539 of grade one meningiomas,

NOTE Confidence: 0.822025688260869

00:21:45.540 --> 00:21:47.525 there's also grade 2 meningiomas

NOTE Confidence: 0.822025688260869

00:21:47.525 --> 00:21:49.974 and grade 2 meningiomas can either

NOTE Confidence: 0.822025688260869

00:21:49.974 --> 00:21:51.959 arise as grade 2 meningiomas,

NOTE Confidence: 0.822025688260869

00:21:51.960 --> 00:21:54.645 which we call denova with

NOTE Confidence: 0.822025688260869

00:21:54.645 --> 00:21:56.256 certain genomic characteristics,

NOTE Confidence: 0.822025688260869

00:21:56.260 --> 00:21:58.710 or they can progress from low grade.

NOTE Confidence: 0.822025688260869

00:21:58.710 --> 00:22:02.718 High grade, very similar to gliomas.

NOTE Confidence: 0.822025688260869

00:22:02.720 --> 00:22:04.992 Part of the work that I have focused

NOTE Confidence: 0.822025688260869

00:22:04.992 --> 00:22:07.798 on is the clinical correlations and so

NOTE Confidence: 0.822025688260869

00:22:07.800 --> 00:22:09.750 initially and and we've revised this

NOTE Confidence: 0.822025688260869

00:22:09.750 --> 00:22:12.378 even even more so to be more inclusive.

NOTE Confidence: 0.822025688260869

00:22:12.380 --> 00:22:15.170 More recently is localizing the

NOTE Confidence: 0.822025688260869

00:22:15.170 --> 00:22:17.960 meningioma subgroups based on genomic

NOTE Confidence: 0.822025688260869

00:22:18.046 --> 00:22:20.958 mutation with intracranial location,

NOTE Confidence: 0.822025688260869

00:22:20.960 --> 00:22:22.910 and so I use this all the time in the

NOTE Confidence: 0.822025688260869

00:22:22.967 --> 00:22:24.850 sense that when patients come to my

NOTE Confidence: 0.822025688260869

00:22:24.850 --> 00:22:26.977 clinic based on where their tumor where,

NOTE Confidence: 0.822025688260869

00:22:26.980 --> 00:22:28.815 their meningeal might is located

NOTE Confidence: 0.822025688260869

00:22:28.815 --> 00:22:29.916 in their head,

NOTE Confidence: 0.822025688260869

00:22:29.920 --> 00:22:31.912 I can predict with a pretty

NOTE Confidence: 0.822025688260869

00:22:31.912 --> 00:22:33.240 good degree of certainty.

NOTE Confidence: 0.822025688260869

00:22:33.240 --> 00:22:36.030 And the underlying genomic mutation.

NOTE Confidence: 0.822025688260869

00:22:36.030 --> 00:22:37.986 And so why is that relevant?

NOTE Confidence: 0.822025688260869

00:22:37.990 --> 00:22:39.929 Because we've gone on with thanks in

NOTE Confidence: 0.822025688260869

00:22:39.929 --> 00:22:41.899 part to the Connecticut brain tumor

NOTE Confidence: 0.822025688260869

00:22:41.899 --> 00:22:44.405 alliance and their support of our work

NOTE Confidence: 0.822025688260869

00:22:44.469 --> 00:22:46.609 to understand the clinical relevance.

NOTE Confidence: 0.822025688260869

00:22:46.610 --> 00:22:48.415 And so these genomic subgroups

NOTE Confidence: 0.822025688260869

00:22:48.415 --> 00:22:51.515 we have found to be linked to

NOTE Confidence: 0.822025688260869

00:22:51.515 --> 00:22:53.336 various clinical manifestations,

NOTE Confidence: 0.822025688260869

00:22:53.340 --> 00:22:54.645 whether that's seizure.

NOTE Confidence: 0.822025688260869

00:22:54.645 --> 00:22:56.820 Whether that's also to do

NOTE Confidence: 0.822025688260869

00:22:56.820 --> 00:22:58.350 with histological subtypes,

NOTE Confidence: 0.822025688260869

00:22:58.350 --> 00:22:59.950 or Bony involvement, etcetera,

NOTE Confidence: 0.822025688260869

00:22:59.950 --> 00:23:02.733 we have been able to uncover that

NOTE Confidence: 0.822025688260869

00:23:02.733 --> 00:23:04.924 one area I wanted to touch upon,

NOTE Confidence: 0.822025688260869

00:23:04.930 --> 00:23:06.200 and I apologize for the.

NOTE Confidence: 0.822025688260869

00:23:06.200 --> 00:23:07.476 This slide it was.

NOTE Confidence: 0.822025688260869

00:23:07.476 --> 00:23:09.390 We were the first to publish

NOTE Confidence: 0.822025688260869

00:23:09.459 --> 00:23:12.044 on recurrence being related to

NOTE Confidence: 0.822025688260869

00:23:12.044 --> 00:23:13.595 meningioma molecular subgroup,

NOTE Confidence: 0.822025688260869

00:23:13.600 --> 00:23:15.616 and so again very busy slide,

NOTE Confidence: 0.822025688260869

00:23:15.620 --> 00:23:18.636 but the take home message is that we

NOTE Confidence: 0.822025688260869

00:23:18.636 --> 00:23:21.018 identified for the genomic subgroups

NOTE Confidence: 0.822025688260869

00:23:21.020 --> 00:23:23.108 with more aggressive clinical

NOTE Confidence: 0.822025688260869

00:23:23.108 --> 00:23:25.718 behavior in terms of recurrence,

00:23:25.720 --> 00:23:27.460 and so specifically those

00:23:27.460 --> 00:23:29.635 tumors with an NF2 mutation,

00:23:29.640 --> 00:23:32.342 those with an A KT1 mutation or

00:23:32.342 --> 00:23:34.726 other molecules involving the Pi 3

00:23:34.726 --> 00:23:36.238 kinase signaling pathway, hedgehog.

00:23:36.238 --> 00:23:37.670 Familiar pathway or trap?

00:23:37.670 --> 00:23:40.225 Seven or more likely to record an

00:23:40.225 --> 00:23:42.789 average 22 times higher than others,

00:23:42.790 --> 00:23:45.506 and this held true at 17 times

00:23:45.506 --> 00:23:47.130 higher amongst grade ones.

00:23:47.130 --> 00:23:49.790 And So what type of mutation is

00:23:49.790 --> 00:23:51.863 underlying or driving the meningioma

00:23:51.863 --> 00:23:54.013 biology is associated with whether

00:23:54.013 --> 00:23:56.727 or not the tumor will occur and

00:23:56.727 --> 00:23:59.105 even when it will occur in that

NOTE Confidence: 0.822025688260869

00:23:59.105 --> 00:24:01.590 some of these tumors with a KT1

NOTE Confidence: 0.822025688260869

00:24:01.590 --> 00:24:04.440 mutations in the PI3 kinase signaling

NOTE Confidence: 0.822025688260869

00:24:04.440 --> 00:24:06.504 pathway typically recurs sooner.

NOTE Confidence: 0.822025688260869

00:24:06.510 --> 00:24:09.381 And this is 1 aspect of of the answer

NOTE Confidence: 0.822025688260869

00:24:09.381 --> 00:24:12.899 to the puzzle as to why some grade one

NOTE Confidence: 0.822025688260869

00:24:12.899 --> 00:24:15.758 meningioma is behave more aggressively,

NOTE Confidence: 0.822025688260869

00:24:15.760 --> 00:24:18.336 and so here going back to our patient,

NOTE Confidence: 0.822025688260869

00:24:18.340 --> 00:24:20.167 how could how could this have been

NOTE Confidence: 0.822025688260869

00:24:20.167 --> 00:24:21.326 predicted in managed differently

NOTE Confidence: 0.822025688260869

00:24:21.326 --> 00:24:22.289 the first time?

NOTE Confidence: 0.822025688260869

00:24:22.290 --> 00:24:24.477 This is how and so this is an example

NOTE Confidence: 0.822025688260869

00:24:24.477 --> 00:24:26.297 of our molecular analysis report

NOTE Confidence: 0.822025688260869

00:24:26.297 --> 00:24:28.559 that we receive on every patient

NOTE Confidence: 0.8791293652

00:24:28.629 --> 00:24:29.969 we operate on at Yale.

NOTE Confidence: 0.8791293652

00:24:29.970 --> 00:24:33.225 And here the histological diagnosis of this

NOTE Confidence: 0.8791293652

00:24:33.225 --> 00:24:36.218 patient was actually a Grade 2 meningioma,

NOTE Confidence: 0.8791293652

00:24:36.220 --> 00:24:38.150 not a grade. And Angioma,

NOTE Confidence: 0.8791293652

00:24:38.150 --> 00:24:40.388 which was initially diagnosed in 2015.

NOTE Confidence: 0.8791293652

00:24:40.390 --> 00:24:41.710 So you might say, well,

NOTE Confidence: 0.8791293652

00:24:41.710 --> 00:24:42.822 maybe I transitioned from

NOTE Confidence: 0.8791293652

00:24:42.822 --> 00:24:44.490 a low grade to high grade.

NOTE Confidence: 0.8791293652

00:24:44.490 --> 00:24:46.190 The answer is no.

NOTE Confidence: 0.8791293652

00:24:46.190 --> 00:24:48.315 Looking at the molecular information,

NOTE Confidence: 0.8791293652

00:24:48.320 --> 00:24:51.806 there's an NF2 mutation and then based

NOTE Confidence: 0.8791293652

00:24:51.806 --> 00:24:54.071 on the chromosomal abnormalities

NOTE Confidence: 0.8791293652

00:24:54.071 --> 00:24:57.006 in the copy number alterations,

NOTE Confidence: 0.8791293652

00:24:57.010 --> 00:24:59.778 we can tell that this was one that

NOTE Confidence: 0.8791293652

00:24:59.778 --> 00:25:03.206 was denovo and had been a typical

NOTE Confidence: 0.8791293652

00:25:03.206 --> 00:25:05.330 meningioma but was misdiagnosed

NOTE Confidence: 0.8791293652

00:25:05.330 --> 00:25:06.938 histologically back in 2015.

NOTE Confidence: 0.8791293652

00:25:06.940 --> 00:25:09.364 And so, in our hands we would have

NOTE Confidence: 0.8791293652

00:25:09.364 --> 00:25:11.092 respected that tumor and likely

NOTE Confidence: 0.8791293652

00:25:11.092 --> 00:25:13.198 radiated the tumor up front after,

NOTE Confidence: 0.8791293652

00:25:13.200 --> 00:25:16.152 or at least kept a very close follow up.

NOTE Confidence: 0.8791293652

00:25:16.160 --> 00:25:18.240 Another patient with another one

NOTE Confidence: 0.8791293652

00:25:18.240 --> 00:25:20.320 of these grade one meningiomas.

NOTE Confidence: 0.8791293652

00:25:20.320 --> 00:25:22.030 This was a patient that was

NOTE Confidence: 0.8791293652

00:25:22.030 --> 00:25:23.520 operated on by someone else.

NOTE Confidence: 0.8791293652

00:25:23.520 --> 00:25:25.200 Had this large tumor surgeon

NOTE Confidence: 0.8791293652

00:25:25.200 --> 00:25:27.337 left a small residual to preserve

NOTE Confidence: 0.8791293652

00:25:27.337 --> 00:25:29.272 endocrine function and just six

NOTE Confidence: 0.8791293652

00:25:29.272 --> 00:25:31.838 months later you can see the growth.

NOTE Confidence: 0.8791293652

00:25:31.840 --> 00:25:33.616 That's not growth that you would

NOTE Confidence: 0.8791293652

00:25:33.616 --> 00:25:35.599 expect with a Grade 1 meningioma,

NOTE Confidence: 0.8791293652

00:25:35.600 --> 00:25:38.358 and so then the patient underwent radiation

NOTE Confidence: 0.8791293652

00:25:38.358 --> 00:25:40.560 and then continued to have growth.

NOTE Confidence: 0.8791293652

00:25:40.560 --> 00:25:41.928 This is actually not the most

NOTE Confidence: 0.8791293652

00:25:41.928 --> 00:25:42.612 recent follow up.

NOTE Confidence: 0.8791293652

00:25:42.620 --> 00:25:44.240 I'm sorry for that error.

NOTE Confidence: 0.8791293652

00:25:44.240 --> 00:25:47.510 She's had more growth, more recurrence.

NOTE Confidence: 0.8791293652

00:25:47.510 --> 00:25:49.390 I've operated on her a couple of times.

NOTE Confidence: 0.8791293652

00:25:49.390 --> 00:25:51.406 Since then she's had more radiation

NOTE Confidence: 0.8791293652

00:25:51.406 --> 00:25:53.929 and has been enrolled in clinical trials.

NOTE Confidence: 0.8791293652

00:25:53.930 --> 00:25:56.374 And here's her Histology

NOTE Confidence: 0.8791293652

00:25:56.374 --> 00:25:58.207 and molecular report,

NOTE Confidence: 0.8791293652

00:25:58.210 --> 00:26:01.050 so it still remains a grade one meningioma,

NOTE Confidence: 0.8791293652

00:26:01.050 --> 00:26:03.314 but you can see that a KT1 missense

NOTE Confidence: 0.8791293652

00:26:03.314 --> 00:26:05.540 mutation and based on our findings in

NOTE Confidence: 0.8791293652

00:26:05.540 --> 00:26:07.490 the neural oncology paper and here,

NOTE Confidence: 0.8791293652

00:26:07.490 --> 00:26:09.465 you see that these tumors

NOTE Confidence: 0.8791293652

00:26:09.465 --> 00:26:11.045 tend to occur earlier.

NOTE Confidence: 0.8791293652

00:26:11.050 --> 00:26:13.742 And the last patient example,

00:26:13.742 --> 00:26:16.478 very complicated, patient with another grade,

00:26:16.480 --> 00:26:18.644 one meningioma who underwent

00:26:18.644 --> 00:26:21.349 surgery elsewhere a few times.

00:26:21.350 --> 00:26:23.970 Radiation elsewhere a few times,

00:26:23.970 --> 00:26:26.430 was enrolled in a clinical trial

00:26:26.430 --> 00:26:28.410 with Priscilla Brosterhous at MGH.

00:26:28.410 --> 00:26:29.182 She recurred.

00:26:29.182 --> 00:26:30.726 This was her recurrence,

00:26:30.730 --> 00:26:31.876 highly vascular tumor.

00:26:31.876 --> 00:26:33.404 As you can see,

00:26:33.410 --> 00:26:35.018 Priscilla center down here

00:26:35.018 --> 00:26:37.028 to me for surgical resection.

00:26:37.030 --> 00:26:38.968 We got a nice surgical resection,

00:26:38.970 --> 00:26:40.998 and here's her genomics again that.

00:26:41.000 --> 00:26:43.408 Act one mutation and so the point

00:26:43.408 --> 00:26:45.793 being is that maximizing the surgical

NOTE Confidence: 0.8791293652

00:26:45.793 --> 00:26:49.355 resection is of course a huge part in

NOTE Confidence: 0.8791293652

00:26:49.355 --> 00:26:51.920 survival and progression free survival.

NOTE Confidence: 0.8791293652

00:26:51.920 --> 00:26:54.145 Getting a good tissue diagnosis

NOTE Confidence: 0.8791293652

00:26:54.145 --> 00:26:55.480 is incredibly important,

NOTE Confidence: 0.8791293652

00:26:55.480 --> 00:26:57.230 but really managing patients as

NOTE Confidence: 0.8791293652

00:26:57.230 --> 00:26:59.771 we do in most academic centers do

NOTE Confidence: 0.8791293652

00:26:59.771 --> 00:27:01.949 based on the molecular diagnosis and

NOTE Confidence: 0.8791293652

00:27:01.949 --> 00:27:04.360 not just not relying on Histology,

NOTE Confidence: 0.8791293652

00:27:04.360 --> 00:27:06.808 is incredibly important.

NOTE Confidence: 0.8791293652

00:27:06.810 --> 00:27:08.861 We hope that our patients find it

NOTE Confidence: 0.8791293652

00:27:08.861 --> 00:27:10.889 easy to navigate through the system

NOTE Confidence: 0.8791293652

00:27:10.889 --> 00:27:12.704 through our multi disciplines and

NOTE Confidence: 0.8791293652

00:27:12.704 --> 00:27:14.897 of course through our health system

NOTE Confidence: 0.8791293652

00:27:14.897 --> 00:27:17.003 including Bruce and and others who

NOTE Confidence: 0.8791293652

00:27:17.010 --> 00:27:19.296 are located in Greenwich and other

NOTE Confidence: 0.8791293652

00:27:19.296 --> 00:27:21.230 satellite places throughout the state.

NOTE Confidence: 0.8791293652

00:27:21.230 --> 00:27:23.174 We're so thankful to the Lovemark

NOTE Confidence: 0.8791293652

00:27:23.174 --> 00:27:24.470 Foundation and the Connecticut

NOTE Confidence: 0.8791293652

00:27:24.528 --> 00:27:26.103 brain tumor alliance to provide

NOTE Confidence: 0.8791293652

00:27:26.103 --> 00:27:27.363 support to our patients,

NOTE Confidence: 0.8791293652

00:27:27.370 --> 00:27:29.680 and I am incredibly thankful to these

NOTE Confidence: 0.8791293652

00:27:29.680 --> 00:27:32.388 ladies and men who I work with every day.

NOTE Confidence: 0.8791293652

00:27:32.390 --> 00:27:33.398 Jillian and Marcy,

NOTE Confidence: 0.8791293652

00:27:33.398 --> 00:27:35.078 who are nurse practitioners in

NOTE Confidence: 0.8791293652

00:27:35.078 --> 00:27:37.068 our brain tumor surgery program.

NOTE Confidence: 0.8791293652

00:27:37.070 --> 00:27:38.420 Kelly and Marsala,

NOTE Confidence: 0.8791293652

00:27:38.420 --> 00:27:40.220 who are nurse coordinators

NOTE Confidence: 0.911970096875

00:27:40.220 --> 00:27:42.902 Larry and the other staff who work in the

NOTE Confidence: 0.911970096875

00:27:42.902 --> 00:27:44.955 operating room who assist me every day,

NOTE Confidence: 0.911970096875

00:27:44.960 --> 00:27:46.470 my clinical research fellow Sagar

NOTE Confidence: 0.911970096875

00:27:46.470 --> 00:27:48.919 Shari and and a bunch of other people,

NOTE Confidence: 0.911970096875

00:27:48.920 --> 00:27:50.795 who unfortunately aren't on this

NOTE Confidence: 0.911970096875

00:27:50.795 --> 00:27:52.984 in this picture, and Neil and Mary

NOTE Confidence: 0.911970096875

00:27:52.984 --> 00:27:54.580 and I them my clinical fellow,

NOTE Confidence: 0.911970096875

00:27:54.580 --> 00:27:56.834 so thank you once again for listening.

NOTE Confidence: 0.911970096875

00:27:56.840 --> 00:27:59.810 Thank you to Doctor Barris for

NOTE Confidence: 0.911970096875

00:27:59.810 --> 00:28:02.920 her generosity and her friendship.

NOTE Confidence: 0.911970096875

00:28:02.920 --> 00:28:05.448 I will turn this over to Zach and

NOTE Confidence: 0.911970096875

00:28:05.448 --> 00:28:07.834 I guess we'll take questions at

NOTE Confidence: 0.911970096875

00:28:07.834 --> 00:28:10.336 the end and I'll stop sharing.

NOTE Confidence: 0.911970096875

00:28:10.340 --> 00:28:15.588 So Zach Corbin. A friend, a colleague.

NOTE Confidence: 0.911970096875

00:28:15.588 --> 00:28:17.536 A wonderful neuro oncologist,

NOTE Confidence: 0.911970096875

00:28:17.540 --> 00:28:19.020 and I'm really exciting.

NOTE Confidence: 0.911970096875

00:28:19.020 --> 00:28:19.760 Because excited,

NOTE Confidence: 0.911970096875

00:28:19.760 --> 00:28:21.800 because he's going to speak to you now

NOTE Confidence: 0.911970096875

00:28:21.800 --> 00:28:23.660 about emerging therapies for brain tumors.

00:28:23.660 --> 00:28:25.270 And he's also going to talk about

00:28:25.270 --> 00:28:27.244 some of his exciting research and and

00:28:27.244 --> 00:28:29.086 work that he's doing with imaging.

00:28:33.430 --> 00:28:35.866 Perfect thank you so much for

00:28:35.866 --> 00:28:37.490 that wonderful introduction and

00:28:37.559 --> 00:28:39.689 talk and what a lovely dovetail.

00:28:39.690 --> 00:28:41.652 I wish if I had actually

00:28:41.652 --> 00:28:43.710 been able to modify my title,

00:28:43.710 --> 00:28:45.510 I would say emerging classifications

00:28:45.510 --> 00:28:47.310 and therapies of brain tumors

00:28:47.366 --> 00:28:49.081 because a lot of what I'm going

00:28:49.081 --> 00:28:50.750 to talk about is exactly that.

00:28:50.750 --> 00:28:53.066 The really we have changed recently.

00:28:53.070 --> 00:28:54.670 The way we're thinking

00:28:54.670 --> 00:28:56.270 about primary brain tumors.

00:28:56.270 --> 00:28:58.490 So yeah, so I'm Zachary Corbin.

NOTE Confidence: 0.881477025625

00:28:58.490 --> 00:28:59.966 I'm one of the neuro oncologists

NOTE Confidence: 0.881477025625

00:28:59.966 --> 00:29:01.816 based at Smilo and I look forward to

NOTE Confidence: 0.881477025625

00:29:01.816 --> 00:29:03.470 talking to you for a few minutes.

NOTE Confidence: 0.881477025625

00:29:03.470 --> 00:29:07.478 Today and thank you for having me so.

NOTE Confidence: 0.881477025625

00:29:07.480 --> 00:29:09.360 I'd like to start by saying that I

NOTE Confidence: 0.881477025625

00:29:09.360 --> 00:29:11.839 do have a a disclosure that I will be

NOTE Confidence: 0.881477025625

00:29:11.839 --> 00:29:13.860 discussing off label use of procarbazine,

NOTE Confidence: 0.881477025625

00:29:13.860 --> 00:29:15.596 otherwise no relevant disclosures.

NOTE Confidence: 0.881477025625

00:29:15.596 --> 00:29:18.200 I'm going to talk about my

NOTE Confidence: 0.881477025625

00:29:18.271 --> 00:29:20.046 the structure of my talk.

NOTE Confidence: 0.881477025625

00:29:20.050 --> 00:29:22.558 We talk about glioma and meningioma

NOTE Confidence: 0.881477025625

00:29:22.558 --> 00:29:24.930 very similarly to doctor Moliterno

NOTE Confidence: 0.881477025625

00:29:24.930 --> 00:29:26.790 talk about the classification that

NOTE Confidence: 0.881477025625

00:29:26.790 --> 00:29:29.670 we have begun to use very recently.

NOTE Confidence: 0.881477025625

00:29:29.670 --> 00:29:33.282 Based on the 2021 WHO and then

NOTE Confidence: 0.881477025625

00:29:33.282 --> 00:29:34.710 standards of care,

NOTE Confidence: 0.881477025625

00:29:34.710 --> 00:29:38.110 including some relatively new ASCO

NOTE Confidence: 0.881477025625

00:29:38.110 --> 00:29:40.592 snow guidelines that can help

NOTE Confidence: 0.881477025625

00:29:40.592 --> 00:29:42.462 clinicians make the decision about

NOTE Confidence: 0.881477025625

00:29:42.462 --> 00:29:44.814 patients who are not able to or choose

NOTE Confidence: 0.881477025625

00:29:44.814 --> 00:29:46.889 not to enroll in clinical trials.

NOTE Confidence: 0.881477025625

00:29:46.890 --> 00:29:47.502 And then,

NOTE Confidence: 0.881477025625

00:29:47.502 --> 00:29:48.114 of course,

NOTE Confidence: 0.881477025625

00:29:48.114 --> 00:29:50.420 I want to discuss about clinical trials.

NOTE Confidence: 0.881477025625

00:29:50.420 --> 00:29:52.256 That we have available at Yale,

NOTE Confidence: 0.881477025625

00:29:52.260 --> 00:29:54.500 and the approaches that they may offer.

NOTE Confidence: 0.881477025625

00:29:54.500 --> 00:29:56.384 Then I'll switch to meningioma and

NOTE Confidence: 0.881477025625

00:29:56.384 --> 00:29:58.531 doctor Moliterno has covered a lot of the

NOTE Confidence: 0.881477025625

00:29:58.531 --> 00:30:00.439 standard of care have been in GMs already,

NOTE Confidence: 0.881477025625

00:30:00.440 --> 00:30:01.379 but I'll summarize,

NOTE Confidence: 0.881477025625

53

00:30:01.379 --> 00:30:03.570 and then I'll discuss a couple of

NOTE Confidence: 0.881477025625

00:30:03.637 --> 00:30:05.647 clinical trials we have available.

NOTE Confidence: 0.881477025625

00:30:05.650 --> 00:30:06.790 And absolutely at the end.

NOTE Confidence: 0.881477025625

00:30:06.790 --> 00:30:08.482 I look forward to.

NOTE Confidence: 0.881477025625

00:30:08.482 --> 00:30:10.597 Sharing some research that I'm

NOTE Confidence: 0.881477025625

00:30:10.597 --> 00:30:12.314 doing and some observational studies

NOTE Confidence: 0.881477025625

00:30:12.314 --> 00:30:13.799 that are available to patients

NOTE Confidence: 0.881477025625

00:30:13.799 --> 00:30:15.699 who are seen at her Cancer Center.

NOTE Confidence: 0.881477025625

00:30:15.700 --> 00:30:17.300 So without further ado,

NOTE Confidence: 0.881477025625

00:30:17.300 --> 00:30:21.179 I'd like to talk a little bit about glioma,

NOTE Confidence: 0.881477025625

00:30:21.180 --> 00:30:24.631 and I'm sure most people watching this

NOTE Confidence: 0.881477025625

00:30:24.631 --> 00:30:27.428 talk are familiar with the disease,

NOTE Confidence: 0.881477025625

00:30:27.428 --> 00:30:29.588 but some I think underappreciated

NOTE Confidence: 0.881477025625

00:30:29.588 --> 00:30:32.024 facts include that it is the second

NOTE Confidence: 0.881477025625

00:30:32.024 --> 00:30:34.297 most common type of primary brain tumor.

NOTE Confidence: 0.881477025625

00:30:34.300 --> 00:30:36.372 It has a higher burden than I

54

NOTE Confidence: 0.881477025625

00:30:36.372 --> 00:30:38.055 think most realized that 19,000.

NOTE Confidence: 0.881477025625

00:30:38.055 --> 00:30:40.480 New diagnosis in the US.

NOTE Confidence: 0.881477025625

00:30:40.480 --> 00:30:43.840 The most recent count annually and over

NOTE Confidence: 0.881477025625

00:30:43.840 --> 00:30:47.398 12,000 of these patients have glioblastomas,

NOTE Confidence: 0.881477025625

00:30:47.400 --> 00:30:50.452 and despite even even more than what

NOTE Confidence: 0.881477025625

00:30:50.452 --> 00:30:53.517 doctor Moliterno has had a chance to cover.

NOTE Confidence: 0.881477025625

00:30:53.520 --> 00:30:55.536 What we do clinically and research.

NOTE Confidence: 0.881477025625

00:30:55.540 --> 00:30:58.529 Despite all of this and for decades.

NOTE Confidence: 0.881477025625

00:30:58.530 --> 00:30:59.874 Less than excuse me,

NOTE Confidence: 0.881477025625

00:30:59.874 --> 00:31:02.715 just a little bit over one in 20

NOTE Confidence: 0.881477025625

00:31:02.715 --> 00:31:04.965 patients at five years remain alive.

NOTE Confidence: 0.881477025625

00:31:04.970 --> 00:31:07.158 The most recent count is 7.2% and

NOTE Confidence: 0.881477025625

00:31:07.158 --> 00:31:09.430 I'm going to end by saying the silver

NOTE Confidence: 0.881477025625

00:31:09.493 --> 00:31:11.306 lining is that count is going up

NOTE Confidence: 0.881477025625

00:31:11.306 --> 00:31:13.725 and so we are making gains and we

NOTE Confidence: 0.881477025625

00:31:13.725 --> 00:31:16.402 are continuing on our quest as I'm

NOTE Confidence: 0.881477025625

00:31:16.402 --> 00:31:19.708 sure most watching this talk are.

NOTE Confidence: 0.881477025625

00:31:19.710 --> 00:31:20.748 Pathologically or histopathologically,

NOTE Confidence: 0.881477025625

00:31:20.748 --> 00:31:23.749 and hopefully you guys can see my point here,

NOTE Confidence: 0.881477025625

00:31:23.750 --> 00:31:25.390 feel blastoma appears like this.

NOTE Confidence: 0.881477025625

00:31:25.390 --> 00:31:28.006 You can see lots of areas in the

NOTE Confidence: 0.881477025625

00:31:28.006 --> 00:31:29.493 tumor microscopically that have

NOTE Confidence: 0.881477025625

00:31:29.493 --> 00:31:31.029 different shapes and nuclei.

NOTE Confidence: 0.881477025625

00:31:31.030 --> 00:31:32.406 You can see necrosis.

NOTE Confidence: 0.881477025625

00:31:32.406 --> 00:31:34.470 You can see pseudo palisading areas,

NOTE Confidence: 0.881477025625

00:31:34.470 --> 00:31:36.451 which is what this call where you

NOTE Confidence: 0.881477025625

00:31:36.451 --> 00:31:37.300 can see the

NOTE Confidence: 0.867642732

00:31:37.362 --> 00:31:39.826 sheets kind of dive into the necrosis and

NOTE Confidence: 0.867642732

00:31:39.826 --> 00:31:42.766 you can see areas of vascular proliferation.

NOTE Confidence: 0.867642732

00:31:42.770 --> 00:31:44.696 Another thing that I always like

NOTE Confidence: 0.867642732

00:31:44.696 --> 00:31:46.903 to talk about is how important

56

NOTE Confidence: 0.867642732

00:31:46.903 --> 00:31:48.607 publicly this disease is.

NOTE Confidence: 0.867642732

00:31:48.610 --> 00:31:52.482 So these three men all died of glioblastoma

NOTE Confidence: 0.867642732

00:31:52.482 --> 00:31:56.135 or high grade glioma and for those of you

NOTE Confidence: 0.867642732

00:31:56.135 --> 00:31:58.997 who don't know who one of these people are,

NOTE Confidence: 0.867642732

00:31:59.000 --> 00:32:01.268 I'm sure that most people know all of them.

NOTE Confidence: 0.867642732

00:32:01.270 --> 00:32:02.738 This is Ted Kennedy,

NOTE Confidence: 0.867642732

00:32:02.738 --> 00:32:04.573 he was President John F.

NOTE Confidence: 0.867642732

00:32:04.580 --> 00:32:05.342 Kennedy's brother.

NOTE Confidence: 0.867642732

00:32:05.342 --> 00:32:06.866 This is Beau Biden,

NOTE Confidence: 0.867642732

00:32:06.870 --> 00:32:10.125 President Biden son and this is John

NOTE Confidence: 0.867642732

00:32:10.130 --> 00:32:12.454 McCain's most recent example of this picture,

NOTE Confidence: 0.867642732

00:32:12.460 --> 00:32:13.327 but I think.

NOTE Confidence: 0.867642732

00:32:13.327 --> 00:32:15.350 That this really goes to show how,

NOTE Confidence: 0.867642732

00:32:15.350 --> 00:32:17.050 although a rare disease,

NOTE Confidence: 0.867642732

00:32:17.050 --> 00:32:18.750 officially an extremely important

NOTE Confidence: 0.867642732

00:32:18.750 --> 00:32:20.733 disease in many other ways

NOTE Confidence: 0.867642732

00:32:20.733 --> 00:32:22.503 than we might initially think.

NOTE Confidence: 0.867642732

00:32:22.510 --> 00:32:23.742 So as I said,

NOTE Confidence: 0.867642732

00:32:23.742 --> 00:32:26.417 I'm going to talk about the way we

NOTE Confidence: 0.867642732

00:32:26.417 --> 00:32:29.426 classify gliomas in the context of the 2021,

NOTE Confidence: 0.867642732

00:32:29.426 --> 00:32:30.930 WHO classification of tumors

NOTE Confidence: 0.867642732

00:32:30.930 --> 00:32:32.810 of the central nervous system.

NOTE Confidence: 0.867642732

00:32:32.810 --> 00:32:34.770 This is actually very recent,

NOTE Confidence: 0.867642732

00:32:34.770 --> 00:32:35.930 and last time I checked,

NOTE Confidence: 0.867642732

00:32:35.930 --> 00:32:37.994 we still didn't have the because

NOTE Confidence: 0.867642732

00:32:37.994 --> 00:32:39.850 of COVID related printing delays.

NOTE Confidence: 0.867642732

00:32:39.850 --> 00:32:41.842 We still didn't have the actual

NOTE Confidence: 0.867642732

00:32:41.842 --> 00:32:43.840 final results to review ourselves,

NOTE Confidence: 0.867642732

00:32:43.840 --> 00:32:46.101 but we have this preview and I'm

NOTE Confidence: 0.867642732

00:32:46.101 --> 00:32:48.209 going to summarize it for you today.

NOTE Confidence: 0.867642732

00:32:48.210 --> 00:32:50.022 So the preview I think is

NOTE Confidence: 0.867642732

00:32:50.022 --> 00:32:51.830 best summarized in a diagram,

NOTE Confidence: 0.867642732

00:32:51.830 --> 00:32:54.490 and you can see starting here that.

NOTE Confidence: 0.867642732

00:32:54.490 --> 00:32:54.841 Really,

NOTE Confidence: 0.867642732

00:32:54.841 --> 00:32:57.298 we start where we used to be

NOTE Confidence: 0.867642732

00:32:57.298 --> 00:32:59.250 with histopathology and then as

NOTE Confidence: 0.867642732

00:32:59.250 --> 00:33:00.826 doctor Moliterno was discussing.

NOTE Confidence: 0.867642732

00:33:00.830 --> 00:33:03.680 The answer is largely now related

NOTE Confidence: 0.867642732

00:33:03.680 --> 00:33:06.027 to molecular findings and the

NOTE Confidence: 0.867642732

00:33:06.027 --> 00:33:09.486 first dichotomy is the IDH

NOTE Confidence: 0.867642732

00:33:09.486 --> 00:33:11.808 isocitrate dehydrogenase genes.

NOTE Confidence: 0.867642732

00:33:11.810 --> 00:33:14.738 So a tumor that expresses an IDH mutation

NOTE Confidence: 0.867642732

00:33:14.738 --> 00:33:17.703 is a tumor for which we understand

NOTE Confidence: 0.867642732

00:33:17.703 --> 00:33:20.410 the patient who has that tumor.

NOTE Confidence: 0.867642732

00:33:20.410 --> 00:33:22.738 Their outcomes are better and the

NOTE Confidence: 0.867642732

00:33:22.738 --> 00:33:25.146 tumor grows less and then a dichotomy.

NOTE Confidence: 0.867642732

00:33:25.146 --> 00:33:27.837 After Idhe mutation is whether or not that

NOTE Confidence: 0.867642732

00:33:27.837 --> 00:33:29.767 tumor expresses another genetic change,

NOTE Confidence: 0.867642732

00:33:29.770 --> 00:33:31.075 it's called 1P19.

NOTE Confidence: 0.867642732

00:33:31.075 --> 00:33:34.220 Q code deletion and so an IDH mutant

NOTE Confidence: 0.867642732

00:33:34.220 --> 00:33:36.952 1P19 Q code deleted tumor almost

NOTE Confidence: 0.867642732

00:33:36.952 --> 00:33:39.064 no matter what it appears under.

NOTE Confidence: 0.867642732

00:33:39.070 --> 00:33:41.065 The microscope isn't all the good enough,

NOTE Confidence: 0.867642732

00:33:41.070 --> 00:33:43.860 Ryoma and I'll get into gliomas

NOTE Confidence: 0.867642732

00:33:43.860 --> 00:33:45.720 are actually graded histologically,

NOTE Confidence: 0.867642732

00:33:45.720 --> 00:33:47.120 as are the other tumors.

NOTE Confidence: 0.867642732

00:33:47.120 --> 00:33:49.549 So that is where we can use

NOTE Confidence: 0.867642732

00:33:49.549 --> 00:33:50.970 Histology and molecular features

NOTE Confidence: 0.867642732

00:33:50.970 --> 00:33:53.418 so WHO grade two and WHO grade 3

NOTE Confidence: 0.867642732

00:33:53.418 --> 00:33:55.636 all the good and agree on this.

NOTE Confidence: 0.867642732

00:33:55.640 --> 00:33:58.412 And then if actually there is no one P.

NOTE Confidence: 0.867642732

00:33:58.420 --> 00:33:59.884 19 Q code deletion,

NOTE Confidence: 0.867642732

00:33:59.884 --> 00:34:02.080 you can see that there are

NOTE Confidence: 0.867642732

00:34:02.168 --> 00:34:04.798 astrocytomas which are IH mutant.

NOTE Confidence: 0.867642732

00:34:04.800 --> 00:34:08.200 These are kind of cousins of the stoma,

NOTE Confidence: 0.867642732

00:34:08.200 --> 00:34:11.278 but actually even a Grade 4

NOTE Confidence: 0.867642732

00:34:11.280 --> 00:34:13.836 astrocytoma that is an NIH mutant

NOTE Confidence: 0.867642732

00:34:13.836 --> 00:34:15.540 is in this classification,

NOTE Confidence: 0.867642732

00:34:15.540 --> 00:34:17.008 not considered a glioblastoma.

NOTE Confidence: 0.867642732

00:34:17.008 --> 00:34:20.305 That is a big change we used to call

NOTE Confidence: 0.867642732

00:34:20.305 --> 00:34:22.685 patients who had tumors that were WHO

NOTE Confidence: 0.867642732

00:34:22.757 --> 00:34:25.477 grade for histologically a glioblastoma.

NOTE Confidence: 0.867642732

00:34:25.480 --> 00:34:26.736 If they were astrocytic,

NOTE Confidence: 0.867642732

00:34:26.736 --> 00:34:29.610 whether or not they had ID communications.

NOTE Confidence: 0.867642732

00:34:29.610 --> 00:34:31.710 So you can see that this whole

NOTE Confidence: 0.867642732

00:34:31.710 --> 00:34:33.896 category of tumors is quite different

NOTE Confidence: 0.867642732

00:34:33.896 --> 00:34:35.921 because it has different molecular

NOTE Confidence: 0.867642732

00:34:35.921 --> 00:34:38.013 features and also different clinical

NOTE Confidence: 0.867642732

00:34:38.013 --> 00:34:40.043 outcomes and so moving right.

NOTE Confidence: 0.867642732

00:34:40.050 --> 00:34:41.955 Unfortunately these tumors grow more

NOTE Confidence: 0.867642732

00:34:41.955 --> 00:34:43.860 aggressively in patients who have

NOTE Confidence: 0.867642732

00:34:43.916 --> 00:34:45.926 them have generally shorter outcomes,

NOTE Confidence: 0.867642732

00:34:45.930 --> 00:34:47.306 although with aggressive treatments,

NOTE Confidence: 0.867642732

00:34:47.306 --> 00:34:49.370 we're hoping that that also will

NOTE Confidence: 0.820806983636364

00:34:49.421 --> 00:34:51.265 change. So if the patient does

NOTE Confidence: 0.820806983636364

00:34:51.265 --> 00:34:53.360 not have an ID quotation we refer

NOTE Confidence: 0.820806983636364

00:34:53.360 --> 00:34:55.496 to that as an IH wild type tumor.

NOTE Confidence: 0.820806983636364

00:34:55.500 --> 00:34:57.845 And you can see that those characteristics

NOTE Confidence: 0.820806983636364

00:34:57.845 --> 00:34:59.865 under the microscope I described before

NOTE Confidence: 0.820806983636364

00:34:59.865 --> 00:35:01.460 can help describe a glioblastoma

NOTE Confidence: 0.820806983636364

00:35:01.460 --> 00:35:03.700 which is also called glioblastoma idh,

NOTE Confidence: 0.820806983636364

00:35:03.700 --> 00:35:06.900 wildtype CCNS, WHO grade four.

NOTE Confidence: 0.820806983636364

00:35:06.900 --> 00:35:10.032 And then you can see that there are other

00:35:10.032 --> 00:35:12.810 similar Leo Blastomas or similar gliomas.

00:35:12.810 --> 00:35:15.183 Sorry that have a Grade 4 characteristic

00:35:15.183 --> 00:35:18.057 and in general these are considered diffuse,

00:35:18.060 --> 00:35:19.948 midline and diffuse hemispheric

00:35:19.948 --> 00:35:22.780 gliomas with the midline glioma has

00:35:22.859 --> 00:35:27.350 an H3K27 alteration so moving on.

00:35:27.350 --> 00:35:29.888 The standard of care for glioblastoma

00:35:29.888 --> 00:35:32.953 is still based on a study that was

00:35:32.953 --> 00:35:35.510 actually old when I was a fellow,

00:35:35.510 --> 00:35:37.050 which is the study protocol.

00:35:37.050 --> 00:35:39.164 And you'll hear us discuss the study

00:35:39.164 --> 00:35:41.120 protocol when we discuss management and

00:35:41.120 --> 00:35:43.430 a couple things I want to highlight

00:35:43.494 --> 00:35:45.965 on this slide is that the curves

00:35:45.965 --> 00:35:47.024 despite aggressive treatment,

00:35:47.030 --> 00:35:48.626 continue to go down,

NOTE Confidence: 0.820806983636364

00:35:48.626 --> 00:35:51.464 but this is actually continues to be

NOTE Confidence: 0.820806983636364

00:35:51.464 --> 00:35:53.998 the basis for which we treat many

NOTE Confidence: 0.820806983636364

00:35:53.998 --> 00:35:55.945 patients and maybe motivation to

NOTE Confidence: 0.820806983636364

00:35:55.945 --> 00:35:57.160 keep these curves.

NOTE Confidence: 0.820806983636364

00:35:57.160 --> 00:35:58.906 Up for pursuing more clinical trials

NOTE Confidence: 0.820806983636364

00:35:58.906 --> 00:36:01.097 and then the other thing I'd like to

NOTE Confidence: 0.820806983636364

00:36:01.097 --> 00:36:02.938 show once again is that it's 2005.

NOTE Confidence: 0.820806983636364

00:36:02.938 --> 00:36:05.962 So now 17 years old and we do

NOTE Confidence: 0.820806983636364

00:36:05.962 --> 00:36:08.709 have additional advancements.

NOTE Confidence: 0.820806983636364

00:36:08.710 --> 00:36:10.201 I'm not trying to say that we

NOTE Confidence: 0.820806983636364

00:36:10.201 --> 00:36:11.488 have been frozen since 2005,

NOTE Confidence: 0.820806983636364

00:36:11.488 --> 00:36:13.696 but it is remarkable to think

NOTE Confidence: 0.820806983636364

00:36:13.696 --> 00:36:15.526 about how long we've been.

NOTE Confidence: 0.820806983636364

00:36:15.526 --> 00:36:18.660 We've had these results so as I was saying,

NOTE Confidence: 0.820806983636364

00:36:18.660 --> 00:36:20.244 I'd like to move forward just

NOTE Confidence: 0.820806983636364

00:36:20.244 --> 00:36:21.300 because guidelines not just

NOTE Confidence: 0.820806983636364

00:36:21.353 --> 00:36:22.698 have the tree clear blastoma,

NOTE Confidence: 0.820806983636364

00:36:22.700 --> 00:36:25.297 but all gliomas and so this is

NOTE Confidence: 0.820806983636364

00:36:25.297 --> 00:36:27.440 the American Society for clinical.

NOTE Confidence: 0.820806983636364

00:36:27.440 --> 00:36:29.555 Ecology ASCO and the Society

NOTE Confidence: 0.820806983636364

00:36:29.555 --> 00:36:30.824 for Neuro Oncology.

NOTE Confidence: 0.820806983636364

00:36:30.830 --> 00:36:32.535 2 American organizations to manage

NOTE Confidence: 0.820806983636364

00:36:32.535 --> 00:36:34.695 Neuro ONC and they issued combined

NOTE Confidence: 0.820806983636364

00:36:34.695 --> 00:36:36.263 recommendations for the different

NOTE Confidence: 0.820806983636364

00:36:36.263 --> 00:36:38.618 categories of tumor and so I

NOTE Confidence: 0.820806983636364

00:36:38.618 --> 00:36:40.928 thought I would just go through the

NOTE Confidence: 0.820806983636364

00:36:40.928 --> 00:36:42.898 different categories one by one.

NOTE Confidence: 0.820806983636364

00:36:42.898 --> 00:36:46.274 I mentioned all of these in the diagram

NOTE Confidence: 0.820806983636364

00:36:46.274 --> 00:36:48.866 that I discussed before all go into gliomas,

NOTE Confidence: 0.820806983636364

00:36:48.870 --> 00:36:51.318 Deputy O grade one.

NOTE Confidence: 0.820806983636364

00:36:51.320 --> 00:36:52.600 I should I should say,

NOTE Confidence: 0.820806983636364

00:36:52.600 --> 00:36:55.450 but you guys already know.

NOTE Confidence: 0.820806983636364

00:36:55.450 --> 00:36:57.872 The maximum safe for section and when

NOTE Confidence: 0.820806983636364

00:36:57.872 --> 00:37:00.070 possible is the start to management

NOTE Confidence: 0.820806983636364

00:37:00.070 --> 00:37:02.248 of almost all of these tumors.

NOTE Confidence: 0.820806983636364

00:37:02.250 --> 00:37:05.330 But once we get to maximum safer section

NOTE Confidence: 0.820806983636364

00:37:05.330 --> 00:37:08.467 and have the best pathologic evidence,

NOTE Confidence: 0.820806983636364

00:37:08.470 --> 00:37:09.703 observation is possible,

NOTE Confidence: 0.820806983636364

00:37:09.703 --> 00:37:12.169 which means we monitor closely with

NOTE Confidence: 0.820806983636364

00:37:12.169 --> 00:37:14.661 scans and these patients low risk

NOTE Confidence: 0.820806983636364

00:37:14.661 --> 00:37:16.269 disease has specific features,

NOTE Confidence: 0.820806983636364

00:37:16.270 --> 00:37:18.534 but if a patient is over 40 or

NOTE Confidence: 0.820806983636364

00:37:18.534 --> 00:37:20.590 a patient has remaining tumor,

NOTE Confidence: 0.820806983636364

00:37:20.590 --> 00:37:22.828 they are not considered low risk,

NOTE Confidence: 0.820806983636364

00:37:22.830 --> 00:37:25.080 and so we proceed with radiation

NOTE Confidence: 0.820806983636364

00:37:25.080 --> 00:37:25.830 combined with.

NOTE Confidence: 0.820806983636364

00:37:25.830 --> 00:37:27.153 Either procarbazine Lomustine

NOTE Confidence: 0.820806983636364

00:37:27.153 --> 00:37:28.476 and Chris Vincristine,

NOTE Confidence: 0.820806983636364

00:37:28.480 --> 00:37:31.072 which you'll hear me discuss for

NOTE Confidence: 0.820806983636364

00:37:31.072 --> 00:37:36.010 here on as PCV or team ITAR or TMZ.

NOTE Confidence: 0.820806983636364

00:37:36.010 --> 00:37:40.105 Temodar is emphasized as an option if

NOTE Confidence: 0.820806983636364

00:37:40.105 --> 00:37:44.290 there's concerns for someone tolerating PCV.

NOTE Confidence: 0.820806983636364

00:37:44.290 --> 00:37:44.761 However,

NOTE Confidence: 0.820806983636364

00:37:44.761 --> 00:37:48.058 I would say that there are also

NOTE Confidence: 0.820806983636364

00:37:48.058 --> 00:37:50.620 oncologists that actually favor temodar

NOTE Confidence: 0.820806983636364

00:37:50.620 --> 00:37:53.692 because the evidence is also strong

NOTE Confidence: 0.820806983636364

00:37:53.692 --> 00:37:57.650 for temodar in that the stoop protocol,

NOTE Confidence: 0.820806983636364

00:37:57.650 --> 00:37:58.346 for example,

NOTE Confidence: 0.820806983636364

00:37:58.346 --> 00:38:00.290 is a more treated and more

NOTE Confidence: 0.820806983636364

00:38:00.290 --> 00:38:01.790 aggressive tumor with team donor,

NOTE Confidence: 0.820806983636364

00:38:01.790 --> 00:38:03.698 and this is an open question

NOTE Confidence: 0.820806983636364

00:38:03.698 --> 00:38:04.970 which we are actually

NOTE Confidence: 0.923252333333334

00:38:05.035 --> 00:38:06.690 trying to address at Yale.

NOTE Confidence: 0.923252333333334

00:38:06.690 --> 00:38:08.354 Olive good good inglima

NOTE Confidence: 0.923252333333334

00:38:08.354 --> 00:38:10.018 is Newton grade three.

NOTE Confidence: 0.923252333333334

00:38:10.020 --> 00:38:12.738 We do not have any ability to monitor these,

NOTE Confidence: 0.923252333333334

00:38:12.740 --> 00:38:14.504 whether or not the tumor is entirely

NOTE Confidence: 0.923252333333334

00:38:14.504 --> 00:38:16.050 or we would not recommend.

NOTE Confidence: 0.923252333333334

00:38:16.050 --> 00:38:17.340 I should say, monitoring these.

NOTE Confidence: 0.923252333333334

00:38:17.340 --> 00:38:19.436 Whether or not the tumor is entirely removed,

NOTE Confidence: 0.923252333333334

00:38:19.440 --> 00:38:21.945 we would proceed with radiation

NOTE Confidence: 0.923252333333334

00:38:21.945 --> 00:38:24.992 combined with PCV or possibly all

NOTE Confidence: 0.923252333333334

00:38:24.992 --> 00:38:27.734 using team radar as an alternative.

NOTE Confidence: 0.923252333333334

00:38:27.740 --> 00:38:29.888 I astrocytomas IH mutants

NOTE Confidence: 0.923252333333334

00:38:29.888 --> 00:38:32.573 that are WHO grade 2.

NOTE Confidence: 0.923252333333334

00:38:32.580 --> 00:38:33.854 For those of you who are familiar

NOTE Confidence: 0.923252333333334

00:38:33.854 --> 00:38:35.040 with the old classification,

NOTE Confidence: 0.923252333333334

00:38:35.040 --> 00:38:37.896 these used to be called diffuse astrocytomas.

NOTE Confidence: 0.923252333333334

00:38:37.900 --> 00:38:40.280 These are possible to observe,

NOTE Confidence: 0.923252333333334

00:38:40.280 --> 00:38:43.100 once again with good characteristics.

NOTE Confidence: 0.923252333333334

00:38:43.100 --> 00:38:45.020 Some some would argue that they

NOTE Confidence: 0.923252333333334

00:38:45.020 --> 00:38:46.889 should be treated with radiation

NOTE Confidence: 0.923252333333334

00:38:46.889 --> 00:38:48.977 followed by adjuvant chemotherapy,

NOTE Confidence: 0.923252333333334

00:38:48.980 --> 00:38:50.368 and in this case,

NOTE Confidence: 0.923252333333334

00:38:50.368 --> 00:38:52.103 I think the field generally

NOTE Confidence: 0.923252333333334

00:38:52.103 --> 00:38:53.640 prefers temodar over PCV,

NOTE Confidence: 0.923252333333334

00:38:53.640 --> 00:38:55.288 but the guidelines offer

NOTE Confidence: 0.923252333333334

00:38:55.288 --> 00:38:56.936 a choice between both.

NOTE Confidence: 0.923252333333334

00:38:56.940 --> 00:38:59.131 In case it's not clear why one

NOTE Confidence: 0.923252333333334

00:38:59.131 --> 00:39:01.180 would prefer team at our over PCV,

NOTE Confidence: 0.923252333333334

00:39:01.180 --> 00:39:03.180 PCV is a is a.

NOTE Confidence: 0.923252333333334

00:39:03.180 --> 00:39:05.720 Is a chemotherapy regimen that

NOTE Confidence: 0.923252333333334

00:39:05.720 --> 00:39:07.752 involves multiple chemotherapies that

NOTE Confidence: 0.923252333333334

00:39:07.752 --> 00:39:09.992 each involve different side effects

NOTE Confidence: 0.923252333333334

00:39:09.992 --> 00:39:11.408 that can be difficult to tolerate,

NOTE Confidence: 0.923252333333334

00:39:11.410 --> 00:39:14.818 and they can also limit the ability for

NOTE Confidence: 0.923252333333334

00:39:14.818 --> 00:39:17.130 the patient to take the whole regimen.

NOTE Confidence: 0.923252333333334

00:39:17.130 --> 00:39:22.020 Temodar is less prone to those limitations.

NOTE Confidence: 0.923252333333334

00:39:22.020 --> 00:39:23.526 So moving forward,

NOTE Confidence: 0.923252333333334

00:39:23.526 --> 00:39:26.538 astrocytoma ID student debt charade 3.

NOTE Confidence: 0.923252333333334

00:39:26.540 --> 00:39:28.584 This is a tumor that there is

NOTE Confidence: 0.923252333333334

00:39:28.584 --> 00:39:30.340 some debate about how to treat,

NOTE Confidence: 0.923252333333334

00:39:30.340 --> 00:39:32.590 but radiation with adjuvant temodar

NOTE Confidence: 0.923252333333334

00:39:32.590 --> 00:39:35.313 is the recommended method and the

NOTE Confidence: 0.923252333333334

00:39:35.313 --> 00:39:37.719 guidelines and then maybe there's more

NOTE Confidence: 0.923252333333334

00:39:37.719 --> 00:39:40.799 debate with IDH mutant tumors WHO grade 4.

NOTE Confidence: 0.923252333333334

00:39:40.800 --> 00:39:41.382 Once again,

NOTE Confidence: 0.923252333333334

00:39:41.382 --> 00:39:43.419 these tumors used to be called gliomas,

70

NOTE Confidence: 0.923252333333334

00:39:43.420 --> 00:39:44.795 tumors that we now refer

NOTE Confidence: 0.923252333333334

00:39:44.795 --> 00:39:45.895 to them as astrocytoma,

NOTE Confidence: 0.923252333333334

00:39:45.900 --> 00:39:47.320 IDH, Newton.

NOTE Confidence: 0.923252333333334

00:39:47.320 --> 00:39:51.496 So radiation with adjuvant temodar is

NOTE Confidence: 0.923252333333334

00:39:51.496 --> 00:39:56.172 is offered or treatment for the study

NOTE Confidence: 0.923252333333334

00:39:56.172 --> 00:39:58.980 protocol as a glioblastoma is treated.

NOTE Confidence: 0.923252333333334

00:39:58.980 --> 00:40:01.308 So moving forward glioblastoma.

NOTE Confidence: 0.923252333333334

00:40:01.308 --> 00:40:04.218 Sorry IH wild type tumors.

NOTE Confidence: 0.923252333333334

00:40:04.220 --> 00:40:06.075 Astrocytoma IH well typed either

NOTE Confidence: 0.923252333333334

00:40:06.075 --> 00:40:08.416 grades two or three are generally

NOTE Confidence: 0.923252333333334

00:40:08.416 --> 00:40:11.314 recommended to be treated as the oldest.

NOTE Confidence: 0.923252333333334

00:40:11.320 --> 00:40:14.584 Thomas Glioblastoma is our idea 12

NOTE Confidence: 0.923252333333334

00:40:14.584 --> 00:40:18.044 type who grade 4 so those tumors.

NOTE Confidence: 0.923252333333334

00:40:18.044 --> 00:40:20.612 We recommend treating either with the

NOTE Confidence: 0.923252333333334

00:40:20.612 --> 00:40:22.946 study protocol or possibly additional

NOTE Confidence: 0.923252333333334

00:40:22.946 --> 00:40:25.688 changes in a subset of patients,

NOTE Confidence: 0.923252333333334

00:40:25.690 --> 00:40:26.890 so the study protocol,

NOTE Confidence: 0.923252333333334

00:40:26.890 --> 00:40:28.090 which I've now mentioned

NOTE Confidence: 0.923252333333334

00:40:28.090 --> 00:40:29.468 probably 8 times by name,

NOTE Confidence: 0.923252333333334

00:40:29.470 --> 00:40:31.366 but haven't actually told you what it is.

NOTE Confidence: 0.923252333333334

00:40:31.370 --> 00:40:33.008 This is where you do radiation

NOTE Confidence: 0.923252333333334

00:40:33.008 --> 00:40:34.100 combined with Team Adar.

NOTE Confidence: 0.923252333333334

00:40:34.100 --> 00:40:35.848 At the same time,

NOTE Confidence: 0.923252333333334

00:40:35.848 --> 00:40:37.159 that's called Chemoradiotherapy

NOTE Confidence: 0.923252333333334

00:40:37.159 --> 00:40:39.229 with temodar and then patients

NOTE Confidence: 0.923252333333334

00:40:39.229 --> 00:40:41.293 receive 6 cycles or six months

NOTE Confidence: 0.923252333333334

00:40:41.293 --> 00:40:43.380 of team that are thereafter.

NOTE Confidence: 0.923252333333334

00:40:43.380 --> 00:40:45.816 You patients are certainly are physicians

NOTE Confidence: 0.923252333333334

00:40:45.816 --> 00:40:47.982 and patients together are certainly

NOTE Confidence: 0.923252333333334

00:40:47.982 --> 00:40:50.357 allowed to receive more chemotherapy.

NOTE Confidence: 0.923252333333334

00:40:50.360 --> 00:40:52.460 Up to 12 is is still standard,

NOTE Confidence: 0.923252333333334

00:40:52.460 --> 00:40:54.903 but most of the field is considering

NOTE Confidence: 0.923252333333334

00:40:54.903 --> 00:40:57.729 moving back to six cycles at this point.

NOTE Confidence: 0.923252333333334

00:40:57.730 --> 00:40:59.866 Certainly in some patients.

NOTE Confidence: 0.923252333333334

00:40:59.866 --> 00:41:03.070 And alternating electric fields are delivered

NOTE Confidence: 0.923252333333334

00:41:03.143 --> 00:41:05.845 by a device called the Optune device,

NOTE Confidence: 0.923252333333334

00:41:05.850 --> 00:41:08.466 and this may be added either

NOTE Confidence: 0.923252333333334

00:41:08.466 --> 00:41:09.774 actually at diagnosis,

NOTE Confidence: 0.923252333333334

00:41:09.780 --> 00:41:11.775 which is what this recommendation is about,

NOTE Confidence: 0.923252333333334

00:41:11.780 --> 00:41:13.156 or have recurrence actually

NOTE Confidence: 0.923252333333334

00:41:13.156 --> 00:41:14.876 in a subset of patients.

NOTE Confidence: 0.923252333333334

00:41:14.880 --> 00:41:16.548 These patients are patients who may

NOTE Confidence: 0.923252333333334

00:41:16.548 --> 00:41:18.600 be elderly or may have some reasons

NOTE Confidence: 0.923252333333334

00:41:18.600 --> 00:41:20.364 why we don't think they could

NOTE Confidence: 0.923252333333334

00:41:20.364 --> 00:41:21.869 tolerate what it ends up being.

NOTE Confidence: 0.870947387619048

00:41:21.870 --> 00:41:24.859 Quite an intense therapy we can proceed

NOTE Confidence: 0.870947387619048

00:41:24.859 --> 00:41:26.660 with hypofractionated radiation with

NOTE Confidence: 0.870947387619048

00:41:26.660 --> 00:41:28.464 concurrent and adjuvant Thermidor

NOTE Confidence: 0.870947387619048

00:41:28.464 --> 00:41:31.090 hypofractionated is only three weeks long.

NOTE Confidence: 0.870947387619048

00:41:31.090 --> 00:41:32.938 As opposed to six weeks long,

NOTE Confidence: 0.870947387619048

00:41:32.940 --> 00:41:34.494 but I'm not going to get into

NOTE Confidence: 0.870947387619048

00:41:34.494 --> 00:41:35.818 any more details about radiation

NOTE Confidence: 0.870947387619048

00:41:35.818 --> 00:41:37.338 because Doctor Mcgibbon is the

NOTE Confidence: 0.870947387619048

00:41:37.338 --> 00:41:39.168 expert and we'll be speaking later.

NOTE Confidence: 0.870947387619048

00:41:39.170 --> 00:41:39.950 And then alternatively,

NOTE Confidence: 0.870947387619048

00:41:39.950 --> 00:41:41.770 if we think that team radar may

NOTE Confidence: 0.870947387619048

00:41:41.824 --> 00:41:43.498 not be useful because of other

NOTE Confidence: 0.870947387619048

00:41:43.498 --> 00:41:44.614 molecular features which are

NOTE Confidence: 0.870947387619048

00:41:44.668 --> 00:41:46.278 outside of the scope of this talk,

NOTE Confidence: 0.870947387619048

00:41:46.280 --> 00:41:47.870 you could you could do

NOTE Confidence: 0.870947387619048

00:41:47.870 --> 00:41:48.881 hypofractionated radiation alone.

NOTE Confidence: 0.870947387619048

00:41:48.881 --> 00:41:51.240 You could do team at our monotherapy

NOTE Confidence: 0.870947387619048

00:41:51.291 --> 00:41:53.076 alone and then of course there are

NOTE Confidence: 0.870947387619048

00:41:53.076 --> 00:41:54.489 some patients that either choose

NOTE Confidence: 0.870947387619048

00:41:54.489 --> 00:41:56.277 or may not tolerate any treatment

NOTE Confidence: 0.870947387619048

00:41:56.277 --> 00:41:58.688 and supportive care is an option

NOTE Confidence: 0.870947387619048

00:41:58.688 --> 00:42:00.948 to proceed with with glioblastoma.

NOTE Confidence: 0.870947387619048

00:42:00.950 --> 00:42:02.490 So on a brighter note,

NOTE Confidence: 0.870947387619048

00:42:02.490 --> 00:42:03.942 I'd like to talk about clinical

NOTE Confidence: 0.870947387619048

00:42:03.942 --> 00:42:04.910 trials that we offer.

NOTE Confidence: 0.870947387619048

00:42:04.910 --> 00:42:07.164 So one thing to talk about clinical

NOTE Confidence: 0.870947387619048

00:42:07.164 --> 00:42:09.285 trials is that these trials often

NOTE Confidence: 0.870947387619048

00:42:09.285 --> 00:42:11.090 don't replace the standard of

NOTE Confidence: 0.870947387619048

00:42:11.090 --> 00:42:13.426 care we get that question a lot.

NOTE Confidence: 0.870947387619048

00:42:13.430 --> 00:42:15.334 Often they will augment the standard of care,

NOTE Confidence: 0.870947387619048

00:42:15.340 --> 00:42:16.930 or they ask questions about the

NOTE Confidence: 0.870947387619048

00:42:16.930 --> 00:42:18.853 standard of care and the other thing

NOTE Confidence: 0.870947387619048

00:42:18.853 --> 00:42:20.473 to note about clinical trials is

NOTE Confidence: 0.870947387619048

00:42:20.473 --> 00:42:22.388 that a clinical trial that I would

NOTE Confidence: 0.870947387619048

00:42:22.388 --> 00:42:24.194 recommend to a patient is going

NOTE Confidence: 0.870947387619048

00:42:24.194 --> 00:42:26.426 to be one that exhibits equipoise.

NOTE Confidence: 0.870947387619048

00:42:26.430 --> 00:42:27.678 This is a true experiment where

NOTE Confidence: 0.870947387619048

00:42:27.678 --> 00:42:28.971 we're trying to answer something we

NOTE Confidence: 0.870947387619048

00:42:28.971 --> 00:42:31.980 don't know the answer to, and so.

NOTE Confidence: 0.870947387619048

00:42:31.980 --> 00:42:34.325 I mentioned the the question that this

NOTE Confidence: 0.870947387619048

00:42:34.325 --> 00:42:36.578 trial is trying to address already,

NOTE Confidence: 0.870947387619048

00:42:36.580 --> 00:42:39.732 so we have a trial for patients who

NOTE Confidence: 0.870947387619048

00:42:39.732 --> 00:42:41.282 have oligodendrogliomas WHO grade

NOTE Confidence: 0.870947387619048

00:42:41.282 --> 00:42:43.340 two who have high risk disease.

NOTE Confidence: 0.870947387619048

00:42:43.340 --> 00:42:44.114 Once again,

NOTE Confidence: 0.870947387619048

00:42:44.114 --> 00:42:46.823 they're over 40 or they have a

NOTE Confidence: 0.870947387619048

00:42:46.823 --> 00:42:48.878 residual tumor or grade three.

NOTE Confidence: 0.870947387619048

00:42:48.880 --> 00:42:50.511 They can enroll in a trial where

NOTE Confidence: 0.870947387619048

00:42:50.511 --> 00:42:51.975 we are actually proceeding with

NOTE Confidence: 0.870947387619048

00:42:51.975 --> 00:42:53.395 adjuvant radiation that's either

NOTE Confidence: 0.870947387619048

00:42:53.395 --> 00:42:55.480 combined with temodar or they proceed

NOTE Confidence: 0.870947387619048

00:42:55.480 --> 00:42:57.010 with radiation followed by PCP.

NOTE Confidence: 0.870947387619048

00:42:57.010 --> 00:42:58.354 Because once again we have this

NOTE Confidence: 0.870947387619048

00:42:58.354 --> 00:42:59.660 question where we don't know what

NOTE Confidence: 0.870947387619048

00:42:59.660 --> 00:43:00.955 is better and all the good and.

NOTE Confidence: 0.870947387619048

00:43:00.960 --> 00:43:02.485 Family and patients who have

NOTE Confidence: 0.870947387619048

00:43:02.485 --> 00:43:03.705 all the good nucleonics.

NOTE Confidence: 0.870947387619048

00:43:03.710 --> 00:43:05.726 We have more trials in patients

NOTE Confidence: 0.870947387619048

00:43:05.726 --> 00:43:07.070 who have leonas demo.

NOTE Confidence: 0.870947387619048

00:43:07.070 --> 00:43:09.488 So we have a Phase 01 trial which

NOTE Confidence: 0.870947387619048

00:43:09.488 --> 00:43:12.104 is an early phase trial where we're

NOTE Confidence: 0.870947387619048

00:43:12.104 --> 00:43:14.314 testing an immunotherapy regimen that

NOTE Confidence: 0.870947387619048

00:43:14.314 --> 00:43:17.078 targets a type of checkpoint that's

NOTE Confidence: 0.870947387619048

00:43:17.078 --> 00:43:20.010 called TIGIT that is used in addition

NOTE Confidence: 0.870947387619048

00:43:20.010 --> 00:43:22.030 to or possibly alternating with,

NOTE Confidence: 0.870947387619048

00:43:22.030 --> 00:43:22.870 the PD1 checkpoint,

NOTE Confidence: 0.870947387619048

00:43:22.870 --> 00:43:24.550 which is a more famous checkpoint

NOTE Confidence: 0.870947387619048

00:43:24.550 --> 00:43:26.087 that others may have heard of.

NOTE Confidence: 0.870947387619048

00:43:26.090 --> 00:43:28.600 Drugs like pembrolizumab and nivolumab

NOTE Confidence: 0.870947387619048

00:43:28.600 --> 00:43:31.110 target the PD one checkpoint,

NOTE Confidence: 0.870947387619048

00:43:31.110 --> 00:43:33.448 we have a phase one trial of

NOTE Confidence: 0.870947387619048

00:43:33.448 --> 00:43:35.089 a drug called FB PMT,

NOTE Confidence: 0.870947387619048

00:43:35.090 --> 00:43:37.640 which is targeting cancer cell signaling.

NOTE Confidence: 0.870947387619048

00:43:37.640 --> 00:43:40.069 And that is for patients who have

NOTE Confidence: 0.870947387619048

00:43:40.069 --> 00:43:41.833 glioblastoma appearance or when the

NOTE Confidence: 0.870947387619048

00:43:41.833 --> 00:43:43.813 tumor is growing back as doctor

NOTE Confidence: 0.870947387619048

00:43:43.813 --> 00:43:45.977 Moliterno showed in multiple of the cases.

NOTE Confidence: 0.870947387619048

00:43:45.980 --> 00:43:47.852 And then we have a trial that's really

NOTE Confidence: 0.870947387619048

00:43:47.852 --> 00:43:49.548 complex and really kind of marvelous.

78

NOTE Confidence: 0.870947387619048

00:43:49.550 --> 00:43:51.758 That's called the GBM agile trial.

NOTE Confidence: 0.870947387619048

00:43:51.760 --> 00:43:54.178 In this trial was designed to exist

NOTE Confidence: 0.870947387619048

00:43:54.178 --> 00:43:56.090 for a long time at a brain tumor

NOTE Confidence: 0.870947387619048

00:43:56.149 --> 00:43:58.270 center like Yale and allow us to

NOTE Confidence: 0.870947387619048

00:43:58.270 --> 00:43:59.774 sub installed agile because we're

NOTE Confidence: 0.870947387619048

00:43:59.774 --> 00:44:01.918 able to sub in drugs that may be

NOTE Confidence: 0.870947387619048

00:44:01.920 --> 00:44:03.315 exciting without having to close

NOTE Confidence: 0.870947387619048

00:44:03.315 --> 00:44:04.710 the trial and open a

NOTE Confidence: 0.86219934

00:44:04.772 --> 00:44:07.200 new trial. And so we have multiple

NOTE Confidence: 0.86219934

00:44:07.200 --> 00:44:09.380 arms in this trial, so patients can

NOTE Confidence: 0.86219934

00:44:09.380 --> 00:44:11.180 receive multiple types of therapies.

NOTE Confidence: 0.86219934

00:44:11.180 --> 00:44:12.560 And also the trial allows

NOTE Confidence: 0.86219934

00:44:12.560 --> 00:44:13.940 for enrollment of patients in

NOTE Confidence: 0.86219934

00:44:13.992 --> 00:44:15.697 different phases of their disease.

NOTE Confidence: 0.86219934

00:44:15.700 --> 00:44:18.143 So there are GBM agile arms where

NOTE Confidence: 0.86219934

00:44:18.143 --> 00:44:20.507 patients can enroll at diagnosis and

NOTE Confidence: 0.86219934

00:44:20.507 --> 00:44:23.009 where patients can enroll at recurrence.

NOTE Confidence: 0.86219934

00:44:23.010 --> 00:44:26.050 So it's complex to describe,

NOTE Confidence: 0.86219934

00:44:26.050 --> 00:44:27.760 but really an amazing thing

NOTE Confidence: 0.86219934

00:44:27.760 --> 00:44:28.786 and pretty advanced.

NOTE Confidence: 0.86219934

00:44:28.790 --> 00:44:30.222 A pretty remarkable advance.

NOTE Confidence: 0.86219934

00:44:30.222 --> 00:44:32.370 I think in clinical trial design

NOTE Confidence: 0.86219934

00:44:32.435 --> 00:44:34.739 and it's a privilege to be able to

NOTE Confidence: 0.86219934

00:44:34.739 --> 00:44:36.525 offer patients the agents that are

NOTE Confidence: 0.86219934

00:44:36.525 --> 00:44:38.800 being tested in GBM agile and they

NOTE Confidence: 0.86219934

00:44:38.868 --> 00:44:41.076 will continue to change over time.

NOTE Confidence: 0.86219934

00:44:41.080 --> 00:44:42.286 We also have a phase three,

NOTE Confidence: 0.86219934

00:44:42.290 --> 00:44:44.078 double blind placebo controlled

NOTE Confidence: 0.86219934

00:44:44.078 --> 00:44:46.313 trial where we are adding.

NOTE Confidence: 0.86219934

00:44:46.320 --> 00:44:47.628 As I said,

NOTE Confidence: 0.86219934

00:44:47.628 --> 00:44:50.680 we often add adding a experimental agent

NOTE Confidence: 0.86219934

00:44:50.770 --> 00:44:54.450 called Enza Star in to the street protocol.

NOTE Confidence: 0.86219934

00:44:54.450 --> 00:44:56.770 So to shift gears now.

NOTE Confidence: 0.86219934

00:44:56.770 --> 00:44:58.583 So I'm going to talk about meningioma

NOTE Confidence: 0.86219934

00:44:58.583 --> 00:44:59.989 briefly and then some trials.

NOTE Confidence: 0.86219934

00:44:59.990 --> 00:45:00.868 We have.

NOTE Confidence: 0.86219934

00:45:00.868 --> 00:45:03.063 Meningioma meningioma is actually the

NOTE Confidence: 0.86219934

00:45:03.063 --> 00:45:06.059 most common type of primary brain tumor.

NOTE Confidence: 0.86219934

00:45:06.060 --> 00:45:08.647 This annual incidence is around 35,000,

NOTE Confidence: 0.86219934

00:45:08.647 --> 00:45:10.936 which I also think is remarkable and

NOTE Confidence: 0.86219934

00:45:10.936 --> 00:45:13.123 as doctor Moliterno covered many

NOTE Confidence: 0.86219934

00:45:13.123 --> 00:45:15.338 patients who have meningioma are

NOTE Confidence: 0.86219934

00:45:15.338 --> 00:45:18.050 patients who have benign meningiomas,

NOTE Confidence: 0.86219934

00:45:18.050 --> 00:45:19.946 although I prefer to call them

NOTE Confidence: 0.86219934

00:45:19.946 --> 00:45:21.210 meningioma dibujo grade one.

NOTE Confidence: 0.86219934

00:45:21.210 --> 00:45:24.120 This will be labeled them pathologically.

NOTE Confidence: 0.86219934

00:45:24.120 --> 00:45:25.071 That's about 80%,

NOTE Confidence: 0.86219934

00:45:25.071 --> 00:45:26.973 and the overall survival of these

NOTE Confidence: 0.86219934

00:45:26.973 --> 00:45:28.677 tumors is difficult to categorize

NOTE Confidence: 0.86219934

00:45:28.677 --> 00:45:30.675 and has been reported in different

NOTE Confidence: 0.86219934

00:45:30.734 --> 00:45:32.210 ways over multiple sources.

NOTE Confidence: 0.86219934

00:45:32.210 --> 00:45:34.513 But I'm giving you summaries here so

NOTE Confidence: 0.86219934

00:45:34.513 --> 00:45:36.729 patients who have who Grade 1 tumors.

NOTE Confidence: 0.86219934

00:45:36.730 --> 00:45:38.490 Certainly live over 10 years

NOTE Confidence: 0.86219934

00:45:38.490 --> 00:45:40.250 and they may live longer.

NOTE Confidence: 0.86219934

00:45:40.250 --> 00:45:41.670 Patients often don't even need

NOTE Confidence: 0.86219934

00:45:41.670 --> 00:45:42.806 surgery with these tumors,

NOTE Confidence: 0.86219934

00:45:42.810 --> 00:45:45.274 and so we don't actually really know the

NOTE Confidence: 0.86219934

00:45:45.274 --> 00:45:47.619 true burden of WHO grade one minute GMs.

NOTE Confidence: 0.86219934

00:45:47.620 --> 00:45:49.880 But about.

NOTE Confidence: 0.86219934

00:45:49.880 --> 00:45:52.320 18% or about 1/5 of patients have more

NOTE Confidence: 0.86219934

00:45:52.320 --> 00:45:53.934 aggressive tumors that Doctor Mall

NOTE Confidence: 0.86219934

00:45:53.934 --> 00:45:55.830 Turner has lots of experience with

NOTE Confidence: 0.86219934

00:45:55.830 --> 00:45:57.393 called atypical meningiomas Debuchy

NOTE Confidence: 0.86219934

00:45:57.393 --> 00:45:59.775 grade two and there's variable reports

NOTE Confidence: 0.86219934

00:45:59.775 --> 00:46:01.500 about how long patients in general

NOTE Confidence: 0.86219934

00:46:01.500 --> 00:46:03.540 live at this point with these tumors.

NOTE Confidence: 0.86219934

00:46:03.540 --> 00:46:05.951 But we think about 80 to 100% of

NOTE Confidence: 0.86219934

00:46:05.951 --> 00:46:08.417 patients remain alive at five years,

NOTE Confidence: 0.86219934

00:46:08.420 --> 00:46:09.833 which is good.

NOTE Confidence: 0.86219934

00:46:09.833 --> 00:46:12.188 Unfortunately, WHO grade 3 tumors,

NOTE Confidence: 0.86219934

00:46:12.190 --> 00:46:14.846 also called in plastic and angiomas I guess.

NOTE Confidence: 0.86219934

00:46:14.850 --> 00:46:15.296 Fortunately,

NOTE Confidence: 0.86219934

00:46:15.296 --> 00:46:16.634 they're quite rare.

NOTE Confidence: 0.86219934

00:46:16.634 --> 00:46:18.854 Approximately 2% or so patients have

NOTE Confidence: 0.86219934

00:46:18.854 --> 00:46:20.509 these tumors who have meningioma,

NOTE Confidence: 0.86219934

00:46:20.510 --> 00:46:23.006 but the median overall survival is

NOTE Confidence: 0.86219934

00:46:23.006 --> 00:46:25.068 much more dramatically lower that

NOTE Confidence: 0.86219934

00:46:25.068 --> 00:46:27.708 measured in a couple years two to three.

NOTE Confidence: 0.86219934

00:46:27.710 --> 00:46:30.470 So standard of care with meningioma,

NOTE Confidence: 0.86219934

00:46:30.470 --> 00:46:32.264 so we have to discuss something

NOTE Confidence: 0.86219934

00:46:32.264 --> 00:46:34.117 that we don't generally talk about

NOTE Confidence: 0.86219934

00:46:34.117 --> 00:46:35.612 in gliomas which is presumed

NOTE Confidence: 0.86219934

00:46:35.612 --> 00:46:37.153 meningioma is a whole category

NOTE Confidence: 0.86219934

00:46:37.153 --> 00:46:38.905 of patients who have a scan.

NOTE Confidence: 0.86219934

00:46:38.910 --> 00:46:40.462 I think some of the times they get

NOTE Confidence: 0.86219934

00:46:40.462 --> 00:46:42.077 very scared they come to see either

NOTE Confidence: 0.86219934

00:46:42.077 --> 00:46:43.497 in their surgeon neurologist and we

NOTE Confidence: 0.86219934

00:46:43.497 --> 00:46:44.827 may tell them this tumor may not

NOTE Confidence: 0.86219934

00:46:44.827 --> 00:46:46.498 cause you difficulty with it looks

NOTE Confidence: 0.86219934

00:46:46.498 --> 00:46:49.885 to us like it may be a WHO Grade 1

NOTE Confidence: 0.86219934

00:46:49.885 --> 00:46:51.330 meningioma and we can monitor it.

NOTE Confidence: 0.86219934

00:46:51.330 --> 00:46:53.016 So we call those presumed meningioma.

NOTE Confidence: 0.86219934

00:46:53.020 --> 00:46:54.328 They're often asymptomatic,

NOTE Confidence: 0.86219934

00:46:54.328 --> 00:46:56.944 and imaging surveillance may be appropriate,

NOTE Confidence: 0.86219934

00:46:56.950 --> 00:46:57.894 but once it becomes.

NOTE Confidence: 0.86219934

00:46:57.894 --> 00:46:59.074 Medical jobs than they do,

NOTE Confidence: 0.846576206

00:46:59.080 --> 00:47:01.018 and then I might prefer that

NOTE Confidence: 0.846576206

00:47:01.018 --> 00:47:02.310 patient to doctor Moliterno.

NOTE Confidence: 0.846576206

00:47:02.310 --> 00:47:03.870 Then we proceed with maximum

NOTE Confidence: 0.846576206

00:47:03.870 --> 00:47:05.430 security just the same way,

NOTE Confidence: 0.846576206

00:47:05.430 --> 00:47:08.970 with glioma and surgery or radiation.

NOTE Confidence: 0.846576206

00:47:08.970 --> 00:47:10.836 If surgery is not possible or

NOTE Confidence: 0.846576206

00:47:10.836 --> 00:47:12.713 the options for these presumed

NOTE Confidence: 0.846576206

00:47:12.713 --> 00:47:14.408 or asymptomatic managements.

NOTE Confidence: 0.846576206

00:47:14.410 --> 00:47:16.048 And really as I was saying

NOTE Confidence: 0.846576206

00:47:16.048 --> 00:47:17.430 with with all grades one,

NOTE Confidence: 0.846576206

00:47:17.430 --> 00:47:19.626 two and three we start otherwise

NOTE Confidence: 0.846576206

00:47:19.626 --> 00:47:21.090 with maximal surgical resection.

NOTE Confidence: 0.846576206

00:47:21.090 --> 00:47:21.515 Meningioma,

NOTE Confidence: 0.846576206

00:47:21.515 --> 00:47:24.490 WHO grade one specifically if it has

NOTE Confidence: 0.846576206

00:47:24.490 --> 00:47:26.586 recurrent disease we consider radiation

NOTE Confidence: 0.846576206

00:47:26.586 --> 00:47:28.944 and then we get into controversy.

NOTE Confidence: 0.846576206

00:47:28.950 --> 00:47:30.810 Which we are having also a

NOTE Confidence: 0.846576206

00:47:30.810 --> 00:47:32.820 clinical trial at Yale to address.

NOTE Confidence: 0.846576206

00:47:32.820 --> 00:47:34.500 So the controversy is what to do with

NOTE Confidence: 0.846576206

00:47:34.500 --> 00:47:36.119 someone who has an atypical meningioma.

NOTE Confidence: 0.846576206

00:47:36.120 --> 00:47:39.414 W2 grade two that has had a gross total

NOTE Confidence: 0.846576206

00:47:39.414 --> 00:47:40.908 resection as doctor Moliterno showed.

NOTE Confidence: 0.846576206

00:47:40.908 --> 00:47:41.754 In a case.

NOTE Confidence: 0.846576206

00:47:41.760 --> 00:47:44.576 These do recur, but not all the time,

NOTE Confidence: 0.846576206

00:47:44.580 --> 00:47:46.335 and sometimes we think that

NOTE Confidence: 0.846576206

00:47:46.335 --> 00:47:48.090 the radiation may not actually

NOTE Confidence: 0.846576206

00:47:48.158 --> 00:47:50.160 benefit as much as it put causes.

NOTE Confidence: 0.846576206

00:47:50.160 --> 00:47:52.068 Some patients harm,

NOTE Confidence: 0.846576206

00:47:52.068 --> 00:47:56.056 so we we then proceed to more specific cases

NOTE Confidence: 0.846576206

00:47:56.056 --> 00:47:59.427 where there is residual disease on the scan.

NOTE Confidence: 0.846576206

00:47:59.430 --> 00:48:01.950 After a surgery and for those patients,

NOTE Confidence: 0.846576206

00:48:01.950 --> 00:48:05.371 we often we do recommend radiation for

NOTE Confidence: 0.846576206

00:48:05.371 --> 00:48:06.776 patients who have anaplastic meningioma,

NOTE Confidence: 0.846576206

00:48:06.780 --> 00:48:08.295 or there's even less controversy

NOTE Confidence: 0.846576206

00:48:08.295 --> 00:48:09.204 for those patients,

NOTE Confidence: 0.846576206

00:48:09.210 --> 00:48:11.178 resection or otherwise.

NOTE Confidence: 0.846576206

00:48:11.178 --> 00:48:13.146 We recommend radiation.

NOTE Confidence: 0.846576206

00:48:13.150 --> 00:48:15.106 So the clinical trials that are

NOTE Confidence: 0.846576206

00:48:15.106 --> 00:48:17.356 available in Ninja for WHO Grade

NOTE Confidence: 0.846576206

00:48:17.356 --> 00:48:19.466 2 after gross total receptions.

NOTE Confidence: 0.846576206

00:48:19.470 --> 00:48:20.890 This controversy is addressed

NOTE Confidence: 0.846576206

00:48:20.890 --> 00:48:22.665 by a phase three trial.

NOTE Confidence: 0.846576206

00:48:22.670 --> 00:48:24.940 Whether it's randomized patients either

00:48:24.940 --> 00:48:28.176 go on surveillance or we proceed with

00:48:28.176 --> 00:48:30.840 radiation and we continue to monitor.

00:48:30.840 --> 00:48:33.840 For patients who have either WHO grades one,

00:48:33.840 --> 00:48:35.166 two, or three,

00:48:35.166 --> 00:48:36.934 any of those grades,

00:48:36.940 --> 00:48:39.940 if they have a specific target,

00:48:39.940 --> 00:48:43.960 they are offered enrollment in what

00:48:43.960 --> 00:48:46.584 is a multi arm trial as well that

00:48:46.584 --> 00:48:48.572 currently has an AKT inhibitor

00:48:48.572 --> 00:48:50.667 that's called Kappa Vasser tip,

00:48:50.670 --> 00:48:53.525 where CDK inhibitor that's called

00:48:53.525 --> 00:48:56.000 abemaciclib Bemis cycling is actually

00:48:56.000 --> 00:48:57.900 currently an approved medication,

00:48:57.900 --> 00:49:00.402 so it's interesting to be able

00:49:00.402 --> 00:49:03.469 to to offer it in this trial.

00:49:03.470 --> 00:49:05.324 So now I'm going to switch

00:49:05.324 --> 00:49:06.560 gears and talk about.

00:49:06.560 --> 00:49:11.000 One of my true loves which is measuring.

00:49:11.000 --> 00:49:13.065 Metabolic disease and also metabolic

00:49:13.065 --> 00:49:15.130 processes in primary brain tumors,

00:49:15.130 --> 00:49:17.146 and I'd like to talk briefly about

00:49:17.150 --> 00:49:19.390 what target you would do or what

00:49:19.390 --> 00:49:21.200 metabolic change you would target.

00:49:21.200 --> 00:49:22.361 You would measure,

00:49:22.361 --> 00:49:25.070 so that is called the Warburg effect.

00:49:25.070 --> 00:49:27.542 The Warburg effect is really a

00:49:27.542 --> 00:49:29.495 biochemical principle, and really briefly.

00:49:29.495 --> 00:49:32.500 When any cell which is this is the,

00:49:32.500 --> 00:49:33.610 this is the outside of the

00:49:33.610 --> 00:49:34.350 cell in my diagram.

00:49:34.350 --> 00:49:35.645 This is the inside of the cell,

NOTE Confidence: 0.846576206

00:49:35.650 --> 00:49:36.182 cause glucose,

NOTE Confidence: 0.846576206

00:49:36.182 --> 00:49:37.778 which most people are familiar with.

NOTE Confidence: 0.846576206

00:49:37.780 --> 00:49:39.410 The each you get glucose,

NOTE Confidence: 0.846576206

00:49:39.410 --> 00:49:41.414 glucose comes in and becomes a

NOTE Confidence: 0.846576206

00:49:41.414 --> 00:49:42.750 certain molecule called pyruvate,

NOTE Confidence: 0.846576206

00:49:42.750 --> 00:49:45.118 and then the body may process it either

NOTE Confidence: 0.846576206

00:49:45.118 --> 00:49:46.983 through a process called oxidative

NOTE Confidence: 0.846576206

00:49:46.983 --> 00:49:49.003 phosphorylation through a part of

NOTE Confidence: 0.846576206

00:49:49.003 --> 00:49:51.329 the cell called the mitochondria,

NOTE Confidence: 0.846576206

00:49:51.330 --> 00:49:53.090 which is the Semitic cartoon,

NOTE Confidence: 0.846576206

00:49:53.090 --> 00:49:54.788 and then it may either and.

NOTE Confidence: 0.846576206

00:49:54.790 --> 00:49:56.690 Then it evolves CO2 which

NOTE Confidence: 0.846576206

00:49:56.690 --> 00:49:57.830 might be bicarbonate,

NOTE Confidence: 0.846576206

00:49:57.830 --> 00:50:00.245 because bicarbonate and CO2 exist in water.

NOTE Confidence: 0.846576206

00:50:00.250 --> 00:50:02.293 Which most of the inside of the cell is.

NOTE Confidence: 0.846576206

00:50:02.300 --> 00:50:02.932 Alternatively,

NOTE Confidence: 0.846576206

00:50:02.932 --> 00:50:05.460 pyruvate may become lactate,

NOTE Confidence: 0.846576206

00:50:05.460 --> 00:50:06.610 but it actually does not

NOTE Confidence: 0.846576206

00:50:06.610 --> 00:50:07.760 use oxygen in this case,

NOTE Confidence: 0.772799355875

00:50:07.760 --> 00:50:09.476 and that's called lysis.

NOTE Confidence: 0.772799355875

00:50:09.476 --> 00:50:12.050 So the Warburg effect defines the

NOTE Confidence: 0.772799355875

00:50:12.130 --> 00:50:14.500 fact that even in normal oxygen,

NOTE Confidence: 0.772799355875

00:50:14.500 --> 00:50:17.800 a tumor cell or tumor process

NOTE Confidence: 0.772799355875

00:50:17.800 --> 00:50:20.000 favors lactate and glycolysis,

NOTE Confidence: 0.772799355875

00:50:20.000 --> 00:50:23.227 and so that Warburg effect shifts tumor

NOTE Confidence: 0.772799355875

00:50:23.227 --> 00:50:26.358 Physiology in this diagram to the right.

NOTE Confidence: 0.772799355875

00:50:26.360 --> 00:50:28.178 And so to measure this difference

NOTE Confidence: 0.772799355875

00:50:28.178 --> 00:50:30.096 might help us with lots of

NOTE Confidence: 0.772799355875

00:50:30.096 --> 00:50:31.716 insights about how tumors work,

NOTE Confidence: 0.772799355875

00:50:31.720 --> 00:50:34.632 and I have two ways that I've

NOTE Confidence: 0.772799355875

00:50:34.632 --> 00:50:35.880 opened observational studies.

NOTE Confidence: 0.772799355875

00:50:35.880 --> 00:50:37.112 These are not trials,

NOTE Confidence: 0.772799355875

00:50:37.112 --> 00:50:38.652 we're actually just trying to

NOTE Confidence: 0.772799355875

00:50:38.652 --> 00:50:40.042 measure characteristics of the

NOTE Confidence: 0.772799355875

00:50:40.042 --> 00:50:42.094 tumors and not affect anyone's care.

NOTE Confidence: 0.772799355875

00:50:42.100 --> 00:50:43.966 But two ways we might measure

NOTE Confidence: 0.772799355875

00:50:43.966 --> 00:50:44.899 the Warburg effect.

NOTE Confidence: 0.772799355875

00:50:44.900 --> 00:50:46.736 This is called the Warburg index.

NOTE Confidence: 0.772799355875

00:50:46.740 --> 00:50:48.750 We take patients and offer

NOTE Confidence: 0.772799355875

00:50:48.750 --> 00:50:51.669 them a what's called an FDG or

NOTE Confidence: 0.772799355875

00:50:51.669 --> 00:50:53.734 floor deoxy glucose PET scan.

NOTE Confidence: 0.772799355875

00:50:53.740 --> 00:50:56.268 So FDG is a small dose of radioactivity

NOTE Confidence: 0.772799355875

00:50:56.268 --> 00:50:58.202 that also comes via the blood

NOTE Confidence: 0.772799355875

00:50:58.202 --> 00:51:00.488 comes into the cell and it's it's

NOTE Confidence: 0.772799355875

00:51:00.488 --> 00:51:01.932 phosphorylated or phosphorus is

NOTE Confidence: 0.772799355875

00:51:01.932 --> 00:51:04.294 added to FDG and it stays there

00:51:04.294 --> 00:51:06.233 and we can actually observe it in

00:51:06.233 --> 00:51:07.770 something called the scintillator.

00:51:07.770 --> 00:51:09.702 Now the very observant ones would

00:51:09.702 --> 00:51:11.443 say that we're only watching

00:51:11.443 --> 00:51:12.999 one part of metabolism.

00:51:13.000 --> 00:51:13.666 That's right,

00:51:13.666 --> 00:51:15.331 so this is actually basically

00:51:15.331 --> 00:51:16.330 total glucose metabolism.

00:51:16.330 --> 00:51:18.352 This is a rough estimate of

00:51:18.352 --> 00:51:19.026 oxidative phosphorylation,

00:51:19.030 --> 00:51:20.654 so we use a different technique in

00:51:20.654 --> 00:51:22.670 these patients as well, called Mrs.

00:51:22.670 --> 00:51:24.770 Petrosky or spectroscopic imaging,

00:51:24.770 --> 00:51:26.426 and we can detect the lactate,

00:51:26.430 --> 00:51:28.026 and so we have the both sides,

00:51:28.030 --> 00:51:29.434 lactate and FDG.

NOTE Confidence: 0.772799355875

00:51:29.434 --> 00:51:32.242 We give us the Warburg index.

NOTE Confidence: 0.772799355875

00:51:32.250 --> 00:51:34.008 This is a clinically available tool

NOTE Confidence: 0.772799355875

00:51:34.008 --> 00:51:36.080 and we're very excited to be able to

NOTE Confidence: 0.772799355875

00:51:36.080 --> 00:51:37.910 offer it to patients who are otherwise.

NOTE Confidence: 0.772799355875

00:51:37.910 --> 00:51:40.717 It's even care or brain tumor center.

NOTE Confidence: 0.772799355875

00:51:40.720 --> 00:51:41.456 And earlier,

NOTE Confidence: 0.772799355875

00:51:41.456 --> 00:51:43.664 but also very exciting and its

NOTE Confidence: 0.772799355875

00:51:43.664 --> 00:51:45.348 development process is called

NOTE Confidence: 0.772799355875

00:51:45.348 --> 00:51:46.680 deuterium metabolic imaging.

NOTE Confidence: 0.772799355875

00:51:46.680 --> 00:51:47.826 Deuterium metabolic imaging.

NOTE Confidence: 0.772799355875

00:51:47.826 --> 00:51:49.736 We use deuterated glucose that

NOTE Confidence: 0.772799355875

00:51:49.736 --> 00:51:51.474 patients can just drink the same

NOTE Confidence: 0.772799355875

00:51:51.474 --> 00:51:53.380 way you drink a soda or Gatorade,

NOTE Confidence: 0.772799355875

00:51:53.380 --> 00:51:55.480 and the glucose comes in and

NOTE Confidence: 0.772799355875

00:51:55.480 --> 00:51:56.180 becomes pyruvate.

94

NOTE Confidence: 0.772799355875

00:51:56.180 --> 00:51:58.574 It becomes lactate and it becomes

NOTE Confidence: 0.772799355875

00:51:58.574 --> 00:52:00.860 molecules called glutamate and glutamine.

NOTE Confidence: 0.772799355875

00:52:00.860 --> 00:52:03.060 The point is that in a marvelous way,

NOTE Confidence: 0.772799355875

00:52:03.060 --> 00:52:05.420 in this specific MRI scanner,

NOTE Confidence: 0.772799355875

00:52:05.420 --> 00:52:07.680 we can actually see lactate,

NOTE Confidence: 0.772799355875

00:52:07.680 --> 00:52:09.360 and we can see glutamine,

NOTE Confidence: 0.772799355875

00:52:09.360 --> 00:52:11.604 glutamine representing these two.

NOTE Confidence: 0.772799355875

00:52:11.604 --> 00:52:12.726 Processes directly,

NOTE Confidence: 0.772799355875

00:52:12.730 --> 00:52:15.090 and so we can see the Warburg index

NOTE Confidence: 0.772799355875

00:52:15.090 --> 00:52:17.162 shifting to the right and we call

NOTE Confidence: 0.772799355875

00:52:17.162 --> 00:52:18.866 this the Warburg effect once again.

NOTE Confidence: 0.772799355875

00:52:18.870 --> 00:52:20.942 And so here's a great example that

NOTE Confidence: 0.772799355875

00:52:20.942 --> 00:52:23.191 we were able to publish of a patient

NOTE Confidence: 0.772799355875

00:52:23.191 --> 00:52:25.310 of mine who had a brain tumor.

NOTE Confidence: 0.772799355875

00:52:25.310 --> 00:52:28.163 And this is actually an IDH wild type wheel.

NOTE Confidence: 0.772799355875

00:52:28.170 --> 00:52:30.114 Best drama and you can see that they

NOTE Confidence: 0.772799355875

00:52:30.114 --> 00:52:32.127 have a very large forberg effect,

NOTE Confidence: 0.772799355875

00:52:32.130 --> 00:52:34.050 so there's there's lots of

NOTE Confidence: 0.772799355875

00:52:34.050 --> 00:52:35.970 possibilities here about what we

NOTE Confidence: 0.772799355875

00:52:36.038 --> 00:52:37.860 might use this for patients who

NOTE Confidence: 0.772799355875

00:52:37.860 --> 00:52:39.160 have higher warburger effects.

NOTE Confidence: 0.772799355875

00:52:39.160 --> 00:52:40.553 We have a theory that and it

NOTE Confidence: 0.772799355875

00:52:40.553 --> 00:52:41.480 has been shown there.

NOTE Confidence: 0.772799355875

00:52:41.480 --> 00:52:42.885 Tumors are more aggressive and

NOTE Confidence: 0.772799355875

00:52:42.885 --> 00:52:44.896 can we actually walk the way the

NOTE Confidence: 0.772799355875

00:52:44.896 --> 00:52:46.276 Warburg effect might change over

NOTE Confidence: 0.772799355875

00:52:46.276 --> 00:52:48.230 the course of their treatment year,

NOTE Confidence: 0.772799355875

00:52:48.230 --> 00:52:50.230 either in radiation or chemotherapy?

NOTE Confidence: 0.772799355875

00:52:50.230 --> 00:52:52.054 Can we predict whether or not

NOTE Confidence: 0.772799355875

00:52:52.054 --> 00:52:53.608 someone might survive the way

NOTE Confidence: 0.772799355875

00:52:53.608 --> 00:52:55.264 the the patient with the tumor?

NOTE Confidence: 0.772799355875

00:52:55.270 --> 00:52:57.214 That doctor Moliterno showed,

NOTE Confidence: 0.772799355875

00:52:57.214 --> 00:53:00.130 we predict better survival or poorer

NOTE Confidence: 0.772799355875

00:53:00.213 --> 00:53:03.088 survival based on metabolic signatures.

NOTE Confidence: 0.92301897625

00:53:03.090 --> 00:53:05.306 So thank you guys so much for listening.

NOTE Confidence: 0.92301897625

00:53:05.310 --> 00:53:09.252 I want to acknowledge all of my current and

NOTE Confidence: 0.92301897625

00:53:09.252 --> 00:53:13.085 prior lab mates and they have done so well.

NOTE Confidence: 0.92301897625

00:53:13.090 --> 00:53:14.910 Two of them are already in medical

NOTE Confidence: 0.92301897625

00:53:14.910 --> 00:53:16.319 school and also my funding.

NOTE Confidence: 0.92301897625

00:53:16.320 --> 00:53:18.150 I received the Yci scholar word

NOTE Confidence: 0.92301897625

00:53:18.150 --> 00:53:20.599 as well as my collaborators R1,

NOTE Confidence: 0.92301897625

00:53:20.600 --> 00:53:22.910 and this is really a process both

NOTE Confidence: 0.92301897625

00:53:22.910 --> 00:53:25.467 clinical care for brain tumors as well

NOTE Confidence: 0.92301897625

00:53:25.467 --> 00:53:27.717 as clinical research for brain tumors

NOTE Confidence: 0.92301897625

00:53:27.788 --> 00:53:30.189 takes a village and not only doctor

NOTE Confidence: 0.92301897625

00:53:30.189 --> 00:53:32.152 Moliterno and the other neurosurgeons,

NOTE Confidence: 0.92301897625

00:53:32.152 --> 00:53:34.948 not only doctors bearing and Amuro

NOTE Confidence: 0.92301897625

00:53:34.948 --> 00:53:37.857 and Hafler and the other neurologists.

NOTE Confidence: 0.92301897625

00:53:37.860 --> 00:53:40.485 Of course my mentors from before the YCI,

NOTE Confidence: 0.92301897625

00:53:40.485 --> 00:53:43.460 my colleagues at MRC the Pet Center.

NOTE Confidence: 0.92301897625

00:53:43.460 --> 00:53:44.810 And of course, radiation oncology,

NOTE Confidence: 0.92301897625

00:53:44.810 --> 00:53:46.391 including Doctor Mcgibbon.

NOTE Confidence: 0.92301897625

00:53:46.391 --> 00:53:49.026 So thanks so much everyone,

NOTE Confidence: 0.92301897625

00:53:49.030 --> 00:53:51.028 and I will now stop sharing

NOTE Confidence: 0.92301897625

00:53:51.028 --> 00:53:52.360 so that everyone can.

NOTE Confidence: 0.92301897625

00:53:52.360 --> 00:53:52.894 Move forward,

NOTE Confidence: 0.92301897625

00:53:52.894 --> 00:53:54.990 I guess we'll take questions at the end.

NOTE Confidence: 0.894589397142857

00:53:55.940 --> 00:53:58.094 Yeah, people can just throw questions

NOTE Confidence: 0.894589397142857

00:53:58.094 --> 00:54:00.578 into question and answer or into the chat,

NOTE Confidence: 0.894589397142857

00:54:00.580 --> 00:54:02.134 but that was really an excellent talk.

NOTE Confidence: 0.894589397142857

00:54:02.140 --> 00:54:04.100 Zach. Thank you so much.

NOTE Confidence: 0.894589397142857

00:54:04.100 --> 00:54:06.305 So next I just want to introduce

NOTE Confidence: 0.894589397142857

00:54:06.305 --> 00:54:07.672 Doctor Bruce Mcgibbon who

NOTE Confidence: 0.894589397142857

00:54:07.672 --> 00:54:09.120 is from Greenwich Hospital.

NOTE Confidence: 0.894589397142857

00:54:09.120 --> 00:54:10.580 He is the medical director

NOTE Confidence: 0.894589397142857

00:54:10.580 --> 00:54:11.748 there for radiation oncology.

NOTE Confidence: 0.7516892

00:54:13.270 --> 00:54:14.650 Thank you so much.

NOTE Confidence: 0.7516892

00:54:14.650 --> 00:54:16.030 Great talk so far.

NOTE Confidence: 0.7516892

00:54:16.030 --> 00:54:18.060 I'm really pleased to be

NOTE Confidence: 0.7516892

00:54:18.060 --> 00:54:20.580 invited to give this this talk.

NOTE Confidence: 0.7516892

00:54:20.580 --> 00:54:21.528 Like Jim was mentioning,

NOTE Confidence: 0.7516892

00:54:21.528 --> 00:54:22.950 I'm down at the Greenwich site,

NOTE Confidence: 0.7516892

00:54:22.950 --> 00:54:25.278 previously at the Trumbull site and

NOTE Confidence: 0.7516892

00:54:25.278 --> 00:54:27.890 it's just really great to be able

NOTE Confidence: 0.7516892

00:54:27.890 --> 00:54:29.530 to collaborate with our experts

NOTE Confidence: 0.7516892

00:54:29.530 --> 00:54:31.933 in New Haven and and extend care

NOTE Confidence: 0.7516892

00:54:31.933 --> 00:54:33.974 down the state to really have

NOTE Confidence: 0.7516892

00:54:33.974 --> 00:54:36.158 a broader outreach to to what

NOTE Confidence: 0.7516892

00:54:36.158 --> 00:54:38.410 we can help patients with with

NOTE Confidence: 0.7516892

00:54:38.410 --> 00:54:40.310 this type of collaborative care.

NOTE Confidence: 0.7516892

00:54:40.310 --> 00:54:42.038 Let me share my screen here.

NOTE Confidence: 0.80795234

00:54:46.470 --> 00:54:46.670 OK.

NOTE Confidence: 0.0492509

00:54:51.180 --> 00:54:51.650 No.

NOTE Confidence: 0.807291375821429

00:54:55.840 --> 00:54:58.288 Go back OK, so I'll be talking about the

NOTE Confidence: 0.807291375821429

00:54:58.288 --> 00:55:00.699 role of radiation therapy in the treatment

NOTE Confidence: 0.807291375821429

00:55:00.699 --> 00:55:03.393 of brain tumors and with a particular

NOTE Confidence: 0.807291375821429

00:55:03.393 --> 00:55:05.473 focus on glioblastoma and meningioma,

NOTE Confidence: 0.807291375821429

00:55:05.480 --> 00:55:08.768 I have no disclosures.

NOTE Confidence: 0.807291375821429

00:55:08.770 --> 00:55:11.206 So where does radiation therapy fit in?

NOTE Confidence: 0.807291375821429

00:55:11.210 --> 00:55:13.590 Uh, you've heard about it a little

NOTE Confidence: 0.807291375821429

00:55:13.590 --> 00:55:16.023 bit this evening, but just briefly.

NOTE Confidence: 0.807291375821429

00:55:16.023 --> 00:55:18.849 I would say for benign tumors,

NOTE Confidence: 0.807291375821429

00:55:18.850 --> 00:55:20.290 sometimes radiation is given

NOTE Confidence: 0.807291375821429

00:55:20.290 --> 00:55:21.730 in place of surgery.

NOTE Confidence: 0.807291375821429

00:55:21.730 --> 00:55:23.548 If it's something quite small and

NOTE Confidence: 0.807291375821429

00:55:23.548 --> 00:55:25.220 and really doesn't require surgery,

NOTE Confidence: 0.807291375821429

00:55:25.220 --> 00:55:27.110 but more often given sometimes

NOTE Confidence: 0.807291375821429

00:55:27.110 --> 00:55:28.244 as postoperative treatment

NOTE Confidence: 0.807291375821429

00:55:28.244 --> 00:55:30.307 if the tumor is left behind,

NOTE Confidence: 0.807291375821429

00:55:30.310 --> 00:55:33.806 or were some extra worried that it will

NOTE Confidence: 0.807291375821429

00:55:33.806 --> 00:55:36.949 progress and then for malignant tumors.

NOTE Confidence: 0.807291375821429

00:55:36.950 --> 00:55:37.898 That, like, uh,

NOTE Confidence: 0.807291375821429

00:55:37.898 --> 00:55:39.478 we talk about glioblastoma and

NOTE Confidence: 0.807291375821429

00:55:39.478 --> 00:55:41.328 the anaplastic tumors, and so on.

NOTE Confidence: 0.807291375821429

00:55:41.328 --> 00:55:42.924 That doctor Cogan was doing such

NOTE Confidence: 0.807291375821429

00:55:42.924 --> 00:55:44.787 a nice job of going through.

NOTE Confidence: 0.807291375821429

00:55:44.790 --> 00:55:46.270 Sometimes we'll offer radiation

NOTE Confidence: 0.807291375821429

00:55:46.270 --> 00:55:48.490 when there's only been a biopsy,

NOTE Confidence: 0.807291375821429

00:55:48.490 --> 00:55:51.442 but more commonly as we heard a lot about.

NOTE Confidence: 0.807291375821429

00:55:51.450 --> 00:55:53.193 We really love when a maximum safe

NOTE Confidence: 0.807291375821429

00:55:53.193 --> 00:55:54.846 for section that can be done and

NOTE Confidence: 0.807291375821429

00:55:54.846 --> 00:55:56.530 and the outcomes are so much better.

NOTE Confidence: 0.807291375821429

00:55:56.530 --> 00:55:57.640 And, you know,

NOTE Confidence: 0.807291375821429

00:55:57.640 --> 00:56:00.800 we really are hand in glove with all

NOTE Confidence: 0.807291375821429

00:56:00.800 --> 00:56:03.230 the other experts from neurology,

NOTE Confidence: 0.807291375821429

00:56:03.230 --> 00:56:03.830 you know,

NOTE Confidence: 0.807291375821429

00:56:03.830 --> 00:56:05.330 surgery and the other folks

NOTE Confidence: 0.807291375821429

00:56:05.330 --> 00:56:06.980 being mentioned on this on this.

NOTE Confidence: 0.807291375821429

00:56:06.980 --> 00:56:09.430 Talk series.

NOTE Confidence: 0.807291375821429

00:56:09.430 --> 00:56:11.894 The radiation most of the treatments are

NOTE Confidence: 0.807291375821429

00:56:11.894 --> 00:56:14.819 done in what's called a linear accelerator,

NOTE Confidence: 0.807291375821429

00:56:14.820 --> 00:56:16.548 which is what you see in the top left

NOTE Confidence: 0.807291375821429

00:56:16.548 --> 00:56:18.950 corner here, and that is the cursor.

NOTE Confidence: 0.807291375821429

00:56:18.950 --> 00:56:21.086 So the patient would lie on

00:56:21.086 --> 00:56:22.510 the table like this.

00:56:22.510 --> 00:56:23.574 Kind of zooming in.

00:56:23.574 --> 00:56:25.170 There's usually a mask that's done

00:56:25.223 --> 00:56:26.207 to help hold people.

00:56:26.210 --> 00:56:26.430 Still,

00:56:26.430 --> 00:56:27.970 it's not painful in any way you

00:56:27.970 --> 00:56:29.570 can see and breathe through it,

00:56:29.570 --> 00:56:31.330 but it helps to hold the head still.

00:56:31.330 --> 00:56:33.898 So when we're delivering radiation with,

00:56:33.900 --> 00:56:35.332 you know millimeter something,

00:56:35.332 --> 00:56:36.048 submillimeter accuracy,

00:56:36.050 --> 00:56:37.043 we're really delivering

00:56:37.043 --> 00:56:38.367 exactly where we want,

00:56:38.370 --> 00:56:40.910 and not a little to one side or the other.

00:56:40.910 --> 00:56:42.085 The radiation comes out of

00:56:42.085 --> 00:56:43.550 the head of the machine here,

NOTE Confidence: 0.807291375821429

00:56:43.550 --> 00:56:46.567 and this this portion of machine can

NOTE Confidence: 0.807291375821429

00:56:46.567 --> 00:56:49.669 rotate around so we can come at the

NOTE Confidence: 0.807291375821429

00:56:49.669 --> 00:56:52.147 at the tumor from different angles.

NOTE Confidence: 0.807291375821429

00:56:52.150 --> 00:56:54.787 In the head of the Machine is a really

NOTE Confidence: 0.807291375821429

00:56:54.787 --> 00:56:57.291 nifty device called a multi leaf

NOTE Confidence: 0.807291375821429

00:56:57.291 --> 00:56:59.426 collimator which is represented here.

NOTE Confidence: 0.807291375821429

00:56:59.430 --> 00:57:01.686 Each is ignacy, their own like little slats,

NOTE Confidence: 0.807291375821429

00:57:01.690 --> 00:57:03.376 and these are very thin leaves.

NOTE Confidence: 0.807291375821429

00:57:03.380 --> 00:57:04.634 They're very tall,

NOTE Confidence: 0.807291375821429

00:57:04.634 --> 00:57:07.560 but they're made of a tungsten alloy,

NOTE Confidence: 0.807291375821429

00:57:07.560 --> 00:57:09.438 which is a really heavy metal.

NOTE Confidence: 0.807291375821429

00:57:09.440 --> 00:57:10.890 And when patients often ask,

NOTE Confidence: 0.807291375821429

00:57:10.890 --> 00:57:12.146 you know when I go to the dentist.

NOTE Confidence: 0.807291375821429

00:57:12.150 --> 00:57:13.728 I I have a lead apron,

NOTE Confidence: 0.807291375821429

00:57:13.730 --> 00:57:14.864 what do I get here and say,

104

NOTE Confidence: 0.807291375821429

00:57:14.870 --> 00:57:15.045 well,

NOTE Confidence: 0.807291375821429

00:57:15.045 --> 00:57:16.270 the lead apron is not going to

NOTE Confidence: 0.807291375821429

00:57:16.270 --> 00:57:17.462 cut it for therapeutic radiation

NOTE Confidence: 0.807291375821429

00:57:17.462 --> 00:57:18.787 or go straight through it,

NOTE Confidence: 0.807291375821429

00:57:18.790 --> 00:57:20.309 but if you have a the equivalent

NOTE Confidence: 0.807291375821429

00:57:20.309 --> 00:57:21.819 of lead apron which is several.

NOTE Confidence: 0.807291375821429

00:57:21.820 --> 00:57:23.900 Inches thick in the head of the gene.

NOTE Confidence: 0.807291375821429

00:57:23.900 --> 00:57:25.980 That's what's really giving the

NOTE Confidence: 0.807291375821429

00:57:25.980 --> 00:57:28.060 protection and doing the shaping

NOTE Confidence: 0.807291375821429

00:57:28.125 --> 00:57:29.229 of the radiation.

NOTE Confidence: 0.807291375821429

00:57:29.230 --> 00:57:31.445 We also have something that's

NOTE Confidence: 0.807291375821429

00:57:31.445 --> 00:57:33.660 been developed over the last.

NOTE Confidence: 0.807291375821429

00:57:33.660 --> 00:57:35.460 I'd say 10 to 15 years and was

NOTE Confidence: 0.807291375821429

00:57:35.460 --> 00:57:37.284 really hitting its stride now called

NOTE Confidence: 0.807291375821429

00:57:37.284 --> 00:57:38.608 image guided radiation therapy.

NOTE Confidence: 0.807291375821429

00:57:38.610 --> 00:57:41.400 So we do some planning scans

NOTE Confidence: 0.807291375821429

00:57:41.400 --> 00:57:42.330 before radiation,

NOTE Confidence: 0.818634393333333

00:57:42.330 --> 00:57:44.052 including a CAT scan and overlay

NOTE Confidence: 0.818634393333333

00:57:44.052 --> 00:57:46.197 that as I'll show later and talk

NOTE Confidence: 0.818634393333333

00:57:46.197 --> 00:57:48.057 with MRI studies and other studies

NOTE Confidence: 0.818634393333333

00:57:48.057 --> 00:57:50.163 will help us to show where we want

NOTE Confidence: 0.818634393333333

00:57:50.163 --> 00:57:51.850 to treat what we want to avoid,

NOTE Confidence: 0.818634393333333

00:57:51.850 --> 00:57:53.260 and then when the patients come

NOTE Confidence: 0.818634393333333

00:57:53.315 --> 00:57:54.515 for these daily treatments so

NOTE Confidence: 0.818634393333333

00:57:54.515 --> 00:57:56.249 we can do imaging on the table.

NOTE Confidence: 0.818634393333333

00:57:56.250 --> 00:57:57.370 So if you look here on the right,

NOTE Confidence: 0.818634393333333

00:57:57.370 --> 00:57:58.644 the head of the machine here again

NOTE Confidence: 0.818634393333333

00:57:58.644 --> 00:57:59.898 is where the ration comes out.

NOTE Confidence: 0.818634393333333

00:57:59.900 --> 00:58:02.852 But these panels on the sides can do imaging,

NOTE Confidence: 0.818634393333333

00:58:02.860 --> 00:58:04.400 so we can look in the head and say OK,

NOTE Confidence: 0.818634393333333

00:58:04.400 --> 00:58:06.518 how does the skull align today

106

NOTE Confidence: 0.818634393333333

00:58:06.518 --> 00:58:08.252 compared to yesterday compared to

NOTE Confidence: 0.818634393333333

00:58:08.252 --> 00:58:10.087 when we did the planning scan and

NOTE Confidence: 0.818634393333333

00:58:10.087 --> 00:58:12.063 so these images in the in the left

NOTE Confidence: 0.818634393333333

00:58:12.063 --> 00:58:13.871 in the middle are representing

NOTE Confidence: 0.818634393333333

00:58:13.871 --> 00:58:16.115 really a fusion or overlay between

NOTE Confidence: 0.818634393333333

00:58:16.178 --> 00:58:18.166 a daily scan and a planning scan.

NOTE Confidence: 0.87120231875

00:58:21.020 --> 00:58:23.890 Just give one example here of a

NOTE Confidence: 0.87120231875

00:58:23.890 --> 00:58:25.692 glioblastoma this the patient presented

NOTE Confidence: 0.87120231875

00:58:25.692 --> 00:58:27.432 with headaches and some difficulties

NOTE Confidence: 0.87120231875

00:58:27.432 --> 00:58:29.888 with concentrating and the image showed

NOTE Confidence: 0.87120231875

00:58:29.888 --> 00:58:32.400 this large tumor on the left side.

NOTE Confidence: 0.60967207

00:58:35.110 --> 00:58:36.778 I'll just go briefly through this.

NOTE Confidence: 0.60967207

00:58:36.780 --> 00:58:37.632 It's already been discussed.

NOTE Confidence: 0.60967207

00:58:37.632 --> 00:58:39.231 Very nice doctor Corbin, but you know,

NOTE Confidence: 0.60967207

00:58:39.231 --> 00:58:40.466 for glioblastoma we're always looking

NOTE Confidence: 0.60967207

00:58:40.466 --> 00:58:41.948 for that maximum safe resection.

NOTE Confidence: 0.60967207

00:58:41.950 --> 00:58:44.214 We usually allow about 3:00 to 5:00 or

NOTE Confidence: 0.60967207

00:58:44.214 --> 00:58:46.864 up to three to six weeks between surgery

NOTE Confidence: 0.60967207

00:58:46.864 --> 00:58:49.726 and when we start the chemotherapy and

NOTE Confidence: 0.60967207

00:58:49.726 --> 00:58:52.835 radiation and then to be followed by more

NOTE Confidence: 0.60967207

00:58:52.835 --> 00:58:55.359 chemo and sometimes the Optune device.

NOTE Confidence: 0.60967207

00:58:55.360 --> 00:58:56.870 When we're making decision about

NOTE Confidence: 0.60967207

00:58:56.870 --> 00:58:59.206 what style of radiation uh, to use,

NOTE Confidence: 0.60967207

00:58:59.206 --> 00:59:02.097 uh, we're looking at the the age,

NOTE Confidence: 0.60967207

00:59:02.100 --> 00:59:03.524 the overall performance status,

NOTE Confidence: 0.60967207

00:59:03.524 --> 00:59:05.660 other features like MGMT that was

NOTE Confidence: 0.60967207

00:59:05.722 --> 00:59:07.462 mentioned a little bit before we're

NOTE Confidence: 0.60967207

00:59:07.462 --> 00:59:09.720 looking to see if there any clinical

NOTE Confidence: 0.60967207

00:59:09.720 --> 00:59:11.661 trials that are available to really try

NOTE Confidence: 0.60967207

00:59:11.661 --> 00:59:13.340 to advance the field in that way as well,

NOTE Confidence: 0.60967207

00:59:13.340 --> 00:59:14.900 and give patients you know the

NOTE Confidence: 0.60967207

00:59:14.900 --> 00:59:15.680 best that's possible.

NOTE Confidence: 0.60967207

00:59:15.680 --> 00:59:17.616 So we put all the together and see

NOTE Confidence: 0.60967207

00:59:17.616 --> 00:59:19.476 which style reason we're going to do.

NOTE Confidence: 0.60967207

00:59:19.480 --> 00:59:21.370 I would say the majority of the

NOTE Confidence: 0.60967207

00:59:21.370 --> 00:59:23.431 time will use that stoop protocol

NOTE Confidence: 0.60967207

00:59:23.431 --> 00:59:25.416 with 30 treatments that actually.

NOTE Confidence: 0.60967207

00:59:25.420 --> 00:59:26.866 These are done Monday to Friday,

NOTE Confidence: 0.60967207

00:59:26.870 --> 00:59:28.748 so it's a six week course.

NOTE Confidence: 0.60967207

00:59:28.750 --> 00:59:29.950 It actually has two phases.

NOTE Confidence: 0.60967207

00:59:29.950 --> 00:59:31.886 The 1st 23 treatments in the final seven

NOTE Confidence: 0.60967207

00:59:31.886 --> 00:59:34.046 were the 1st 23 a little bit broader and

NOTE Confidence: 0.60967207

00:59:34.046 --> 00:59:36.029 the final seven are a little bit smaller.

NOTE Confidence: 0.60967207

00:59:36.030 --> 00:59:39.134 They called it a come down idea and that's

NOTE Confidence: 0.60967207

00:59:39.134 --> 00:59:41.710 the most the most common one by far.

NOTE Confidence: 0.60967207

00:59:41.710 --> 00:59:45.772 But we have what's called hypofractionated

NOTE Confidence: 0.60967207

109

00:59:45.772 --> 00:59:48.050 treatments and those could be offered

NOTE Confidence: 0.60967207

00:59:48.050 --> 00:59:50.801 in someone who is elderly and and

NOTE Confidence: 0.60967207

00:59:50.801 --> 00:59:53.088 has some other performance issues

NOTE Confidence: 0.60967207

00:59:53.088 --> 00:59:56.160 or there's a travel concern or.

NOTE Confidence: 0.60967207

00:59:56.160 --> 00:59:57.390 You know things of that nature.

NOTE Confidence: 0.60967207

00:59:57.390 --> 00:59:58.758 We're trying to to be creative,

NOTE Confidence: 0.60967207

00:59:58.760 --> 01:00:00.476 and how we're going to deliver

NOTE Confidence: 0.60967207

01:00:00.476 --> 01:00:02.750 the treatment and and you know

NOTE Confidence: 0.60967207

01:00:02.750 --> 01:00:05.100 balance side effects with with

NOTE Confidence: 0.60967207

01:00:05.100 --> 01:00:06.939 treatment intensity and intent.

NOTE Confidence: 0.60967207

01:00:06.940 --> 01:00:08.490 So in the hyperfractionated realm,

NOTE Confidence: 0.60967207

01:00:08.490 --> 01:00:10.247 the one that we use the most

NOTE Confidence: 0.60967207

01:00:10.247 --> 01:00:12.259 is a 15 treatment course.

NOTE Confidence: 0.60967207

01:00:12.260 --> 01:00:14.618 But we have actually data for

NOTE Confidence: 0.60967207

01:00:14.618 --> 01:00:17.240 five and and 10 treatments.

NOTE Confidence: 0.60967207

01:00:17.240 --> 01:00:18.725 Usually for going all the way down to five.

NOTE Confidence: 0.60967207

01:00:18.730 --> 01:00:19.938 Those are pretty intensive,

NOTE Confidence: 0.60967207

01:00:19.938 --> 01:00:21.146 so that's usually somewhere

NOTE Confidence: 0.60967207

01:00:21.146 --> 01:00:22.780 we're not doing a chemotherapy.

NOTE Confidence: 0.60967207

01:00:22.780 --> 01:00:24.362 And I would say probably the same

NOTE Confidence: 0.60967207

01:00:24.362 --> 01:00:26.390 with the 10, but 15 can be done.

NOTE Confidence: 0.60967207

01:00:26.390 --> 01:00:27.300 Throughout chemo

NOTE Confidence: 0.84067849

01:00:29.610 --> 01:00:31.206 so going back to to the case,

NOTE Confidence: 0.84067849

01:00:31.210 --> 01:00:33.058 we have the square button where

NOTE Confidence: 0.84067849

01:00:33.058 --> 01:00:34.830 now things have been removed.

NOTE Confidence: 0.84067849

01:00:34.830 --> 01:00:37.658 We get a postoperative MRI to assess

NOTE Confidence: 0.84067849

01:00:37.658 --> 01:00:40.218 what that looks like now and and

NOTE Confidence: 0.84067849

01:00:40.218 --> 01:00:42.486 then we get into the planning phase.

NOTE Confidence: 0.84067849

01:00:42.490 --> 01:00:46.130 So what we'll do is we'll take

NOTE Confidence: 0.84067849

01:00:46.130 --> 01:00:47.430 where things were before surgery,

NOTE Confidence: 0.84067849

01:00:47.430 --> 01:00:49.537 where they are after surgery and do

NOTE Confidence: 0.84067849

01:00:49.537 --> 01:00:51.084 some drawings which are represented

NOTE Confidence: 0.84067849

01:00:51.084 --> 01:00:52.848 by this kind of teal color,

NOTE Confidence: 0.84067849

01:00:52.850 --> 01:00:56.490 cyan color and the purplish pink color,

NOTE Confidence: 0.84067849

01:00:56.490 --> 01:00:58.594 and we're trying to to really dial in.

NOTE Confidence: 0.84067849

01:00:58.600 --> 01:01:01.039 What we need to treat and this could involve,

NOTE Confidence: 0.84067849

01:01:01.040 --> 01:01:01.919 uh, you know,

NOTE Confidence: 0.84067849

01:01:01.919 --> 01:01:03.677 collaboration with the surgeon as well.

NOTE Confidence: 0.84067849

01:01:03.680 --> 01:01:05.640 If we're not sure about you know an

NOTE Confidence: 0.84067849

01:01:05.640 --> 01:01:07.129 area talking to the radiologists

NOTE Confidence: 0.84067849

01:01:07.129 --> 01:01:08.694 we're really dialing in what?

NOTE Confidence: 0.84067849

01:01:08.700 --> 01:01:10.746 What's at risk here and creating

NOTE Confidence: 0.84067849

01:01:10.746 --> 01:01:13.028 a margin around that to account

NOTE Confidence: 0.84067849

01:01:13.028 --> 01:01:14.728 for any microscopic extension

NOTE Confidence: 0.84067849

01:01:14.728 --> 01:01:16.428 that could have happened?

NOTE Confidence: 0.84067849

01:01:16.430 --> 01:01:18.584 There's a very intensive design process

NOTE Confidence: 0.84067849

01:01:18.584 --> 01:01:21.139 where we work with our physics crew,

NOTE Confidence: 0.84067849

01:01:21.140 --> 01:01:22.638 typically between the time that we got

NOTE Confidence: 0.84067849

01:01:22.638 --> 01:01:24.236 our planning caps going to make that mask,

NOTE Confidence: 0.84067849

01:01:24.240 --> 01:01:26.680 and when we start treatments about one week,

NOTE Confidence: 0.84067849

01:01:26.680 --> 01:01:27.737 sometimes up to a week and a

NOTE Confidence: 0.84067849

01:01:27.737 --> 01:01:28.840 half and some more complicated.

NOTE Confidence: 0.84067849

01:01:28.840 --> 01:01:32.464 Days and these images on the left are

NOTE Confidence: 0.84067849

01:01:32.464 --> 01:01:34.771 representing kind of vaguely make

NOTE Confidence: 0.84067849

01:01:34.771 --> 01:01:37.173 out that there's also a person's

NOTE Confidence: 0.84067849

01:01:37.173 --> 01:01:38.978 head that's represented in this

NOTE Confidence: 0.84067849

01:01:38.978 --> 01:01:40.250 treatment planning software.

NOTE Confidence: 0.84067849

01:01:40.250 --> 01:01:41.797 And then again that this kind of

NOTE Confidence: 0.84067849

01:01:41.797 --> 01:01:43.389 pink and bluish colors are present.

NOTE Confidence: 0.84067849

01:01:43.390 --> 01:01:45.286 We're trying to treat and usually

NOTE Confidence: 0.84067849

01:01:45.286 --> 01:01:47.070 these things are done in arcs,

NOTE Confidence: 0.84067849

01:01:47.070 --> 01:01:48.910 so this picture on on the bottom is

NOTE Confidence: 0.84067849

01:01:48.910 --> 01:01:50.511 trying to represent how the machine

NOTE Confidence: 0.84067849

01:01:50.511 --> 01:01:52.450 is going to move around the head.

NOTE Confidence: 0.84067849

01:01:52.450 --> 01:01:55.429 So at each we can play with different things.

NOTE Confidence: 0.84067849

01:01:55.430 --> 01:01:57.077 We can move the angle of the table to

NOTE Confidence: 0.84067849

01:01:57.077 --> 01:01:58.469 create a different angle of attack.

NOTE Confidence: 0.84067849

01:01:58.470 --> 01:01:58.920 We can.

NOTE Confidence: 0.84067849

01:01:58.920 --> 01:02:00.720 Move the gantry or the head of the

NOTE Confidence: 0.84067849

01:02:00.776 --> 01:02:02.756 machine around and at every position.

NOTE Confidence: 0.84067849

01:02:02.760 --> 01:02:04.391 We can vary the intensity of the

NOTE Confidence: 0.84067849

01:02:04.391 --> 01:02:06.078 beam and the shape of the beam,

NOTE Confidence: 0.84067849

01:02:06.080 --> 01:02:08.068 and ultimately that allows us to create

NOTE Confidence: 0.84067849

01:02:08.068 --> 01:02:10.079 what we call a dose distribution,

NOTE Confidence: 0.84067849

01:02:10.080 --> 01:02:12.187 which is seeing here where we are

NOTE Confidence: 0.84067849

01:02:12.187 --> 01:02:14.058 trying to conform the the higher

NOTE Confidence: 0.84067849

01:02:14.058 --> 01:02:15.864 dose region of the radiation to

NOTE Confidence: 0.84067849

01:02:15.864 --> 01:02:17.898 what we're trying to treat and then

114

NOTE Confidence: 0.84067849

01:02:17.898 --> 01:02:19.377 have it drop off away.

NOTE Confidence: 0.84067849

01:02:19.377 --> 01:02:23.000 So in this case on the right we're trying to.

NOTE Confidence: 0.84067849

01:02:23.000 --> 01:02:24.316 These images are done as if you're

NOTE Confidence: 0.84067849

01:02:24.316 --> 01:02:25.337 looking at someone from their

NOTE Confidence: 0.84067849

01:02:25.337 --> 01:02:26.165 feet towards their head,

NOTE Confidence: 0.84067849

01:02:26.170 --> 01:02:28.231 so this this kind of right side of the

NOTE Confidence: 0.84067849

01:02:28.231 --> 01:02:30.488 image is actually the left side of the body.

NOTE Confidence: 0.84067849

01:02:30.490 --> 01:02:31.144 And vice versa.

NOTE Confidence: 0.84067849

01:02:31.144 --> 01:02:32.452 So in this case we're really

NOTE Confidence: 0.84067849

01:02:32.452 --> 01:02:33.749 trying to avoid radiation dose,

NOTE Confidence: 0.84067849

01:02:33.750 --> 01:02:36.110 especially going to the right

NOTE Confidence: 0.84067849

01:02:36.110 --> 01:02:37.998 side of the brain.

NOTE Confidence: 0.84067849

01:02:38.000 --> 01:02:39.500 We go through an intensive process

NOTE Confidence: 0.84067849

01:02:39.500 --> 01:02:41.440 where we when we design the fields,

NOTE Confidence: 0.84067849

01:02:41.440 --> 01:02:43.588 we get this complicated graph called

NOTE Confidence: 0.84067849

01:02:43.588 --> 01:02:45.873 a dose volume histogram where every

NOTE Confidence: 0.84067849

01:02:45.873 --> 01:02:47.843 color here represents a different

NOTE Confidence: 0.84067849

01:02:47.843 --> 01:02:49.724 structure that we're trying to

NOTE Confidence: 0.84067849

01:02:49.724 --> 01:02:50.996 either treat or avoid,

NOTE Confidence: 0.84067849

01:02:51.000 --> 01:02:52.722 and so there's this iterative process

NOTE Confidence: 0.84067849

01:02:52.722 --> 01:02:54.399 with the physics crews saying OK,

NOTE Confidence: 0.84067849

01:02:54.400 --> 01:02:55.576 this plan was good or no.

NOTE Confidence: 0.84067849

01:02:55.580 --> 01:02:56.123 We need to.

NOTE Confidence: 0.84067849

01:02:56.123 --> 01:02:57.651 We need to shape the doses a little

NOTE Confidence: 0.84067849

01:02:57.651 --> 01:02:59.379 bit more to stay off the brain stem.

NOTE Confidence: 0.770064625333333

01:02:59.380 --> 01:03:01.477 We're off the copay or whatever it might be.

NOTE Confidence: 0.770064625333333

01:03:01.480 --> 01:03:03.993 So we're we look at these and

NOTE Confidence: 0.770064625333333

01:03:03.993 --> 01:03:06.219 and ultimately sign off on one

NOTE Confidence: 0.770064625333333

01:03:06.219 --> 01:03:08.367 that looks like the best balance.

NOTE Confidence: 0.770064625333333

01:03:08.370 --> 01:03:10.267 I'm moving to meningioma is an answer

NOTE Confidence: 0.770064625333333

01:03:10.267 --> 01:03:12.637 for real great statement from the the

116

NOTE Confidence: 0.770064625333333

01:03:12.637 --> 01:03:14.137 National Comprehensive Cancer Network

NOTE Confidence: 0.770064625333333

01:03:14.137 --> 01:03:15.951 saying just really hear treatment

NOTE Confidence: 0.770064625333333

01:03:15.951 --> 01:03:17.955 selection should be based on assessment

NOTE Confidence: 0.770064625333333

01:03:17.955 --> 01:03:19.770 of a variety of interrelated factors,

NOTE Confidence: 0.770064625333333

01:03:19.770 --> 01:03:21.330 including patient features,

NOTE Confidence: 0.770064625333333

01:03:21.330 --> 01:03:22.370 tumor features,

NOTE Confidence: 0.770064625333333

01:03:22.370 --> 01:03:23.800 potential for causing their logic,

NOTE Confidence: 0.770064625333333

01:03:23.800 --> 01:03:25.540 consequences of untreated presence

NOTE Confidence: 0.770064625333333

01:03:25.540 --> 01:03:27.715 and severity of symptoms and

NOTE Confidence: 0.770064625333333

01:03:27.715 --> 01:03:29.169 treatment related factors,

NOTE Confidence: 0.770064625333333

01:03:29.170 --> 01:03:31.018 and I'll skip the bond multidisciplinary

NOTE Confidence: 0.770064625333333

01:03:31.018 --> 01:03:32.747 input for treatment planning is recommended

NOTE Confidence: 0.770064625333333

01:03:32.747 --> 01:03:34.850 and this is where I feel so blessed to be.

NOTE Confidence: 0.770064625333333

01:03:34.850 --> 01:03:36.542 You know, part of this yellow

NOTE Confidence: 0.770064625333333

01:03:36.542 --> 01:03:38.040 network is really having these.

NOTE Confidence: 0.770064625333333

01:03:38.040 --> 01:03:40.215 Super skilled trusted colleagues where

NOTE Confidence: 0.770064625333333

01:03:40.215 --> 01:03:42.751 we have these weekly conferences and

NOTE Confidence: 0.770064625333333

01:03:42.751 --> 01:03:45.151 we can call each other anytime and get

NOTE Confidence: 0.770064625333333

01:03:45.151 --> 01:03:47.397 advice on a case or have someone seen

NOTE Confidence: 0.770064625333333

01:03:47.397 --> 01:03:51.080 and it's just really critical to have that.

NOTE Confidence: 0.770064625333333

01:03:51.080 --> 01:03:52.868 And it's nice to see it

NOTE Confidence: 0.770064625333333

01:03:52.868 --> 01:03:54.729 represented as as the you know,

NOTE Confidence: 0.770064625333333

01:03:54.730 --> 01:03:56.715 the goal according to national

NOTE Confidence: 0.770064625333333

01:03:56.715 --> 01:03:57.906 guidelines as well.

NOTE Confidence: 0.770064625333333

01:03:57.910 --> 01:03:59.230 So meningiomas again touched on

NOTE Confidence: 0.770064625333333

01:03:59.230 --> 01:04:00.907 a lot better detail and more

NOTE Confidence: 0.770064625333333

01:04:00.907 --> 01:04:02.427 thorough detail of Doctor Corbin,

NOTE Confidence: 0.770064625333333

01:04:02.430 --> 01:04:05.508 but just it's kind of a very quick overview.

NOTE Confidence: 0.770064625333333

01:04:05.510 --> 01:04:07.610 Again, sometimes we can do just observation.

NOTE Confidence: 0.770064625333333

01:04:07.610 --> 01:04:10.830 If these are small grade one tumors,

NOTE Confidence: 0.770064625333333

01:04:10.830 --> 01:04:12.732 but the game more advanced than

NOTE Confidence: 0.770064625333333

01:04:12.732 --> 01:04:14.540 we typically would do surgery.

NOTE Confidence: 0.770064625333333

01:04:14.540 --> 01:04:16.088 And if it's a grade one,

NOTE Confidence: 0.770064625333333

01:04:16.090 --> 01:04:17.482 it's usually just observation

NOTE Confidence: 0.770064625333333

01:04:17.482 --> 01:04:18.526 or sometimes radiation.

NOTE Confidence: 0.770064625333333

01:04:18.530 --> 01:04:20.642 If there is a further issue that we

NOTE Confidence: 0.770064625333333

01:04:20.642 --> 01:04:22.944 should be considering grade two, we,

NOTE Confidence: 0.770064625333333

01:04:22.944 --> 01:04:25.428 let's say most often do radiation,

NOTE Confidence: 0.770064625333333

01:04:25.430 --> 01:04:26.690 especially if there is a little

NOTE Confidence: 0.770064625333333

01:04:26.690 --> 01:04:28.085 tumor left behind and for grade

NOTE Confidence: 0.770064625333333

01:04:28.085 --> 01:04:28.847 through we definitely.

NOTE Confidence: 0.770064625333333

01:04:28.850 --> 01:04:31.451 Offer radiation radiation.

NOTE Confidence: 0.770064625333333

01:04:31.451 --> 01:04:33.406 This case is a little

NOTE Confidence: 0.770064625333333

01:04:33.406 --> 01:04:34.579 shorter than glioblastoma,

NOTE Confidence: 0.770064625333333

01:04:34.580 --> 01:04:37.284 it's it can be up to 30 treatments

NOTE Confidence: 0.770064625333333

01:04:37.284 --> 01:04:38.228 like wheel, bustamonte,

NOTE Confidence: 0.770064625333333

01:04:38.228 --> 01:04:39.300 sometimes a little less,

NOTE Confidence: 0.770064625333333

01:04:39.300 --> 01:04:42.450 but the dose per day is a little bit lower.

NOTE Confidence: 0.770064625333333

01:04:42.450 --> 01:04:44.322 And it's usually done as Monday

NOTE Confidence: 0.770064625333333

01:04:44.322 --> 01:04:45.570 to Friday course sometimes,

NOTE Confidence: 0.770064625333333

01:04:45.570 --> 01:04:48.512 especially if it's being done for a

NOTE Confidence: 0.770064625333333

01:04:48.512 --> 01:04:50.129 very small tumor and it's lower grade.

NOTE Confidence: 0.770064625333333

01:04:50.130 --> 01:04:51.940 We can do what's called

NOTE Confidence: 0.770064625333333

01:04:51.940 --> 01:04:52.664 stereotactic radiosurgery,

NOTE Confidence: 0.770064625333333

01:04:52.670 --> 01:04:54.300 where it's only one treatment

NOTE Confidence: 0.770064625333333

01:04:54.300 --> 01:04:55.930 or up to five treatments.

NOTE Confidence: 0.770064625333333

01:04:55.930 --> 01:04:57.800 But I'd say a lot of what we do is

NOTE Confidence: 0.770064625333333

01:04:57.855 --> 01:04:59.667 the is the multi treatment option

NOTE Confidence: 0.770064625333333

01:04:59.670 --> 01:05:02.306 and again I think that that just a

NOTE Confidence: 0.770064625333333

01:05:02.306 --> 01:05:03.458 short presentation case presentation

NOTE Confidence: 0.770064625333333

01:05:03.458 --> 01:05:04.322 is really helpful.

NOTE Confidence: 0.770064625333333

01:05:04.330 --> 01:05:07.116 So this was a patient who presented

01:05:07.116 --> 01:05:09.187 with Double Vision followed by

01:05:09.187 --> 01:05:11.411 a right I decreased vision and.

01:05:11.411 --> 01:05:13.179 You can see in the sand with the

01:05:13.179 --> 01:05:15.000 red arrow there's something that

01:05:15.000 --> 01:05:16.540 really doesn't belong there,

01:05:16.540 --> 01:05:17.988 and if you track if you look here,

01:05:17.990 --> 01:05:19.478 here's the eyeball and you see

01:05:19.478 --> 01:05:20.750 this darker Gray coming back.

01:05:20.750 --> 01:05:22.930 That's the optic nerve bringing

01:05:22.930 --> 01:05:25.110 the visual information coming back.

01:05:25.110 --> 01:05:27.390 So this tumor is really not only near

01:05:27.390 --> 01:05:29.420 some really important blood vessels,

01:05:29.420 --> 01:05:32.436 but is also near the Super important nerve.

01:05:32.440 --> 01:05:35.040 So what? What to do?

01:05:35.040 --> 01:05:37.250 Radiation alone is really not

01:05:37.250 --> 01:05:39.460 gonna be her best option.

NOTE Confidence: 0.770064625333333

01:05:39.460 --> 01:05:39.886 Uh,

NOTE Confidence: 0.770064625333333

01:05:39.886 --> 01:05:41.164 radiation is excellent.

NOTE Confidence: 0.770064625333333

01:05:41.164 --> 01:05:43.294 I'd say it's stopping millenniums

NOTE Confidence: 0.770064625333333

01:05:43.294 --> 01:05:45.178 from growing further and can

NOTE Confidence: 0.770064625333333

01:05:45.178 --> 01:05:47.266 make them slowly rest at least

NOTE Confidence: 0.770064625333333

01:05:47.337 --> 01:05:49.077 sometimes give enough time,

NOTE Confidence: 0.919600757

01:05:49.080 --> 01:05:50.640 but it's really not going

NOTE Confidence: 0.919600757

01:05:50.640 --> 01:05:52.200 to create a rapid shrinkage.

NOTE Confidence: 0.919600757

01:05:52.200 --> 01:05:53.551 It's not what we want someone's having

NOTE Confidence: 0.919600757

01:05:53.551 --> 01:05:55.220 these kind of symptoms like double vision,

NOTE Confidence: 0.919600757

01:05:55.220 --> 01:05:58.676 things we need. We need something.

NOTE Confidence: 0.919600757

01:05:58.680 --> 01:05:59.772 More quickly effective,

NOTE Confidence: 0.919600757

01:05:59.772 --> 01:06:02.320 and that's really comes down to surgery,

NOTE Confidence: 0.919600757

01:06:02.320 --> 01:06:05.421 so this late underwent a right sided

NOTE Confidence: 0.919600757

01:06:05.421 --> 01:06:07.580 craniotomy with Doctor Moliterno.

01:06:07.580 --> 01:06:09.533 And because of that location there next

01:06:09.533 --> 01:06:11.648 it was called the cavernous science or

01:06:11.648 --> 01:06:13.750 some of the special blood vessels are.

01:06:13.750 --> 01:06:15.934 It's really not possible to fully remove

01:06:15.934 --> 01:06:18.100 the tumor, but a lot of it was removed.

01:06:18.100 --> 01:06:20.476 It turned out to be a WHO grade one

01:06:20.476 --> 01:06:22.910 and she had a great great response.

01:06:22.910 --> 01:06:26.096 Revision came back to 2020 and had,

01:06:26.096 --> 01:06:27.260 I would say,

01:06:27.260 --> 01:06:29.206 a near resolution of the double vision.

01:06:29.210 --> 01:06:31.934 But ultimately fully resolved, so we

01:06:31.934 --> 01:06:34.530 got a postoperative MRI and as expected,

01:06:34.530 --> 01:06:36.930 there was a little bit of of residual,

01:06:36.930 --> 01:06:38.664 but much, much better as reflected

01:06:38.664 --> 01:06:40.150 by her symptoms as well.

01:06:40.150 --> 01:06:41.788 So you see the post op.

NOTE Confidence: 0.919600757

01:06:41.790 --> 01:06:43.308 Sorry pre op on the left

NOTE Confidence: 0.919600757

01:06:43.308 --> 01:06:44.750 and postop on the right.

NOTE Confidence: 0.919600757

01:06:44.750 --> 01:06:47.606 And of course we don't want this growing

NOTE Confidence: 0.919600757

01:06:47.606 --> 01:06:50.147 back and so we offered radiation.

NOTE Confidence: 0.919600757

01:06:50.150 --> 01:06:52.400 Similar idea in terms of the mask and so on.

NOTE Confidence: 0.919600757

01:06:52.400 --> 01:06:54.485 Using arcs again here working

NOTE Confidence: 0.919600757

01:06:54.485 --> 01:06:57.081 with the physics crew to design

NOTE Confidence: 0.919600757

01:06:57.081 --> 01:06:59.206 A set of radiation fields.

NOTE Confidence: 0.919600757

01:06:59.210 --> 01:06:59.950 If you look behind here,

NOTE Confidence: 0.919600757

01:06:59.950 --> 01:07:01.707 this is where the brain stem is,

NOTE Confidence: 0.919600757

01:07:01.710 --> 01:07:02.730 so we're trying to stay off

NOTE Confidence: 0.919600757

01:07:02.730 --> 01:07:03.760 that and off the eyeball,

NOTE Confidence: 0.919600757

01:07:03.760 --> 01:07:05.685 so we're able to create this really.

NOTE Confidence: 0.919600757

01:07:05.690 --> 01:07:07.259 As you say,

NOTE Confidence: 0.919600757

01:07:07.259 --> 01:07:09.874 conformal radiation technique and the

NOTE Confidence: 0.919600757

01:07:09.874 --> 01:07:12.647 combination of the surgery and then

NOTE Confidence: 0.919600757

01:07:12.647 --> 01:07:15.923 the radiation was able to rib really

NOTE Confidence: 0.919600757

01:07:15.923 --> 01:07:19.780 permanently control this tiller.

NOTE Confidence: 0.919600757

01:07:19.780 --> 01:07:22.210 Just a quick also shout out to to my

NOTE Confidence: 0.919600757

01:07:22.210 --> 01:07:23.986 colleagues and and doctor Bindra here

NOTE Confidence: 0.919600757

01:07:23.986 --> 01:07:26.148 just to just to further emphasize what

NOTE Confidence: 0.919600757

01:07:26.148 --> 01:07:28.472 Dr Milton and Doctor Corbin off said.

NOTE Confidence: 0.919600757

01:07:28.480 --> 01:07:29.054 You know,

NOTE Confidence: 0.919600757

01:07:29.054 --> 01:07:30.776 there's there's really great and and

NOTE Confidence: 0.919600757

01:07:30.776 --> 01:07:32.795 super detailed work that's going on with

NOTE Confidence: 0.919600757

01:07:32.795 --> 01:07:34.659 all these different mutations and you know,

NOTE Confidence: 0.919600757

01:07:34.660 --> 01:07:35.748 adults and the kids,

NOTE Confidence: 0.919600757

01:07:35.748 --> 01:07:37.714 and there's just a lot of work

NOTE Confidence: 0.919600757

01:07:37.714 --> 01:07:39.625 to be done and it's just really,

NOTE Confidence: 0.919600757

01:07:39.630 --> 01:07:40.354 really impressive.

NOTE Confidence: 0.919600757

01:07:40.354 --> 01:07:42.526 This is one one trial here,

NOTE Confidence: 0.919600757

01:07:42.530 --> 01:07:45.897 working on with the million gliomas and

NOTE Confidence: 0.919600757

01:07:45.900 --> 01:07:49.068 the Doctor Bindra had shared with me just.

NOTE Confidence: 0.919600757

01:07:49.070 --> 01:07:51.326 Look through and then another one

NOTE Confidence: 0.919600757

01:07:51.326 --> 01:07:53.263 looking at adolescence and young

NOTE Confidence: 0.919600757

01:07:53.263 --> 01:07:55.454 adults and other tricky glioma case

NOTE Confidence: 0.919600757

01:07:55.454 --> 01:07:58.390 where there's more work to be done and

NOTE Confidence: 0.919600757

01:07:58.468 --> 01:08:01.260 really great collaborations happening.

NOTE Confidence: 0.919600757

01:08:01.260 --> 01:08:02.192 Thank you very much.

NOTE Confidence: 0.919600757

01:08:02.192 --> 01:08:04.420 I'll be happy to answer any questions later.

NOTE Confidence: 0.57303137

01:08:06.830 --> 01:08:09.130 That was really an outstanding talk.

NOTE Confidence: 0.918082111111111

01:08:09.130 --> 01:08:10.759 Thank you Bruce,

NOTE Confidence: 0.918082111111111

01:08:10.759 --> 01:08:14.017 and there was already one question.

NOTE Confidence: 0.918082111111111

01:08:14.020 --> 01:08:15.460 If we want to take an hour later,

NOTE Confidence: 0.918082111111111

01:08:15.460 --> 01:08:17.586 but it was about how cyber

NOTE Confidence: 0.918082111111111

01:08:17.586 --> 01:08:18.918 knife radiation fits in,

NOTE Confidence: 0.918082111111111

01:08:18.920 --> 01:08:21.116 and I think that was with regards to glioma.

NOTE Confidence: 0.918082111111111

01:08:21.120 --> 01:08:24.736 So you can start thinking about that answer.

NOTE Confidence: 0.918082111111111

01:08:24.740 --> 01:08:27.080 You know well and then also what

NOTE Confidence: 0.918082111111111

01:08:27.080 --> 01:08:28.960 actually is the radiation as

NOTE Confidence: 0.918082111111111

01:08:29.040 --> 01:08:31.720 compared to an X ray or dental X-ray?

NOTE Confidence: 0.918082111111111

01:08:31.720 --> 01:08:33.888 So that's another radiation

NOTE Confidence: 0.918082111111111

01:08:33.888 --> 01:08:36.056 question coming your way.

NOTE Confidence: 0.918082111111111

01:08:36.060 --> 01:08:38.909 So we will conclude with Brian Jin

NOTE Confidence: 0.918082111111111

01:08:38.909 --> 01:08:41.598 who's the licensed social worker who

NOTE Confidence: 0.918082111111111

01:08:41.598 --> 01:08:44.364 leads our brain tumor support group.

NOTE Confidence: 0.918082111111111

01:08:44.370 --> 01:08:47.748 Along with our team Jillian Bongard,

NOTE Confidence: 0.918082111111111

01:08:47.750 --> 01:08:51.062 who's on as well and he's going to talk

NOTE Confidence: 0.918082111111111

01:08:51.062 --> 01:08:54.421 about probably even more important than

NOTE Confidence: 0.918082111111111

01:08:54.421 --> 01:08:57.326 surgery or radiation or chemotherapy.

NOTE Confidence: 0.918082111111111

01:08:57.330 --> 01:08:59.058 But how we can support our

NOTE Confidence: 0.918082111111111

01:08:59.058 --> 01:09:00.210 patients and their families?

NOTE Confidence: 0.88611179875

01:09:02.480 --> 01:09:03.686 Hello hello everyone,

NOTE Confidence: 0.88611179875

01:09:03.686 --> 01:09:05.696 thank you for that introduction.

NOTE Confidence: 0.88611179875

01:09:05.700 --> 01:09:07.740 I have the privilege of facilitating

NOTE Confidence: 0.88611179875

01:09:07.740 --> 01:09:09.706 the brain tumor support group with

NOTE Confidence: 0.88611179875

01:09:09.706 --> 01:09:11.610 Jillian and they have taught me a

NOTE Confidence: 0.88611179875

01:09:11.610 --> 01:09:13.567 lot and I think about them a lot

NOTE Confidence: 0.88611179875

01:09:13.567 --> 01:09:14.926 as I'm doing this presentation,

NOTE Confidence: 0.88611179875

01:09:14.926 --> 01:09:18.000 so I'll go ahead and bring up my funds.

NOTE Confidence: 0.736066045928572

01:09:31.040 --> 01:09:32.432 So I'm Brian Jean.

NOTE Confidence: 0.736066045928572

01:09:32.432 --> 01:09:34.520 I'm one of the clinical social

NOTE Confidence: 0.736066045928572

01:09:34.592 --> 01:09:36.508 workers at Smilow Trumbull.

NOTE Confidence: 0.736066045928572

01:09:36.510 --> 01:09:40.526 I work with primarily Dr and I

NOTE Confidence: 0.736066045928572

01:09:40.526 --> 01:09:42.416 have the privilege of facilitating

NOTE Confidence: 0.736066045928572

01:09:42.416 --> 01:09:45.395 the support group so my my role is

NOTE Confidence: 0.736066045928572

01:09:45.395 --> 01:09:46.871 primarily supporting patients and

NOTE Confidence: 0.736066045928572

01:09:46.871 --> 01:09:49.004 family both emotionally and also

NOTE Confidence: 0.736066045928572

01:09:49.004 --> 01:09:51.124 helping them navigate the system,

NOTE Confidence: 0.736066045928572

01:09:51.130 --> 01:09:53.370 find resources within the Community,

NOTE Confidence: 0.736066045928572

01:09:53.370 --> 01:09:56.226 and it looks different for everybody.

NOTE Confidence: 0.736066045928572

01:09:56.230 --> 01:09:59.044 So it really depends on what

NOTE Confidence: 0.736066045928572

01:09:59.044 --> 01:10:00.920 families and individuals bring

NOTE Confidence: 0.736066045928572

01:10:01.004 --> 01:10:03.548 to the table prior to diagnosis.

NOTE Confidence: 0.736066045928572

01:10:03.550 --> 01:10:06.796 Every family system is extremely complex.

NOTE Confidence: 0.736066045928572

01:10:06.800 --> 01:10:08.500 They bring different compositions.

NOTE Confidence: 0.736066045928572

01:10:08.500 --> 01:10:10.200 They have different rules,

NOTE Confidence: 0.736066045928572

01:10:10.200 --> 01:10:11.968 different stages of life,

NOTE Confidence: 0.736066045928572

01:10:11.968 --> 01:10:13.294 they have different.

NOTE Confidence: 0.736066045928572

01:10:13.300 --> 01:10:14.716 Previously existing diagnosis

NOTE Confidence: 0.736066045928572

01:10:14.716 --> 01:10:17.548 that might impact how they respond

NOTE Confidence: 0.736066045928572

01:10:17.548 --> 01:10:19.392 to maladaptive behaviors that

NOTE Confidence: 0.736066045928572

01:10:19.392 --> 01:10:21.978 help them cope at one point,

NOTE Confidence: 0.736066045928572

01:10:21.980 --> 01:10:23.846 but not that I don't know.

NOTE Confidence: 0.5252389194

01:10:27.060 --> 01:10:29.885 Identify the work work and

NOTE Confidence: 0.5252389194

01:10:29.885 --> 01:10:33.160 where we can have. So it's.

NOTE Confidence: 0.738030237363636

01:10:35.380 --> 01:10:38.074 The framework that helps me helps

NOTE Confidence: 0.738030237363636

01:10:38.074 --> 01:10:40.500 me navigate and support people,

NOTE Confidence: 0.738030237363636

01:10:40.500 --> 01:10:42.607 and also I'll go through some of

NOTE Confidence: 0.738030237363636

01:10:42.607 --> 01:10:44.257 the primary challenges that people

NOTE Confidence: 0.738030237363636

01:10:44.257 --> 01:10:45.977 experience with the brain tumor,

NOTE Confidence: 0.738030237363636

01:10:45.980 --> 01:10:48.143 and then I will go into ways

NOTE Confidence: 0.738030237363636

01:10:48.143 --> 01:10:50.229 that smilo and the community

NOTE Confidence: 0.738030237363636

01:10:50.229 --> 01:10:52.389 supports patients and families.

NOTE Confidence: 0.881084291818182

01:10:54.500 --> 01:10:57.370 So one of the frameworks I use to help me

NOTE Confidence: 0.881084291818182

01:10:57.440 --> 01:11:00.086 sort of identify and navigate and identify

NOTE Confidence: 0.881084291818182

01:11:00.086 --> 01:11:02.732 the work is by Doctor Wallin's family,

NOTE Confidence: 0.881084291818182

01:11:02.732 --> 01:11:05.574 system illness model and how it's useful.

NOTE Confidence: 0.881084291818182

01:11:05.580 --> 01:11:07.284 Is it? It really takes the

NOTE Confidence: 0.881084291818182

01:11:07.284 --> 01:11:08.420 whole family into account.

NOTE Confidence: 0.881084291818182

01:11:08.420 --> 01:11:11.676 It really spends time looking at the system

NOTE Confidence: 0.881084291818182

01:11:11.676 --> 01:11:14.370 and incorporating the medical team within it,

NOTE Confidence: 0.881084291818182

01:11:14.370 --> 01:11:16.860 looking at the various ways that

NOTE Confidence: 0.881084291818182

01:11:16.860 --> 01:11:19.329 families interact and support each other,

NOTE Confidence: 0.881084291818182

01:11:19.330 --> 01:11:20.614 what strengths they have,

NOTE Confidence: 0.881084291818182

01:11:20.614 --> 01:11:21.898 whether they bring culturally.

NOTE Confidence: 0.881084291818182

01:11:21.900 --> 01:11:24.516 It's a very broad and very fluid model.

NOTE Confidence: 0.881084291818182

01:11:24.520 --> 01:11:28.345 To use and then it breaks down the work,

NOTE Confidence: 0.881084291818182

01:11:28.350 --> 01:11:31.290 both the emotional aspects and dimensions.

NOTE Confidence: 0.881084291818182

01:11:31.290 --> 01:11:32.622 The concrete basic needs

NOTE Confidence: 0.881084291818182

01:11:32.622 --> 01:11:34.287 that need to be addressed.

NOTE Confidence: 0.881084291818182

01:11:34.290 --> 01:11:38.634 And also you know how these

NOTE Confidence: 0.881084291818182

01:11:38.634 --> 01:11:40.864 interplays work with each other,

NOTE Confidence: 0.881084291818182

01:11:40.870 --> 01:11:43.570 and then it takes it within

NOTE Confidence: 0.881084291818182

01:11:43.570 --> 01:11:45.817 each freight phase of time.

NOTE Confidence: 0.881084291818182

01:11:45.817 --> 01:11:47.613 What initially we experienced

NOTE Confidence: 0.881084291818182

01:11:47.613 --> 01:11:50.270 during that first diagnosis period,

NOTE Confidence: 0.881084291818182

01:11:50.270 --> 01:11:52.422 what it looks like when we become stable

NOTE Confidence: 0.881084291818182

01:11:52.422 --> 01:11:54.736 and we found a period of equilibrium.

NOTE Confidence: 0.881084291818182

01:11:54.740 --> 01:11:58.020 And then anytime we experience.

NOTE Confidence: 0.881084291818182

01:11:58.020 --> 01:11:59.228 I need to change.

NOTE Confidence: 0.881084291818182

01:11:59.228 --> 01:12:01.666 I need to adapt to a new

NOTE Confidence: 0.881084291818182

01:12:01.666 --> 01:12:03.280 struggle or limitation.

NOTE Confidence: 0.881084291818182

01:12:03.280 --> 01:12:06.898 So this is one of the ways it is

NOTE Confidence: 0.881084291818182

01:12:06.898 --> 01:12:10.368 extremely useful for supporting families.

NOTE Confidence: 0.881084291818182

01:12:10.370 --> 01:12:11.858 So the crisis phase.

NOTE Confidence: 0.881084291818182

01:12:11.858 --> 01:12:14.483 This is the most difficult time this

NOTE Confidence: 0.881084291818182

01:12:14.483 --> 01:12:17.027 is like being shot out of a cannon.

NOTE Confidence: 0.881084291818182

01:12:17.030 --> 01:12:19.130 Oftentimes I've sat and heard the

01:12:19.130 --> 01:12:21.176 stories of being diagnosed and being

01:12:21.176 --> 01:12:23.220 in the car and suddenly having a

01:12:23.220 --> 01:12:25.030 seizure and then waking up post

01:12:25.030 --> 01:12:27.040 surgery and how they adapt to that.

01:12:27.040 --> 01:12:28.690 How do they absorb that information

01:12:28.690 --> 01:12:29.670 that's coming at them?

01:12:29.670 --> 01:12:32.050 How their family is responding to suddenly?

01:12:32.050 --> 01:12:33.825 Maybe the primary bed breadwinner

01:12:33.825 --> 01:12:35.600 not being able to work.

01:12:35.600 --> 01:12:36.769 What do you do at that time?

01:12:36.770 --> 01:12:38.234 There's so many questions.

01:12:38.234 --> 01:12:39.698 There's so many unknowns.

01:12:39.700 --> 01:12:43.076 And fears that are arising at that time.

01:12:43.080 --> 01:12:45.120 One of the things that is a challenge

01:12:45.120 --> 01:12:47.399 is that they have to absorb this

01:12:47.399 --> 01:12:49.104 new information about the diagnosis

NOTE Confidence: 0.881084291818182

01:12:49.161 --> 01:12:50.971 that they would never assumed

NOTE Confidence: 0.881084291818182

01:12:50.971 --> 01:12:52.057 they would encounter.

NOTE Confidence: 0.881084291818182

01:12:52.060 --> 01:12:53.790 They have to understand medically,

NOTE Confidence: 0.881084291818182

01:12:53.790 --> 01:12:56.163 they have to understand how it's impacting

NOTE Confidence: 0.881084291818182

01:12:56.163 --> 01:12:58.300 their whole family system emotionally.

NOTE Confidence: 0.881084291818182

01:12:58.300 --> 01:12:59.679 They have to understand it in the

NOTE Confidence: 0.881084291818182

01:12:59.679 --> 01:13:01.098 short term and then the long term.

NOTE Confidence: 0.881084291818182

01:13:01.100 --> 01:13:02.128 What is my plan?

NOTE Confidence: 0.881084291818182

01:13:02.128 --> 01:13:03.670 What is what is my treatment

NOTE Confidence: 0.881084291818182

01:13:03.729 --> 01:13:05.605 options and that what is one of

NOTE Confidence: 0.881084291818182

01:13:05.605 --> 01:13:07.500 the things that helps people cope?

NOTE Confidence: 0.881084291818182

01:13:07.500 --> 01:13:09.789 Having a really grounded and supportive plan?

NOTE Confidence: 0.881084291818182

01:13:09.790 --> 01:13:13.072 Being connected to a medical providers

NOTE Confidence: 0.881084291818182

01:13:13.072 --> 01:13:16.399 that can guide them through so.

NOTE Confidence: 0.881084291818182

01:13:16.400 --> 01:13:19.500 These challenges as they arise,

NOTE Confidence: 0.881084291818182

01:13:19.500 --> 01:13:21.860 they take a lot out of the family,

NOTE Confidence: 0.881084291818182

01:13:21.860 --> 01:13:24.345 they they they they engender

NOTE Confidence: 0.881084291818182

01:13:24.345 --> 01:13:26.333 a lot of uncertainty,

NOTE Confidence: 0.881084291818182

01:13:26.340 --> 01:13:28.436 and one of the roles that I have

NOTE Confidence: 0.881084291818182

01:13:28.436 --> 01:13:30.668 to support people with and is

NOTE Confidence: 0.881084291818182

01:13:30.668 --> 01:13:31.898 identifying their strengths,

NOTE Confidence: 0.881084291818182

01:13:31.900 --> 01:13:34.300 identifying their sense of faith,

NOTE Confidence: 0.881084291818182

01:13:34.300 --> 01:13:36.060 what narratives they're using,

NOTE Confidence: 0.881084291818182

01:13:36.060 --> 01:13:37.380 their family resiliency,

NOTE Confidence: 0.881084291818182

01:13:37.380 --> 01:13:39.804 legacies that they have within themselves

NOTE Confidence: 0.881084291818182

01:13:39.804 --> 01:13:42.639 that have helped them through adversity.

NOTE Confidence: 0.881084291818182

01:13:42.640 --> 01:13:44.338 And we're looking for a stabilization.

NOTE Confidence: 0.881084291818182

01:13:44.340 --> 01:13:46.708 We're looking for a place for the difficult.

NOTE Confidence: 0.881084291818182

01:13:46.710 --> 01:13:48.445 Emotions a place for identifying

NOTE Confidence: 0.881084291818182

01:13:48.445 --> 01:13:50.700 what they feel at the moment,

NOTE Confidence: 0.881084291818182

01:13:50.700 --> 01:13:53.322 whether it be anxiety or feeling

NOTE Confidence: 0.881084291818182

01:13:53.322 --> 01:13:55.318 overwhelmed or shocked and then

NOTE Confidence: 0.881084291818182

01:13:55.318 --> 01:13:56.674 gradually lessening those giving

NOTE Confidence: 0.881084291818182

01:13:56.674 --> 01:13:59.055 those a chance to sort of dissolve

NOTE Confidence: 0.881084291818182

01:13:59.055 --> 01:14:00.335 and have their moment,

NOTE Confidence: 0.911355742857143

01:14:00.340 --> 01:14:03.364 but then move towards the positive side.

NOTE Confidence: 0.911355742857143

01:14:03.370 --> 01:14:05.309 And what is their course of action?

NOTE Confidence: 0.854334599047619

01:14:07.550 --> 01:14:09.916 One of the big emotional things that

NOTE Confidence: 0.854334599047619

01:14:09.916 --> 01:14:13.239 tends to come up that I see and oftentimes

NOTE Confidence: 0.854334599047619

01:14:13.239 --> 01:14:15.210 isn't always identified as grief.

NOTE Confidence: 0.854334599047619

01:14:15.210 --> 01:14:17.100 One a lot of times families are in the

NOTE Confidence: 0.854334599047619

01:14:17.100 --> 01:14:19.076 state of shock and they've lost something.

NOTE Confidence: 0.854334599047619

01:14:19.080 --> 01:14:20.796 They've even lost the ability to

NOTE Confidence: 0.854334599047619

01:14:20.796 --> 01:14:22.899 look at life as this is stable.

NOTE Confidence: 0.854334599047619

01:14:22.900 --> 01:14:24.646 This is known. This is safe.

NOTE Confidence: 0.854334599047619

01:14:24.650 --> 01:14:26.456 I've had a family member say I'm

136

01:14:26.456 --> 01:14:28.048 angry just looking at that family.

01:14:28.050 --> 01:14:29.610 Going to the diner because

01:14:29.610 --> 01:14:31.170 their life is so Monday.

01:14:31.170 --> 01:14:33.557 It's so normal and now we're suddenly

01:14:33.557 --> 01:14:35.649 thrown into a state of shock,

01:14:35.650 --> 01:14:36.970 and these are the really the

01:14:36.970 --> 01:14:37.850 challenges of the initial.

01:14:37.850 --> 01:14:39.440 Phase is recalibrated,

01:14:39.440 --> 01:14:41.560 finding order finding mastery,

01:14:41.560 --> 01:14:43.040 finding competency and trusting

01:14:43.040 --> 01:14:44.890 in their plan and collaborating

01:14:44.890 --> 01:14:46.630 with their medical providers.

01:14:48.900 --> 01:14:50.292 The next phase is.

01:14:50.292 --> 01:14:52.764 Titled the chronic phase and this is

01:14:52.764 --> 01:14:55.276 the the Phase I wish the support group

01:14:55.276 --> 01:14:57.874 could be here to to share because

NOTE Confidence: 0.7832680378

01:14:57.874 --> 01:14:59.635 they're they're the they're the.

NOTE Confidence: 0.7832680378

01:14:59.635 --> 01:15:01.915 They're the ones who should give the the

NOTE Confidence: 0.7832680378

01:15:01.915 --> 01:15:03.890 master lesson and it's a difficult phase.

NOTE Confidence: 0.7832680378

01:15:03.890 --> 01:15:05.969 It's it has its own unique challenges.

NOTE Confidence: 0.7832680378

01:15:05.970 --> 01:15:07.764 One of the ones that universally

NOTE Confidence: 0.7832680378

01:15:07.764 --> 01:15:09.622 here is living with uncertainty and

NOTE Confidence: 0.7832680378

01:15:09.622 --> 01:15:12.014 any person who has had to go through

NOTE Confidence: 0.7832680378

01:15:12.079 --> 01:15:13.934 a scan and wait for the results

NOTE Confidence: 0.7832680378

01:15:13.934 --> 01:15:15.888 and knows what that feels like.

NOTE Confidence: 0.7832680378

01:15:15.888 --> 01:15:17.818 It holds all the hopes.

NOTE Confidence: 0.7832680378

01:15:17.820 --> 01:15:19.759 All the fears at the same time.

NOTE Confidence: 0.7832680378

01:15:19.760 --> 01:15:22.290 And this is a really.

NOTE Confidence: 0.7832680378

01:15:22.290 --> 01:15:23.490 Difficult thing to manage.

NOTE Confidence: 0.7832680378

01:15:23.490 --> 01:15:25.290 It produces a lawn being anxiety,

NOTE Confidence: 0.7832680378

01:15:25.290 --> 01:15:26.246 a lot of worry.

NOTE Confidence: 0.7832680378

01:15:26.246 --> 01:15:27.680 I know a lot of questions

NOTE Confidence: 0.7832680378

01:15:27.743 --> 01:15:28.967 that arise from that,

NOTE Confidence: 0.7832680378

01:15:28.970 --> 01:15:31.650 and the tendency is to projectors the future,

NOTE Confidence: 0.7832680378

01:15:31.650 --> 01:15:34.134 sometimes catastrophize and so

NOTE Confidence: 0.7832680378

01:15:34.134 --> 01:15:37.860 it can be a very challenging.

NOTE Confidence: 0.7832680378

01:15:37.860 --> 01:15:39.260 Emotional process to address,

NOTE Confidence: 0.7832680378

01:15:39.260 --> 01:15:41.360 but it's something that's going to

NOTE Confidence: 0.7832680378

01:15:41.419 --> 01:15:43.279 be universally have to be managed,

NOTE Confidence: 0.7832680378

01:15:43.280 --> 01:15:45.184 and you know the support group is one

NOTE Confidence: 0.7832680378

01:15:45.184 --> 01:15:47.176 of the the ways that we manage it.

NOTE Confidence: 0.7832680378

01:15:47.180 --> 01:15:47.996 You get.

NOTE Confidence: 0.7832680378

01:15:47.996 --> 01:15:49.220 Everybody coming together

NOTE Confidence: 0.7832680378

01:15:49.220 --> 01:15:51.260 to share how they cope,

NOTE Confidence: 0.7832680378

01:15:51.260 --> 01:15:53.836 everyone sharing the ways they managed it,

NOTE Confidence: 0.7832680378

01:15:53.840 --> 01:15:55.730 and a lot of it is really for me.

NOTE Confidence: 0.7832680378

01:15:55.730 --> 01:15:57.860 This is about being present,

NOTE Confidence: 0.7832680378

01:15:57.860 --> 01:15:59.200 being present in the moment,

NOTE Confidence: 0.7832680378

01:15:59.200 --> 01:16:00.700 connecting with what is good.

NOTE Confidence: 0.7832680378

01:16:00.700 --> 01:16:03.538 Connecting with makes you you happy.

NOTE Confidence: 0.7832680378

01:16:03.540 --> 01:16:05.084 You know that relationship

NOTE Confidence: 0.7832680378

01:16:05.084 --> 01:16:07.014 with the providers you know,

NOTE Confidence: 0.7832680378

01:16:07.020 --> 01:16:08.184 that's that's also there.

NOTE Confidence: 0.7832680378

01:16:08.184 --> 01:16:09.639 You know sometimes you're going

NOTE Confidence: 0.7832680378

01:16:09.639 --> 01:16:10.918 through all these treatments.

NOTE Confidence: 0.7832680378

01:16:10.920 --> 01:16:13.899 And and I've had patients say I want to.

NOTE Confidence: 0.7832680378

01:16:13.900 --> 01:16:15.556 I want a week off so I can go

NOTE Confidence: 0.7832680378

01:16:15.556 --> 01:16:17.297 to a wedding or a graduation.

NOTE Confidence: 0.7832680378

01:16:17.300 --> 01:16:18.548 And this is part of that.

NOTE Confidence: 0.7832680378

01:16:18.550 --> 01:16:22.588 Responsibility and where the report comes,

NOTE Confidence: 0.7832680378

01:16:22.590 --> 01:16:25.726 comes becomes so important and and and

NOTE Confidence: 0.7832680378

01:16:25.726 --> 01:16:28.509 another part that my support group.

NOTE Confidence: 0.7832680378

01:16:28.510 --> 01:16:30.838 Shared with me and is knowing your new

NOTE Confidence: 0.7832680378

01:16:30.838 --> 01:16:32.877 limitations and how do you transcend them?

NOTE Confidence: 0.7832680378

01:16:32.880 --> 01:16:34.608 What do you have to be sensitive to?

NOTE Confidence: 0.7832680378

01:16:34.610 --> 01:16:35.758 What can you do?

NOTE Confidence: 0.7832680378

01:16:35.758 --> 01:16:37.896 What can you have to modify and

NOTE Confidence: 0.7832680378

01:16:37.896 --> 01:16:39.966 finding that New Balance in life?

NOTE Confidence: 0.7832680378

01:16:39.970 --> 01:16:42.770 Which is is is a lot of work.

NOTE Confidence: 0.7832680378

01:16:42.770 --> 01:16:45.602 And in the final phase is transitions anytime

NOTE Confidence: 0.7832680378

01:16:45.602 --> 01:16:48.378 we have to find a new way of adapting.

NOTE Confidence: 0.7832680378

01:16:48.380 --> 01:16:49.640 If we're meeting a new struggle,

NOTE Confidence: 0.7832680378

01:16:49.640 --> 01:16:51.110 a new challenge,

NOTE Confidence: 0.7832680378

01:16:51.110 --> 01:16:53.560 that's the stage of change,

NOTE Confidence: 0.7832680378

01:16:53.560 --> 01:16:55.640 and that requires recalibration.

NOTE Confidence: 0.7832680378

01:16:55.640 --> 01:16:57.724 Again, maybe not as shocking.

NOTE Confidence: 0.7832680378

01:16:57.724 --> 01:16:58.897 Sometimes it is,

NOTE Confidence: 0.7832680378

01:16:58.900 --> 01:17:02.344 but there's different work to be done.

NOTE Confidence: 0.7832680378

01:17:02.350 --> 01:17:05.590 Sometimes this phase really hones in.

NOTE Confidence: 0.7832680378

01:17:05.590 --> 01:17:07.046 What is our priorities?

NOTE Confidence: 0.7832680378

01:17:07.046 --> 01:17:08.866 What is the most important

NOTE Confidence: 0.7832680378

01:17:08.866 --> 01:17:10.147 thing for us to do?

NOTE Confidence: 0.7832680378

01:17:10.150 --> 01:17:14.490 And it has its own special nuance.

NOTE Confidence: 0.7832680378

01:17:14.490 --> 01:17:16.140 So from there,

NOTE Confidence: 0.7832680378

01:17:16.140 --> 01:17:18.458 using this framework you know

NOTE Confidence: 0.7832680378

01:17:18.458 --> 01:17:20.128 there's different things to address.

NOTE Confidence: 0.7832680378

01:17:20.130 --> 01:17:22.034 Sometimes in that beginning it's a question

NOTE Confidence: 0.7832680378

01:17:22.034 --> 01:17:24.750 of how do I meet the world doesn't stop,

NOTE Confidence: 0.7832680378

01:17:24.750 --> 01:17:26.290 and unfortunately we have

NOTE Confidence: 0.7832680378

01:17:26.290 --> 01:17:28.508 to pay bills we have to do,

NOTE Confidence: 0.7832680378

01:17:28.510 --> 01:17:29.830 bring the kids to school.

NOTE Confidence: 0.7832680378

01:17:29.830 --> 01:17:31.120 It depends on everybody's stage

NOTE Confidence: 0.7832680378

01:17:31.120 --> 01:17:33.039 of life and where they are and

NOTE Confidence: 0.7832680378

01:17:33.039 --> 01:17:34.187 who they're responsible for.

NOTE Confidence: 0.7832680378

01:17:34.190 --> 01:17:36.003 And so one of the questions I

NOTE Confidence: 0.7832680378

01:17:36.003 --> 01:17:37.709 often get is like how do I?

NOTE Confidence: 0.7832680378

01:17:37.710 --> 01:17:39.474 How do I find the balance

NOTE Confidence: 0.7832680378

01:17:39.474 --> 01:17:40.650 of making ends meet

NOTE Confidence: 0.914733941428571

01:17:40.722 --> 01:17:42.490 and prioritizing my health,

NOTE Confidence: 0.914733941428571

01:17:42.490 --> 01:17:44.460 which is now my job?

NOTE Confidence: 0.914733941428571

01:17:44.460 --> 01:17:45.381 Questions about disability,

NOTE Confidence: 0.914733941428571

01:17:45.381 --> 01:17:47.223 whether or not you have short

NOTE Confidence: 0.914733941428571

01:17:47.223 --> 01:17:48.658 or long term disability.

NOTE Confidence: 0.914733941428571

01:17:48.660 --> 01:17:50.780 Applying for Social Security disability,

NOTE Confidence: 0.914733941428571

01:17:50.780 --> 01:17:52.880 nobody gives us these this information

NOTE Confidence: 0.914733941428571

01:17:52.880 --> 01:17:55.618 out in school or college or anywhere,

NOTE Confidence: 0.914733941428571

01:17:55.620 --> 01:17:57.410 so these are one of the things you can access

NOTE Confidence: 0.914733941428571

01:17:57.450 --> 01:17:59.235 through your team through your social worker.

NOTE Confidence: 0.914733941428571

01:17:59.240 --> 01:18:00.794 You can ask your team if you

NOTE Confidence: 0.914733941428571

01:18:00.794 --> 01:18:01.740 need assistance and help.

NOTE Confidence: 0.914733941428571

01:18:01.740 --> 01:18:04.155 There are resources out in the community,

NOTE Confidence: 0.914733941428571

01:18:04.160 --> 01:18:05.810 including the Connecticut

NOTE Confidence: 0.914733941428571

01:18:05.810 --> 01:18:07.460 Bureau of Rehabilitation,

NOTE Confidence: 0.914733941428571

01:18:07.460 --> 01:18:10.028 which you know will help people reengage in

NOTE Confidence: 0.914733941428571

01:18:10.028 --> 01:18:13.296 a new profession or work with accommodations.

NOTE Confidence: 0.914733941428571

01:18:13.300 --> 01:18:16.228 Your team can also be a source of.

NOTE Confidence: 0.914733941428571

01:18:16.230 --> 01:18:19.422 Referrals to occupational health

NOTE Confidence: 0.914733941428571

01:18:19.422 --> 01:18:22.110 things that get you back on your feet.

NOTE Confidence: 0.914733941428571

01:18:22.110 --> 01:18:23.790 You're making you operate

NOTE Confidence: 0.914733941428571

01:18:23.790 --> 01:18:25.470 a little bit better.

NOTE Confidence: 0.914733941428571

01:18:25.470 --> 01:18:27.945 One of the big things for me is maintaining

NOTE Confidence: 0.914733941428571

01:18:27.945 --> 01:18:29.641 health insurance because anytime we

NOTE Confidence: 0.914733941428571

01:18:29.641 --> 01:18:32.350 have a shift from disability from employment,

NOTE Confidence: 0.914733941428571

01:18:32.350 --> 01:18:34.966 there's concerns about making

NOTE Confidence: 0.914733941428571

01:18:34.966 --> 01:18:36.928 maintaining health insurance.

NOTE Confidence: 0.914733941428571

01:18:36.930 --> 01:18:38.304 There are Cobra,

NOTE Confidence: 0.914733941428571

01:18:38.304 --> 01:18:39.678 there is Medicaid.

NOTE Confidence: 0.914733941428571

01:18:39.680 --> 01:18:42.395 There's the access health CT

NOTE Confidence: 0.914733941428571

01:18:42.395 --> 01:18:44.024 marketplace that's there.

NOTE Confidence: 0.914733941428571

01:18:44.030 --> 01:18:45.410 Sometimes people are

NOTE Confidence: 0.914733941428571

01:18:45.410 --> 01:18:46.663 transitioning to Medicare,

NOTE Confidence: 0.914733941428571

01:18:46.663 --> 01:18:49.327 and which you can reach the choices program.

NOTE Confidence: 0.914733941428571

01:18:49.330 --> 01:18:50.902 These are all very vital questions

NOTE Confidence: 0.914733941428571

01:18:50.902 --> 01:18:53.463 for a lot of people who are are are

NOTE Confidence: 0.914733941428571

01:18:53.463 --> 01:18:55.456 going through this process is how do

NOTE Confidence: 0.914733941428571

01:18:55.456 --> 01:18:57.376 I take care of my family and myself,

NOTE Confidence: 0.914733941428571

01:18:57.380 --> 01:19:00.890 both financially and health wise.

NOTE Confidence: 0.914733941428571

01:19:00.890 --> 01:19:02.866 Emotional challenges well for

NOTE Confidence: 0.914733941428571

01:19:02.866 --> 01:19:04.348 for brain tumors.

NOTE Confidence: 0.914733941428571

145

01:19:04.350 --> 01:19:06.138 It it's been impressed upon me.

NOTE Confidence: 0.908499378571428

01:19:08.280 --> 01:19:10.555 Just how much it is your identity.

NOTE Confidence: 0.908499378571428

01:19:10.560 --> 01:19:11.320 This is who you are.

NOTE Confidence: 0.908499378571428

01:19:11.320 --> 01:19:12.420 This is your signature.

NOTE Confidence: 0.908499378571428

01:19:12.420 --> 01:19:13.520 You may be losing.

NOTE Confidence: 0.908499378571428

01:19:13.520 --> 01:19:15.858 This might be your ability to drive,

NOTE Confidence: 0.908499378571428

01:19:15.860 --> 01:19:18.036 it might be tied to your passion and

NOTE Confidence: 0.908499378571428

01:19:18.036 --> 01:19:20.051 I think anytime I've worked with

NOTE Confidence: 0.908499378571428

01:19:20.051 --> 01:19:22.600 individuals who have had a brain tumor,

NOTE Confidence: 0.908499378571428

01:19:22.600 --> 01:19:23.876 there's been sometimes losses.

NOTE Confidence: 0.908499378571428

01:19:23.876 --> 01:19:26.334 And there's also been that work to connect

NOTE Confidence: 0.908499378571428

01:19:26.334 --> 01:19:28.620 to what it makes them feel good about life.

NOTE Confidence: 0.908499378571428

01:19:28.620 --> 01:19:31.679 What makes them feel passionate and resonate?

NOTE Confidence: 0.908499378571428

01:19:31.680 --> 01:19:34.160 And and this is something that our our

NOTE Confidence: 0.908499378571428

01:19:34.160 --> 01:19:36.269 support group talks about in terms of.

NOTE Confidence: 0.908499378571428

01:19:36.270 --> 01:19:37.950 How do you connect to gardening

NOTE Confidence: 0.908499378571428

01:19:37.950 --> 01:19:40.373 even if you have a little bit of

NOTE Confidence: 0.908499378571428

01:19:40.373 --> 01:19:41.928 limitations in terms of balance,

NOTE Confidence: 0.908499378571428

01:19:41.930 --> 01:19:44.909 you'll find a way and that work is is.

NOTE Confidence: 0.908499378571428

01:19:44.910 --> 01:19:47.120 Is there the two emotional

NOTE Confidence: 0.908499378571428

01:19:47.120 --> 01:19:49.330 processes that I typically see.

NOTE Confidence: 0.908499378571428

01:19:49.330 --> 01:19:52.810 I tend to focus on on very natural

NOTE Confidence: 0.908499378571428

01:19:52.810 --> 01:19:54.920 emotional processes that this can be

NOTE Confidence: 0.908499378571428

01:19:54.920 --> 01:19:57.628 a a traumatic event which triggers our

NOTE Confidence: 0.908499378571428

01:19:57.628 --> 01:19:59.970 fight or flight survival mechanism.

NOTE Confidence: 0.908499378571428

01:19:59.970 --> 01:20:02.270 A lot of times I see people in the crisis

NOTE Confidence: 0.908499378571428

01:20:02.331 --> 01:20:04.486 stage where they're I'm hypervigilant

NOTE Confidence: 0.908499378571428

01:20:04.486 --> 01:20:06.210 other than difficulty sleeping.

NOTE Confidence: 0.908499378571428

01:20:06.210 --> 01:20:07.841 I'm a little bit more irritable and

NOTE Confidence: 0.908499378571428

01:20:07.841 --> 01:20:09.408 I'm picking fights with my loved ones,

NOTE Confidence: 0.908499378571428

01:20:09.410 --> 01:20:11.150 which is home normal because the

NOTE Confidence: 0.908499378571428

147

01:20:11.150 --> 01:20:13.258 fact that you're in fight or flight,

NOTE Confidence: 0.908499378571428

01:20:13.260 --> 01:20:14.332 you're primed for it.

NOTE Confidence: 0.908499378571428

01:20:14.332 --> 01:20:16.540 Things are a little bit more difficult.

NOTE Confidence: 0.908499378571428

01:20:16.540 --> 01:20:18.262 The problem is when it becomes

NOTE Confidence: 0.908499378571428

01:20:18.262 --> 01:20:20.184 cyclical and it taps into anxiety

NOTE Confidence: 0.908499378571428

01:20:20.184 --> 01:20:21.954 and becomes a habitual process.

NOTE Confidence: 0.908499378571428

01:20:21.960 --> 01:20:23.643 Then we need to find a way to sort

NOTE Confidence: 0.908499378571428

01:20:23.643 --> 01:20:25.450 of address it and find ways to sort

NOTE Confidence: 0.908499378571428

01:20:25.450 --> 01:20:27.338 of pull you out of fight or flight.

NOTE Confidence: 0.908499378571428

01:20:27.340 --> 01:20:28.524 That could be meditation.

NOTE Confidence: 0.908499378571428

01:20:28.524 --> 01:20:30.631 It could be yoga and there'll be

NOTE Confidence: 0.908499378571428

01:20:30.631 --> 01:20:32.245 other resources I'll talk about at

NOTE Confidence: 0.908499378571428

01:20:32.245 --> 01:20:34.139 the end that you can connect to.

NOTE Confidence: 0.908499378571428

01:20:34.140 --> 01:20:36.404 The other part is the Greek process and.

NOTE Confidence: 0.908499378571428

01:20:36.410 --> 01:20:38.867 I always I'm a broken record with

NOTE Confidence: 0.908499378571428

01:20:38.867 --> 01:20:41.172 this one because anytime any person

NOTE Confidence: 0.908499378571428

01:20:41.172 --> 01:20:43.923 hits a limitation they suffer a brief

NOTE Confidence: 0.908499378571428

01:20:43.997 --> 01:20:46.044 process and so this is something we

NOTE Confidence: 0.908499378571428

01:20:46.044 --> 01:20:48.361 can't take a pill for. We can't avoid.

NOTE Confidence: 0.908499378571428

01:20:48.361 --> 01:20:50.323 It's really about feeling it and

NOTE Confidence: 0.908499378571428

01:20:50.323 --> 01:20:52.017 then doing good self care,

NOTE Confidence: 0.908499378571428

01:20:52.020 --> 01:20:53.380 not getting stuck in it.

NOTE Confidence: 0.908499378571428

01:20:53.380 --> 01:20:55.252 And so I really spent a lot of

NOTE Confidence: 0.908499378571428

01:20:55.252 --> 01:20:57.520 time with individuals.

NOTE Confidence: 0.908499378571428

01:20:57.520 --> 01:20:58.798 Talking about where is your safe

NOTE Confidence: 0.908499378571428

01:20:58.798 --> 01:21:00.060 place to feel these emotions?

NOTE Confidence: 0.908499378571428

01:21:00.060 --> 01:21:01.896 Who do you have to talk to about this?

NOTE Confidence: 0.908499378571428

01:21:01.900 --> 01:21:03.664 And a lot of times it's our

NOTE Confidence: 0.908499378571428

01:21:03.664 --> 01:21:05.065 spiritual practice because it sort

NOTE Confidence: 0.908499378571428

01:21:05.065 --> 01:21:06.249 of addresses it existentially.

NOTE Confidence: 0.835712328

01:21:08.780 --> 01:21:11.210 So this might seem strange.

NOTE Confidence: 0.835712328

01:21:11.210 --> 01:21:14.510 The Unsought yes of brain tumor.

NOTE Confidence: 0.835712328

01:21:14.510 --> 01:21:17.072 I I've been it's been remarkable how

NOTE Confidence: 0.835712328

01:21:17.072 --> 01:21:19.490 many people who have gone through

NOTE Confidence: 0.835712328

01:21:19.490 --> 01:21:21.980 such trials and hardships and loss.

NOTE Confidence: 0.835712328

01:21:21.980 --> 01:21:24.286 Say they wouldn't change a thing and and

NOTE Confidence: 0.835712328

01:21:24.286 --> 01:21:26.407 that's just an amazing thing to hear,

NOTE Confidence: 0.835712328

01:21:26.410 --> 01:21:27.590 because what they've gained

NOTE Confidence: 0.835712328

01:21:27.590 --> 01:21:28.475 from this experience,

NOTE Confidence: 0.835712328

01:21:28.480 --> 01:21:30.020 their gratitude, their appreciation,

NOTE Confidence: 0.835712328

01:21:30.020 --> 01:21:32.330 their recognition of what is most

NOTE Confidence: 0.835712328

01:21:32.385 --> 01:21:34.635 important in their life is irreplaceable.

NOTE Confidence: 0.835712328

01:21:34.640 --> 01:21:37.616 And it's not anything that can be replicated.

NOTE Confidence: 0.835712328

01:21:37.620 --> 01:21:38.466 And you know,

NOTE Confidence: 0.835712328

01:21:38.466 --> 01:21:40.440 that's it really taps into why we

NOTE Confidence: 0.835712328

01:21:40.500 --> 01:21:42.300 fight and what makes us happy.

NOTE Confidence: 0.835712328

01:21:42.300 --> 01:21:44.659 And it makes us more authentically ourselves.

NOTE Confidence: 0.835712328

01:21:44.660 --> 01:21:45.980 Some people have shared,

NOTE Confidence: 0.835712328

01:21:45.980 --> 01:21:47.960 like I wasn't happy before and

NOTE Confidence: 0.835712328

01:21:48.020 --> 01:21:49.952 now I'm spending my time baking

NOTE Confidence: 0.835712328

01:21:49.952 --> 01:21:51.920 bread and doing photography.

NOTE Confidence: 0.835712328

01:21:51.920 --> 01:21:53.480 And and this is one of the things

NOTE Confidence: 0.835712328

01:21:53.480 --> 01:21:54.848 that comes from this experience.

NOTE Confidence: 0.835712328

01:21:54.850 --> 01:21:56.852 It's like altering and part of the

NOTE Confidence: 0.835712328

01:21:56.852 --> 01:21:59.326 work that we do is making sure that

NOTE Confidence: 0.835712328

01:21:59.326 --> 01:22:01.190 people access what makes the map.

NOTE Confidence: 0.835712328

01:22:01.190 --> 01:22:02.182 What gives them purpose.

NOTE Confidence: 0.835712328

01:22:02.182 --> 01:22:04.330 And you know when we hit limitations,

NOTE Confidence: 0.835712328

01:22:04.330 --> 01:22:05.318 how do we transcend?

NOTE Confidence: 0.676995727142857

01:22:08.950 --> 01:22:10.609 But just a note for the caregivers,

NOTE Confidence: 0.676995727142857

01:22:10.610 --> 01:22:12.735 because there's a profound feeling

NOTE Confidence: 0.676995727142857

01:22:12.735 --> 01:22:14.010 of healthiness helplessness,

NOTE Confidence: 0.676995727142857

01:22:14.010 --> 01:22:14.730 being a caregiver,

NOTE Confidence: 0.676995727142857

01:22:14.730 --> 01:22:16.730 I like to tell them they're always doing.

NOTE Confidence: 0.676995727142857

01:22:16.730 --> 01:22:17.830 They're doing a great job.

NOTE Confidence: 0.676995727142857

01:22:17.830 --> 01:22:19.350 They're just being there.

NOTE Confidence: 0.676995727142857

01:22:19.350 --> 01:22:20.894 Being attentive, being attuned.

NOTE Confidence: 0.676995727142857

01:22:20.894 --> 01:22:22.070 It's it's. It's,

NOTE Confidence: 0.676995727142857

01:22:22.070 --> 01:22:25.010 they're doing enough and then self care,

NOTE Confidence: 0.676995727142857

01:22:25.010 --> 01:22:28.170 just in terms of putting 2 moral

NOTE Confidence: 0.676995727142857

01:22:28.170 --> 01:22:30.150 virtues together, you can never win,

NOTE Confidence: 0.676995727142857

01:22:30.150 --> 01:22:32.775 so it's really vital for both patient

NOTE Confidence: 0.676995727142857

01:22:32.775 --> 01:22:35.780 and family to spend time being soulful

NOTE Confidence: 0.676995727142857

01:22:35.780 --> 01:22:38.030 and taking care of themselves.

NOTE Confidence: 0.676995727142857

01:22:38.030 --> 01:22:41.310 So resources that we do have,

NOTE Confidence: 0.676995727142857

01:22:41.310 --> 01:22:42.808 we have the brain tumor support group.

NOTE Confidence: 0.676995727142857

01:22:42.810 --> 01:22:44.338 It's every third Monday,

NOTE Confidence: 0.676995727142857

01:22:44.338 --> 01:22:46.248 three to four by Zoom.

NOTE Confidence: 0.676995727142857

01:22:46.250 --> 01:22:47.750 You can reach out to me.

NOTE Confidence: 0.676995727142857

01:22:47.750 --> 01:22:50.450 I can add you to the the list service.

NOTE Confidence: 0.676995727142857

01:22:50.450 --> 01:22:52.445 We also have a caregiver support group

NOTE Confidence: 0.676995727142857

01:22:52.445 --> 01:22:54.713 that is the 1st and 3rd of every Thursday.

NOTE Confidence: 0.676995727142857

01:22:54.713 --> 01:22:56.400 It's in the evening to make it

NOTE Confidence: 0.676995727142857

01:22:56.458 --> 01:22:57.888 a little bit more accessible.

NOTE Confidence: 0.676995727142857

01:22:57.890 --> 01:23:00.956 Also by zoom, we have the meeting

NOTE Confidence: 0.676995727142857

01:23:00.956 --> 01:23:02.270 centered psychotherapy group,

NOTE Confidence: 0.676995727142857

01:23:02.270 --> 01:23:03.194 which is really,

NOTE Confidence: 0.676995727142857

01:23:03.194 --> 01:23:05.042 how do you tap into the

NOTE Confidence: 0.676995727142857

01:23:05.042 --> 01:23:06.830 meeting and through adversity?

NOTE Confidence: 0.676995727142857

01:23:06.830 --> 01:23:08.958 We also have a cognitive behavioral skills.

NOTE Confidence: 0.676995727142857

01:23:08.960 --> 01:23:10.545 Super Cancer Survivor is run

NOTE Confidence: 0.676995727142857

01:23:10.545 --> 01:23:11.496 by Doctor Kilkis.

NOTE Confidence: 0.676995727142857

01:23:11.500 --> 01:23:13.036 I put her email up there so if

NOTE Confidence: 0.676995727142857

01:23:13.036 --> 01:23:14.498 you'd like and you're interested,

NOTE Confidence: 0.676995727142857

01:23:14.500 --> 01:23:17.676 you can email her for the next session.

NOTE Confidence: 0.676995727142857

01:23:17.680 --> 01:23:19.500 Additional resources. We have nutrition.

NOTE Confidence: 0.676995727142857

01:23:19.500 --> 01:23:20.616 Any way to help you guys.

NOTE Confidence: 0.676995727142857

01:23:20.620 --> 01:23:22.600 Holistically take care of yourself.

NOTE Confidence: 0.676995727142857

01:23:22.600 --> 01:23:23.464 Support yourselves,

NOTE Confidence: 0.676995727142857

01:23:23.464 --> 01:23:26.056 stronger as much as you can.

NOTE Confidence: 0.676995727142857

01:23:26.060 --> 01:23:27.920 We have yoga guided imagery,

NOTE Confidence: 0.676995727142857

01:23:27.920 --> 01:23:29.656 meditation, a lot of this is by zoom.

NOTE Confidence: 0.676995727142857

01:23:29.660 --> 01:23:32.285 Unfortunately now we do have

NOTE Confidence: 0.676995727142857

01:23:32.285 --> 01:23:33.860 art therapy classes.

NOTE Confidence: 0.676995727142857

01:23:33.860 --> 01:23:35.700 We also have parenting at a challenging time.

NOTE Confidence: 0.676995727142857

01:23:35.700 --> 01:23:37.748 As specifically for parents

NOTE Confidence: 0.676995727142857

01:23:37.748 --> 01:23:39.284 with younger children.

NOTE Confidence: 0.676995727142857

01:23:39.290 --> 01:23:41.817 You want guidance and ask what to

NOTE Confidence: 0.676995727142857

01:23:41.817 --> 01:23:43.930 ask questions about communication,

NOTE Confidence: 0.676995727142857

01:23:43.930 --> 01:23:44.616 developmental stages,

NOTE Confidence: 0.676995727142857

01:23:44.616 --> 01:23:46.674 and how to share with their

NOTE Confidence: 0.676995727142857

01:23:46.674 --> 01:23:48.408 kids what they're going to.

NOTE Confidence: 0.676995727142857

01:23:48.410 --> 01:23:50.326 There's also palliative care,

NOTE Confidence: 0.676995727142857

01:23:50.326 --> 01:23:52.721 which is a very comprehensive

NOTE Confidence: 0.676995727142857

01:23:52.721 --> 01:23:54.886 team comprising psychiatry,

NOTE Confidence: 0.676995727142857

01:23:54.886 --> 01:23:58.310 psychology, chaplain, social worker,

NOTE Confidence: 0.676995727142857

01:23:58.310 --> 01:23:59.195 nurse, art therapy,

NOTE Confidence: 0.676995727142857

01:23:59.195 --> 01:24:00.965 the whole gamut and they can

NOTE Confidence: 0.676995727142857

01:24:00.965 --> 01:24:02.940 be very supportive and helpful.

NOTE Confidence: 0.623200197142857

01:24:05.300 --> 01:24:06.776 Community resources the

NOTE Confidence: 0.623200197142857

01:24:06.776 --> 01:24:08.744 Connecticut brain tumor alliance.

NOTE Confidence: 0.623200197142857

01:24:08.750 --> 01:24:11.480 They provide education and peer support.

NOTE Confidence: 0.623200197142857

01:24:11.480 --> 01:24:13.010 You can give them a call and you can

NOTE Confidence: 0.623200197142857

01:24:13.010 --> 01:24:14.587 just speak to somebody who truly

NOTE Confidence: 0.623200197142857

01:24:14.587 --> 01:24:15.952 understands what you're going through,

NOTE Confidence: 0.623200197142857

01:24:15.960 --> 01:24:18.592 and we'll help you through for cancer.

NOTE Confidence: 0.623200197142857

01:24:18.592 --> 01:24:21.388 There is ants place cancer care.

NOTE Confidence: 0.623200197142857

01:24:21.390 --> 01:24:25.240 It's kids, hugs for families with children.

NOTE Confidence: 0.623200197142857

01:24:25.240 --> 01:24:26.815 There's an American Cancer Society

NOTE Confidence: 0.623200197142857

01:24:26.815 --> 01:24:28.841 which has a lot of educational

NOTE Confidence: 0.623200197142857

01:24:28.841 --> 01:24:31.193 information and also some supports in

NOTE Confidence: 0.623200197142857

01:24:31.193 --> 01:24:33.690 terms of staying like if you needed

NOTE Confidence: 0.623200197142857

01:24:33.690 --> 01:24:35.580 to stay and receive radiation and.

NOTE Confidence: 0.623200197142857

01:24:35.580 --> 01:24:37.368 This isn't your local you could.

NOTE Confidence: 0.623200197142857

01:24:37.370 --> 01:24:39.806 You could access some of the

NOTE Confidence: 0.623200197142857

01:24:39.806 --> 01:24:42.427 resources there's family reach for a

NOTE Confidence: 0.623200197142857

01:24:42.427 --> 01:24:44.732 cancer patients which provides free

NOTE Confidence: 0.623200197142857

01:24:44.732 --> 01:24:46.950 financial planning within an advisor.

NOTE Confidence: 0.623200197142857

01:24:46.950 --> 01:24:48.738 There's the LIVESTRONG program,

NOTE Confidence: 0.623200197142857

01:24:48.738 --> 01:24:52.450 which is allows people to go to YMCA's

NOTE Confidence: 0.623200197142857

01:24:52.450 --> 01:24:56.075 for a tailored physical exercise

NOTE Confidence: 0.623200197142857

01:24:56.075 --> 01:24:58.625 routine to help strengthen their body.

NOTE Confidence: 0.623200197142857

01:24:58.630 --> 01:25:00.989 There's cancer in careers and triage cancers,

NOTE Confidence: 0.623200197142857

01:25:00.990 --> 01:25:03.846 which it really helps people navigate.

NOTE Confidence: 0.623200197142857

01:25:03.850 --> 01:25:05.730 Rejoining the workforce with their

NOTE Confidence: 0.623200197142857

01:25:05.730 --> 01:25:07.610 cancer diagnosis and it gives

NOTE Confidence: 0.623200197142857

01:25:07.674 --> 01:25:09.379 a lot of excellent resources.

NOTE Confidence: 0.623200197142857

01:25:09.380 --> 01:25:11.750 There's financial grants for cancer patients.

NOTE Confidence: 0.623200197142857

01:25:11.750 --> 01:25:12.720 There's cancer,

NOTE Confidence: 0.623200197142857

01:25:12.720 --> 01:25:15.145 Connecticut Cancer Foundation and the

NOTE Confidence: 0.623200197142857

01:25:15.145 --> 01:25:18.129 cancer cares for brain tumor specific.

NOTE Confidence: 0.623200197142857

01:25:18.130 --> 01:25:20.032 There's a lovemark foundation and also

NOTE Confidence: 0.623200197142857

01:25:20.032 --> 01:25:21.790 the Connecticut brain tumor alliance.

NOTE Confidence: 0.8070836975

01:25:24.610 --> 01:25:27.106 And just a closing note on for me.

NOTE Confidence: 0.8070836975

01:25:27.110 --> 01:25:30.290 You know. Occasionally people do require

NOTE Confidence: 0.8070836975

01:25:30.290 --> 01:25:32.310 additional assistance, and for the

NOTE Confidence: 0.8070836975

01:25:32.310 --> 01:25:33.910 younger patients I've been seeing,

NOTE Confidence: 0.8070836975

01:25:33.910 --> 01:25:36.646 that's the personal care waiver program.

NOTE Confidence: 0.8070836975

01:25:36.650 --> 01:25:38.120 The one thing that I've noticed is

NOTE Confidence: 0.8070836975

01:25:38.120 --> 01:25:39.768 the wait list is four to five years,

NOTE Confidence: 0.8070836975

01:25:39.770 --> 01:25:41.632 so if you ever have an opportunity

NOTE Confidence: 0.8070836975

01:25:41.632 --> 01:25:43.680 to call your state representative,

NOTE Confidence: 0.8070836975

01:25:43.680 --> 01:25:46.704 please do and say that's really unacceptable.

NOTE Confidence: 0.8070836975

01:25:46.710 --> 01:25:47.901 For older individuals,

NOTE Confidence: 0.8070836975

01:25:47.901 --> 01:25:51.180 65 years and older there is the Connecticut

NOTE Confidence: 0.8070836975

01:25:51.180 --> 01:25:54.580 Home Care program and this is long term.

NOTE Confidence: 0.8070836975

01:25:54.580 --> 01:25:56.408 There assistance at home

NOTE Confidence: 0.8070836975

01:25:56.408 --> 01:25:58.236 which is sometimes needed,

NOTE Confidence: 0.8070836975

01:25:58.240 --> 01:26:00.193 so these are these are the resources

NOTE Confidence: 0.8070836975

01:26:00.193 --> 01:26:01.876 are available if you have any

NOTE Confidence: 0.8070836975

01:26:01.876 --> 01:26:03.454 concerns reach out to your team.

NOTE Confidence: 0.8070836975

01:26:03.460 --> 01:26:05.812 They will guide you to somebody that can

NOTE Confidence: 0.8070836975

01:26:05.812 --> 01:26:07.897 help support you in any of these areas.

NOTE Confidence: 0.8070836975

01:26:07.900 --> 01:26:10.540 I just want to thank everyone for the

NOTE Confidence: 0.8070836975

01:26:10.540 --> 01:26:12.409 opportunity and just some references

NOTE Confidence: 0.8070836975

01:26:12.409 --> 01:26:14.314 and I had known disclosures.

NOTE Confidence: 0.8070836975

01:26:14.320 --> 01:26:14.950 Thank you guys.

NOTE Confidence: 0.8735302718

01:26:18.440 --> 01:26:20.575 Thank you Brian. It's always such a

NOTE Confidence: 0.8735302718

01:26:20.575 --> 01:26:23.012 beautiful talk and to hear you speak so

NOTE Confidence: 0.8735302718

01:26:23.012 --> 01:26:25.059 passionately about it and thank you again

NOTE Confidence: 0.8735302718

01:26:25.059 --> 01:26:27.131 to you and to Julian for the support

NOTE Confidence: 0.8735302718

01:26:27.140 --> 01:26:29.228 Group One question are our support

NOTE Confidence: 0.8735302718

01:26:29.228 --> 01:26:31.939 groups open to all patients or only

NOTE Confidence: 0.8735302718

01:26:31.939 --> 01:26:34.435 those being treated at your institution?

NOTE Confidence: 0.8735302718

01:26:34.440 --> 01:26:36.260 Absolutely open to all patients

NOTE Confidence: 0.8735302718

01:26:36.260 --> 01:26:38.660 and so the more the better.

NOTE Confidence: 0.8735302718

01:26:38.660 --> 01:26:40.956 And Brian, I don't know if you want

NOTE Confidence: 0.8735302718

01:26:40.956 --> 01:26:43.034 to put your contact in the chat

NOTE Confidence: 0.8735302718

01:26:43.034 --> 01:26:45.387 or do you want to put my contact

NOTE Confidence: 0.8735302718

01:26:45.387 --> 01:26:47.220 in the chat or whichever but.

NOTE Confidence: 0.8735302718

01:26:47.220 --> 01:26:49.670 Please reach out to us and and

NOTE Confidence: 0.8735302718

01:26:49.670 --> 01:26:51.929 everybody is welcome to come to the

NOTE Confidence: 0.8735302718

01:26:51.929 --> 01:26:53.730 support group and it's virtual,

NOTE Confidence: 0.8735302718

01:26:53.730 --> 01:26:57.288 which makes it really easily accessible.

NOTE Confidence: 0.8735302718

01:26:57.290 --> 01:26:58.052 All right, Bruce.

NOTE Confidence: 0.8735302718

01:26:58.052 --> 01:27:00.410 Back to you for those two tough questions.

NOTE Confidence: 0.8735302718

01:27:00.410 --> 01:27:02.938 So how does cyber knife radiation fit in

NOTE Confidence: 0.8735302718

01:27:02.938 --> 01:27:05.218 and what actually is the radiation as

NOTE Confidence: 0.8735302718

01:27:05.218 --> 01:27:07.899 compared to an X ray or dental X ray?

NOTE Confidence: 0.676786746

01:27:08.630 --> 01:27:10.330 Alright thanks yeah, great question.

NOTE Confidence: 0.676786746

01:27:10.330 --> 01:27:12.899 So cyber knife is really just the

NOTE Confidence: 0.676786746

01:27:12.899 --> 01:27:16.429 name like a brand name of one of the

160

NOTE Confidence: 0.676786746

01:27:16.429 --> 01:27:18.590 machines that does that stereotactic

NOTE Confidence: 0.676786746

01:27:18.590 --> 01:27:22.153 technique which is 1 to 5 treatments.

NOTE Confidence: 0.676786746

01:27:22.160 --> 01:27:23.595 There's quite a bit of

NOTE Confidence: 0.676786746

01:27:23.595 --> 01:27:24.743 advertising around that machine,

NOTE Confidence: 0.676786746

01:27:24.750 --> 01:27:27.990 especially in Connecticut.

NOTE Confidence: 0.676786746

01:27:27.990 --> 01:27:28.929 With something good,

NOTE Confidence: 0.676786746

01:27:28.929 --> 01:27:30.807 something I think a little misleading

NOTE Confidence: 0.676786746

01:27:30.807 --> 01:27:32.787 and and things are kind of implying,

NOTE Confidence: 0.676786746

01:27:32.790 --> 01:27:33.735 but it's a.

NOTE Confidence: 0.676786746

01:27:33.735 --> 01:27:35.506 It's a very nice machine and

NOTE Confidence: 0.676786746

01:27:35.506 --> 01:27:36.290 does a great job.

NOTE Confidence: 0.676786746

01:27:36.290 --> 01:27:38.516 There are other machines that are equally

NOTE Confidence: 0.676786746

01:27:38.516 --> 01:27:41.150 as good and are actually more flexible,

NOTE Confidence: 0.676786746

01:27:41.150 --> 01:27:42.482 so for example that stood protocol

NOTE Confidence: 0.676786746

01:27:42.482 --> 01:27:43.924 with six weeks of radiation that's

NOTE Confidence: 0.676786746

01:27:43.924 --> 01:27:45.436 not possible with the cyber knife

NOTE Confidence: 0.676786746

01:27:45.436 --> 01:27:47.186 that can only do the short treatment,

NOTE Confidence: 0.676786746

01:27:47.190 --> 01:27:51.019 so it's a great tool in certain

NOTE Confidence: 0.676786746

01:27:51.019 --> 01:27:54.060 programs and you know we used to

NOTE Confidence: 0.676786746

01:27:54.060 --> 01:27:57.638 have one in our system up in the.

NOTE Confidence: 0.676786746

01:27:57.640 --> 01:28:00.279 Through the same refills group that joined,

NOTE Confidence: 0.676786746

01:28:00.280 --> 01:28:01.978 but ultimately we decided that we

NOTE Confidence: 0.676786746

01:28:01.978 --> 01:28:04.014 like the the machines that are more

NOTE Confidence: 0.676786746

01:28:04.014 --> 01:28:05.712 flexible that can do the stereotactic

NOTE Confidence: 0.676786746

01:28:05.712 --> 01:28:07.142 and can do other treatments

NOTE Confidence: 0.676786746

01:28:07.142 --> 01:28:08.780 and focus more more on those.

NOTE Confidence: 0.676786746

01:28:08.780 --> 01:28:11.356 So a good machine, but with some limitations.

NOTE Confidence: 0.676786746

01:28:11.360 --> 01:28:11.880 I think

NOTE Confidence: 0.739377637777778

01:28:11.890 --> 01:28:13.370 I mean gamma radiosurgery

NOTE Confidence: 0.739377637777778

01:28:13.370 --> 01:28:15.220 essentially is is the same.

NOTE Confidence: 0.739377637777778

01:28:15.220 --> 01:28:16.980 It's just stereotactic radiosurgery.

NOTE Confidence: 0.739377637777778

01:28:16.980 --> 01:28:20.240 Maybe one thing if you could mention,

NOTE Confidence: 0.739377637777778

01:28:20.240 --> 01:28:21.320 I'm not sure if this is

NOTE Confidence: 0.739377637777778

01:28:21.320 --> 01:28:22.380 what the person was asking,

NOTE Confidence: 0.739377637777778

01:28:22.380 --> 01:28:25.301 but I think a good question that that

NOTE Confidence: 0.739377637777778

01:28:25.301 --> 01:28:27.780 I always get all the time is why.

NOTE Confidence: 0.739377637777778

01:28:27.780 --> 01:28:28.852 Why do you use?

NOTE Confidence: 0.739377637777778

01:28:28.852 --> 01:28:30.979 Why can't you use radio surgery for GBM?

NOTE Confidence: 0.739377637777778

01:28:30.980 --> 01:28:32.709 Whether it's cyber knife or gamma knife,

NOTE Confidence: 0.739377637777778

01:28:32.710 --> 01:28:35.210 why do you have to use? So

NOTE Confidence: 0.626987896

01:28:35.700 --> 01:28:36.770 yeah, that's a good question.

NOTE Confidence: 0.626987896

01:28:36.770 --> 01:28:39.280 So yeah, the gamma knife,

NOTE Confidence: 0.626987896

01:28:39.280 --> 01:28:41.504 which we do have it at Yale wonderful

NOTE Confidence: 0.626987896

01:28:41.504 --> 01:28:43.234 program with Doctor Veronica Chang

NOTE Confidence: 0.626987896

01:28:43.234 --> 01:28:45.094 Neurosurgery and then others helping

NOTE Confidence: 0.626987896

01:28:45.094 --> 01:28:47.457 out from radiation college and so on.

NOTE Confidence: 0.626987896

01:28:47.460 --> 01:28:50.385 But that machine uses radioactive

NOTE Confidence: 0.626987896

01:28:50.385 --> 01:28:53.700 cobalt sources to all focus in.

NOTE Confidence: 0.626987896

01:28:53.700 --> 01:28:56.424 It's really best at doing the

NOTE Confidence: 0.626987896

01:28:56.424 --> 01:28:57.786 single fraction treatments.

NOTE Confidence: 0.626987896

01:28:57.790 --> 01:28:59.200 The latest iteration can do

NOTE Confidence: 0.626987896

01:28:59.200 --> 01:29:00.328 two and three treatments,

NOTE Confidence: 0.626987896

01:29:00.330 --> 01:29:01.848 but it's probably it's best with

NOTE Confidence: 0.626987896

01:29:01.848 --> 01:29:03.430 the with the one treatment,

NOTE Confidence: 0.626987896

01:29:03.430 --> 01:29:05.165 and we especially use it

NOTE Confidence: 0.626987896

01:29:05.165 --> 01:29:06.206 for brain metastases.

NOTE Confidence: 0.626987896

01:29:06.210 --> 01:29:07.578 We have other machines like machine

NOTE Confidence: 0.626987896

01:29:07.578 --> 01:29:09.029 is showing the being of the talk.

NOTE Confidence: 0.626987896

01:29:09.030 --> 01:29:09.708 Those linear accelerators

NOTE Confidence: 0.626987896

01:29:09.708 --> 01:29:11.290 that can also do it but are.

NOTE Confidence: 0.626987896

01:29:11.290 --> 01:29:12.610 Let's say that's our number

NOTE Confidence: 0.626987896

01:29:12.610 --> 01:29:13.666 one machine for it.

NOTE Confidence: 0.626987896

01:29:13.670 --> 01:29:16.028 You know what's interesting about tumors

NOTE Confidence: 0.626987896

01:29:16.028 --> 01:29:18.423 is that radiation is is remarkably

NOTE Confidence: 0.626987896

01:29:18.423 --> 01:29:21.076 effective at a lot of different tumors,

NOTE Confidence: 0.626987896

01:29:21.080 --> 01:29:22.920 but it has its limitation.

NOTE Confidence: 0.626987896

01:29:22.920 --> 01:29:23.985 There's sometimes there's just not

NOTE Confidence: 0.626987896

01:29:23.985 --> 01:29:25.350 enough dose that we can get to,

NOTE Confidence: 0.626987896

01:29:25.350 --> 01:29:27.790 and sometimes we've we study what are called.

NOTE Confidence: 0.626987896

01:29:27.790 --> 01:29:29.315 Those escalation trials where we

NOTE Confidence: 0.626987896

01:29:29.315 --> 01:29:31.790 try to go higher and higher with

NOTE Confidence: 0.626987896

01:29:31.790 --> 01:29:33.558 this more sophisticated machinery.

NOTE Confidence: 0.626987896

01:29:33.560 --> 01:29:35.275 And sometimes you find that you know

NOTE Confidence: 0.626987896

01:29:35.275 --> 01:29:37.069 what it just doesn't work better.

NOTE Confidence: 0.626987896

01:29:37.070 --> 01:29:39.182 It there isn't as good as or no

NOTE Confidence: 0.626987896

01:29:39.182 --> 01:29:40.999 better than the lower treatment,

NOTE Confidence: 0.626987896

01:29:41.000 --> 01:29:43.008 or in fact it can be worse sometimes

NOTE Confidence: 0.626987896

01:29:43.008 --> 01:29:44.810 because we have more side effects

NOTE Confidence: 0.626987896

01:29:44.810 --> 01:29:46.360 and we're still not controlling

NOTE Confidence: 0.626987896

01:29:46.360 --> 01:29:47.639 the tumor any better.

NOTE Confidence: 0.626987896

01:29:47.640 --> 01:29:50.100 And so for glioblastoma in particular,

NOTE Confidence: 0.626987896

01:29:50.100 --> 01:29:52.332 I think in the earlier days of gaming and

NOTE Confidence: 0.626987896

01:29:52.332 --> 01:29:54.517 some of the machines people were saying,

NOTE Confidence: 0.626987896

01:29:54.520 --> 01:29:54.721 hey,

NOTE Confidence: 0.626987896

01:29:54.721 --> 01:29:55.927 this is a tumor that we're

NOTE Confidence: 0.626987896

01:29:55.927 --> 01:29:56.949 struggling with and we didn't

NOTE Confidence: 0.626987896

01:29:56.949 --> 01:29:58.265 know as much about some of these.

NOTE Confidence: 0.626987896

01:29:58.270 --> 01:29:59.682 MGMT and all these.

NOTE Confidence: 0.626987896

01:29:59.682 --> 01:30:01.094 These nifty things Doctor

NOTE Confidence: 0.626987896

01:30:01.094 --> 01:30:02.689 Chrome was pointing out,

NOTE Confidence: 0.626987896

01:30:02.690 --> 01:30:04.545 and so one thing would say hey,

NOTE Confidence: 0.626987896

01:30:04.550 --> 01:30:07.244 but let's do more radiation and

NOTE Confidence: 0.626987896

01:30:07.244 --> 01:30:10.030 I would say pretty uniformly.

166

NOTE Confidence: 0.626987896

01:30:10.030 --> 01:30:12.310 Those efforts and trials were failures.

NOTE Confidence: 0.626987896

01:30:12.310 --> 01:30:15.205 They just did not replace, didn't?

NOTE Confidence: 0.626987896

01:30:15.205 --> 01:30:16.735 They certainly didn't replace the surgery,

NOTE Confidence: 0.626987896

01:30:16.740 --> 01:30:19.158 can do, and even within radiation,

NOTE Confidence: 0.626987896

01:30:19.160 --> 01:30:21.716 they just really weren't adding lots.

NOTE Confidence: 0.626987896

01:30:21.720 --> 01:30:24.108 So at this point,

NOTE Confidence: 0.626987896

01:30:24.110 --> 01:30:26.816 you know we very selectively use

NOTE Confidence: 0.626987896

01:30:26.816 --> 01:30:29.229 radiosurgery techniques for people who had.

NOTE Confidence: 0.626987896

01:30:29.230 --> 01:30:30.742 Usually multiple recurrences where

NOTE Confidence: 0.626987896

01:30:30.742 --> 01:30:33.010 they are not a surgical candidate,

NOTE Confidence: 0.626987896

01:30:33.010 --> 01:30:34.198 and I think in that respect,

NOTE Confidence: 0.626987896

01:30:34.200 --> 01:30:35.817 and there's been a gap of time

NOTE Confidence: 0.626987896

01:30:35.817 --> 01:30:37.030 since the original radiation.

NOTE Confidence: 0.626987896

01:30:37.030 --> 01:30:39.136 It can be quite effective there,

NOTE Confidence: 0.626987896

01:30:39.140 --> 01:30:41.216 and we're studying it with in

NOTE Confidence: 0.626987896

01:30:41.216 --> 01:30:43.010 combination with certain other drugs,

NOTE Confidence: 0.626987896

01:30:43.010 --> 01:30:44.930 as if we can make it more effective,

NOTE Confidence: 0.626987896

01:30:44.930 --> 01:30:48.367 but but definitely not a substitute for

NOTE Confidence: 0.626987896

01:30:48.370 --> 01:30:51.884 for surgery when when at all possible.

NOTE Confidence: 0.626987896

01:30:51.890 --> 01:30:53.213 The other question,

NOTE Confidence: 0.626987896

01:30:53.213 --> 01:30:55.859 so most these machines that we're

NOTE Confidence: 0.626987896

01:30:55.859 --> 01:30:57.791 talking about whether cyber knife

NOTE Confidence: 0.626987896

01:30:57.791 --> 01:31:00.901 or you know a true beam or any of

NOTE Confidence: 0.626987896

01:31:00.901 --> 01:31:03.022 these ones are are using X rays.

NOTE Confidence: 0.626987896

01:31:03.030 --> 01:31:04.005 Really X rays,

NOTE Confidence: 0.626987896

01:31:04.005 --> 01:31:06.280 the gamma knife machine uses gamma rays

NOTE Confidence: 0.626987896

01:31:06.342 --> 01:31:08.687 as it's a radioactive pieces of cobalt,

NOTE Confidence: 0.626987896

01:31:08.690 --> 01:31:10.419 but most of them are these machines

NOTE Confidence: 0.626987896

01:31:10.419 --> 01:31:12.567 and so they really share a fundamental

NOTE Confidence: 0.626987896

01:31:12.567 --> 01:31:14.589 architecture with the same machine in

NOTE Confidence: 0.626987896

01:31:14.590 --> 01:31:16.390 your dentist office or a mammogram,

168

NOTE Confidence: 0.626987896

01:31:16.390 --> 01:31:17.635 or anything else.

NOTE Confidence: 0.626987896

01:31:17.635 --> 01:31:20.125 The difference is that those diagnostic

NOTE Confidence: 0.626987896

01:31:20.125 --> 01:31:22.580 X rays are in the kilovoltage.

NOTE Confidence: 0.626987896

01:31:22.580 --> 01:31:24.146 Range is the energy and when

NOTE Confidence: 0.626987896

01:31:24.146 --> 01:31:25.190 we treat with therapeutic

NOTE Confidence: 0.619708299090909

01:31:25.245 --> 01:31:27.702 relations, the mega voltage range.

NOTE Confidence: 0.619708299090909

01:31:27.702 --> 01:31:31.213 So it's 1000 times more energetic and

NOTE Confidence: 0.619708299090909

01:31:31.213 --> 01:31:34.015 really has some unique properties about

NOTE Confidence: 0.619708299090909

01:31:34.015 --> 01:31:37.500 how it can damage the tissues and which

NOTE Confidence: 0.619708299090909

01:31:37.500 --> 01:31:39.040 then sets up the type of shielding

NOTE Confidence: 0.619708299090909

01:31:39.040 --> 01:31:40.607 that's necessary and everything else.

NOTE Confidence: 0.619708299090909

01:31:40.610 --> 01:31:42.654 So they are X rays, they're just

NOTE Confidence: 0.619708299090909

01:31:42.654 --> 01:31:44.414 more powerful that we're using.

NOTE Confidence: 0.844463618333333

01:31:47.420 --> 01:31:50.563 Great thank you. There was one final

NOTE Confidence: 0.844463618333333

01:31:50.563 --> 01:31:52.840 question with regards to surgery.

NOTE Confidence: 0.844463618333333

169

01:31:52.840 --> 01:31:54.780 Somebody who's watching from Germany.

NOTE Confidence: 0.844463618333333

01:31:54.780 --> 01:31:57.312 So thanks for joining from Germany question

NOTE Confidence: 0.844463618333333

01:31:57.312 --> 01:32:01.069 do we have any thoughts on the autologous,

NOTE Confidence: 0.844463618333333

01:32:01.070 --> 01:32:03.905 all mental free flap technique from Doctor

NOTE Confidence: 0.844463618333333

01:32:03.905 --> 01:32:07.018 John Boockvar and has this been done at Yale?

NOTE Confidence: 0.844463618333333

01:32:07.020 --> 01:32:09.612 And so John is a a good friend of

NOTE Confidence: 0.844463618333333

01:32:09.612 --> 01:32:12.479 mine and I'm familiar with his trials.

NOTE Confidence: 0.844463618333333

01:32:12.480 --> 01:32:14.802 This one is is something just

NOTE Confidence: 0.844463618333333

01:32:14.802 --> 01:32:16.910 to to update others about.

NOTE Confidence: 0.844463618333333

01:32:16.910 --> 01:32:20.426 This is. Using a piece of

NOTE Confidence: 0.844463618333333

01:32:20.426 --> 01:32:22.184 laproscopically obtained omentum,

NOTE Confidence: 0.844463618333333

01:32:22.190 --> 01:32:26.250 which is highly vascularized with a pedicle,

NOTE Confidence: 0.844463618333333

01:32:26.250 --> 01:32:28.010 a vascular pedicle to it,

NOTE Confidence: 0.844463618333333

01:32:28.010 --> 01:32:30.186 and the idea there is to to bypass

NOTE Confidence: 0.844463618333333

01:32:30.186 --> 01:32:32.441 the blood brain barrier and he's had

NOTE Confidence: 0.844463618333333

01:32:32.441 --> 01:32:34.770 some other trials that had that same.

NOTE Confidence: 0.844463618333333

01:32:34.770 --> 01:32:37.507 From type of of thought behind them,

NOTE Confidence: 0.844463618333333

01:32:37.510 --> 01:32:39.385 bypassing the blood brain barrier

NOTE Confidence: 0.844463618333333

01:32:39.385 --> 01:32:41.260 to get more direct targeted

NOTE Confidence: 0.844463618333333

01:32:41.322 --> 01:32:43.287 therapy to the resection cavity.

NOTE Confidence: 0.844463618333333

01:32:43.290 --> 01:32:46.048 We personally don't have that trial here.

NOTE Confidence: 0.844463618333333

01:32:46.050 --> 01:32:49.046 We haven't tried that that trial here,

NOTE Confidence: 0.844463618333333

01:32:49.050 --> 01:32:51.311 but we'll certainly look to to John

NOTE Confidence: 0.844463618333333

01:32:51.311 --> 01:32:53.762 and his team to see how the the

NOTE Confidence: 0.844463618333333

01:32:53.762 --> 01:32:55.989 results are early on in that trial.

NOTE Confidence: 0.844463618333333

01:32:55.990 --> 01:32:58.587 I don't know if Zach you have

NOTE Confidence: 0.844463618333333

01:32:58.587 --> 01:33:00.530 any thoughts or comments.

NOTE Confidence: 0.844463618333333

01:33:00.530 --> 01:33:02.180 He does not.

NOTE Confidence: 0.844463618333333

01:33:02.180 --> 01:33:05.233 All right, well it is 807 and I think

NOTE Confidence: 0.844463618333333

01:33:05.233 --> 01:33:08.058 we are done with all of the questions.

NOTE Confidence: 0.844463618333333

01:33:08.060 --> 01:33:10.475 It's really been a pleasure having my

NOTE Confidence: 0.844463618333333

01:33:10.475 --> 01:33:12.320 friends and colleagues here tonight.

NOTE Confidence: 0.844463618333333

01:33:12.320 --> 01:33:15.554 So thank you again to Zach and

NOTE Confidence: 0.844463618333333

01:33:15.554 --> 01:33:16.940 Bruce and Brian.

NOTE Confidence: 0.844463618333333

01:33:16.940 --> 01:33:17.789 Really wonderful talks.

NOTE Confidence: 0.844463618333333

01:33:17.789 --> 01:33:20.160 Really a pleasure to work with all of you.

NOTE Confidence: 0.844463618333333

01:33:20.160 --> 01:33:22.320 Thank you for everything you do for our

NOTE Confidence: 0.844463618333333

01:33:22.320 --> 01:33:24.555 patience as part of the brain tumor center.

NOTE Confidence: 0.844463618333333

01:33:24.560 --> 01:33:26.730 Thank you for being here tonight and

NOTE Confidence: 0.844463618333333

01:33:26.730 --> 01:33:28.828 thank you to everyone for listening

NOTE Confidence: 0.844463618333333

01:33:28.828 --> 01:33:31.397 to us and please reach out anytime.

NOTE Confidence: 0.844463618333333

01:33:31.400 --> 01:33:32.591 Brian put his.

NOTE Confidence: 0.844463618333333

01:33:32.591 --> 01:33:35.370 Email in that chat for the support

NOTE Confidence: 0.844463618333333

01:33:35.459 --> 01:33:38.413 group and you can email me at

NOTE Confidence: 0.844463618333333

01:33:38.413 --> 01:33:40.556 anytime with anything, all right.

NOTE Confidence: 0.844463618333333

01:33:40.556 --> 01:33:42.746 So have a good night.

NOTE Confidence: 0.844463618333333

01:33:42.750 --> 01:33:44.540 Thank you so much goodnight,

NOTE Confidence: 0.844463618333333

01:33:44.540 --> 01:33:46.000 thank you.