## WEBVTT

 $00:00:00.000 \longrightarrow 00:00:02.148$  Funding for Yale Cancer Answers is

NOTE Confidence: 0.805857452727273

 $00{:}00{:}02.148 \to 00{:}00{:}04.180$  provided by Smilow Cancer Hospital.

NOTE Confidence: 0.83045246

 $00:00:06.470 \longrightarrow 00:00:07.822$  Welcome to Yale Cancer

NOTE Confidence: 0.83045246

00:00:07.822 --> 00:00:09.174 Answers with your host

NOTE Confidence: 0.83045246

 $00:00:09.180 \longrightarrow 00:00:11.385$  Doctor Anees Chappar. Yale Cancer

NOTE Confidence: 0.83045246

 $00:00:11.385 \longrightarrow 00:00:13.590$  Answers features the latest information

NOTE Confidence: 0.83045246

 $00:00:13.656 \longrightarrow 00:00:15.942$  on cancer care by welcoming oncologists

NOTE Confidence: 0.83045246

 $00{:}00{:}15.942 \dashrightarrow 00{:}00{:}18.157$  and specialists who are on the

NOTE Confidence: 0.83045246

 $00:00:18.157 \longrightarrow 00:00:20.362$  forefront of the battle to fight cancer.

NOTE Confidence: 0.83045246

 $00:00:20.370 \longrightarrow 00:00:20.994$  This week,

NOTE Confidence: 0.83045246

 $00:00:20.994 \longrightarrow 00:00:22.554$  it's a conversation about the

NOTE Confidence: 0.83045246

 $00:00:22.554 \longrightarrow 00:00:24.629$  care of patients with brain tumors

NOTE Confidence: 0.83045246

 $00{:}00{:}24.629 \dashrightarrow 00{:}00{:}26.413$  with Doctor Nicholas Blondin. Dr

NOTE Confidence: 0.83045246

 $00{:}00{:}26.413 \dashrightarrow 00{:}00{:}28.128$  Blondin is an assistant professor

NOTE Confidence: 0.83045246

 $00:00:28.128 \longrightarrow 00:00:29.870$  of clinical neurology at the

00:00:29.870 --> 00:00:31.126 Yale School of Medicine,

NOTE Confidence: 0.83045246

 $00:00:31.130 \longrightarrow 00:00:34.274$  where Doctor Chagpar is a professor

NOTE Confidence: 0.83045246

 $00:00:34.274 \longrightarrow 00:00:35.846$  of surgical oncology.

NOTE Confidence: 0.83045246

 $00:00:35.850 \longrightarrow 00:00:36.660$  So maybe

NOTE Confidence: 0.9070686908

 $00:00:36.670 \longrightarrow 00:00:39.316$  we can start by you telling us a little

NOTE Confidence: 0.9070686908

00:00:39.316 --> 00:00:41.863 bit more about what it is you do and

NOTE Confidence: 0.9070686908

 $00{:}00{:}41.863 \dashrightarrow 00{:}00{:}44.257$  and a bit more about yourself.

NOTE Confidence: 0.746350576666667

00:00:44.510 --> 00:00:47.708 Well, sure, I'm neurologist by training

NOTE Confidence: 0.7463505766666667

00:00:47.710 --> 00:00:49.990 and following my neurology residency

NOTE Confidence: 0.746350576666667

00:00:49.990 --> 00:00:53.714 I did some additional training in oncology

NOTE Confidence: 0.746350576666667

 $00{:}00{:}53.714 \dashrightarrow 00{:}00{:}56.356$  and so I finished with board certification

NOTE Confidence: 0.746350576666667

 $00:00:56.356 \longrightarrow 00:00:58.330$  and neurology and Neuro Oncology.

NOTE Confidence: 0.746350576666667

 $00:00:58.330 \longrightarrow 00:01:00.166$  And so I approach patient care

NOTE Confidence: 0.7463505766666667

 $00:01:00.166 \longrightarrow 00:01:03.090$  as a neurologist thinking about

NOTE Confidence: 0.746350576666667

00:01:03.090 --> 00:01:04.826 Neurological function of my

NOTE Confidence: 0.746350576666667

 $00{:}01{:}04.826 \dashrightarrow 00{:}01{:}07.430$  patients and how their body works.

00:01:07.430 --> 00:01:08.750 But now we're in practice,

NOTE Confidence: 0.746350576666667

 $00:01:08.750 \longrightarrow 00:01:10.190$  really full time and

NOTE Confidence: 0.746350576666667

 $00:01:10.190 \longrightarrow 00:01:13.070$  see patients affected by brain tumors

NOTE Confidence: 0.746350576666667

 $00:01:13.070 \longrightarrow 00:01:16.190$  and cancer causing neurological symptoms.

NOTE Confidence: 0.917784262727273

 $00:01:17.350 \longrightarrow 00:01:19.558$  So let's talk a little bit

NOTE Confidence: 0.917784262727273

 $00:01:19.558 \longrightarrow 00:01:21.590$  about both of those areas.

NOTE Confidence: 0.917784262727273

00:01:21.590 --> 00:01:24.425 So first, in terms of brain cancers,

NOTE Confidence: 0.917784262727273

 $00{:}01{:}24.430 \to 00{:}01{:}25.872$  can you give us a little bit

NOTE Confidence: 0.917784262727273

 $00:01:25.872 \longrightarrow 00:01:27.369$  more of the lay of the land?

NOTE Confidence: 0.917784262727273

 $00:01:27.370 \longrightarrow 00:01:28.854$  Who gets brain cancer?

NOTE Confidence: 0.917784262727273

 $00:01:28.854 \longrightarrow 00:01:30.709$  What are the different types?

NOTE Confidence: 0.917784262727273

 $00:01:30.710 \longrightarrow 00:01:32.558$  How? How do we kind of approach

NOTE Confidence: 0.917784262727273

 $00{:}01{:}32.558 {\:{\mbox{--}}\!>\:} 00{:}01{:}33.810$  thinking about brain cancers?

NOTE Confidence: 0.859321143333333

 $00{:}01{:}34.530 \dashrightarrow 00{:}01{:}37.530$  Sure, well on the one sense.

NOTE Confidence: 0.859321143333333

 $00:01:37.530 \longrightarrow 00:01:39.330$  Fortunately, brain tumors and

 $00:01:39.330 \longrightarrow 00:01:42.030$  brain cancer is a rare condition.

NOTE Confidence: 0.859321143333333

 $00{:}01{:}42.030 \dashrightarrow 00{:}01{:}45.766$  It's felt to have kind of a incidents

NOTE Confidence: 0.859321143333333

00:01:45.766 --> 00:01:49.146 or diagnosis rate of approximately 300

NOTE Confidence: 0.859321143333333

 $00:01:49.146 \longrightarrow 00:01:52.674$  people per 1,000,000 people per year.

NOTE Confidence: 0.859321143333333

00:01:52.680 --> 00:01:55.459 There are two subtypes of brain tumors,

NOTE Confidence: 0.859321143333333

 $00:01:55.460 \longrightarrow 00:01:57.830$  those being considered benign brain tumors

NOTE Confidence: 0.859321143333333

 $00:01:57.830 \longrightarrow 00:02:00.400$  or noncancerous and those being cancerous,

NOTE Confidence: 0.859321143333333

 $00:02:00.400 \longrightarrow 00:02:02.590$  meningiomas and glioma tumors are

NOTE Confidence: 0.859321143333333

 $00{:}02{:}02.590 \to 00{:}02{:}05.766$  the most common tumors in in patients

NOTE Confidence: 0.859321143333333

 $00:02:05.766 \longrightarrow 00:02:07.578$  that constitutes approximately 2/3

NOTE Confidence: 0.859321143333333

 $00{:}02{:}07.578 \dashrightarrow 00{:}02{:}11.296$  of all all the brain tumors and the

NOTE Confidence: 0.859321143333333

 $00:02:11.296 \longrightarrow 00:02:14.045$  frequency of these tumor types and

NOTE Confidence: 0.859321143333333

00:02:14.045 --> 00:02:16.880 their grade varies by their age group,

NOTE Confidence: 0.859321143333333

 $00:02:16.880 \longrightarrow 00:02:19.778$  so brain tumors can actually affect

NOTE Confidence: 0.859321143333333

 $00:02:19.780 \longrightarrow 00:02:21.866$  a person at any age from infants

NOTE Confidence: 0.859321143333333

 $00:02:21.866 \longrightarrow 00:02:22.760$  and young children.

00:02:22.760 --> 00:02:23.888 All the way through our very,

NOTE Confidence: 0.859321143333333

 $00{:}02{:}23.890 \dashrightarrow 00{:}02{:}27.300$  very elderly patients and brain

NOTE Confidence: 0.859321143333333

 $00:02:27.300 \longrightarrow 00:02:30.028$  tumors are amongst children,

NOTE Confidence: 0.859321143333333

00:02:30.030 --> 00:02:33.390 a relatively common childhood cancer

NOTE Confidence: 0.859321143333333

 $00{:}02{:}33.390 \dashrightarrow 00{:}02{:}36.130$  following leukemia in a dults.

NOTE Confidence: 0.859321143333333

 $00:02:36.130 \longrightarrow 00:02:37.500$  Brain metastasis,

NOTE Confidence: 0.859321143333333

 $00:02:37.500 \longrightarrow 00:02:38.778$  which is the spread of other

NOTE Confidence: 0.859321143333333

 $00:02:38.778 \longrightarrow 00:02:39.630$  cancers to the brain,

NOTE Confidence: 0.859321143333333

 $00{:}02{:}39.630 \to 00{:}02{:}43.998$  is more common than primary brain tumors.

NOTE Confidence: 0.859321143333333

 $00:02:44.000 \longrightarrow 00:02:46.454$  Glioblastoma is the most common malignant

NOTE Confidence: 0.859321143333333

00:02:46.454 --> 00:02:48.892 primary brain tumor in adults and

NOTE Confidence: 0.859321143333333

00:02:48.892 --> 00:02:51.094 becomes more common with older age,

NOTE Confidence: 0.859321143333333

 $00{:}02{:}51.100 \dashrightarrow 00{:}02{:}53.948$  particularly for folks in their 60s or 70s.

NOTE Confidence: 0.730113576

 $00{:}02{:}55.050 \dashrightarrow 00{:}02{:}56.650$  Wow, lots to unpack there,

NOTE Confidence: 0.730113576

 $00:02:56.650 \longrightarrow 00:02:59.320$  so let's start at the beginning.

 $00:02:59.320 \longrightarrow 00:03:01.366$  When you talked about brain tumors.

NOTE Confidence: 0.730113576

 $00{:}03{:}01.370 \dashrightarrow 00{:}03{:}02.950$  Kind of affecting every one

NOTE Confidence: 0.730113576

 $00{:}03{:}02.950 \dashrightarrow 00{:}03{:}04.530$  throughout the age spectrum.

NOTE Confidence: 0.730113576

 $00:03:04.530 \longrightarrow 00:03:06.301$  One of the things that I think

NOTE Confidence: 0.730113576

00:03:06.301 --> 00:03:08.168 many of our listeners might be

NOTE Confidence: 0.730113576

 $00{:}03{:}08.168 \dashrightarrow 00{:}03{:}10.262$  really intrigued about is the fact

NOTE Confidence: 0.730113576

 $00:03:10.262 \longrightarrow 00:03:12.391$  that brain tumors are so common

NOTE Confidence: 0.730113576

 $00:03:12.391 \longrightarrow 00:03:14.106$  in young infants and children.

NOTE Confidence: 0.730113576

 $00:03:14.110 \longrightarrow 00:03:17.592$  Tell us a little bit more about how that

NOTE Confidence: 0.730113576

00:03:17.592 --> 00:03:20.049 presents who might be at greatest risk,

NOTE Confidence: 0.730113576

00:03:20.050 --> 00:03:22.606 and you know, certainly when parents

NOTE Confidence: 0.730113576

 $00:03:22.606 \longrightarrow 00:03:25.360$  hear that statistic that you mentioned.

NOTE Confidence: 0.730113576

 $00:03:25.360 \longrightarrow 00:03:27.790$  They may be curious about what to look for

NOTE Confidence: 0.730113576

 $00:03:27.790 \longrightarrow 00:03:30.577$  in terms of brain cancers in their children.

NOTE Confidence: 0.730113576

 $00:03:30.580 \longrightarrow 00:03:32.547$  Can you shed some light on that?

NOTE Confidence: 0.766308415555556

 $00:03:33.060 \longrightarrow 00:03:36.327$  Sure. Well, I guess I would like to correct.

 $00:03:36.330 \longrightarrow 00:03:39.459$  In one sense, they're a common cancer,

NOTE Confidence: 0.766308415555556

 $00:03:39.460 \longrightarrow 00:03:41.068$  but fortunately cancers are

NOTE Confidence: 0.766308415555556

00:03:41.068 --> 00:03:42.676 extremely rare in children,

NOTE Confidence: 0.766308415555556

 $00:03:42.680 \longrightarrow 00:03:46.200$  so they are, you know.

NOTE Confidence: 0.766308415555556

00:03:46.200 --> 00:03:47.682 Overall, for children,

NOTE Confidence: 0.766308415555556

 $00:03:47.682 \longrightarrow 00:03:49.658$  like very rare conditions,

NOTE Confidence: 0.766308415555556

 $00:03:49.660 \longrightarrow 00:03:51.565$  typically they would be discovered

NOTE Confidence: 0.766308415555556

 $00:03:51.565 \longrightarrow 00:03:54.422$  by a patient or like a child

NOTE Confidence: 0.766308415555556

00:03:54.422 --> 00:03:56.657 having difficulty with walking like

NOTE Confidence: 0.76630841555556

 $00:03:56.657 \longrightarrow 00:03:59.042$  unexplained falls or headaches and

NOTE Confidence: 0.766308415555556

00:03:59.042 --> 00:04:01.586 like kind of cognitive impairments

NOTE Confidence: 0.766308415555556

 $00:04:01.586 \longrightarrow 00:04:04.571$  or sudden changes leading you know,

NOTE Confidence: 0.766308415555556

 $00{:}04{:}04{:}04{.}571 \dashrightarrow 00{:}04{:}06{.}319$  to initially like evaluation

NOTE Confidence: 0.766308415555556

 $00:04:06.319 \longrightarrow 00:04:09.718$  and diagnosis via imaging.

NOTE Confidence: 0.76630841555556

 $00:04:09.720 \longrightarrow 00:04:11.196$  You know, finding a brain tumor.

 $00:04:12.500 \longrightarrow 00:04:14.933$  And so so you know, if you have

NOTE Confidence: 0.864757754

 $00{:}04{:}14.933 \dashrightarrow 00{:}04{:}16.830$ a child who might be a little

NOTE Confidence: 0.864757754

 $00:04:16.904 \longrightarrow 00:04:18.855$  bit delayed, might be falling.

NOTE Confidence: 0.864757754

00:04:18.855 --> 00:04:20.780 Might be complaining of headaches,

NOTE Confidence: 0.864757754

 $00:04:20.780 \longrightarrow 00:04:22.859$  something to go and talk to your

NOTE Confidence: 0.864757754

 $00{:}04{:}22.859 \dashrightarrow 00{:}04{:}24.009$  pediatrician about. Is that right?

NOTE Confidence: 0.598401276

 $00:04:24.340 \longrightarrow 00:04:26.020$  Yeah, that's that's for sure.

NOTE Confidence: 0.598401276

00:04:26.020 --> 00:04:28.780 I mean parents. You know,

NOTE Confidence: 0.598401276

 $00:04:28.780 \longrightarrow 00:04:29.980$  they know their kids the best,

NOTE Confidence: 0.598401276

 $00:04:29.980 \longrightarrow 00:04:32.980$  and if they see a change.

NOTE Confidence: 0.598401276

 $00{:}04{:}32.980 \dashrightarrow 00{:}04{:}34.995$  And it's anything I've concerned

NOTE Confidence: 0.598401276

00:04:34.995 --> 00:04:36.607 definitely is most appropriate

NOTE Confidence: 0.598401276

 $00{:}04{:}36.607 \dashrightarrow 00{:}04{:}38.906$  to check in with the pediatrician

NOTE Confidence: 0.598401276

 $00:04:38.910 \longrightarrow 00:04:40.324$  and they'll have a good sense to

NOTE Confidence: 0.598401276

 $00:04:40.324 \longrightarrow 00:04:41.648$  help figure out what's going on.

NOTE Confidence: 0.886437344285714

 $00:04:42.370 \longrightarrow 00:04:45.310$  And so, how is that diagnosis made?

 $00:04:45.310 \longrightarrow 00:04:47.067$  You go in? You see the pediatrician.

NOTE Confidence: 0.886437344285714

00:04:47.070 --> 00:04:48.130 The pediatrician says, yeah,

NOTE Confidence: 0.886437344285714

00:04:48.130 --> 00:04:50.729 you know this is kind of odd for your child.

NOTE Confidence: 0.886437344285714

 $00:04:50.730 \longrightarrow 00:04:52.970$  I agree there might be something going on.

NOTE Confidence: 0.886437344285714

 $00:04:52.970 \longrightarrow 00:04:55.866$  What's the next step is the next step

NOTE Confidence: 0.886437344285714

 $00:04:55.866 \longrightarrow 00:04:58.666$  imaging and after that what happens is?

NOTE Confidence: 0.886437344285714

 $00:04:58.670 \longrightarrow 00:05:00.440$  Is there a biopsy involved?

NOTE Confidence: 0.767627945714286

 $00{:}05{:}01.390 \dashrightarrow 00{:}05{:}05.569$  Well, I think that the pediatrician would,

NOTE Confidence: 0.767627945714286

 $00{:}05{:}05.570 \dashrightarrow 00{:}05{:}08.048$  you know here here the the history

NOTE Confidence: 0.767627945714286

 $00:05:08.048 \longrightarrow 00:05:09.838$  and the situation and then

NOTE Confidence: 0.767627945714286

 $00:05:09.838 \longrightarrow 00:05:12.120$  examine the child if they see any.

NOTE Confidence: 0.767627945714286

 $00:05:12.120 \longrightarrow 00:05:14.904$  Concerning neurological signs

NOTE Confidence: 0.767627945714286

 $00{:}05{:}14.904 \dashrightarrow 00{:}05{:}18.616$  like difficulty with walking.

NOTE Confidence: 0.767627945714286

00:05:18.620 --> 00:05:20.210 Other just neurological

NOTE Confidence: 0.767627945714286

 $00:05:20.210 \longrightarrow 00:05:22.140$  anomalies on the test.

 $00:05:22.140 \longrightarrow 00:05:24.520$  They may want to refer the patient

NOTE Confidence: 0.767627945714286

 $00:05:24.520 \longrightarrow 00:05:26.939$  to a pediatric neurologist,

NOTE Confidence: 0.767627945714286

 $00:05:26.940 \longrightarrow 00:05:30.209$  or they they may want to just

NOTE Confidence: 0.767627945714286

 $00:05:30.209 \longrightarrow 00:05:33.269$  proceed with doing an imaging test.

NOTE Confidence: 0.767627945714286 00:05:33.270 --> 00:05:33.892 In children,

NOTE Confidence: 0.767627945714286

 $00:05:33.892 \longrightarrow 00:05:35.447$  and even really in adults,

NOTE Confidence: 0.767627945714286

 $00:05:35.450 \longrightarrow 00:05:37.625$  doing Mris may be preferable

NOTE Confidence: 0.767627945714286

 $00{:}05{:}37.625 \dashrightarrow 00{:}05{:}40.786$  to doing CAT scans as MRI is a

NOTE Confidence: 0.767627945714286

00:05:40.786 --> 00:05:42.290 technology based on magnets,

NOTE Confidence: 0.767627945714286

 $00:05:42.290 \longrightarrow 00:05:44.257$  whereas CAT scans it's a low dose

NOTE Confidence: 0.767627945714286

 $00{:}05{:}44.257 \dashrightarrow 00{:}05{:}46.374$  of radiation and you want to try to

NOTE Confidence: 0.767627945714286

 $00:05:46.374 \longrightarrow 00:05:48.150$  limit radiation in in children,

NOTE Confidence: 0.767627945714286

 $00:05:48.150 \longrightarrow 00:05:50.450$  if at all possible, yeah,

NOTE Confidence: 0.767627945714286

 $00:05:50.450 \longrightarrow 00:05:53.048$  then if if some abnormalities found

NOTE Confidence: 0.767627945714286

 $00:05:53.048 \longrightarrow 00:05:55.742$  on the imaging then the patient

NOTE Confidence: 0.767627945714286

 $00{:}05{:}55.742 \dashrightarrow 00{:}05{:}58.829$  would be while he referred to a

00:05:58.829 --> 00:06:00.648 neurosurgeon for their expertise

NOTE Confidence: 0.767627945714286

 $00:06:00.648 \longrightarrow 00:06:03.679$  and figuring out what could be the.

NOTE Confidence: 0.767627945714286

 $00:06:03.680 \longrightarrow 00:06:05.320$  The next steps going forward,

NOTE Confidence: 0.767627945714286

 $00:06:05.320 \longrightarrow 00:06:07.065$  whether it's just further monitoring

NOTE Confidence: 0.767627945714286

 $00{:}06{:}07.065 \dashrightarrow 00{:}06{:}09.210$  with scans or whether doing like

NOTE Confidence: 0.767627945714286

 $00:06:09.210 \longrightarrow 00:06:10.905$  a biopsy or a neurosurgical

NOTE Confidence: 0.767627945714286

 $00:06:10.905 \longrightarrow 00:06:11.922$  procedure is indicated.

NOTE Confidence: 0.81914010375

 $00:06:13.150 \longrightarrow 00:06:15.540$  How would how would the

NOTE Confidence: 0.81914010375

 $00{:}06{:}15.540 \dashrightarrow 00{:}06{:}16.974$  neurosurgeon determine that?

NOTE Confidence: 0.81914010375

 $00:06:16.980 \longrightarrow 00:06:19.796$  If you see a lesion on the MRI,

NOTE Confidence: 0.81914010375

 $00:06:19.800 \longrightarrow 00:06:21.585$  how would they determine whether

NOTE Confidence: 0.81914010375

00:06:21.585 --> 00:06:23.370 that's something that they can

NOTE Confidence: 0.81914010375

00:06:23.436 --> 00:06:24.966 just watch and follow with?

NOTE Confidence: 0.81914010375

 $00:06:24.970 \longrightarrow 00:06:26.526$  You know serial scans,

NOTE Confidence: 0.81914010375

 $00:06:26.526 \longrightarrow 00:06:28.082$  or whether that's something

 $00:06:28.082 \longrightarrow 00:06:30.500$  that needs to be biopsied or

NOTE Confidence: 0.81914010375

 $00{:}06{:}30.500 \dashrightarrow 00{:}06{:}34.060$  potentially removed well with.

NOTE Confidence: 0.704636606375

00:06:34.060 --> 00:06:38.215 Imaging there can be appearances

NOTE Confidence: 0.704636606375

 $00:06:38.215 \longrightarrow 00:06:40.708$  of abnormalities that.

NOTE Confidence: 0.704636606375

00:06:40.710 --> 00:06:42.774 Have a look of like some a malignancy

NOTE Confidence: 0.704636606375

 $00:06:42.774 \longrightarrow 00:06:45.036$  or or a concerning lesion and then

NOTE Confidence: 0.704636606375

 $00{:}06{:}45.036 \dashrightarrow 00{:}06{:}47.129$  other things that look like non

NOTE Confidence: 0.704636606375

 $00:06:47.129 \longrightarrow 00:06:49.199$  concerning lesions and that really is

NOTE Confidence: 0.704636606375

 $00{:}06{:}49.199 \dashrightarrow 00{:}06{:}51.425$  just expertise with time and medical

NOTE Confidence: 0.704636606375

 $00:06:51.425 \longrightarrow 00:06:53.661$  training to like understand what we're

NOTE Confidence: 0.704636606375

 $00{:}06{:}53.661 \rightarrow 00{:}06{:}57.350$  really looking at on the scans and.

NOTE Confidence: 0.704636606375

 $00:06:57.350 \longrightarrow 00:06:58.530$  It's like attending physicians

NOTE Confidence: 0.704636606375

 $00:06:58.530 \longrightarrow 00:06:59.415$  say they would.

NOTE Confidence: 0.704636606375

 $00{:}06{:}59.420 \dashrightarrow 00{:}07{:}00.610$  They would know like this.

NOTE Confidence: 0.704636606375

00:07:00.610 --> 00:07:02.434 Looks like something we need to deal with,

NOTE Confidence: 0.704636606375

 $00:07:02.440 \longrightarrow 00:07:04.408$  like and and really diagnose or.

 $00:07:04.410 \longrightarrow 00:07:05.630$  On the other hand, no.

NOTE Confidence: 0.704636606375

 $00{:}07{:}05.630 \dashrightarrow 00{:}07{:}08.077$  This looks like just a benign kind

NOTE Confidence: 0.704636606375

 $00:07:08.077 \longrightarrow 00:07:10.693$  of a lesion, and it would really be

NOTE Confidence: 0.704636606375

 $00:07:10.693 \longrightarrow 00:07:13.368$  safer just to monitor this with scans.

NOTE Confidence: 0.704636606375

 $00{:}07{:}13.370 \dashrightarrow 00{:}07{:}14.342$  Beyond, yeah, Pediatrics said.

NOTE Confidence: 0.704636606375

 $00:07:14.342 \longrightarrow 00:07:16.289$  This is a really a just a key

NOTE Confidence: 0.704636606375

 $00:07:16.289 \longrightarrow 00:07:17.603$  component of my practice as well.

NOTE Confidence: 0.704636606375

 $00{:}07{:}17.610 \dashrightarrow 00{:}07{:}19.857$  I see patients all the time with

NOTE Confidence: 0.704636606375

 $00:07:19.857 \longrightarrow 00:07:21.865$  with abnormal scans and they do

NOTE Confidence: 0.704636606375

 $00{:}07{:}21.865 \dashrightarrow 00{:}07{:}23.490$  fall into those two categories

NOTE Confidence: 0.704636606375

 $00{:}07{:}23.490 \dashrightarrow 00{:}07{:}25.404$  and I love seeing the patients

NOTE Confidence: 0.704636606375

 $00:07:25.404 \longrightarrow 00:07:27.369$  where I know the the scan.

NOTE Confidence: 0.704636606375

 $00:07:27.370 \longrightarrow 00:07:27.700$  Actually,

NOTE Confidence: 0.704636606375

 $00:07:27.700 \longrightarrow 00:07:30.340$  as it looked really of a benign nature,

NOTE Confidence: 0.704636606375

00:07:30.340 --> 00:07:32.295 you know not consistent with

00:07:32.295 --> 00:07:34.081 cancer or malignancy and that's

NOTE Confidence: 0.704636606375

 $00{:}07{:}34.081 \dashrightarrow 00{:}07{:}35.407$  great news to give a person

NOTE Confidence: 0.8524749725

 $00:07:36.440 \longrightarrow 00:07:39.688$  so it's a really based on on the

NOTE Confidence: 0.8524749725

 $00:07:39.688 \longrightarrow 00:07:41.448$  imaging characteristics of of the

NOTE Confidence: 0.8524749725

 $00:07:41.448 \longrightarrow 00:07:43.840$  lesion in mind and then you

NOTE Confidence: 0.8524749725

 $00:07:43.840 \longrightarrow 00:07:46.120$  said that you know in adulthood.

NOTE Confidence: 0.8524749725

 $00:07:46.120 \longrightarrow 00:07:49.834$  Brain cancers can also occur most commonly

NOTE Confidence: 0.8524749725

 $00:07:49.834 \longrightarrow 00:07:53.510$  in patients who are in their 60s or 70s.

NOTE Confidence: 0.8524749725

 $00{:}07{:}53.510 \dashrightarrow 00{:}07{:}58.058$  So how might those symptoms present?

NOTE Confidence: 0.8524749725

 $00:07:58.060 \longrightarrow 00:07:59.680$  How do patients present with

NOTE Confidence: 0.8524749725

 $00:07:59.680 \longrightarrow 00:08:01.300$  brain tumors when they're older?

NOTE Confidence: 0.875189222857143

 $00:08:03.170 \longrightarrow 00:08:05.655$  A warning sign for a brain tumor

NOTE Confidence: 0.875189222857143

 $00{:}08{:}05.655 \dashrightarrow 00{:}08{:}08.388$  in a dults is a first time seizure

NOTE Confidence: 0.875189222857143

 $00:08:08.390 \longrightarrow 00:08:10.274$  in a person without a previous

NOTE Confidence: 0.875189222857143

00:08:10.274 --> 00:08:12.130 history of seizures or epilepsy.

NOTE Confidence: 0.875189222857143

 $00:08:12.130 \longrightarrow 00:08:15.540$  That's a common way that.

00:08:15.540 --> 00:08:18.320 A person can be found to have a brain tumor,

NOTE Confidence: 0.875189222857143

 $00:08:18.320 \longrightarrow 00:08:21.320$  other relatively common of ways

NOTE Confidence: 0.875189222857143

00:08:21.320 --> 00:08:24.940 of diagnosing it as someone with,

NOTE Confidence: 0.875189222857143

 $00:08:24.940 \longrightarrow 00:08:26.450$  like a rapid onset over

NOTE Confidence: 0.875189222857143

 $00:08:26.450 \longrightarrow 00:08:27.658$  weeks of of confusion,

NOTE Confidence: 0.875189222857143

00:08:27.660 --> 00:08:30.160 or most seeming like dementia

NOTE Confidence: 0.875189222857143

 $00:08:30.160 \longrightarrow 00:08:31.660$  and cognitive impairments,

NOTE Confidence: 0.875189222857143

 $00{:}08{:}31.660 \dashrightarrow 00{:}08{:}34.838$  or if someone develops a visual loss,

NOTE Confidence: 0.875189222857143

 $00:08:34.840 \longrightarrow 00:08:37.810$  a loss of part of their field of vision.

NOTE Confidence: 0.875189222857143

 $00{:}08{:}37.810 \dashrightarrow 00{:}08{:}39.567$  I've seen some folks that end up

NOTE Confidence: 0.875189222857143

00:08:39.567 --> 00:08:41.440 having a car accidents where where

NOTE Confidence: 0.875189222857143

 $00:08:41.440 \longrightarrow 00:08:43.200$  they don't realize they've lost

NOTE Confidence: 0.875189222857143

 $00{:}08{:}43.200 \dashrightarrow 00{:}08{:}45.278$  some some vision or eye doctors.

NOTE Confidence: 0.875189222857143

00:08:45.278 --> 00:08:46.256 And you know,

NOTE Confidence: 0.875189222857143

00:08:46.260 --> 00:08:48.198 detect a patient has a partial

 $00:08:48.198 \longrightarrow 00:08:50.211$  visual field loss and refer the

NOTE Confidence: 0.875189222857143

00:08:50.211 --> 00:08:52.640 patient to a neurologist with a scan,

NOTE Confidence: 0.875189222857143

 $00:08:52.640 \longrightarrow 00:08:53.780$  then showing a brain tumor.

NOTE Confidence: 0.860491598333333

00:08:55.310 --> 00:08:58.082 And then same kind of algorithm in

NOTE Confidence: 0.860491598333333

 $00:08:58.082 \longrightarrow 00:09:01.072$  terms of getting scans and determining

NOTE Confidence: 0.860491598333333

 $00:09:01.072 \longrightarrow 00:09:03.937$  based on the imaging characteristics.

NOTE Confidence: 0.860491598333333

 $00:09:03.940 \longrightarrow 00:09:05.800$  Whether this looks benign or malignant.

NOTE Confidence: 0.827359231

 $00:09:06.730 \longrightarrow 00:09:09.710$  Exactly we can tell based

NOTE Confidence: 0.827359231

 $00:09:09.710 \longrightarrow 00:09:12.690$  on scan the scan findings.

NOTE Confidence: 0.827359231

 $00:09:12.690 \longrightarrow 00:09:14.658$  Have a good differential for what

NOTE Confidence: 0.827359231

00:09:14.658 --> 00:09:16.990 that lesion could be and whether it

NOTE Confidence: 0.827359231

 $00:09:16.990 \longrightarrow 00:09:19.936$  you know needs to have a biopsy or

NOTE Confidence: 0.827359231

 $00:09:19.936 \longrightarrow 00:09:22.396$  or neurosurgical intervention or not.

NOTE Confidence: 0.829579295714286

 $00:09:23.510 \longrightarrow 00:09:28.508$  And so you know you mentioned that.

NOTE Confidence: 0.829579295714286

 $00:09:28.510 \longrightarrow 00:09:31.191$  Tumors of the brain are are really

NOTE Confidence: 0.829579295714286

 $00:09:31.191 \longrightarrow 00:09:33.349$  classified into benign and malignant.

 $00:09:33.350 \longrightarrow 00:09:35.996$  So what proportion of brain cancers

NOTE Confidence: 0.829579295714286

 $00:09:35.996 \longrightarrow 00:09:38.356$  are benign and what proportion

NOTE Confidence: 0.829579295714286

 $00:09:38.356 \longrightarrow 00:09:41.434$  are malignant and does that vary

NOTE Confidence: 0.829579295714286

 $00:09:41.434 \longrightarrow 00:09:43.620$  between children and adults?

NOTE Confidence: 0.854687404

 $00:09:44.800 \longrightarrow 00:09:49.330$  It does vary vary between.

NOTE Confidence: 0.854687404

 $00:09:49.330 \longrightarrow 00:09:50.998$  Between children and adults.

NOTE Confidence: 0.854687404

 $00:09:50.998 \longrightarrow 00:09:53.083$  In terms of what tumors

NOTE Confidence: 0.854687404

00:09:53.083 --> 00:09:55.130 tumors can occur in children.

NOTE Confidence: 0.854687404

 $00{:}09{:}55.130 \dashrightarrow 00{:}09{:}56.562$  Tumor, called a medulloblastoma

NOTE Confidence: 0.854687404

 $00:09:56.562 \longrightarrow 00:09:58.710$  is is the common malignant tumor,

NOTE Confidence: 0.854687404

 $00:09:58.710 \longrightarrow 00:09:59.738$  whereas those are rare

NOTE Confidence: 0.854687404

 $00:09:59.738 \longrightarrow 00:10:01.023$  in adults and in adults.

NOTE Confidence: 0.854687404

 $00:10:01.030 \longrightarrow 00:10:02.318$  Glioblastoma is the most

NOTE Confidence: 0.854687404

00:10:02.318 --> 00:10:03.284 common malignant tumor,

NOTE Confidence: 0.854687404

 $00:10:03.290 \longrightarrow 00:10:05.366$  and those are rare in children.

 $00:10:05.370 \longrightarrow 00:10:05.806$  Meningiomas,

NOTE Confidence: 0.854687404

00:10:05.806 --> 00:10:08.858 which are a benign type of tumor

NOTE Confidence: 0.854687404

00:10:08.858 --> 00:10:11.069 are extremely rare in children,

NOTE Confidence: 0.854687404

 $00:10:11.070 \longrightarrow 00:10:12.558$  but they are the most common

NOTE Confidence: 0.854687404

 $00:10:12.558 \longrightarrow 00:10:13.550$  brain tumor in adults,

NOTE Confidence: 0.854687404

 $00:10:13.550 \longrightarrow 00:10:16.025$  and they're considered benign in

NOTE Confidence: 0.854687404

 $00:10:16.025 \longrightarrow 00:10:18.156$  that they grow relatively slowly.

NOTE Confidence: 0.854687404

00:10:18.156 --> 00:10:20.094 They actually grow on the lining

NOTE Confidence: 0.854687404

 $00:10:20.094 \longrightarrow 00:10:22.528$  of the brain, called the dura,

NOTE Confidence: 0.854687404

 $00:10:22.528 \longrightarrow 00:10:24.858$  and cause issues by causing

NOTE Confidence: 0.854687404

 $00:10:24.858 \longrightarrow 00:10:27.687$  compression on the brain as they grow.

NOTE Confidence: 0.854687404

 $00:10:27.690 \longrightarrow 00:10:29.745$  So even though they typically

NOTE Confidence: 0.854687404

00:10:29.745 --> 00:10:32.474 don't invade the brain as an

NOTE Confidence: 0.854687404

 $00:10:32.474 \longrightarrow 00:10:35.184$  organ directly and grow slower.

NOTE Confidence: 0.854687404

 $00:10:35.190 \longrightarrow 00:10:37.145$  They still can cause significant

NOTE Confidence: 0.854687404

00:10:37.145 --> 00:10:37.927 neurological problems,

00:10:37.930 --> 00:10:41.780 including seizures and epilepsy, and.

NOTE Confidence: 0.854687404

00:10:41.780 --> 00:10:46.435 So terming them benign may not really,

NOTE Confidence: 0.854687404

 $00:10:46.440 \longrightarrow 00:10:47.211$  you know, really.

NOTE Confidence: 0.854687404

 $00:10:47.211 \longrightarrow 00:10:49.010$  Look at the whole scope of of

NOTE Confidence: 0.854687404

00:10:49.068 --> 00:10:50.708 how that's impacting a person.

NOTE Confidence: 0.845416094

00:10:50.860 --> 00:10:53.240 Yeah, benign, but still problematic.

NOTE Confidence: 0.845416094

 $00:10:53.240 \longrightarrow 00:10:55.700$  So what proportion of brain tumors

NOTE Confidence: 0.845416094

00:10:55.700 --> 00:10:58.480 in children are benign versus what

NOTE Confidence: 0.845416094

00:10:58.480 --> 00:11:00.730 proportion are malignant? Roughly,

NOTE Confidence: 0.739541708888889

00:11:01.280 --> 00:11:03.827 I think that the again the tumors are rare,

NOTE Confidence: 0.739541708888889

00:11:03.830 --> 00:11:06.420 but it may actually be kind of like a like.

NOTE Confidence: 0.739541708888889

00:11:06.420 --> 00:11:09.793 A kind of an even split as some

NOTE Confidence: 0.739541708888889

00:11:09.793 --> 00:11:11.780 tumors are called pilocytic Astro.

NOTE Confidence: 0.739541708888889

 $00:11:11.780 \longrightarrow 00:11:13.950$  Hey Tomas, that can be cured with

NOTE Confidence: 0.739541708888889

 $00:11:13.950 \longrightarrow 00:11:16.109$  surgery and it considered benign.

 $00:11:16.110 \longrightarrow 00:11:18.238$  That's another relatively common

NOTE Confidence: 0.739541708888889

00:11:18.238 --> 00:11:20.900 tumor of children that we really

NOTE Confidence: 0.739541708888889

 $00:11:20.900 \longrightarrow 00:11:22.755$  don't see very often in in adults.

NOTE Confidence: 0.842127859

 $00:11:23.710 \longrightarrow 00:11:26.314$  And for adults are benign tumors

NOTE Confidence: 0.842127859

 $00:11:26.314 \longrightarrow 00:11:28.050$  more common than malignant?

NOTE Confidence: 0.79951429

 $00:11:28.460 \longrightarrow 00:11:29.456$  They are ten.

NOTE Confidence: 0.79951429

 $00:11:29.456 \longrightarrow 00:11:32.218$  Yeah, there there is, uh, like an.

NOTE Confidence: 0.79951429

00:11:32.218 --> 00:11:35.074 Increase in the benign tumors compared

NOTE Confidence: 0.79951429

00:11:35.074 --> 00:11:37.937 to compared to the malignant.

NOTE Confidence: 0.79951429

00:11:37.940 --> 00:11:40.585 Again with meningiomas being the

NOTE Confidence: 0.79951429

 $00:11:40.585 \longrightarrow 00:11:43.230$  most common and pituitary tumors

NOTE Confidence: 0.79951429

 $00:11:43.313 \longrightarrow 00:11:46.162$  are another form of a benign brain

NOTE Confidence: 0.79951429

 $00:11:46.162 \longrightarrow 00:11:47.665$  tumor that's relatively common

NOTE Confidence: 0.79951429

 $00{:}11{:}47.665 \dashrightarrow 00{:}11{:}50.220$  and may be able to be managed

NOTE Confidence: 0.79951429

00:11:50.293 --> 00:11:52.117 with a hormonal medication.

NOTE Confidence: 0.862171852222222

 $00:11:53.250 \longrightarrow 00:11:56.239$  And so, in the malignant you classified

00:11:56.239 --> 00:11:58.324 the malignant further into brain

NOTE Confidence: 0.862171852222222

 $00:11:58.324 \longrightarrow 00:12:00.526$  tumors that start in the brain.

NOTE Confidence: 0.862171852222222

 $00:12:00.530 \longrightarrow 00:12:02.456$  And we've talked a little bit

NOTE Confidence: 0.862171852222222

 $00:12:02.456 \longrightarrow 00:12:04.681$  about some of those and secondary

NOTE Confidence: 0.862171852222222

 $00{:}12{:}04.681 \dashrightarrow 00{:}12{:}06.846$  malignancies or cancers that start

NOTE Confidence: 0.862171852222222

 $00:12:06.846 \longrightarrow 00:12:09.528$  somewhere else in travel to the brain.

NOTE Confidence: 0.862171852222222

 $00:12:09.530 \longrightarrow 00:12:12.590$  So when we think about malignant

NOTE Confidence: 0.862171852222222

 $00:12:12.590 \longrightarrow 00:12:15.476$  brain tumors, which are more common,

NOTE Confidence: 0.862171852222222

00:12:15.480 --> 00:12:17.090 the kind that start in the brain,

NOTE Confidence: 0.862171852222222

 $00:12:17.090 \longrightarrow 00:12:19.262$  or the kind that travel there

NOTE Confidence: 0.862171852222222

 $00:12:19.262 \longrightarrow 00:12:20.740$  from somewhere else. Well,

NOTE Confidence: 0.909611765555555

 $00:12:20.750 \longrightarrow 00:12:24.090$  the the secondary tumors are

NOTE Confidence: 0.90961176555555

 $00{:}12{:}24.090 \dashrightarrow 00{:}12{:}26.762$  actually much more common.

NOTE Confidence: 0.90961176555555

 $00:12:26.770 \longrightarrow 00:12:28.986$  Actually, I've felt up to be 10 times

NOTE Confidence: 0.90961176555555

 $00:12:28.986 \longrightarrow 00:12:31.067$  more common than primary brain tumors.

 $00:12:31.070 \longrightarrow 00:12:34.164$  Uh, I think really just reflecting that

NOTE Confidence: 0.90961176555555

 $00{:}12{:}34.164 \dashrightarrow 00{:}12{:}36.904$  other cancers like lung cancer and

NOTE Confidence: 0.90961176555555

00:12:36.904 --> 00:12:39.398 breast cancer in particular are are

NOTE Confidence: 0.90961176555555

 $00{:}12{:}39.398 \dashrightarrow 00{:}12{:}42.190$  just much more common in a dults than

NOTE Confidence: 0.90961176555555

 $00:12:42.190 \longrightarrow 00:12:44.548$  gliomas and other primary brain tumors.

NOTE Confidence: 0.867452112

00:12:44.790 --> 00:12:47.743 If you were diagnosed with another

NOTE Confidence: 0.867452112

00:12:47.743 --> 00:12:49.808 kind of cancer, lung cancer,

NOTE Confidence: 0.867452112

 $00:12:49.810 \longrightarrow 00:12:52.394$  colon cancer, breast cancer,

NOTE Confidence: 0.867452112

00:12:52.394 --> 00:12:54.461 prostate cancer can all of

NOTE Confidence: 0.867452112

 $00:12:54.461 \longrightarrow 00:12:55.746$  these travel to the brain?

NOTE Confidence: 0.867452112

 $00:12:55.750 \longrightarrow 00:12:57.260$  Or does the brain have

NOTE Confidence: 0.867452112

00:12:57.260 --> 00:12:58.166 a certain predilection?

NOTE Confidence: 0.867452112

 $00{:}12{:}58.170 \dashrightarrow 00{:}13{:}00.230$  For some cancers versus others,

NOTE Confidence: 0.729850115538462

 $00:13:00.360 \longrightarrow 00:13:02.824$  it turns out that there is this

NOTE Confidence: 0.729850115538462

 $00:13:02.824 \longrightarrow 00:13:05.419$  predilection for some cancers versus others,

NOTE Confidence: 0.729850115538462

 $00:13:05.420 \longrightarrow 00:13:08.668$  and some rare cancers have a relatively

00:13:08.668 --> 00:13:11.759 high rate of brain involvement,

NOTE Confidence: 0.729850115538462

 $00{:}13{:}11.760 \dashrightarrow 00{:}13{:}13.993$  such as Melanoma and then other cancers

NOTE Confidence: 0.729850115538462

00:13:13.993 --> 00:13:16.900 have a very low rate of brain involvement,

NOTE Confidence: 0.729850115538462

 $00:13:16.900 \longrightarrow 00:13:19.798$  like prostate cancer.

NOTE Confidence: 0.729850115538462

 $00{:}13{:}19.800 \dashrightarrow 00{:}13{:}21.175$  Lung cancer and breast cancer

NOTE Confidence: 0.729850115538462

 $00:13:21.175 \longrightarrow 00:13:22.550$  may spread to the brain.

NOTE Confidence: 0.729850115538462

 $00:13:22.550 \longrightarrow 00:13:25.952$  It's estimated to be at up to 1/4 of

NOTE Confidence: 0.729850115538462

 $00{:}13{:}25.952 \dashrightarrow 00{:}13{:}28.370$  people affected by those cancers.

NOTE Confidence: 0.729850115538462

 $00{:}13{:}28.370 \dashrightarrow 00{:}13{:}30.915$  Ultimately, and treatments have improved

NOTE Confidence: 0.729850115538462

 $00:13:30.915 \longrightarrow 00:13:34.528$  for breast and lung cancer over the last

NOTE Confidence: 0.729850115538462

 $00:13:34.530 \longrightarrow 00:13:37.085$  decade and pay as patients live longer.

NOTE Confidence: 0.729850115538462

00:13:37.090 --> 00:13:40.962 There may be a higher rate of brain

NOTE Confidence: 0.729850115538462

 $00{:}13{:}40.962 \dashrightarrow 00{:}13{:}43.949$  metastasis that that wasn't seen in the past.

NOTE Confidence: 0.931159199285714

 $00{:}13{:}44.870 \dashrightarrow 00{:}13{:}46.878$  We're going to have to take a

NOTE Confidence: 0.931159199285714

00:13:46.878 --> 00:13:48.640 short break for a medical minute.

 $00:13:48.640 \longrightarrow 00:13:51.136$  But please stay tuned to learn more about

NOTE Confidence: 0.931159199285714

 $00{:}13{:}51.140 \dashrightarrow 00{:}13{:}52.870$  brain tumors and their treatment.

NOTE Confidence: 0.931159199285714

 $00:13:52.870 \longrightarrow 00:13:55.014$  When we come back after the break with

NOTE Confidence: 0.931159199285714

 $00:13:55.014 \longrightarrow 00:13:56.988$  my guest Doctor Nicholas Blondin.

NOTE Confidence: 0.793122909

 $00:13:57.890 \longrightarrow 00:13:59.880$  Funding for Yale Cancer Answers

NOTE Confidence: 0.793122909

 $00:13:59.880 \longrightarrow 00:14:01.870$  comes from Smilow Cancer Hospital,

NOTE Confidence: 0.793122909

 $00:14:01.870 \longrightarrow 00:14:03.310$  where the bladder cancer team

NOTE Confidence: 0.793122909

 $00:14:03.310 \longrightarrow 00:14:05.226$  is at the forefront of bladder

NOTE Confidence: 0.793122909

00:14:05.226 --> 00:14:06.910 cancer treatment and research.

NOTE Confidence: 0.793122909

00:14:06.910 --> 00:14:08.960 Learn more at Yale Cancer Center dot org.

NOTE Confidence: 0.877649448333333

00:14:11.700 --> 00:14:14.190 There are over 16.9 million

NOTE Confidence: 0.877649448333333

00:14:14.190 --> 00:14:17.141 cancer survivors in the US and

NOTE Confidence: 0.877649448333333

 $00:14:17.141 \longrightarrow 00:14:19.062$  over 240,000 here in Connecticut.

NOTE Confidence: 0.877649448333333

00:14:19.062 --> 00:14:20.614 Completing treatment for cancer

NOTE Confidence: 0.877649448333333

 $00:14:20.614 \longrightarrow 00:14:22.889$  is a very exciting milestone,

NOTE Confidence: 0.877649448333333

 $00:14:22.890 \longrightarrow 00:14:24.864$  but cancer and its treatment can

 $00:14:24.864 \longrightarrow 00:14:26.960$  be a life changing experience.

NOTE Confidence: 0.877649448333333

 $00{:}14{:}26.960 \dashrightarrow 00{:}14{:}28.950$  The return to normal activities

NOTE Confidence: 0.877649448333333

 $00:14:28.950 \longrightarrow 00:14:30.940$  and relationships may be difficult

NOTE Confidence: 0.877649448333333

00:14:31.005 --> 00:14:33.105 and cancer survivors may face other

NOTE Confidence: 0.877649448333333

00:14:33.105 --> 00:14:35.170 long term side effects of cancer,

NOTE Confidence: 0.877649448333333

00:14:35.170 --> 00:14:36.922 including heart problems,

NOTE Confidence: 0.877649448333333

 $00:14:36.922 \longrightarrow 00:14:37.506$  osteoporosis,

NOTE Confidence: 0.877649448333333

00:14:37.506 --> 00:14:40.426 fertility issues and an increased

NOTE Confidence: 0.877649448333333

 $00:14:40.426 \longrightarrow 00:14:42.438$  risk of second cancers.

NOTE Confidence: 0.877649448333333

 $00{:}14{:}42.440 \dashrightarrow 00{:}14{:}45.050$  Resources for cancer survivors are

NOTE Confidence: 0.877649448333333

00:14:45.050 --> 00:14:47.138 available at federally designated

NOTE Confidence: 0.877649448333333

 $00:14:47.138 \longrightarrow 00:14:48.399$  Comprehensive cancer centers

NOTE Confidence: 0.877649448333333

00:14:48.399 --> 00:14:50.421 such as Yale Cancer Center

NOTE Confidence: 0.877649448333333

00:14:50.421 --> 00:14:52.498 and Smilow Cancer Hospital.

NOTE Confidence: 0.877649448333333

 $00:14:52.500 \longrightarrow 00:14:54.500$  To keep cancer survivors well

00:14:54.500 --> 00:14:56.500 and focused on healthy living,

NOTE Confidence: 0.877649448333333

 $00:14:56.500 \longrightarrow 00:14:58.340$  the Smilow Cancer Hospital

NOTE Confidence: 0.877649448333333

 $00:14:58.340 \longrightarrow 00:15:00.180$  Survivorship clinic focuses on

NOTE Confidence: 0.877649448333333

 $00:15:00.180 \longrightarrow 00:15:01.887$  providing guidance and direction

NOTE Confidence: 0.877649448333333

00:15:01.887 --> 00:15:03.702 to empower survivors to take

NOTE Confidence: 0.877649448333333

 $00:15:03.702 \longrightarrow 00:15:05.639$  steps to maximize their health,

NOTE Confidence: 0.877649448333333

00:15:05.640 --> 00:15:08.020 quality of life and longevity.

NOTE Confidence: 0.877649448333333

 $00:15:08.020 \longrightarrow 00:15:10.340$  More information is available

NOTE Confidence: 0.877649448333333

 $00:15:10.340 \longrightarrow 00:15:11.788$  at yale cancercenter.org. You're

NOTE Confidence: 0.877649448333333

00:15:11.788 --> 00:15:13.090 listening to Connecticut

NOTE Confidence: 0.877649448333333

00:15:13.090 --> 00:15:13.940 Public Radio.

NOTE Confidence: 0.837679218333333

 $00:15:14.870 \longrightarrow 00:15:17.150$  Welcome back to Yale Cancer Answers.

NOTE Confidence: 0.837679218333333

 $00:15:17.150 \longrightarrow 00:15:18.775$  This is doctor Anees Chagpar

NOTE Confidence: 0.837679218333333

 $00:15:18.775 \longrightarrow 00:15:20.860$  and I'm joined tonight by my

NOTE Confidence: 0.837679218333333

 $00:15:20.860 \longrightarrow 00:15:22.448$  guest Doctor Nicholas Blondin.

NOTE Confidence: 0.837679218333333

 $00:15:22.450 \longrightarrow 00:15:24.850$  We're talking about the management of

 $00:15:24.850 \longrightarrow 00:15:27.254$  patients with brain tumors in honor

NOTE Confidence: 0.837679218333333

 $00{:}15{:}27.254 \dashrightarrow 00{:}15{:}29.084$  of Brain Cancer Awareness Month.

NOTE Confidence: 0.837679218333333

00:15:29.090 --> 00:15:31.280 Now, right before the break,

NOTE Confidence: 0.837679218333333

 $00:15:31.280 \longrightarrow 00:15:33.572$  Doctor Blondin was telling us that

NOTE Confidence: 0.837679218333333

00:15:33.572 --> 00:15:35.613 brain tumors can affect everyone

NOTE Confidence: 0.837679218333333

00:15:35.613 --> 00:15:37.848 throughout the age spectrum from

NOTE Confidence: 0.837679218333333

00:15:37.848 --> 00:15:40.382 infants and young children all the way

NOTE Confidence: 0.837679218333333

 $00{:}15{:}40.382 \dashrightarrow 00{:}15{:}42.825$  up to more elderly patients that brain

NOTE Confidence: 0.837679218333333

 $00:15:42.825 \longrightarrow 00:15:45.610$  tumors can be benign or malignant.

NOTE Confidence: 0.837679218333333

00:15:45.610 --> 00:15:47.518 And of those that are malignant,

NOTE Confidence: 0.837679218333333

 $00:15:47.520 \longrightarrow 00:15:49.520$  they can either start in the brain or

NOTE Confidence: 0.837679218333333

 $00:15:49.520 \longrightarrow 00:15:51.876$  they can travel there from somewhere else,

NOTE Confidence: 0.837679218333333

 $00:15:51.880 \longrightarrow 00:15:54.856$  and that is by far the most common.

NOTE Confidence: 0.837679218333333

 $00{:}15{:}54.860 \dashrightarrow 00{:}15{:}57.296$  Our brain scans routinely done in

NOTE Confidence: 0.837679218333333

00:15:57.296 --> 00:16:00.080 patients who have been diagnosed with,

00:16:00.080 --> 00:16:02.720 say, breast cancer or lung cancer,

NOTE Confidence: 0.837679218333333

 $00{:}16{:}02.720 {\:{\circ}{\circ}{\circ}}>00{:}16{:}05.940$  or Melanoma or prostate cancer.

NOTE Confidence: 0.837679218333333

 $00:16:05.940 \longrightarrow 00:16:07.692$  Or is that something that is

NOTE Confidence: 0.837679218333333

 $00:16:07.692 \longrightarrow 00:16:09.820$  only done if they have symptoms?

NOTE Confidence: 0.859610875

00:16:11.290 --> 00:16:14.730 It depends again on the type of cancer

NOTE Confidence: 0.859610875

00:16:14.730 --> 00:16:18.328 that that a person has been diagnosed with,

NOTE Confidence: 0.859610875

 $00:16:18.328 \longrightarrow 00:16:21.634$  and there are guidelines for various

NOTE Confidence: 0.859610875

 $00:16:21.634 \longrightarrow 00:16:25.342$  cancers in regards to doing screening

NOTE Confidence: 0.859610875

 $00{:}16{:}25.342 \to 00{:}16{:}29.536$  Mr is or or not needing to do them with.

NOTE Confidence: 0.859610875

 $00:16:29.540 \longrightarrow 00:16:31.286$  Some lung cancers,

NOTE Confidence: 0.859610875

00:16:31.286 --> 00:16:34.196 particularly more advanced lung cancers,

NOTE Confidence: 0.859610875

 $00:16:34.200 \longrightarrow 00:16:36.130$  that that may involve lymph

NOTE Confidence: 0.859610875

 $00:16:36.130 \longrightarrow 00:16:37.674$  nodes in the chest.

NOTE Confidence: 0.859610875

 $00:16:37.680 \longrightarrow 00:16:40.452$  Doing an MRI of the brain and

NOTE Confidence: 0.859610875

00:16:40.452 --> 00:16:42.223 following diagnosis is generally

NOTE Confidence: 0.859610875

 $00:16:42.223 \longrightarrow 00:16:43.972$  appropriate and recommended,

 $00:16:43.972 \longrightarrow 00:16:47.470$  and with other cancers like Melanoma.

NOTE Confidence: 0.859610875

00:16:47.470 --> 00:16:49.294 When when they're diagnosed,

NOTE Confidence: 0.859610875

 $00:16:49.294 \longrightarrow 00:16:52.716$  brain scan also is part of the it's

NOTE Confidence: 0.859610875

 $00:16:52.716 \longrightarrow 00:16:54.446$  called the staging evaluation and

NOTE Confidence: 0.859610875

 $00{:}16{:}54.446 \dashrightarrow 00{:}16{:}57.050$  doing a like a evaluation to find

NOTE Confidence: 0.859610875

 $00:16:57.050 \longrightarrow 00:16:59.354$  where could this cancer have gone.

NOTE Confidence: 0.8699840775

 $00:16:59.490 \longrightarrow 00:17:02.184$  But in other cancers like breast

NOTE Confidence: 0.8699840775

 $00:17:02.184 \longrightarrow 00:17:05.029$  cancer and colon cancer for example,

NOTE Confidence: 0.8699840775

 $00:17:05.030 \longrightarrow 00:17:07.130$  it's not done routinely. Is that right?

NOTE Confidence: 0.63400685

 $00:17:07.990 \longrightarrow 00:17:10.690$  That is correct.

NOTE Confidence: 0.63400685

00:17:10.690 --> 00:17:12.470 Believe the majority of breast

NOTE Confidence: 0.63400685

00:17:12.470 --> 00:17:14.740 cancers are localized in one breast,

NOTE Confidence: 0.63400685

 $00{:}17{:}14.740 \dashrightarrow 00{:}17{:}17.128$  they can be fortunately cured with

NOTE Confidence: 0.63400685

 $00:17:17.128 \longrightarrow 00:17:19.813$  surgery or does with surgery followed

NOTE Confidence: 0.63400685

 $00:17:19.813 \longrightarrow 00:17:22.348$  by radiation or other therapies.

 $00:17:22.350 \longrightarrow 00:17:24.394$  And in the these patients the chance

NOTE Confidence: 0.63400685

 $00{:}17{:}24.394 \dashrightarrow 00{:}17{:}26.854$  of a brain of tasks is felt to

NOTE Confidence: 0.63400685

 $00:17:26.854 \longrightarrow 00:17:29.062$  be sufficiently low that doing a

NOTE Confidence: 0.63400685

00:17:29.062 --> 00:17:32.534 screening brain MRI is not part of

NOTE Confidence: 0.63400685

 $00:17:32.534 \longrightarrow 00:17:34.692$  the these kind of guidelines for for

NOTE Confidence: 0.63400685

 $00:17:34.692 \longrightarrow 00:17:36.510$  evaluation at the time of diagnosis.

NOTE Confidence: 0.827689154

00:17:37.470 --> 00:17:41.196 And so for patients who, you know,

NOTE Confidence: 0.827689154

00:17:41.196 --> 00:17:44.820 have a cancer and either due to symptoms

NOTE Confidence: 0.827689154

 $00:17:44.912 \longrightarrow 00:17:48.036$  or due to routine screening, have an

NOTE Confidence: 0.827689154

 $00:17:48.036 \longrightarrow 00:17:50.650$  MRI of the brain and a lesion lights up.

NOTE Confidence: 0.827689154

 $00{:}17{:}50.650 \dashrightarrow 00{:}17{:}53.550$  Presumably that would be

NOTE Confidence: 0.827689154

 $00:17:53.550 \longrightarrow 00:17:56.450$  suspicious for a metastasis.

NOTE Confidence: 0.827689154

 $00:17:56.450 \longrightarrow 00:17:58.230$  So what's the next step?

NOTE Confidence: 0.827689154

 $00{:}17{:}58.230 \dashrightarrow 00{:}18{:}00.576$  Do these patients routinely get a

NOTE Confidence: 0.827689154

 $00:18:00.576 \longrightarrow 00:18:03.003$  biopsy of their brain to determine

NOTE Confidence: 0.827689154

 $00:18:03.003 \longrightarrow 00:18:05.768$  whether that is in fact a metastasis?

 $00:18:05.770 \longrightarrow 00:18:07.530$  Or are they treated?

NOTE Confidence: 0.827689154

 $00:18:07.530 \longrightarrow 00:18:10.760$  On spec or how does that work?

NOTE Confidence: 0.7612195156

00:18:11.200 --> 00:18:14.819 Yep, so I work closely with my

NOTE Confidence: 0.7612195156

 $00:18:14.819 \longrightarrow 00:18:16.370$  medical oncology colleagues.

NOTE Confidence: 0.7612195156

 $00:18:16.370 \longrightarrow 00:18:20.226$  And if a patient that they're treating for,

NOTE Confidence: 0.7612195156

 $00:18:20.230 \longrightarrow 00:18:24.118$  say, breast cancer, develops.

NOTE Confidence: 0.7612195156

 $00:18:24.120 \longrightarrow 00:18:26.770$  Increasing headaches and had never

NOTE Confidence: 0.7612195156

 $00:18:26.770 \longrightarrow 00:18:29.420$  had headaches before and dizziness

NOTE Confidence: 0.7612195156

 $00{:}18{:}29.420 \dashrightarrow 00{:}18{:}31.328$  or other neurological symptoms.

NOTE Confidence: 0.7612195156

 $00{:}18{:}31.328 \dashrightarrow 00{:}18{:}33.236$  Their medical oncologists can

NOTE Confidence: 0.7612195156

 $00:18:33.236 \longrightarrow 00:18:35.792$  order an MRI at that time to

NOTE Confidence: 0.7612195156

 $00:18:35.792 \longrightarrow 00:18:37.740$  evaluate for an issue and then,

NOTE Confidence: 0.7612195156

 $00:18:37.740 \longrightarrow 00:18:40.444$  if lesions are found,

NOTE Confidence: 0.7612195156

 $00:18:40.444 \longrightarrow 00:18:43.176$  they would refer the patient to

NOTE Confidence: 0.7612195156

 $00:18:43.176 \longrightarrow 00:18:45.695$  me for a consultation and it can

00:18:45.695 --> 00:18:47.969 review the situation in the scan

NOTE Confidence: 0.7612195156

 $00{:}18{:}47.969 \dashrightarrow 00{:}18{:}50.380$  and typically for brain metastasis.

NOTE Confidence: 0.7612195156

 $00:18:50.380 \longrightarrow 00:18:53.218$  We actually can avoid a biopsy.

NOTE Confidence: 0.7612195156

00:18:53.220 --> 00:18:55.145 Imaging can be consistent with

NOTE Confidence: 0.7612195156

 $00:18:55.145 \longrightarrow 00:18:55.915$  that diagnosis,

NOTE Confidence: 0.7612195156

 $00:18:55.920 \longrightarrow 00:18:58.875$  and patients can be treated with

NOTE Confidence: 0.7612195156

 $00:18:58.875 \longrightarrow 00:19:01.415$  some radiation therapy strategies

NOTE Confidence: 0.7612195156

 $00{:}19{:}01.415 \dashrightarrow 00{:}19{:}05.700$  and that can control the metastasis

NOTE Confidence: 0.7612195156

 $00{:}19{:}05.700 \dashrightarrow 00{:}19{:}07.884$  and the patient can kind of just

NOTE Confidence: 0.7612195156

 $00:19:07.884 \longrightarrow 00:19:09.909$  continue on with their treatment.

NOTE Confidence: 0.7612195156

 $00:19:09.910 \longrightarrow 00:19:11.404$  At that point,

NOTE Confidence: 0.7612195156

00:19:11.404 --> 00:19:13.396 there's radiation therapies are

NOTE Confidence: 0.7612195156

 $00:19:13.396 \longrightarrow 00:19:15.404$  performed by radiation oncologists

NOTE Confidence: 0.7612195156

 $00:19:15.404 \longrightarrow 00:19:17.136$  and in some cases,

NOTE Confidence: 0.7612195156

00:19:17.140 --> 00:19:19.520 neurosurgeons who used advanced

NOTE Confidence: 0.7612195156

00:19:19.520 --> 00:19:20.710 radiation technologies.

 $00:19:20.710 \longrightarrow 00:19:22.260$  Like the Gamma knife machine

NOTE Confidence: 0.796512669666667

 $00:19:23.290 \longrightarrow 00:19:26.580$  and so so certainly radiation is 1

NOTE Confidence: 0.796512669666667

 $00:19:26.580 \longrightarrow 00:19:29.619$  modality to treat brain metastases.

NOTE Confidence: 0.796512669666667

 $00:19:29.620 \longrightarrow 00:19:32.205$  Oftentimes when we think about

NOTE Confidence: 0.796512669666667

00:19:32.205 --> 00:19:34.790 metastases in general for cancers,

NOTE Confidence: 0.796512669666667

 $00:19:34.790 \longrightarrow 00:19:38.241$  we think about more systemic kind of

NOTE Confidence: 0.796512669666667

 $00:19:38.241 \longrightarrow 00:19:41.110$  therapies like chemotherapy or immunotherapy,

NOTE Confidence: 0.796512669666667

 $00{:}19{:}41.110 \dashrightarrow 00{:}19{:}43.530$  or even other targeted the rapies.

NOTE Confidence: 0.796512669666667

 $00:19:43.530 \longrightarrow 00:19:45.588$  So, for example, in breast cancer,

NOTE Confidence: 0.796512669666667

00:19:45.590 --> 00:19:48.266 we might think about endocrine therapy,

NOTE Confidence: 0.796512669666667

 $00:19:48.270 \longrightarrow 00:19:51.120$  but in terms of managing.

NOTE Confidence: 0.796512669666667

 $00:19:51.120 \longrightarrow 00:19:53.236$  Brain metastases sometimes these

NOTE Confidence: 0.796512669666667

 $00{:}19{:}53.236 \dashrightarrow 00{:}19{:}56.410$  systemic therapies are not as effective

NOTE Confidence: 0.796512669666667

00:19:56.487 --> 00:19:59.055 because of the blood brain barrier.

NOTE Confidence: 0.796512669666667

 $00:19:59.060 \longrightarrow 00:20:01.252$  Can you talk a little bit more about

 $00:20:01.252 \longrightarrow 00:20:02.975$  that and potentially strategies and

NOTE Confidence: 0.796512669666667

 $00{:}20{:}02.975 \dashrightarrow 00{:}20{:}05.572$  newer agents that might be able to

NOTE Confidence: 0.796512669666667

 $00:20:05.637 \longrightarrow 00:20:07.827$  cross that bloodbane barrier better?

NOTE Confidence: 0.884998918181818

 $00:20:08.520 \longrightarrow 00:20:11.530$  Right, the blood brain barrier is a

NOTE Confidence: 0.884998918181818

 $00:20:11.530 \longrightarrow 00:20:13.842$  mechanism that developed to prevent

NOTE Confidence: 0.884998918181818

00:20:13.842 --> 00:20:16.207 toxic molecules from crossing from

NOTE Confidence: 0.884998918181818

00:20:16.207 --> 00:20:18.419 the bloodstream into the brain.

NOTE Confidence: 0.884998918181818

00:20:18.420 --> 00:20:20.868 And so it was good for

NOTE Confidence: 0.884998918181818

 $00:20:20.868 \longrightarrow 00:20:22.500$  evolution and brain health.

NOTE Confidence: 0.884998918181818

 $00:20:22.500 \longrightarrow 00:20:24.770$  But it makes it challenging

NOTE Confidence: 0.884998918181818

 $00:20:24.770 \longrightarrow 00:20:26.586$  to treat brain metastasis.

NOTE Confidence: 0.884998918181818

 $00{:}20{:}26.590 \dashrightarrow 00{:}20{:}28.410$  Fortunately, over the last decade,

NOTE Confidence: 0.884998918181818

 $00{:}20{:}28.410 \dashrightarrow 00{:}20{:}30.330$  there's really been tremendous

NOTE Confidence: 0.884998918181818

00:20:30.330 --> 00:20:33.145 progress in the development of new

NOTE Confidence: 0.884998918181818

 $00:20:33.145 \longrightarrow 00:20:35.480$  drugs to treat systemic cancers,

NOTE Confidence: 0.884998918181818

 $00{:}20{:}35.480 \dashrightarrow 00{:}20{:}37.520$  and some of these drugs can

 $00:20:37.520 \longrightarrow 00:20:39.510$  cross the blood brain barrier.

NOTE Confidence: 0.884998918181818

 $00:20:39.510 \longrightarrow 00:20:41.103$  Both molecular drugs,

NOTE Confidence: 0.884998918181818

00:20:41.103 --> 00:20:43.227 particularly for some subtypes

NOTE Confidence: 0.884998918181818

 $00:20:43.227 \longrightarrow 00:20:46.329$  of lung cancer and immunotherapy,

NOTE Confidence: 0.884998918181818

 $00:20:46.330 \longrightarrow 00:20:49.234$  also can be highly effective for

NOTE Confidence: 0.884998918181818

 $00:20:49.234 \longrightarrow 00:20:51.922$  some patients affected by brain

NOTE Confidence: 0.884998918181818

00:20:51.922 --> 00:20:54.300 metastasis with cancer types

NOTE Confidence: 0.884998918181818

 $00{:}20{:}54.300 \dashrightarrow 00{:}20{:}57.150$  like lung cancer on Melanoma.

NOTE Confidence: 0.884998918181818

 $00:20:57.150 \longrightarrow 00:20:59.238$  So being in in the field and in

NOTE Confidence: 0.884998918181818

 $00:20:59.238 \longrightarrow 00:21:00.874$  practice it's really been exciting

NOTE Confidence: 0.884998918181818

 $00:21:00.874 \longrightarrow 00:21:02.968$  for me to see these developments.

NOTE Confidence: 0.884998918181818

 $00{:}21{:}02.970 \dashrightarrow 00{:}21{:}06.218$  And now we have some medical options to

NOTE Confidence: 0.884998918181818

 $00:21:06.218 \longrightarrow 00:21:08.769$  treat patients with brain metastasis.

NOTE Confidence: 0.884998918181818

 $00:21:08.770 \longrightarrow 00:21:11.451$  Whereas about 10 years ago the options

NOTE Confidence: 0.884998918181818

 $00:21:11.451 \longrightarrow 00:21:14.638$  really were just radiation or a surgery.

 $00:21:15.930 \longrightarrow 00:21:19.182$  And so when a patient is

NOTE Confidence: 0.869495909

 $00:21:19.182 \longrightarrow 00:21:21.350$  diagnosed with brain metastases,

NOTE Confidence: 0.869495909

 $00:21:21.350 \longrightarrow 00:21:22.538$  what's their prognosis?

NOTE Confidence: 0.869495909

 $00:21:22.538 \longrightarrow 00:21:25.310$  Because I can imagine that many patients

NOTE Confidence: 0.869495909

00:21:25.373 --> 00:21:28.034 may be thinking to themselves, you know,

NOTE Confidence: 0.869495909

 $00:21:28.034 \longrightarrow 00:21:31.250$  is it worth it to have more treatment

NOTE Confidence: 0.869495909

 $00:21:31.344 \longrightarrow 00:21:34.724$  to have potentially chemotherapy or

NOTE Confidence: 0.869495909

00:21:34.724 --> 00:21:37.800 immunotherapy and radiation therapy if

NOTE Confidence: 0.869495909

 $00:21:37.800 \longrightarrow 00:21:40.390$  the prognosis is going to be dismal?

NOTE Confidence: 0.869495909

 $00:21:40.390 \longrightarrow 00:21:42.672$  Can you talk a little bit about

NOTE Confidence: 0.869495909

 $00:21:42.672 \longrightarrow 00:21:44.594$  what the implications of a brain

NOTE Confidence: 0.869495909

 $00:21:44.594 \longrightarrow 00:21:46.054$  metastases are in terms of?

NOTE Confidence: 0.869495909

 $00:21:46.060 \longrightarrow 00:21:47.508$  Diagnosis and has that

NOTE Confidence: 0.869495909

00:21:47.508 --> 00:21:48.956 changed in recent years?

NOTE Confidence: 0.821990775

00:21:49.530 --> 00:21:52.668 Well, I believe it has definitely

NOTE Confidence: 0.821990775

00:21:52.668 --> 00:21:54.760 changed and it's improved.

 $00{:}21{:}54.760 {\:\dashrightarrow\:} 00{:}21{:}56.308$  Pretty significantly for

NOTE Confidence: 0.821990775

00:21:56.308 --> 00:21:57.711 some patients, really,

NOTE Confidence: 0.821990775

 $00:21:57.711 \longrightarrow 00:22:00.679$  it depends on the cancer type and then.

NOTE Confidence: 0.821990775

 $00:22:00.680 \longrightarrow 00:22:02.309$  Really cancer subtype.

NOTE Confidence: 0.821990775

 $00:22:02.309 \longrightarrow 00:22:05.024$  Is there potentially effective therapy

NOTE Confidence: 0.821990775

 $00:22:05.024 \longrightarrow 00:22:08.516$  for this cancer subtype and what's the?

NOTE Confidence: 0.821990775

00:22:08.520 --> 00:22:10.100 The amount of brain metastasis,

NOTE Confidence: 0.821990775

 $00:22:10.100 \longrightarrow 00:22:11.696$  or the burden of brain metastasis,

NOTE Confidence: 0.821990775

 $00{:}22{:}11.700 \dashrightarrow 00{:}22{:}15.192$  is there only one lesion or a few lesions,

NOTE Confidence: 0.821990775

 $00:22:15.200 \longrightarrow 00:22:18.218$  or is there a numerous lesions,

NOTE Confidence: 0.821990775

 $00:22:18.220 \longrightarrow 00:22:22.994$  and so if a patient has a.

NOTE Confidence: 0.821990775

 $00:22:23.000 \longrightarrow 00:22:25.275$  Type of lung cancer that can be

NOTE Confidence: 0.821990775

 $00{:}22{:}25.275 \dashrightarrow 00{:}22{:}26.680$  responsive to certain drugs.

NOTE Confidence: 0.821990775

 $00:22:26.680 \longrightarrow 00:22:28.280$  What's called Osimertinib for

NOTE Confidence: 0.821990775

 $00:22:28.280 \longrightarrow 00:22:30.680$  a subtype of of lung cancer.

 $00:22:30.680 \longrightarrow 00:22:32.705$  This has activity against brain

NOTE Confidence: 0.821990775

 $00{:}22{:}32.705 \dashrightarrow 00{:}22{:}35.526$  metastasis and patients who may be able

NOTE Confidence: 0.821990775

00:22:35.526 --> 00:22:38.064 to actually continue living for years with,

NOTE Confidence: 0.821990775

00:22:38.064 --> 00:22:39.520 you know with this.

NOTE Confidence: 0.821990775

 $00:22:39.520 \longrightarrow 00:22:41.260$  With this treatment for them.

NOTE Confidence: 0.821990775

 $00:22:41.260 \longrightarrow 00:22:42.892$  Whereas in the past,

NOTE Confidence: 0.821990775

00:22:42.892 --> 00:22:45.680 when these drugs haven't been developed yet,

NOTE Confidence: 0.821990775

 $00:22:45.680 \longrightarrow 00:22:47.352$  the outlook was considerably

NOTE Confidence: 0.821990775

00:22:47.352 --> 00:22:49.024 worse for these patients.

NOTE Confidence: 0.85295849

 $00:22:50.560 \longrightarrow 00:22:52.996$  And are there exciting clinical trials

NOTE Confidence: 0.85295849

 $00:22:52.996 \longrightarrow 00:22:56.140$  ongoing now that are looking at novel

NOTE Confidence: 0.85295849

00:22:56.140 --> 00:22:58.068 treatments for brain metastases?

NOTE Confidence: 0.85295849

 $00:22:58.070 \longrightarrow 00:22:59.158$  What's on the horizon?

NOTE Confidence: 0.921942613333333

 $00:23:00.250 \longrightarrow 00:23:03.085$  It has been exciting to see a lot of

NOTE Confidence: 0.921942613333333

 $00:23:03.085 \longrightarrow 00:23:05.566$  new drugs coming into development

NOTE Confidence: 0.921942613333333

 $00{:}23{:}05.566 \rightarrow 00{:}23{:}08.976$  and a renewed or really just a

00:23:08.976 --> 00:23:12.479 new focus on brain metastasis and

NOTE Confidence: 0.921942613333333

 $00:23:12.479 \longrightarrow 00:23:16.144$  CNS disease by investigators and.

NOTE Confidence: 0.921942613333333

00:23:16.150 --> 00:23:18.006 Companies trying to develop

NOTE Confidence: 0.921942613333333

 $00:23:18.006 \longrightarrow 00:23:19.398$  these novel treatments.

NOTE Confidence: 0.921942613333333

 $00:23:19.400 \longrightarrow 00:23:20.768$  Think in the past.

NOTE Confidence: 0.921942613333333

 $00:23:20.768 \longrightarrow 00:23:22.820$  Brain tumors were felt to be

NOTE Confidence: 0.921942613333333

 $00:23:22.897 \longrightarrow 00:23:25.255$  difficult to treat and in a

NOTE Confidence: 0.921942613333333

 $00{:}23{:}25.255 \dashrightarrow 00{:}23{:}27.340$  difficult area to research there.

NOTE Confidence: 0.921942613333333

 $00:23:27.340 \longrightarrow 00:23:29.484$  There wasn't as as much interest in treating,

NOTE Confidence: 0.921942613333333

 $00:23:29.490 \longrightarrow 00:23:30.742$  but that's really changed

NOTE Confidence: 0.921942613333333

 $00:23:30.742 \longrightarrow 00:23:32.307$  over the last several years,

NOTE Confidence: 0.921942613333333

 $00{:}23{:}32.310 \dashrightarrow 00{:}23{:}36.070$  and there's a number of of drugs in

NOTE Confidence: 0.921942613333333

 $00{:}23{:}36.070 \dashrightarrow 00{:}23{:}38.550$  development for all various types of cancers,

NOTE Confidence: 0.921942613333333

 $00:23:38.550 \longrightarrow 00:23:41.826$  including primary brain tumors and gliomas.

NOTE Confidence: 0.921942613333333

00:23:41.830 --> 00:23:43.566 Looking at ways to try to fight,

 $00:23:43.570 \longrightarrow 00:23:45.394$  fight these cancers and to improve

NOTE Confidence: 0.921942613333333

 $00:23:45.394 \longrightarrow 00:23:46.960$  the survival time and quality

NOTE Confidence: 0.921942613333333

 $00:23:46.960 \longrightarrow 00:23:48.410$  of life for the patients

NOTE Confidence: 0.906375358571429

00:23:49.090 --> 00:23:50.924 you know. Speaking of quality of life,

NOTE Confidence: 0.906375358571429

 $00:23:50.930 \longrightarrow 00:23:52.970$  that's another question that I had.

NOTE Confidence: 0.906375358571429

00:23:52.970 --> 00:23:54.896 Whether you have a primary brain

NOTE Confidence: 0.906375358571429

00:23:54.896 --> 00:23:56.969 tumor or a secondary brain tumor,

NOTE Confidence: 0.906375358571429

 $00:23:56.970 \longrightarrow 00:23:59.872$  one can imagine that the toxicity

NOTE Confidence: 0.906375358571429

00:23:59.872 --> 00:24:02.164 of the regimens that you're given,

NOTE Confidence: 0.906375358571429

 $00:24:02.170 \longrightarrow 00:24:04.400$  whether it's radiation therapy or

NOTE Confidence: 0.906375358571429

 $00:24:04.400 \longrightarrow 00:24:06.490$  chemotherapy, can have side effects.

NOTE Confidence: 0.906375358571429

 $00:24:06.490 \longrightarrow 00:24:09.430$  Whether it's you know swelling in the

NOTE Confidence: 0.906375358571429

 $00{:}24{:}09.430 \dashrightarrow 00{:}24{:}11.818$  brain that can cause other issues.

NOTE Confidence: 0.906375358571429

 $00{:}24{:}11.820 \dashrightarrow 00{:}24{:}14.270$  Whether it's fatigue, other things,

NOTE Confidence: 0.906375358571429

00:24:14.270 --> 00:24:17.438 can you talk a little bit about the side

NOTE Confidence: 0.906375358571429

 $00:24:17.438 \longrightarrow 00:24:19.887$  effects of treatment and some of the

00:24:19.887 --> 00:24:22.296 ways that you and a multidisciplinary

NOTE Confidence: 0.906375358571429

 $00{:}24{:}22.296 \dashrightarrow 00{:}24{:}25.242$  team kind of help patients through

NOTE Confidence: 0.906375358571429

 $00:24:25.242 \longrightarrow 00:24:27.060$  treatment of brain cancers?

NOTE Confidence: 0.639972148

 $00:24:27.890 \longrightarrow 00:24:30.570$  For treatment of my patients,

NOTE Confidence: 0.639972148

 $00:24:30.570 \longrightarrow 00:24:32.225$  I'm always considering a person's

NOTE Confidence: 0.639972148

00:24:32.225 --> 00:24:34.304 quality of life and the impacts

NOTE Confidence: 0.639972148

 $00:24:34.304 \longrightarrow 00:24:36.446$  that treatments would have on them.

NOTE Confidence: 0.639972148

 $00:24:36.450 \longrightarrow 00:24:40.725$  And it sometimes can be a balancing act over.

NOTE Confidence: 0.639972148

 $00:24:40.730 \longrightarrow 00:24:42.680$  What may be an effective treatment

NOTE Confidence: 0.639972148

 $00:24:42.680 \longrightarrow 00:24:44.330$  to lengthen a person's life?

NOTE Confidence: 0.639972148

 $00:24:44.330 \longrightarrow 00:24:45.210$  But on the flip side,

NOTE Confidence: 0.639972148

 $00:24:45.210 \longrightarrow 00:24:46.630$  what kind of adverse side

NOTE Confidence: 0.639972148

 $00:24:46.630 \longrightarrow 00:24:47.766$  effects could this cause?

NOTE Confidence: 0.639972148

 $00{:}24{:}47.770 \dashrightarrow 00{:}24{:}50.129$  And this is really leads to treatment

NOTE Confidence: 0.639972148

00:24:50.129 --> 00:24:52.263 needing to be individualized for

00:24:52.263 --> 00:24:54.381 every single patient, then,

NOTE Confidence: 0.639972148

 $00:24:54.381 \longrightarrow 00:24:57.036$  particularly with primary brain tumors.

NOTE Confidence: 0.639972148

 $00{:}24{:}57.040 \dashrightarrow 00{:}25{:}00.556$  Really look at an individual patient.

NOTE Confidence: 0.639972148

 $00:25:00.560 \longrightarrow 00:25:03.480$  And try to discuss with them what I

NOTE Confidence: 0.639972148

 $00:25:03.480 \longrightarrow 00:25:06.215$  think would be really the optimal

NOTE Confidence: 0.639972148

 $00:25:06.215 \longrightarrow 00:25:08.420$  treatment to achieve to achieve what

NOTE Confidence: 0.639972148

 $00:25:08.420 \longrightarrow 00:25:11.064$  their outcomes are and and folks even

NOTE Confidence: 0.639972148

00:25:11.064 --> 00:25:13.199 can have different perspectives on,

NOTE Confidence: 0.639972148

00:25:13.200 --> 00:25:15.544 you know they're what they perceive to be

NOTE Confidence: 0.639972148

00:25:15.544 --> 00:25:17.677 their quality of life and versus survival,

NOTE Confidence: 0.639972148

 $00:25:17.680 \longrightarrow 00:25:18.698$  survival time.

NOTE Confidence: 0.639972148

00:25:18.698 --> 00:25:19.716 And again,

NOTE Confidence: 0.639972148

 $00{:}25{:}19.716 \dashrightarrow 00{:}25{:}22.261$  it's an individual conversation and

NOTE Confidence: 0.639972148

00:25:22.261 --> 00:25:25.388 with the team I work closely with a

NOTE Confidence: 0.639972148

 $00:25:25.388 \longrightarrow 00:25:27.679$  colleagues in in different disciplines

NOTE Confidence: 0.639972148

 $00{:}25{:}27.679 \dashrightarrow 00{:}25{:}30.484$  and and everyone is instrumental in

 $00:25:30.484 \longrightarrow 00:25:33.010$  the optimal management of brain tumor.

NOTE Confidence: 0.639972148

 $00{:}25{:}33.010 \dashrightarrow 00{:}25{:}35.850$  The other specialists include neurosurgeons,

NOTE Confidence: 0.639972148

 $00:25:35.850 \longrightarrow 00:25:37.650$  radiation oncologists,

NOTE Confidence: 0.639972148

00:25:37.650 --> 00:25:40.350 pathologists and radiologists,

NOTE Confidence: 0.639972148 00:25:40.350 --> 00:25:42.270 and. NOTE Confidence: 0.639972148

 $00:25:42.270 \longrightarrow 00:25:44.235$  We have frequent meetings to

NOTE Confidence: 0.639972148

00:25:44.235 --> 00:25:46.663 review patient cases and come up

NOTE Confidence: 0.639972148

 $00:25:46.663 \longrightarrow 00:25:48.598$  with an optimal treatment approach

NOTE Confidence: 0.639972148

00:25:48.598 --> 00:25:51.402 for a patient based on all of

NOTE Confidence: 0.639972148

 $00:25:51.402 \longrightarrow 00:25:52.590$  our collective expertise.

NOTE Confidence: 0.885495876333333

 $00{:}25{:}53.900 \dashrightarrow 00{:}25{:}56.000$  You know one of the things that

NOTE Confidence: 0.885495876333333

 $00:25:56.000 \longrightarrow 00:25:58.536$  comes up in this show routinely time

NOTE Confidence: 0.885495876333333

 $00{:}25{:}58.536 \dashrightarrow 00{:}26{:}01.426$  after time is this concept that you

NOTE Confidence: 0.885495876333333

 $00:26:01.426 \longrightarrow 00:26:03.322$  mentioned of really personalizing

NOTE Confidence: 0.885495876333333

 $00:26:03.322 \longrightarrow 00:26:05.692$  care to an individual patient,

 $00:26:05.700 \longrightarrow 00:26:08.724$  and a lot of that seems to be really

NOTE Confidence: 0.885495876333333

00:26:08.724 --> 00:26:11.874 driven by this explosion in genomics

NOTE Confidence: 0.885495876333333

 $00:26:11.874 \longrightarrow 00:26:14.062$  and understanding genetic mutations

NOTE Confidence: 0.885495876333333

 $00:26:14.062 \longrightarrow 00:26:16.720$  that can cause various cancers.

NOTE Confidence: 0.885495876333333

 $00:26:16.720 \longrightarrow 00:26:19.810$  When we think about primary brain

NOTE Confidence: 0.885495876333333

 $00:26:19.810 \longrightarrow 00:26:22.521$  cancers and even secondary brain

NOTE Confidence: 0.885495876333333

 $00:26:22.521 \longrightarrow 00:26:24.070$  cancers tell us a little bit.

NOTE Confidence: 0.885495876333333

00:26:24.070 --> 00:26:26.515 About how genomics or mutational

NOTE Confidence: 0.885495876333333

 $00:26:26.515 \longrightarrow 00:26:28.960$  analysis of these tumors helps

NOTE Confidence: 0.885495876333333

 $00:26:29.039 \longrightarrow 00:26:30.980$  to individualize therapy.

NOTE Confidence: 0.885495876333333

00:26:30.980 --> 00:26:32.786 Is that something that's commonly done?

NOTE Confidence: 0.879124102307692

 $00:26:33.570 \longrightarrow 00:26:35.730$  It is commonly done.

NOTE Confidence: 0.879124102307692

 $00:26:35.730 \longrightarrow 00:26:37.890$  We consider that essentially

NOTE Confidence: 0.879124102307692

 $00:26:37.890 \longrightarrow 00:26:40.208$  standard of Care now and.

NOTE Confidence: 0.879124102307692

 $00:26:40.210 \longrightarrow 00:26:43.852$  There are different subtypes of Glioblastoma

NOTE Confidence: 0.879124102307692

 $00:26:43.852 \longrightarrow 00:26:47.185$  1 main differentiation being the status

 $00:26:47.185 \longrightarrow 00:26:50.441$  of an enzyme called the N MGMT enzyme.

NOTE Confidence: 0.879124102307692

 $00:26:50.450 \longrightarrow 00:26:53.411$  And now we've been able to develop

NOTE Confidence: 0.879124102307692

 $00:26:53.411 \longrightarrow 00:26:55.629$  these various subgroups of patients.

NOTE Confidence: 0.879124102307692

 $00:26:55.630 \longrightarrow 00:26:57.960$  And are trying to develop.

NOTE Confidence: 0.879124102307692

00:26:57.960 --> 00:27:01.192 New treatment strategies. Unfortunately,

NOTE Confidence: 0.879124102307692

 $00:27:01.192 \longrightarrow 00:27:03.560$  there this is all still in development.

NOTE Confidence: 0.879124102307692

 $00:27:03.560 \longrightarrow 00:27:06.528$  There really has been no breakthrough yet for

NOTE Confidence: 0.879124102307692

 $00:27:06.528 \longrightarrow 00:27:08.769$  various subtypes of primary brain tumors.

NOTE Confidence: 0.879124102307692

 $00:27:08.770 \longrightarrow 00:27:11.630$  Uh, but with other cancers

NOTE Confidence: 0.879124102307692

 $00{:}27{:}11.630 \dashrightarrow 00{:}27{:}15.300$  like lung cancer in particular.

NOTE Confidence: 0.879124102307692

 $00{:}27{:}15.300 \dashrightarrow 00{:}27{:}17.640$  This strategy was looking, you know,

NOTE Confidence: 0.879124102307692

 $00:27:17.640 \longrightarrow 00:27:19.880$  was evaluated evolved several years

NOTE Confidence: 0.879124102307692

 $00{:}27{:}19.880 \dashrightarrow 00{:}27{:}22.505$  ago and now various subtypes of

NOTE Confidence: 0.879124102307692

 $00{:}27{:}22.505 \dashrightarrow 00{:}27{:}24.710$  of lung cancers such as the ALK

NOTE Confidence: 0.879124102307692

 $00{:}27{:}24.710 \dashrightarrow 00{:}27{:}27.182$  mutated or alpha mutated lung cancer

 $00:27:27.182 \longrightarrow 00:27:29.397$  has its own targeted therapies.

NOTE Confidence: 0.879124102307692

 $00{:}27{:}29.400 \dashrightarrow 00{:}27{:}31.650$  These can cross the blood brain

NOTE Confidence: 0.879124102307692

 $00:27:31.650 \longrightarrow 00:27:33.866$  barrier and and be highly effective

NOTE Confidence: 0.879124102307692

 $00:27:33.866 \longrightarrow 00:27:35.676$  at controlling all commutative lung

NOTE Confidence: 0.879124102307692

 $00:27:35.676 \longrightarrow 00:27:37.429$  cancer that affects the brain.

NOTE Confidence: 0.879124102307692

00:27:37.430 --> 00:27:39.796 So I'm hopeful that we'll get there

NOTE Confidence: 0.879124102307692

 $00:27:39.796 \longrightarrow 00:27:41.509$  with glioblastoma treatment over the

NOTE Confidence: 0.879124102307692

 $00:27:41.509 \longrightarrow 00:27:43.763$  next 10 years because I've seen these

NOTE Confidence: 0.879124102307692

 $00:27:43.763 \longrightarrow 00:27:45.478$  breakthroughs occur in in other cancer.

NOTE Confidence: 0.879124102307692

 $00:27:45.480 \longrightarrow 00:27:47.489$  IES, and that's been great to see.

NOTE Confidence: 0.924136628

 $00{:}27{:}47.910 \dashrightarrow 00{:}27{:}51.600$  You know the other question that a lot

NOTE Confidence: 0.924136628

00:27:51.600 --> 00:27:54.550 of patients could ask is, you know,

NOTE Confidence: 0.924136628

 $00:27:54.550 \longrightarrow 00:27:57.374$  was there anything that I did that could

NOTE Confidence: 0.924136628

 $00:27:57.374 \longrightarrow 00:27:59.884$  cause this brain tumor or anything that

NOTE Confidence: 0.924136628

00:27:59.884 --> 00:28:02.589 I could do to prevent brain tumors?

NOTE Confidence: 0.924136628

 $00:28:02.590 \longrightarrow 00:28:05.103$  You know, we all hear about doing

 $00:28:05.103 \longrightarrow 00:28:07.301$  crossword puzzles and keeping your brain

NOTE Confidence: 0.924136628

 $00:28:07.301 \longrightarrow 00:28:09.765$  active to try to stay off dementia,

NOTE Confidence: 0.924136628

 $00:28:09.770 \longrightarrow 00:28:12.623$  but is there anything that we can do to

NOTE Confidence: 0.924136628

00:28:12.623 --> 00:28:15.574 kind of help mitigate against brain tumors?

NOTE Confidence: 0.924136628

 $00:28:15.574 \longrightarrow 00:28:18.458$  Or the toxicity of brain tumor treatment.

NOTE Confidence: 0.894108897142857

00:28:19.270 --> 00:28:21.438 I was just having a conversation with a

NOTE Confidence: 0.894108897142857

 $00:28:21.438 \longrightarrow 00:28:23.945$  patient of mine yesterday about this and.

NOTE Confidence: 0.894108897142857

 $00{:}28{:}23.945 \dashrightarrow 00{:}28{:}26.224$  Was wondering like how how did I

NOTE Confidence: 0.894108897142857

 $00:28:26.224 \longrightarrow 00:28:28.349$  get this and the truth is that.

NOTE Confidence: 0.894108897142857

00:28:28.350 --> 00:28:30.569 For the vast, vast majority of people,

NOTE Confidence: 0.894108897142857

 $00:28:30.570 \longrightarrow 00:28:32.280$  their brain tumors are just sporadic.

NOTE Confidence: 0.923537306875

 $00{:}28{:}32.950 \dashrightarrow 00{:}28{:}35.422$  Doctor Nicholas Blondin is an assistant

NOTE Confidence: 0.923537306875

 $00{:}28{:}35.422 \dashrightarrow 00{:}28{:}37.070$  professor of clinical neurology

NOTE Confidence: 0.923537306875

 $00:28:37.130 \longrightarrow 00:28:38.930$  at the Yale School of Medicine.

NOTE Confidence: 0.923537306875

 $00:28:38.930 \longrightarrow 00:28:40.998$  If you have questions,

 $00{:}28{:}40.998 \dashrightarrow 00{:}28{:}43.016$  the address is canceranswers@yale.edu

NOTE Confidence: 0.923537306875

 $00{:}28{:}43.016 \dashrightarrow 00{:}28{:}45.812$  and past editions of the program

NOTE Confidence: 0.923537306875

00:28:45.812 --> 00:28:48.252 are available in audio and written

NOTE Confidence: 0.923537306875

 $00:28:48.252 \longrightarrow 00:28:49.205$  form at yalecancercenter.org.

NOTE Confidence: 0.923537306875

 $00{:}28{:}49.205 \dashrightarrow 00{:}28{:}51.645$  We hope you'll join us next week to

NOTE Confidence: 0.923537306875

 $00{:}28{:}51.645 \longrightarrow 00{:}28{:}53.513$  learn more about the fight against

NOTE Confidence: 0.923537306875

 $00{:}28{:}53.513 \dashrightarrow 00{:}28{:}55.310$  cancer here on Connecticut Public radio

NOTE Confidence: 0.923537306875

 $00:28:55.310 \longrightarrow 00:28:57.722$  funding for Yale Cancer Answers is

NOTE Confidence: 0.923537306875

00:28:57.722 --> 00:29:00.000 provided by Smilow Cancer Hospital.