

WEBVTT

00:00:00.000 --> 00:00:02.460 Support for Yale Cancer Answers

NOTE Confidence: 0.85388523

00:00:02.460 --> 00:00:04.920 comes from AstraZeneca, dedicated

NOTE Confidence: 0.85388523

00:00:04.999 --> 00:00:07.344 to advancing options and providing

NOTE Confidence: 0.85388523

00:00:07.344 --> 00:00:10.300 hope for people living with cancer.

NOTE Confidence: 0.85388523

00:00:10.300 --> 00:00:12.248 More information at astrazeneca-us.com.

NOTE Confidence: 0.82523483

00:00:14.330 --> 00:00:15.782 Welcome to Yale Cancer

NOTE Confidence: 0.82523483

00:00:15.782 --> 00:00:17.597 Answers with your host doctor

NOTE Confidence: 0.82523483

00:00:17.600 --> 00:00:20.134 Anees Chagpar. Yale Cancer Answers

NOTE Confidence: 0.82523483

00:00:20.140 --> 00:00:22.240 features the latest information on

NOTE Confidence: 0.82523483

00:00:22.240 --> 00:00:24.728 cancer care by welcoming oncologists and

NOTE Confidence: 0.82523483

00:00:24.728 --> 00:00:26.968 specialists who are on the forefront of

NOTE Confidence: 0.82523483

00:00:26.968 --> 00:00:29.209 the battle to fight cancer. This week,

NOTE Confidence: 0.82523483

00:00:29.210 --> 00:00:31.394 it's a conversation about pediatric cancer

NOTE Confidence: 0.82523483

00:00:31.394 --> 00:00:33.210 survivorship with Doctor Nina Kadan-Lottick.

NOTE Confidence: 0.82523483

00:00:33.210 --> 00:00:34.930 Dr. Kadan-Lottick is

NOTE Confidence: 0.82523483

00:00:34.930 --> 00:00:37.124 the medical director of the HEROS
NOTE Confidence: 0.82523483

00:00:37.124 --> 00:00:39.169 Program and an associate professor
NOTE Confidence: 0.82523483

00:00:39.169 --> 00:00:41.196 of Pediatrics and hematology oncology
NOTE Confidence: 0.82523483

00:00:41.196 --> 00:00:43.194 at the Yale School of Medicine
NOTE Confidence: 0.82523483

00:00:43.200 --> 00:00:45.234 where doctor Chagpar is a
NOTE Confidence: 0.82523483

00:00:45.234 --> 00:00:46.590 professor of surgical oncology.
NOTE Confidence: 0.8396927

00:00:47.840 --> 00:00:50.472 Nina, maybe we can start off by
NOTE Confidence: 0.8396927

00:00:50.472 --> 00:00:53.120 you laying some of the groundwork.
NOTE Confidence: 0.8396927

00:00:53.120 --> 00:00:55.262 When we think about
NOTE Confidence: 0.8396927

00:00:55.262 --> 00:00:56.690 pediatric cancers or cancers
NOTE Confidence: 0.8396927

00:00:56.758 --> 00:00:58.798 occurring in children uniformly,
NOTE Confidence: 0.8396927

00:00:58.800 --> 00:01:00.830 the first emotion
NOTE Confidence: 0.8396927

00:01:00.830 --> 00:01:02.454 that strikes is heartbreak.
NOTE Confidence: 0.8396927

00:01:02.460 --> 00:01:04.959 But tell us a little bit more
NOTE Confidence: 0.8396927

00:01:04.959 --> 00:01:07.462 about how many kids every year
NOTE Confidence: 0.8396927

00:01:07.462 --> 00:01:10.162 get cancer and the different kinds

NOTE Confidence: 0.8396927

00:01:10.170 --> 00:01:12.200 of cancers that they get.

NOTE Confidence: 0.8396927

00:01:12.200 --> 00:01:15.560 So there are about 10,000 kids in the

NOTE Confidence: 0.8396927

00:01:15.560 --> 00:01:19.008 country that get diagnosed with cancer and

NOTE Confidence: 0.8396927

00:01:19.010 --> 00:01:22.250 the great news is that the vast majority

NOTE Confidence: 0.8396927

00:01:22.250 --> 00:01:26.110 will be long term survivors, cured for good.

NOTE Confidence: 0.8396927

00:01:26.110 --> 00:01:29.260 So we have cure rates among all

NOTE Confidence: 0.8396927

00:01:29.260 --> 00:01:32.772 comers of about 85% and about 1/3 of

NOTE Confidence: 0.8396927

00:01:32.772 --> 00:01:34.987 the cancers are leukemia/lymphomas.

NOTE Confidence: 0.8396927

00:01:34.990 --> 00:01:37.085 Another 25% are brain tumors

NOTE Confidence: 0.8396927

00:01:37.085 --> 00:01:40.669 and then the rest are of a wide

NOTE Confidence: 0.8396927

00:01:40.669 --> 00:01:42.537 variety of different cancers.

NOTE Confidence: 0.8396927

00:01:42.540 --> 00:01:45.870 But the good news is for most cancers we

NOTE Confidence: 0.8396927

00:01:45.870 --> 00:01:49.044 have some very effective therapies and

NOTE Confidence: 0.8396927

00:01:49.044 --> 00:01:52.260 some really exciting ones coming down the pipe.

00:01:54.050 --> 00:01:57.210 I can only imagine

NOTE Confidence: 0.89817923

00:01:57.210 --> 00:02:00.319 what it must be like to hear

NOTE Confidence: 0.89817923
00:02:00.319 --> 00:02:03.106 the words your child has cancer
NOTE Confidence: 0.89817923
00:02:03.106 --> 00:02:05.896 but let's take a step abck
NOTE Confidence: 0.89817923
00:02:05.900 --> 00:02:07.452 even back from that.
NOTE Confidence: 0.89817923
00:02:07.452 --> 00:02:10.375 How is it that these cancers are
NOTE Confidence: 0.89817923
00:02:10.375 --> 00:02:12.910 diagnosed because you know most
NOTE Confidence: 0.89817923
00:02:12.910 --> 00:02:15.422 parents are not anticipating that
NOTE Confidence: 0.89817923
00:02:15.422 --> 00:02:18.194 their child is going to get cancer.
NOTE Confidence: 0.89817923
00:02:18.200 --> 00:02:20.828 This isn't something that we
NOTE Confidence: 0.89817923
00:02:20.830 --> 00:02:23.020 get screening tests for.
NOTE Confidence: 0.89817923
00:02:23.020 --> 00:02:26.177 So how do we look at that and
NOTE Confidence: 0.89817923
00:02:26.180 --> 00:02:29.534 how is it that
NOTE Confidence: 0.89817923
00:02:29.534 --> 00:02:32.489 cancer is diagnosed?
NOTE Confidence: 0.8767916
00:02:32.490 --> 00:02:35.654 It is very, very rare and so I would
NOTE Confidence: 0.8767916
00:02:35.654 --> 00:02:38.838 not want most families to
NOTE Confidence: 0.8767916
00:02:38.838 --> 00:02:42.288 worry about this as something that
NOTE Confidence: 0.8767916

00:02:42.288 --> 00:02:45.639 they have to actively look for.
NOTE Confidence: 0.8767916

00:02:45.640 --> 00:02:49.014 It really does present in ways that
NOTE Confidence: 0.8767916

00:02:49.014 --> 00:02:52.891 show that the child has something
NOTE Confidence: 0.8767916

00:02:52.891 --> 00:02:56.377 going on that's very different from
NOTE Confidence: 0.8767916

00:02:56.380 --> 00:02:59.996 what would be expected.
00:03:01.820 --> 00:03:05.420 What can commonly happen are fevers that last longer than five days.
NOTE Confidence: 0.8767916

00:03:05.420 --> 00:03:06.773 Significant weight loss
NOTE Confidence: 0.8767916

00:03:06.773 --> 00:03:09.888 that's more than 10% of the child's
NOTE Confidence: 0.8767916

00:03:09.888 --> 00:03:12.504 weight or not growing, having night
NOTE Confidence: 0.8767916

00:03:12.504 --> 00:03:14.823 sweats or being having drenching
NOTE Confidence: 0.8767916

00:03:14.823 --> 00:03:18.080 sweaty clothes in the middle the night,
NOTE Confidence: 0.8767916

00:03:18.080 --> 00:03:21.972 not just feeling warm with a little
NOTE Confidence: 0.8767916

00:03:21.972 --> 00:03:24.270 perspiration, and having
NOTE Confidence: 0.8767916

00:03:24.270 --> 00:03:26.905 lumps and bumps that grow.
NOTE Confidence: 0.8767916

00:03:26.910 --> 00:03:29.353 It's really normal for kids
NOTE Confidence: 0.8767916

00:03:29.353 --> 00:03:32.148 to have lymph nodes that you can feel,

NOTE Confidence: 0.8767916

00:03:32.150 --> 00:03:35.640 but they tend to kind of go up and down.

NOTE Confidence: 0.8767916

00:03:35.640 --> 00:03:38.076 They don't just keep on getting bigger,

NOTE Confidence: 0.8767916

00:03:38.080 --> 00:03:40.864 so these are things that are very unusual

NOTE Confidence: 0.8767916

00:03:40.870 --> 00:03:43.694 and would stand out to a pediatrician or

NOTE Confidence: 0.8767916

00:03:43.694 --> 00:03:46.107 two a parent as just not being right,

NOTE Confidence: 0.8767916

00:03:46.110 --> 00:03:48.306 and that's what usually gets medical

NOTE Confidence: 0.8767916

00:03:48.306 --> 00:03:50.409 attention that leads to the tests

NOTE Confidence: 0.8767916

00:03:50.409 --> 00:03:50.987 that make

NOTE Confidence: 0.8304312

00:03:50.990 --> 00:03:52.004 the diagnosis.

NOTE Confidence: 0.8304312

00:03:52.004 --> 00:03:55.152 I guess one thing is

NOTE Confidence: 0.8304312

00:03:55.152 --> 00:03:57.689 that while these are very rare,

NOTE Confidence: 0.8304312

00:03:57.689 --> 00:04:00.622 when something just doesn't seem right with

NOTE Confidence: 0.8304312

00:04:00.622 --> 00:04:03.765 your child over a prolonged period of time,

NOTE Confidence: 0.8304312

00:04:03.770 --> 00:04:06.994 you really ought to get it checked out,

NOTE Confidence: 0.8304312

00:04:07.000 --> 00:04:10.224 and so when you present your

NOTE Confidence: 0.8304312

00:04:10.224 --> 00:04:12.297 pediatrician with your child who
NOTE Confidence: 0.8304312

00:04:12.297 --> 00:04:14.679 may have some of these symptoms,
NOTE Confidence: 0.8304312

00:04:14.680 --> 00:04:17.098 how is that generally worked up?
NOTE Confidence: 0.8304312

00:04:17.100 --> 00:04:19.120 One would imagine that pediatricians
NOTE Confidence: 0.8304312

00:04:19.120 --> 00:04:21.950 too are thinking common things.
NOTE Confidence: 0.8304312

00:04:21.950 --> 00:04:25.182 Is this a flu?
NOTE Confidence: 0.8304312

00:04:25.182 --> 00:04:26.794 Is this a cold?
NOTE Confidence: 0.8304312

00:04:26.800 --> 00:04:28.316 How is it that
NOTE Confidence: 0.8304312

00:04:28.316 --> 00:04:31.188 things are worked up where pediatricians
NOTE Confidence: 0.8304312

00:04:31.188 --> 00:04:35.236 clue into the fact that this is unusual.
NOTE Confidence: 0.8304312

00:04:35.240 --> 00:04:38.250 And what further work up is needed.
NOTE Confidence: 0.88604957

00:04:39.210 --> 00:04:42.322 I will say pediatricians are brilliant
NOTE Confidence: 0.88604957

00:04:42.322 --> 00:04:44.977 because they see thousands of children.
NOTE Confidence: 0.88604957

00:04:44.980 --> 00:04:48.970 They have a gut feeling when something
NOTE Confidence: 0.88604957

00:04:48.970 --> 00:04:52.500 doesn't feel right and I totally
NOTE Confidence: 0.87776625

00:04:54.870 --> 00:04:57.174 agree with you that if a

NOTE Confidence: 0.87776625

00:04:57.174 --> 00:04:58.982 parent feels like something's not

NOTE Confidence: 0.87776625

00:04:58.982 --> 00:05:01.292 right to go to the pediatrician

NOTE Confidence: 0.87776625

00:05:01.292 --> 00:05:03.805 and have that evaluated and so

NOTE Confidence: 0.87776625

00:05:03.810 --> 00:05:06.682 some of these are the questions that I

NOTE Confidence: 0.87776625

00:05:06.682 --> 00:05:08.966 just mentioned to you that are asked,

NOTE Confidence: 0.87776625

00:05:08.970 --> 00:05:11.182 and if any of those are positive

NOTE Confidence: 0.87776625

00:05:11.182 --> 00:05:13.787 with any of those things going on,

NOTE Confidence: 0.87776625

00:05:13.790 --> 00:05:15.848 that would be a red flag,

NOTE Confidence: 0.87776625

00:05:15.850 --> 00:05:17.664 and then the pediatrician does

NOTE Confidence: 0.87776625

00:05:17.664 --> 00:05:19.986 a really close exam and checks

NOTE Confidence: 0.87776625

00:05:19.986 --> 00:05:22.389 for the size of lymph nodes in

NOTE Confidence: 0.87776625

00:05:22.389 --> 00:05:24.639 the neck and under the arms and

NOTE Confidence: 0.87776625

00:05:24.640 --> 00:05:27.923 listens to the lungs and feels the

NOTE Confidence: 0.87776625

00:05:27.923 --> 00:05:30.340 belly very carefully for organ

NOTE Confidence: 0.87776625

00:05:30.340 --> 00:05:33.100 enlargement or any masses and also

NOTE Confidence: 0.87776625

00:05:33.100 --> 00:05:36.059 feels any other body parts that
NOTE Confidence: 0.87776625

00:05:36.059 --> 00:05:38.975 are affected so if anything doesn't
NOTE Confidence: 0.87776625

00:05:38.980 --> 00:05:42.550 feel right, it feels firmer
NOTE Confidence: 0.87776625

00:05:42.550 --> 00:05:45.650 or larger or doesn't move,
NOTE Confidence: 0.87776625

00:05:45.650 --> 00:05:48.202 that would be a red flag and then
NOTE Confidence: 0.87776625

00:05:48.202 --> 00:05:51.152 we get a phone call in pediatric
NOTE Confidence: 0.87776625

00:05:51.152 --> 00:05:53.909 oncology and we are available 24/7
NOTE Confidence: 0.87776625

00:05:53.909 --> 00:05:56.537 to our community pediatricians and we
NOTE Confidence: 0.87776625

00:05:56.537 --> 00:05:59.416 just talk it over and sometimes we
NOTE Confidence: 0.87776625

00:05:59.416 --> 00:06:02.257 have some other signs or hints that
NOTE Confidence: 0.87776625

00:06:02.257 --> 00:06:04.819 help us know it's something that's
NOTE Confidence: 0.87776625

00:06:04.819 --> 00:06:07.342 really benign and not worrisome that
NOTE Confidence: 0.87776625

00:06:07.342 --> 00:06:10.065 it sounds more like mono or we'll
NOTE Confidence: 0.87776625

00:06:10.070 --> 00:06:12.863 use our experience to figure out
00:06:15.500 --> 00:06:17.875 what is something less worrisome or something
NOTE Confidence: 0.87776625

00:06:17.875 --> 00:06:19.910 characteristic of an unusual
NOTE Confidence: 0.87776625

00:06:19.910 --> 00:06:22.590 manifestation of a common infection,
NOTE Confidence: 0.87776625

00:06:22.590 --> 00:06:25.705 or whether it indicates that there could
NOTE Confidence: 0.87776625

00:06:25.705 --> 00:06:28.510 be something totally different going on,
NOTE Confidence: 0.87776625

00:06:28.510 --> 00:06:31.240 like arthritis or another joint problem.
NOTE Confidence: 0.87776625

00:06:31.240 --> 00:06:34.418 But if it's worrisome to us,
NOTE Confidence: 0.87776625

00:06:34.420 --> 00:06:38.193 then what we do is we bring
NOTE Confidence: 0.87776625

00:06:38.193 --> 00:06:41.429 the child in right away.
NOTE Confidence: 0.87776625

00:06:41.430 --> 00:06:43.956 If the clinic is not open,
NOTE Confidence: 0.87776625

00:06:43.960 --> 00:06:46.592 it can even be through the emergency
NOTE Confidence: 0.87776625

00:06:46.592 --> 00:06:49.520 room and we start by getting blood
NOTE Confidence: 0.87776625

00:06:49.520 --> 00:06:52.645 tests that indicate if the parts of
NOTE Confidence: 0.87776625

00:06:52.645 --> 00:06:54.930 the blood are being made properly,
NOTE Confidence: 0.87776625

00:06:54.930 --> 00:06:56.794 which can indicate leukemia,
NOTE Confidence: 0.87776625

00:06:56.794 --> 00:06:59.590 lymphoma which indicate whether there are
NOTE Confidence: 0.87776625

00:06:59.663 --> 00:07:02.527 chemicals that can be created by the tumor.
00:07:03.372 --> 00:07:05.477 When cells are rapidly dividing,
NOTE Confidence: 0.87776625

00:07:05.480 --> 00:07:08.410 they can create more potassium

NOTE Confidence: 0.87776625

00:07:08.410 --> 00:07:09.280 and uric acid.

NOTE Confidence: 0.87776625

00:07:09.280 --> 00:07:11.685 We do X Rays to look for masses

NOTE Confidence: 0.87776625

00:07:11.685 --> 00:07:14.358 and in the in clinic we

NOTE Confidence: 0.87776625

00:07:14.441 --> 00:07:16.937 can rapidly get CTS or ultrasounds

NOTE Confidence: 0.87776625

00:07:16.937 --> 00:07:19.399 done within hours and then

NOTE Confidence: 0.87776625

00:07:19.399 --> 00:07:21.240 our goal is to make the right

NOTE Confidence: 0.87776625

00:07:21.303 --> 00:07:23.243 diagnosis and determination as soon

NOTE Confidence: 0.87776625

00:07:23.243 --> 00:07:25.750 as possible and for social reasons,

NOTE Confidence: 0.87776625

00:07:25.750 --> 00:07:26.494 unlike adults,

NOTE Confidence: 0.87776625

00:07:26.494 --> 00:07:28.726 we often even admit patients not

NOTE Confidence: 0.87776625

00:07:28.726 --> 00:07:30.424 necessarily because they're so sick

NOTE Confidence: 0.87776625

00:07:30.424 --> 00:07:32.206 that they have to be admitted,

NOTE Confidence: 0.87776625

00:07:32.210 --> 00:07:34.794 but just to make the work up happen

NOTE Confidence: 0.87776625

00:07:34.794 --> 00:07:36.988 faster so that everyone

NOTE Confidence: 0.87776625

00:07:36.988 --> 00:07:39.576 can get the answer right away and

NOTE Confidence: 0.87776625

00:07:39.576 --> 00:07:41.774 we can start working on a plan

NOTE Confidence: 0.87776625

00:07:41.780 --> 00:07:43.796 that will make the child better.

NOTE Confidence: 0.87776625

00:07:43.800 --> 00:07:44.944 And as I said,

NOTE Confidence: 0.87776625

00:07:44.944 --> 00:07:47.405 I really feel like my field is a

NOTE Confidence: 0.87776625

00:07:47.405 --> 00:07:49.743 field of hope and optimistic

NOTE Confidence: 0.87776625

00:07:49.743 --> 00:07:51.278 positivity because the

NOTE Confidence: 0.87776625

00:07:51.278 --> 00:07:53.903 vast majority of the time we have

NOTE Confidence: 0.87776625

00:07:53.910 --> 00:07:56.070 something really great that we can

NOTE Confidence: 0.87776625

00:07:56.070 --> 00:07:58.289 offer where we expect it to work,

NOTE Confidence: 0.87776625

00:07:58.290 --> 00:08:00.628 and we expect the child to come

NOTE Confidence: 0.87776625

00:08:00.628 --> 00:08:03.037 through at the other end and

NOTE Confidence: 0.87776625

00:08:03.037 --> 00:08:04.697 be a long term survivor.

NOTE Confidence: 0.8787782

00:08:04.700 --> 00:08:07.283 Yeah, that's so great to hear because

NOTE Confidence: 0.8787782

00:08:07.283 --> 00:08:09.943 I think that much of the general

NOTE Confidence: 0.8787782

00:08:09.943 --> 00:08:12.750 public when they hear the word cancer

NOTE Confidence: 0.8787782

00:08:12.750 --> 00:08:15.678 it doesn't really strike a chord of hope,
NOTE Confidence: 0.8787782

00:08:15.680 --> 00:08:18.608 and when you think about cancer in kids,
NOTE Confidence: 0.8787782

00:08:18.610 --> 00:08:20.440 many people experience more heartbreak.
NOTE Confidence: 0.8787782

00:08:20.440 --> 00:08:23.336 But we're going to talk about all of
NOTE Confidence: 0.8787782

00:08:23.336 --> 00:08:25.502 the treatments and the optimism that
NOTE Confidence: 0.8787782

00:08:25.502 --> 00:08:28.120 is entailed with that in a second,
NOTE Confidence: 0.8787782

00:08:28.120 --> 00:08:29.950 but before we get there,
NOTE Confidence: 0.8787782

00:08:29.950 --> 00:08:32.878 so you have a child who comes in,
NOTE Confidence: 0.8787782

00:08:32.880 --> 00:08:34.710 who was seen by their
NOTE Confidence: 0.8787782

00:08:34.710 --> 00:08:35.604 pediatrician,
NOTE Confidence: 0.8787782

00:08:35.604 --> 00:08:38.733 and it was felt that things just
NOTE Confidence: 0.8787782

00:08:38.733 --> 00:08:41.660 weren't right and they got some
NOTE Confidence: 0.8787782

00:08:41.660 --> 00:08:44.329 blood work and some scans and so on.
NOTE Confidence: 0.8787782

00:08:44.330 --> 00:08:46.118 In the adult population,
NOTE Confidence: 0.8787782

00:08:46.118 --> 00:08:49.510 usually the next step is a biopsy
NOTE Confidence: 0.8787782

00:08:49.510 --> 00:08:53.278 to try to make a definitive diagnosis,

NOTE Confidence: 0.8787782

00:08:53.280 --> 00:08:55.160 is it the same

NOTE Confidence: 0.8317554

00:08:55.160 --> 00:09:00.064 way in kids?

NOTE Confidence: 0.8317554

00:09:00.064 --> 00:09:02.072 The most common childhood cancers

NOTE Confidence: 0.8317554

00:09:02.072 --> 00:09:03.578 are leukemia lymphomas,

NOTE Confidence: 0.8317554

00:09:03.580 --> 00:09:06.505 so the best place to do a biopsy is

NOTE Confidence: 0.8317554

00:09:06.505 --> 00:09:09.337 in the bone marrow, which is inside

NOTE Confidence: 0.8317554

00:09:09.337 --> 00:09:12.224 the bones where we make our blood

NOTE Confidence: 0.8317554

00:09:12.224 --> 00:09:14.772 and the most accessible site is the

NOTE Confidence: 0.8317554

00:09:14.772 --> 00:09:17.722 back of the hip because it's close to

NOTE Confidence: 0.8317554

00:09:17.722 --> 00:09:20.209 the surface of the skin and that's

NOTE Confidence: 0.8317554

00:09:20.209 --> 00:09:22.327 an outpatient procedure that we can

NOTE Confidence: 0.8317554

00:09:22.327 --> 00:09:24.873 do with sedation

NOTE Confidence: 0.8317554

00:09:27.360 --> 00:09:29.418 and we can take a sample,

NOTE Confidence: 0.8317554

00:09:29.418 --> 00:09:31.081 look at it under microscope.

NOTE Confidence: 0.8317554

00:09:31.081 --> 00:09:34.076 If it is a tumor of the brain

NOTE Confidence: 0.8317554

00:09:34.076 --> 00:09:36.106 or in another body part,
NOTE Confidence: 0.8317554

00:09:36.110 --> 00:09:37.960 then a biopsy is done,
NOTE Confidence: 0.8317554

00:09:37.960 --> 00:09:40.180 and that's a very important part.
NOTE Confidence: 0.8317554

00:09:40.180 --> 00:09:42.364 We first do those scans and
NOTE Confidence: 0.8317554

00:09:42.364 --> 00:09:44.620 blood tests to say is
NOTE Confidence: 0.8317554

00:09:44.620 --> 00:09:46.470 it worth doing more.
NOTE Confidence: 0.8317554

00:09:46.470 --> 00:09:48.990 But if we are worried then
00:09:51.680 --> 00:09:53.650 that will actually make the
NOTE Confidence: 0.8317554

00:09:53.650 --> 00:09:55.620 diagnosis with the biopsy and
NOTE Confidence: 0.8317554

00:09:55.692 --> 00:09:57.697 then the really exciting part
NOTE Confidence: 0.8317554

00:09:57.697 --> 00:10:00.120 about being an oncologist in 2021
00:10:00.940 --> 00:10:04.220 is that it's not just what the biopsy
NOTE Confidence: 0.8317554

00:10:04.317 --> 00:10:08.142 shows in terms of what the cancer type is.
NOTE Confidence: 0.8317554

00:10:08.150 --> 00:10:10.502 We also further analyze it for
NOTE Confidence: 0.8317554

00:10:10.502 --> 00:10:12.620 the genetics of the tumor,
NOTE Confidence: 0.8317554

00:10:12.620 --> 00:10:16.265 not the genetics that the child is born with,
NOTE Confidence: 0.8317554

00:10:16.270 --> 00:10:18.300 but in the tumor cells,

NOTE Confidence: 0.8317554
00:10:18.300 --> 00:10:20.330 because that can inform us
NOTE Confidence: 0.8317554
00:10:20.330 --> 00:10:23.571 what is the best therapy to achieve
NOTE Confidence: 0.8317554
00:10:23.571 --> 00:10:26.126 cure and sometimes it also tells
NOTE Confidence: 0.8317554
00:10:26.126 --> 00:10:29.247 us that we can use a certain drug
NOTE Confidence: 0.8317554
00:10:29.247 --> 00:10:31.817 that targets exactly what that
NOTE Confidence: 0.8317554
00:10:31.820 --> 00:10:34.840 tumor cell is doing wrong.
NOTE Confidence: 0.8317554
00:10:34.840 --> 00:10:37.126 And what allows it to divide,
NOTE Confidence: 0.8317554
00:10:37.130 --> 00:10:39.685 and it can be what we call
NOTE Confidence: 0.8317554
00:10:39.685 --> 00:10:41.330 a directed or smart
NOTE Confidence: 0.86540157
00:10:41.330 --> 00:10:43.622 therapy.
NOTE Confidence: 0.86540157
00:10:43.622 --> 00:10:45.474 This whole concept of personalized medicine,
NOTE Confidence: 0.86540157
00:10:45.474 --> 00:10:47.586 figuring out what genes are turned
NOTE Confidence: 0.86540157
00:10:47.586 --> 00:10:50.550 on and turned off in a particular
NOTE Confidence: 0.86540157
00:10:50.550 --> 00:10:53.330 cancer and allowing us to pick
NOTE Confidence: 0.86540157
00:10:53.330 --> 00:10:55.400 targeted therapies is something that
NOTE Confidence: 0.86540157

00:10:55.400 --> 00:10:58.516 we've talked a lot about on this show,
NOTE Confidence: 0.86540157

00:10:58.520 --> 00:11:00.100 predominantly in adult cancers.
NOTE Confidence: 0.86540157

00:11:00.100 --> 00:11:02.934 But it's great to hear that that
NOTE Confidence: 0.86540157

00:11:02.934 --> 00:11:05.286 occurs in pediatric cancers as well.
NOTE Confidence: 0.86540157

00:11:05.290 --> 00:11:07.674 And again I want to spend the second
NOTE Confidence: 0.86540157

00:11:07.674 --> 00:11:10.503 half of the show really talking about
NOTE Confidence: 0.86540157

00:11:10.503 --> 00:11:13.079 the personalized therapies and all
NOTE Confidence: 0.86540157

00:11:13.079 --> 00:11:15.445 of the optimism that goes into that.
NOTE Confidence: 0.86540157

00:11:15.450 --> 00:11:18.002 But before we get there,
NOTE Confidence: 0.86540157

00:11:18.002 --> 00:11:20.564 one of the questions that I think
NOTE Confidence: 0.86540157

00:11:20.564 --> 00:11:23.168 many parents who may have a child
NOTE Confidence: 0.86540157

00:11:23.168 --> 00:11:25.977 with cancer may be asking is why me,
NOTE Confidence: 0.86540157

00:11:25.980 --> 00:11:28.514 why my child, what predisposed to this?
NOTE Confidence: 0.86540157

00:11:28.520 --> 00:11:30.340 It's not like lung cancer,
NOTE Confidence: 0.86540157

00:11:30.340 --> 00:11:32.748 where you can say this child was
NOTE Confidence: 0.86540157

00:11:32.748 --> 00:11:35.442 smoking for X number of years, or

NOTE Confidence: 0.86540157

00:11:35.442 --> 00:11:38.116 that there may

NOTE Confidence: 0.86540157

00:11:38.116 --> 00:11:41.709 be a factor of obesity necessarily.

NOTE Confidence: 0.86540157

00:11:41.710 --> 00:11:44.510 So tell us a little bit more about

NOTE Confidence: 0.86540157

00:11:44.510 --> 00:11:47.340 the predisposing factors,

NOTE Confidence: 0.86540157

00:11:47.340 --> 00:11:49.938 what causes these childhood cancers?

NOTE Confidence: 0.8657849

00:11:49.940 --> 00:11:52.532 Well, the simple answer is for

NOTE Confidence: 0.8657849

00:11:52.532 --> 00:11:55.129 most of them, we don't know,

NOTE Confidence: 0.8657849

00:11:55.129 --> 00:11:59.026 and only about 5 or 6% of them are

NOTE Confidence: 0.8657849

00:11:59.026 --> 00:12:01.186 due to familial cancer syndromes.

NOTE Confidence: 0.8657849

00:12:01.190 --> 00:12:03.716 This can be because the child

NOTE Confidence: 0.8657849

00:12:03.716 --> 00:12:06.389 is born with a genetic

NOTE Confidence: 0.85282457

00:12:08.480 --> 00:12:11.672 condition like for example Down syndrome

NOTE Confidence: 0.85282457

00:12:11.672 --> 00:12:14.776 is a condition associated with increased risk

NOTE Confidence: 0.85282457

00:12:14.776 --> 00:12:17.884 of leukemia

NOTE Confidence: 0.85282457

00:12:17.884 --> 00:12:23.488 or there can be

NOTE Confidence: 0.85282457

00:12:23.490 --> 00:12:25.932 other syndromes
NOTE Confidence: 0.85282457

00:12:25.932 --> 00:12:28.290 that have been identified in adults,
NOTE Confidence: 0.85282457

00:12:28.290 --> 00:12:30.842 but that's only accounting for a few
NOTE Confidence: 0.85282457

00:12:30.842 --> 00:12:33.887 and in terms of environmental exposures,
NOTE Confidence: 0.85282457

00:12:33.890 --> 00:12:35.638 we've looked really hard
NOTE Confidence: 0.85282457

00:12:35.638 --> 00:12:38.260 and there's been question
NOTE Confidence: 0.85282457

00:12:38.338 --> 00:12:40.960 about everything from cell phone use
NOTE Confidence: 0.85282457

00:12:40.960 --> 00:12:44.016 to living near power lines
NOTE Confidence: 0.85282457

00:12:44.016 --> 00:12:47.348 to what a mom ate during pregnancy
NOTE Confidence: 0.85282457

00:12:47.348 --> 00:12:51.435 and we have not really found
NOTE Confidence: 0.85282457

00:12:51.435 --> 00:12:53.256 any strong associations.
NOTE Confidence: 0.85282457

00:12:53.260 --> 00:12:56.405 Certainly very horrible tragedies like
NOTE Confidence: 0.85282457

00:12:56.405 --> 00:13:00.092 nuclear accidents have been associated with
NOTE Confidence: 0.85282457

00:13:00.092 --> 00:13:03.305 an increased risk of cancer in children.
NOTE Confidence: 0.85282457

00:13:03.310 --> 00:13:05.846 And for that reason we really try to
NOTE Confidence: 0.85282457

00:13:05.846 --> 00:13:08.719 limit the radiation we give and the

NOTE Confidence: 0.85282457

00:13:08.719 --> 00:13:10.889 diagnostic tests to what's necessary,

NOTE Confidence: 0.85282457

00:13:10.890 --> 00:13:12.822 but they're not really at the

NOTE Confidence: 0.85282457

00:13:12.822 --> 00:13:15.530 doses we do in everyday life or

NOTE Confidence: 0.85282457

00:13:15.530 --> 00:13:17.326 live within everyday life.

NOTE Confidence: 0.85282457

00:13:17.330 --> 00:13:19.163 They're not associated,

NOTE Confidence: 0.85282457

00:13:19.163 --> 00:13:21.607 so we don't know.

NOTE Confidence: 0.85282457

00:13:21.610 --> 00:13:24.498 That is an answer to be decided,

NOTE Confidence: 0.85282457

00:13:24.500 --> 00:13:26.852 and I think one of the interesting

NOTE Confidence: 0.85282457

00:13:26.852 --> 00:13:28.829 things is that we're

NOTE Confidence: 0.85282457

00:13:28.830 --> 00:13:31.200 we've starting to appreciate there may

NOTE Confidence: 0.85282457

00:13:31.200 --> 00:13:33.233 be an association with environmental

NOTE Confidence: 0.85282457

00:13:33.233 --> 00:13:35.949 factors that play a role that combine

NOTE Confidence: 0.85282457

00:13:35.949 --> 00:13:38.217 maybe in a multi step way.

NOTE Confidence: 0.85282457

00:13:38.220 --> 00:13:40.875 So maybe a child inherits the ability to be

NOTE Confidence: 0.85282457

00:13:40.875 --> 00:13:43.627 more sensitive to an environmental exposure,

NOTE Confidence: 0.85282457

00:13:43.630 --> 00:13:45.796 so it's not as simple an
NOTE Confidence: 0.85282457

00:13:45.796 --> 00:13:47.600 association like smoking a lot,
NOTE Confidence: 0.85282457

00:13:47.600 --> 00:13:50.106 and then maybe some of those
NOTE Confidence: 0.85282457

00:13:50.106 --> 00:13:51.180 environmental exposures could
NOTE Confidence: 0.85282457

00:13:51.240 --> 00:13:52.970 be something like getting a
NOTE Confidence: 0.85282457

00:13:52.970 --> 00:13:54.700 certain type of infection that's
NOTE Confidence: 0.85282457

00:13:54.764 --> 00:13:56.440 a common childhood infection.
NOTE Confidence: 0.85282457

00:13:56.440 --> 00:13:57.934 But one child may be
NOTE Confidence: 0.81007886

00:14:01.000 --> 00:14:04.717 more sensitive to that and we get hints of that.
NOTE Confidence: 0.81007886

00:14:04.720 --> 00:14:07.604 For example, a certain kind of lymphoma,
NOTE Confidence: 0.81007886

00:14:07.610 --> 00:14:10.088 Burkitt's is more common in Africa
NOTE Confidence: 0.81007886

00:14:10.090 --> 00:14:12.406 in areas where EBV or what
NOTE Confidence: 0.81007886

00:14:12.406 --> 00:14:14.630 causes mono is more common,
NOTE Confidence: 0.81007886

00:14:14.630 --> 00:14:17.926 but we're not really seeing as much here,
NOTE Confidence: 0.81007886

00:14:17.930 --> 00:14:20.000 so that that's an association.
NOTE Confidence: 0.81007886

00:14:20.000 --> 00:14:22.940 But these are all really

NOTE Confidence: 0.81007886
00:14:22.940 --> 00:14:26.138 at the stage of thought experiments
NOTE Confidence: 0.81007886
00:14:26.138 --> 00:14:28.070 and hypothesis, even despite
NOTE Confidence: 0.81007886
00:14:28.070 --> 00:14:31.080 a lot of research we have not
NOTE Confidence: 0.81007886
00:14:31.080 --> 00:14:33.166 really come up with the
NOTE Confidence: 0.81007886
00:14:33.166 --> 00:14:35.191 answer and so an important thing I
NOTE Confidence: 0.81007886
00:14:35.191 --> 00:14:37.655 tell families and I say it honestly
NOTE Confidence: 0.81007886
00:14:37.721 --> 00:14:39.779 is that there is nothing known
NOTE Confidence: 0.81007886
00:14:39.780 --> 00:14:43.218 that you could have done
NOTE Confidence: 0.81007886
00:14:43.220 --> 00:14:44.624 to prevent this.
NOTE Confidence: 0.81007886
00:14:44.624 --> 00:14:47.432 And there's nothing that you could
NOTE Confidence: 0.81007886
00:14:47.432 --> 00:14:49.989 have done to screen for this,
NOTE Confidence: 0.81007886
00:14:49.990 --> 00:14:52.020 because until it declares itself,
NOTE Confidence: 0.81007886
00:14:52.020 --> 00:14:54.050 there's no way to know.
NOTE Confidence: 0.81007886
00:14:54.050 --> 00:14:56.080 There is no technique available,
NOTE Confidence: 0.81007886
00:14:56.080 --> 00:14:58.080 total body testing
NOTE Confidence: 0.81007886

00:14:58.080 --> 00:15:00.080 that could identify it
NOTE Confidence: 0.81007886

00:15:00.080 --> 00:15:03.360 earlier and children are often l
NOTE Confidence: 0.81007886

00:15:03.360 --> 00:15:05.410 well until they're not well,
NOTE Confidence: 0.81007886

00:15:05.410 --> 00:15:07.018 that's just a phenomenon,
NOTE Confidence: 0.81007886

00:15:07.018 --> 00:15:10.330 and there's no test to catch it earlier,
NOTE Confidence: 0.81007886

00:15:10.330 --> 00:15:12.380 so I think that's a very,
NOTE Confidence: 0.81007886

00:15:12.380 --> 00:15:14.430 very important message for parents
NOTE Confidence: 0.81007886

00:15:14.430 --> 00:15:16.480 and family members to hear.
NOTE Confidence: 0.81007886

00:15:16.480 --> 00:15:18.652 I think it's also important because
NOTE Confidence: 0.81007886

00:15:18.652 --> 00:15:21.400 sometimes cancer can be really stigmatizing,
NOTE Confidence: 0.81007886

00:15:21.400 --> 00:15:23.674 and I think that it's important
NOTE Confidence: 0.81007886

00:15:23.674 --> 00:15:26.054 to know that these are really
NOTE Confidence: 0.81007886

00:15:26.054 --> 00:15:28.418 good parents that just had a
NOTE Confidence: 0.81007886

00:15:28.418 --> 00:15:30.419 very unlucky thing happen.
NOTE Confidence: 0.8390613

NOTE Confidence: 0.8390613

00:15:34.600 --> 00:15:37.463 We're going to pick up this whole
NOTE Confidence: 0.8390613

00:15:37.463 --> 00:15:39.101 conversation about cancer in
NOTE Confidence: 0.8390613

00:15:39.101 --> 00:15:41.135 children right after we take a
NOTE Confidence: 0.8390613

00:15:41.135 --> 00:15:43.410 short break for a medical minute.
NOTE Confidence: 0.8390613

00:15:43.410 --> 00:15:45.708 Please stay tuned to learn more
NOTE Confidence: 0.8390613

00:15:45.708 --> 00:15:47.620 about pediatric cancers with my
NOTE Confidence: 0.8390613

00:15:47.620 --> 00:15:49.280 guest Doctor Nina Kadan-Lottick.
NOTE Confidence: 0.8390613

00:15:49.280 --> 00:15:51.770 Support for Yale Cancer Answers
NOTE Confidence: 0.8390613

00:15:51.833 --> 00:15:53.975 comes from AstraZeneca, working to
NOTE Confidence: 0.8390613

00:15:53.975 --> 00:15:56.429 eliminate cancer as a cause of death.
NOTE Confidence: 0.8390613

00:15:56.430 --> 00:15:59.590 Learn more at astrazeneca-us.com.
NOTE Confidence: 0.8390613

00:15:59.590 --> 00:16:01.675 This is a medical minute
NOTE Confidence: 0.8390613

00:16:01.675 --> 00:16:02.926 about pancreatic cancer,
NOTE Confidence: 0.8390613

00:16:02.930 --> 00:16:05.947 which represents about 3% of all cancers
NOTE Confidence: 0.8390613

00:16:05.947 --> 00:16:09.435 in the US and about 7% of cancer deaths.
NOTE Confidence: 0.8390613

00:16:09.435 --> 00:16:11.210 Clinical trials are currently being
NOTE Confidence: 0.8390613

00:16:11.210 --> 00:16:12.860 offered at federally designated

NOTE Confidence: 0.8390613

00:16:12.860 --> 00:16:15.055 comprehensive Cancer Centers for the

NOTE Confidence: 0.8390613

00:16:15.055 --> 00:16:17.807 treatment of advanced stage and metastatic

NOTE Confidence: 0.8390613

00:16:17.807 --> 00:16:19.647 pancreatic cancer using chemotherapy

NOTE Confidence: 0.8390613

00:16:19.650 --> 00:16:20.904 and other novel therapies.

NOTE Confidence: 0.8390613

00:16:20.904 --> 00:16:21.740 FOLFIRINOX

NOTE Confidence: 0.8390613

00:16:21.740 --> 00:16:23.800 is a combination of five different

NOTE Confidence: 0.8390613

00:16:23.800 --> 00:16:26.338 chemotherapies and is the latest advance in

NOTE Confidence: 0.8390613

00:16:26.338 --> 00:16:28.428 the treatment of metastatic pancreatic

NOTE Confidence: 0.8390613

00:16:28.428 --> 00:16:30.100 cancer and research continues at

NOTE Confidence: 0.8390613

00:16:30.100 --> 00:16:32.320 centers around the world

NOTE Confidence: 0.8390613

00:16:32.320 --> 00:16:34.096 looking into targeted therapies

NOTE Confidence: 0.8390613

00:16:34.100 --> 00:16:36.170 and a recently discovered marker

NOTE Confidence: 0.8390613

00:16:36.170 --> 00:16:39.085 HENT one. This has been a medical

NOTE Confidence: 0.8390613

00:16:39.085 --> 00:16:41.773 minute brought to you as a public

NOTE Confidence: 0.8390613

00:16:41.773 --> 00:16:43.889 service by Yale Cancer Center.

NOTE Confidence: 0.8390613

00:16:43.890 --> 00:16:45.990 More information is available at
NOTE Confidence: 0.8390613

00:16:45.990 --> 00:16:47.250 yalecancercenter.org you're listening
NOTE Confidence: 0.8390613

00:16:47.250 --> 00:16:48.789 to Connecticut Public Radio.
NOTE Confidence: 0.835289

00:16:49.700 --> 00:16:52.106 Welcome back to Yale Cancer Answers.
NOTE Confidence: 0.835289

00:16:52.110 --> 00:16:55.422 This is doctor Anees Chagpar and I'm
NOTE Confidence: 0.835289

00:16:55.422 --> 00:16:58.914 joined tonight by my guest doctor Nina Kadan
Lottick
NOTE Confidence: 0.835289

00:16:58.920 --> 00:17:00.512 and we're discussing pediatric
NOTE Confidence: 0.835289

00:17:00.512 --> 00:17:03.360 cancers and this is always
NOTE Confidence: 0.835289

00:17:03.360 --> 00:17:05.335 a topic that is heartbreaking.
NOTE Confidence: 0.835289

00:17:05.340 --> 00:17:08.548 Whether you hear about it on the radio,
NOTE Confidence: 0.835289

00:17:08.550 --> 00:17:11.371 you see commercials on TV or you
NOTE Confidence: 0.835289

00:17:11.371 --> 00:17:13.433 know somebody personally whose
NOTE Confidence: 0.835289

00:17:13.433 --> 00:17:15.767 child is going through cancer.
NOTE Confidence: 0.835289

00:17:15.770 --> 00:17:17.370 It's always something where
NOTE Confidence: 0.835289

00:17:17.370 --> 00:17:18.970 your heart really breaks.
NOTE Confidence: 0.835289

00:17:18.970 --> 00:17:21.628 But Nina, right before the break,
NOTE Confidence: 0.835289

00:17:21.630 --> 00:17:24.563 you were talking a little bit about
NOTE Confidence: 0.835289

00:17:24.563 --> 00:17:26.510 genomics and personalized medicine.
NOTE Confidence: 0.835289

00:17:26.510 --> 00:17:29.240 How in these kids we can now
NOTE Confidence: 0.835289

00:17:29.240 --> 00:17:31.390 do this genomic profiling?
NOTE Confidence: 0.835289

00:17:31.390 --> 00:17:34.358 See what genes are turned on and turned
NOTE Confidence: 0.835289

00:17:34.358 --> 00:17:37.607 off in particular cancers and tailor
NOTE Confidence: 0.835289

00:17:37.610 --> 00:17:40.592 our therapy, does that happen
NOTE Confidence: 0.835289

00:17:40.592 --> 00:17:43.346 on all pediatric centers or do
NOTE Confidence: 0.835289

00:17:43.346 --> 00:17:46.042 you need to be at a big academic
NOTE Confidence: 0.835289

00:17:46.135 --> 00:17:48.710 University to have that done?
NOTE Confidence: 0.9158455

00:17:50.300 --> 00:17:53.340 So I do think it helps to be at a
NOTE Confidence: 0.9158455

00:17:53.434 --> 00:17:56.656 big academic University to have it
NOTE Confidence: 0.9158455

00:17:56.660 --> 00:17:58.900 be done more widely.
NOTE Confidence: 0.9158455

00:17:58.900 --> 00:18:01.700 Some of those tests have
NOTE Confidence: 0.9158455

00:18:01.700 --> 00:18:04.169 entered standard of care,

NOTE Confidence: 0.9158455

00:18:04.170 --> 00:18:09.408 but some of them are still

NOTE Confidence: 0.9158455

00:18:09.410 --> 00:18:11.870 only available in a research context,

NOTE Confidence: 0.9158455

00:18:11.870 --> 00:18:14.425 but are known to be quite valuable

NOTE Confidence: 0.9158455

00:18:14.425 --> 00:18:16.789 and helpful in guiding therapy,

NOTE Confidence: 0.9158455

00:18:16.790 --> 00:18:19.274 so we're really pleased to be

NOTE Confidence: 0.9158455

00:18:19.274 --> 00:18:21.709 able to offer that at Yale,

NOTE Confidence: 0.9158455

00:18:21.710 --> 00:18:24.580 both for all the different tumor types.

NOTE Confidence: 0.9158455

00:18:24.580 --> 00:18:27.860 I will say that we're learning a lot,

NOTE Confidence: 0.9158455

00:18:27.860 --> 00:18:29.910 and it's more helpful for

NOTE Confidence: 0.9158455

00:18:29.910 --> 00:18:31.960 some tumor types than others,

NOTE Confidence: 0.9158455

00:18:31.960 --> 00:18:34.456 but we have learned in general

NOTE Confidence: 0.9158455

00:18:34.456 --> 00:18:36.120 that for pediatric cancers

NOTE Confidence: 0.9158455

00:18:36.195 --> 00:18:38.075 that risk stratification is

NOTE Confidence: 0.9158455

00:18:38.075 --> 00:18:40.425 really important and the risk

NOTE Confidence: 0.9158455

00:18:40.430 --> 00:18:43.814 category a cancer is in, or sub

NOTE Confidence: 0.9158455

00:18:43.814 --> 00:18:46.739 category it's in can depend on which
NOTE Confidence: 0.9158455

00:18:46.739 --> 00:18:50.489 genes are turned on or off and even other
NOTE Confidence: 0.9158455

00:18:50.490 --> 00:18:53.334 patient attributes like age or response
NOTE Confidence: 0.9158455

00:18:53.334 --> 00:18:56.620 to the first round of chemotherapy,
NOTE Confidence: 0.9158455

00:18:56.620 --> 00:19:01.276 those help us know how to fine tune
NOTE Confidence: 0.9158455

00:19:01.280 --> 00:19:04.616 the treatment path so that we can get
NOTE Confidence: 0.8607210999999999

00:19:04.620 --> 00:19:07.815 to cure.
NOTE Confidence: 0.8607210999999999

00:19:07.815 --> 00:19:10.593 Tell us more about how that all happens
NOTE Confidence: 0.8607210999999999

00:19:10.593 --> 00:19:13.841 so you know we've gotten to the
NOTE Confidence: 0.8607210999999999

00:19:13.841 --> 00:19:16.746 point where the child has come in,
NOTE Confidence: 0.8607210999999999

00:19:16.750 --> 00:19:18.875 seen the pediatrician, gotten the
NOTE Confidence: 0.8607210999999999

00:19:18.875 --> 00:19:22.180 scans and the blood work, had the biopsy,
NOTE Confidence: 0.8607210999999999

00:19:22.180 --> 00:19:25.106 and let's suppose has cancer.
NOTE Confidence: 0.8607210999999999

00:19:28.030 --> 00:19:30.935 You had mentioned that the
NOTE Confidence: 0.8607210999999999

00:19:30.935 --> 00:19:33.190 survival rates are really good.
NOTE Confidence: 0.8607210999999999

00:19:33.190 --> 00:19:36.475 Many of these kids will have long term cures,
NOTE Confidence: 0.8607210999999999

00:19:36.480 --> 00:19:39.077 and there are a lot of exciting
NOTE Confidence: 0.8607210999999999

00:19:39.077 --> 00:19:40.879 treatments coming down the Pike.
NOTE Confidence: 0.8607210999999999

00:19:40.880 --> 00:19:43.800 Tell us a little bit more about that,
00:19:44.498 --> 00:19:47.830 and what kind of gives you hope in this space?
NOTE Confidence: 0.8920173

00:19:49.250 --> 00:19:55.438 So to give you examples, in leukemia,
00:19:56.862 --> 00:20:00.180 there are certain markers on the surface
NOTE Confidence: 0.8920173

00:20:00.180 --> 00:20:02.096 of the leukemia cells
NOTE Confidence: 0.8920173

00:20:02.096 --> 00:20:04.491 that are proteins that live
NOTE Confidence: 0.8920173

00:20:04.491 --> 00:20:07.509 on top of the tumor cells and
NOTE Confidence: 0.8920173

00:20:07.510 --> 00:20:08.929 we can engage,
NOTE Confidence: 0.8920173

00:20:08.929 --> 00:20:11.767 we use drugs that engage the
NOTE Confidence: 0.8920173

00:20:11.767 --> 00:20:14.038 bodies own immune system
NOTE Confidence: 0.8920173

00:20:14.040 --> 00:20:17.220 to attack those cells that have
NOTE Confidence: 0.8920173

00:20:17.220 --> 00:20:18.810 those proteins selectively.
NOTE Confidence: 0.8920173

00:20:18.810 --> 00:20:22.247 And that has two really important benefits.
NOTE Confidence: 0.8920173

00:20:22.250 --> 00:20:25.690 One of them is that
NOTE Confidence: 0.8920173

00:20:25.690 --> 00:20:28.959 it kills the cancer cells and

00:20:31.024 --> 00:20:33.467 second is that there's less
NOTE Confidence: 0.8920173

00:20:33.467 --> 00:20:35.451 collateral damage or unintended
NOTE Confidence: 0.8920173

00:20:35.451 --> 00:20:37.990 consequences to the healthy tissue.
NOTE Confidence: 0.8920173

00:20:37.990 --> 00:20:39.698 Because conventional chemotherapy just
NOTE Confidence: 0.8920173

00:20:39.698 --> 00:20:42.720 works on a lot of different cells,
NOTE Confidence: 0.8920173

00:20:42.720 --> 00:20:44.400 any rapidly dividing cells,
NOTE Confidence: 0.8920173

00:20:44.400 --> 00:20:46.920 but we have healthy cells in
NOTE Confidence: 0.8920173

00:20:46.995 --> 00:20:49.170 our body that divide rapidly,
NOTE Confidence: 0.8920173

00:20:49.170 --> 00:20:52.186 and so that's what can cause a lot
NOTE Confidence: 0.8920173

00:20:52.186 --> 00:20:55.038 of problems with with the misery of
NOTE Confidence: 0.8920173

00:20:55.038 --> 00:20:58.200 going through some of the chemotherapy.
NOTE Confidence: 0.8920173

00:20:58.200 --> 00:20:59.944 So that's one example.
NOTE Confidence: 0.8920173

00:20:59.944 --> 00:21:01.688 We also have understood
NOTE Confidence: 0.8920173

00:21:01.690 --> 00:21:04.215 a little better how tumors
NOTE Confidence: 0.8920173

00:21:04.215 --> 00:21:06.235 trick the immune system.
NOTE Confidence: 0.8920173

00:21:06.240 --> 00:21:08.998 So that they get the nutrients they

NOTE Confidence: 0.8920173

00:21:08.998 --> 00:21:13.189 need to divide quickly, or that they

NOTE Confidence: 0.8920173

00:21:13.190 --> 00:21:16.422 keep the bodies own immune system from

NOTE Confidence: 0.8920173

00:21:16.422 --> 00:21:19.216 getting rid of them as

NOTE Confidence: 0.8920173

00:21:19.220 --> 00:21:21.494 we have an immune system that

NOTE Confidence: 0.8920173

00:21:21.494 --> 00:21:24.119 polices our body all the time.

NOTE Confidence: 0.8920173

00:21:24.120 --> 00:21:26.912 You get rid of abnormal cells and somehow

NOTE Confidence: 0.8920173

00:21:26.912 --> 00:21:29.400 these tumor cells escaped that system.

NOTE Confidence: 0.8920173

00:21:29.400 --> 00:21:31.290 So we also utilized that.

NOTE Confidence: 0.8920173

00:21:31.290 --> 00:21:35.080 And these drugs are available

NOTE Confidence: 0.8920173

00:21:35.080 --> 00:21:39.766 across tumor groups we're discovering them

00:21:41.000 --> 00:21:43.870 and to know whether a tumor

NOTE Confidence: 0.8920173

00:21:43.950 --> 00:21:46.040 would be amenable to that

NOTE Confidence: 0.8920173

00:21:46.040 --> 00:21:49.176 we do tests on the tumor, one including

NOTE Confidence: 0.8920173

00:21:49.176 --> 00:21:51.887 the kind of proteins they make,

NOTE Confidence: 0.8920173

00:21:51.890 --> 00:21:54.446 and another is what the genetic

NOTE Confidence: 0.8920173

00:21:54.446 --> 00:21:56.909 makeup of the tumor cell is.

NOTE Confidence: 0.8920173

00:21:56.910 --> 00:22:00.528 So those are some examples.

NOTE Confidence: 0.8920173

00:22:00.530 --> 00:22:03.086 A new initiative that we have

NOTE Confidence: 0.8920173

00:22:03.086 --> 00:22:04.364 with Doctor Marks is

NOTE Confidence: 0.8920173

00:22:04.370 --> 00:22:07.786 another exciting one is that in brain tumors,

NOTE Confidence: 0.8920173

00:22:07.790 --> 00:22:10.065 children with neurofibromatosis are one

NOTE Confidence: 0.8920173

00:22:10.065 --> 00:22:13.318 of the groups that have an increased

NOTE Confidence: 0.8920173

00:22:13.318 --> 00:22:16.024 risk of brain cancers called gliomas.

NOTE Confidence: 0.8920173

00:22:16.030 --> 00:22:18.592 And there is a certain kind of

NOTE Confidence: 0.8920173

00:22:18.592 --> 00:22:21.595 drug called a MEK inhibitor that

NOTE Confidence: 0.8920173

00:22:21.595 --> 00:22:24.630 is specifically good for

NOTE Confidence: 0.8920173

00:22:24.630 --> 00:22:26.680 neurofibromatosis patients,

NOTE Confidence: 0.8920173

00:22:26.680 --> 00:22:30.719 given the kind of genetic findings that

NOTE Confidence: 0.8920173

00:22:30.719 --> 00:22:34.136 are in their tumor cells.

NOTE Confidence: 0.85387045

00:22:35.590 --> 00:22:36.954 And so you know

NOTE Confidence: 0.85387045

00:22:36.954 --> 00:22:39.651 this is really great that there

NOTE Confidence: 0.85387045

00:22:39.651 --> 00:22:42.496 are targeted therapies that address
NOTE Confidence: 0.85387045

00:22:42.496 --> 00:22:45.460 particular proteins in particular cancers,
NOTE Confidence: 0.85387045

00:22:45.460 --> 00:22:48.778 or that help the immune system to
NOTE Confidence: 0.85387045

00:22:48.778 --> 00:22:51.210 attack certain cancers that might
NOTE Confidence: 0.85387045

00:22:51.210 --> 00:22:54.416 be trying to sneak away from being
NOTE Confidence: 0.85387045

00:22:54.416 --> 00:22:57.558 attacked by the immune system.
NOTE Confidence: 0.85387045

00:22:57.558 --> 00:23:01.910 A lot of this has to do with research,
NOTE Confidence: 0.85387045

00:23:01.910 --> 00:23:04.790 and we talked a little bit
NOTE Confidence: 0.85387045

00:23:04.790 --> 00:23:07.058 on this show about clinical trials.
00:23:09.330 --> 00:23:12.386 What is your advice when it comes to
NOTE Confidence: 0.85387045

00:23:12.386 --> 00:23:14.620 clinical trials for kids and cancer?
NOTE Confidence: 0.85387045

00:23:14.620 --> 00:23:15.853 So number one,
NOTE Confidence: 0.85387045

00:23:15.853 --> 00:23:18.319 are there clinical trials that are
NOTE Confidence: 0.85387045

00:23:18.319 --> 00:23:21.040 available to kids who have cancer and two,
NOTE Confidence: 0.85387045

00:23:21.040 --> 00:23:24.064 what is your advice to parents?
NOTE Confidence: 0.85387045

00:23:24.070 --> 00:23:26.709 For many parents they may be thinking,
NOTE Confidence: 0.85387045

00:23:26.710 --> 00:23:27.466 don't experiment
NOTE Confidence: 0.85387045

00:23:27.466 --> 00:23:30.490 on my child, I'll take standard of care,
NOTE Confidence: 0.85387045

00:23:30.490 --> 00:23:32.094 thank you very much,
NOTE Confidence: 0.85387045

00:23:32.094 --> 00:23:34.099 especially a standard of care
NOTE Confidence: 0.85387045

00:23:34.099 --> 00:23:35.940 that is doing pretty well.
NOTE Confidence: 0.85387045

00:23:35.940 --> 00:23:37.508 On the other hand,
NOTE Confidence: 0.85387045

00:23:37.508 --> 00:23:41.279 we often talk about clinical trials,
NOTE Confidence: 0.85387045

00:23:41.280 --> 00:23:43.060 really offering patients kind
NOTE Confidence: 0.85387045

00:23:43.060 --> 00:23:44.840 of tomorrow's therapies today,
NOTE Confidence: 0.85387045

00:23:44.840 --> 00:23:47.492 and that many patients actually benefit
NOTE Confidence: 0.85387045

00:23:47.492 --> 00:23:50.660 from being in clinical trials. Talk a
NOTE Confidence: 0.85387045

00:23:50.660 --> 00:23:52.870 little bit about the particulars
NOTE Confidence: 0.85387045

00:23:52.870 --> 00:23:55.567 of clinical trials when it comes
NOTE Confidence: 0.85387045

00:23:55.567 --> 00:23:57.742 to pediatric patients with cancer.
NOTE Confidence: 0.913052

00:23:59.210 --> 00:24:01.366 So I do think that's one of
NOTE Confidence: 0.913052

00:24:01.366 --> 00:24:03.175 the reasons why children have

NOTE Confidence: 0.913052

00:24:03.175 --> 00:24:05.593 been doing so well with cancer.

NOTE Confidence: 0.913052

00:24:05.600 --> 00:24:07.616 That wasn't the case a

NOTE Confidence: 0.913052

00:24:07.616 --> 00:24:10.640 generation ago, 30 years ago,

NOTE Confidence: 0.913052

00:24:10.640 --> 00:24:12.600 the cure rates were

NOTE Confidence: 0.7392264

00:24:14.740 --> 00:24:20.610 less than half what they are now, and

NOTE Confidence: 0.7392264

00:24:20.610 --> 00:24:25.440 if I had had a cancer as a child most likely,

NOTE Confidence: 0.7392264

00:24:25.440 --> 00:24:28.506 and I'm a little older than that,

NOTE Confidence: 0.7392264

00:24:28.510 --> 00:24:31.590 I would have likely succumbed.

NOTE Confidence: 0.7392264

00:24:31.590 --> 00:24:34.218 So things have changed very quickly,

NOTE Confidence: 0.7392264

00:24:34.220 --> 00:24:36.614 and pediatrics has really taken the

NOTE Confidence: 0.7392264

00:24:36.614 --> 00:24:39.162 lead in organizing sites across

NOTE Confidence: 0.7392264

00:24:39.162 --> 00:24:41.367 the country together to coordinate

NOTE Confidence: 0.7392264

00:24:41.367 --> 00:24:43.880 and do clinical trials together.

NOTE Confidence: 0.7392264

00:24:43.880 --> 00:24:46.960 And we have a very high rate of

NOTE Confidence: 0.7392264

00:24:46.960 --> 00:24:50.046 clinical trial enrollment around 80%

NOTE Confidence: 0.7392264

00:24:50.046 --> 00:24:52.376 and there have been analysis
NOTE Confidence: 0.7392264

00:24:52.376 --> 00:24:54.950 that show taking all comers,
NOTE Confidence: 0.7392264

00:24:54.950 --> 00:24:57.372 patients who are in clinical trials do
NOTE Confidence: 0.7392264

00:24:57.372 --> 00:24:59.588 better than those who do not enroll.
NOTE Confidence: 0.7392264

00:24:59.590 --> 00:25:01.150 In terms of experimentation,
NOTE Confidence: 0.7392264

00:25:01.150 --> 00:25:04.633 I would say that the well being of the
NOTE Confidence: 0.7392264

00:25:04.633 --> 00:25:07.587 children in our care is the absolute top
NOTE Confidence: 0.7392264

00:25:07.587 --> 00:25:10.373 priority and there is no conflict of
NOTE Confidence: 0.7392264

00:25:10.373 --> 00:25:12.346 interest about personally benefiting of
NOTE Confidence: 0.7392264

00:25:12.346 --> 00:25:15.420 someone going on a clinical trial or not.
NOTE Confidence: 0.7392264

00:25:15.420 --> 00:25:18.436 It's really to offer what's best and
00:25:21.590 --> 00:25:24.692 we have over 30 therapeutic pediatric
NOTE Confidence: 0.7392264

00:25:24.692 --> 00:25:28.309 trials now and more in the pipeline.
NOTE Confidence: 0.7392264

00:25:28.310 --> 00:25:30.392 It goes through a very rigorous
NOTE Confidence: 0.7392264

00:25:30.392 --> 00:25:31.086 scientific review.
NOTE Confidence: 0.7392264

00:25:31.090 --> 00:25:33.860 We will not open a study that we don't feel
NOTE Confidence: 0.7392264

00:25:33.930 --> 00:25:36.636 can offer meaningful benefit for children,
NOTE Confidence: 0.7392264

00:25:36.640 --> 00:25:38.716 so it won't even open here.
NOTE Confidence: 0.7392264

00:25:38.720 --> 00:25:41.149 We won't even have it to offer.
NOTE Confidence: 0.7392264

00:25:41.150 --> 00:25:43.310 And before we've all reviewed it
NOTE Confidence: 0.7392264

00:25:43.310 --> 00:25:45.570 and reviewed it very rigorously.
NOTE Confidence: 0.7392264

00:25:45.570 --> 00:25:48.554 And then it's of course the parents decision,
NOTE Confidence: 0.7392264

00:25:48.560 --> 00:25:51.220 but we try to lay out what
NOTE Confidence: 0.7392264

00:25:51.220 --> 00:25:53.230 are the potential benefits and
NOTE Confidence: 0.7392264

00:25:53.624 --> 00:25:56.776 what are the potential risks and then to
NOTE Confidence: 0.7392264

00:25:56.776 --> 00:25:59.893 make that decision in a tough time when
NOTE Confidence: 0.7392264

00:25:59.893 --> 00:26:02.810 you don't want to have cancer at all,
NOTE Confidence: 0.7392264

00:26:02.810 --> 00:26:05.204 we don't want you to have it at all
NOTE Confidence: 0.7392264

00:26:05.204 --> 00:26:07.979 to have to make that decision for
NOTE Confidence: 0.7392264

00:26:07.979 --> 00:26:10.190 conditions in which there's outstanding
NOTE Confidence: 0.7392264

00:26:10.190 --> 00:26:12.755 outcomes and there's almost 100%
NOTE Confidence: 0.7392264

00:26:12.760 --> 00:26:15.420 cure rate or above 95% cure rates.

NOTE Confidence: 0.7392264

00:26:15.420 --> 00:26:17.640 We don't really have trials open

NOTE Confidence: 0.7392264

00:26:17.640 --> 00:26:20.011 because we don't feel like there's

NOTE Confidence: 0.7392264

00:26:20.011 --> 00:26:21.956 as much meaningful to offer,

NOTE Confidence: 0.7392264

00:26:21.960 --> 00:26:24.879 and the standard of care is reasonable.

NOTE Confidence: 0.7392264

00:26:24.880 --> 00:26:28.748 But for most parents

NOTE Confidence: 0.7392264

00:26:28.750 --> 00:26:31.774 if you can increase a cure rate

NOTE Confidence: 0.7392264

00:26:31.774 --> 00:26:34.938 probability from 80% to 87% or 90%,

NOTE Confidence: 0.7392264

00:26:34.938 --> 00:26:38.316 that would be something to consider if

NOTE Confidence: 0.7392264

00:26:38.316 --> 00:26:41.669 the rest of the risk benefit equation

NOTE Confidence: 0.7392264

00:26:42.176 --> 00:26:43.694 were reasonable,

NOTE Confidence: 0.7392264

00:26:43.694 --> 00:26:47.331 and so that's why we always try

NOTE Confidence: 0.7392264

00:26:47.331 --> 00:26:49.319 to push that envelope,

NOTE Confidence: 0.7392264

00:26:49.320 --> 00:26:52.308 because I'm happy about 85% all comers.

NOTE Confidence: 0.7392264

00:26:52.308 --> 00:26:54.353 But I don't think that's

NOTE Confidence: 0.7392264

00:26:54.353 --> 00:26:56.690 high enough for our children.

NOTE Confidence: 0.7392264

00:26:56.690 --> 00:26:59.630 That's 15% of children
NOTE Confidence: 0.7392264

00:26:59.630 --> 00:27:01.807 who are not making it and it
NOTE Confidence: 0.7392264

00:27:01.807 --> 00:27:03.370 needs to be higher.
NOTE Confidence: 0.7392264

00:27:03.370 --> 00:27:06.090 It needs to be as close to as
NOTE Confidence: 0.7392264

00:27:06.090 --> 00:27:09.468 100% as we can get it.
00:27:09.950 --> 00:27:12.848 Absolutely and the other question
NOTE Confidence: 0.85086644

00:27:12.848 --> 00:27:16.597 that I think many parents may have is,
NOTE Confidence: 0.85086644

00:27:16.600 --> 00:27:19.450 regardless of what therapy children undergo,
NOTE Confidence: 0.85086644

00:27:19.450 --> 00:27:21.820 whether it's a targeted therapy,
NOTE Confidence: 0.85086644

00:27:21.820 --> 00:27:24.200 whether it's standard of care,
NOTE Confidence: 0.85086644

00:27:24.200 --> 00:27:27.420 whether it is a novel therapy that's
NOTE Confidence: 0.85086644

00:27:27.420 --> 00:27:30.369 being offered on a clinical trial,
NOTE Confidence: 0.85086644

00:27:30.370 --> 00:27:32.908 many patients, and many parents may
NOTE Confidence: 0.85086644

00:27:32.908 --> 00:27:36.273 ask what are the long term sequelae
NOTE Confidence: 0.85086644

00:27:36.273 --> 00:27:38.918 of cancer treatment in childhood.
NOTE Confidence: 0.85086644

00:27:38.920 --> 00:27:40.972 So in other words,
NOTE Confidence: 0.85086644

00:27:40.972 --> 00:27:44.050 if my child takes chemotherapy now,
NOTE Confidence: 0.85086644

00:27:44.050 --> 00:27:46.990 what does that do to their
NOTE Confidence: 0.85086644

00:27:46.990 --> 00:27:47.970 cognitive development?
NOTE Confidence: 0.85086644

00:27:47.970 --> 00:27:50.916 What does that do to their
NOTE Confidence: 0.85086644

00:27:50.916 --> 00:27:52.880 fertility down the line?
NOTE Confidence: 0.85086644

00:27:52.880 --> 00:27:56.255 What does that do to
NOTE Confidence: 0.85086644

00:27:56.255 --> 00:27:58.805 their propensity to pass along
NOTE Confidence: 0.85086644

00:27:58.805 --> 00:28:02.208 a risk to their future generations?
NOTE Confidence: 0.85086644

00:28:02.210 --> 00:28:04.676 What do you advise patients and
NOTE Confidence: 0.85086644

00:28:04.676 --> 00:28:07.035 parents when they are concerned
NOTE Confidence: 0.85086644

00:28:07.035 --> 00:28:09.579 about these long-term sequelae?
NOTE Confidence: 0.9169928

00:28:10.710 --> 00:28:13.966 So that's a very robust area of research.
NOTE Confidence: 0.9169928

00:28:13.970 --> 00:28:17.519 We now have the luxury and the
NOTE Confidence: 0.9169928

00:28:17.520 --> 00:28:21.912 pleasure of seeing and caring for long term
NOTE Confidence: 0.9169928

00:28:21.912 --> 00:28:25.908 survivors who have lived many decades past
NOTE Confidence: 0.9169928

00:28:25.910 --> 00:28:28.202 their cancer experience so we can

NOTE Confidence: 0.9169928

00:28:28.202 --> 00:28:30.878 quantify that risk, and that's what we

NOTE Confidence: 0.9169928

00:28:30.878 --> 00:28:33.948 do in the Heroes Clinic, which I direct.

NOTE Confidence: 0.9169928

00:28:33.948 --> 00:28:36.264 We care specifically for survivors after

NOTE Confidence: 0.9169928

00:28:36.264 --> 00:28:39.110 their treatment ended to keep them as healthy

NOTE Confidence: 0.9169928

00:28:39.110 --> 00:28:41.949 as possible and to manage any complications,

NOTE Confidence: 0.9169928

00:28:41.950 --> 00:28:44.470 because unfortunately we have learned

NOTE Confidence: 0.9169928

00:28:44.470 --> 00:28:46.516 that the therapies that were needed

NOTE Confidence: 0.9169928

00:28:46.516 --> 00:28:48.912 to cure the cancer can sometimes

NOTE Confidence: 0.9169928

00:28:48.912 --> 00:28:50.848 cause downstream health effects,

NOTE Confidence: 0.9169928

00:28:50.850 --> 00:28:53.250 and you listed some of them.

NOTE Confidence: 0.9169928

00:28:53.250 --> 00:28:55.240 So for some therapies they

NOTE Confidence: 0.9169928

00:28:55.240 --> 00:28:56.832 can result in infertility.

NOTE Confidence: 0.9169928

00:28:56.840 --> 00:28:59.480 We have a proactive fertility preservation

NOTE Confidence: 0.9169928

00:28:59.480 --> 00:29:02.735 program so that we try to

NOTE Confidence: 0.9169928

00:29:02.735 --> 00:29:05.220 offer egg harvest when we can,

NOTE Confidence: 0.9169928

00:29:05.220 --> 00:29:07.740 and we manage and screen for problems
NOTE Confidence: 0.9169928

00:29:07.740 --> 00:29:11.200 to try to catch them before they happen.
NOTE Confidence: 0.9169928

00:29:11.200 --> 00:29:14.189 We're also doing a lot of research
NOTE Confidence: 0.9169928

00:29:14.189 --> 00:29:15.930 because we've learned that
NOTE Confidence: 0.9169928

00:29:15.930 --> 00:29:18.464 exercise and diet can make a meaningful
NOTE Confidence: 0.9169928

00:29:18.464 --> 00:29:21.118 difference in undoing the effects of the
NOTE Confidence: 0.9169928

00:29:21.118 --> 00:29:22.998 previous cancer and radiation therapy,
NOTE Confidence: 0.9169928

00:29:23.000 --> 00:29:25.506 so I think that to stay healthy
NOTE Confidence: 0.9169928

00:29:25.506 --> 00:29:27.828 and to live the best life,
NOTE Confidence: 0.9169928

00:29:27.830 --> 00:29:30.068 there needs to be long term
NOTE Confidence: 0.9169928

00:29:30.070 --> 00:29:32.718 follow up to make sure that if there
NOTE Confidence: 0.9169928

00:29:32.718 --> 00:29:35.342 are problems they are caught early and for
NOTE Confidence: 0.9169928

00:29:35.342 --> 00:29:37.699 cognitive problems that may mean also
NOTE Confidence: 0.9169928

00:29:37.699 --> 00:29:40.051 screening people early so they get
NOTE Confidence: 0.9169928

00:29:40.051 --> 00:29:41.972 the best education intervention that
NOTE Confidence: 0.9169928

00:29:41.972 --> 00:29:44.569 they can to meet their full potential.

NOTE Confidence: 0.860494
00:29:45.240 --> 00:29:47.496 Doctor Nina Kadan-Lottick is the
NOTE Confidence: 0.860494
00:29:47.496 --> 00:29:50.080 medical director of the Heroes Program,
NOTE Confidence: 0.860494
00:29:50.080 --> 00:29:52.165 and an associate professor of
NOTE Confidence: 0.860494
00:29:52.165 --> 00:29:53.833 Pediatrics in hematology oncology
NOTE Confidence: 0.860494
00:29:53.833 --> 00:29:56.116 at the Yale School of Medicine.
NOTE Confidence: 0.860494
00:29:56.120 --> 00:29:58.598 If you have questions, the address
NOTE Confidence: 0.860494
00:29:58.598 --> 00:30:00.250 is canceranswers@yale.edu and pass.
NOTE Confidence: 0.860494
00:30:00.250 --> 00:30:01.705 Editions of the program are
NOTE Confidence: 0.860494
00:30:01.705 --> 00:30:03.160 available in audio and written
NOTE Confidence: 0.860494
00:30:03.213 --> 00:30:04.668 form at yalecancercenter.org.
NOTE Confidence: 0.860494
00:30:04.670 --> 00:30:07.046 We hope you'll join us next week to
NOTE Confidence: 0.860494
00:30:07.046 --> 00:30:09.369 learn more about the fight against
NOTE Confidence: 0.860494
00:30:09.369 --> 00:30:11.853 cancer here on Connecticut Public Radio.