WEBVTT

00:00:00.000 --> 00:00:03.126 Funding for Yale Cancer Answers is

NOTE Confidence: 0.787366002181818

00:00:03.126 --> 00:00:06.080 provided by Smilow Cancer Hospital.

NOTE Confidence: 0.787366002181818

00:00:06.080 --> 00:00:07.952 Welcome to Yale Cancer Answers with

NOTE Confidence: 0.787366002181818

00:00:07.952 --> 00:00:09.900 your host, doctor Anees Chagpar.

NOTE Confidence: 0.787366002181818

00:00:09.900 --> 00:00:12.100 Yale Cancer Answers features the

NOTE Confidence: 0.787366002181818

00:00:12.100 --> 00:00:13.793 latest information on cancer

NOTE Confidence: 0.787366002181818

00:00:13.793 --> 00:00:15.663 care by welcoming oncologists and

NOTE Confidence: 0.787366002181818

00:00:15.663 --> 00:00:17.507 specialists who are on the forefront

NOTE Confidence: 0.787366002181818

00:00:17.507 --> 00:00:19.493 of the battle to fight cancer.

NOTE Confidence: 0.787366002181818

00:00:19.500 --> 00:00:22.006 This week, it's a conversation about bone

NOTE Confidence: 0.787366002181818

00:00:22.006 --> 00:00:24.199 marrow transplant with Doctor Niketa Shah.

NOTE Confidence: 0.787366002181818

00:00:24.200 --> 00:00:26.612 Doctor Shah is director of the pediatric

NOTE Confidence: 0.787366002181818

00:00:26.612 --> 00:00:28.575 bone Marrow Transplant program at

NOTE Confidence: 0.787366002181818

00:00:28.575 --> 00:00:30.055 the Yale School of Medicine,

NOTE Confidence: 0.787366002181818

00:00:30.060 --> 00:00:31.795 where Doctor Chgppar is a

NOTE Confidence: 0.787366002181818

00:00:31.795 --> 00:00:33.183 professor of surgical oncology.

NOTE Confidence: 0.849299425

00:00:34.650 --> 00:00:36.372 So Niketa, maybe we can start off

NOTE Confidence: 0.849299425

00:00:36.372 --> 00:00:38.369 by you telling us a little bit more

NOTE Confidence: 0.849299425

00:00:38.369 --> 00:00:40.140 about yourself and what it is you do.

NOTE Confidence: 0.801783712307692

00:00:41.110 --> 00:00:44.134 So I'm a pediatric bone marrow transplant

NOTE Confidence: 0.801783712307692

00:00:44.134 --> 00:00:47.289 physician and I've been here at Yale since

NOTE Confidence: 0.801783712307692

00:00:47.290 --> 00:00:51.609 2016 and we do many transplant here.

NOTE Confidence: 0.801783712307692

00:00:51.610 --> 00:00:53.545 We are the only transplant

NOTE Confidence: 0.801783712307692

00:00:53.545 --> 00:00:55.480 program in the state of Connecticut

NOTE Confidence: 0.801783712307692

00:00:55.549 --> 00:00:57.760 and since 2019, we also do CAR

NOTE Confidence: 0.87543965

00:00:58.590 --> 00:01:00.725 T-bone marrow transplant which is something

NOTE Confidence: 0.87543965

00:01:00.725 --> 00:01:03.253 that people may have heard a

NOTE Confidence: 0.87543965

00:01:03.253 --> 00:01:05.535 little bit about but may not be

NOTE Confidence: 0.87543965

00:01:05.535 --> 00:01:07.337 really familiar with what it is.

NOTE Confidence: 0.87543965

00:01:07.337 --> 00:01:09.677 So can you tell us a little bit

NOTE Confidence: 0.87543965

00:01:09.677 --> 00:01:11.577 more about what exactly that

NOTE Confidence: 0.87543965

00:01:11.580 --> 00:01:14.485 is and who needs a bone

NOTE Confidence: 0.87543965

00:01:14.485 --> 00:01:16.240 marrow transplant and when?

NOTE Confidence: 0.804177940833333

00:01:17.110 --> 00:01:20.176 So bone marrow transplant is a process

NOTE Confidence: 0.804177940833333

00:01:20.176 --> 00:01:23.677 where we remove avpatients own bone marrow and

NOTE Confidence: 0.804177940833333

00:01:23.677 --> 00:01:27.549 replace it with the new bone marrow from

NOTE Confidence: 0.804177940833333

00:01:27.549 --> 00:01:30.344 either the patients own previously collected

NOTE Confidence: 0.804177940833333

00:01:30.344 --> 00:01:33.910 bone marrow or from a different donor.

NOTE Confidence: 0.804177940833333

00:01:33.910 --> 00:01:36.950 So we will focus today on mainly

NOTE Confidence: 0.804177940833333

00:01:36.950 --> 00:01:39.444 allogeneic stem cell transplant or

NOTE Confidence: 0.804177940833333

00:01:39.444 --> 00:01:41.656 allogenic bone marrow transplant

NOTE Confidence: 0.804177940833333

00:01:41.660 --> 00:01:44.782 where we replace a patients own bone marrow

NOTE Confidence: 0.804177940833333

00:01:44.782 --> 00:01:48.160 with a healthy donor.

NOTE Confidence: 0.804177940833333

00:01:48.160 --> 00:01:51.088 Now bone marrow transplant is required

NOTE Confidence: 0.804177940833333

00:01:51.088 --> 00:01:54.495 for those patients whose bone marrow is

NOTE Confidence: 0.804177940833333

00:01:54.495 --> 00:01:57.237 not working properly either from their

NOTE Confidence: 0.804177940833333

00:01:57.237 --> 00:01:59.989 birth or they acquired some disease

NOTE Confidence: 0.804177940833333

00:01:59.989 --> 00:02:02.660 like leukemia down the road which

NOTE Confidence: 0.804177940833333

00:02:02.660 --> 00:02:05.880 is not curable or not treatable with

NOTE Confidence: 0.804177940833333

00:02:05.880 --> 00:02:09.159 the regular chemotherapy and in those

NOTE Confidence: 0.804177940833333

00:02:09.159 --> 00:02:11.999 conditions we replace the diseased

NOTE Confidence: 0.804177940833333

00:02:12.000 --> 00:02:14.196 marrow with the healthy bone marrow

NOTE Confidence: 0.804177940833333

00:02:14.196 --> 00:02:17.020 with the goal that once this healthy

NOTE Confidence: 0.804177940833333

00:02:17.020 --> 00:02:19.594 bone marrow is established in patients

NOTE Confidence: 0.804177940833333

00:02:19.594 --> 00:02:21.927 bone marrow and starts working,

NOTE Confidence: 0.804177940833333

00:02:21.930 --> 00:02:24.630 they produce normal healthy

NOTE Confidence: 0.804177940833333

00:02:24.630 --> 00:02:27.262 blood cells and thus cure the

NOTE Confidence: 0.804177940833333

00:02:27.262 --> 00:02:29.789 patients from their underlying disease.

NOTE Confidence: 0.837395838

00:02:30.910 --> 00:02:32.614 So let's dive a little

NOTE Confidence: 0.837395838

00:02:32.614 --> 00:02:33.750 bit deeper into that.

NOTE Confidence: 0.837395838

00:02:33.750 --> 00:02:36.042 So you mentioned that bone marrow

NOTE Confidence: 0.837395838

00:02:36.042 --> 00:02:38.465 transplant is really there for people

NOTE Confidence: 0.837395838

00:02:38.465 --> 00:02:40.949 whose bone marrow isn't working properly,

NOTE Confidence: 0.837395838

00:02:40.950 --> 00:02:43.540 either because of a condition from birth

NOTE Confidence: 0.837395838

00:02:43.540 --> 00:02:46.230 or because of an acquired condition,

NOTE Confidence: 0.837395838

00:02:46.230 --> 00:02:47.446 kind of like leukemia.

NOTE Confidence: 0.837395838

00:02:47.446 --> 00:02:50.005 Can you talk a little bit about what

NOTE Confidence: 0.837395838

00:02:50.005 --> 00:02:52.350 some of the conditions from birth might

NOTE Confidence: 0.837395838

00:02:52.350 --> 00:02:54.950 be that people might have bone marrows

NOTE Confidence: 0.837395838

00:02:54.950 --> 00:02:57.356 that aren't working properly and might

NOTE Confidence: 0.837395838

00:02:57.356 --> 00:02:59.356 require a bone marrow transplant?

NOTE Confidence: 0.844281567666667

00:03:00.280 --> 00:03:02.872 Yes, definitely. So there are

NOTE Confidence: 0.844281567666667

00:03:02.872 --> 00:03:05.551 many patients whose

NOTE Confidence: 0.844281567666667

00:03:05.551 --> 00:03:08.575 bone marrow is not working from

NOTE Confidence: 0.844281567666667

00:03:08.575 --> 00:03:11.453 birth which develops down the road

NOTE Confidence: 0.844281567666667

00:03:11.453 --> 00:03:14.115 either completely aplastic or their

NOTE Confidence: 0.844281567666667

00:03:14.115 --> 00:03:16.180 bone marrow is not at all working.

NOTE Confidence: 0.844281567666667

00:03:16.180 --> 00:03:18.756 So there's some of the elements

NOTE Confidence: 0.844281567666667

00:03:18.756 --> 00:03:21.707 of the bone marrow is not working.

NOTE Confidence: 0.844281567666667

00:03:21.710 --> 00:03:24.102 Now I think most of us know there

NOTE Confidence: 0.844281567666667

00:03:24.102 --> 00:03:26.240 are three types of blood cells,

NOTE Confidence: 0.844281567666667

00:03:26.240 --> 00:03:27.900 one is white blood cells,

NOTE Confidence: 0.844281567666667

00:03:27.900 --> 00:03:29.508 other is red blood cells and

NOTE Confidence: 0.844281567666667

00:03:29.508 --> 00:03:31.240 the third one is platelets.

NOTE Confidence: 0.844281567666667

00:03:31.240 --> 00:03:34.808 So if the patients bone marrow is not

NOTE Confidence: 0.844281567666667

00:03:34.808 --> 00:03:37.943 working from birth they might have

NOTE Confidence: 0.844281567666667

00:03:37.943 --> 00:03:39.816 complete non functioning bone marrow.

NOTE Confidence: 0.844281567666667

00:03:39.816 --> 00:03:42.597 So they don't have any of these three

NOTE Confidence: 0.844281567666667

00:03:42.597 --> 00:03:45.096 types of different types of blood cells.

NOTE Confidence: 0.844281567666667

00:03:45.100 --> 00:03:47.620 Or they may just have their red blood

NOTE Confidence: 0.844281567666667

00:03:47.620 --> 00:03:50.076 cell is not working or white blood

NOTE Confidence: 0.844281567666667

00:03:50.076 --> 00:03:53.016 cells is not working or platelet is not

NOTE Confidence: 0.844281567666667

00:03:53.016 --> 00:03:55.613 working so they either have anemia or

NOTE Confidence: 0.844281567666667

00:03:55.620 --> 00:03:57.860 their white blood cells is not there

NOTE Confidence: 0.844281567666667

00:03:57.860 --> 00:04:00.358 so they have more risk of infection

NOTE Confidence: 0.844281567666667

00:04:00.358 --> 00:04:02.554 or their platelet is not working.

NOTE Confidence: 0.844281567666667

00:04:02.560 --> 00:04:05.227 So they may have a bleeding disorder.

NOTE Confidence: 0.844281567666667

00:04:05.230 --> 00:04:09.982 So one of the most common among this is

NOTE Confidence: 0.844281567666667

00:04:09.990 --> 00:04:11.790 the hemoglobinopathies where

NOTE Confidence: 0.844281567666667

00:04:11.790 --> 00:04:14.490 within their red blood cells

NOTE Confidence: 0.844281567666667

00:04:14.490 --> 00:04:17.490 their hemoglobin is not properly developed.

NOTE Confidence: 0.844281567666667

00:04:17.490 --> 00:04:20.934 And so those patients are called

NOTE Confidence: 0.844281567666667

00:04:20.934 --> 00:04:22.656 having the hemoglobinopathies

NOTE Confidence: 0.844281567666667

00:04:22.656 --> 00:04:25.009 where their hemoglobin is

NOTE Confidence: 0.844281567666667

00:04:25.010 --> 00:04:26.351 not properly developed.

NOTE Confidence: 0.844281567666667

00:04:26.351 --> 00:04:29.480 So they have less red blood cells

NOTE Confidence: 0.844281567666667

00:04:29.562 --> 00:04:32.386 and in turn they have also or their

NOTE Confidence: 0.844281567666667

00:04:32.386 --> 00:04:34.864 red blood cells are destroyed very

NOTE Confidence: 0.844281567666667

00:04:34.864 --> 00:04:37.965 quickly and in turn they have more

NOTE Confidence: 0.844281567666667

00:04:37.965 --> 00:04:41.295 anemia and also other related disorders.

00:04:44.670 --> 00:04:47.078 Maybe give us an example of what some

NOTE Confidence: 0.96166531

00:04:47.078 --> 00:04:49.587 of these conditions might be when we

NOTE Confidence: 0.96166531

00:04:49.587 --> 00:04:52.219 talk about people not having red blood

NOTE Confidence: 0.96166531

00:04:52.219 --> 00:04:54.767 cells or white blood cells or platelets?

NOTE Confidence: 0.96166531

00:04:54.770 --> 00:04:56.688 For many people who may be listening,

NOTE Confidence: 0.96166531

00:04:56.690 --> 00:04:59.562 that may seem really rather odd because many

NOTE Confidence: 0.96166531

00:04:59.562 --> 00:05:03.006 of us are used to having these blood cells.

NOTE Confidence: 0.96166531

00:05:03.010 --> 00:05:04.978 We often take our blood cells

NOTE Confidence: 0.96166531

00:05:04.978 --> 00:05:06.290 really rather for granted,

NOTE Confidence: 0.96166531

00:05:06.290 --> 00:05:09.368 knowing that they're there and working.

NOTE Confidence: 0.96166531

00:05:09.370 --> 00:05:12.222 So what conditions might

NOTE Confidence: 0.96166531

00:05:12.222 --> 00:05:16.500 lead to these hemoglobinopathies or other

NOTE Confidence: 0.96166531

00:05:16.615 --> 00:05:19.834 conditions that the bone marrow is not

NOTE Confidence: 0.96166531

00:05:19.834 --> 00:05:22.579 working and how common are they?

NOTE Confidence: 0.872416499666667

00:05:23.680 --> 00:05:25.992 So one of the most common I will

NOTE Confidence: 0.872416499666667

00:05:25.992 --> 00:05:27.677 mention here in the hemoglobinopathy

NOTE Confidence: 0.872416499666667

00:05:27.677 --> 00:05:30.517 where the fact is in their red

NOTE Confidence: 0.872416499666667

00:05:30.517 --> 00:05:32.599 blood cells hemoglobin and that one

NOTE Confidence: 0.872416499666667

00:05:32.599 --> 00:05:35.708 is sickle cell anemia which is most

NOTE Confidence: 0.872416499666667

00:05:35.708 --> 00:05:38.293 common hemoglobinopathy.

NOTE Confidence: 0.872416499666667

00:05:38.300 --> 00:05:40.612 The other hemoglobinopathy is

NOTE Confidence: 0.872416499666667

00:05:40.612 --> 00:05:44.682 thalassemia also then if we go through

NOTE Confidence: 0.872416499666667

00:05:44.682 --> 00:05:47.505 the other red blood cells like

NOTE Confidence: 0.872416499666667

00:05:47.505 --> 00:05:50.115 white blood cells or the platelets.

NOTE Confidence: 0.872416499666667

00:05:50.120 --> 00:05:52.480 These are less common where

NOTE Confidence: 0.872416499666667

00:05:52.480 --> 00:05:54.368 there are congenital neutropenia.

NOTE Confidence: 0.872416499666667

00:05:54.370 --> 00:05:55.876 Or congenital thrombocytopenia,

NOTE Confidence: 0.872416499666667

00:05:55.876 --> 00:05:59.870 or if all cells are not working well.

NOTE Confidence: 0.872416499666667

00:05:59.870 --> 00:06:02.509 There are few common bone marrow failure

NOTE Confidence: 0.872416499666667

00:06:02.509 --> 00:06:04.968 conditions which are present since birth.

NOTE Confidence: 0.872416499666667

00:06:04.970 --> 00:06:07.705 These are called Fanconi anemia

NOTE Confidence: 0.872416499666667

00:06:07.705 --> 00:06:09.346 or dyskeratosis congenita.

NOTE Confidence: 0.872416499666667

00:06:09.350 --> 00:06:11.535 But all these disorders are

NOTE Confidence: 0.872416499666667

00:06:11.535 --> 00:06:14.409 far less common than the most

NOTE Confidence: 0.872416499666667

00:06:14.409 --> 00:06:16.829 common hemoglobinopathy we see,

NOTE Confidence: 0.872416499666667

00:06:16.830 --> 00:06:18.630 which is sickle cell anemia.

NOTE Confidence: 0.872416499666667

00:06:18.630 --> 00:06:21.660 It is almost every year there

NOTE Confidence: 0.872416499666667

00:06:21.660 --> 00:06:24.380 are 300,000 kids

NOTE Confidence: 0.872416499666667

00:06:24.380 --> 00:06:26.654 with sickle cell anemia bone in

NOTE Confidence: 0.872416499666667

00:06:26.654 --> 00:06:29.678 the world, and in the United States,

NOTE Confidence: 0.872416499666667

00:06:29.680 --> 00:06:33.968 one in every 360 African American or one

NOTE Confidence: 0.872416499666667

00:06:33.968 --> 00:06:37.288 in every 16,000 Hispanic patients

NOTE Confidence: 0.872416499666667

00:06:37.288 --> 00:06:40.098 have this hemoglobinopathy,

NOTE Confidence: 0.872416499666667

00:06:40.100 --> 00:06:42.140 which is called sickle cell anemia.

NOTE Confidence: 0.872416499666667

00:06:42.140 --> 00:06:44.475 And in this hemoglobinopathy that

NOTE Confidence: 0.872416499666667

00:06:44.475 --> 00:06:47.782 hemoglobin that is only one of the

NOTE Confidence: 0.872416499666667

00:06:47.782 --> 00:06:50.002 building block of their hemoglobin

NOTE Confidence: 0.872416499666667

00:06:50.002 --> 00:06:53.167 gene is replaced by the different block

NOTE Confidence: 0.872416499666667

00:06:53.167 --> 00:06:55.789 and that caused their sickle cell.

NOTE Confidence: 0.872416499666667

00:06:55.790 --> 00:06:58.310 All of the things that cause them to

NOTE Confidence: 0.872416499666667

00:06:58.310 --> 00:07:01.050 have the sickle cell hemoglobinopathy,

NOTE Confidence: 0.872416499666667

00:07:01.050 --> 00:07:03.438 which is different than what we

NOTE Confidence: 0.872416499666667

00:07:03.438 --> 00:07:06.719 all have as a normal hemoglobin

NOTE Confidence: 0.872416499666667

00:07:06.720 --> 00:07:10.140 in our red blood cells.

NOTE Confidence: 0.872416499666667

00:07:10.140 --> 00:07:13.110 So if we have a normal hemoglobin our red

NOTE Confidence: 0.872416499666667

00:07:13.110 --> 00:07:15.809 blood cell is like a doughnut or soft,

NOTE Confidence: 0.872416499666667

00:07:15.810 --> 00:07:18.826 spongy, while if they have a sickle cell

00:07:20.202 --> 00:07:22.946 in their blood cells,

NOTE Confidence: 0.872416499666667

00:07:22.950 --> 00:07:25.876 their red blood cell looks like sickle.

NOTE Confidence: 0.872416499666667

00:07:25.880 --> 00:07:28.656 Which is as the name

NOTE Confidence: 0.872416499666667

00:07:28.656 --> 00:07:30.736 suggests sickle and it is not soft,

NOTE Confidence: 0.872416499666667

00:07:30.740 --> 00:07:32.030 it's hard, rigid.

NOTE Confidence: 0.872416499666667

00:07:32.030 --> 00:07:35.040 So the red blood cells break

NOTE Confidence: 0.872416499666667

00:07:35.130 --> 00:07:37.909 down easily and that is the main

NOTE Confidence: 0.872416499666667

00:07:37.909 --> 00:07:40.620 cause of sickle cell disease which

NOTE Confidence: 0.872416499666667

00:07:40.620 --> 00:07:43.920 develops in sickle cell anemia patients.

NOTE Confidence: 0.80897794875

00:07:45.340 --> 00:07:49.020 And so for all of these kids who

NOTE Confidence: 0.80897794875

00:07:49.020 --> 00:07:51.858 have sickle cell anemia where they

NOTE Confidence: 0.80897794875

00:07:51.858 --> 00:07:54.895 have these red blood cells that

NOTE Confidence: 0.80897794875

00:07:54.895 --> 00:07:57.535 form these Crescent like sickles

NOTE Confidence: 0.80897794875

00:07:57.540 --> 00:07:59.871 that are hard instead of being

NOTE Confidence: 0.80897794875

00:07:59.871 --> 00:08:01.770 spongy doughnuts like the rest of

NOTE Confidence: 0.80897794875

00:08:01.770 --> 00:08:03.723 us who have normal red blood cells,

NOTE Confidence: 0.91640623

00:08:05.760 --> 00:08:08.460 how does that really affect them

NOTE Confidence: 0.91640623

00:08:08.460 --> 00:08:11.800 in terms of their every day health?

NOTE Confidence: 0.91640623

00:08:11.800 --> 00:08:15.008 I mean, can you explain to our listeners

NOTE Confidence: 0.91640623

00:08:15.008 --> 00:08:17.738 how the shape and consistency,

NOTE Confidence: 0.91640623

00:08:17.740 --> 00:08:19.336 for lack of a better word,

NOTE Confidence: 0.91640623

00:08:19.340 --> 00:08:22.016 of these red blood cells impacts

NOTE Confidence: 0.91640623

00:08:22.016 --> 00:08:23.800 a patients day-to-day life?

NOTE Confidence: 0.91640623

00:08:23.800 --> 00:08:25.780 I mean, who really cares about

NOTE Confidence: 0.91640623

00:08:25.780 --> 00:08:27.766 the size and shape and consistency

NOTE Confidence: 0.91640623

00:08:27.766 --> 00:08:30.030 of a red cell?

NOTE Confidence: 0.891217494

00:08:30.100 --> 00:08:32.968 I totally agree that the general population

NOTE Confidence: 0.891217494

00:08:32.968 --> 00:08:36.448 might not know how the sickle cell anemia

NOTE Confidence: 0.891217494

00:08:36.448 --> 00:08:38.800 effects in each and every person

NOTE Confidence: 0.891217494

00:08:38.870 --> 00:08:41.036 who has the sickle cell anemia.

NOTE Confidence: 0.891217494

00:08:41.040 --> 00:08:44.463 So as I mentioned earlier that the

NOTE Confidence: 0.891217494

00:08:44.463 --> 00:08:47.234 sickle cell anemia patients have

NOTE Confidence: 0.891217494

00:08:47.234 --> 00:08:50.210 red blood cells which are sickle cell

NOTE Confidence: 0.891217494

00:08:50.281 --> 00:08:53.088 which are rigid and easily breaking down

NOTE Confidence: 0.891217494

00:08:53.090 --> 00:08:55.706 and they because of that

NOTE Confidence: 0.891217494

00:08:55.706 --> 00:08:58.393 presence in their red blood cells or the

NOTE Confidence: 0.891217494

00:08:58.393 --> 00:09:01.000 red blood cells see being sickle cell.

NOTE Confidence: 0.891217494

00:09:01.000 --> 00:09:03.574 Their blood can't reach each and

NOTE Confidence: 0.891217494

00:09:03.574 --> 00:09:06.154 every organ like the tiny fingers

NOTE Confidence: 0.891217494

00:09:06.154 --> 00:09:09.266 or the where the blood has to reach

NOTE Confidence: 0.891217494

00:09:09.347 --> 00:09:11.937 through the small blood vessels.

NOTE Confidence: 0.891217494

00:09:11.940 --> 00:09:14.658 So particularly when they are experiencing

NOTE Confidence: 0.891217494

00:09:14.658 --> 00:09:17.979 some cold weather or they have infection,

NOTE Confidence: 0.891217494

00:09:17.980 --> 00:09:19.972 their sickle cell can't reach where

NOTE Confidence: 0.891217494

00:09:19.972 --> 00:09:22.698 it needs to go and they break down.

NOTE Confidence: 0.891217494

00:09:22.700 --> 00:09:25.322 And when your red blood cells

NOTE Confidence: 0.891217494

00:09:25.322 --> 00:09:27.356 are not reaching those area,s

NOTE Confidence: 0.891217494

00:09:27.356 --> 00:09:29.862 like even the bone or the kidneys

NOTE Confidence: 0.891217494

00:09:29.862 --> 00:09:31.049 or the lungs,

NOTE Confidence: 0.891217494

00:09:31.050 --> 00:09:33.342 then you develop all the complications

NOTE Confidence: 0.891217494

00:09:33.342 --> 00:09:35.766 and the most common effect initially

NOTE Confidence: 0.891217494

00:09:35.766 --> 00:09:38.902 in their lifespan we see is the

NOTE Confidence: 0.891217494

00:09:38.902 --> 00:09:41.464 pain crisis because their blood

NOTE Confidence: 0.891217494

00:09:41.464 --> 00:09:44.506 is not reaching those required

NOTE Confidence: 0.891217494

00:09:44.510 --> 00:09:47.350 areas where it needs to go and they

NOTE Confidence: 0.891217494

00:09:47.350 --> 00:09:49.520 experience severe pain crisis.

NOTE Confidence: 0.891217494

00:09:49.520 --> 00:09:52.579 They also have an increased rate of

NOTE Confidence: 0.891217494

00:09:52.579 --> 00:09:54.723 infection because their immunity also

NOTE Confidence: 0.891217494

00:09:54.723 --> 00:09:58.199 down the road goes down and then down the

NOTE Confidence: 0.891217494

00:09:58.199 --> 00:10:01.223 road if this continues they may have many

NOTE Confidence: 0.891217494

00:10:01.230 --> 00:10:03.250 lung complication called the

NOTE Confidence: 0.891217494

00:10:03.250 --> 00:10:05.270 acute Chest syndrome where they

NOTE Confidence: 0.891217494

00:10:05.332 --> 00:10:07.378 develop pneumonia like symptoms and

NOTE Confidence: 0.891217494

00:10:07.378 --> 00:10:09.545 they may need hospitalization and

NOTE Confidence: 0.891217494

00:10:09.545 --> 00:10:12.107 we need to bring down their sickle

NOTE Confidence: 0.891217494

00:10:12.107 --> 00:10:15.130 cell number by giving the transfer

NOTE Confidence: 0.891217494

00:10:15.130 --> 00:10:16.720 regular blood transfusion.

NOTE Confidence: 0.891217494

00:10:16.720 --> 00:10:20.365 And if this issue continues most of the

NOTE Confidence: 0.891217494

00:10:20.365 --> 00:10:23.959 other organs also gets affected like kidneys,

NOTE Confidence: 0.891217494

00:10:23.960 --> 00:10:24.360 lungs,

NOTE Confidence: 0.891217494

00:10:24.360 --> 00:10:27.960 eyes, even risk of stroke

NOTE Confidence: 0.891217494

00:10:28.042 --> 00:10:31.386 because the blood flow to the brain also

NOTE Confidence: 0.891217494

00:10:31.390 --> 00:10:33.802 is affected and because of this

NOTE Confidence: 0.891217494

00:10:33.802 --> 00:10:36.962 chronic changes in the lung they may

NOTE Confidence: 0.891217494

00:10:36.962 --> 00:10:38.926 also have pulmonary hypertension.

NOTE Confidence: 0.891217494

00:10:38.930 --> 00:10:40.730 They have the eye changes.

NOTE Confidence: 0.891217494

00:10:40.730 --> 00:10:43.005 They also have the spleen also down

NOTE Confidence: 0.891217494

00:10:43.005 --> 00:10:45.248 the road stops working well.

NOTE Confidence: 0.891217494

00:10:45.250 --> 00:10:48.135 So they have also increased

NOTE Confidence: 0.891217494

00:10:48.135 --> 00:10:51.020 risk of infection so that

NOTE Confidence: 0.891217494

00:10:51.020 --> 00:10:51.882 acute complication,

NOTE Confidence: 0.891217494

00:10:51.882 --> 00:10:55.330 if it continues to develop down the road,

NOTE Confidence: 0.891217494

00:10:55.330 --> 00:10:57.320 they develop into the chronic

NOTE Confidence: 0.891217494

00:10:57.320 --> 00:10:59.781 morbidity and it affects their

NOTE Confidence: 0.891217494

00:10:59.781 --> 00:11:02.205 lifestyle and their quality of life.

NOTE Confidence: 0.891217494

00:11:02.210 --> 00:11:05.274 And down the road their lifespan also is

NOTE Confidence: 0.891217494

00:11:05.274 --> 00:11:07.789 reduced compared to the normal population.

NOTE Confidence: 0.847360323333333

00:11:07.840 --> 00:11:10.648 And so the size and shape of these blood

NOTE Confidence: 0.847360323333333

00:11:10.648 --> 00:11:13.151 cells really does make a difference in

NOTE Confidence: 0.847360323333333

00:11:13.151 --> 00:11:15.717 terms of where they can go and that

NOTE Confidence: 0.847360323333333

00:11:15.717 --> 00:11:18.260 in turn has an impact on

NOTE Confidence: 0.847360323333333

00:11:18.260 --> 00:11:21.268 the function of various organs.

NOTE Confidence: 0.847360323333333

00:11:21.268 --> 00:11:24.985 Now you mentioned that one of the ways to

NOTE Confidence: 0.847360323333333

00:11:24.985 --> 00:11:28.009 get around this is with blood transfusions.

NOTE Confidence: 0.847360323333333

00:11:28.010 --> 00:11:32.021 So if these patients get blood transfusions

NOTE Confidence: 0.847360323333333

00:11:32.021 --> 00:11:35.412 and are transfused with blood cells

NOTE Confidence: 0.847360323333333

00:11:35.412 --> 00:11:38.556 that are donut shaped and squishy,

NOTE Confidence: 0.847360323333333

00:11:38.560 --> 00:11:41.200 and potentially those blood cells can

NOTE Confidence: 0.847360323333333

00:11:41.200 --> 00:11:45.660 get to places, how about that option.

NOTE Confidence: 0.847360323333333

00:11:45.660 --> 00:11:48.732 I mean does every patient with

NOTE Confidence: 0.847360323333333

00:11:48.732 --> 00:11:52.414 sickle cell anemia need a bone marrow

NOTE Confidence: 0.847360323333333

00:11:52.414 --> 00:11:54.754 transplant or are transfusions good

NOTE Confidence: 0.847360323333333

00:11:54.754 --> 00:11:56.506 enough for some patients?

NOTE Confidence: 0.847814258518519

00:11:57.180 --> 00:11:59.706 Transfusion is definitely good

NOTE Confidence: 0.847814258518519

00:11:59.706 --> 00:12:03.010 enough for the acute condition if

NOTE Confidence: 0.847814258518519

00:12:03.010 --> 00:12:05.874 they develop sickle cell disease.

NOTE Confidence: 0.847814258518519

00:12:05.874 --> 00:12:08.778 However some of the patients

NOTE Confidence: 0.847814258518519

00:12:08.780 --> 00:12:11.668 who are very high risk of developing into

NOTE Confidence: 0.847814258518519

00:12:11.668 --> 00:12:14.455 the chronic conditions like those patients

NOTE Confidence: 0.847814258518519

00:12:14.455 --> 00:12:17.537 who have experienced early stroke or

NOTE Confidence: 0.847814258518519

00:12:17.537 --> 00:12:20.711 their brain blood vessels already have

NOTE Confidence: 0.847814258518519

00:12:20.711 --> 00:12:24.090 started developing the changes because of

NOTE Confidence: 0.847814258518519

00:12:24.090 --> 00:12:27.250 the sickle cell anemia in those patients,

NOTE Confidence: 0.847814258518519

00:12:27.250 --> 00:12:29.410 if you give the chronic blood

NOTE Confidence: 0.847814258518519

00:12:29.410 --> 00:12:30.850 transfusion like every month,

NOTE Confidence: 0.847814258518519

00:12:30.850 --> 00:12:34.126 you can give them the normal healthy

NOTE Confidence: 0.847814258518519

00:12:34.126 --> 00:12:36.675 hemoglobin every month which will

NOTE Confidence: 0.847814258518519

00:12:36.675 --> 00:12:39.335 dilute their underlying sickle cell

NOTE Confidence: 0.847814258518519

00:12:39.340 --> 00:12:44.107 hemoglobin numbers and you can reduce the

NOTE Confidence: 0.847814258518519

00:12:44.110 --> 00:12:45.126 complication.

NOTE Confidence: 0.847814258518519

00:12:45.126 --> 00:12:48.174 However, blood transfusion in a chronic

NOTE Confidence: 0.847814258518519

00:12:48.174 --> 00:12:51.049 stage also has many complications,

NOTE Confidence: 0.847814258518519

00:12:51.050 --> 00:12:53.710 so that you can't continue for lifelong

NOTE Confidence: 0.847814258518519

00:12:53.710 --> 00:12:56.208 because you will be exposed to many,

NOTE Confidence: 0.847814258518519

00:12:56.210 --> 00:12:58.222 many blood transfusion

NOTE Confidence: 0.847814258518519

00:12:58.222 --> 00:13:00.737 products and each blood transfusion

NOTE Confidence: 0.847814258518519

00:13:00.737 --> 00:13:03.528 also carries with it the increased iron

NOTE Confidence: 0.847814258518519

00:13:03.528 --> 00:13:06.149 which comes from our red blood cells.

NOTE Confidence: 0.847814258518519

00:13:06.150 --> 00:13:08.516 So those patients have to go through

NOTE Confidence: 0.847814258518519

00:13:08.516 --> 00:13:10.089 those complications down the road.

NOTE Confidence: 0.847814258518519

00:13:10.090 --> 00:13:12.890 So it is better for them if they

NOTE Confidence: 0.847814258518519

00:13:12.890 --> 00:13:14.120 have an available donor

NOTE Confidence: 0.847814258518519

00:13:14.120 --> 00:13:16.248 for blood bone marrow transplant,

NOTE Confidence: 0.847814258518519

00:13:16.250 --> 00:13:18.861 which is the only curative option right

NOTE Confidence: 0.847814258518519

00:13:18.861 --> 00:13:21.439 now for sickle cell anemia patients.

NOTE Confidence: 0.897924871666667

00:13:22.410 --> 00:13:23.742 Well, we're going to take a

NOTE Confidence: 0.897924871666667

00:13:23.742 --> 00:13:25.429 short break for a medical minute,

NOTE Confidence: 0.897924871666667

00:13:25.430 --> 00:13:26.806 but on the other side of the break,

NOTE Confidence: 0.897924871666667

00:13:26.810 --> 00:13:29.600 we'll learn more about bone marrow

NOTE Confidence: 0.897924871666667

00:13:29.600 --> 00:13:31.460 transplantation and how exactly

NOTE Confidence: 0.897924871666667

00:13:31.531 --> 00:13:34.235 we can help in in the care of

NOTE Confidence: 0.897924871666667

00:13:34.235 --> 00:13:35.968 pediatric patients with my guest,

NOTE Confidence: 0.897924871666667

00:13:35.970 --> 00:13:37.038 doctor Niketa Shah.

NOTE Confidence: 0.770472277

00:13:37.740 --> 00:13:39.725 Funding for Yale Cancer Answers

NOTE Confidence: 0.770472277

00:13:39.725 --> 00:13:41.710 comes from Smilow Cancer Hospital,

NOTE Confidence: 0.770472277

00:13:41.710 --> 00:13:44.006 where you can view videos from their

NOTE Confidence: 0.770472277

00:13:44.006 --> 00:13:46.279 survivorship team by searching for the

NOTE Confidence: 0.770472277

00:13:46.279 --> 00:13:48.329 smilow survivorship playlist on YouTube.

NOTE Confidence: 0.92181685

00:13:50.780 --> 00:13:52.658 Genetic testing can be useful for

NOTE Confidence: 0.92181685

00:13:52.658 --> 00:13:54.499 people with certain types of cancer

NOTE Confidence: 0.92181685

00:13:54.499 --> 00:13:56.354 that seem to run in their families.

NOTE Confidence: 0.92181685

00:13:56.360 --> 00:13:58.742 Genetic counseling is a process that

NOTE Confidence: 0.92181685

00:13:58.742 --> 00:14:00.791 includes collecting a detailed personal

NOTE Confidence: 0.92181685

00:14:00.791 --> 00:14:03.179 and family history or risk assessment,

NOTE Confidence: 0.92181685

00:14:03.180 --> 00:14:06.274 and a discussion of genetic testing options.

NOTE Confidence: 0.92181685

00:14:06.280 --> 00:14:08.914 Only about 5 to 10% of all cancers

NOTE Confidence: 0.92181685

00:14:08.914 --> 00:14:10.604 are inherited and genetic testing

NOTE Confidence: 0.92181685

00:14:10.604 --> 00:14:12.879 is not recommended for everyone.

NOTE Confidence: 0.92181685

00:14:12.880 --> 00:14:14.850 Individuals who have a personal

NOTE Confidence: 0.92181685

00:14:14.850 --> 00:14:17.344 and or family history that includes

NOTE Confidence: 0.92181685

00:14:17.344 --> 00:14:19.609 cancer at unusually early ages,

NOTE Confidence: 0.92181685

00:14:19.610 --> 00:14:20.286 multiple relatives

NOTE Confidence: 0.92181685

00:14:20.286 --> 00:14:22.652 on the same side of the family

NOTE Confidence: 0.92181685

00:14:22.652 --> 00:14:24.040 with the same cancer,

NOTE Confidence: 0.92181685

00:14:24.040 --> 00:14:26.362 more than one diagnosis of cancer

NOTE Confidence: 0.92181685

00:14:26.362 --> 00:14:28.758 in the same individual rare cancers

NOTE Confidence: 0.92181685

00:14:28.758 --> 00:14:31.467 or family history of a known altered

NOTE Confidence: 0.92181685

00:14:31.467 --> 00:14:33.931 cancer predisposing gene could be

NOTE Confidence: 0.92181685

00:14:33.931 --> 00:14:35.935 candidates for genetic testing.

NOTE Confidence: 0.92181685

00:14:35.940 --> 00:14:37.915 Resources for genetic counseling and

NOTE Confidence: 0.92181685

00:14:37.915 --> 00:14:39.890 testing are available at federally

NOTE Confidence: 0.92181685

00:14:39.951 --> 00:14:42.179 designated comprehensive cancer centers,

NOTE Confidence: 0.92181685

00:14:42.180 --> 00:14:44.376 such as Yale Cancer Center and

NOTE Confidence: 0.92181685

00:14:44.376 --> 00:14:45.840 Smilow Cancer Hospital.

NOTE Confidence: 0.92181685

00:14:45.840 --> 00:14:48.232 More information is available

NOTE Confidence: 0.92181685

00:14:48.232 --> 00:14:49.698 at yalecancercenter.org. You're

NOTE Confidence: 0.92181685

00:14:49.698 --> 00:14:51.000 listening to Connecticut

NOTE Confidence: 0.92181685

00:14:51.000 --> 00:14:51.860 Public Radio.

NOTE Confidence: 0.807147698333333

00:14:52.690 --> 00:14:54.946 Welcome back to Yale Cancer Answers.

NOTE Confidence: 0.807147698333333

00:14:54.950 --> 00:14:56.450 This is doctor Anees Chagpar

NOTE Confidence: 0.807147698333333

00:14:56.450 --> 00:14:58.508 and I'm joined tonight by my guest,

NOTE Confidence: 0.807147698333333

00:14:58.510 --> 00:14:59.485 doctor Niketa Shah.

NOTE Confidence: 0.807147698333333

00:14:59.485 --> 00:15:01.110 We're talking about the care

NOTE Confidence: 0.807147698333333

00:15:01.110 --> 00:15:02.867 of pediatric patients in bone

NOTE Confidence: 0.807147698333333

00:15:02.867 --> 00:15:04.267 marrow transplant and

NOTE Confidence: 0.807147698333333

00:15:04.270 --> 00:15:06.126 right before the break,

NOTE Confidence: 0.807147698333333

00:15:06.126 --> 00:15:08.446 we were talking about patients

NOTE Confidence: 0.807147698333333

00:15:08.446 --> 00:15:10.488 with sickle cell anemia.

NOTE Confidence: 0.807147698333333

00:15:10.490 --> 00:15:13.738 And how many of these patients will

NOTE Confidence: 0.807147698333333

00:15:13.738 --> 00:15:15.640 need recurrent blood transfusions

NOTE Confidence: 0.807147698333333

00:15:15.640 --> 00:15:19.024 to try to get over some of these

NOTE Confidence: 0.807147698333333

00:15:19.024 --> 00:15:21.645 acute crises that they have due

NOTE Confidence: 0.807147698333333

00:15:21.645 --> 00:15:24.273 to blood vessels that are sickled

NOTE Confidence: 0.807147698333333

00:15:24.273 --> 00:15:25.299 in shape.

NOTE Confidence: 0.807147698333333

00:15:25.299 --> 00:15:27.864 And you mentioned that while

NOTE Confidence: 0.807147698333333

00:15:27.864 --> 00:15:30.290 blood transfusions are great and

NOTE Confidence: 0.807147698333333

00:15:30.290 --> 00:15:32.480 necessary in the acute setting,

NOTE Confidence: 0.807147698333333

00:15:32.480 --> 00:15:34.580 doing blood transfusions in

NOTE Confidence: 0.807147698333333

00:15:34.580 --> 00:15:37.288 a chronic way has a number

NOTE Confidence: 0.807147698333333

00:15:37.288 --> 00:15:38.416 of potential complications,

NOTE Confidence: 0.807147698333333

00:15:38.420 --> 00:15:40.900 everything from infections to

NOTE Confidence: 0.807147698333333

00:15:40.900 --> 00:15:44.620 iron overload to a number

NOTE Confidence: 0.807147698333333

00:15:44.728 --> 00:15:47.080 of other other issues.

NOTE Confidence: 0.807147698333333

00:15:47.080 --> 00:15:49.446 And one of the things you mentioned

NOTE Confidence: 0.807147698333333

00:15:49.446 --> 00:15:51.779 was that bone marrow transplant is

NOTE Confidence: 0.807147698333333

00:15:51.779 --> 00:15:54.263 at the moment the only curative

NOTE Confidence: 0.807147698333333

00:15:54.270 --> 00:15:56.088 option. Tll us a little bit

NOTE Confidence: 0.807147698333333

00:15:56.088 --> 00:15:57.760 more about how that works.

NOTE Confidence: 0.822758981

00:15:57.830 --> 00:16:00.284 Not all patients with sickle cell

NOTE Confidence: 0.822758981

00:16:00.284 --> 00:16:03.165 disease should be taken for bone

NOTE Confidence: 0.822758981

00:16:03.165 --> 00:16:05.493 marrow transplant right away if we

NOTE Confidence: 0.822758981

00:16:05.493 --> 00:16:08.291 know there are many other supportive

NOTE Confidence: 0.822758981

00:16:08.291 --> 00:16:11.058 care therapies available for sickle cell

NOTE Confidence: 0.822758981

00:16:11.058 --> 00:16:13.626 anemia or sickle cell disease patients

NOTE Confidence: 0.822758981

00:16:13.626 --> 00:16:16.320 apart from the blood transfusion.

NOTE Confidence: 0.822758981

00:16:16.320 --> 00:16:19.385 50 years back prophylaxis penicillin

NOTE Confidence: 0.822758981

00:16:19.385 --> 00:16:22.450 also helped them reduce

NOTE Confidence: 0.822758981

00:16:22.544 --> 00:16:24.884 the infection related disease

NOTE Confidence: 0.822758981

00:16:24.884 --> 00:16:28.394 which was initially started by one

NOTE Confidence: 0.822758981

00:16:28.493 --> 00:16:31.328 of our own mentors here at Yale,

NOTE Confidence: 0.822758981

00:16:31.330 --> 00:16:34.010 Doctor Howard Pearson who suggested

NOTE Confidence: 0.822758981

00:16:34.010 --> 00:16:36.154 that preventing the pneumococcal

NOTE Confidence: 0.822758981

00:16:36.154 --> 00:16:38.598 infection by giving the penicillin

NOTE Confidence: 0.822758981

00:16:38.598 --> 00:16:41.460 prophylaxis you can reduce the infection

NOTE Confidence: 0.822758981

00:16:41.536 --> 00:16:44.259 related death in first decade of life

NOTE Confidence: 0.822758981

00:16:44.259 --> 00:16:46.750 for sickle cell disease later on.

NOTE Confidence: 0.822758981

00:16:46.750 --> 00:16:49.132 A vaccine was also added and

NOTE Confidence: 0.822758981

00:16:49.132 --> 00:16:51.490 there are also some medicines.

NOTE Confidence: 0.822758981

00:16:51.490 --> 00:16:53.955 This approach helped them

NOTE Confidence: 0.822758981

00:16:53.955 --> 00:16:55.927 reduce the complications related

NOTE Confidence: 0.822758981

00:16:55.927 --> 00:16:58.348 to the sickle cell disease.

NOTE Confidence: 0.822758981

00:16:58.350 --> 00:17:01.910 However, it's not curative,

NOTE Confidence: 0.822758981

00:17:01.910 --> 00:17:05.652 so those patients need to take some of

NOTE Confidence: 0.822758981

00:17:05.652 --> 00:17:08.542 these disease modifying agents lifelong

NOTE Confidence: 0.822758981

00:17:08.542 --> 00:17:11.526 to reduce those complications like

NOTE Confidence: 0.822758981

00:17:11.526 --> 00:17:15.018 hydroxyurea or a newer newly approved medicine.

NOTE Confidence: 0.822758981

00:17:15.020 --> 00:17:17.732 However, to cure the disease we need to

NOTE Confidence: 0.822758981

00:17:17.732 --> 00:17:19.540 completely change their bone marrow

NOTE Confidence: 0.822758981

00:17:19.540 --> 00:17:21.705 so their bone marrow doesn't

NOTE Confidence: 0.822758981

00:17:21.705 --> 00:17:23.437 develop sickle cell disease.

00:17:24.288 --> 00:17:26.408 Which benefits those patients

NOTE Confidence: 0.822758981

00:17:26.408 --> 00:17:28.920 who are experiencing more complication,

NOTE Confidence: 0.822758981

00:17:28.920 --> 00:17:30.423 who requires hospitalization,

NOTE Confidence: 0.822758981

00:17:30.423 --> 00:17:33.429 who develops acute chest syndrome like

NOTE Confidence: 0.822758981

00:17:33.429 --> 00:17:35.894 pneumonia every year or

NOTE Confidence: 0.822758981

00:17:35.894 --> 00:17:38.264 they have developed some stroke like

NOTE Confidence: 0.822758981

00:17:38.264 --> 00:17:40.299 symptoms or have developed stroke.

NOTE Confidence: 0.822758981

00:17:40.300 --> 00:17:42.382 So these typse of patients can

NOTE Confidence: 0.822758981

00:17:42.382 --> 00:17:44.960 benefit if you do the transplant

NOTE Confidence: 0.822758981

00:17:51.444 --> 00:17:54.756 and we reduce

NOTE Confidence: 0.822758981

00:17:54.756 --> 00:17:56.810 their chronic morbidity.

NOTE Confidence: 0.822758981

00:17:56.810 --> 00:17:59.729 So to do the bone marrow transplant

NOTE Confidence: 0.822758981

00:17:59.729 --> 00:18:02.324 we need somebody else's bone marrow

NOTE Confidence: 0.822758981

00:18:02.324 --> 00:18:04.429 who is exactly like them.

NOTE Confidence: 0.822758981

00:18:04.430 --> 00:18:06.974 When we give blood transfusion

NOTE Confidence: 0.822758981

00:18:06.974 --> 00:18:09.552 we check the patient and donors blood

NOTE Confidence: 0.822758981

00:18:09.552 --> 00:18:11.958 group so in bone marrow transplant

NOTE Confidence: 0.822758981

00:18:11.958 --> 00:18:15.038 we do this by doing the HLA typing.

NOTE Confidence: 0.822758981

00:18:15.040 --> 00:18:17.500 This is a human leukocyte

NOTE Confidence: 0.822758981

00:18:17.500 --> 00:18:19.895 antigen typing which is all the

NOTE Confidence: 0.822758981

00:18:19.895 --> 00:18:21.595 blood cells in our body.

NOTE Confidence: 0.822758981

00:18:21.600 --> 00:18:24.815 They have some surface markers

NOTE Confidence: 0.822758981

00:18:24.815 --> 00:18:27.340 which helps them to identify that

NOTE Confidence: 0.822758981

00:18:27.340 --> 00:18:30.040 the given new cells are their own

NOTE Confidence: 0.822758981

00:18:30.040 --> 00:18:32.254 or are mimicking like their own

NOTE Confidence: 0.822758981

00:18:32.254 --> 00:18:34.399 and they are not different.

NOTE Confidence: 0.822758981

00:18:34.400 --> 00:18:37.389 So those cells are accepted by the

NOTE Confidence: 0.822758981

00:18:37.389 --> 00:18:40.597 body very easily and that's what we do.

NOTE Confidence: 0.822758981

00:18:40.600 --> 00:18:45.664 We type the patient and the

NOTE Confidence: 0.822758981

00:18:45.664 --> 00:18:48.169 initially available siblings who are

NOTE Confidence: 0.822758981

00:18:48.169 --> 00:18:50.576 biological siblings and if they have a

NOTE Confidence: 0.822758981

00:18:50.576 --> 00:18:53.217 match a sibling who doesn't

NOTE Confidence: 0.822758981

00:18:53.217 --> 00:18:56.145 have sickle cell that we need to make

NOTE Confidence: 0.822758981

00:18:56.150 --> 00:18:59.462 sure we can use that donors

NOTE Confidence: 0.822758981

00:18:59.462 --> 00:19:03.305 or the siblings bone marrow to do the

NOTE Confidence: 0.822758981

00:19:03.310 --> 00:19:06.190 bone marrow transplant and in the last

NOTE Confidence: 0.822758981

00:19:06.190 --> 00:19:09.089 two decades we have done many,

NOTE Confidence: 0.822758981

00:19:09.090 --> 00:19:10.962 many sickle cell transplants

NOTE Confidence: 0.822758981

00:19:10.962 --> 00:19:13.302 and we have identified that

NOTE Confidence: 0.822758981

00:19:13.310 --> 00:19:15.963 if we do the matched sibling,

NOTE Confidence: 0.822758981

00:19:15.963 --> 00:19:18.489 from a siblings bone marrow,

NOTE Confidence: 0.822758981

00:19:18.490 --> 00:19:21.395 the success rate

NOTE Confidence: 0.822758981

00:19:21.395 --> 00:19:24.276 is more than 90% and

NOTE Confidence: 0.822758981

00:19:24.276 --> 00:19:27.418 in less than five, six years of age,

NOTE Confidence: 0.822758981

00:19:27.418 --> 00:19:29.774 it's up to 99% success rate and

NOTE Confidence: 0.822758981

00:19:29.774 --> 00:19:32.056 we can cure

NOTE Confidence: 0.822758981

00:19:32.056 --> 00:19:34.480 sickle cell disease and all the

NOTE Confidence: 0.822758981

00:19:34.480 --> 00:19:36.340 related complications down the road.

NOTE Confidence: 0.79580081

00:19:37.210 --> 00:19:40.394 So a good reason to be kind to

NOTE Confidence: 0.79580081

00:19:40.394 --> 00:19:42.060 your siblings because you

NOTE Confidence: 0.79580081

00:19:42.060 --> 00:19:44.090 tend to go to the siblings first,

NOTE Confidence: 0.79580081

00:19:44.090 --> 00:19:45.450 rather than to the parents,

NOTE Confidence: 0.79580081

00:19:45.450 --> 00:19:47.470 grandparents, aunts, and uncles

NOTE Confidence: 0.79580081

00:19:47.470 --> 00:19:50.500 who I'm sure are all clamoring

NOTE Confidence: 0.79580081

00:19:50.589 --> 00:19:52.314 to try to help their child.

NOTE Confidence: 0.79580081

00:19:52.314 --> 00:19:53.160 Is that right?

NOTE Confidence: 0.687235775461538

00:19:53.690 --> 00:19:57.278 Yes. However, the issue with

NOTE Confidence: 0.687235775461538

00:19:57.278 --> 00:20:00.234 sickle cell disease patients there

NOTE Confidence: 0.687235775461538

00:20:00.234 --> 00:20:03.976 are only 20% chance that we find the

NOTE Confidence: 0.687235775461538

00:20:03.976 --> 00:20:07.160 matched sibling who doesn't have

NOTE Confidence: 0.687235775461538

00:20:07.160 --> 00:20:08.856 sickle cell disease as well.

00:20:10.980 --> 00:20:13.472 So in our transplant world we have

NOTE Confidence: 0.687235775461538

00:20:13.472 --> 00:20:15.724 already done the other forms of

NOTE Confidence: 0.687235775461538

00:20:15.724 --> 00:20:17.574 transplant where we can either

NOTE Confidence: 0.687235775461538

00:20:17.574 --> 00:20:19.951 use the half matched mother

NOTE Confidence: 0.687235775461538

00:20:19.951 --> 00:20:22.297 or father or half match sibling

NOTE Confidence: 0.687235775461538

00:20:22.300 --> 00:20:25.348 or as you mentioned another family member.

00:20:28.038 --> 00:20:31.460 We can also use Be the Match which is our

NOTE Confidence: 0.687235775461538

00:20:31.460 --> 00:20:33.807 unknown donor registry where many

NOTE Confidence: 0.687235775461538

00:20:33.807 --> 00:20:36.227 many people have registered themselves

NOTE Confidence: 0.687235775461538

00:20:36.227 --> 00:20:39.370 and they are ready to donate their

NOTE Confidence: 0.687235775461538

00:20:39.370 --> 00:20:42.170 bone marrow if their HLA details

NOTE Confidence: 0.687235775461538

00:20:42.250 --> 00:20:45.050 which are already in the registry are

NOTE Confidence: 0.687235775461538

00:20:45.050 --> 00:20:47.690 matching to the potential patient.

NOTE Confidence: 0.687235775461538

00:20:47.690 --> 00:20:50.922 And we can also do those types of

NOTE Confidence: 0.687235775461538

00:20:50.922 --> 00:20:52.889 transplant using unknown donor

NOTE Confidence: 0.687235775461538

00:20:52.890 --> 00:20:55.793 either 100% match or even 90%

NOTE Confidence: 0.687235775461538

00:20:55.793 --> 00:20:58.045 match transplant using those

NOTE Confidence: 0.687235775461538

00:20:58.045 --> 00:21:00.297 unknown donors bone marrow.

NOTE Confidence: 0.874372439230769

00:21:00.430 --> 00:21:02.478 And so you know,

NOTE Confidence: 0.874372439230769

00:21:02.478 --> 00:21:06.830 one of the questions that comes up then is

NOTE Confidence: 0.874372439230769

00:21:06.830 --> 00:21:08.966 if bone marrow transplant

NOTE Confidence: 0.874372439230769

00:21:08.966 --> 00:21:12.170 has such a high success rate

NOTE Confidence: 0.874372439230769

00:21:12.170 --> 00:21:14.529 in terms of curing sickle cell disease,

NOTE Confidence: 0.874372439230769

00:21:14.530 --> 00:21:18.695 especially if done at a young age,

NOTE Confidence: 0.874372439230769

00:21:18.700 --> 00:21:22.417 why wouldn't you do this in everybody?

NOTE Confidence: 0.874372439230769

00:21:22.420 --> 00:21:25.465 I mean, why wait until people are

NOTE Confidence: 0.874372439230769

00:21:25.465 --> 00:21:26.770 having frequent hospitalizations

NOTE Confidence: 0.874372439230769

00:21:26.842 --> 00:21:28.360 and so on and so forth?

NOTE Confidence: 0.874372439230769

00:21:28.360 --> 00:21:30.415 What's the downside to

NOTE Confidence: 0.874372439230769

00:21:30.415 --> 00:21:32.059 doing bone marrow transplant?

NOTE Confidence: 0.874372439230769

00:21:32.060 --> 00:21:34.120 I'm certain that many parents

NOTE Confidence: 0.874372439230769

00:21:34.120 --> 00:21:36.180 when their child is just

NOTE Confidence: 0.874372439230769

00:21:36.262 --> 00:21:38.857 diagnosed with sickle cell anemia

NOTE Confidence: 0.874372439230769

00:21:38.860 --> 00:21:40.008 if you said, well,

NOTE Confidence: 0.874372439230769

00:21:40.008 --> 00:21:42.340 we have a potentially curative treatment,

NOTE Confidence: 0.874372439230769

00:21:42.340 --> 00:21:44.636 but we're going to hold back on that

NOTE Confidence: 0.874372439230769

00:21:44.636 --> 00:21:47.600 until your

NOTE Confidence: 0.874372439230769

00:21:47.600 --> 00:21:49.460 child requires multiple hospitalizations,

NOTE Confidence: 0.874372439230769

00:21:49.460 --> 00:21:51.294 they might look at you kind of funny.

NOTE Confidence: 0.803482183333334

00:21:51.950 --> 00:21:53.915 That's a very interesting

NOTE Confidence: 0.803482183333334

00:21:53.915 --> 00:21:55.487 question and very good

NOTE Confidence: 0.803482183333334

00:21:55.490 --> 00:21:57.250 debate going on between

NOTE Confidence: 0.803482183333334

00:21:57.250 --> 00:21:59.476 us as a transplanter and the

NOTE Confidence: 0.803482183333334

00:21:59.476 --> 00:22:01.436 hematologist who take care of

NOTE Confidence: 0.803482183333334

00:22:01.436 --> 00:22:03.610 their sickle cell disease patient.

NOTE Confidence: 0.803482183333334

00:22:03.610 --> 00:22:06.090 Because in sickle cell anemia,

NOTE Confidence: 0.803482183333334

00:22:06.090 --> 00:22:07.985 not every patient with sickle

NOTE Confidence: 0.803482183333334

00:22:07.985 --> 00:22:10.520 cell anemia has a severe disease.

NOTE Confidence: 0.803482183333334

00:22:10.520 --> 00:22:12.686 Some may have just the milder

NOTE Confidence: 0.803482183333334

00:22:12.686 --> 00:22:14.830 disease in the initial lifespan,

NOTE Confidence: 0.803482183333334

00:22:14.830 --> 00:22:17.530 and they may develop more complex

NOTE Confidence: 0.803482183333334

00:22:17.530 --> 00:22:20.140 or severe disease down the road.

NOTE Confidence: 0.803482183333334

00:22:20.140 --> 00:22:23.188 And particularly by

NOTE Confidence: 0.803482183333334

00:22:23.188 --> 00:22:25.220 using this penicillin prophylaxis

NOTE Confidence: 0.803482183333334

00:22:25.294 --> 00:22:28.030 and regular follow up with a

NOTE Confidence: 0.803482183333334

00:22:28.030 --> 00:22:30.300 multidisciplinary team

NOTE Confidence: 0.803482183333334

00:22:30.300 --> 00:22:34.380 we pick them up early and support them.

NOTE Confidence: 0.803482183333334

00:22:34.380 --> 00:22:36.940 So they are not having this severe disease.

NOTE Confidence: 0.803482183333334

00:22:36.940 --> 00:22:39.852 However, as I mentioned, as a

NOTE Confidence: 0.803482183333334

00:22:39.852 --> 00:22:42.426 transplanter we do have a good

NOTE Confidence: 0.803482183333334

00:22:42.426 --> 00:22:45.160 success rate with them if we do

NOTE Confidence: 0.803482183333334

00:22:45.160 --> 00:22:46.960 the HLA match sibling transplant.

00:22:52.730 --> 00:22:55.442 We recommend that they have

NOTE Confidence: 0.803482183333334

00:22:55.442 --> 00:22:58.743 their HLA typing and if they have

NOTE Confidence: 0.803482183333334

00:22:58.743 --> 00:23:01.200 a biological sibling we do

NOTE Confidence: 0.803482183333334

00:23:01.200 --> 00:23:03.300 their actual typing and find out

NOTE Confidence: 0.803482183333334

00:23:03.300 --> 00:23:06.071 if they have a matched sibling in the

NOTE Confidence: 0.803482183333334

00:23:06.071 --> 00:23:08.468 family and we keep that in mind.

NOTE Confidence: 0.803482183333334

00:23:08.470 --> 00:23:10.835 And if they start experiencing

NOTE Confidence: 0.803482183333334

00:23:10.835 --> 00:23:13.200 this complication related to the

NOTE Confidence: 0.803482183333334

00:23:13.282 --> 00:23:15.670 sickle cell disease it is better

NOTE Confidence: 0.803482183333334

00:23:15.670 --> 00:23:18.638 we consider them for a mathed sibling

NOTE Confidence: 0.803482183333334

00:23:18.638 --> 00:23:20.798 donor transplant early in life.

NOTE Confidence: 0.803482183333334

00:23:20.800 --> 00:23:23.348 So that is one of the recommendations

NOTE Confidence: 0.803482183333334

00:23:23.348 --> 00:23:25.080 we try to follow.

NOTE Confidence: 0.803482183333334

00:23:25.080 --> 00:23:25.437 However,

NOTE Confidence: 0.803482183333334

00:23:25.437 --> 00:23:28.293 I need to also as a transplanter

NOTE Confidence: 0.803482183333334

00:23:28.293 --> 00:23:30.338 mention that transplant itself,

NOTE Confidence: 0.803482183333334

00:23:30.340 --> 00:23:32.335 bone marrow transplant is not

NOTE Confidence: 0.803482183333334

00:23:32.335 --> 00:23:34.630 a simple process.

NOTE Confidence: 0.803482183333334

00:23:34.630 --> 00:23:36.390 You remove a patients own bone marrow

NOTE Confidence: 0.803482183333334

00:23:36.390 --> 00:23:38.884 and give them the new bone marrow

NOTE Confidence: 0.803482183333334

00:23:38.884 --> 00:23:40.160 and it's

NOTE Confidence: 0.803482183333334

00:23:40.160 --> 00:23:41.990 not a one day surgery.

NOTE Confidence: 0.803482183333334

00:23:41.990 --> 00:23:46.166 It is a complex process that takes time.

NOTE Confidence: 0.803482183333334

00:23:46.170 --> 00:23:49.258 So first we need to remove a patients own

NOTE Confidence: 0.803482183333334

00:23:49.258 --> 00:23:52.390 bone marrow by giving little chemotherapy

NOTE Confidence: 0.803482183333334

00:23:52.390 --> 00:23:54.490 to remove their underlying bone

NOTE Confidence: 0.803482183333334

00:23:54.490 --> 00:23:57.010 marrow which is diseased then we

NOTE Confidence: 0.803482183333334

00:23:57.010 --> 00:23:59.460 give new bone marrow from the donor

NOTE Confidence: 0.803482183333334

00:23:59.460 --> 00:24:01.630 which takes time, maybe two weeks

NOTE Confidence: 0.803482183333334

00:24:01.630 --> 00:24:04.096 to settle down in the patients

NOTE Confidence: 0.803482183333334

00:24:04.096 --> 00:24:07.009 body and then they start working.

NOTE Confidence: 0.803482183333334

00:24:07.010 --> 00:24:09.645 So that requires a complex

NOTE Confidence: 0.803482183333334

00:24:09.645 --> 00:24:11.753 process and hospitalization and

NOTE Confidence: 0.803482183333334

00:24:11.753 --> 00:24:14.277 afterwards also we need to closely

NOTE Confidence: 0.803482183333334

00:24:14.277 --> 00:24:16.677 monitor for the initial few months with

NOTE Confidence: 0.803482183333334

00:24:16.677 --> 00:24:19.071 some medicines and

NOTE Confidence: 0.803482183333334

00:24:19.071 --> 00:24:21.488 regular follow up so

NOTE Confidence: 0.803482183333334

00:24:21.488 --> 00:24:24.330 bone marrow transplant is not a

NOTE Confidence: 0.803482183333334

00:24:24.420 --> 00:24:27.348 simple one day surgery type process.

NOTE Confidence: 0.803482183333334

00:24:27.350 --> 00:24:30.395 However, over the last 10 years we

NOTE Confidence: 0.803482183333334

00:24:30.395 --> 00:24:33.834 have learned how to do it better with

NOTE Confidence: 0.803482183333334

00:24:33.834 --> 00:24:36.750 less side effects and less toxicity.

NOTE Confidence: 0.803482183333334

00:24:36.750 --> 00:24:39.180 I mentioned earlier that to remove

NOTE Confidence: 0.803482183333334

00:24:39.180 --> 00:24:41.954 patients own bone marrow we may we

NOTE Confidence: 0.803482183333334

00:24:41.954 --> 00:24:44.108 have to use some little chemotherapy.

NOTE Confidence: 0.803482183333334

00:24:44.110 --> 00:24:46.545 However because initially we were

NOTE Confidence: 0.803482183333334

00:24:46.545 --> 00:24:48.980 doing this type of transplant

NOTE Confidence: 0.803482183333334

00:24:49.060 --> 00:24:51.688 similarly what we do for leukemia.

NOTE Confidence: 0.803482183333334

00:24:51.690 --> 00:24:54.554 But in last 10 years we learned

NOTE Confidence: 0.803482183333334

00:24:54.554 --> 00:24:56.568 that for sickle cell transplant

NOTE Confidence: 0.803482183333334

00:24:56.568 --> 00:24:59.462 we don't need to use that high

NOTE Confidence: 0.803482183333334

00:24:59.462 --> 00:25:02.174 dose of chemotherapy which we use

NOTE Confidence: 0.803482183333334

00:25:02.174 --> 00:25:03.530 for leukemia patients.

NOTE Confidence: 0.803482183333334

00:25:03.530 --> 00:25:06.140 So nowadays we do sickle cell

NOTE Confidence: 0.803482183333334

00:25:06.140 --> 00:25:08.436 transplant with

NOTE Confidence: 0.803482183333334

very less toxic medicines

NOTE Confidence: 0.803482183333334

00:25:11.244 --> 00:25:14.049 or even some of the protocol

NOTE Confidence: 0.803482183333334

00:25:14.050 --> 00:25:16.060 or in the study we identified

NOTE Confidence: 0.803482183333334

00:25:16.060 --> 00:25:18.766 that we may do transplant without

NOTE Confidence: 0.803482183333334

00:25:18.766 --> 00:25:20.689 using any chemotherapy,

NOTE Confidence: 0.803482183333334

00:25:20.690 --> 00:25:23.216 just one dose of radiation.

NOTE Confidence: 0.896687556363636

00:25:26.960 --> 00:25:29.284 So over the last 10 years there

NOTE Confidence: 0.896687556363636

00:25:29.284 --> 00:25:32.191 has been a great success in

NOTE Confidence: 0.896687556363636

00:25:32.191 --> 00:25:34.023 doing sickle cell transplant

NOTE Confidence: 0.896687556363636

00:25:34.023 --> 00:25:36.838 better with less side effects.

NOTE Confidence: 0.896687556363636

00:25:36.840 --> 00:25:39.570 So that needs to be considered in

NOTE Confidence: 0.896687556363636

00:25:39.570 --> 00:25:42.035 overall care or while we manage

NOTE Confidence: 0.896687556363636

00:25:42.035 --> 00:25:44.465 sickle cell patients to find out

NOTE Confidence: 0.896687556363636

00:25:44.465 --> 00:25:47.155 if they have a HLA matcedh sibling

NOTE Confidence: 0.896687556363636

00:25:47.155 --> 00:25:49.889 and if they have

NOTE Confidence: 0.896687556363636

00:25:49.889 --> 00:25:51.581 started developing some complications

NOTE Confidence: 0.896687556363636

00:25:51.581 --> 00:25:53.479 bone marrow transplant should be

NOTE Confidence: 0.896687556363636

00:25:53.480 --> 00:25:54.368 offered to them.

NOTE Confidence: 0.749122573333333

00:25:55.610 --> 00:25:57.830 And when we think about transplants,

NOTE Confidence: 0.749122573333333

00:25:57.830 --> 00:26:00.832 I mean, I think many people know a

NOTE Confidence: 0.749122573333333

00:26:00.832 --> 00:26:02.787 lot more about organ transplants,

NOTE Confidence: 0.749122573333333

00:26:02.790 --> 00:26:04.590 for example, than maybe they know

NOTE Confidence: 0.749122573333333

00:26:04.590 --> 00:26:05.790 about bone marrow transplants.

NOTE Confidence: 0.749122573333333

00:26:05.790 --> 00:26:07.842 But certainly when we think about

NOTE Confidence: 0.749122573333333

00:26:07.842 --> 00:26:10.050 people who have had transplants,

NOTE Confidence: 0.749122573333333

00:26:10.050 --> 00:26:12.588 one of the things that we often worry about

NOTE Confidence: 0.749122573333333

00:26:12.588 --> 00:26:15.448 is something like graft versus host disease,

NOTE Confidence: 0.749122573333333

00:26:15.450 --> 00:26:19.693 where you can actually reject

NOTE Confidence: 0.749122573333333

00:26:19.693 --> 00:26:22.374 due to a mismatch

NOTE Confidence: 0.749122573333333

00:26:22.374 --> 00:26:25.628 or at least a partial mismatch.

NOTE Confidence: 0.749122573333333

00:26:25.630 --> 00:26:30.418 That either the graft orthe new organ,

NOTE Confidence: 0.749122573333333

00:26:30.420 --> 00:26:33.126 the new bone marrow might start

NOTE Confidence: 0.749122573333333

00:26:33.126 --> 00:26:35.308 reacting to your native cells,

NOTE Confidence: 0.749122573333333

00:26:35.308 --> 00:26:38.510 or vice versa, your immune system

NOTE Confidence: 0.749122573333333

00:26:38.510 --> 00:26:41.845 starts attacking the new

NOTE Confidence: 0.749122573333333

00:26:41.845 --> 00:26:44.585 bone marrow,

NOTE Confidence: 0.749122573333333

00:26:44.590 --> 00:26:47.628 does that happen in bone marrow transplant?

NOTE Confidence: 0.749122573333333

00:26:47.630 --> 00:26:50.500 And do patients who have a bone

NOTE Confidence: 0.749122573333333

00:26:50.500 --> 00:26:52.933 marrow transplant need to be

NOTE Confidence: 0.749122573333333

00:26:52.933 --> 00:26:54.619 on lifelong immunosuppressants?

NOTE Confidence: 0.749122573333333

00:26:54.620 --> 00:26:55.232 I mean,

NOTE Confidence: 0.749122573333333

00:26:55.232 --> 00:26:56.762 is that something that people

NOTE Confidence: 0.749122573333333

00:26:56.762 --> 00:26:58.827 consider in the decision of whether

NOTE Confidence: 0.749122573333333

00:26:58.827 --> 00:27:00.987 to undergo a bone marrow transplant?

NOTE Confidence: 0.80276668

00:27:02.500 --> 00:27:05.900 A very good point and I would like to explain

NOTE Confidence: 0.80276668

00:27:05.985 --> 00:27:08.939 that yes similar to organ transplant,

NOTE Confidence: 0.80276668

00:27:08.940 --> 00:27:10.836 bone marrow transplant patients

NOTE Confidence: 0.80276668

00:27:10.836 --> 00:27:13.680 also experience some

NOTE Confidence: 0.80276668

00:27:13.760 --> 00:27:16.220 either graft

NOTE Confidence: 0.80276668

00:27:16.220 --> 00:27:18.580 failure where a patients own immunity,

NOTE Confidence: 0.80276668

00:27:18.580 --> 00:27:19.864 particularly those patients

NOTE Confidence: 0.80276668

00:27:19.864 --> 00:27:21.576 who have received many,

NOTE Confidence: 0.80276668

00:27:21.580 --> 00:27:23.628 many blood transfusion before

NOTE Confidence: 0.80276668

00:27:23.628 --> 00:27:25.676 they go for transplant,

NOTE Confidence: 0.80276668

00:27:25.680 --> 00:27:28.480 they experience complications and they

NOTE Confidence: 0.80276668

00:27:28.480 --> 00:27:32.768 reject the donor cells or the donor cells

NOTE Confidence: 0.80276668

00:27:32.770 --> 00:27:35.522 fight with the patients own cells and

NOTE Confidence: 0.80276668

00:27:35.522 --> 00:27:38.468 that is called graft vs host disease.

NOTE Confidence: 0.80276668

00:27:38.470 --> 00:27:41.851 So the main point here if you

NOTE Confidence: 0.80276668

00:27:41.851 --> 00:27:44.590 do transplant early in the life,

NOTE Confidence: 0.80276668

00:27:44.590 --> 00:27:47.026 particularly less than 10 years of age,

NOTE Confidence: 0.80276668

00:27:47.030 --> 00:27:49.754 this type of complication with matched

NOTE Confidence: 0.80276668

00:27:49.754 --> 00:27:52.349 sibling donor transplant is less.

NOTE Confidence: 0.80276668

00:27:52.350 --> 00:27:54.426 So that's why we recommend early

NOTE Confidence: 0.80276668

00:27:54.426 --> 00:27:55.464 bone marrow transplant.

NOTE Confidence: 0.80276668

00:27:55.470 --> 00:27:57.556 And then just the last query

NOTE Confidence: 0.80276668

00:27:57.556 --> 00:28:00.255 which you asked is do they need

NOTE Confidence: 0.80276668

00:28:00.255 --> 00:28:01.560 the lifelong immunosuppression?

NOTE Confidence: 0.80276668

00:28:01.560 --> 00:28:03.330 Not in bone marrow.

NOTE Confidence: 0.80276668

00:28:03.330 --> 00:28:05.106 We are completely

NOTE Confidence: 0.80276668

00:28:05.106 --> 00:28:07.770 changing their immunity so once the

NOTE Confidence: 0.80276668

00:28:07.847 --> 00:28:10.139 new bone marrow has settled down

NOTE Confidence: 0.80276668

00:28:10.140 --> 00:28:12.280 they don't need this

NOTE Confidence: 0.80276668

00:28:12.280 --> 00:28:13.350 lifelong immunosuppression.

NOTE Confidence: 0.80276668

00:28:13.350 --> 00:28:15.100 That is the main difference

NOTE Confidence: 0.80276668

00:28:15.100 --> 00:28:16.850 between the solid organ transplant

NOTE Confidence: 0.80276668

00:28:16.916 --> 00:28:18.666 and our bone marrow transplant.

NOTE Confidence: 0.80276668

00:28:18.670 --> 00:28:21.180 Bone marrow transplant patients are

NOTE Confidence: 0.80276668

00:28:21.180 --> 00:28:23.690 mainly on immunosuppression for maybe

NOTE Confidence: 0.80276668

00:28:23.764 --> 00:28:26.380 six months or a year or little longer,

NOTE Confidence: 0.80276668

00:28:26.380 --> 00:28:27.988 but afterwards no medicine.

NOTE Confidence: 0.927172236538462

00:28:28.740 --> 00:28:30.905 Doctor Niketa Shah is associate

NOTE Confidence: 0.927172236538462

00:28:30.905 --> 00:28:33.070 professor of Pediatrics and hematology

NOTE Confidence: 0.927172236538462

00:28:33.140 --> 00:28:35.702 oncology and director of the pediatric

NOTE Confidence: 0.927172236538462

00:28:35.702 --> 00:28:37.410 bone Marrow Transplant program

NOTE Confidence: 0.927172236538462

00:28:37.479 --> 00:28:39.399 at the Yale School of Medicine.

NOTE Confidence: 0.927172236538462

00:28:39.400 --> 00:28:41.400 If you have questions,

NOTE Confidence: 0.927172236538462

00:28:41.400 --> 00:28:43.351 the address is canceranswers@yale.edu,

NOTE Confidence: 0.927172236538462

00:28:43.351 --> 00:28:46.057 and past editions of the program

NOTE Confidence: 0.927172236538462

00:28:46.057 --> 00:28:48.402 are available in audio and written

NOTE Confidence: 0.927172236538462

00:28:48.402 --> 00:28:49.314 form at yalecancercenter.org.

NOTE Confidence: 0.927172236538462

00:28:49.314 --> 00:28:51.666 We hope you'll join us next week to

NOTE Confidence: 0.927172236538462

00:28:51.666 --> 00:28:53.463 learn more about the fight against

NOTE Confidence: 0.927172236538462

00:28:53.463 --> 00:28:55.240 cancer here on Connecticut Public Radio.

NOTE Confidence: 0.927172236538462

00:28:55.240 --> 00:28:56.990 Funding for Yale Cancer Answers

NOTE Confidence: 0.927172236538462

00:28:56.990 --> 00:28:58.740 is provided by Smilow Cancer

NOTE Confidence: 0.927172236538462

00:28:58.740 --> 00:29:00.000 Hospital.