

WEBVTT

NOTE duration: "01:06:33.514"

NOTE Confidence: 0.7348633

00:00:12.480 --> 00:00:12.825 Yes.

NOTE Confidence: 0.96484375

00:02:50.465 --> 00:02:50.965 Yeah.

NOTE Confidence: 0.97233075

00:03:30.770 --> 00:03:32.150 Okay. Good afternoon.

NOTE Confidence: 0.85302734

00:03:33.010 --> 00:03:34.050 Welcome to,

NOTE Confidence: 0.94466144

00:03:34.530 --> 00:03:36.150 Yale University cardiology,

NOTE Confidence: 0.6607666

00:03:37.010 --> 00:03:37.830 grand rounds,

NOTE Confidence: 0.97424316

00:03:38.685 --> 00:03:40.525 the most important cardiology meeting

NOTE Confidence: 0.97424316

00:03:40.525 --> 00:03:41.585 in the state of Connecticut.

NOTE Confidence: 0.72875977

00:03:43.245 --> 00:03:43.725 Some,

NOTE Confidence: 0.9672496

00:03:44.125 --> 00:03:45.485 announcements. So this is the

NOTE Confidence: 0.9672496

00:03:45.485 --> 00:03:47.085 code, the CME code, so

NOTE Confidence: 0.9672496

00:03:47.085 --> 00:03:48.685 you can claim your your

NOTE Confidence: 0.9672496

00:03:48.685 --> 00:03:49.185 CME.

NOTE Confidence: 0.72314453

00:03:52.140 --> 00:03:52.960 This is our,

NOTE Confidence: 0.8009033

00:03:53.500 --> 00:03:55.580 cardiology grant runs from, next

NOTE Confidence: 0.8009033

00:03:55.580 --> 00:03:56.080 week.

NOTE Confidence: 0.8942627

00:03:57.420 --> 00:03:58.860 And also on the twenty

NOTE Confidence: 0.8942627

00:03:58.860 --> 00:04:00.160 ninth, we'll have a faculty,

NOTE Confidence: 0.9555664

00:04:00.540 --> 00:04:02.080 research meeting. And

NOTE Confidence: 0.9478027

00:04:02.380 --> 00:04:04.000 then in May, we have,

NOTE Confidence: 0.96036303

00:04:04.785 --> 00:04:06.065 we'll have a case conference

NOTE Confidence: 0.96036303

00:04:06.065 --> 00:04:07.745 by our advanced heart failure

NOTE Confidence: 0.96036303

00:04:07.745 --> 00:04:09.105 group and one of our

NOTE Confidence: 0.96036303

00:04:09.105 --> 00:04:10.005 stellar fellows,

NOTE Confidence: 0.96224976

00:04:10.545 --> 00:04:12.385 doctor Michael Fury. So looking

NOTE Confidence: 0.96224976

00:04:12.385 --> 00:04:13.364 forward to that.

NOTE Confidence: 0.97473145

00:04:15.584 --> 00:04:16.085 Disclosures.

NOTE Confidence: 0.99560547

00:04:20.990 --> 00:04:21.490 So,

NOTE Confidence: 0.94885254

00:04:22.029 --> 00:04:23.310 today is a real honor

NOTE Confidence: 0.94885254

00:04:23.310 --> 00:04:24.450 for me to be here.

NOTE Confidence: 0.97528076

00:04:24.990 --> 00:04:26.990 Doctor Eric Velasquez, chief of

NOTE Confidence: 0.97528076

00:04:26.990 --> 00:04:28.589 cardiovascular medicine at Yale School

NOTE Confidence: 0.97528076

00:04:28.589 --> 00:04:29.169 of Medicine,

NOTE Confidence: 0.96644425

00:04:29.790 --> 00:04:31.790 Francine LaRusso, senior vice president

NOTE Confidence: 0.96644425

00:04:31.790 --> 00:04:32.690 of heart and vascular,

NOTE Confidence: 0.916862

00:04:33.154 --> 00:04:35.395 doctor Thomas Balcizak, chief clinical

NOTE Confidence: 0.916862

00:04:35.395 --> 00:04:36.755 officer of Yale New Haven

NOTE Confidence: 0.916862

00:04:36.755 --> 00:04:37.495 Health System,

NOTE Confidence: 0.96395755

00:04:37.955 --> 00:04:40.214 doctor Robert Robrock, associate dean

NOTE Confidence: 0.96395755

00:04:40.275 --> 00:04:41.654 for global health education

NOTE Confidence: 0.7458496

00:04:42.035 --> 00:04:43.414 at Yale West Global Medicine,

NOTE Confidence: 0.876709

00:04:44.194 --> 00:04:45.175 friends and colleagues.

NOTE Confidence: 0.9712185

00:04:46.200 --> 00:04:47.880 Good afternoon, and thank you

NOTE Confidence: 0.9712185

00:04:47.880 --> 00:04:49.180 for all being here.

NOTE Confidence: 0.9361074

00:04:49.720 --> 00:04:52.060 Today, we commemorate the International

NOTE Confidence: 0.9361074

00:04:52.279 --> 00:04:53.660 Day of Chagas disease.
NOTE Confidence: 1

00:04:54.600 --> 00:04:55.100 Although
NOTE Confidence: 0.86383456

00:04:55.560 --> 00:04:57.900 car doctor Carlos Chagas discovers
NOTE Confidence: 0.98214287

00:04:58.404 --> 00:05:00.085 discovered this disease more than
NOTE Confidence: 0.98214287

00:05:00.085 --> 00:05:01.685 a century ago and we
NOTE Confidence: 0.98214287

00:05:01.685 --> 00:05:03.385 know that it disproportionately
NOTE Confidence: 0.9572754

00:05:03.925 --> 00:05:05.385 affects the most vulnerable,
NOTE Confidence: 0.97892255

00:05:05.845 --> 00:05:08.165 underserved and isolated communities in
NOTE Confidence: 0.97892255

00:05:08.165 --> 00:05:09.925 Latin America, we still do
NOTE Confidence: 0.97892255

00:05:09.925 --> 00:05:11.544 not have a complete understanding
NOTE Confidence: 0.97892255

00:05:11.685 --> 00:05:12.985 of its pathophysiology.
NOTE Confidence: 0.98742676

00:05:13.710 --> 00:05:15.310 We continue to lack optimal
NOTE Confidence: 0.98742676

00:05:15.310 --> 00:05:17.070 diagnostic methods and we don't
NOTE Confidence: 0.98742676

00:05:17.070 --> 00:05:18.670 yet have a truly effective
NOTE Confidence: 0.98742676

00:05:18.670 --> 00:05:19.170 treatment.
NOTE Confidence: 0.9708334

00:05:20.350 --> 00:05:22.110 Chagas disease continues to claim

NOTE Confidence: 0.9708334

00:05:22.110 --> 00:05:23.310 the lives of thousands of

NOTE Confidence: 0.9708334

00:05:23.310 --> 00:05:24.830 patients in the prime of

NOTE Confidence: 0.9708334

00:05:24.830 --> 00:05:27.330 their lives with devastating consequences

NOTE Confidence: 0.9935547

00:05:27.995 --> 00:05:29.694 for their families and communities.

NOTE Confidence: 0.92970735

00:05:30.555 --> 00:05:32.474 Through CEDAY, the Chagas disease

NOTE Confidence: 0.92970735

00:05:32.474 --> 00:05:34.315 alliance at Yale, scientists and

NOTE Confidence: 0.92970735

00:05:34.315 --> 00:05:36.495 healthcare professionals from Latin America

NOTE Confidence: 0.92970735

00:05:36.555 --> 00:05:38.574 and Yale have joined forces.

NOTE Confidence: 0.9878418

00:05:39.354 --> 00:05:41.694 Together, we collaborate as colleagues

NOTE Confidence: 0.98965734

00:05:42.010 --> 00:05:43.930 and advance research efforts to

NOTE Confidence: 0.98965734

00:05:43.930 --> 00:05:46.170 better understand and combat this

NOTE Confidence: 0.98965734

00:05:46.170 --> 00:05:46.670 disease.

NOTE Confidence: 0.97547495

00:05:48.170 --> 00:05:49.770 It is now my great

NOTE Confidence: 0.97547495

00:05:49.770 --> 00:05:51.690 honor to introduce doctor Rachel

NOTE Confidence: 0.97547495

00:05:51.690 --> 00:05:52.190 Marcus.

NOTE Confidence: 0.98010254

00:05:53.450 --> 00:05:55.850 Doctor Marcus graduated from Stanford
NOTE Confidence: 0.98010254

00:05:55.850 --> 00:05:57.450 Medical School in nineteen ninety
NOTE Confidence: 0.98010254

00:05:57.450 --> 00:05:59.525 four and completed her internship
NOTE Confidence: 0.98010254

00:05:59.665 --> 00:06:01.585 and residency at Brigham and
NOTE Confidence: 0.98010254

00:06:01.585 --> 00:06:03.045 Women's Hospital in Boston
NOTE Confidence: 0.9661865

00:06:03.505 --> 00:06:05.345 before returning to Stanford for
NOTE Confidence: 0.9661865

00:06:05.345 --> 00:06:07.285 a fellowship in cardiovascular medicine.
NOTE Confidence: 0.9435791

00:06:08.225 --> 00:06:09.904 Driven by a long standing
NOTE Confidence: 0.9435791

00:06:09.904 --> 00:06:12.165 commitment to serving underserved communities
NOTE Confidence: 0.96082515

00:06:12.680 --> 00:06:14.120 both in the United States
NOTE Confidence: 0.96082515

00:06:14.120 --> 00:06:16.060 and abroad, she founded LaSocha,
NOTE Confidence: 0.90134275

00:06:16.759 --> 00:06:18.860 a non profit organization dedicated
NOTE Confidence: 0.90134275

00:06:18.919 --> 00:06:20.860 to fight against Chagga disease,
NOTE Confidence: 0.99090576

00:06:21.240 --> 00:06:22.939 where she also helped develop
NOTE Confidence: 0.99090576

00:06:23.080 --> 00:06:24.219 its medical program.
NOTE Confidence: 0.9280831

00:06:25.505 --> 00:06:27.105 She has also supported research

NOTE Confidence: 0.9280831
00:06:27.105 --> 00:06:28.545 in chagal disease in collaboration
NOTE Confidence: 0.9280831
00:06:28.545 --> 00:06:30.085 with John Hopkins University
NOTE Confidence: 0.95585936
00:06:30.545 --> 00:06:31.904 in addition to her work
NOTE Confidence: 0.95585936
00:06:31.904 --> 00:06:33.425 as a staff cardiologist at
NOTE Confidence: 0.95585936
00:06:33.425 --> 00:06:35.445 the National Institutes of Health.
NOTE Confidence: 0.9729634
00:06:36.464 --> 00:06:38.165 Please join me in welcoming
NOTE Confidence: 0.9729634
00:06:38.305 --> 00:06:39.729 doctor Marcus. It is a
NOTE Confidence: 0.9729634
00:06:39.729 --> 00:06:41.169 true honor to have her
NOTE Confidence: 0.9729634
00:06:41.169 --> 00:06:42.849 with us today at cardio
NOTE Confidence: 0.9729634
00:06:43.009 --> 00:06:44.289 at the Yale Cardiology Ground
NOTE Confidence: 0.9729634
00:06:44.289 --> 00:06:46.129 Rounds at Yale University. Thank
NOTE Confidence: 0.9729634
00:06:46.129 --> 00:06:46.629 you.
NOTE Confidence: 0.9856623
00:06:53.665 --> 00:06:55.185 So thank you so much.
NOTE Confidence: 0.9856623
00:06:55.185 --> 00:06:56.305 I am the one who's
NOTE Confidence: 0.9856623
00:06:56.305 --> 00:06:57.505 honored to be here with
NOTE Confidence: 0.9856623

00:06:57.505 --> 00:06:59.185 you all. It's just so
NOTE Confidence: 0.9856623

00:06:59.185 --> 00:07:00.145 thrilling to,
NOTE Confidence: 0.99869794

00:07:00.465 --> 00:07:01.845 have Yale University
NOTE Confidence: 0.91666126

00:07:02.145 --> 00:07:03.904 being with the the pinnacle
NOTE Confidence: 0.91666126

00:07:03.904 --> 00:07:05.525 of academic and and cardiology
NOTE Confidence: 0.91666126

00:07:05.665 --> 00:07:07.685 excellence thinking about Chagas disease.
NOTE Confidence: 0.9647461

00:07:08.039 --> 00:07:08.919 So it's a real thrill
NOTE Confidence: 0.9647461

00:07:08.919 --> 00:07:09.979 for me to be here.
NOTE Confidence: 0.9819218

00:07:10.520 --> 00:07:11.720 I'm gonna give you sort
NOTE Confidence: 0.9819218

00:07:11.720 --> 00:07:12.520 of a boots on the
NOTE Confidence: 0.9819218

00:07:12.520 --> 00:07:13.960 ground in the trenches view
NOTE Confidence: 0.9819218

00:07:13.960 --> 00:07:14.840 of the kind of work
NOTE Confidence: 0.9819218

00:07:14.840 --> 00:07:16.039 that we do with Chagas
NOTE Confidence: 0.9819218

00:07:16.039 --> 00:07:17.479 disease in the United States.
NOTE Confidence: 0.9819218

00:07:17.800 --> 00:07:18.840 And part of the reason
NOTE Confidence: 0.9819218

00:07:18.840 --> 00:07:20.759 that I have LaSoche in

NOTE Confidence: 0.9819218

00:07:20.759 --> 00:07:22.155 red here is to remind

NOTE Confidence: 0.9819218

00:07:22.155 --> 00:07:23.275 me to remind you that

NOTE Confidence: 0.9819218

00:07:23.275 --> 00:07:24.634 I am the medical director

NOTE Confidence: 0.9819218

00:07:24.634 --> 00:07:26.395 of the Latin American Society

NOTE Confidence: 0.9819218

00:07:26.395 --> 00:07:27.055 of Chagas.

NOTE Confidence: 0.9893392

00:07:27.514 --> 00:07:28.715 And our mission really is

NOTE Confidence: 0.9893392

00:07:28.715 --> 00:07:30.555 dedicated to raising awareness of

NOTE Confidence: 0.9893392

00:07:30.555 --> 00:07:31.455 Chagas disease.

NOTE Confidence: 0.95429915

00:07:31.835 --> 00:07:33.275 So generally, actually, when I'm

NOTE Confidence: 0.95429915

00:07:33.275 --> 00:07:34.570 talking to audiences, they know

NOTE Confidence: 0.95429915

00:07:34.570 --> 00:07:35.950 nothing about Chagas disease.

NOTE Confidence: 0.9885883

00:07:36.730 --> 00:07:37.690 And this is a little

NOTE Confidence: 0.9885883

00:07:37.690 --> 00:07:38.810 trickier for me today because

NOTE Confidence: 0.9885883

00:07:38.810 --> 00:07:39.290 there are a lot of

NOTE Confidence: 0.9885883

00:07:39.290 --> 00:07:40.250 people in this audience who

NOTE Confidence: 0.9885883

00:07:40.250 --> 00:07:41.610 actually know more about Chagas
NOTE Confidence: 0.9885883

00:07:41.610 --> 00:07:42.730 disease than I do. So
NOTE Confidence: 0.9885883

00:07:42.730 --> 00:07:43.450 I'm trying to hit the
NOTE Confidence: 0.9885883

00:07:43.450 --> 00:07:44.490 sweet spot to be able
NOTE Confidence: 0.9885883

00:07:44.490 --> 00:07:46.090 to teach people about Chagas
NOTE Confidence: 0.9885883

00:07:46.090 --> 00:07:47.290 disease, but not more people
NOTE Confidence: 0.9885883

00:07:47.290 --> 00:07:48.475 who know so much about
NOTE Confidence: 0.9885883

00:07:48.475 --> 00:07:49.914 it. But the other thing
NOTE Confidence: 0.9885883

00:07:49.914 --> 00:07:50.634 is that I really do
NOTE Confidence: 0.9885883

00:07:50.634 --> 00:07:52.155 focus on Chagas disease in
NOTE Confidence: 0.9885883

00:07:52.155 --> 00:07:53.755 the Latin American immigrant population
NOTE Confidence: 0.9885883

00:07:53.755 --> 00:07:54.815 in the United States.
NOTE Confidence: 0.98813474

00:07:55.435 --> 00:07:56.875 The other reason that I
NOTE Confidence: 0.98813474

00:07:56.875 --> 00:07:58.235 have read up there is
NOTE Confidence: 0.98813474

00:07:58.235 --> 00:07:59.275 because I'm a fellow of
NOTE Confidence: 0.98813474

00:07:59.275 --> 00:08:00.974 the American Society of ECHO,

NOTE Confidence: 0.9984887
00:08:01.675 --> 00:08:02.955 and oops. I went the
NOTE Confidence: 0.9984887
00:08:02.955 --> 00:08:03.694 wrong way.
NOTE Confidence: 0.97706956
00:08:06.450 --> 00:08:08.050 Here we go. So I
NOTE Confidence: 0.97706956
00:08:08.050 --> 00:08:09.090 had too much time on
NOTE Confidence: 0.97706956
00:08:09.090 --> 00:08:10.530 my hands, and I told
NOTE Confidence: 0.97706956
00:08:10.530 --> 00:08:11.490 AI some people have been
NOTE Confidence: 0.97706956
00:08:11.490 --> 00:08:12.130 telling me I need to
NOTE Confidence: 0.97706956
00:08:12.130 --> 00:08:12.770 learn a little bit more
NOTE Confidence: 0.97706956
00:08:12.770 --> 00:08:13.889 about AI, so I decided
NOTE Confidence: 0.97706956
00:08:13.889 --> 00:08:15.250 to get AI to make
NOTE Confidence: 0.97706956
00:08:15.250 --> 00:08:16.850 a picture of me as
NOTE Confidence: 0.97706956
00:08:16.850 --> 00:08:18.530 grumpy echo lab lady with
NOTE Confidence: 0.97706956
00:08:18.530 --> 00:08:19.110 a hammer.
NOTE Confidence: 0.9935753
00:08:19.685 --> 00:08:20.805 And the reason why I'm
NOTE Confidence: 0.9935753
00:08:20.805 --> 00:08:22.245 grumpy grumpy echo lab lady
NOTE Confidence: 0.9935753

00:08:22.245 --> 00:08:23.125 with a hammer in this
NOTE Confidence: 0.9935753

00:08:23.125 --> 00:08:24.825 particular picture is because
NOTE Confidence: 0.9321289

00:08:25.365 --> 00:08:26.005 I do,
NOTE Confidence: 0.98895264

00:08:26.325 --> 00:08:27.205 spend a lot of time
NOTE Confidence: 0.98895264

00:08:27.205 --> 00:08:28.245 thinking about echo, a lot
NOTE Confidence: 0.98895264

00:08:28.245 --> 00:08:29.525 of time looking at echo,
NOTE Confidence: 0.98895264

00:08:29.525 --> 00:08:30.025 scrutinizing
NOTE Confidence: 0.9812988

00:08:30.325 --> 00:08:31.620 echoes to look for some
NOTE Confidence: 0.9812988

00:08:31.620 --> 00:08:33.300 of the subtle findings related
NOTE Confidence: 0.9812988

00:08:33.300 --> 00:08:34.660 to Chagas disease, and we
NOTE Confidence: 0.9812988

00:08:34.660 --> 00:08:35.860 miss them a lot in
NOTE Confidence: 0.9812988

00:08:35.860 --> 00:08:37.460 the United States. So up
NOTE Confidence: 0.9812988

00:08:37.460 --> 00:08:38.660 on the echo screen, there
NOTE Confidence: 0.9812988

00:08:38.660 --> 00:08:40.600 is actually a beautiful echocardiogram
NOTE Confidence: 0.96885437

00:08:40.980 --> 00:08:42.200 that was done in Brazil
NOTE Confidence: 0.96885437

00:08:42.340 --> 00:08:43.940 by Carmina Nunez, and I

NOTE Confidence: 0.96885437
00:08:43.940 --> 00:08:44.980 happened to be there while
NOTE Confidence: 0.96885437
00:08:44.980 --> 00:08:45.700 she was doing it. So
NOTE Confidence: 0.96885437
00:08:45.700 --> 00:08:46.500 I took a picture to
NOTE Confidence: 0.96885437
00:08:46.500 --> 00:08:48.415 show what a perfectly image
NOTE Confidence: 0.96885437
00:08:48.415 --> 00:08:49.535 apex of a patient with
NOTE Confidence: 0.96885437
00:08:49.535 --> 00:08:51.075 Shaka's disease should look like.
NOTE Confidence: 0.96885437
00:08:51.135 --> 00:08:52.415 But I'm unhappy because I
NOTE Confidence: 0.96885437
00:08:52.415 --> 00:08:53.635 don't see that very often.
NOTE Confidence: 0.96885437
00:08:53.934 --> 00:08:54.755 The other reason
NOTE Confidence: 0.94311523
00:08:55.135 --> 00:08:56.015 the reason that I have
NOTE Confidence: 0.94311523
00:08:56.015 --> 00:08:57.315 the hammer is because
NOTE Confidence: 0.9810693
00:08:57.695 --> 00:08:58.895 when you're a hammer, everything
NOTE Confidence: 0.9810693
00:08:58.895 --> 00:08:59.860 looks like a nail. And
NOTE Confidence: 0.9810693
00:08:59.860 --> 00:09:00.980 I have to remind myself
NOTE Confidence: 0.9810693
00:09:00.980 --> 00:09:01.940 that I think about Chagas
NOTE Confidence: 0.9810693

00:09:02.020 --> 00:09:02.740 if you could give me
NOTE Confidence: 0.9810693

00:09:02.740 --> 00:09:03.780 an extra hour in my
NOTE Confidence: 0.9810693

00:09:03.780 --> 00:09:04.900 day, I would think about
NOTE Confidence: 0.9810693

00:09:04.900 --> 00:09:06.500 Chagas disease twenty five hours,
NOTE Confidence: 0.9810693

00:09:06.500 --> 00:09:08.100 seven days a week. But
NOTE Confidence: 0.9810693

00:09:08.100 --> 00:09:09.380 not everybody's like that. So
NOTE Confidence: 0.9810693

00:09:09.380 --> 00:09:10.340 I have to remember that
NOTE Confidence: 0.9810693

00:09:10.340 --> 00:09:11.460 that not everybody looks at
NOTE Confidence: 0.9810693

00:09:11.460 --> 00:09:12.285 every echo as if it
NOTE Confidence: 0.9810693

00:09:12.285 --> 00:09:13.644 might have Chagas disease. But
NOTE Confidence: 0.9810693

00:09:13.644 --> 00:09:14.605 those are those are my
NOTE Confidence: 0.9810693

00:09:14.605 --> 00:09:16.144 disclosures for this talk.
NOTE Confidence: 0.9610656

00:09:16.684 --> 00:09:18.524 Okay. Moving on. So the
NOTE Confidence: 0.9610656

00:09:18.524 --> 00:09:20.204 story begins, Chagas disease in
NOTE Confidence: 0.9610656

00:09:20.204 --> 00:09:21.565 the United States. This is
NOTE Confidence: 0.9610656

00:09:21.565 --> 00:09:23.165 a mummy from the south

NOTE Confidence: 0.9610656
00:09:23.165 --> 00:09:24.684 of Texas. You probably recognize
NOTE Confidence: 0.9610656
00:09:24.684 --> 00:09:25.345 this picture,
NOTE Confidence: 0.9899379
00:09:25.690 --> 00:09:26.970 probably from about a thousand
NOTE Confidence: 0.9899379
00:09:26.970 --> 00:09:28.410 years ago that was found.
NOTE Confidence: 0.9899379
00:09:28.410 --> 00:09:29.370 And I'm sorry to do
NOTE Confidence: 0.9899379
00:09:29.370 --> 00:09:30.330 this to you during lunch,
NOTE Confidence: 0.9899379
00:09:30.330 --> 00:09:31.450 but the arrows are pointing
NOTE Confidence: 0.9899379
00:09:31.450 --> 00:09:33.070 towards the incredible
NOTE Confidence: 0.9516195
00:09:33.370 --> 00:09:35.390 amount of impacted fecal material
NOTE Confidence: 0.9516195
00:09:35.450 --> 00:09:36.730 in this mummy's colon. This
NOTE Confidence: 0.9516195
00:09:36.730 --> 00:09:38.190 mummy had mega megacolon
NOTE Confidence: 0.96877444
00:09:38.970 --> 00:09:40.515 and was then found actually
NOTE Confidence: 0.96877444
00:09:40.515 --> 00:09:41.635 by PCR testing to have
NOTE Confidence: 0.96877444
00:09:41.635 --> 00:09:43.495 evidence of trypanosoma cruzi infection.
NOTE Confidence: 0.9756801
00:09:43.875 --> 00:09:45.075 So we know that in
NOTE Confidence: 0.9756801

00:09:45.075 --> 00:09:46.515 Texas, in southern Texas near
NOTE Confidence: 0.9756801

00:09:46.515 --> 00:09:47.875 the Mexico border, we have
NOTE Confidence: 0.9756801

00:09:47.875 --> 00:09:49.955 at least established Chagas disease
NOTE Confidence: 0.9756801

00:09:49.955 --> 00:09:51.075 in the United States as
NOTE Confidence: 0.9756801

00:09:51.075 --> 00:09:51.955 far back as a thousand
NOTE Confidence: 0.9756801

00:09:51.955 --> 00:09:53.714 years ago. I wanna fast
NOTE Confidence: 0.9756801

00:09:53.714 --> 00:09:54.855 forward a lot
NOTE Confidence: 0.95015675

00:09:55.610 --> 00:09:56.890 to two thousand seven and
NOTE Confidence: 0.95015675

00:09:56.890 --> 00:09:57.850 to give a huge shout
NOTE Confidence: 0.95015675

00:09:57.850 --> 00:09:59.130 out to this cardiologist. Her
NOTE Confidence: 0.95015675

00:09:59.130 --> 00:10:00.270 name is Sheba Meymandi.
NOTE Confidence: 0.97067994

00:10:00.810 --> 00:10:01.930 And she was working in
NOTE Confidence: 0.97067994

00:10:01.930 --> 00:10:03.050 the Olive View Medical Center
NOTE Confidence: 0.97067994

00:10:03.050 --> 00:10:04.350 as a heart failure cardiologist
NOTE Confidence: 0.97067994

00:10:04.490 --> 00:10:05.690 and realized that a lot
NOTE Confidence: 0.97067994

00:10:05.690 --> 00:10:06.570 of the people who were

NOTE Confidence: 0.97067994

00:10:06.570 --> 00:10:07.850 seeing her there, who were

NOTE Confidence: 0.97067994

00:10:07.850 --> 00:10:09.050 Spanish speakers, were at risk

NOTE Confidence: 0.97067994

00:10:09.050 --> 00:10:10.454 for Chagas disease. And so

NOTE Confidence: 0.97067994

00:10:10.454 --> 00:10:12.214 she started testing them, and

NOTE Confidence: 0.97067994

00:10:12.214 --> 00:10:13.735 she started understanding the disease

NOTE Confidence: 0.97067994

00:10:13.735 --> 00:10:15.255 was really, in the United

NOTE Confidence: 0.97067994

00:10:15.255 --> 00:10:17.095 States. She started publicizing this,

NOTE Confidence: 0.97067994

00:10:17.095 --> 00:10:18.554 and she developed the OliveU

NOTE Confidence: 0.9771388

00:10:19.014 --> 00:10:20.774 Center of Excellence for Chagas

NOTE Confidence: 0.9771388

00:10:20.774 --> 00:10:21.975 disease, which really is the

NOTE Confidence: 0.9771388

00:10:21.975 --> 00:10:23.334 only center of its kind

NOTE Confidence: 0.9771388

00:10:23.334 --> 00:10:24.870 in the United States. And

NOTE Confidence: 0.9771388

00:10:24.870 --> 00:10:25.750 all of us who think

NOTE Confidence: 0.9771388

00:10:25.750 --> 00:10:26.870 a lot about Chagas disease

NOTE Confidence: 0.9771388

00:10:26.870 --> 00:10:28.070 in the US owe her

NOTE Confidence: 0.9771388

00:10:28.070 --> 00:10:28.809 an incredible,
NOTE Confidence: 0.998122

00:10:29.350 --> 00:10:30.550 debt of gratitude for the
NOTE Confidence: 0.998122

00:10:30.550 --> 00:10:31.510 work that she's done and
NOTE Confidence: 0.998122

00:10:31.510 --> 00:10:32.650 continues to do.
NOTE Confidence: 0.97236

00:10:33.590 --> 00:10:34.870 Okay. So this is though
NOTE Confidence: 0.97236

00:10:35.030 --> 00:10:36.150 it it's certainly true that
NOTE Confidence: 0.97236

00:10:36.150 --> 00:10:37.350 about thirteen years ago, I
NOTE Confidence: 0.97236

00:10:37.350 --> 00:10:39.365 decided to focus very incredibly
NOTE Confidence: 0.97236

00:10:39.365 --> 00:10:40.885 myopically on Chagas disease, and
NOTE Confidence: 0.97236

00:10:40.885 --> 00:10:42.005 this is my thirteen years
NOTE Confidence: 0.97236

00:10:42.005 --> 00:10:42.665 of Lesocha.
NOTE Confidence: 0.994751

00:10:43.445 --> 00:10:44.105 We started,
NOTE Confidence: 0.9631212

00:10:44.565 --> 00:10:45.605 with the talk in the
NOTE Confidence: 0.9631212

00:10:45.605 --> 00:10:47.125 community. This was in December
NOTE Confidence: 0.9631212

00:10:47.125 --> 00:10:48.485 of twenty twelve, and then
NOTE Confidence: 0.9631212

00:10:48.485 --> 00:10:49.545 we started doing

NOTE Confidence: 0.92498785
00:10:50.085 --> 00:10:51.605 screening programs at the Bolivian
NOTE Confidence: 0.92498785
00:10:51.605 --> 00:10:53.125 mobile consulate program. So the
NOTE Confidence: 0.92498785
00:10:53.125 --> 00:10:54.105 Bolivian consulate,
NOTE Confidence: 0.88964844
00:10:54.620 --> 00:10:55.120 has,
NOTE Confidence: 0.9658124
00:10:55.580 --> 00:10:56.620 the ability to go out
NOTE Confidence: 0.9658124
00:10:56.620 --> 00:10:57.899 into the community on weekends
NOTE Confidence: 0.9658124
00:10:57.899 --> 00:10:58.779 so that people can come
NOTE Confidence: 0.9658124
00:10:58.779 --> 00:11:00.700 get their their, their passports
NOTE Confidence: 0.9658124
00:11:00.700 --> 00:11:02.080 processed and things like that.
NOTE Confidence: 0.9658124
00:11:02.140 --> 00:11:03.420 And we basically developed a
NOTE Confidence: 0.9658124
00:11:03.420 --> 00:11:04.620 convenient sample of people who
NOTE Confidence: 0.9658124
00:11:04.620 --> 00:11:05.980 were interested in getting tested
NOTE Confidence: 0.9658124
00:11:05.980 --> 00:11:07.415 for Chagas disease. And what
NOTE Confidence: 0.9658124
00:11:07.415 --> 00:11:08.774 we found very quickly was
NOTE Confidence: 0.9658124
00:11:08.774 --> 00:11:09.735 that we had a tremendous
NOTE Confidence: 0.9658124

00:11:09.735 --> 00:11:10.855 amount of Chagas disease in
NOTE Confidence: 0.9658124

00:11:10.855 --> 00:11:12.295 that population. So the we
NOTE Confidence: 0.9658124

00:11:12.295 --> 00:11:13.894 actually presented a a poster
NOTE Confidence: 0.9658124

00:11:13.894 --> 00:11:14.554 at ASTMNH
NOTE Confidence: 0.98875225

00:11:15.175 --> 00:11:16.934 later that year showing twenty
NOTE Confidence: 0.98875225

00:11:16.934 --> 00:11:18.454 five percent seroprevalence rate in
NOTE Confidence: 0.98875225

00:11:18.454 --> 00:11:19.559 the people that we saw.
NOTE Confidence: 0.98875225

00:11:19.960 --> 00:11:20.860 Crazy. Right?
NOTE Confidence: 0.98168945

00:11:21.400 --> 00:11:22.760 So then we,
NOTE Confidence: 0.9939941

00:11:23.160 --> 00:11:24.840 started doing more testing in
NOTE Confidence: 0.9939941

00:11:24.840 --> 00:11:26.700 the community with Johns Hopkins,
NOTE Confidence: 0.9511719

00:11:27.320 --> 00:11:29.580 as as, was alluded to.
NOTE Confidence: 0.94547486

00:11:30.120 --> 00:11:31.880 And we then with that
NOTE Confidence: 0.94547486

00:11:31.880 --> 00:11:34.045 John Johns Hopkins research project,
NOTE Confidence: 0.94547486

00:11:34.045 --> 00:11:34.684 which I'll tell you a
NOTE Confidence: 0.94547486

00:11:34.684 --> 00:11:35.804 little bit more about later,

NOTE Confidence: 0.94547486

00:11:35.804 --> 00:11:37.085 we inherited the patients that

NOTE Confidence: 0.94547486

00:11:37.085 --> 00:11:38.625 were identified through that seroprevalence

NOTE Confidence: 0.94547486

00:11:38.765 --> 00:11:39.565 study. And this is our

NOTE Confidence: 0.94547486

00:11:39.565 --> 00:11:40.765 our beginning of of our

NOTE Confidence: 0.94547486

00:11:40.765 --> 00:11:42.625 LaSoche continuity of care clinic.

NOTE Confidence: 0.94547486

00:11:42.765 --> 00:11:43.804 And here you can see

NOTE Confidence: 0.94547486

00:11:43.804 --> 00:11:45.985 some of my, my my,

NOTE Confidence: 0.971406

00:11:46.455 --> 00:11:47.959 my labor here. This is

NOTE Confidence: 0.971406

00:11:47.959 --> 00:11:49.079 my son, Saul, doing an

NOTE Confidence: 0.971406

00:11:49.079 --> 00:11:49.579 EKG

NOTE Confidence: 0.9932454

00:11:49.959 --> 00:11:50.760 on this patient.

NOTE Confidence: 0.9833781

00:11:51.320 --> 00:11:52.600 And what I should say

NOTE Confidence: 0.9833781

00:11:52.600 --> 00:11:53.500 is that we've,

NOTE Confidence: 0.9902344

00:11:54.279 --> 00:11:56.360 really benefited incredibly from very,

NOTE Confidence: 0.9902344

00:11:56.360 --> 00:11:57.800 very generous benefactors, one of

NOTE Confidence: 0.9902344

00:11:57.800 --> 00:11:59.079 whom lent us this EKG
NOTE Confidence: 0.9902344

00:11:59.079 --> 00:11:59.579 machine.
NOTE Confidence: 0.9589385

00:12:00.074 --> 00:12:01.774 Here we are doing educational
NOTE Confidence: 0.9589385

00:12:01.915 --> 00:12:03.595 activities in the community. This
NOTE Confidence: 0.9589385

00:12:03.595 --> 00:12:04.795 is at a program for
NOTE Confidence: 0.9589385

00:12:04.795 --> 00:12:06.154 Central American immigrants to get
NOTE Confidence: 0.9589385

00:12:06.154 --> 00:12:07.274 their citizenship. And so we
NOTE Confidence: 0.9589385

00:12:07.274 --> 00:12:08.394 went into the community to
NOTE Confidence: 0.9589385

00:12:08.394 --> 00:12:10.235 teach them about Chagas disease.
NOTE Confidence: 0.9589385

00:12:10.235 --> 00:12:11.694 This is particularly important,
NOTE Confidence: 0.97387373

00:12:12.570 --> 00:12:13.530 in at least in our
NOTE Confidence: 0.97387373

00:12:13.530 --> 00:12:14.730 neck of the woods for
NOTE Confidence: 0.97387373

00:12:14.730 --> 00:12:16.330 all immigrants from places other
NOTE Confidence: 0.97387373

00:12:16.330 --> 00:12:18.330 than Bolivia. Bolivians are incredibly
NOTE Confidence: 0.97387373

00:12:18.330 --> 00:12:19.690 knowledgeable about Chagas disease, and
NOTE Confidence: 0.97387373

00:12:19.690 --> 00:12:20.809 if you offer Chagas disease

NOTE Confidence: 0.97387373

00:12:20.809 --> 00:12:22.010 testing, they will come because

NOTE Confidence: 0.97387373

00:12:22.010 --> 00:12:22.970 they all know someone who's

NOTE Confidence: 0.97387373

00:12:22.970 --> 00:12:24.270 been impacted by the disease.

NOTE Confidence: 0.97387373

00:12:24.535 --> 00:12:25.895 But in Central America and

NOTE Confidence: 0.97387373

00:12:25.895 --> 00:12:27.175 in Mexico, the disease is

NOTE Confidence: 0.97387373

00:12:27.175 --> 00:12:28.215 much less well known, so

NOTE Confidence: 0.97387373

00:12:28.215 --> 00:12:29.495 people are much less likely

NOTE Confidence: 0.97387373

00:12:29.495 --> 00:12:30.455 to get the testing. And

NOTE Confidence: 0.97387373

00:12:30.455 --> 00:12:32.295 so educational activities are really

NOTE Confidence: 0.97387373

00:12:32.295 --> 00:12:32.795 important.

NOTE Confidence: 0.9721058

00:12:33.735 --> 00:12:35.275 This was a real milestone

NOTE Confidence: 0.9721058

00:12:35.335 --> 00:12:37.015 for us, around the pandemic.

NOTE Confidence: 0.9721058

00:12:37.015 --> 00:12:38.550 We actually were finally able

NOTE Confidence: 0.9721058

00:12:38.550 --> 00:12:39.910 to get buy in from

NOTE Confidence: 0.9721058

00:12:39.910 --> 00:12:41.670 a large scale safety net

NOTE Confidence: 0.9721058

00:12:41.670 --> 00:12:43.589 prenatal testing clinic in Northern
NOTE Confidence: 0.9721058

00:12:43.589 --> 00:12:45.269 Virginia, and we started testing
NOTE Confidence: 0.9721058

00:12:45.269 --> 00:12:46.230 with them at twenty eight
NOTE Confidence: 0.9721058

00:12:46.230 --> 00:12:47.350 weeks of pregnancy. To date,
NOTE Confidence: 0.9721058

00:12:47.350 --> 00:12:48.870 we've tested about five thousand
NOTE Confidence: 0.9721058

00:12:48.870 --> 00:12:50.149 women, and we found thirty
NOTE Confidence: 0.9721058

00:12:50.149 --> 00:12:51.610 one who have Chagas disease.
NOTE Confidence: 0.9721058

00:12:51.815 --> 00:12:53.434 While we haven't yet identified
NOTE Confidence: 0.9721058

00:12:53.575 --> 00:12:55.334 a baby with neonatal Chagas
NOTE Confidence: 0.9721058

00:12:55.334 --> 00:12:56.454 disease, we found a fifteen
NOTE Confidence: 0.9721058

00:12:56.454 --> 00:12:57.175 year old son of one
NOTE Confidence: 0.9721058

00:12:57.175 --> 00:12:58.135 of the moms, and one
NOTE Confidence: 0.9721058

00:12:58.135 --> 00:12:59.334 of the moms was sixteen
NOTE Confidence: 0.9721058

00:12:59.334 --> 00:13:00.535 when she got pregnant. And
NOTE Confidence: 0.9721058

00:13:00.535 --> 00:13:01.495 so we've been able to
NOTE Confidence: 0.9721058

00:13:01.495 --> 00:13:03.175 identify two children with Chagas

NOTE Confidence: 0.9721058

00:13:03.175 --> 00:13:03.675 disease.

NOTE Confidence: 0.98115236

00:13:04.615 --> 00:13:06.135 And that just feels like

NOTE Confidence: 0.98115236

00:13:06.135 --> 00:13:07.515 a huge win for us.

NOTE Confidence: 0.98943686

00:13:07.870 --> 00:13:08.990 We also have roped in

NOTE Confidence: 0.98943686

00:13:08.990 --> 00:13:10.510 Georgetown medical students to go

NOTE Confidence: 0.98943686

00:13:10.510 --> 00:13:11.630 with us out to screening

NOTE Confidence: 0.98943686

00:13:11.630 --> 00:13:12.830 fairs in the community, which

NOTE Confidence: 0.98943686

00:13:12.830 --> 00:13:13.630 we do a lot of,

NOTE Confidence: 0.98943686

00:13:13.630 --> 00:13:15.090 particularly in the summer months.

NOTE Confidence: 0.93633014

00:13:15.470 --> 00:13:16.910 We get donated in BIOS

NOTE Confidence: 0.93633014

00:13:16.910 --> 00:13:18.030 rapid test kits, which we

NOTE Confidence: 0.93633014

00:13:18.030 --> 00:13:19.150 use, and then we offer

NOTE Confidence: 0.93633014

00:13:19.150 --> 00:13:20.590 free confirmatory testing. All of

NOTE Confidence: 0.93633014

00:13:20.590 --> 00:13:21.705 our services are free.

NOTE Confidence: 0.99564314

00:13:22.265 --> 00:13:23.545 We've also partnered with some

NOTE Confidence: 0.99564314

00:13:23.545 --> 00:13:25.145 other organizations that do incredible
NOTE Confidence: 0.99564314

00:13:25.145 --> 00:13:26.345 work with Chagas disease. I
NOTE Confidence: 0.99564314

00:13:26.345 --> 00:13:27.405 was the team echocardiographer
NOTE Confidence: 0.97749346

00:13:27.865 --> 00:13:29.705 for Project Pacer International, which
NOTE Confidence: 0.97749346

00:13:29.705 --> 00:13:31.065 runs missions to Bolivia to
NOTE Confidence: 0.97749346

00:13:31.065 --> 00:13:32.525 put in pacemakers and defibrillators
NOTE Confidence: 0.97749346

00:13:32.745 --> 00:13:34.345 in individuals who can't afford
NOTE Confidence: 0.97749346

00:13:34.345 --> 00:13:36.679 them, which is many Bolivians.
NOTE Confidence: 0.96276325

00:13:37.860 --> 00:13:39.300 This just this year, we
NOTE Confidence: 0.96276325

00:13:39.300 --> 00:13:40.580 actually have now signed a
NOTE Confidence: 0.96276325

00:13:40.580 --> 00:13:42.179 formal agreement with the council
NOTE Confidence: 0.96276325

00:13:42.179 --> 00:13:43.540 of Bolivia that we have
NOTE Confidence: 0.96276325

00:13:43.540 --> 00:13:44.679 a formal relationship
NOTE Confidence: 0.9614133

00:13:44.980 --> 00:13:46.580 regarding Chagas disease testing and
NOTE Confidence: 0.9614133

00:13:46.580 --> 00:13:48.179 Chagas disease activities with the
NOTE Confidence: 0.9614133

00:13:48.179 --> 00:13:49.480 Bolivian immigrant community.

NOTE Confidence: 0.9649706

00:13:50.285 --> 00:13:51.884 I've been incredibly fortunate to

NOTE Confidence: 0.9649706

00:13:51.884 --> 00:13:52.605 be able to meet some

NOTE Confidence: 0.9649706

00:13:52.605 --> 00:13:53.565 of the luminaries in the

NOTE Confidence: 0.9649706

00:13:53.565 --> 00:13:54.524 world of Chagas. You might

NOTE Confidence: 0.9649706

00:13:54.524 --> 00:13:56.204 recognize Luis Echeverria and Carlos

NOTE Confidence: 0.9649706

00:13:56.204 --> 00:13:57.324 Murillo in this in this

NOTE Confidence: 0.9649706

00:13:57.324 --> 00:13:58.285 in this picture, and I've

NOTE Confidence: 0.9649706

00:13:58.285 --> 00:14:00.125 just filled really gratified that

NOTE Confidence: 0.9649706

00:14:00.125 --> 00:14:01.644 they they, they let me

NOTE Confidence: 0.9649706

00:14:01.644 --> 00:14:02.444 be in the picture with

NOTE Confidence: 0.9649706

00:14:02.444 --> 00:14:02.760 them.

NOTE Confidence: 0.9393771

00:14:03.960 --> 00:14:05.400 And also along the way,

NOTE Confidence: 0.9393771

00:14:05.400 --> 00:14:06.520 some other there are other

NOTE Confidence: 0.9393771

00:14:06.520 --> 00:14:07.400 folks doing this work in

NOTE Confidence: 0.9393771

00:14:07.400 --> 00:14:08.520 the United States, and this

NOTE Confidence: 0.9393771

00:14:08.520 --> 00:14:10.059 is the US Chagas disease
NOTE Confidence: 0.9393771

00:14:10.120 --> 00:14:12.520 clinicians network, which has now,
NOTE Confidence: 0.9788615

00:14:13.000 --> 00:14:14.280 not quite monthly, but maybe
NOTE Confidence: 0.9788615

00:14:14.280 --> 00:14:15.820 quarterly meetings to do educational
NOTE Confidence: 0.9788615

00:14:15.880 --> 00:14:17.400 activities about Chagas disease. So
NOTE Confidence: 0.9788615

00:14:17.400 --> 00:14:18.440 we're really thrilled to see
NOTE Confidence: 0.9788615

00:14:18.440 --> 00:14:19.334 that there are people who
NOTE Confidence: 0.9788615

00:14:19.334 --> 00:14:20.675 are gathering interest
NOTE Confidence: 0.9535319

00:14:21.055 --> 00:14:22.995 here today. And then Bernardo,
NOTE Confidence: 0.9535319

00:14:23.214 --> 00:14:24.415 has included me in c
NOTE Confidence: 0.9535319

00:14:24.415 --> 00:14:25.635 day, which is just wonderful.
NOTE Confidence: 0.93288636

00:14:26.175 --> 00:14:27.615 And now most recently, I'm
NOTE Confidence: 0.93288636

00:14:27.615 --> 00:14:29.214 at NIH and I'm starting
NOTE Confidence: 0.93288636

00:14:29.214 --> 00:14:30.274 a Chagas cardiomyopathy
NOTE Confidence: 0.9287245

00:14:30.654 --> 00:14:31.855 project there, and I'm hoping
NOTE Confidence: 0.9287245

00:14:31.855 --> 00:14:33.300 to get referrals from from

NOTE Confidence: 0.9287245

00:14:33.380 --> 00:14:35.140 for peoples, to help me

NOTE Confidence: 0.9287245

00:14:35.140 --> 00:14:35.880 with my studies.

NOTE Confidence: 0.9869443

00:14:36.500 --> 00:14:38.100 And finally, we were part

NOTE Confidence: 0.9869443

00:14:38.100 --> 00:14:39.220 of the first annual US

NOTE Confidence: 0.9869443

00:14:39.220 --> 00:14:41.060 Chagas disease meeting, that occurred

NOTE Confidence: 0.9869443

00:14:41.060 --> 00:14:42.260 at Tulane right around the

NOTE Confidence: 0.9869443

00:14:42.260 --> 00:14:42.760 ACC,

NOTE Confidence: 0.94472367

00:14:43.140 --> 00:14:44.100 which was really a a

NOTE Confidence: 0.94472367

00:14:44.100 --> 00:14:45.940 wonderful a wonderful sort of

NOTE Confidence: 0.94472367

00:14:45.940 --> 00:14:47.380 coalescence of some of the

NOTE Confidence: 0.94472367

00:14:47.380 --> 00:14:48.200 people. Unfortunately,

NOTE Confidence: 0.9799468

00:14:48.755 --> 00:14:50.115 we didn't have everybody, but,

NOTE Confidence: 0.9799468

00:14:50.515 --> 00:14:51.475 but we're hoping that in

NOTE Confidence: 0.9799468

00:14:51.475 --> 00:14:52.355 the years to come, we

NOTE Confidence: 0.9799468

00:14:52.355 --> 00:14:54.135 can actually gather steam. So

NOTE Confidence: 0.9799468

00:14:54.195 --> 00:14:54.995 this is what I've been
NOTE Confidence: 0.9799468

00:14:54.995 --> 00:14:56.295 doing with Chagas disease.
NOTE Confidence: 0.99658203

00:14:56.675 --> 00:14:57.175 Okay.
NOTE Confidence: 0.9600541

00:14:57.635 --> 00:14:58.595 This is a patient of
NOTE Confidence: 0.9600541

00:14:58.595 --> 00:15:00.035 mine who I met when
NOTE Confidence: 0.9600541

00:15:00.035 --> 00:15:02.010 he, had an LVAD place
NOTE Confidence: 0.9600541

00:15:02.010 --> 00:15:02.990 for Chaga's cardiomyopathy,
NOTE Confidence: 0.99498403

00:15:03.290 --> 00:15:04.170 and I thought it's important
NOTE Confidence: 0.99498403

00:15:04.170 --> 00:15:05.210 to sort of return us
NOTE Confidence: 0.99498403

00:15:05.210 --> 00:15:06.010 to the world of the
NOTE Confidence: 0.99498403

00:15:06.010 --> 00:15:07.130 patients now because that's why
NOTE Confidence: 0.99498403

00:15:07.130 --> 00:15:07.790 we're here.
NOTE Confidence: 0.9935303

00:15:08.410 --> 00:15:09.950 And I will hopefully
NOTE Confidence: 0.99780273

00:15:10.650 --> 00:15:11.790 get this to play.
NOTE Confidence: 0.96198624

00:15:58.080 --> 00:15:59.520 So just to stop and
NOTE Confidence: 0.96198624

00:15:59.520 --> 00:16:00.400 and talk a little bit

NOTE Confidence: 0.96198624

00:16:00.400 --> 00:16:01.920 about Carlos, he was an

NOTE Confidence: 0.96198624

00:16:01.920 --> 00:16:03.920 amazing went through his LVAD,

NOTE Confidence: 0.96198624

00:16:03.920 --> 00:16:05.220 went through his heart transplant.

NOTE Confidence: 0.96198624

00:16:05.360 --> 00:16:06.500 I went to the hospital

NOTE Confidence: 0.96198624

00:16:06.720 --> 00:16:07.760 to meet with him after

NOTE Confidence: 0.96198624

00:16:07.760 --> 00:16:08.960 he had his transplant, tried

NOTE Confidence: 0.96198624

00:16:08.960 --> 00:16:10.000 to get his family to

NOTE Confidence: 0.96198624

00:16:10.000 --> 00:16:11.200 do testing because as we

NOTE Confidence: 0.96198624

00:16:11.200 --> 00:16:12.665 are aware, family members of

NOTE Confidence: 0.96198624

00:16:12.665 --> 00:16:14.024 an individual with Chagas disease

NOTE Confidence: 0.96198624

00:16:14.024 --> 00:16:15.464 are considerably higher risk for

NOTE Confidence: 0.96198624

00:16:15.464 --> 00:16:16.904 that. They did not want

NOTE Confidence: 0.96198624

00:16:16.904 --> 00:16:17.404 it,

NOTE Confidence: 0.9861904

00:16:17.945 --> 00:16:19.485 in spite of multiple efforts.

NOTE Confidence: 0.9861904

00:16:19.785 --> 00:16:21.625 And, unfortunately, very recently, his

NOTE Confidence: 0.9861904

00:16:21.625 --> 00:16:22.665 brother was admitted to the
NOTE Confidence: 0.9861904

00:16:22.665 --> 00:16:23.865 hospital with stage d heart
NOTE Confidence: 0.9861904

00:16:23.865 --> 00:16:25.245 failure with Chagas cardiomyopathy.
NOTE Confidence: 0.9787002

00:16:26.170 --> 00:16:27.530 The other thing that is
NOTE Confidence: 0.9787002

00:16:27.530 --> 00:16:28.570 true of some of these
NOTE Confidence: 0.9787002

00:16:28.570 --> 00:16:29.850 patients is that it's very
NOTE Confidence: 0.9787002

00:16:29.850 --> 00:16:30.890 difficult for them to take
NOTE Confidence: 0.9787002

00:16:30.890 --> 00:16:31.930 time off from work. And,
NOTE Confidence: 0.9787002

00:16:31.930 --> 00:16:33.290 unfortunately, Carlos was one of
NOTE Confidence: 0.9787002

00:16:33.290 --> 00:16:34.730 those individuals, and he was,
NOTE Confidence: 0.9787002

00:16:35.210 --> 00:16:36.890 probably unable to get his
NOTE Confidence: 0.9787002

00:16:36.890 --> 00:16:37.390 medications,
NOTE Confidence: 0.90926105

00:16:38.090 --> 00:16:40.095 and, unfortunately, died probably from
NOTE Confidence: 0.90926105

00:16:40.095 --> 00:16:40.595 rejection.
NOTE Confidence: 0.9957455

00:16:41.135 --> 00:16:42.015 So this is the world
NOTE Confidence: 0.9957455

00:16:42.015 --> 00:16:43.295 in which these immigrants live.

NOTE Confidence: 0.9957455
00:16:43.295 --> 00:16:44.255 If they're lucky enough to
NOTE Confidence: 0.9957455
00:16:44.255 --> 00:16:45.235 be able to get transplants,
NOTE Confidence: 0.9957455
00:16:45.295 --> 00:16:46.915 they still are are really,
NOTE Confidence: 0.99912107
00:16:47.375 --> 00:16:48.415 having a hard time getting
NOTE Confidence: 0.99912107
00:16:48.415 --> 00:16:49.475 the care that they need.
NOTE Confidence: 0.9530191
00:16:49.855 --> 00:16:51.214 So now to go back
NOTE Confidence: 0.9530191
00:16:51.214 --> 00:16:52.015 up to sort of a
NOTE Confidence: 0.9530191
00:16:52.015 --> 00:16:53.670 fifty thousand foot view, one
NOTE Confidence: 0.9530191
00:16:53.829 --> 00:16:54.550 of the things I do
NOTE Confidence: 0.9530191
00:16:54.550 --> 00:16:55.029 like to do is to
NOTE Confidence: 0.9530191
00:16:55.029 --> 00:16:56.649 raise awareness of Chagas disease.
NOTE Confidence: 0.9530191
00:16:56.709 --> 00:16:57.750 And this is from the
NOTE Confidence: 0.9530191
00:16:57.750 --> 00:16:59.110 RAISE study, which is recently
NOTE Confidence: 0.9530191
00:16:59.110 --> 00:17:00.230 published data. And I did
NOTE Confidence: 0.9530191
00:17:00.230 --> 00:17:01.750 wanna point your, point your
NOTE Confidence: 0.9530191

00:17:01.750 --> 00:17:02.709 attention to a couple of
NOTE Confidence: 0.9530191

00:17:02.709 --> 00:17:04.070 things here. First of all,
NOTE Confidence: 0.9530191

00:17:04.070 --> 00:17:05.109 the number of cases were
NOTE Confidence: 0.9530191

00:17:05.109 --> 00:17:06.549 estimated in nineteen ninety to
NOTE Confidence: 0.9530191

00:17:06.549 --> 00:17:07.910 be twelve thou twelve million
NOTE Confidence: 0.9530191

00:17:07.910 --> 00:17:09.565 six hundred thousand. And usually
NOTE Confidence: 0.9530191

00:17:09.565 --> 00:17:10.525 now, most of us when
NOTE Confidence: 0.9530191

00:17:10.525 --> 00:17:11.645 we're giving talks will cite
NOTE Confidence: 0.9530191

00:17:11.645 --> 00:17:12.925 a number of about five,
NOTE Confidence: 0.9530191

00:17:12.925 --> 00:17:14.525 seven, six million people still
NOTE Confidence: 0.9530191

00:17:14.525 --> 00:17:15.585 with Chagas disease.
NOTE Confidence: 0.9703369

00:17:15.965 --> 00:17:17.005 All of a sudden, Tom
NOTE Confidence: 0.9703369

00:17:17.005 --> 00:17:19.185 Ribeiro, who from from Brazil,
NOTE Confidence: 0.9967448

00:17:19.725 --> 00:17:21.105 has actually incredibly
NOTE Confidence: 0.9337158

00:17:21.910 --> 00:17:23.910 uptitrated this number looking now
NOTE Confidence: 0.9337158

00:17:23.910 --> 00:17:25.510 at ten million people. So

NOTE Confidence: 0.9337158
00:17:25.510 --> 00:17:26.470 all of the the sort
NOTE Confidence: 0.9337158
00:17:26.470 --> 00:17:26.970 of,
NOTE Confidence: 0.9789928
00:17:27.430 --> 00:17:28.390 pry we were having in
NOTE Confidence: 0.9789928
00:17:28.390 --> 00:17:29.750 the reduced number of cases,
NOTE Confidence: 0.9789928
00:17:29.750 --> 00:17:30.630 we have to step that
NOTE Confidence: 0.9789928
00:17:30.630 --> 00:17:32.250 back a tiny bit. Nevertheless,
NOTE Confidence: 0.9789928
00:17:32.310 --> 00:17:33.450 there has been a decrease
NOTE Confidence: 0.9789928
00:17:33.510 --> 00:17:34.875 in in patients over the
NOTE Confidence: 0.9789928
00:17:34.875 --> 00:17:36.075 course of the years, probably
NOTE Confidence: 0.9789928
00:17:36.075 --> 00:17:37.275 due to incredible efforts like
NOTE Confidence: 0.9789928
00:17:37.275 --> 00:17:38.415 the Southern Cone initiative.
NOTE Confidence: 0.94095284
00:17:38.875 --> 00:17:39.915 But we are seeing when
NOTE Confidence: 0.94095284
00:17:39.915 --> 00:17:41.035 you look over here is
NOTE Confidence: 0.94095284
00:17:41.035 --> 00:17:41.994 that the aging of the
NOTE Confidence: 0.94095284
00:17:41.994 --> 00:17:43.435 patients is actually the the
NOTE Confidence: 0.94095284

00:17:43.435 --> 00:17:44.315 patients are moving to an
NOTE Confidence: 0.94095284

00:17:44.315 --> 00:17:45.375 older age range,
NOTE Confidence: 0.9610877

00:17:45.675 --> 00:17:46.715 which means something about the
NOTE Confidence: 0.9610877

00:17:46.715 --> 00:17:47.595 patients that we need to
NOTE Confidence: 0.9610877

00:17:47.595 --> 00:17:48.475 be thinking about looking for
NOTE Confidence: 0.9610877

00:17:48.475 --> 00:17:49.755 Chagas disease in and expecting
NOTE Confidence: 0.9610877

00:17:49.755 --> 00:17:51.010 it. But also these are
NOTE Confidence: 0.9610877

00:17:51.010 --> 00:17:52.210 patients who are now gathering
NOTE Confidence: 0.9610877

00:17:52.210 --> 00:17:52.710 comorbidities.
NOTE Confidence: 0.9816732

00:17:53.010 --> 00:17:53.810 And so these are now
NOTE Confidence: 0.9816732

00:17:53.810 --> 00:17:55.170 patients who have diabetes. They
NOTE Confidence: 0.9816732

00:17:55.170 --> 00:17:57.030 now have, they have hypertension,
NOTE Confidence: 0.9875113

00:17:57.410 --> 00:17:58.290 and so we're now having
NOTE Confidence: 0.9875113

00:17:58.290 --> 00:17:59.490 to treat them for multiple,
NOTE Confidence: 0.9875113

00:17:59.650 --> 00:18:00.869 chronic medical conditions.
NOTE Confidence: 0.96329755

00:18:01.890 --> 00:18:02.930 I did wanna point out

NOTE Confidence: 0.96329755

00:18:02.930 --> 00:18:04.210 there we're still having about

NOTE Confidence: 0.96329755

00:18:04.210 --> 00:18:06.095 eight million eight hundred eight

NOTE Confidence: 0.96329755

00:18:06.095 --> 00:18:07.775 thousand, goodness me, deaths per

NOTE Confidence: 0.96329755

00:18:07.775 --> 00:18:08.275 year.

NOTE Confidence: 0.9737956

00:18:08.575 --> 00:18:09.615 And I did wanna add

NOTE Confidence: 0.9737956

00:18:09.615 --> 00:18:10.115 here,

NOTE Confidence: 0.9728238

00:18:11.775 --> 00:18:13.135 if I can, a map

NOTE Confidence: 0.9728238

00:18:13.135 --> 00:18:14.175 of the United States and

NOTE Confidence: 0.9728238

00:18:14.175 --> 00:18:15.135 talk about the figures that

NOTE Confidence: 0.9728238

00:18:15.135 --> 00:18:16.175 we usually quote in the

NOTE Confidence: 0.9728238

00:18:16.175 --> 00:18:17.215 United States. So there have

NOTE Confidence: 0.9728238

00:18:17.215 --> 00:18:18.430 been estimates now over the

NOTE Confidence: 0.9728238

00:18:18.430 --> 00:18:19.550 course of the past two

NOTE Confidence: 0.9728238

00:18:19.550 --> 00:18:20.990 decades, really, of of about

NOTE Confidence: 0.9728238

00:18:20.990 --> 00:18:22.350 three hundred thousand cases of

NOTE Confidence: 0.9728238

00:18:22.350 --> 00:18:23.550 Chagas disease in the United
NOTE Confidence: 0.9728238
00:18:23.550 --> 00:18:24.050 States.
NOTE Confidence: 0.9750163
00:18:24.510 --> 00:18:25.570 Using this data,
NOTE Confidence: 1
00:18:25.950 --> 00:18:26.690 and using
NOTE Confidence: 0.94506025
00:18:27.070 --> 00:18:28.369 some of the new migratory
NOTE Confidence: 0.94506025
00:18:28.590 --> 00:18:30.750 pattern data, some researchers from
NOTE Confidence: 0.94506025
00:18:30.750 --> 00:18:32.109 Johns Hopkins who were were
NOTE Confidence: 0.94506025
00:18:32.109 --> 00:18:33.570 doing a a DALY analysis
NOTE Confidence: 0.9789734
00:18:35.725 --> 00:18:35.896 of Chagas disease have actually
NOTE Confidence: 0.9789734
00:18:35.896 --> 00:18:36.445 significantly ratcheted up the number
NOTE Confidence: 0.9789734
00:18:36.445 --> 00:18:37.805 of estimated cases. So now
NOTE Confidence: 0.9789734
00:18:37.805 --> 00:18:39.005 we're thinking about four hundred
NOTE Confidence: 0.9789734
00:18:39.005 --> 00:18:39.965 and twenty seven. That's a
NOTE Confidence: 0.9789734
00:18:39.965 --> 00:18:41.244 very precise number, but but
NOTE Confidence: 0.9789734
00:18:41.244 --> 00:18:42.285 higher than what we usually
NOTE Confidence: 0.9789734
00:18:42.285 --> 00:18:44.045 were thinking of with about

NOTE Confidence: 0.9789734

00:18:44.045 --> 00:18:45.805 eighty two thousand having Chagas

NOTE Confidence: 0.9789734

00:18:45.805 --> 00:18:46.305 cardiomyopathy.

NOTE Confidence: 0.9936745

00:18:46.685 --> 00:18:48.045 So that's the backdrop of

NOTE Confidence: 0.9936745

00:18:48.045 --> 00:18:49.244 what we think we're dealing

NOTE Confidence: 0.9936745

00:18:49.244 --> 00:18:49.619 with,

NOTE Confidence: 0.9440918

00:18:50.180 --> 00:18:51.720 you know, plus or minus

NOTE Confidence: 0.9440918

00:18:51.780 --> 00:18:53.080 ten thousand. I don't know.

NOTE Confidence: 0.9818077

00:18:53.540 --> 00:18:54.980 In any event, so how

NOTE Confidence: 0.9818077

00:18:54.980 --> 00:18:56.100 does this make me feel

NOTE Confidence: 0.9818077

00:18:56.100 --> 00:18:57.700 like this? So we're trying

NOTE Confidence: 0.9818077

00:18:57.700 --> 00:18:58.820 hard. We're trying to do

NOTE Confidence: 0.9818077

00:18:58.820 --> 00:18:59.619 what we can do. But

NOTE Confidence: 0.9818077

00:18:59.619 --> 00:19:00.420 all of a sudden, now

NOTE Confidence: 0.9818077

00:19:00.420 --> 00:19:01.619 we've gone from six million

NOTE Confidence: 0.9818077

00:19:01.619 --> 00:19:02.980 cases to ten million cases.

NOTE Confidence: 0.9818077

00:19:02.980 --> 00:19:03.940 We've gone from three hundred
NOTE Confidence: 0.9818077

00:19:03.940 --> 00:19:05.059 thousand cases in the United
NOTE Confidence: 0.9818077

00:19:05.059 --> 00:19:06.284 States to four hundred and
NOTE Confidence: 0.9818077

00:19:06.284 --> 00:19:07.404 seventy thousand cases in the
NOTE Confidence: 0.9818077

00:19:07.404 --> 00:19:08.784 United States. From fifty
NOTE Confidence: 0.8833008

00:19:09.164 --> 00:19:09.664 seven,
NOTE Confidence: 0.99609375

00:19:10.205 --> 00:19:10.705 thousand
NOTE Confidence: 0.9424633

00:19:11.085 --> 00:19:13.164 Chagas cardiomyopathy to eighty thousand.
NOTE Confidence: 0.9424633

00:19:13.164 --> 00:19:14.205 So our our work is
NOTE Confidence: 0.9424633

00:19:14.205 --> 00:19:15.825 even getting harder for us
NOTE Confidence: 0.9424633

00:19:16.044 --> 00:19:16.924 as we get more and
NOTE Confidence: 0.9424633

00:19:16.924 --> 00:19:17.585 more data,
NOTE Confidence: 0.9995117

00:19:18.445 --> 00:19:19.424 in any event.
NOTE Confidence: 0.9646172

00:19:20.150 --> 00:19:22.150 Okay. So and we really
NOTE Confidence: 0.9646172

00:19:22.150 --> 00:19:23.029 do need to still work
NOTE Confidence: 0.9646172

00:19:23.029 --> 00:19:24.390 on raising awareness of Chagas

NOTE Confidence: 0.9646172

00:19:24.390 --> 00:19:25.990 disease. So I I I've

NOTE Confidence: 0.9646172

00:19:25.990 --> 00:19:27.590 highlighted here, something that I

NOTE Confidence: 0.9646172

00:19:27.590 --> 00:19:28.710 think, Bernardo, you put up

NOTE Confidence: 0.9646172

00:19:28.710 --> 00:19:29.429 on on one of your

NOTE Confidence: 0.9646172

00:19:29.429 --> 00:19:30.390 slides, which is work from

NOTE Confidence: 0.9646172

00:19:30.390 --> 00:19:31.590 Erica Ryack, who was here

NOTE Confidence: 0.9646172

00:19:31.590 --> 00:19:33.190 getting a degree in public

NOTE Confidence: 0.9646172

00:19:33.190 --> 00:19:33.690 health,

NOTE Confidence: 0.9792119

00:19:34.045 --> 00:19:34.845 who was looking at Chagas

NOTE Confidence: 0.9792119

00:19:34.845 --> 00:19:36.685 disease screening awareness practices and

NOTE Confidence: 0.9792119

00:19:36.685 --> 00:19:38.045 perceived barriers among health care

NOTE Confidence: 0.9792119

00:19:38.045 --> 00:19:39.185 providers in Connecticut.

NOTE Confidence: 0.98713917

00:19:39.725 --> 00:19:40.845 And these are just some

NOTE Confidence: 0.98713917

00:19:40.845 --> 00:19:42.125 of many studies that have

NOTE Confidence: 0.98713917

00:19:42.125 --> 00:19:43.165 shown that there's a real

NOTE Confidence: 0.98713917

00:19:43.165 --> 00:19:44.445 lack of awareness of Chagas
NOTE Confidence: 0.98713917

00:19:44.445 --> 00:19:45.325 disease in the in the
NOTE Confidence: 0.98713917

00:19:45.325 --> 00:19:46.765 provider community. And one of
NOTE Confidence: 0.98713917

00:19:46.765 --> 00:19:47.645 the problems that I have
NOTE Confidence: 0.98713917

00:19:47.645 --> 00:19:48.840 with some of these data,
NOTE Confidence: 0.98713917

00:19:48.919 --> 00:19:50.039 these data that look at
NOTE Confidence: 0.98713917

00:19:50.039 --> 00:19:51.480 people sending out surveys and
NOTE Confidence: 0.98713917

00:19:51.480 --> 00:19:52.840 asking people to complete them
NOTE Confidence: 0.98713917

00:19:52.840 --> 00:19:54.119 is I think there's selection
NOTE Confidence: 0.98713917

00:19:54.119 --> 00:19:55.400 bias. I think if somebody
NOTE Confidence: 0.98713917

00:19:55.400 --> 00:19:56.520 sent me something about Chagas
NOTE Confidence: 0.98713917

00:19:56.520 --> 00:19:57.640 disease, I would fill it
NOTE Confidence: 0.98713917

00:19:57.640 --> 00:19:59.080 in. If somebody sent something
NOTE Confidence: 0.98713917

00:19:59.080 --> 00:20:00.440 about Chagas disease to somebody
NOTE Confidence: 0.98713917

00:20:00.440 --> 00:20:01.480 who doesn't know anything about
NOTE Confidence: 0.98713917

00:20:01.480 --> 00:20:02.885 Chagas disease, maybe they would

NOTE Confidence: 0.98713917
00:20:02.885 --> 00:20:04.244 delete that email. So I
NOTE Confidence: 0.98713917
00:20:04.244 --> 00:20:05.605 think that while we do
NOTE Confidence: 0.98713917
00:20:05.605 --> 00:20:06.484 see that there is some
NOTE Confidence: 0.98713917
00:20:06.484 --> 00:20:07.845 awareness of Chagas disease, it's
NOTE Confidence: 0.98713917
00:20:07.845 --> 00:20:08.885 not that nobody knows about
NOTE Confidence: 0.98713917
00:20:08.885 --> 00:20:09.845 it. I am a little
NOTE Confidence: 0.98713917
00:20:09.845 --> 00:20:10.804 bit worried that it's the
NOTE Confidence: 0.98713917
00:20:10.804 --> 00:20:12.484 people that didn't reply to
NOTE Confidence: 0.98713917
00:20:12.484 --> 00:20:13.924 these surveys that we really
NOTE Confidence: 0.98713917
00:20:13.924 --> 00:20:14.984 have to worry about.
NOTE Confidence: 0.97421694
00:20:16.070 --> 00:20:16.950 And so this is I'm
NOTE Confidence: 0.97421694
00:20:16.950 --> 00:20:17.670 sorry. I should have put
NOTE Confidence: 0.97421694
00:20:17.670 --> 00:20:19.109 that up there first. Okay.
NOTE Confidence: 0.97421694
00:20:19.109 --> 00:20:20.230 So now to dial back,
NOTE Confidence: 0.97421694
00:20:20.230 --> 00:20:21.109 just to make sure everybody
NOTE Confidence: 0.97421694

00:20:21.109 --> 00:20:22.150 in the room actually knows
NOTE Confidence: 0.97421694

00:20:22.150 --> 00:20:23.530 what Chagas disease is.
NOTE Confidence: 0.9968804

00:20:23.990 --> 00:20:25.830 Chagas disease is an infection
NOTE Confidence: 0.9968804

00:20:25.830 --> 00:20:27.290 with this beautiful hemoflagellate
NOTE Confidence: 0.9746094

00:20:27.830 --> 00:20:29.429 parasite. It's a zoonosis, so
NOTE Confidence: 0.9746094

00:20:29.429 --> 00:20:30.710 it can affect any mammalian
NOTE Confidence: 0.9746094

00:20:30.710 --> 00:20:31.210 species.
NOTE Confidence: 0.96319395

00:20:32.305 --> 00:20:34.065 And it likes to lodge
NOTE Confidence: 0.96319395

00:20:34.065 --> 00:20:35.665 itself in smooth muscle linings
NOTE Confidence: 0.96319395

00:20:35.665 --> 00:20:36.465 of the heart and of
NOTE Confidence: 0.96319395

00:20:36.465 --> 00:20:37.825 the GI tract and and
NOTE Confidence: 0.96319395

00:20:37.825 --> 00:20:39.365 of the central nervous system,
NOTE Confidence: 0.96319395

00:20:39.585 --> 00:20:40.625 and it can lead to
NOTE Confidence: 0.96319395

00:20:40.625 --> 00:20:42.085 a chronic lymphocytic,
NOTE Confidence: 0.96745604

00:20:42.465 --> 00:20:44.145 in some cases, fairly indolent
NOTE Confidence: 0.96745604

00:20:44.145 --> 00:20:45.585 myocarditis, which is really why

NOTE Confidence: 0.96745604
00:20:45.585 --> 00:20:47.109 we think about it in
NOTE Confidence: 0.96745604
00:20:47.109 --> 00:20:48.810 the in the cardiology community.
NOTE Confidence: 0.9838596
00:20:49.510 --> 00:20:50.550 Who is likely to get
NOTE Confidence: 0.9838596
00:20:50.550 --> 00:20:52.410 it? So in general,
NOTE Confidence: 0.9971474
00:20:52.869 --> 00:20:54.310 for vector borne disease, it's
NOTE Confidence: 0.9971474
00:20:54.310 --> 00:20:55.270 somebody who's lived in a
NOTE Confidence: 0.9971474
00:20:55.270 --> 00:20:56.150 house that has a wall
NOTE Confidence: 0.9971474
00:20:56.150 --> 00:20:57.210 that looks like this.
NOTE Confidence: 0.9707504
00:20:57.510 --> 00:20:58.515 You can see it's plastered
NOTE Confidence: 0.9707504
00:20:58.515 --> 00:20:59.875 and somebody's pulled a piece
NOTE Confidence: 0.9707504
00:20:59.875 --> 00:21:00.675 of the plaster off of
NOTE Confidence: 0.9707504
00:21:00.675 --> 00:21:01.395 the wall, and you can
NOTE Confidence: 0.9707504
00:21:01.395 --> 00:21:02.835 see these bugs sitting here,
NOTE Confidence: 0.9707504
00:21:03.075 --> 00:21:04.195 ready to go ahead and
NOTE Confidence: 0.9707504
00:21:04.195 --> 00:21:04.695 bite.
NOTE Confidence: 0.9932739

00:21:05.315 --> 00:21:06.915 In general, we think and
NOTE Confidence: 0.9932739

00:21:06.915 --> 00:21:08.115 and this is really interesting
NOTE Confidence: 0.9932739

00:21:08.115 --> 00:21:09.315 to hear what doctor Hamer
NOTE Confidence: 0.9932739

00:21:09.315 --> 00:21:10.855 was talking about earlier today,
NOTE Confidence: 0.9905974

00:21:11.330 --> 00:21:12.210 that you really need to
NOTE Confidence: 0.9905974

00:21:12.210 --> 00:21:14.210 have repetitive and sustained exposure
NOTE Confidence: 0.9905974

00:21:14.210 --> 00:21:15.650 to these bugs in order
NOTE Confidence: 0.9905974

00:21:15.650 --> 00:21:16.609 to contract a case. And
NOTE Confidence: 0.9905974

00:21:16.609 --> 00:21:18.450 there's been some statistical modeling
NOTE Confidence: 0.9905974

00:21:18.450 --> 00:21:19.410 that has said you need
NOTE Confidence: 0.9905974

00:21:19.410 --> 00:21:20.930 somewhere between nine hundred and
NOTE Confidence: 0.9905974

00:21:20.930 --> 00:21:21.990 a couple of thousand,
NOTE Confidence: 0.83690536

00:21:23.010 --> 00:21:24.530 in interactions with one of
NOTE Confidence: 0.83690536

00:21:24.530 --> 00:21:25.770 these bugs because the the
NOTE Confidence: 0.83690536

00:21:25.770 --> 00:21:25.970 mechanism of transmission is not
NOTE Confidence: 0.83690536

00:21:25.970 --> 00:21:26.170 really all that effective. And

NOTE Confidence: 0.83690536
00:21:26.170 --> 00:21:26.369 that matters when we think
NOTE Confidence: 0.83690536
00:21:26.369 --> 00:21:27.484 about shock transmission
NOTE Confidence: 0.8963645
00:21:28.184 --> 00:21:29.161 is not really all that
NOTE Confidence: 0.8963645
00:21:29.161 --> 00:21:30.211 effective. And that matters when
NOTE Confidence: 0.8963645
00:21:30.211 --> 00:21:31.465 we think about Chagas disease,
NOTE Confidence: 0.8963645
00:21:31.785 --> 00:21:32.765 in the United States.
NOTE Confidence: 0.90419924
00:21:33.385 --> 00:21:34.265 So this is what the
NOTE Confidence: 0.90419924
00:21:34.265 --> 00:21:36.105 bug looks like. And there
NOTE Confidence: 0.90419924
00:21:36.105 --> 00:21:37.165 are a variety of different
NOTE Confidence: 0.9550407
00:21:37.545 --> 00:21:39.304 kinds of bugs and people
NOTE Confidence: 0.9550407
00:21:39.304 --> 00:21:40.505 from a variety of different
NOTE Confidence: 0.9550407
00:21:40.505 --> 00:21:41.785 countries call it a different
NOTE Confidence: 0.9550407
00:21:41.785 --> 00:21:43.030 name. And the one that's
NOTE Confidence: 0.9550407
00:21:43.030 --> 00:21:44.630 particularly difficult for me is
NOTE Confidence: 0.9550407
00:21:44.630 --> 00:21:45.910 Chinche, which is what it's
NOTE Confidence: 0.9550407

00:21:45.910 --> 00:21:47.430 called in Central America because

NOTE Confidence: 0.9550407

00:21:47.430 --> 00:21:48.550 the problem is that people

NOTE Confidence: 0.9550407

00:21:48.550 --> 00:21:49.609 in the United States

NOTE Confidence: 0.96747875

00:21:49.910 --> 00:21:51.590 call bedbugs Chinche. And so

NOTE Confidence: 0.96747875

00:21:51.590 --> 00:21:52.390 if you ask people if

NOTE Confidence: 0.96747875

00:21:52.390 --> 00:21:53.270 they know their Chinche, they're

NOTE Confidence: 0.96747875

00:21:53.270 --> 00:21:54.070 gonna say yes, and then

NOTE Confidence: 0.96747875

00:21:54.070 --> 00:21:55.030 they're gonna think it's this

NOTE Confidence: 0.96747875

00:21:55.109 --> 00:21:56.455 the the bedbug. Why does

NOTE Confidence: 0.96747875

00:21:56.455 --> 00:21:57.735 it matter? Well, because if

NOTE Confidence: 0.96747875

00:21:57.735 --> 00:21:59.255 somebody recognizes the bug, they

NOTE Confidence: 0.96747875

00:21:59.255 --> 00:22:00.295 really are at higher risk

NOTE Confidence: 0.96747875

00:22:00.295 --> 00:22:01.415 for having the disease, which

NOTE Confidence: 0.96747875

00:22:01.415 --> 00:22:02.535 I'm not saying that you

NOTE Confidence: 0.96747875

00:22:02.535 --> 00:22:04.055 shouldn't test somebody who doesn't

NOTE Confidence: 0.96747875

00:22:04.055 --> 00:22:05.255 recognize the bug, but we

NOTE Confidence: 0.96747875
00:22:05.255 --> 00:22:06.455 do know that having some
NOTE Confidence: 0.96747875
00:22:06.455 --> 00:22:07.655 familiarity with the bug is
NOTE Confidence: 0.96747875
00:22:07.655 --> 00:22:08.430 really a problem.
NOTE Confidence: 0.9998277
00:22:08.910 --> 00:22:09.710 And what you do see
NOTE Confidence: 0.9998277
00:22:09.710 --> 00:22:10.750 from this map is that
NOTE Confidence: 0.9998277
00:22:10.750 --> 00:22:12.430 we have disease that ranges
NOTE Confidence: 0.9998277
00:22:12.430 --> 00:22:13.410 from Argentina
NOTE Confidence: 0.96839786
00:22:14.110 --> 00:22:15.310 all the way up to
NOTE Confidence: 0.96839786
00:22:15.390 --> 00:22:16.110 that we used to say
NOTE Confidence: 0.96839786
00:22:16.110 --> 00:22:16.990 the lower half of the
NOTE Confidence: 0.96839786
00:22:16.990 --> 00:22:17.950 United States, but now I'm
NOTE Confidence: 0.96839786
00:22:17.950 --> 00:22:19.150 feeling like we should say
NOTE Confidence: 0.96839786
00:22:19.150 --> 00:22:20.910 the the the upper the
NOTE Confidence: 0.96839786
00:22:20.910 --> 00:22:21.950 lower two thirds of the
NOTE Confidence: 0.96839786
00:22:21.950 --> 00:22:23.125 United States. It seems to
NOTE Confidence: 0.96839786

00:22:23.125 --> 00:22:23.924 be going up, and who
NOTE Confidence: 0.96839786

00:22:23.924 --> 00:22:24.965 knows what's gonna happen with
NOTE Confidence: 0.96839786

00:22:24.965 --> 00:22:25.785 climate change?
NOTE Confidence: 0.99560547

00:22:26.325 --> 00:22:26.804 So,
NOTE Confidence: 0.94234574

00:22:27.205 --> 00:22:28.565 this is a a recent
NOTE Confidence: 0.94234574

00:22:28.565 --> 00:22:30.325 published piece, and, doctor Hamer,
NOTE Confidence: 0.94234574

00:22:30.325 --> 00:22:31.125 you see, is the is
NOTE Confidence: 0.94234574

00:22:31.125 --> 00:22:32.244 the final final author on
NOTE Confidence: 0.94234574

00:22:32.244 --> 00:22:33.605 this, Shagas disease and endemic
NOTE Confidence: 0.94234574

00:22:33.605 --> 00:22:34.984 disease in the United States.
NOTE Confidence: 0.94234574

00:22:35.130 --> 00:22:35.850 Some of you might have
NOTE Confidence: 0.94234574

00:22:35.850 --> 00:22:36.890 seen lay press coverage of
NOTE Confidence: 0.94234574

00:22:36.890 --> 00:22:37.609 this, so I did feel
NOTE Confidence: 0.94234574

00:22:37.609 --> 00:22:38.490 like I needed to cover
NOTE Confidence: 0.94234574

00:22:38.490 --> 00:22:39.850 it today. This was a
NOTE Confidence: 0.94234574

00:22:39.850 --> 00:22:40.350 perspective,

NOTE Confidence: 0.9949341

00:22:40.810 --> 00:22:42.090 piece talking about the state

NOTE Confidence: 0.9949341

00:22:42.090 --> 00:22:43.050 of the evidence that we

NOTE Confidence: 0.9949341

00:22:43.050 --> 00:22:43.690 have about,

NOTE Confidence: 0.9972534

00:22:44.410 --> 00:22:46.490 autochthonous or domestically acquired disease

NOTE Confidence: 0.9972534

00:22:46.490 --> 00:22:47.310 in the US.

NOTE Confidence: 0.99902344

00:22:48.010 --> 00:22:49.130 I think this is actually

NOTE Confidence: 0.99902344

00:22:49.130 --> 00:22:50.030 a fantastic

NOTE Confidence: 0.9821122

00:22:50.965 --> 00:22:52.325 question to be asking and

NOTE Confidence: 0.9821122

00:22:52.325 --> 00:22:53.925 one that should absolutely be

NOTE Confidence: 0.9821122

00:22:53.925 --> 00:22:55.365 addressed. We know that we

NOTE Confidence: 0.9821122

00:22:55.365 --> 00:22:56.805 have bug here. We know

NOTE Confidence: 0.9821122

00:22:56.805 --> 00:22:58.165 that the bug has parasite,

NOTE Confidence: 0.9821122

00:22:58.165 --> 00:22:58.965 and we know that there

NOTE Confidence: 0.9821122

00:22:58.965 --> 00:23:00.405 are bug human interactions, and

NOTE Confidence: 0.9821122

00:23:00.405 --> 00:23:01.285 we know that there are

NOTE Confidence: 0.9821122

00:23:01.285 --> 00:23:01.785 cases.

NOTE Confidence: 0.9809637

00:23:02.085 --> 00:23:03.365 How much? We need to

NOTE Confidence: 0.9809637

00:23:03.365 --> 00:23:04.690 find out. Because just because

NOTE Confidence: 0.9809637

00:23:04.690 --> 00:23:05.810 I think about Latin American

NOTE Confidence: 0.9809637

00:23:05.810 --> 00:23:07.570 immigrants with Chagas disease, there

NOTE Confidence: 0.9809637

00:23:07.570 --> 00:23:08.530 is not a single person

NOTE Confidence: 0.9809637

00:23:08.530 --> 00:23:09.490 with Chagas disease in the

NOTE Confidence: 0.9809637

00:23:09.490 --> 00:23:10.690 United States who should not

NOTE Confidence: 0.9809637

00:23:10.690 --> 00:23:11.970 receive the appropriate care for

NOTE Confidence: 0.9809637

00:23:11.970 --> 00:23:12.770 what they have, and we

NOTE Confidence: 0.9809637

00:23:12.770 --> 00:23:13.750 need to find them.

NOTE Confidence: 0.9836113

00:23:14.130 --> 00:23:15.330 So just to sort of

NOTE Confidence: 0.9836113

00:23:15.330 --> 00:23:16.610 drive that home, here is

NOTE Confidence: 0.9836113

00:23:16.610 --> 00:23:17.715 that map. It to me,

NOTE Confidence: 0.9836113

00:23:17.715 --> 00:23:18.595 it does look like it's

NOTE Confidence: 0.9836113

00:23:18.595 --> 00:23:19.395 the lower two thirds. I

NOTE Confidence: 0.9836113

00:23:19.395 --> 00:23:20.035 don't know, Sarah, if you'll

NOTE Confidence: 0.9836113

00:23:20.035 --> 00:23:21.075 give me permission to describe

NOTE Confidence: 0.9836113

00:23:21.075 --> 00:23:21.975 it that way now.

NOTE Confidence: 0.9981079

00:23:22.434 --> 00:23:23.635 And these are a variety

NOTE Confidence: 0.9981079

00:23:23.635 --> 00:23:24.595 of the eleven,

NOTE Confidence: 0.90893555

00:23:24.994 --> 00:23:26.515 triatomine species that we have.

NOTE Confidence: 0.90893555

00:23:26.515 --> 00:23:27.875 And I put arrows towards

NOTE Confidence: 0.90893555

00:23:27.875 --> 00:23:28.455 a gyrostaccharide

NOTE Confidence: 0.9730508

00:23:28.755 --> 00:23:30.275 and sangosuga because those are

NOTE Confidence: 0.9730508

00:23:30.275 --> 00:23:31.155 some of the ones that

NOTE Confidence: 0.9730508

00:23:31.155 --> 00:23:32.035 are most likely to be

NOTE Confidence: 0.9730508

00:23:32.035 --> 00:23:33.450 infected with parasite and the

NOTE Confidence: 0.9730508

00:23:33.450 --> 00:23:34.169 ones that we have a

NOTE Confidence: 0.9730508

00:23:34.169 --> 00:23:35.609 lot of sense are actually

NOTE Confidence: 0.9730508

00:23:35.609 --> 00:23:36.750 interacting with humans.

NOTE Confidence: 0.9736735

00:23:37.850 --> 00:23:38.649 We'll talk a little bit
NOTE Confidence: 0.9736735

00:23:38.649 --> 00:23:39.529 more about this later if
NOTE Confidence: 0.9736735

00:23:39.529 --> 00:23:40.330 we have time. In any
NOTE Confidence: 0.9736735

00:23:40.330 --> 00:23:41.210 event so we'll go back
NOTE Confidence: 0.9736735

00:23:41.210 --> 00:23:42.490 now to phases of disease.
NOTE Confidence: 0.9736735

00:23:42.490 --> 00:23:43.369 So we start off with
NOTE Confidence: 0.9736735

00:23:43.369 --> 00:23:44.429 T. Cruzi infection.
NOTE Confidence: 0.97262526

00:23:44.809 --> 00:23:45.690 We are talking a lot
NOTE Confidence: 0.97262526

00:23:45.690 --> 00:23:47.130 about vector mediated disease, but
NOTE Confidence: 0.97262526

00:23:47.130 --> 00:23:48.010 there are other ways to
NOTE Confidence: 0.97262526

00:23:48.010 --> 00:23:49.185 get the illness including through
NOTE Confidence: 0.97262526

00:23:49.265 --> 00:23:49.765 transfusion,
NOTE Confidence: 0.96775717

00:23:50.225 --> 00:23:52.465 probably congenital disease now, with
NOTE Confidence: 0.96775717

00:23:52.465 --> 00:23:54.145 maternal fetal transmission is really
NOTE Confidence: 0.96775717

00:23:54.145 --> 00:23:55.685 important in thinking about this,
NOTE Confidence: 0.9733887

00:23:56.625 --> 00:23:57.125 and,

NOTE Confidence: 0.9697599

00:23:57.505 --> 00:23:59.345 orally transmitted disease. Although, I

NOTE Confidence: 0.9697599

00:23:59.345 --> 00:24:00.225 don't know how much we'll

NOTE Confidence: 0.9697599

00:24:00.225 --> 00:24:00.865 we'll see that in the

NOTE Confidence: 0.9697599

00:24:00.865 --> 00:24:02.730 United States, with some a

NOTE Confidence: 0.9697599

00:24:02.730 --> 00:24:03.390 few caveats.

NOTE Confidence: 0.966317

00:24:03.770 --> 00:24:05.050 So generally, people go into

NOTE Confidence: 0.966317

00:24:05.050 --> 00:24:06.090 the acute stage of the

NOTE Confidence: 0.966317

00:24:06.090 --> 00:24:07.690 disease. And if you are

NOTE Confidence: 0.966317

00:24:07.690 --> 00:24:08.970 lucky enough to find it,

NOTE Confidence: 0.966317

00:24:08.970 --> 00:24:10.090 which very few of my

NOTE Confidence: 0.966317

00:24:10.090 --> 00:24:11.690 patients are because in general,

NOTE Confidence: 0.966317

00:24:11.690 --> 00:24:12.650 they were infected when they

NOTE Confidence: 0.966317

00:24:12.650 --> 00:24:14.090 were living in a rural

NOTE Confidence: 0.966317

00:24:14.090 --> 00:24:15.210 environment. They didn't have a

NOTE Confidence: 0.966317

00:24:15.210 --> 00:24:16.525 lot money, and the the

NOTE Confidence: 0.966317

00:24:16.525 --> 00:24:17.905 symptoms are very, very nonspecific.
NOTE Confidence: 0.966317

00:24:18.125 --> 00:24:19.325 They didn't get medical care
NOTE Confidence: 0.966317

00:24:19.325 --> 00:24:20.765 for that infection, and so
NOTE Confidence: 0.966317

00:24:20.765 --> 00:24:21.725 they then they did not
NOTE Confidence: 0.966317

00:24:21.725 --> 00:24:22.765 get treatment for it. So
NOTE Confidence: 0.966317

00:24:22.765 --> 00:24:23.645 they were not able to
NOTE Confidence: 0.966317

00:24:23.645 --> 00:24:25.484 avail themselves of this cure
NOTE Confidence: 0.966317

00:24:25.484 --> 00:24:26.225 after treatment.
NOTE Confidence: 0.96489257

00:24:26.525 --> 00:24:27.645 So in general, they all
NOTE Confidence: 0.96489257

00:24:27.645 --> 00:24:29.184 pass into the chronic phase.
NOTE Confidence: 0.98830605

00:24:29.565 --> 00:24:31.170 Unfortunately, not many people get
NOTE Confidence: 0.98830605

00:24:31.170 --> 00:24:32.210 so sick that they die,
NOTE Confidence: 0.98830605

00:24:32.210 --> 00:24:33.970 although people with orally transmitted
NOTE Confidence: 0.98830605

00:24:33.970 --> 00:24:34.850 disease seem to have a
NOTE Confidence: 0.98830605

00:24:34.850 --> 00:24:35.990 more fulminant case.
NOTE Confidence: 0.9586705

00:24:36.770 --> 00:24:37.970 So what I I like

NOTE Confidence: 0.9586705

00:24:37.970 --> 00:24:39.730 about this, though, is that

NOTE Confidence: 0.9586705

00:24:39.730 --> 00:24:41.250 it does mention chronic phase,

NOTE Confidence: 0.9586705

00:24:41.250 --> 00:24:42.369 that five to ten percent

NOTE Confidence: 0.9586705

00:24:42.369 --> 00:24:43.250 of people will go very

NOTE Confidence: 0.9586705

00:24:43.250 --> 00:24:44.690 quickly into the determinant form.

NOTE Confidence: 0.9586705

00:24:44.690 --> 00:24:45.890 And that recognizes that if

NOTE Confidence: 0.9586705

00:24:45.890 --> 00:24:46.845 you look at children who

NOTE Confidence: 0.9586705

00:24:46.845 --> 00:24:47.665 have Chagas

NOTE Confidence: 0.97254026

00:24:48.285 --> 00:24:49.005 disease, that if you look

NOTE Confidence: 0.97254026

00:24:49.005 --> 00:24:50.605 at the series, including those

NOTE Confidence: 0.97254026

00:24:50.605 --> 00:24:51.484 when they were treated with

NOTE Confidence: 0.97254026

00:24:51.484 --> 00:24:51.984 benzodiazepine,

NOTE Confidence: 0.9968925

00:24:52.765 --> 00:24:54.045 that the kids actually can

NOTE Confidence: 0.9968925

00:24:54.045 --> 00:24:56.304 leave childhood with EKG abnormalities.

NOTE Confidence: 0.9968925

00:24:56.525 --> 00:24:57.885 So it's likely that some

NOTE Confidence: 0.9968925

00:24:57.885 --> 00:24:58.845 of these kids are getting
NOTE Confidence: 0.9968925

00:24:58.845 --> 00:24:59.885 so sick that they develop
NOTE Confidence: 0.9968925

00:24:59.885 --> 00:25:00.945 EKG abnormalities.
NOTE Confidence: 0.9613222

00:25:01.350 --> 00:25:02.470 And then if you don't,
NOTE Confidence: 0.9613222

00:25:02.470 --> 00:25:03.429 if you you you you
NOTE Confidence: 0.9613222

00:25:03.429 --> 00:25:04.970 go directly into this indeterminate
NOTE Confidence: 0.9613222

00:25:05.030 --> 00:25:05.910 form where you don't have
NOTE Confidence: 0.9613222

00:25:05.910 --> 00:25:06.890 EKG abnormalities,
NOTE Confidence: 0.99902344

00:25:07.590 --> 00:25:08.090 about
NOTE Confidence: 0.97438306

00:25:08.470 --> 00:25:09.750 two percent per year will
NOTE Confidence: 0.97438306

00:25:09.750 --> 00:25:11.190 then pass into the cardiac
NOTE Confidence: 0.97438306

00:25:11.190 --> 00:25:12.630 phase, twenty to forty percent.
NOTE Confidence: 0.97438306

00:25:12.630 --> 00:25:13.669 So overall, we end up
NOTE Confidence: 0.97438306

00:25:13.669 --> 00:25:15.030 with about seventy percent of
NOTE Confidence: 0.97438306

00:25:15.030 --> 00:25:16.345 people staying in the indeterminate
NOTE Confidence: 0.97438306

00:25:16.345 --> 00:25:17.005 form permanently,

NOTE Confidence: 0.985054

00:25:17.625 --> 00:25:18.345 and we end up with

NOTE Confidence: 0.985054

00:25:18.345 --> 00:25:19.625 about thirty percent of people

NOTE Confidence: 0.985054

00:25:19.625 --> 00:25:20.505 having some sort of end

NOTE Confidence: 0.985054

00:25:20.505 --> 00:25:22.264 organ manifestation, which can include

NOTE Confidence: 0.985054

00:25:22.264 --> 00:25:23.625 cardiac disease, why we're here

NOTE Confidence: 0.985054

00:25:23.625 --> 00:25:25.465 today, digestive disease, which is

NOTE Confidence: 0.985054

00:25:25.465 --> 00:25:26.205 less common,

NOTE Confidence: 0.9328207

00:25:26.585 --> 00:25:27.404 and cardiiodigestive

NOTE Confidence: 0.9957799

00:25:27.865 --> 00:25:29.065 disease, which is less common

NOTE Confidence: 0.9957799

00:25:29.065 --> 00:25:29.884 even still.

NOTE Confidence: 0.97247654

00:25:30.780 --> 00:25:31.660 Okay. So we'll talk a

NOTE Confidence: 0.97247654

00:25:31.660 --> 00:25:32.700 little bit more about the

NOTE Confidence: 0.97247654

00:25:32.700 --> 00:25:34.140 acute phase here. The symptoms

NOTE Confidence: 0.97247654

00:25:34.140 --> 00:25:36.240 are pretty nonspecific. Malaise, adenopathy,

NOTE Confidence: 0.97247654

00:25:36.380 --> 00:25:37.740 it's frequently not remembered as

NOTE Confidence: 0.97247654

00:25:37.740 --> 00:25:38.859 an adult. That's most of
NOTE Confidence: 0.97247654

00:25:38.859 --> 00:25:40.060 my patients do not recall
NOTE Confidence: 0.97247654

00:25:40.060 --> 00:25:40.560 having
NOTE Confidence: 0.98125

00:25:40.940 --> 00:25:42.560 their time with Chagas disease.
NOTE Confidence: 0.9541369

00:25:43.635 --> 00:25:45.075 And the one thing that
NOTE Confidence: 0.9541369

00:25:45.075 --> 00:25:46.455 I really should say, reiterate
NOTE Confidence: 0.9541369

00:25:46.515 --> 00:25:47.795 is that paracetemia is present,
NOTE Confidence: 0.9541369

00:25:47.795 --> 00:25:49.555 and treatment with antiparasitic medications
NOTE Confidence: 0.9541369

00:25:49.555 --> 00:25:51.075 is effective for cure. You
NOTE Confidence: 0.9541369

00:25:51.075 --> 00:25:52.515 see Romagna's sign here. For
NOTE Confidence: 0.9541369

00:25:52.515 --> 00:25:53.235 some of you, this may
NOTE Confidence: 0.9541369

00:25:53.235 --> 00:25:54.195 be what you remember from
NOTE Confidence: 0.9541369

00:25:54.195 --> 00:25:55.715 medical school about Chagas disease.
NOTE Confidence: 0.9541369

00:25:55.715 --> 00:25:57.555 This, this, unlucky young lady
NOTE Confidence: 0.9541369

00:25:57.555 --> 00:25:58.940 probably got some infected fecal
NOTE Confidence: 0.9541369

00:25:58.940 --> 00:26:00.460 material on her eye, and

NOTE Confidence: 0.9541369

00:26:00.460 --> 00:26:02.160 she has a painless palpebral

NOTE Confidence: 0.9541369

00:26:02.380 --> 00:26:03.980 edematous reaction to that, which

NOTE Confidence: 0.9541369

00:26:03.980 --> 00:26:04.859 can last up to a

NOTE Confidence: 0.9541369

00:26:04.859 --> 00:26:05.359 month.

NOTE Confidence: 0.99560547

00:26:05.980 --> 00:26:06.480 Okay.

NOTE Confidence: 0.9531686

00:26:07.580 --> 00:26:08.780 We've actually talked about this

NOTE Confidence: 0.9531686

00:26:08.780 --> 00:26:09.820 a little bit except for

NOTE Confidence: 0.9531686

00:26:09.820 --> 00:26:11.100 the other acute presentation that

NOTE Confidence: 0.9531686

00:26:11.100 --> 00:26:12.059 I really should have mentioned,

NOTE Confidence: 0.9531686

00:26:12.059 --> 00:26:13.180 which is really important here

NOTE Confidence: 0.9531686

00:26:13.180 --> 00:26:14.480 is reactivation disease.

NOTE Confidence: 0.9856388

00:26:15.175 --> 00:26:16.055 That's something that you can

NOTE Confidence: 0.9856388

00:26:16.055 --> 00:26:17.415 see frequently in the post

NOTE Confidence: 0.9856388

00:26:17.415 --> 00:26:19.335 transplant setting, particularly with our

NOTE Confidence: 0.9856388

00:26:19.335 --> 00:26:20.315 cardiac patients.

NOTE Confidence: 0.97054034

00:26:21.015 --> 00:26:22.055 And it can't if you
NOTE Confidence: 0.97054034

00:26:22.055 --> 00:26:23.494 are not doing surveillance well
NOTE Confidence: 0.97054034

00:26:23.494 --> 00:26:24.455 enough for it, you might
NOTE Confidence: 0.97054034

00:26:24.455 --> 00:26:25.975 actually, end up with an
NOTE Confidence: 0.97054034

00:26:25.975 --> 00:26:27.595 acute, very important presentation.
NOTE Confidence: 0.9997415

00:26:28.295 --> 00:26:29.380 We'll move on. So these
NOTE Confidence: 0.9997415

00:26:29.380 --> 00:26:30.140 are the kinds that you
NOTE Confidence: 0.9997415

00:26:30.140 --> 00:26:31.100 might actually see in the
NOTE Confidence: 0.9997415

00:26:31.100 --> 00:26:31.919 United States.
NOTE Confidence: 0.9995117

00:26:32.460 --> 00:26:33.500 Again, we don't know about
NOTE Confidence: 0.9995117

00:26:33.500 --> 00:26:34.720 oral. Okay.
NOTE Confidence: 0.9798602

00:26:35.100 --> 00:26:36.740 So the indeterminate phase, talk
NOTE Confidence: 0.9798602

00:26:36.740 --> 00:26:37.580 a little bit more about
NOTE Confidence: 0.9798602

00:26:37.580 --> 00:26:38.619 that. How do we actually
NOTE Confidence: 0.9798602

00:26:38.619 --> 00:26:40.220 diagnose it? Well, that's diagnosed
NOTE Confidence: 0.9798602

00:26:40.220 --> 00:26:41.500 based on serology, and we'll

NOTE Confidence: 0.9798602

00:26:41.500 --> 00:26:42.380 talk about that in a

NOTE Confidence: 0.9798602

00:26:42.380 --> 00:26:43.235 minute. We do say that

NOTE Confidence: 0.9798602

00:26:43.235 --> 00:26:44.675 the end of significant manifestations

NOTE Confidence: 0.9798602

00:26:44.675 --> 00:26:45.635 for about seventy percent of

NOTE Confidence: 0.9798602

00:26:45.635 --> 00:26:46.755 people, two percent per year

NOTE Confidence: 0.9798602

00:26:46.755 --> 00:26:47.955 progress. What I wanna remind

NOTE Confidence: 0.9798602

00:26:47.955 --> 00:26:49.475 a roomful of cardiologists is

NOTE Confidence: 0.9798602

00:26:49.475 --> 00:26:51.494 that aging itself also causes

NOTE Confidence: 0.9798602

00:26:51.555 --> 00:26:53.095 development of EKG abnormalities.

NOTE Confidence: 0.9887611

00:26:53.555 --> 00:26:54.355 I've done a kind of

NOTE Confidence: 0.9887611

00:26:54.355 --> 00:26:55.715 back of the envelope calculation

NOTE Confidence: 0.9887611

00:26:55.715 --> 00:26:56.835 from the studies that actually

NOTE Confidence: 0.9887611

00:26:56.835 --> 00:26:58.180 included people with Chagas disease

NOTE Confidence: 0.9887611

00:26:58.180 --> 00:26:58.980 and people who did not

NOTE Confidence: 0.9887611

00:26:58.980 --> 00:27:00.420 have Chagas disease, and it

NOTE Confidence: 0.9887611

00:27:00.420 --> 00:27:01.619 seems like the excess risk
NOTE Confidence: 0.9887611

00:27:01.619 --> 00:27:03.780 is probably about it's probably
NOTE Confidence: 0.9887611

00:27:03.780 --> 00:27:04.900 about a hundred percent higher,
NOTE Confidence: 0.9887611

00:27:04.900 --> 00:27:05.780 but it goes from one
NOTE Confidence: 0.9887611

00:27:05.780 --> 00:27:07.320 percent to two percent. So
NOTE Confidence: 0.9887611

00:27:07.380 --> 00:27:08.580 any human being, as we
NOTE Confidence: 0.9887611

00:27:08.580 --> 00:27:09.780 know from Framingham, as we
NOTE Confidence: 0.9887611

00:27:09.780 --> 00:27:10.900 know from any sort of
NOTE Confidence: 0.9887611

00:27:10.900 --> 00:27:12.100 the big database studies that
NOTE Confidence: 0.9887611

00:27:12.100 --> 00:27:13.275 look at folks with with
NOTE Confidence: 0.9887611

00:27:13.355 --> 00:27:14.795 just being human and getting
NOTE Confidence: 0.9887611

00:27:14.795 --> 00:27:16.395 older, you get more EKG
NOTE Confidence: 0.9887611

00:27:16.395 --> 00:27:18.155 abnormalities. Nevertheless, there's an excess
NOTE Confidence: 0.9887611

00:27:18.155 --> 00:27:19.595 risk with Chagas. So let's
NOTE Confidence: 0.9887611

00:27:19.595 --> 00:27:20.715 talk about serology for a
NOTE Confidence: 0.9887611

00:27:20.715 --> 00:27:21.215 minute.

NOTE Confidence: 0.9627961

00:27:21.915 --> 00:27:23.435 So this is tricky. This

NOTE Confidence: 0.9627961

00:27:23.435 --> 00:27:24.555 poor lady is having to

NOTE Confidence: 0.9627961

00:27:24.555 --> 00:27:25.755 deal with calls about Chagas

NOTE Confidence: 0.9627961

00:27:25.755 --> 00:27:27.435 disease serologic testing. And why?

NOTE Confidence: 0.9627961

00:27:27.435 --> 00:27:28.475 It's because of this big

NOTE Confidence: 0.9627961

00:27:28.475 --> 00:27:29.460 plot plot on the on

NOTE Confidence: 0.9627961

00:27:29.460 --> 00:27:29.780 the,

NOTE Confidence: 0.9515476

00:27:30.500 --> 00:27:31.780 on the left. So this

NOTE Confidence: 0.9515476

00:27:31.780 --> 00:27:32.820 came out of a very

NOTE Confidence: 0.9515476

00:27:32.820 --> 00:27:34.820 recent extremely well written v

NOTE Confidence: 0.9515476

00:27:34.980 --> 00:27:36.500 review about Chagas disease. I

NOTE Confidence: 0.9515476

00:27:36.500 --> 00:27:37.940 think that was public published

NOTE Confidence: 0.9515476

00:27:37.940 --> 00:27:39.300 in Lancet, and it's showing

NOTE Confidence: 0.9515476

00:27:39.300 --> 00:27:40.740 this the array of Chagas

NOTE Confidence: 0.9515476

00:27:40.740 --> 00:27:41.780 disease test that we have

NOTE Confidence: 0.9515476

00:27:41.780 --> 00:27:43.375 in the United States. And
NOTE Confidence: 0.9515476

00:27:43.375 --> 00:27:44.655 where you see some chicken
NOTE Confidence: 0.9515476

00:27:44.655 --> 00:27:46.095 scratches from me with red
NOTE Confidence: 0.9515476

00:27:46.095 --> 00:27:47.375 and black is where they
NOTE Confidence: 0.9515476

00:27:47.375 --> 00:27:48.575 didn't actually get it quite
NOTE Confidence: 0.9515476

00:27:48.575 --> 00:27:50.015 right. So that's a problem.
NOTE Confidence: 0.9515476

00:27:50.015 --> 00:27:50.895 Right? The people who wrote
NOTE Confidence: 0.9515476

00:27:50.895 --> 00:27:52.674 the paper are truly experts,
NOTE Confidence: 0.9515476

00:27:52.734 --> 00:27:54.674 but sometimes the landscape just,
NOTE Confidence: 0.97642237

00:27:55.455 --> 00:27:57.090 just changes like that. And
NOTE Confidence: 0.97642237

00:27:57.090 --> 00:27:58.049 the labs don't reach out
NOTE Confidence: 0.97642237

00:27:58.049 --> 00:27:58.850 to you and tell you
NOTE Confidence: 0.97642237

00:27:58.850 --> 00:27:59.970 that they've stopped doing what
NOTE Confidence: 0.97642237

00:27:59.970 --> 00:28:00.850 they said they were doing
NOTE Confidence: 0.97642237

00:28:00.850 --> 00:28:02.130 before. You have to figure
NOTE Confidence: 0.97642237

00:28:02.130 --> 00:28:03.410 it out. So what we

NOTE Confidence: 0.97642237
00:28:03.490 --> 00:28:04.450 what I can tell you
NOTE Confidence: 0.97642237
00:28:04.450 --> 00:28:05.650 though is that the good
NOTE Confidence: 0.97642237
00:28:05.650 --> 00:28:07.250 news recently is that the
NOTE Confidence: 0.97642237
00:28:07.250 --> 00:28:08.609 commercial labs in the United
NOTE Confidence: 0.97642237
00:28:08.609 --> 00:28:09.730 States now tend to be
NOTE Confidence: 0.97642237
00:28:09.730 --> 00:28:11.325 offering two tests for Chagas
NOTE Confidence: 0.97642237
00:28:11.325 --> 00:28:12.765 disease. So that's fantastic. So
NOTE Confidence: 0.97642237
00:28:12.765 --> 00:28:13.725 it means if you order
NOTE Confidence: 0.97642237
00:28:13.725 --> 00:28:15.164 through Labcorp, you are gonna
NOTE Confidence: 0.97642237
00:28:15.164 --> 00:28:16.605 get a wiener ELISA and
NOTE Confidence: 0.97642237
00:28:16.605 --> 00:28:17.804 a hemogen ELISA at the
NOTE Confidence: 0.97642237
00:28:17.804 --> 00:28:18.684 same time. And if you're
NOTE Confidence: 0.97642237
00:28:18.684 --> 00:28:19.885 lucky, they both are positive
NOTE Confidence: 0.97642237
00:28:19.885 --> 00:28:21.164 and then you've actually confirmed
NOTE Confidence: 0.97642237
00:28:21.164 --> 00:28:22.284 your patient because you have
NOTE Confidence: 0.97642237

00:28:22.284 --> 00:28:24.220 two different ELISAs for Chagas
NOTE Confidence: 0.97642237

00:28:24.220 --> 00:28:24.720 disease.
NOTE Confidence: 0.9738613

00:28:25.179 --> 00:28:26.299 If you go to Quest
NOTE Confidence: 0.9738613

00:28:26.299 --> 00:28:27.420 instead, the first test you
NOTE Confidence: 0.9738613

00:28:27.420 --> 00:28:28.460 get is Wiener. And if
NOTE Confidence: 0.9738613

00:28:28.460 --> 00:28:29.740 you test positive on that,
NOTE Confidence: 0.9738613

00:28:29.740 --> 00:28:31.359 you reflex then to INBIOS.
NOTE Confidence: 0.9738613

00:28:31.500 --> 00:28:32.299 If you get two of
NOTE Confidence: 0.9738613

00:28:32.299 --> 00:28:33.820 those positive, you're golden. You
NOTE Confidence: 0.9738613

00:28:33.820 --> 00:28:35.100 now actually have a diagnosis
NOTE Confidence: 0.9738613

00:28:35.100 --> 00:28:36.885 of Chagas disease. The trickier
NOTE Confidence: 0.9738613

00:28:36.885 --> 00:28:37.845 thing is when you have
NOTE Confidence: 0.9738613

00:28:37.845 --> 00:28:38.885 one that's positive and ones
NOTE Confidence: 0.9738613

00:28:38.885 --> 00:28:40.005 that's negative. What do you
NOTE Confidence: 0.9738613

00:28:40.005 --> 00:28:40.805 do with that? You have
NOTE Confidence: 0.9738613

00:28:40.805 --> 00:28:42.085 not confirmed the diagnosis of

NOTE Confidence: 0.9738613

00:28:42.085 --> 00:28:43.205 Chagas disease. So then you

NOTE Confidence: 0.9738613

00:28:43.205 --> 00:28:44.245 need to actually go looking

NOTE Confidence: 0.9738613

00:28:44.245 --> 00:28:46.165 somewhere else. Typically, that has

NOTE Confidence: 0.9738613

00:28:46.165 --> 00:28:47.065 been the CDC.

NOTE Confidence: 0.9822896

00:28:47.765 --> 00:28:48.965 They do very high quality

NOTE Confidence: 0.9822896

00:28:48.965 --> 00:28:50.309 testing, but I'm not sure

NOTE Confidence: 0.9822896

00:28:50.309 --> 00:28:51.029 if any of you have

NOTE Confidence: 0.9822896

00:28:51.029 --> 00:28:52.809 familiarity with getting blood there.

NOTE Confidence: 0.9822896

00:28:52.950 --> 00:28:54.789 It is a production, and

NOTE Confidence: 0.9822896

00:28:54.789 --> 00:28:55.909 it's one of the main

NOTE Confidence: 0.9822896

00:28:55.909 --> 00:28:57.350 reasons that it's hard for

NOTE Confidence: 0.9822896

00:28:57.350 --> 00:28:58.789 me to get people to

NOTE Confidence: 0.9822896

00:28:58.789 --> 00:28:59.990 convict to be convinced to

NOTE Confidence: 0.9822896

00:28:59.990 --> 00:29:01.210 actually start testing

NOTE Confidence: 0.9366566

00:29:01.510 --> 00:29:02.789 because the process of getting

NOTE Confidence: 0.9366566

00:29:02.789 --> 00:29:04.150 the blood there is extremely
NOTE Confidence: 0.9366566

00:29:04.150 --> 00:29:04.650 complicated,
NOTE Confidence: 0.97630614

00:29:05.075 --> 00:29:06.515 and it varies state by
NOTE Confidence: 0.97630614

00:29:06.515 --> 00:29:07.955 state, and it varies county
NOTE Confidence: 0.97630614

00:29:07.955 --> 00:29:09.715 by county. So, unfortunately, it
NOTE Confidence: 0.97630614

00:29:09.715 --> 00:29:11.255 just gets very, very complex.
NOTE Confidence: 0.9279297

00:29:12.755 --> 00:29:14.695 So and and then finally,
NOTE Confidence: 0.9926071

00:29:15.955 --> 00:29:16.835 no. I think that's actually
NOTE Confidence: 0.9926071

00:29:16.835 --> 00:29:17.635 what I wanted to say
NOTE Confidence: 0.9926071

00:29:17.635 --> 00:29:18.434 about that. In any event,
NOTE Confidence: 0.9926071

00:29:18.434 --> 00:29:19.075 you can see why this
NOTE Confidence: 0.9926071

00:29:19.075 --> 00:29:20.520 poor lady looks so frazzled
NOTE Confidence: 0.9926071

00:29:20.600 --> 00:29:21.480 because this is really a
NOTE Confidence: 0.9926071

00:29:21.480 --> 00:29:22.300 huge issue.
NOTE Confidence: 0.97302246

00:29:22.680 --> 00:29:23.720 So the final thing that
NOTE Confidence: 0.97302246

00:29:23.720 --> 00:29:24.760 I really wanted to say

NOTE Confidence: 0.97302246

00:29:24.760 --> 00:29:25.420 about it

NOTE Confidence: 0.9958496

00:29:26.040 --> 00:29:27.500 is that it's incredibly

NOTE Confidence: 0.9760792

00:29:27.960 --> 00:29:29.560 expensive. So if you're lucky

NOTE Confidence: 0.9760792

00:29:29.560 --> 00:29:30.440 and you have a patient

NOTE Confidence: 0.9760792

00:29:30.440 --> 00:29:32.040 too that has insurance, you're

NOTE Confidence: 0.9760792

00:29:32.040 --> 00:29:33.320 fine. You can order your

NOTE Confidence: 0.9760792

00:29:33.320 --> 00:29:34.360 test and the patient will

NOTE Confidence: 0.9760792

00:29:34.360 --> 00:29:36.105 be covered. If you're unlucky

NOTE Confidence: 0.9760792

00:29:36.105 --> 00:29:36.825 and you work in a

NOTE Confidence: 0.9760792

00:29:36.825 --> 00:29:38.345 federally qualified health center, which

NOTE Confidence: 0.9760792

00:29:38.345 --> 00:29:38.985 is where a lot of

NOTE Confidence: 0.9760792

00:29:38.985 --> 00:29:40.205 these patients are seen,

NOTE Confidence: 0.97712857

00:29:40.585 --> 00:29:42.665 those centers simply cannot afford

NOTE Confidence: 0.97712857

00:29:42.665 --> 00:29:44.265 to pay a hundred dollars

NOTE Confidence: 0.97712857

00:29:44.265 --> 00:29:45.705 for Chagas disease testing. They

NOTE Confidence: 0.97712857

00:29:45.705 --> 00:29:46.825 just can't do it. So
NOTE Confidence: 0.97712857

00:29:46.825 --> 00:29:47.565 when Lesocha
NOTE Confidence: 0.9729936

00:29:48.019 --> 00:29:49.220 tries to go and support
NOTE Confidence: 0.9729936

00:29:49.220 --> 00:29:51.059 Chagas disease testing and we
NOTE Confidence: 0.9729936

00:29:51.059 --> 00:29:52.279 say, we will help you,
NOTE Confidence: 0.9729936

00:29:52.340 --> 00:29:53.700 neighborhood health center, where you
NOTE Confidence: 0.9729936

00:29:53.700 --> 00:29:55.379 see seven thousand immigrants at
NOTE Confidence: 0.9729936

00:29:55.379 --> 00:29:56.419 a minimum a year who
NOTE Confidence: 0.9729936

00:29:56.419 --> 00:29:57.940 need this testing, we then
NOTE Confidence: 0.9729936

00:29:57.940 --> 00:29:59.059 have to write a grant
NOTE Confidence: 0.9729936

00:29:59.059 --> 00:30:00.740 for seven hundred thousand dollars
NOTE Confidence: 0.9729936

00:30:00.740 --> 00:30:02.325 to support the testing. And
NOTE Confidence: 0.9729936

00:30:02.325 --> 00:30:03.524 if I were a grantor,
NOTE Confidence: 0.9729936

00:30:03.524 --> 00:30:04.404 I'm not sure I would
NOTE Confidence: 0.9729936

00:30:04.404 --> 00:30:05.605 wanna give me seven hundred
NOTE Confidence: 0.9729936

00:30:05.605 --> 00:30:06.965 thousand dollars to support testing

NOTE Confidence: 0.9729936

00:30:06.965 --> 00:30:08.505 and sure enough, they didn't

NOTE Confidence: 0.9729936

00:30:08.645 --> 00:30:09.845 because it's a huge amount

NOTE Confidence: 0.9729936

00:30:09.845 --> 00:30:10.804 of money to spend on

NOTE Confidence: 0.9729936

00:30:10.804 --> 00:30:12.965 testing. The irony being that

NOTE Confidence: 0.9729936

00:30:12.965 --> 00:30:14.404 if you order this testing

NOTE Confidence: 0.9729936

00:30:14.404 --> 00:30:16.404 and Medicaid reimburses you, Medicaid's

NOTE Confidence: 0.9729936

00:30:16.404 --> 00:30:17.450 gonna give you about, I

NOTE Confidence: 0.9729936

00:30:17.450 --> 00:30:18.830 don't know, maybe twenty bucks.

NOTE Confidence: 0.97342485

00:30:19.130 --> 00:30:20.490 So there's a real disconnect,

NOTE Confidence: 0.97342485

00:30:20.490 --> 00:30:21.530 and we really have to

NOTE Confidence: 0.97342485

00:30:21.530 --> 00:30:22.650 work on that because right

NOTE Confidence: 0.97342485

00:30:22.650 --> 00:30:23.850 now, it's one one of

NOTE Confidence: 0.97342485

00:30:23.850 --> 00:30:25.770 many huge barriers we have

NOTE Confidence: 0.97342485

00:30:25.770 --> 00:30:26.510 to instituting

NOTE Confidence: 0.9881686

00:30:27.050 --> 00:30:28.730 testing at the appropriate level,

NOTE Confidence: 0.9881686

00:30:28.730 --> 00:30:29.690 which is really in the
NOTE Confidence: 0.9881686

00:30:29.690 --> 00:30:30.795 primary care setting.
NOTE Confidence: 0.97255635

00:30:31.355 --> 00:30:32.075 So I'll get out my
NOTE Confidence: 0.97255635

00:30:32.075 --> 00:30:33.195 soapbox, and we'll keep on
NOTE Confidence: 0.97255635

00:30:33.195 --> 00:30:34.875 going. So now we'll turn
NOTE Confidence: 0.97255635

00:30:34.875 --> 00:30:36.075 back to chronic disease. And
NOTE Confidence: 0.97255635

00:30:36.075 --> 00:30:37.755 so what is chronic Chagas
NOTE Confidence: 0.97255635

00:30:37.755 --> 00:30:39.135 disease or Chagas cardiomyopathy?
NOTE Confidence: 0.9203389

00:30:39.515 --> 00:30:40.955 That's at a minimum defined
NOTE Confidence: 0.9203389

00:30:40.955 --> 00:30:42.095 as positive serology,
NOTE Confidence: 0.9925537

00:30:42.635 --> 00:30:43.775 confirmed testing,
NOTE Confidence: 0.9657255

00:30:44.155 --> 00:30:46.289 and an abnormal EKG. So
NOTE Confidence: 0.9657255

00:30:46.289 --> 00:30:47.010 why do I put an
NOTE Confidence: 0.9657255

00:30:47.010 --> 00:30:48.370 asterisk there? Well, because an
NOTE Confidence: 0.9657255

00:30:48.370 --> 00:30:49.890 EKG is a snapshot of
NOTE Confidence: 0.9657255

00:30:49.890 --> 00:30:51.410 one moment in time. And

NOTE Confidence: 0.9657255

00:30:51.410 --> 00:30:52.210 what I can tell you

NOTE Confidence: 0.9657255

00:30:52.210 --> 00:30:53.090 is sometimes I'll have a

NOTE Confidence: 0.9657255

00:30:53.090 --> 00:30:54.210 patient will come in, and

NOTE Confidence: 0.9657255

00:30:54.210 --> 00:30:55.090 they'll have a heart rate

NOTE Confidence: 0.9657255

00:30:55.090 --> 00:30:56.130 of fifty two or fifty

NOTE Confidence: 0.9657255

00:30:56.130 --> 00:30:57.330 four. And then I put

NOTE Confidence: 0.9657255

00:30:57.330 --> 00:30:58.049 them on the bed, and

NOTE Confidence: 0.9657255

00:30:58.049 --> 00:30:59.090 I start doing their echo,

NOTE Confidence: 0.9657255

00:30:59.090 --> 00:30:59.890 and all of a sudden

NOTE Confidence: 0.9657255

00:30:59.890 --> 00:31:01.035 their heart rate's forty five.

NOTE Confidence: 0.9657255

00:31:01.035 --> 00:31:02.235 And they're not sleeping. It's

NOTE Confidence: 0.9657255

00:31:02.235 --> 00:31:03.355 not sleep apnea. They didn't

NOTE Confidence: 0.9657255

00:31:03.355 --> 00:31:04.255 start to snore.

NOTE Confidence: 0.9846533

00:31:04.555 --> 00:31:05.755 And I'm thinking that's not

NOTE Confidence: 0.9846533

00:31:05.755 --> 00:31:06.795 okay. A heart rate of

NOTE Confidence: 0.9846533

00:31:06.795 --> 00:31:07.995 forty five is too low.
NOTE Confidence: 0.9846533

00:31:07.995 --> 00:31:09.595 So I've identified somebody where
NOTE Confidence: 0.9846533

00:31:09.595 --> 00:31:11.515 that initial snapshot EKG is
NOTE Confidence: 0.9846533

00:31:11.515 --> 00:31:13.435 actually probably not an overall
NOTE Confidence: 0.9846533

00:31:13.435 --> 00:31:13.935 accurate,
NOTE Confidence: 0.9803942

00:31:16.400 --> 00:31:17.860 arbiter of how their cardiovascular
NOTE Confidence: 0.9803942

00:31:18.000 --> 00:31:19.600 system is is going. Same
NOTE Confidence: 0.9803942

00:31:19.600 --> 00:31:21.440 thing happens with intermittent ectopy.
NOTE Confidence: 0.9803942

00:31:21.440 --> 00:31:22.400 Somebody lies down all of
NOTE Confidence: 0.9803942

00:31:22.400 --> 00:31:23.600 a sudden they're having PVCs
NOTE Confidence: 0.9803942

00:31:23.600 --> 00:31:24.559 all over the place. That's
NOTE Confidence: 0.9803942

00:31:24.559 --> 00:31:25.760 not a normal heart. We
NOTE Confidence: 0.9803942

00:31:25.760 --> 00:31:27.120 see rate related bundle branch
NOTE Confidence: 0.9803942

00:31:27.120 --> 00:31:28.080 blocks. So we always have
NOTE Confidence: 0.9803942

00:31:28.080 --> 00:31:29.600 to have remember that the
NOTE Confidence: 0.9803942

00:31:29.600 --> 00:31:30.965 EKG is pretty darn good

NOTE Confidence: 0.9803942

00:31:30.965 --> 00:31:32.005 at telling us who has

NOTE Confidence: 0.9803942

00:31:32.005 --> 00:31:33.605 Chagas cardiomyopathy, but it's not

NOTE Confidence: 0.9803942

00:31:33.605 --> 00:31:34.965 perfect, which is why we

NOTE Confidence: 0.9803942

00:31:34.965 --> 00:31:36.245 also want to do an

NOTE Confidence: 0.9803942

00:31:36.245 --> 00:31:37.445 echocardiogram to see whether or

NOTE Confidence: 0.9803942

00:31:37.445 --> 00:31:38.325 not we can find any

NOTE Confidence: 0.9803942

00:31:38.325 --> 00:31:40.085 subclinical findings or even some

NOTE Confidence: 0.9803942

00:31:40.085 --> 00:31:41.205 clinical findings that we might

NOTE Confidence: 0.9803942

00:31:41.205 --> 00:31:41.865 be missing.

NOTE Confidence: 0.94762367

00:31:42.565 --> 00:31:43.789 And some folks will even

NOTE Confidence: 0.94762367

00:31:43.789 --> 00:31:45.309 say MRI, but in resource

NOTE Confidence: 0.94762367

00:31:45.309 --> 00:31:46.929 poor environments, that's pretty tricky.

NOTE Confidence: 0.9863281

00:31:47.309 --> 00:31:48.510 In any event, people tend

NOTE Confidence: 0.9863281

00:31:48.510 --> 00:31:49.710 to present about fifteen to

NOTE Confidence: 0.9863281

00:31:49.710 --> 00:31:50.669 thirty years after the time

NOTE Confidence: 0.9863281

00:31:50.669 --> 00:31:52.270 of likely infection, and we
NOTE Confidence: 0.9863281

00:31:52.270 --> 00:31:53.549 heard a lot this morning,
NOTE Confidence: 0.9863281

00:31:53.549 --> 00:31:54.750 and I will reiterate that
NOTE Confidence: 0.9863281

00:31:54.750 --> 00:31:55.935 we just do not know
NOTE Confidence: 0.9863281

00:31:56.015 --> 00:31:57.295 really yet who it is
NOTE Confidence: 0.9863281

00:31:57.295 --> 00:31:58.655 who's gonna progress to develop
NOTE Confidence: 0.9863281

00:31:58.655 --> 00:32:00.735 significant cardiovascular disease. We have
NOTE Confidence: 0.9863281

00:32:00.735 --> 00:32:02.095 lots of hypotheses. We have
NOTE Confidence: 0.9863281

00:32:02.095 --> 00:32:03.135 some beautiful work that was
NOTE Confidence: 0.9863281

00:32:03.135 --> 00:32:04.575 done recently in Argentina looking
NOTE Confidence: 0.9863281

00:32:04.575 --> 00:32:06.355 at SNPs. We have proteomics.
NOTE Confidence: 0.9863281

00:32:06.415 --> 00:32:07.235 We have metabolomics.
NOTE Confidence: 0.9600552

00:32:07.615 --> 00:32:08.895 We have biomarkers. All those
NOTE Confidence: 0.9600552

00:32:08.895 --> 00:32:09.855 kinds of things. But as
NOTE Confidence: 0.9600552

00:32:09.855 --> 00:32:10.655 of yet, we don't have
NOTE Confidence: 0.9600552

00:32:10.655 --> 00:32:11.620 the holy grail, which is

NOTE Confidence: 0.9600552
00:32:11.620 --> 00:32:12.659 gonna tell us which patients
NOTE Confidence: 0.9600552
00:32:12.659 --> 00:32:13.299 are gonna stay in an
NOTE Confidence: 0.9600552
00:32:13.299 --> 00:32:14.580 interminate phase, and we do
NOTE Confidence: 0.9600552
00:32:14.580 --> 00:32:15.460 not need to worry about
NOTE Confidence: 0.9600552
00:32:15.460 --> 00:32:16.980 you, and which patients are
NOTE Confidence: 0.9600552
00:32:16.980 --> 00:32:18.020 going to progress, and we
NOTE Confidence: 0.9600552
00:32:18.020 --> 00:32:18.980 really do need to worry
NOTE Confidence: 0.9600552
00:32:18.980 --> 00:32:19.640 about you.
NOTE Confidence: 0.9779898
00:32:20.179 --> 00:32:21.460 Okay. So this is a
NOTE Confidence: 0.9779898
00:32:21.460 --> 00:32:22.980 busy, busy, busy, busy slide
NOTE Confidence: 0.9779898
00:32:22.980 --> 00:32:24.120 about cardiac pathophysiology.
NOTE Confidence: 0.92458767
00:32:24.580 --> 00:32:25.780 I really just wanna hammer
NOTE Confidence: 0.92458767
00:32:25.780 --> 00:32:26.505 that there are probably
NOTE Confidence: 0.85270184
00:32:28.105 --> 00:32:29.065 mechanisms, all of which cause
NOTE Confidence: 0.85270184
00:32:29.065 --> 00:32:30.925 myocardial scar and fibrosis.
NOTE Confidence: 0.8001709

00:32:31.305 --> 00:32:32.605 So there's parasite persistence.
NOTE Confidence: 0.8977661

00:32:32.905 --> 00:32:34.225 There's immune and inflammatory,
NOTE Confidence: 0.95528156

00:32:34.665 --> 00:32:36.365 mediated injury and dysregulation.
NOTE Confidence: 0.9829712

00:32:36.985 --> 00:32:38.905 There's microvascular abnormalities, which is
NOTE Confidence: 0.9829712

00:32:38.905 --> 00:32:40.105 important because we do think
NOTE Confidence: 0.9829712

00:32:40.105 --> 00:32:41.380 watershed ischemia plays a role
NOTE Confidence: 0.9829712

00:32:41.380 --> 00:32:42.360 in some of the pathophysiology
NOTE Confidence: 0.98881024

00:32:42.980 --> 00:32:44.200 and autonomic derangements.
NOTE Confidence: 0.95453554

00:32:44.980 --> 00:32:46.020 And we have even more
NOTE Confidence: 0.95453554

00:32:46.020 --> 00:32:47.700 sophisticated analyses of some of
NOTE Confidence: 0.95453554

00:32:47.700 --> 00:32:48.520 these biomarkers,
NOTE Confidence: 0.97995925

00:32:49.060 --> 00:32:51.140 and interferons and interleukins. And
NOTE Confidence: 0.97995925

00:32:51.140 --> 00:32:52.100 I'm gonna leave that for
NOTE Confidence: 0.97995925

00:32:52.100 --> 00:32:53.495 people, to talk. You can
NOTE Confidence: 0.97995925

00:32:53.495 --> 00:32:54.455 ask a question about it,
NOTE Confidence: 0.97995925

00:32:54.455 --> 00:32:55.894 but, but people far more

NOTE Confidence: 0.97995925
00:32:55.894 --> 00:32:56.855 expert than I can answer
NOTE Confidence: 0.97995925
00:32:56.855 --> 00:32:57.735 some of those questions for
NOTE Confidence: 0.97995925
00:32:57.735 --> 00:32:58.235 you.
NOTE Confidence: 0.9739159
00:32:59.495 --> 00:33:00.534 So this slide, though, if
NOTE Confidence: 0.9739159
00:33:00.534 --> 00:33:01.335 I had to show you
NOTE Confidence: 0.9739159
00:33:01.335 --> 00:33:02.455 one slide to tell you
NOTE Confidence: 0.9739159
00:33:02.455 --> 00:33:03.174 all of the bad things
NOTE Confidence: 0.9739159
00:33:03.174 --> 00:33:04.154 that chagas cardiomyopathy
NOTE Confidence: 0.97598267
00:33:04.455 --> 00:33:05.335 can do, it would be
NOTE Confidence: 0.97598267
00:33:05.335 --> 00:33:06.455 this one. So we're gonna
NOTE Confidence: 0.97598267
00:33:06.455 --> 00:33:07.914 start with some gross pathology
NOTE Confidence: 0.97598267
00:33:07.975 --> 00:33:08.475 specimens.
NOTE Confidence: 0.9775309
00:33:08.830 --> 00:33:09.630 I'm gonna tell a story
NOTE Confidence: 0.9775309
00:33:09.630 --> 00:33:10.350 about this guy. I don't
NOTE Confidence: 0.9775309
00:33:10.350 --> 00:33:10.990 know if it happens to
NOTE Confidence: 0.9775309

00:33:10.990 --> 00:33:12.270 be true, but I'm imagining
NOTE Confidence: 0.9775309

00:33:12.270 --> 00:33:13.070 this is a patient who
NOTE Confidence: 0.9775309

00:33:13.070 --> 00:33:14.370 came into heart failure clinic,
NOTE Confidence: 0.9756766

00:33:14.910 --> 00:33:16.850 with significant congestive heart failure,
NOTE Confidence: 0.9756766

00:33:17.070 --> 00:33:18.590 also had a stroke, and
NOTE Confidence: 0.9756766

00:33:18.590 --> 00:33:20.370 also had some ventricular tachyarrhythmias.
NOTE Confidence: 0.98311204

00:33:20.750 --> 00:33:21.710 Why? Well, this is a
NOTE Confidence: 0.98311204

00:33:21.710 --> 00:33:23.014 big baggy heart. You can
NOTE Confidence: 0.98311204

00:33:23.014 --> 00:33:24.315 see it's really, really big.
NOTE Confidence: 0.98311204

00:33:24.375 --> 00:33:25.174 You can see there's an
NOTE Confidence: 0.98311204

00:33:25.174 --> 00:33:26.455 arrow pointing towards this red
NOTE Confidence: 0.98311204

00:33:26.455 --> 00:33:27.815 blob at the apex. That's
NOTE Confidence: 0.98311204

00:33:27.815 --> 00:33:29.195 an that's an apical thrombus.
NOTE Confidence: 0.98311204

00:33:29.255 --> 00:33:30.134 And you can see this
NOTE Confidence: 0.98311204

00:33:30.134 --> 00:33:31.255 white line here, which is
NOTE Confidence: 0.98311204

00:33:31.255 --> 00:33:32.855 apical scarring and fibrosis. So

NOTE Confidence: 0.98311204

00:33:32.855 --> 00:33:34.075 this patient really

NOTE Confidence: 0.95189464

00:33:34.455 --> 00:33:35.414 hit for the cycle. He's

NOTE Confidence: 0.95189464

00:33:35.414 --> 00:33:36.455 got every bad thing that

NOTE Confidence: 0.95189464

00:33:36.455 --> 00:33:37.495 chagas can do to you.

NOTE Confidence: 0.95189464

00:33:37.495 --> 00:33:38.235 Heart failure,

NOTE Confidence: 0.9970703

00:33:38.610 --> 00:33:39.910 stroke, and arrhythmia.

NOTE Confidence: 0.9892462

00:33:40.370 --> 00:33:41.410 This is also probably a

NOTE Confidence: 0.9892462

00:33:41.410 --> 00:33:42.610 patient who's showing up in

NOTE Confidence: 0.9892462

00:33:42.610 --> 00:33:44.370 your cardiology office, and you're

NOTE Confidence: 0.9892462

00:33:44.370 --> 00:33:45.890 going to do diagnostic testing

NOTE Confidence: 0.9892462

00:33:45.890 --> 00:33:47.090 for Chagas disease because it's

NOTE Confidence: 0.9892462

00:33:47.090 --> 00:33:48.309 a symptomatic patient.

NOTE Confidence: 0.9994575

00:33:48.690 --> 00:33:49.890 Unlike the story that I

NOTE Confidence: 0.9994575

00:33:49.890 --> 00:33:50.985 tell about this patient

NOTE Confidence: 0.99769425

00:33:51.785 --> 00:33:53.625 who actually was probably fine

NOTE Confidence: 0.99769425

00:33:53.625 --> 00:33:55.065 until the day that he
NOTE Confidence: 0.99769425

00:33:55.065 --> 00:33:56.505 had a massive right middle
NOTE Confidence: 0.99769425

00:33:56.505 --> 00:33:57.804 cerebral artery stroke
NOTE Confidence: 0.978689

00:33:58.105 --> 00:33:59.804 and now is totally incapacitated.
NOTE Confidence: 0.978689

00:34:00.025 --> 00:34:00.825 Why do I say that?
NOTE Confidence: 0.978689

00:34:00.825 --> 00:34:02.184 Because, otherwise, this heart looks
NOTE Confidence: 0.978689

00:34:02.184 --> 00:34:03.385 really pretty healthy. Right? There's
NOTE Confidence: 0.978689

00:34:03.385 --> 00:34:05.010 maybe even some LVH here,
NOTE Confidence: 0.978689

00:34:05.090 --> 00:34:06.790 but it's fundamentally healthy myocardial
NOTE Confidence: 0.978689

00:34:06.930 --> 00:34:08.770 muscle with this focal apical
NOTE Confidence: 0.978689

00:34:08.770 --> 00:34:10.370 aneurysm that we might miss
NOTE Confidence: 0.978689

00:34:10.370 --> 00:34:11.010 if we don't do our
NOTE Confidence: 0.978689

00:34:11.010 --> 00:34:12.530 echo very carefully. And this
NOTE Confidence: 0.978689

00:34:12.530 --> 00:34:13.410 is a patient where the
NOTE Confidence: 0.978689

00:34:13.410 --> 00:34:14.790 only way we're gonna know
NOTE Confidence: 0.978689

00:34:14.930 --> 00:34:15.810 that this is what this

NOTE Confidence: 0.978689
00:34:15.810 --> 00:34:16.930 patient has is if we've
NOTE Confidence: 0.978689
00:34:16.930 --> 00:34:18.690 done screening for Chagas disease
NOTE Confidence: 0.978689
00:34:18.690 --> 00:34:19.730 just because of where they're
NOTE Confidence: 0.978689
00:34:19.730 --> 00:34:20.955 from. And then we find
NOTE Confidence: 0.978689
00:34:20.955 --> 00:34:21.915 out they have Chagas disease,
NOTE Confidence: 0.978689
00:34:21.915 --> 00:34:22.875 and then we they we
NOTE Confidence: 0.978689
00:34:22.875 --> 00:34:24.475 do their cardiac evaluation, and
NOTE Confidence: 0.978689
00:34:24.475 --> 00:34:25.435 then we find this. And
NOTE Confidence: 0.978689
00:34:25.435 --> 00:34:26.235 then we know that we
NOTE Confidence: 0.978689
00:34:26.235 --> 00:34:27.035 need to worry about the
NOTE Confidence: 0.978689
00:34:27.035 --> 00:34:28.575 risk for thrombotic disease.
NOTE Confidence: 0.98443806
00:34:29.035 --> 00:34:30.235 Same for this patient here.
NOTE Confidence: 0.98443806
00:34:30.235 --> 00:34:31.355 I'm imagining this is a
NOTE Confidence: 0.98443806
00:34:31.355 --> 00:34:32.475 patient who was out running
NOTE Confidence: 0.98443806
00:34:32.475 --> 00:34:33.595 around on the soccer field
NOTE Confidence: 0.98443806

00:34:33.595 --> 00:34:34.475 and all of a sudden
NOTE Confidence: 0.98443806

00:34:34.475 --> 00:34:36.090 had sudden cardiac death. This
NOTE Confidence: 0.98443806

00:34:36.090 --> 00:34:37.050 is a patient who has
NOTE Confidence: 0.98443806

00:34:37.050 --> 00:34:39.310 pretty normal looking distal inferolateral
NOTE Confidence: 0.9542809

00:34:39.610 --> 00:34:40.970 wall, but scarring here in
NOTE Confidence: 0.9542809

00:34:40.970 --> 00:34:42.489 the basal inferolateral wall. That's
NOTE Confidence: 0.9542809

00:34:42.489 --> 00:34:43.530 what that arrow was showing.
NOTE Confidence: 0.9542809

00:34:43.530 --> 00:34:44.330 Thought to be due to
NOTE Confidence: 0.9542809

00:34:44.330 --> 00:34:45.310 watershed ischemia.
NOTE Confidence: 0.9787842

00:34:45.610 --> 00:34:47.150 This is intensely arrhythmogenic.
NOTE Confidence: 0.9817908

00:34:47.610 --> 00:34:48.410 So this might be a
NOTE Confidence: 0.9817908

00:34:48.410 --> 00:34:49.690 patient, again, who the only
NOTE Confidence: 0.9817908

00:34:49.690 --> 00:34:50.650 way we know that they
NOTE Confidence: 0.9817908

00:34:50.650 --> 00:34:52.605 have this potentially life altering
NOTE Confidence: 0.9817908

00:34:52.905 --> 00:34:54.345 problem with their heart is
NOTE Confidence: 0.9817908

00:34:54.345 --> 00:34:55.625 if we've screened them for

NOTE Confidence: 0.9817908
00:34:55.625 --> 00:34:57.065 Chagas disease, and then we
NOTE Confidence: 0.9817908
00:34:57.065 --> 00:34:58.665 do the appropriate cardiac testing
NOTE Confidence: 0.9817908
00:34:58.665 --> 00:34:59.705 downstream to be able to
NOTE Confidence: 0.9817908
00:34:59.705 --> 00:35:01.065 re-stratify them for the bad
NOTE Confidence: 0.9817908
00:35:01.065 --> 00:35:02.205 complications of Chagas.
NOTE Confidence: 0.97449243
00:35:02.665 --> 00:35:03.785 Finally, with this, I wanted
NOTE Confidence: 0.97449243
00:35:03.785 --> 00:35:04.830 just to remind myself to
NOTE Confidence: 0.97449243
00:35:04.830 --> 00:35:06.110 remind you that Chagas causes
NOTE Confidence: 0.97449243
00:35:06.110 --> 00:35:06.610 bradyarrhythmias
NOTE Confidence: 0.96098983
00:35:07.070 --> 00:35:08.130 in addition to tachyarrhythmias.
NOTE Confidence: 0.92873806
00:35:08.510 --> 00:35:09.310 You can see this is
NOTE Confidence: 0.92873806
00:35:09.310 --> 00:35:10.510 intensified process of the His
NOTE Confidence: 0.92873806
00:35:10.510 --> 00:35:11.489 Purkinje system.
NOTE Confidence: 0.99921876
00:35:11.790 --> 00:35:13.489 And I also want to
NOTE Confidence: 0.99150693
00:35:13.790 --> 00:35:14.910 hammer on you with my
NOTE Confidence: 0.99150693

00:35:14.910 --> 00:35:16.910 hammer that Chagas disease is

NOTE Confidence: 0.99150693

00:35:16.910 --> 00:35:17.410 bizarrely

NOTE Confidence: 0.9980251

00:35:17.715 --> 00:35:18.935 like sarcoid cardiomyopathy.

NOTE Confidence: 0.99233216

00:35:19.475 --> 00:35:20.355 So if you're seeing a

NOTE Confidence: 0.99233216

00:35:20.355 --> 00:35:21.475 patient who has these kinds

NOTE Confidence: 0.99233216

00:35:21.475 --> 00:35:22.995 of manifestations and you're thinking

NOTE Confidence: 0.99233216

00:35:22.995 --> 00:35:24.275 about sarcoid, but they happen

NOTE Confidence: 0.99233216

00:35:24.275 --> 00:35:25.155 to be speaking to you

NOTE Confidence: 0.99233216

00:35:25.155 --> 00:35:26.755 in Spanish, you really need

NOTE Confidence: 0.99233216

00:35:26.755 --> 00:35:27.955 to be thinking about Chagas

NOTE Confidence: 0.99233216

00:35:27.955 --> 00:35:28.455 disease.

NOTE Confidence: 0.94329834

00:35:28.755 --> 00:35:29.955 At the some of the

NOTE Confidence: 0.94329834

00:35:29.955 --> 00:35:31.955 overlaps are really, really scary

NOTE Confidence: 0.94329834

00:35:31.955 --> 00:35:32.695 and intriguing.

NOTE Confidence: 0.9861979

00:35:33.660 --> 00:35:34.940 Okay. So now what we're

NOTE Confidence: 0.9861979

00:35:34.940 --> 00:35:35.900 gonna do is we're gonna

NOTE Confidence: 0.9861979
00:35:35.900 --> 00:35:37.180 run through a real case
NOTE Confidence: 0.9861979
00:35:37.180 --> 00:35:38.460 presentation. This was me playing
NOTE Confidence: 0.9861979
00:35:38.460 --> 00:35:39.500 around with AI. This is
NOTE Confidence: 0.9861979
00:35:39.500 --> 00:35:40.940 not actually the patient, but,
NOTE Confidence: 0.9343959
00:35:41.339 --> 00:35:42.299 a a case that we
NOTE Confidence: 0.9343959
00:35:42.299 --> 00:35:43.579 did actually see, and I
NOTE Confidence: 0.9343959
00:35:43.579 --> 00:35:44.880 think it's really illustrative
NOTE Confidence: 0.9977417
00:35:45.180 --> 00:35:46.480 as to how the,
NOTE Confidence: 0.98971736
00:35:46.940 --> 00:35:48.140 the care in the United
NOTE Confidence: 0.98971736
00:35:48.140 --> 00:35:49.885 States is not designed to
NOTE Confidence: 0.98971736
00:35:49.885 --> 00:35:51.565 really offer optimal care to
NOTE Confidence: 0.98971736
00:35:51.565 --> 00:35:52.224 these patients.
NOTE Confidence: 0.9944661
00:35:52.684 --> 00:35:54.045 Even in a hospital where
NOTE Confidence: 0.9944661
00:35:54.045 --> 00:35:55.744 I had already spent probably
NOTE Confidence: 0.9944661
00:35:55.964 --> 00:35:56.704 five years
NOTE Confidence: 0.98967487

00:35:57.404 --> 00:35:59.164 telling every single fellow about
NOTE Confidence: 0.98967487

00:35:59.164 --> 00:36:00.684 Chagas disease, talking until I
NOTE Confidence: 0.98967487

00:36:00.684 --> 00:36:01.565 was blue in the face
NOTE Confidence: 0.98967487

00:36:01.565 --> 00:36:03.030 to every single Echolab attending.
NOTE Confidence: 0.98967487

00:36:03.030 --> 00:36:04.230 So I would consider people
NOTE Confidence: 0.98967487

00:36:04.230 --> 00:36:05.670 to actually know about Chagas
NOTE Confidence: 0.98967487

00:36:05.670 --> 00:36:06.710 disease. Maybe I just did
NOTE Confidence: 0.98967487

00:36:06.710 --> 00:36:08.150 a really bad job, but
NOTE Confidence: 0.98967487

00:36:08.150 --> 00:36:08.950 I don't think we did
NOTE Confidence: 0.98967487

00:36:08.950 --> 00:36:09.830 a great job with this
NOTE Confidence: 0.98967487

00:36:09.830 --> 00:36:11.110 patient. So fifty six year
NOTE Confidence: 0.98967487

00:36:11.110 --> 00:36:12.330 old man from El Salvador,
NOTE Confidence: 0.96614295

00:36:12.790 --> 00:36:14.390 no past medical history, no
NOTE Confidence: 0.96614295

00:36:14.390 --> 00:36:15.895 meds, and no insurance. He
NOTE Confidence: 0.96614295

00:36:15.895 --> 00:36:17.174 presented to the hospital with
NOTE Confidence: 0.96614295

00:36:17.174 --> 00:36:18.375 sudden onset of left sided

NOTE Confidence: 0.96614295

00:36:18.375 --> 00:36:19.895 weakness and third speech. He

NOTE Confidence: 0.96614295

00:36:19.895 --> 00:36:20.795 was quite hypertensive.

NOTE Confidence: 0.95726275

00:36:21.575 --> 00:36:23.515 Baseline labs otherwise looked okay,

NOTE Confidence: 0.95726275

00:36:23.654 --> 00:36:25.094 and his MRI showed an

NOTE Confidence: 0.95726275

00:36:25.094 --> 00:36:26.454 acute right frontal stroke from

NOTE Confidence: 0.95726275

00:36:26.454 --> 00:36:27.974 an occluded right MCA, which

NOTE Confidence: 0.95726275

00:36:27.974 --> 00:36:29.190 is a classic place for

NOTE Confidence: 0.95726275

00:36:29.190 --> 00:36:30.630 a cardio embolic disease from

NOTE Confidence: 0.95726275

00:36:30.630 --> 00:36:32.310 Chagas disease. He also was

NOTE Confidence: 0.95726275

00:36:32.310 --> 00:36:33.510 noted to have had prior

NOTE Confidence: 0.95726275

00:36:33.510 --> 00:36:35.190 old left cerebellar and cerebral,

NOTE Confidence: 0.9932658

00:36:35.589 --> 00:36:37.349 strokes noted. So here's his

NOTE Confidence: 0.9932658

00:36:37.349 --> 00:36:37.849 EKG.

NOTE Confidence: 0.9720871

00:36:38.710 --> 00:36:40.790 So anybody who is familiar

NOTE Confidence: 0.9720871

00:36:40.790 --> 00:36:42.230 with Chagas disease knows that

NOTE Confidence: 0.9720871

00:36:42.230 --> 00:36:43.910 this is Chagas disease. Right?

NOTE Confidence: 0.9720871

00:36:43.910 --> 00:36:44.895 So he's got a right

NOTE Confidence: 0.9720871

00:36:44.895 --> 00:36:46.321 bundle branch block. I don't

NOTE Confidence: 0.9720871

00:36:46.321 --> 00:36:47.748 know if there's any EPs

NOTE Confidence: 0.9720871

00:36:47.748 --> 00:36:49.174 in the audience who wanna

NOTE Confidence: 0.9720871

00:36:49.174 --> 00:36:50.600 weigh on whether or not

NOTE Confidence: 0.9720871

00:36:50.600 --> 00:36:52.027 this is the left anterior

NOTE Confidence: 0.9720871

00:36:52.027 --> 00:36:53.453 fascicular block or whether or

NOTE Confidence: 0.9720871

00:36:53.453 --> 00:36:54.880 not we just call it

NOTE Confidence: 0.9720871

00:36:54.880 --> 00:36:56.306 a bizarre axis, but it's

NOTE Confidence: 0.9720871

00:36:56.306 --> 00:36:57.732 clearly a very, very pathological

NOTE Confidence: 0.9720871

00:36:57.732 --> 00:36:59.159 EKG that is very suggestive

NOTE Confidence: 0.9720871

00:36:59.159 --> 00:37:00.940 of Chagas disease. So let's

NOTE Confidence: 0.9720871

00:37:00.940 --> 00:37:01.820 talk a little bit about

NOTE Confidence: 0.9720871

00:37:01.820 --> 00:37:03.260 the EKG with Chagas disease,

NOTE Confidence: 0.9720871

00:37:03.500 --> 00:37:04.140 just to sort of make

NOTE Confidence: 0.9720871

00:37:04.140 --> 00:37:05.100 sure that everybody's on the

NOTE Confidence: 0.9720871

00:37:05.100 --> 00:37:05.900 same we have a level

NOTE Confidence: 0.9720871

00:37:05.900 --> 00:37:07.180 playing field here. We know

NOTE Confidence: 0.9720871

00:37:07.180 --> 00:37:08.460 that Chagas disease does like

NOTE Confidence: 0.9720871

00:37:08.460 --> 00:37:09.660 to attack the conduction system,

NOTE Confidence: 0.9720871

00:37:09.660 --> 00:37:10.540 and this is a meta

NOTE Confidence: 0.9720871

00:37:10.540 --> 00:37:12.300 analysis of about forty nine

NOTE Confidence: 0.9720871

00:37:12.300 --> 00:37:13.734 studies with thirty two thousand

NOTE Confidence: 0.9720871

00:37:13.734 --> 00:37:14.535 patients in it. And these

NOTE Confidence: 0.9720871

00:37:14.535 --> 00:37:15.815 are the EKG findings that

NOTE Confidence: 0.9720871

00:37:15.815 --> 00:37:17.094 sort of jumped out as

NOTE Confidence: 0.9720871

00:37:17.094 --> 00:37:18.875 being highly associated with Chagas.

NOTE Confidence: 0.9867935

00:37:19.335 --> 00:37:20.135 I do like to show

NOTE Confidence: 0.9867935

00:37:20.135 --> 00:37:21.094 this, but then I always

NOTE Confidence: 0.9867935

00:37:21.094 --> 00:37:22.055 have to say, just because

NOTE Confidence: 0.9867935

00:37:22.055 --> 00:37:23.575 your EKG abnormality isn't on
NOTE Confidence: 0.9867935

00:37:23.575 --> 00:37:24.375 this list does not mean
NOTE Confidence: 0.9867935

00:37:24.375 --> 00:37:25.255 that the patient doesn't have
NOTE Confidence: 0.9867935

00:37:25.255 --> 00:37:26.075 Chagas cardiomyopathy.
NOTE Confidence: 0.98402405

00:37:26.375 --> 00:37:27.810 There's some other notable things
NOTE Confidence: 0.98402405

00:37:27.810 --> 00:37:28.770 that aren't on this list
NOTE Confidence: 0.98402405

00:37:28.770 --> 00:37:29.969 that just weren't as highly
NOTE Confidence: 0.98402405

00:37:29.969 --> 00:37:30.469 associated.
NOTE Confidence: 0.99303746

00:37:30.850 --> 00:37:31.969 And I do also wanna
NOTE Confidence: 0.99303746

00:37:31.969 --> 00:37:33.650 say that indeterminate Chagas disease
NOTE Confidence: 0.99303746

00:37:33.650 --> 00:37:34.450 really means that you have
NOTE Confidence: 0.99303746

00:37:34.450 --> 00:37:35.350 a normal EKG.
NOTE Confidence: 0.9893799

00:37:35.650 --> 00:37:36.850 And so things that aren't
NOTE Confidence: 0.9893799

00:37:36.850 --> 00:37:38.210 normal, you probably need to
NOTE Confidence: 0.9893799

00:37:38.210 --> 00:37:39.090 think about them even if
NOTE Confidence: 0.9893799

00:37:39.090 --> 00:37:40.050 we're not even if they're

NOTE Confidence: 0.9893799

00:37:40.050 --> 00:37:40.815 not on this list.

NOTE Confidence: 0.9750929

00:37:41.375 --> 00:37:42.335 Moving along, though, this is

NOTE Confidence: 0.9750929

00:37:42.335 --> 00:37:43.135 a different way of cutting

NOTE Confidence: 0.9750929

00:37:43.135 --> 00:37:44.255 into the same problem. These

NOTE Confidence: 0.9750929

00:37:44.255 --> 00:37:45.694 are two datasets from places

NOTE Confidence: 0.9750929

00:37:45.694 --> 00:37:46.575 that looked at folks who

NOTE Confidence: 0.9750929

00:37:46.575 --> 00:37:47.694 actually had heart failure. The

NOTE Confidence: 0.9750929

00:37:47.694 --> 00:37:48.815 top is from Brazil. The

NOTE Confidence: 0.9750929

00:37:48.815 --> 00:37:50.015 bottom is from the Paradigm

NOTE Confidence: 0.9750929

00:37:50.015 --> 00:37:51.935 atmosphere heart failure dataset. And

NOTE Confidence: 0.9750929

00:37:51.935 --> 00:37:53.055 what you see is a

NOTE Confidence: 0.9750929

00:37:53.055 --> 00:37:53.555 bizarre,

NOTE Confidence: 0.9671721

00:37:54.430 --> 00:37:55.630 predilection of the folks with

NOTE Confidence: 0.9671721

00:37:55.630 --> 00:37:56.750 Chagas to have right bundle

NOTE Confidence: 0.9671721

00:37:56.750 --> 00:37:58.270 branch block or bifascicular block.

NOTE Confidence: 0.9671721

00:37:58.270 --> 00:37:59.310 So fifty percent of those
NOTE Confidence: 0.9671721

00:37:59.310 --> 00:38:01.330 Chagas patients had bifascicular block.
NOTE Confidence: 0.9671721

00:38:01.390 --> 00:38:02.430 So that means to me,
NOTE Confidence: 0.9671721

00:38:02.430 --> 00:38:04.610 Spanish speaker, bad heart, bifascicular
NOTE Confidence: 0.9671721

00:38:04.910 --> 00:38:06.590 block, my pretest probability for
NOTE Confidence: 0.9671721

00:38:06.590 --> 00:38:07.935 Chagas disease is is just
NOTE Confidence: 0.9671721

00:38:07.935 --> 00:38:09.535 through the roof. And interestingly,
NOTE Confidence: 0.9671721

00:38:09.535 --> 00:38:10.975 the other non ischemic, right
NOTE Confidence: 0.9671721

00:38:10.975 --> 00:38:12.094 bundle branch block is just
NOTE Confidence: 0.9671721

00:38:12.094 --> 00:38:13.775 not that common except for
NOTE Confidence: 0.9671721

00:38:13.775 --> 00:38:14.975 sarcoids. So just keep that
NOTE Confidence: 0.9671721

00:38:14.975 --> 00:38:15.715 in your mind.
NOTE Confidence: 0.9363732

00:38:16.015 --> 00:38:17.215 The but is what is
NOTE Confidence: 0.9363732

00:38:17.215 --> 00:38:18.415 also true is that as
NOTE Confidence: 0.9363732

00:38:18.415 --> 00:38:19.235 we were saying,
NOTE Confidence: 0.9860584

00:38:19.550 --> 00:38:20.830 the Chagas disease patients can't

NOTE Confidence: 0.9860584

00:38:20.830 --> 00:38:21.950 present with left bundle. So

NOTE Confidence: 0.9860584

00:38:21.950 --> 00:38:22.790 just because you don't have

NOTE Confidence: 0.9860584

00:38:22.790 --> 00:38:23.710 a right bundle if you

NOTE Confidence: 0.9860584

00:38:23.710 --> 00:38:24.590 do have a left bundle,

NOTE Confidence: 0.9860584

00:38:24.590 --> 00:38:25.550 it doesn't mean it's not

NOTE Confidence: 0.9860584

00:38:25.550 --> 00:38:27.469 Chagas disease. Same basic pattern

NOTE Confidence: 0.9860584

00:38:27.469 --> 00:38:29.090 here in this lower slide,

NOTE Confidence: 0.9860584

00:38:29.310 --> 00:38:31.330 with slightly different numbers. Okay.

NOTE Confidence: 0.9860584

00:38:31.485 --> 00:38:32.445 So this was his chest

NOTE Confidence: 0.9860584

00:38:32.445 --> 00:38:32.945 X-ray.

NOTE Confidence: 0.9932836

00:38:33.405 --> 00:38:34.445 I you know, I it's

NOTE Confidence: 0.9932836

00:38:34.445 --> 00:38:35.245 been so long since I

NOTE Confidence: 0.9932836

00:38:35.245 --> 00:38:36.205 thought about chest X rays.

NOTE Confidence: 0.9932836

00:38:36.205 --> 00:38:37.085 I'm always trying to figure

NOTE Confidence: 0.9932836

00:38:37.085 --> 00:38:38.125 out which are the anterior

NOTE Confidence: 0.9932836

00:38:38.125 --> 00:38:39.245 ribs, which are the posterior
NOTE Confidence: 0.9932836

00:38:39.245 --> 00:38:40.045 ribs. Is it a good
NOTE Confidence: 0.9932836

00:38:40.045 --> 00:38:41.085 inflation? I think we can
NOTE Confidence: 0.9932836

00:38:41.085 --> 00:38:42.125 all agree that this patient
NOTE Confidence: 0.9932836

00:38:42.125 --> 00:38:43.345 has a dilated heart,
NOTE Confidence: 0.9953613

00:38:43.725 --> 00:38:45.085 and that will become relevant
NOTE Confidence: 0.9953613

00:38:45.085 --> 00:38:45.825 in a moment.
NOTE Confidence: 0.9829883

00:38:46.299 --> 00:38:47.260 And this is his echo.
NOTE Confidence: 0.9829883

00:38:47.260 --> 00:38:48.859 And here's grumpy echo lab
NOTE Confidence: 0.9829883

00:38:48.859 --> 00:38:50.460 lady again. This was just
NOTE Confidence: 0.9829883

00:38:50.700 --> 00:38:51.819 it was bad. We did
NOTE Confidence: 0.9829883

00:38:51.819 --> 00:38:52.779 a bad job with these
NOTE Confidence: 0.9829883

00:38:52.779 --> 00:38:53.660 echoes, and I will show
NOTE Confidence: 0.9829883

00:38:53.660 --> 00:38:54.700 you why. I'm really embarrassed
NOTE Confidence: 0.9829883

00:38:54.700 --> 00:38:55.980 that doctor McNamara is here,
NOTE Confidence: 0.9829883

00:38:55.980 --> 00:38:56.940 and I'm showing him these

NOTE Confidence: 0.9829883
00:38:56.940 --> 00:38:58.400 terrible echoes that we did.
NOTE Confidence: 0.95790607
00:38:59.099 --> 00:39:00.219 If I can get them
NOTE Confidence: 0.95790607
00:39:00.219 --> 00:39:01.565 to play, which would be
NOTE Confidence: 0.95790607
00:39:01.565 --> 00:39:02.465 very important.
NOTE Confidence: 0.99487305
00:39:03.165 --> 00:39:03.905 Let's see.
NOTE Confidence: 0.98376125
00:39:04.285 --> 00:39:05.665 Okay. Here's the first one.
NOTE Confidence: 0.98376125
00:39:05.805 --> 00:39:06.925 So, you know, it's a
NOTE Confidence: 0.98376125
00:39:06.925 --> 00:39:08.445 parasternal long axis view. I
NOTE Confidence: 0.98376125
00:39:08.445 --> 00:39:09.245 will tell you that now
NOTE Confidence: 0.98376125
00:39:09.245 --> 00:39:10.385 that I am I'm,
NOTE Confidence: 0.9562041
00:39:10.685 --> 00:39:12.525 grumpy shot, echo lab lady
NOTE Confidence: 0.9562041
00:39:12.525 --> 00:39:13.725 with my with my hammer
NOTE Confidence: 0.9562041
00:39:13.725 --> 00:39:14.920 and my nail, I'm always
NOTE Confidence: 0.9562041
00:39:14.920 --> 00:39:16.300 looking at the basal inferolateral
NOTE Confidence: 0.9562041
00:39:16.440 --> 00:39:17.320 wall, and I didn't feel
NOTE Confidence: 0.9562041

00:39:17.320 --> 00:39:18.200 so good about the basal
NOTE Confidence: 0.9562041

00:39:18.200 --> 00:39:19.640 inferolateral wall mostly that we
NOTE Confidence: 0.9562041

00:39:19.640 --> 00:39:20.840 didn't see it. Here's the
NOTE Confidence: 0.9562041

00:39:20.840 --> 00:39:22.120 next image. This is just
NOTE Confidence: 0.9562041

00:39:22.120 --> 00:39:24.120 a terrible foreshortened apical four
NOTE Confidence: 0.9562041

00:39:24.120 --> 00:39:25.080 chamber view. I didn't it's
NOTE Confidence: 0.9562041

00:39:25.080 --> 00:39:25.960 been our right right? It's
NOTE Confidence: 0.9562041

00:39:25.960 --> 00:39:27.160 terrible. It's such a bad
NOTE Confidence: 0.9562041

00:39:27.160 --> 00:39:29.114 echo. And then here, we're,
NOTE Confidence: 0.9562041

00:39:29.114 --> 00:39:30.555 like, following the strongest guidelines.
NOTE Confidence: 0.9562041

00:39:30.555 --> 00:39:31.355 Right? We're supposed to be
NOTE Confidence: 0.9562041

00:39:31.355 --> 00:39:32.315 using three d. Well, you
NOTE Confidence: 0.9562041

00:39:32.315 --> 00:39:33.355 can't take a bad two
NOTE Confidence: 0.9562041

00:39:33.355 --> 00:39:34.315 d image and get a
NOTE Confidence: 0.9562041

00:39:34.315 --> 00:39:35.275 good three d image out
NOTE Confidence: 0.9562041

00:39:35.275 --> 00:39:36.075 of it. Right? It just

NOTE Confidence: 0.9562041

00:39:36.155 --> 00:39:37.435 it won't work. And forget

NOTE Confidence: 0.9562041

00:39:37.435 --> 00:39:38.555 about strain. Like, it would

NOTE Confidence: 0.9562041

00:39:38.555 --> 00:39:39.594 be wonderful to do strain,

NOTE Confidence: 0.9562041

00:39:39.594 --> 00:39:40.815 but not on these images.

NOTE Confidence: 0.98763657

00:39:41.340 --> 00:39:43.100 Okay. So at this point,

NOTE Confidence: 0.98763657

00:39:43.100 --> 00:39:44.620 very interestingly, I had given

NOTE Confidence: 0.98763657

00:39:44.620 --> 00:39:45.500 an in service to the

NOTE Confidence: 0.98763657

00:39:45.500 --> 00:39:47.100 neurology service. So I got

NOTE Confidence: 0.98763657

00:39:47.100 --> 00:39:48.239 a call from the neurology

NOTE Confidence: 0.98763657

00:39:48.300 --> 00:39:49.260 PA who said to me,

NOTE Confidence: 0.98763657

00:39:49.260 --> 00:39:50.060 we have a patient who

NOTE Confidence: 0.98763657

00:39:50.060 --> 00:39:51.100 has a stroke, and he's

NOTE Confidence: 0.98763657

00:39:51.100 --> 00:39:52.140 from El Salvador. Do you

NOTE Confidence: 0.98763657

00:39:52.140 --> 00:39:53.180 think he could have Chagas

NOTE Confidence: 0.98763657

00:39:53.180 --> 00:39:53.680 disease?

NOTE Confidence: 0.95853364

00:39:54.405 --> 00:39:55.925 Good for you. So I
NOTE Confidence: 0.95853364

00:39:55.925 --> 00:39:57.125 call I call the lab,
NOTE Confidence: 0.95853364

00:39:57.125 --> 00:39:57.864 and I'm like,
NOTE Confidence: 0.9608109

00:39:58.165 --> 00:39:59.364 I don't think we really
NOTE Confidence: 0.9608109

00:39:59.364 --> 00:40:00.405 clarified what was going on
NOTE Confidence: 0.9608109

00:40:00.405 --> 00:40:01.285 with the apex. Would you
NOTE Confidence: 0.9608109

00:40:01.285 --> 00:40:02.405 mind bringing the patient back
NOTE Confidence: 0.9608109

00:40:02.405 --> 00:40:03.844 down for contrast, which we
NOTE Confidence: 0.9608109

00:40:03.844 --> 00:40:04.585 have. Right?
NOTE Confidence: 0.9335485

00:40:04.885 --> 00:40:05.765 So and they should have
NOTE Confidence: 0.9335485

00:40:05.765 --> 00:40:07.070 given him anyway. Chagas
NOTE Confidence: 0.9791233

00:40:07.530 --> 00:40:08.810 Chagas or no. This patient
NOTE Confidence: 0.9791233

00:40:08.810 --> 00:40:10.489 definitely needed contrast. So here
NOTE Confidence: 0.9791233

00:40:10.489 --> 00:40:11.930 are the contrast images, and
NOTE Confidence: 0.9791233

00:40:11.930 --> 00:40:13.450 I'm even still embarrassed about
NOTE Confidence: 0.9791233

00:40:13.450 --> 00:40:14.570 these. So but I think

NOTE Confidence: 0.9791233

00:40:14.570 --> 00:40:15.610 what you can see is

NOTE Confidence: 0.9791233

00:40:15.610 --> 00:40:16.890 that the Apex doesn't look

NOTE Confidence: 0.9791233

00:40:16.890 --> 00:40:18.410 a hundred percent normal. It

NOTE Confidence: 0.9791233

00:40:18.410 --> 00:40:20.010 wasn't a beautiful contrast injection.

NOTE Confidence: 0.9791233

00:40:20.010 --> 00:40:20.890 This is probably a little

NOTE Confidence: 0.9791233

00:40:20.890 --> 00:40:22.125 bit of a trabeculation there.

NOTE Confidence: 0.9791233

00:40:22.125 --> 00:40:23.165 And then they went off

NOTE Confidence: 0.9791233

00:40:23.165 --> 00:40:23.665 faxes.

NOTE Confidence: 0.96498615

00:40:25.005 --> 00:40:26.125 And from one beat to

NOTE Confidence: 0.96498615

00:40:26.125 --> 00:40:27.405 the next, the guy breathes

NOTE Confidence: 0.96498615

00:40:27.405 --> 00:40:28.484 in, breathes out. But you're

NOTE Confidence: 0.96498615

00:40:28.605 --> 00:40:29.645 I'm still not feeling great

NOTE Confidence: 0.96498615

00:40:29.645 --> 00:40:30.925 about the ep Apex. I

NOTE Confidence: 0.96498615

00:40:30.925 --> 00:40:32.045 am feeling a little bit

NOTE Confidence: 0.96498615

00:40:32.045 --> 00:40:33.165 less good about his LV

NOTE Confidence: 0.96498615

00:40:33.165 --> 00:40:33.665 function.

NOTE Confidence: 1

00:40:34.285 --> 00:40:34.785 So

NOTE Confidence: 0.9666783

00:40:35.085 --> 00:40:36.605 the guy the the the

NOTE Confidence: 0.9666783

00:40:36.605 --> 00:40:37.860 director of the echo lab,

NOTE Confidence: 0.9666783

00:40:38.020 --> 00:40:39.460 who knows so much echo,

NOTE Confidence: 0.9666783

00:40:39.460 --> 00:40:41.060 it's ridiculous, writes in his

NOTE Confidence: 0.9666783

00:40:41.060 --> 00:40:42.739 note, there is an echo

NOTE Confidence: 0.9666783

00:40:42.739 --> 00:40:43.940 density at the apex, which

NOTE Confidence: 0.9666783

00:40:43.940 --> 00:40:45.080 we think might be trabeculation

NOTE Confidence: 0.95333767

00:40:45.540 --> 00:40:47.380 because, overall, his dejection fraction

NOTE Confidence: 0.95333767

00:40:47.380 --> 00:40:48.180 is so good. It would

NOTE Confidence: 0.95333767

00:40:48.180 --> 00:40:49.300 seem very unlikely that he

NOTE Confidence: 0.95333767

00:40:49.300 --> 00:40:50.340 would have a thrombus at

NOTE Confidence: 0.95333767

00:40:50.340 --> 00:40:51.000 his apex.

NOTE Confidence: 0.92363423

00:40:51.335 --> 00:40:52.134 At which point, I felt

NOTE Confidence: 0.92363423

00:40:52.134 --> 00:40:53.015 like clearly I must be

NOTE Confidence: 0.92363423

00:40:53.015 --> 00:40:54.954 doing a terrible job because

NOTE Confidence: 0.92363423

00:40:55.174 --> 00:40:56.614 this patient so obviously in

NOTE Confidence: 0.92363423

00:40:56.614 --> 00:40:58.075 my mind had Chagas disease,

NOTE Confidence: 0.92363423

00:40:58.134 --> 00:40:59.255 and, of course, they could

NOTE Confidence: 0.92363423

00:40:59.255 --> 00:41:00.634 have an apical thrombus.

NOTE Confidence: 0.98497313

00:41:00.934 --> 00:41:01.894 So at that point, I

NOTE Confidence: 0.98497313

00:41:01.894 --> 00:41:03.094 said, I'm giving up. The

NOTE Confidence: 0.98497313

00:41:03.094 --> 00:41:04.614 patient needs an MRI, which

NOTE Confidence: 0.98497313

00:41:04.614 --> 00:41:05.790 is what we did next.

NOTE Confidence: 0.97913027

00:41:06.430 --> 00:41:08.030 So I wanna illustrate this

NOTE Confidence: 0.97913027

00:41:08.030 --> 00:41:09.070 point again, though, because I

NOTE Confidence: 0.97913027

00:41:09.070 --> 00:41:10.270 can't all of you who

NOTE Confidence: 0.97913027

00:41:10.270 --> 00:41:10.989 are going out into the

NOTE Confidence: 0.97913027

00:41:10.989 --> 00:41:12.430 world and doing echoes, this

NOTE Confidence: 0.97913027

00:41:12.430 --> 00:41:13.550 is another patient that we

NOTE Confidence: 0.97913027

00:41:13.550 --> 00:41:15.310 identified through the prenatal testing
NOTE Confidence: 0.97913027

00:41:15.310 --> 00:41:16.430 program who had a lot
NOTE Confidence: 0.97913027

00:41:16.430 --> 00:41:18.350 of PVCs on on her
NOTE Confidence: 0.97913027

00:41:18.350 --> 00:41:19.410 baseline ECG.
NOTE Confidence: 0.9681063

00:41:19.765 --> 00:41:21.045 And this is her her
NOTE Confidence: 0.9681063

00:41:21.045 --> 00:41:22.405 apical two chamber view where
NOTE Confidence: 0.9681063

00:41:22.405 --> 00:41:23.285 I think we can agree
NOTE Confidence: 0.9681063

00:41:23.285 --> 00:41:24.484 we don't see the apex
NOTE Confidence: 0.9681063

00:41:24.484 --> 00:41:25.765 well, but we don't see
NOTE Confidence: 0.9681063

00:41:25.765 --> 00:41:27.285 a very, very focal area
NOTE Confidence: 0.9681063

00:41:27.285 --> 00:41:28.025 of her apex.
NOTE Confidence: 0.9929962

00:41:28.405 --> 00:41:29.285 So we brought her back
NOTE Confidence: 0.9929962

00:41:29.285 --> 00:41:30.805 in for contrast, and this
NOTE Confidence: 0.9929962

00:41:30.805 --> 00:41:32.325 is what she has. So
NOTE Confidence: 0.9929962

00:41:32.325 --> 00:41:32.825 contrast,
NOTE Confidence: 0.992469

00:41:33.450 --> 00:41:34.730 game changer. Right? Like, we're

NOTE Confidence: 0.992469
00:41:34.730 --> 00:41:35.930 able to see that apex
NOTE Confidence: 0.992469
00:41:35.930 --> 00:41:37.210 beautifully. We'd be able to
NOTE Confidence: 0.992469
00:41:37.210 --> 00:41:38.010 see whether or not this
NOTE Confidence: 0.992469
00:41:38.010 --> 00:41:39.390 patient had apical thrombus,
NOTE Confidence: 0.9991455
00:41:39.690 --> 00:41:40.890 also a game changer in
NOTE Confidence: 0.9991455
00:41:40.890 --> 00:41:41.790 terms of management.
NOTE Confidence: 0.96426135
00:41:42.170 --> 00:41:43.450 So if there's, like, really
NOTE Confidence: 0.96426135
00:41:43.450 --> 00:41:44.570 one point, if you forget
NOTE Confidence: 0.96426135
00:41:44.570 --> 00:41:46.030 everything else that I say,
NOTE Confidence: 0.96426135
00:41:46.235 --> 00:41:47.935 we should be giving contrast
NOTE Confidence: 0.96426135
00:41:47.995 --> 00:41:49.275 to our patients with Chagas
NOTE Confidence: 0.96426135
00:41:49.275 --> 00:41:50.395 disease where we're thinking about
NOTE Confidence: 0.96426135
00:41:50.395 --> 00:41:51.755 Chagas disease. We should we
NOTE Confidence: 0.96426135
00:41:51.755 --> 00:41:53.135 know a with a hypertrophic
NOTE Confidence: 0.96426135
00:41:53.195 --> 00:41:54.555 cardiomyopathy, we have to worry
NOTE Confidence: 0.96426135

00:41:54.555 --> 00:41:55.995 about those apical aneurysms that

NOTE Confidence: 0.96426135

00:41:55.995 --> 00:41:56.955 we're not gonna see if

NOTE Confidence: 0.96426135

00:41:56.955 --> 00:41:58.175 we don't give contrast

NOTE Confidence: 0.97526395

00:41:58.489 --> 00:41:59.849 or if our sonographers don't

NOTE Confidence: 0.97526395

00:41:59.849 --> 00:42:01.369 do a scrupulous job of

NOTE Confidence: 0.97526395

00:42:01.369 --> 00:42:02.489 off axis imaging for the

NOTE Confidence: 0.97526395

00:42:02.489 --> 00:42:04.410 apex. Chagas disease is exactly

NOTE Confidence: 0.97526395

00:42:04.410 --> 00:42:05.230 the same way.

NOTE Confidence: 0.9621203

00:42:05.609 --> 00:42:07.369 Okay. So what can echo

NOTE Confidence: 0.9621203

00:42:07.369 --> 00:42:08.569 tell us? Well, Mina has

NOTE Confidence: 0.9621203

00:42:08.569 --> 00:42:09.849 already done a fantastic job

NOTE Confidence: 0.9621203

00:42:09.849 --> 00:42:11.130 of explaining that, but I'll

NOTE Confidence: 0.9621203

00:42:11.130 --> 00:42:12.325 review it again. The first

NOTE Confidence: 0.9621203

00:42:12.325 --> 00:42:13.525 thing that echo does is

NOTE Confidence: 0.9621203

00:42:13.525 --> 00:42:14.245 it really you know, it

NOTE Confidence: 0.9621203

00:42:14.245 --> 00:42:15.685 allows us to assess ventricular

NOTE Confidence: 0.9621203

00:42:15.685 --> 00:42:16.885 function, and that will actually

NOTE Confidence: 0.9621203

00:42:16.885 --> 00:42:17.925 allow us to stage the

NOTE Confidence: 0.9621203

00:42:17.925 --> 00:42:18.965 patient. So we do have

NOTE Confidence: 0.9621203

00:42:18.965 --> 00:42:20.105 this staging form,

NOTE Confidence: 0.84227496

00:42:20.485 --> 00:42:22.485 indeterminate form. A is positive

NOTE Confidence: 0.84227496

00:42:22.485 --> 00:42:24.245 serology, normally, KG, no structural

NOTE Confidence: 0.84227496

00:42:24.245 --> 00:42:24.905 heart disease.

NOTE Confidence: 0.97527206

00:42:25.250 --> 00:42:26.849 B one, as defined by

NOTE Confidence: 0.97527206

00:42:26.849 --> 00:42:27.589 the Brazilian,

NOTE Confidence: 0.9593449

00:42:28.450 --> 00:42:29.969 guidelines, is an EF of

NOTE Confidence: 0.9593449

00:42:29.969 --> 00:42:31.329 of over fifty five percent,

NOTE Confidence: 0.9593449

00:42:31.329 --> 00:42:32.390 but structural cardiomyopathy,

NOTE Confidence: 0.959493

00:42:32.849 --> 00:42:34.609 meaning basically normal LV function

NOTE Confidence: 0.959493

00:42:34.609 --> 00:42:35.809 but an abnormal EKG or

NOTE Confidence: 0.959493

00:42:35.809 --> 00:42:37.569 an abnormal subtle abnormal echo

NOTE Confidence: 0.959493

00:42:37.569 --> 00:42:39.224 findings. B two is LV
NOTE Confidence: 0.959493

00:42:39.224 --> 00:42:40.825 dysfunction with no heart failure.
NOTE Confidence: 0.959493

00:42:40.825 --> 00:42:42.105 C is LV dysfunction and
NOTE Confidence: 0.959493

00:42:42.105 --> 00:42:43.385 heart failure. And d is
NOTE Confidence: 0.959493

00:42:43.385 --> 00:42:44.664 bad, you know, your your
NOTE Confidence: 0.959493

00:42:44.664 --> 00:42:46.664 your, advanced heart failure therapy,
NOTE Confidence: 0.959493

00:42:46.825 --> 00:42:48.585 people. So that's really important
NOTE Confidence: 0.959493

00:42:48.585 --> 00:42:50.025 because we do know that
NOTE Confidence: 0.959493

00:42:50.025 --> 00:42:51.144 when we look at mortality
NOTE Confidence: 0.959493

00:42:51.144 --> 00:42:52.344 and Chagas disease that it
NOTE Confidence: 0.959493

00:42:52.344 --> 00:42:53.619 is really very highly tied
NOTE Confidence: 0.959493

00:42:53.619 --> 00:42:54.359 to ejection
NOTE Confidence: 0.9778254

00:42:54.820 --> 00:42:56.339 correction. But we also know
NOTE Confidence: 0.9778254

00:42:56.339 --> 00:42:57.540 that that can't tell us
NOTE Confidence: 0.9778254

00:42:57.540 --> 00:42:59.140 everything. Right? Like, we're missing
NOTE Confidence: 0.9778254

00:42:59.140 --> 00:43:00.339 something here because this is

NOTE Confidence: 0.9778254
00:43:00.339 --> 00:43:01.540 a guy. He didn't die
NOTE Confidence: 0.9778254
00:43:01.540 --> 00:43:03.300 from Chagas disease, but he
NOTE Confidence: 0.9778254
00:43:03.300 --> 00:43:04.739 had a big stroke from
NOTE Confidence: 0.9778254
00:43:04.739 --> 00:43:06.020 Chagas disease, and that has
NOTE Confidence: 0.9778254
00:43:06.020 --> 00:43:07.745 to matter. So our staging
NOTE Confidence: 0.9778254
00:43:07.745 --> 00:43:08.945 system has let us down
NOTE Confidence: 0.9778254
00:43:08.945 --> 00:43:10.165 a little bit because
NOTE Confidence: 0.95496583
00:43:10.465 --> 00:43:11.665 is he really b one?
NOTE Confidence: 0.95496583
00:43:11.665 --> 00:43:13.105 B one sounds kinda mild,
NOTE Confidence: 0.95496583
00:43:13.105 --> 00:43:13.985 but he can't be b
NOTE Confidence: 0.95496583
00:43:13.985 --> 00:43:14.945 one because he just had
NOTE Confidence: 0.95496583
00:43:14.945 --> 00:43:16.805 this huge stroke. So somehow,
NOTE Confidence: 0.9270833
00:43:17.265 --> 00:43:18.565 EF can't be
NOTE Confidence: 0.9804371
00:43:18.864 --> 00:43:19.745 the be all and end
NOTE Confidence: 0.9804371
00:43:19.745 --> 00:43:20.625 all. And you see that
NOTE Confidence: 0.9804371

00:43:20.625 --> 00:43:22.469 actually here in the ejection
NOTE Confidence: 0.9804371

00:43:22.469 --> 00:43:24.150 fraction part where you see
NOTE Confidence: 0.9804371

00:43:24.150 --> 00:43:25.830 that, oh, that EF is
NOTE Confidence: 0.9804371

00:43:25.830 --> 00:43:27.530 really closely tied to overall
NOTE Confidence: 0.9804371

00:43:27.590 --> 00:43:29.610 mortality, really tied to cardiovascular
NOTE Confidence: 0.9804371

00:43:29.910 --> 00:43:31.350 mortality, really tied to heart
NOTE Confidence: 0.9804371

00:43:31.350 --> 00:43:32.469 failure. But when you get
NOTE Confidence: 0.9804371

00:43:32.469 --> 00:43:33.645 to sudden death and stroke,
NOTE Confidence: 0.9804371

00:43:33.965 --> 00:43:35.185 not so much anymore.
NOTE Confidence: 0.9107259

00:43:35.485 --> 00:43:36.445 So we have to think
NOTE Confidence: 0.9107259

00:43:36.445 --> 00:43:37.885 beyond EF even if it
NOTE Confidence: 0.9107259

00:43:37.885 --> 00:43:39.565 is in and and and
NOTE Confidence: 0.9107259

00:43:39.565 --> 00:43:41.245 functional class really important in
NOTE Confidence: 0.9107259

00:43:41.245 --> 00:43:42.705 terms of determining risk.
NOTE Confidence: 0.98929846

00:43:43.005 --> 00:43:43.885 So the other thing is
NOTE Confidence: 0.98929846

00:43:43.885 --> 00:43:45.005 we really wanna focus on

NOTE Confidence: 0.98929846
00:43:45.005 --> 00:43:46.525 this indeterminate form a. What
NOTE Confidence: 0.98929846
00:43:46.525 --> 00:43:47.719 do we know about echoes
NOTE Confidence: 0.98929846
00:43:47.719 --> 00:43:49.099 in patients who are indeterminate
NOTE Confidence: 0.98929846
00:43:49.160 --> 00:43:50.039 phase that might help us
NOTE Confidence: 0.98929846
00:43:50.039 --> 00:43:50.920 figure out whether or not
NOTE Confidence: 0.98929846
00:43:50.920 --> 00:43:51.900 they're gonna progress?
NOTE Confidence: 0.98964846
00:43:52.520 --> 00:43:53.960 And we do know that
NOTE Confidence: 0.98964846
00:43:53.960 --> 00:43:54.920 there are a lot of
NOTE Confidence: 0.98964846
00:43:54.920 --> 00:43:56.200 tools in our toolbox to
NOTE Confidence: 0.98964846
00:43:56.200 --> 00:43:57.420 look at this. There's diastology.
NOTE Confidence: 0.8869629
00:43:57.719 --> 00:43:58.839 There's left atrial size. It
NOTE Confidence: 0.8869629
00:43:58.839 --> 00:44:00.779 could left atrial reservoir strain,
NOTE Confidence: 0.99261475
00:44:01.155 --> 00:44:02.375 RV size and function,
NOTE Confidence: 0.9626773
00:44:02.675 --> 00:44:04.675 global longitudinal strain, which as
NOTE Confidence: 0.9626773
00:44:04.675 --> 00:44:05.635 I've just pointed out to
NOTE Confidence: 0.9626773

00:44:05.635 --> 00:44:07.155 you, like, for me, sometimes
NOTE Confidence: 0.9626773

00:44:07.155 --> 00:44:08.915 that's aspirational. The echo images
NOTE Confidence: 0.9626773

00:44:08.915 --> 00:44:09.875 just have to be good
NOTE Confidence: 0.9626773

00:44:09.875 --> 00:44:10.755 to be able to get
NOTE Confidence: 0.9626773

00:44:10.755 --> 00:44:11.955 good strain. This is an
NOTE Confidence: 0.9626773

00:44:11.955 --> 00:44:13.359 echo I did myself, then
NOTE Confidence: 0.9626773

00:44:13.359 --> 00:44:14.400 I was very proud of
NOTE Confidence: 0.9626773

00:44:14.400 --> 00:44:15.200 my ability to get good
NOTE Confidence: 0.9626773

00:44:15.200 --> 00:44:16.880 strain images. But I noticed
NOTE Confidence: 0.9626773

00:44:16.880 --> 00:44:17.839 that I had this very
NOTE Confidence: 0.9626773

00:44:17.839 --> 00:44:19.200 significant problem here in the
NOTE Confidence: 0.9626773

00:44:19.200 --> 00:44:21.380 poster posterior wall, basal infoposterior,
NOTE Confidence: 0.95017874

00:44:21.839 --> 00:44:23.060 which is where we know
NOTE Confidence: 0.95017874

00:44:23.200 --> 00:44:24.880 that the strongest problems start.
NOTE Confidence: 0.95017874

00:44:24.880 --> 00:44:25.839 But I redid it three
NOTE Confidence: 0.95017874

00:44:25.839 --> 00:44:27.040 times because I was not

NOTE Confidence: 0.95017874

00:44:27.040 --> 00:44:28.364 gonna let bad data have

NOTE Confidence: 0.95017874

00:44:28.364 --> 00:44:29.565 me actually end up giving

NOTE Confidence: 0.95017874

00:44:29.725 --> 00:44:31.165 ascribing to this patient a

NOTE Confidence: 0.95017874

00:44:31.165 --> 00:44:32.445 problem with their inferior posterior

NOTE Confidence: 0.95017874

00:44:32.445 --> 00:44:34.045 wall. So on the basis

NOTE Confidence: 0.95017874

00:44:34.045 --> 00:44:34.844 of this, I wanted this

NOTE Confidence: 0.95017874

00:44:34.844 --> 00:44:35.805 patient to get an MRI.

NOTE Confidence: 0.95017874

00:44:35.805 --> 00:44:37.085 And, unfortunately, bringing it back

NOTE Confidence: 0.95017874

00:44:37.085 --> 00:44:38.045 to the world of Shagas

NOTE Confidence: 0.95017874

00:44:38.045 --> 00:44:39.025 in the United States,

NOTE Confidence: 0.9870157

00:44:39.405 --> 00:44:40.525 after his first visit with

NOTE Confidence: 0.9870157

00:44:40.525 --> 00:44:41.805 me, he had an ankle

NOTE Confidence: 0.9870157

00:44:41.805 --> 00:44:43.080 monitor put on by ice,

NOTE Confidence: 0.9870157

00:44:43.080 --> 00:44:43.960 and he cannot go into

NOTE Confidence: 0.9870157

00:44:43.960 --> 00:44:45.320 the into the magnet. So

NOTE Confidence: 0.9870157

00:44:45.320 --> 00:44:46.040 these are some of the
NOTE Confidence: 0.9870157

00:44:46.040 --> 00:44:47.080 barriers to care that we
NOTE Confidence: 0.9870157

00:44:47.080 --> 00:44:48.700 face, in the United States.
NOTE Confidence: 0.9870157

00:44:49.000 --> 00:44:49.960 In any event, we also
NOTE Confidence: 0.9870157

00:44:49.960 --> 00:44:51.640 know that mechanical dispersion can
NOTE Confidence: 0.9870157

00:44:51.640 --> 00:44:52.520 be helpful in terms of
NOTE Confidence: 0.9870157

00:44:52.520 --> 00:44:54.460 risk of arrhythmia, associated valvular
NOTE Confidence: 0.9870157

00:44:54.520 --> 00:44:55.815 disease, and PA pressure, which
NOTE Confidence: 0.9870157

00:44:55.815 --> 00:44:57.094 is, of course, it's bad.
NOTE Confidence: 0.9870157

00:44:57.094 --> 00:44:58.375 Elevated PA pressure is bad
NOTE Confidence: 0.9870157

00:44:58.375 --> 00:44:59.594 no matter what your cardiomyopathy
NOTE Confidence: 0.9667107

00:44:59.895 --> 00:45:02.295 is. Okay. So what are
NOTE Confidence: 0.9667107

00:45:02.295 --> 00:45:03.575 our additional tools in our
NOTE Confidence: 0.9667107

00:45:03.575 --> 00:45:04.855 Shagas toolkit to try and
NOTE Confidence: 0.9667107

00:45:04.855 --> 00:45:05.815 help us to figure out
NOTE Confidence: 0.9667107

00:45:05.815 --> 00:45:06.614 what's going on with these

NOTE Confidence: 0.9667107

00:45:06.614 --> 00:45:07.575 patients and what we need

NOTE Confidence: 0.9667107

00:45:07.575 --> 00:45:08.550 to worry about with them?

NOTE Confidence: 0.9667107

00:45:08.710 --> 00:45:09.750 Well, we've we've talked a

NOTE Confidence: 0.9667107

00:45:09.750 --> 00:45:10.950 lot about RASI score, and

NOTE Confidence: 0.9667107

00:45:10.950 --> 00:45:12.150 that's really important because if

NOTE Confidence: 0.9667107

00:45:12.150 --> 00:45:12.790 you go to up to

NOTE Confidence: 0.9667107

00:45:12.790 --> 00:45:14.010 date, the Chagas cardiomyopathy

NOTE Confidence: 0.9734863

00:45:14.469 --> 00:45:16.790 section, it's RASI score figures

NOTE Confidence: 0.9734863

00:45:16.790 --> 00:45:17.830 prominently. And if you go

NOTE Confidence: 0.9734863

00:45:17.830 --> 00:45:19.130 to the American Heart Association,

NOTE Confidence: 0.97229004

00:45:19.750 --> 00:45:20.250 Chagas,

NOTE Confidence: 0.82421875

00:45:21.190 --> 00:45:21.690 recommendations,

NOTE Confidence: 0.9731919

00:45:22.415 --> 00:45:23.775 it is recommended that everybody

NOTE Confidence: 0.9731919

00:45:23.775 --> 00:45:25.135 get a Rossi score. And

NOTE Confidence: 0.9731919

00:45:25.135 --> 00:45:26.415 it is really important because

NOTE Confidence: 0.9731919

00:45:26.415 --> 00:45:27.295 it does tell us who
NOTE Confidence: 0.9731919

00:45:27.295 --> 00:45:28.815 is going to die. But
NOTE Confidence: 0.9731919

00:45:28.815 --> 00:45:30.355 like we've been talking about,
NOTE Confidence: 0.9731919

00:45:30.415 --> 00:45:32.175 maybe that's not sufficient. Maybe
NOTE Confidence: 0.9731919

00:45:32.175 --> 00:45:33.135 we need to worry about
NOTE Confidence: 0.9731919

00:45:33.135 --> 00:45:34.575 other things for these patients.
NOTE Confidence: 0.9731919

00:45:34.575 --> 00:45:35.614 So for our patient, he
NOTE Confidence: 0.9731919

00:45:35.614 --> 00:45:36.895 had cardiomegaly. That's why I
NOTE Confidence: 0.9731919

00:45:36.895 --> 00:45:38.349 put that chest X-ray up.
NOTE Confidence: 0.9731919

00:45:38.349 --> 00:45:40.190 Although, from my mind, we
NOTE Confidence: 0.9731919

00:45:40.190 --> 00:45:41.070 see that on the echo,
NOTE Confidence: 0.9731919

00:45:41.070 --> 00:45:42.190 and everybody should have an
NOTE Confidence: 0.9731919

00:45:42.190 --> 00:45:42.989 echo. So we could do
NOTE Confidence: 0.9731919

00:45:42.989 --> 00:45:43.790 the echo and save the
NOTE Confidence: 0.9731919

00:45:43.790 --> 00:45:44.290 X-ray.
NOTE Confidence: 0.9779948

00:45:44.750 --> 00:45:46.130 He has wall motion abnormalities.

NOTE Confidence: 0.9779948

00:45:46.270 --> 00:45:47.310 He's male, and he had

NOTE Confidence: 0.9779948

00:45:47.310 --> 00:45:48.609 low voltage on his EKG.

NOTE Confidence: 0.98490536

00:45:49.230 --> 00:45:50.109 And that gives him eight

NOTE Confidence: 0.98490536

00:45:50.109 --> 00:45:51.630 points, which is moderate risk.

NOTE Confidence: 0.98490536

00:45:51.630 --> 00:45:52.704 And as we said, moderate

NOTE Confidence: 0.98490536

00:45:52.704 --> 00:45:53.984 risk for what? It's moderate

NOTE Confidence: 0.98490536

00:45:53.984 --> 00:45:55.665 risk for death. We'd what

NOTE Confidence: 0.98490536

00:45:55.665 --> 00:45:57.125 about stroke? What about,

NOTE Confidence: 0.96899414

00:45:57.585 --> 00:45:58.085 VT?

NOTE Confidence: 0.97907716

00:45:58.464 --> 00:46:00.065 And as Minna pointed out

NOTE Confidence: 0.97907716

00:46:00.065 --> 00:46:01.265 earlier in her in her

NOTE Confidence: 0.97907716

00:46:01.265 --> 00:46:02.385 talk, we haven't yet seen

NOTE Confidence: 0.97907716

00:46:02.385 --> 00:46:03.505 what his rhythm monitoring has

NOTE Confidence: 0.97907716

00:46:03.505 --> 00:46:04.625 shown, but nothing has come

NOTE Confidence: 0.97907716

00:46:04.625 --> 00:46:06.119 up yet. So how else

NOTE Confidence: 0.97907716

00:46:06.119 --> 00:46:07.079 could we look at him?
NOTE Confidence: 0.97907716

00:46:07.079 --> 00:46:08.279 Well, there's also the benefit
NOTE Confidence: 0.97907716

00:46:08.279 --> 00:46:10.039 echo substudy, which was a
NOTE Confidence: 0.97907716

00:46:10.039 --> 00:46:11.079 really clever way, I think,
NOTE Confidence: 0.97907716

00:46:11.079 --> 00:46:11.880 of looking at this and
NOTE Confidence: 0.97907716

00:46:11.880 --> 00:46:12.920 really a hat tip to
NOTE Confidence: 0.97907716

00:46:12.920 --> 00:46:14.039 how important scar is in
NOTE Confidence: 0.97907716

00:46:14.039 --> 00:46:15.640 these patients. So looking at
NOTE Confidence: 0.97907716

00:46:15.640 --> 00:46:17.579 wall motion score index indices,
NOTE Confidence: 0.755249

00:46:18.614 --> 00:46:19.355 they stratified
NOTE Confidence: 0.98979414

00:46:19.655 --> 00:46:20.455 the patients who were in
NOTE Confidence: 0.98979414

00:46:20.455 --> 00:46:21.975 the benefit trial into three
NOTE Confidence: 0.98979414

00:46:21.975 --> 00:46:23.175 groups, a wall motion score
NOTE Confidence: 0.98979414

00:46:23.175 --> 00:46:24.695 index less than one, one
NOTE Confidence: 0.98979414

00:46:24.695 --> 00:46:25.655 to one point five, and
NOTE Confidence: 0.98979414

00:46:25.655 --> 00:46:26.535 above one point five. And

NOTE Confidence: 0.98979414

00:46:26.535 --> 00:46:27.175 you can see that it

NOTE Confidence: 0.98979414

00:46:27.175 --> 00:46:28.215 does a really nice job

NOTE Confidence: 0.98979414

00:46:28.215 --> 00:46:29.255 of telling you who's gonna

NOTE Confidence: 0.98979414

00:46:29.255 --> 00:46:31.015 die, and it also does

NOTE Confidence: 0.98979414

00:46:31.015 --> 00:46:31.895 a really nice job of

NOTE Confidence: 0.98979414

00:46:31.895 --> 00:46:33.015 telling you who's gonna get

NOTE Confidence: 0.98979414

00:46:33.015 --> 00:46:33.390 VT.

NOTE Confidence: 0.9812874

00:46:34.190 --> 00:46:35.469 So the higher the score

NOTE Confidence: 0.9812874

00:46:35.630 --> 00:46:36.829 the the more scar, the

NOTE Confidence: 0.9812874

00:46:36.829 --> 00:46:37.710 more likely you are to

NOTE Confidence: 0.9812874

00:46:37.710 --> 00:46:39.010 have VT. Not a surprise.

NOTE Confidence: 0.9812874

00:46:39.230 --> 00:46:40.109 So our patient has a

NOTE Confidence: 0.9812874

00:46:40.109 --> 00:46:41.390 wall motion score index of

NOTE Confidence: 0.9812874

00:46:41.390 --> 00:46:42.750 one point four. That puts

NOTE Confidence: 0.9812874

00:46:42.750 --> 00:46:44.269 him at the cusp between

NOTE Confidence: 0.9812874

00:46:44.269 --> 00:46:45.469 the three point one percent
NOTE Confidence: 0.9812874

00:46:45.469 --> 00:46:46.829 VT at five years follow-up
NOTE Confidence: 0.9812874

00:46:46.829 --> 00:46:48.234 and seven percent VT at
NOTE Confidence: 0.9812874

00:46:48.234 --> 00:46:49.195 five years follow-up. That's an
NOTE Confidence: 0.9812874

00:46:49.195 --> 00:46:50.395 awful lot of VT, and
NOTE Confidence: 0.9812874

00:46:50.395 --> 00:46:51.275 we'll keep that in mind
NOTE Confidence: 0.9812874

00:46:51.275 --> 00:46:52.494 for later in the presentation.
NOTE Confidence: 0.9878093

00:46:53.035 --> 00:46:54.474 And finally, what about his
NOTE Confidence: 0.9878093

00:46:54.474 --> 00:46:56.474 risk of of thromboembolic event?
NOTE Confidence: 0.9878093

00:46:56.474 --> 00:46:57.275 So this is a really
NOTE Confidence: 0.9878093

00:46:57.275 --> 00:46:58.315 tricky one because this is
NOTE Confidence: 0.9878093

00:46:58.315 --> 00:46:59.355 the only tool that we
NOTE Confidence: 0.9878093

00:46:59.355 --> 00:47:00.474 have, and it actually got
NOTE Confidence: 0.9878093

00:47:00.474 --> 00:47:01.695 taken out of the Brazilian
NOTE Confidence: 0.9878093

00:47:01.835 --> 00:47:02.335 guidelines.
NOTE Confidence: 0.9704902

00:47:02.730 --> 00:47:03.930 So now what do we

NOTE Confidence: 0.9704902

00:47:03.930 --> 00:47:05.530 do? I think a lot

NOTE Confidence: 0.9704902

00:47:05.530 --> 00:47:06.330 of us, you know, the

NOTE Confidence: 0.9704902

00:47:06.330 --> 00:47:07.369 people that I talk to

NOTE Confidence: 0.9704902

00:47:07.369 --> 00:47:09.050 who who do more Shagas

NOTE Confidence: 0.9704902

00:47:09.050 --> 00:47:10.010 work than I do still

NOTE Confidence: 0.9704902

00:47:10.010 --> 00:47:10.969 rely on this in a

NOTE Confidence: 0.9704902

00:47:10.969 --> 00:47:12.330 way because we don't really

NOTE Confidence: 0.9704902

00:47:12.330 --> 00:47:13.210 have any other way to

NOTE Confidence: 0.9704902

00:47:13.210 --> 00:47:14.410 risk stratify people for stroke.

NOTE Confidence: 0.9704902

00:47:14.410 --> 00:47:15.290 And we're trying to think

NOTE Confidence: 0.9704902

00:47:15.290 --> 00:47:17.555 about who needs primary prevention

NOTE Confidence: 0.9704902

00:47:17.614 --> 00:47:18.655 because, of course, if somebody

NOTE Confidence: 0.9704902

00:47:18.655 --> 00:47:19.855 has secondary prevention, you know

NOTE Confidence: 0.9704902

00:47:19.855 --> 00:47:21.295 you're gonna be anticoagulating. But

NOTE Confidence: 0.9704902

00:47:21.295 --> 00:47:22.895 who needs primary prevention? Is

NOTE Confidence: 0.9704902

00:47:22.895 --> 00:47:23.935 it that young woman who
NOTE Confidence: 0.9704902

00:47:23.935 --> 00:47:25.215 who has normal LV function
NOTE Confidence: 0.9704902

00:47:25.215 --> 00:47:26.335 and just has an apical
NOTE Confidence: 0.9704902

00:47:26.335 --> 00:47:26.835 aneurysm?
NOTE Confidence: 0.9811263

00:47:27.295 --> 00:47:29.130 So we know that systolic
NOTE Confidence: 0.9811263

00:47:29.130 --> 00:47:30.569 dysfunction matters. And try as
NOTE Confidence: 0.9811263

00:47:30.569 --> 00:47:31.690 I might, I can't find
NOTE Confidence: 0.9811263

00:47:31.690 --> 00:47:32.969 an EF cutoff for what
NOTE Confidence: 0.9811263

00:47:32.969 --> 00:47:34.489 systolic dysfunction means for this
NOTE Confidence: 0.9811263

00:47:34.489 --> 00:47:35.849 particular trial. Minna, if you
NOTE Confidence: 0.9811263

00:47:35.849 --> 00:47:37.130 happen to know, please share
NOTE Confidence: 0.9811263

00:47:37.130 --> 00:47:38.510 because I can't find it.
NOTE Confidence: 0.9811263

00:47:38.569 --> 00:47:39.549 Apical aneurysm,
NOTE Confidence: 0.939209

00:47:41.025 --> 00:47:41.525 primary,
NOTE Confidence: 0.9964193

00:47:41.984 --> 00:47:42.805 AV repolarization
NOTE Confidence: 0.97455466

00:47:43.105 --> 00:47:44.545 abnormalities. I also can't find

NOTE Confidence: 0.97455466

00:47:44.545 --> 00:47:45.585 a definition for that in

NOTE Confidence: 0.97455466

00:47:45.585 --> 00:47:46.964 age greater than forty eight.

NOTE Confidence: 0.97455466

00:47:47.025 --> 00:47:48.305 So I use this. I

NOTE Confidence: 0.97455466

00:47:48.305 --> 00:47:49.105 use this, and then we

NOTE Confidence: 0.97455466

00:47:49.105 --> 00:47:50.145 go into the realm of

NOTE Confidence: 0.97455466

00:47:50.145 --> 00:47:51.744 shared decision making, which is

NOTE Confidence: 0.97455466

00:47:51.744 --> 00:47:53.025 complicated because I'm trying to

NOTE Confidence: 0.97455466

00:47:53.025 --> 00:47:54.224 share decision making with you,

NOTE Confidence: 0.97455466

00:47:54.224 --> 00:47:55.025 and you can see how

NOTE Confidence: 0.97455466

00:47:55.025 --> 00:47:56.690 complicated a disease is. Try

NOTE Confidence: 0.97455466

00:47:56.690 --> 00:47:57.510 that with somebody

NOTE Confidence: 0.99071044

00:47:57.890 --> 00:47:59.450 who, is trying to talk

NOTE Confidence: 0.99071044

00:47:59.450 --> 00:48:00.690 to you through an interpreter

NOTE Confidence: 0.99071044

00:48:00.690 --> 00:48:01.490 and has low health care

NOTE Confidence: 0.99071044

00:48:01.490 --> 00:48:03.270 literacy. It's really, really complicated.

NOTE Confidence: 0.98816967

00:48:03.570 --> 00:48:04.610 But I have last case
NOTE Confidence: 0.98816967

00:48:04.610 --> 00:48:05.810 bias, and I remember my
NOTE Confidence: 0.98816967

00:48:05.810 --> 00:48:07.430 patients who have had horrible
NOTE Confidence: 0.98816967

00:48:07.490 --> 00:48:08.850 catastrophic strokes. And so I'm
NOTE Confidence: 0.98816967

00:48:08.850 --> 00:48:09.890 likely to put my thumb
NOTE Confidence: 0.98816967

00:48:09.890 --> 00:48:10.610 a little bit on the
NOTE Confidence: 0.98816967

00:48:10.610 --> 00:48:11.825 scale in terms of anticoagulation
NOTE Confidence: 0.98288935

00:48:12.125 --> 00:48:13.585 of of of apical aneurysms.
NOTE Confidence: 0.98288935

00:48:13.805 --> 00:48:14.685 But we don't know, and
NOTE Confidence: 0.98288935

00:48:14.685 --> 00:48:15.724 this is a huge, huge
NOTE Confidence: 0.98288935

00:48:15.724 --> 00:48:17.645 barrier to to effective care
NOTE Confidence: 0.98288935

00:48:17.645 --> 00:48:19.165 for these folks. Okay. And
NOTE Confidence: 0.98288935

00:48:19.165 --> 00:48:20.605 our patient had a four
NOTE Confidence: 0.98288935

00:48:20.605 --> 00:48:21.885 to five point, which is
NOTE Confidence: 0.98288935

00:48:21.885 --> 00:48:22.925 a greater than four percent
NOTE Confidence: 0.98288935

00:48:22.925 --> 00:48:24.670 risk. And that matters because

NOTE Confidence: 0.98288935

00:48:24.670 --> 00:48:25.790 in this study, they also

NOTE Confidence: 0.98288935

00:48:25.790 --> 00:48:26.590 took a group of people

NOTE Confidence: 0.98288935

00:48:26.590 --> 00:48:27.310 and they put them on

NOTE Confidence: 0.98288935

00:48:27.310 --> 00:48:27.810 anticoagulation.

NOTE Confidence: 0.982605

00:48:28.190 --> 00:48:29.150 They saw what their bleeding

NOTE Confidence: 0.982605

00:48:29.150 --> 00:48:30.270 rate was. And with a

NOTE Confidence: 0.982605

00:48:30.270 --> 00:48:31.390 point score of four or

NOTE Confidence: 0.982605

00:48:31.390 --> 00:48:31.890 five,

NOTE Confidence: 0.997406

00:48:32.270 --> 00:48:34.350 the the risk benefit from

NOTE Confidence: 0.997406

00:48:34.350 --> 00:48:35.250 from the anticoagulation

NOTE Confidence: 0.9463867

00:48:35.710 --> 00:48:37.730 seemed to significantly enough exceed

NOTE Confidence: 0.95548505

00:48:38.145 --> 00:48:39.265 the the bleeding risk that

NOTE Confidence: 0.95548505

00:48:39.265 --> 00:48:40.545 that was the recommendation was

NOTE Confidence: 0.95548505

00:48:40.545 --> 00:48:41.905 to think about anticoagulation in

NOTE Confidence: 0.95548505

00:48:41.905 --> 00:48:43.205 the population. Okay.

NOTE Confidence: 1

00:48:43.585 --> 00:48:44.085 So
NOTE Confidence: 0.9690639
00:48:44.385 --> 00:48:45.425 he did get the MRI.
NOTE Confidence: 0.9690639
00:48:45.425 --> 00:48:46.225 We're gonna go back to
NOTE Confidence: 0.9690639
00:48:46.225 --> 00:48:47.105 the patient. And I put
NOTE Confidence: 0.9690639
00:48:47.105 --> 00:48:48.385 two asterisks there to explain
NOTE Confidence: 0.9690639
00:48:48.385 --> 00:48:48.885 why,
NOTE Confidence: 0.9873702
00:48:49.745 --> 00:48:51.025 two things. It used to
NOTE Confidence: 0.9873702
00:48:51.025 --> 00:48:51.825 be back in the day
NOTE Confidence: 0.9873702
00:48:51.825 --> 00:48:52.785 where you'd only get one
NOTE Confidence: 0.9873702
00:48:52.785 --> 00:48:54.369 Shagas test, right off the
NOTE Confidence: 0.9873702
00:48:54.369 --> 00:48:55.489 bat, and then you'd have
NOTE Confidence: 0.9873702
00:48:55.489 --> 00:48:56.530 to get commercial you'd have
NOTE Confidence: 0.9873702
00:48:56.530 --> 00:48:58.210 to get CDC confirmatory testing,
NOTE Confidence: 0.9873702
00:48:58.210 --> 00:48:59.090 which would take a couple
NOTE Confidence: 0.9873702
00:48:59.090 --> 00:49:00.230 of weeks to come back.
NOTE Confidence: 0.9873702
00:49:00.290 --> 00:49:01.410 At which point, your patient

NOTE Confidence: 0.9873702

00:49:01.410 --> 00:49:02.369 has been discharged from the

NOTE Confidence: 0.9873702

00:49:02.369 --> 00:49:03.250 hospital, and you may or

NOTE Confidence: 0.9873702

00:49:03.250 --> 00:49:04.130 may not ever see them

NOTE Confidence: 0.9873702

00:49:04.130 --> 00:49:05.250 again. So I will tell

NOTE Confidence: 0.9873702

00:49:05.250 --> 00:49:06.369 you that I would frequently

NOTE Confidence: 0.9873702

00:49:06.369 --> 00:49:07.570 ask for MRIs before the

NOTE Confidence: 0.9873702

00:49:07.570 --> 00:49:09.295 patient had been confirmed because

NOTE Confidence: 0.9873702

00:49:09.295 --> 00:49:10.415 I wanted that information. I

NOTE Confidence: 0.9873702

00:49:10.415 --> 00:49:11.775 wanted to know about what

NOTE Confidence: 0.9873702

00:49:11.775 --> 00:49:12.575 their heart was like so

NOTE Confidence: 0.9873702

00:49:12.575 --> 00:49:13.455 that I could counsel them

NOTE Confidence: 0.9873702

00:49:13.455 --> 00:49:15.215 appropriately before they left. The

NOTE Confidence: 0.9873702

00:49:15.215 --> 00:49:16.435 second thing is,

NOTE Confidence: 1

00:49:17.614 --> 00:49:18.114 is

NOTE Confidence: 0.9970703

00:49:19.215 --> 00:49:19.715 that

NOTE Confidence: 0.9612381

00:49:20.094 --> 00:49:21.295 I don't actually remember what
NOTE Confidence: 0.9612381

00:49:21.295 --> 00:49:22.175 the second thing is, so
NOTE Confidence: 0.9612381

00:49:22.175 --> 00:49:23.430 we'll move along. In any
NOTE Confidence: 0.9612381

00:49:23.430 --> 00:49:24.469 event, what it showed was
NOTE Confidence: 0.9612381

00:49:24.469 --> 00:49:26.070 regional thinning and transmural LGE
NOTE Confidence: 0.9612381

00:49:26.070 --> 00:49:27.910 of that apical aneurysm with
NOTE Confidence: 0.9612381

00:49:27.910 --> 00:49:28.410 subepicardial
NOTE Confidence: 0.92280364

00:49:29.030 --> 00:49:30.630 LGE extending to adjacent regions
NOTE Confidence: 0.92280364

00:49:30.630 --> 00:49:31.589 of the apical septum and
NOTE Confidence: 0.92280364

00:49:31.589 --> 00:49:33.349 RB apex. The majority of
NOTE Confidence: 0.92280364

00:49:33.349 --> 00:49:35.109 LV has near transmural LGE
NOTE Confidence: 0.92280364

00:49:35.109 --> 00:49:36.614 with scattered sparing of the
NOTE Confidence: 0.92280364

00:49:36.775 --> 00:49:37.975 endocardium, patchy foci in the
NOTE Confidence: 0.92280364

00:49:37.975 --> 00:49:39.435 basal septum. So really
NOTE Confidence: 0.9055786

00:49:39.895 --> 00:49:41.355 tons of scar everywhere.
NOTE Confidence: 0.96212333

00:49:41.975 --> 00:49:43.015 And I think you can

NOTE Confidence: 0.96212333
00:49:43.015 --> 00:49:44.295 see here, if I can
NOTE Confidence: 0.96212333
00:49:44.295 --> 00:49:45.275 get this to play.
NOTE Confidence: 0.9951172
00:49:47.975 --> 00:49:48.955 Maybe I can't.
NOTE Confidence: 0.9999512
00:49:51.050 --> 00:49:52.350 You can see that aneurysm
NOTE Confidence: 0.9893799
00:49:52.810 --> 00:49:53.790 out of the apex,
NOTE Confidence: 0.9735026
00:49:54.090 --> 00:49:54.969 which I do not think
NOTE Confidence: 0.9735026
00:49:54.969 --> 00:49:56.010 we saw in all its
NOTE Confidence: 0.9735026
00:49:56.010 --> 00:49:57.130 glory no matter how many
NOTE Confidence: 0.9735026
00:49:57.130 --> 00:49:58.489 times we did echo imaging
NOTE Confidence: 0.9735026
00:49:58.489 --> 00:49:59.530 and no matter how no
NOTE Confidence: 0.9735026
00:49:59.530 --> 00:50:00.650 matter how much contrast we
NOTE Confidence: 0.9735026
00:50:00.650 --> 00:50:02.170 gave. So sometimes MRI is
NOTE Confidence: 0.9735026
00:50:02.170 --> 00:50:02.810 just the way that you
NOTE Confidence: 0.9735026
00:50:02.810 --> 00:50:04.015 have to go. Okay. So
NOTE Confidence: 0.9735026
00:50:04.015 --> 00:50:04.655 what did we learn from
NOTE Confidence: 0.9735026

00:50:04.655 --> 00:50:05.855 this? His EF was forty
NOTE Confidence: 0.9735026

00:50:05.855 --> 00:50:07.135 one percent, worse, I think,
NOTE Confidence: 0.9735026

00:50:07.135 --> 00:50:08.094 than what had been stated
NOTE Confidence: 0.9735026

00:50:08.094 --> 00:50:09.055 on the echo, which was
NOTE Confidence: 0.9735026

00:50:09.055 --> 00:50:11.135 fifty. And he has tons
NOTE Confidence: 0.9735026

00:50:11.135 --> 00:50:12.575 of scar. Twenty one point
NOTE Confidence: 0.9735026

00:50:12.575 --> 00:50:14.015 five percent of his LV
NOTE Confidence: 0.9735026

00:50:14.015 --> 00:50:15.295 is scar, twenty nine point
NOTE Confidence: 0.9735026

00:50:15.295 --> 00:50:16.335 eight grams of scar. Why
NOTE Confidence: 0.9735026

00:50:16.335 --> 00:50:17.695 do I mention that? Let's
NOTE Confidence: 0.9735026

00:50:17.695 --> 00:50:18.994 talk a little bit about,
NOTE Confidence: 0.97492856

00:50:20.730 --> 00:50:21.290 I can get to the
NOTE Confidence: 0.97492856

00:50:21.450 --> 00:50:22.570 what can MRI tell us
NOTE Confidence: 0.97492856

00:50:22.570 --> 00:50:23.770 about folks with Chagas disease?
NOTE Confidence: 0.97492856

00:50:23.770 --> 00:50:24.489 So this is from a
NOTE Confidence: 0.97492856

00:50:24.489 --> 00:50:26.170 meta analysis. There are lovely

NOTE Confidence: 0.97492856

00:50:26.170 --> 00:50:27.210 studies that have looked at

NOTE Confidence: 0.97492856

00:50:27.210 --> 00:50:28.910 m r MRI and Chagas.

NOTE Confidence: 0.97492856

00:50:29.130 --> 00:50:30.090 We know that people in

NOTE Confidence: 0.97492856

00:50:30.090 --> 00:50:31.690 the indeterminate phase will actually

NOTE Confidence: 0.97492856

00:50:31.690 --> 00:50:33.850 have gadolinium uptake probably, in

NOTE Confidence: 0.97492856

00:50:33.850 --> 00:50:35.445 the meta analysis about twenty,

NOTE Confidence: 0.97492856

00:50:35.445 --> 00:50:36.344 twenty five percent.

NOTE Confidence: 0.96816313

00:50:36.645 --> 00:50:37.925 What what does it mean?

NOTE Confidence: 0.96816313

00:50:37.925 --> 00:50:39.125 I don't know. I don't

NOTE Confidence: 0.96816313

00:50:39.125 --> 00:50:40.405 like it. We shouldn't have

NOTE Confidence: 0.96816313

00:50:40.405 --> 00:50:41.705 gadolinium in your heart.

NOTE Confidence: 0.9776054

00:50:42.405 --> 00:50:43.705 The extent in the indeterminate

NOTE Confidence: 0.9776054

00:50:43.765 --> 00:50:44.885 phase has been looked at.

NOTE Confidence: 0.9776054

00:50:44.885 --> 00:50:46.725 Myocardial fibrosis in VT, we

NOTE Confidence: 0.9776054

00:50:46.725 --> 00:50:48.005 know they are strongly correlated.

NOTE Confidence: 0.9776054

00:50:48.005 --> 00:50:49.605 The amount of myocardial fibrosis
NOTE Confidence: 0.9776054

00:50:49.605 --> 00:50:51.160 in VT is also strongly
NOTE Confidence: 0.9776054

00:50:51.160 --> 00:50:53.400 correlated. Myocardial fibrosis is strongly
NOTE Confidence: 0.9776054

00:50:53.400 --> 00:50:54.460 associated with mortality
NOTE Confidence: 0.9796549

00:50:54.840 --> 00:50:55.500 and MACE.
NOTE Confidence: 0.96507883

00:50:55.880 --> 00:50:56.760 And this is from a
NOTE Confidence: 0.96507883

00:50:56.760 --> 00:50:58.360 very recently published study looking
NOTE Confidence: 0.96507883

00:50:58.360 --> 00:50:59.239 at a cohort of, I
NOTE Confidence: 0.96507883

00:50:59.239 --> 00:51:00.200 think, about a hundred and
NOTE Confidence: 0.96507883

00:51:00.200 --> 00:51:01.560 twenty, hundred and fifty patients
NOTE Confidence: 0.96507883

00:51:01.560 --> 00:51:02.219 in Colombia,
NOTE Confidence: 0.9766408

00:51:02.520 --> 00:51:04.275 looking at the patterns of
NOTE Confidence: 0.9766408

00:51:04.275 --> 00:51:05.635 abnormalities on MRI and what
NOTE Confidence: 0.9766408

00:51:05.635 --> 00:51:06.355 you see is what we
NOTE Confidence: 0.9766408

00:51:06.355 --> 00:51:07.315 would expect, which is it's
NOTE Confidence: 0.9766408

00:51:07.315 --> 00:51:08.515 the apex and the basal

NOTE Confidence: 0.9766408

00:51:08.515 --> 00:51:09.734 inferolateral wall.

NOTE Confidence: 0.98607147

00:51:10.594 --> 00:51:11.474 In terms of trying to

NOTE Confidence: 0.98607147

00:51:11.474 --> 00:51:12.515 help figure out how to

NOTE Confidence: 0.98607147

00:51:12.515 --> 00:51:13.895 re-stratify our patient,

NOTE Confidence: 0.9643714

00:51:14.515 --> 00:51:15.315 these are some of the

NOTE Confidence: 0.9643714

00:51:15.315 --> 00:51:16.355 markers that have come up

NOTE Confidence: 0.9643714

00:51:16.355 --> 00:51:17.880 as being portending really bad

NOTE Confidence: 0.9643714

00:51:17.880 --> 00:51:18.839 outcomes, some of which is

NOTE Confidence: 0.9643714

00:51:18.839 --> 00:51:19.719 death, but some of which

NOTE Confidence: 0.9643714

00:51:19.719 --> 00:51:22.039 is also ventricular arrhythmia. Greater

NOTE Confidence: 0.9643714

00:51:22.039 --> 00:51:23.000 than twelve point three grams

NOTE Confidence: 0.9643714

00:51:23.000 --> 00:51:24.680 of scar, two consecutive transmural

NOTE Confidence: 0.9643714

00:51:24.680 --> 00:51:26.119 segments, greater than six involved

NOTE Confidence: 0.9643714

00:51:26.119 --> 00:51:26.619 segments.

NOTE Confidence: 0.95932686

00:51:27.480 --> 00:51:28.279 Percent of scar is a

NOTE Confidence: 0.95932686

00:51:28.279 --> 00:51:29.480 little tricky. I haven't actually
NOTE Confidence: 0.95932686

00:51:29.480 --> 00:51:30.279 seen a published one for
NOTE Confidence: 0.95932686

00:51:30.279 --> 00:51:31.319 Shagas disease, but we all
NOTE Confidence: 0.95932686

00:51:31.319 --> 00:51:32.119 know that that works on
NOTE Confidence: 0.95932686

00:51:32.119 --> 00:51:33.180 hypertrophic cardiomyopathy.
NOTE Confidence: 0.97938615

00:51:34.094 --> 00:51:35.614 Our patient has yes basically
NOTE Confidence: 0.97938615

00:51:35.614 --> 00:51:36.655 to all of them. So
NOTE Confidence: 0.97938615

00:51:36.655 --> 00:51:37.535 this is somebody that we
NOTE Confidence: 0.97938615

00:51:37.535 --> 00:51:38.734 think has a high likelihood
NOTE Confidence: 0.97938615

00:51:38.734 --> 00:51:40.094 of having an arrhythmic complication
NOTE Confidence: 0.97938615

00:51:40.094 --> 00:51:41.155 of Chagas disease.
NOTE Confidence: 0.9880452

00:51:41.775 --> 00:51:43.535 Okay. Moving on. His subsequent
NOTE Confidence: 0.9880452

00:51:43.535 --> 00:51:44.655 course, he was discharged from
NOTE Confidence: 0.9880452

00:51:44.655 --> 00:51:46.094 the hospital on warfarin and
NOTE Confidence: 0.9880452

00:51:46.094 --> 00:51:46.594 atorvastatin
NOTE Confidence: 0.99680173

00:51:46.895 --> 00:51:48.515 with probable Chagas cardiomyopathy.

NOTE Confidence: 0.9793395

00:51:48.895 --> 00:51:49.930 So So they wouldn't even

NOTE Confidence: 0.9793395

00:51:49.930 --> 00:51:50.650 go so far as to

NOTE Confidence: 0.9793395

00:51:50.650 --> 00:51:51.950 say he had Chagas cardiomyopathy.

NOTE Confidence: 0.9793395

00:51:52.090 --> 00:51:53.550 It was probable Chagas cardiomyopathy.

NOTE Confidence: 0.9793395

00:51:53.690 --> 00:51:54.250 And I see that a

NOTE Confidence: 0.9793395

00:51:54.250 --> 00:51:55.610 lot. People are very reluctant

NOTE Confidence: 0.9793395

00:51:55.610 --> 00:51:56.650 to actually finally say the

NOTE Confidence: 0.9793395

00:51:56.650 --> 00:51:57.870 patient has Chagas disease.

NOTE Confidence: 0.9636585

00:51:58.250 --> 00:51:59.450 He then and he gets

NOTE Confidence: 0.9636585

00:51:59.450 --> 00:52:01.050 a a BIOTRONIC ILR because

NOTE Confidence: 0.9636585

00:52:01.050 --> 00:52:02.330 they're not satisfied that we've

NOTE Confidence: 0.9636585

00:52:02.330 --> 00:52:03.614 identified the source of embolus.

NOTE Confidence: 0.9636585

00:52:03.695 --> 00:52:04.335 They still wanna make sure

NOTE Confidence: 0.9636585

00:52:04.335 --> 00:52:05.215 that he doesn't have atrial

NOTE Confidence: 0.9636585

00:52:05.215 --> 00:52:05.715 fibrillation.

NOTE Confidence: 0.9421699

00:52:06.494 --> 00:52:07.455 Fine. I mean, he may
NOTE Confidence: 0.9421699

00:52:07.455 --> 00:52:09.135 have atrial fibrillation, but folks
NOTE Confidence: 0.9421699

00:52:09.135 --> 00:52:10.415 with Chagas disease do, but
NOTE Confidence: 0.9421699

00:52:10.415 --> 00:52:11.135 I feel like we've kind
NOTE Confidence: 0.9421699

00:52:11.135 --> 00:52:12.175 of asked and answered that
NOTE Confidence: 0.9421699

00:52:12.175 --> 00:52:12.675 question.
NOTE Confidence: 0.9519828

00:52:12.975 --> 00:52:14.335 He's then unfortunately lost a
NOTE Confidence: 0.9519828

00:52:14.335 --> 00:52:15.455 follow-up for three years, which
NOTE Confidence: 0.9519828

00:52:15.455 --> 00:52:16.915 is also not uncommon.
NOTE Confidence: 0.97114307

00:52:17.215 --> 00:52:18.515 This he doesn't have insurance.
NOTE Confidence: 0.97114307

00:52:18.770 --> 00:52:19.890 I try to call the
NOTE Confidence: 0.97114307

00:52:19.890 --> 00:52:20.770 place where he goes for
NOTE Confidence: 0.97114307

00:52:20.770 --> 00:52:21.730 follow-up, which is not in
NOTE Confidence: 0.97114307

00:52:21.730 --> 00:52:22.849 our hospital system. I call
NOTE Confidence: 0.97114307

00:52:22.849 --> 00:52:23.569 and I call and I
NOTE Confidence: 0.97114307

00:52:23.569 --> 00:52:25.569 call. Nobody answers me because

NOTE Confidence: 0.97114307

00:52:25.569 --> 00:52:26.369 they don't wanna hear what

NOTE Confidence: 0.97114307

00:52:26.369 --> 00:52:27.010 I have to say or

NOTE Confidence: 0.97114307

00:52:27.010 --> 00:52:28.450 for whatever reason. And then

NOTE Confidence: 0.97114307

00:52:28.450 --> 00:52:29.329 finally, he gets a new

NOTE Confidence: 0.97114307

00:52:29.329 --> 00:52:30.530 insurance platform and can come

NOTE Confidence: 0.97114307

00:52:30.530 --> 00:52:31.489 back to the hospital, and

NOTE Confidence: 0.97114307

00:52:31.489 --> 00:52:32.130 they look at what they

NOTE Confidence: 0.97114307

00:52:32.130 --> 00:52:33.250 find on his ILR, and

NOTE Confidence: 0.97114307

00:52:33.250 --> 00:52:34.505 he's having five second pauses

NOTE Confidence: 0.97114307

00:52:34.505 --> 00:52:36.265 at night, profound bradyarrhythmia, and

NOTE Confidence: 0.97114307

00:52:36.265 --> 00:52:37.864 some non sustained BT. At

NOTE Confidence: 0.97114307

00:52:37.864 --> 00:52:38.985 which point, we all agree

NOTE Confidence: 0.97114307

00:52:38.985 --> 00:52:40.425 he should get a primary

NOTE Confidence: 0.97114307

00:52:40.425 --> 00:52:42.585 prevention defibrillator because we have

NOTE Confidence: 0.97114307

00:52:42.585 --> 00:52:43.625 access to that in the

NOTE Confidence: 0.97114307

00:52:43.625 --> 00:52:44.525 United States.
NOTE Confidence: 0.9755707

00:52:46.025 --> 00:52:47.065 He then no shows three
NOTE Confidence: 0.9755707

00:52:47.065 --> 00:52:48.510 quarters of his next visits
NOTE Confidence: 0.9755707

00:52:48.670 --> 00:52:50.030 because he doesn't wanna miss
NOTE Confidence: 0.9755707

00:52:50.030 --> 00:52:50.530 work.
NOTE Confidence: 0.98854756

00:52:50.989 --> 00:52:52.190 Again, an issue that we
NOTE Confidence: 0.98854756

00:52:52.190 --> 00:52:53.570 face in the United States,
NOTE Confidence: 0.98854756

00:52:53.790 --> 00:52:54.290 including
NOTE Confidence: 0.99432844

00:52:54.590 --> 00:52:55.550 the day that he's supposed
NOTE Confidence: 0.99432844

00:52:55.550 --> 00:52:56.670 to get his EP procedure
NOTE Confidence: 0.99432844

00:52:56.670 --> 00:52:57.570 for his pacemaker.
NOTE Confidence: 0.9969727

00:52:58.510 --> 00:52:59.790 So what should we be
NOTE Confidence: 0.9969727

00:52:59.790 --> 00:53:00.750 doing with this patient? This
NOTE Confidence: 0.9969727

00:53:00.750 --> 00:53:02.530 is the idealized patient pathway.
NOTE Confidence: 0.99198645

00:53:02.955 --> 00:53:04.155 So we're gonna skip down
NOTE Confidence: 0.99198645

00:53:04.155 --> 00:53:05.195 to the bottom where we

NOTE Confidence: 0.99198645

00:53:05.195 --> 00:53:06.555 get to tertiary care center

NOTE Confidence: 0.99198645

00:53:06.555 --> 00:53:07.295 just because,

NOTE Confidence: 0.985688

00:53:07.835 --> 00:53:09.195 they're they're I think we

NOTE Confidence: 0.985688

00:53:09.195 --> 00:53:10.075 have to, just for the

NOTE Confidence: 0.985688

00:53:10.075 --> 00:53:11.195 sake of time, move along.

NOTE Confidence: 0.985688

00:53:11.195 --> 00:53:12.075 And the first thing is

NOTE Confidence: 0.985688

00:53:12.075 --> 00:53:13.114 to be evaluated by a

NOTE Confidence: 0.985688

00:53:13.114 --> 00:53:15.055 physician familiar with Chagas disease.

NOTE Confidence: 1

00:53:15.515 --> 00:53:16.015 So

NOTE Confidence: 0.9690744

00:53:16.500 --> 00:53:17.700 it's a real problem that

NOTE Confidence: 0.9690744

00:53:17.700 --> 00:53:18.660 we have. Right? Look, we

NOTE Confidence: 0.9690744

00:53:18.660 --> 00:53:19.460 don't have a lot of

NOTE Confidence: 0.9690744

00:53:19.460 --> 00:53:20.739 physicians in the United States

NOTE Confidence: 0.9690744

00:53:20.739 --> 00:53:21.860 who are familiar with Chagas

NOTE Confidence: 0.9690744

00:53:21.860 --> 00:53:22.739 disease, and that's why I

NOTE Confidence: 0.9690744

00:53:22.739 --> 00:53:23.780 spend all this time talking
NOTE Confidence: 0.9690744

00:53:23.780 --> 00:53:25.640 to people. But people, sometimes,
NOTE Confidence: 0.9690744

00:53:25.780 --> 00:53:27.140 they're busy or they don't,
NOTE Confidence: 0.9690744

00:53:27.140 --> 00:53:28.180 you know, they don't remember
NOTE Confidence: 0.9690744

00:53:28.180 --> 00:53:28.900 that there are things that
NOTE Confidence: 0.9690744

00:53:28.900 --> 00:53:29.860 they might not know about
NOTE Confidence: 0.9690744

00:53:29.860 --> 00:53:30.980 this disease process or they
NOTE Confidence: 0.9690744

00:53:30.980 --> 00:53:32.475 lump it into other other
NOTE Confidence: 0.9690744

00:53:32.475 --> 00:53:32.975 cardiomyopathies.
NOTE Confidence: 0.994028

00:53:34.075 --> 00:53:35.435 And so the patient then
NOTE Confidence: 0.994028

00:53:35.435 --> 00:53:36.475 doesn't quite get the care
NOTE Confidence: 0.994028

00:53:36.475 --> 00:53:37.295 that they need.
NOTE Confidence: 0.9699601

00:53:37.675 --> 00:53:38.635 Then we need to assist
NOTE Confidence: 0.9699601

00:53:38.635 --> 00:53:40.075 their we're gonna assess their
NOTE Confidence: 0.9699601

00:53:40.075 --> 00:53:41.355 risk for arrhythmia and indication
NOTE Confidence: 0.9699601

00:53:41.355 --> 00:53:42.635 for amiodarone, but you have

NOTE Confidence: 0.9699601

00:53:42.635 --> 00:53:43.435 to have some background in

NOTE Confidence: 0.9699601

00:53:43.435 --> 00:53:44.635 Chagas to actually be able

NOTE Confidence: 0.9699601

00:53:44.635 --> 00:53:45.915 to apply that well and

NOTE Confidence: 0.9699601

00:53:45.915 --> 00:53:47.215 then put people on GDMT.

NOTE Confidence: 1

00:53:48.039 --> 00:53:48.539 So

NOTE Confidence: 0.95985466

00:53:49.160 --> 00:53:50.359 the first question that I

NOTE Confidence: 0.95985466

00:53:50.359 --> 00:53:51.719 get though if somebody calls

NOTE Confidence: 0.95985466

00:53:51.719 --> 00:53:52.760 me about it, which happens

NOTE Confidence: 0.95985466

00:53:52.760 --> 00:53:53.559 quite a bit, is should

NOTE Confidence: 0.95985466

00:53:53.559 --> 00:53:55.160 I give antiparasitic therapy to

NOTE Confidence: 0.95985466

00:53:55.160 --> 00:53:56.539 my patient with Chagas cardiomyopathy?

NOTE Confidence: 0.97160983

00:53:57.079 --> 00:53:58.200 No. That's the question that

NOTE Confidence: 0.97160983

00:53:58.200 --> 00:53:59.400 they ask. They don't ask

NOTE Confidence: 0.97160983

00:53:59.400 --> 00:54:00.839 any follow-up questions about how

NOTE Confidence: 0.97160983

00:54:00.839 --> 00:54:01.799 do I risk stratify them

NOTE Confidence: 0.97160983

00:54:01.799 --> 00:54:02.839 for arrhythmia, how do I
NOTE Confidence: 0.97160983

00:54:02.839 --> 00:54:04.445 risk stratify them for stroke,
NOTE Confidence: 0.97160983

00:54:04.585 --> 00:54:05.625 what to do with their
NOTE Confidence: 0.97160983

00:54:05.625 --> 00:54:06.585 family. They don't ask the
NOTE Confidence: 0.97160983

00:54:06.585 --> 00:54:07.545 questions that I wish they
NOTE Confidence: 0.97160983

00:54:07.545 --> 00:54:08.585 were asking. I mean, this
NOTE Confidence: 0.97160983

00:54:08.585 --> 00:54:09.465 is a good question to
NOTE Confidence: 0.97160983

00:54:09.465 --> 00:54:10.665 ask, and we actually seem
NOTE Confidence: 0.97160983

00:54:10.665 --> 00:54:11.545 to have an answer to
NOTE Confidence: 0.97160983

00:54:11.545 --> 00:54:12.425 it, which is from a
NOTE Confidence: 0.97160983

00:54:12.425 --> 00:54:14.345 randomized trial of vincidazole versus
NOTE Confidence: 0.97160983

00:54:14.345 --> 00:54:15.465 placebo published in the New
NOTE Confidence: 0.97160983

00:54:15.465 --> 00:54:17.005 England Journal in twenty fifteen.
NOTE Confidence: 0.9839405

00:54:17.330 --> 00:54:18.370 The mean age of patients
NOTE Confidence: 0.9839405

00:54:18.370 --> 00:54:19.570 in this trial was fifty
NOTE Confidence: 0.9839405

00:54:19.570 --> 00:54:20.930 five, which is a little

NOTE Confidence: 0.9839405

00:54:20.930 --> 00:54:21.969 older than some of the

NOTE Confidence: 0.9839405

00:54:21.969 --> 00:54:23.090 young people that we see

NOTE Confidence: 0.9839405

00:54:23.090 --> 00:54:24.130 with Chagas disease, and we

NOTE Confidence: 0.9839405

00:54:24.130 --> 00:54:24.770 have to keep that in

NOTE Confidence: 0.9839405

00:54:24.770 --> 00:54:26.050 mind. But at five and

NOTE Confidence: 0.9839405

00:54:26.050 --> 00:54:27.170 seven years of follow-up, there

NOTE Confidence: 0.9839405

00:54:27.170 --> 00:54:28.370 was no benefit in terms

NOTE Confidence: 0.9839405

00:54:28.370 --> 00:54:30.114 of hard cardiac endpoints, for

NOTE Confidence: 0.9839405

00:54:30.114 --> 00:54:30.594 patients,

NOTE Confidence: 0.9142543

00:54:30.995 --> 00:54:32.855 who had CHAGUS receiving benzodiazepine

NOTE Confidence: 0.9142543

00:54:32.995 --> 00:54:33.815 versus placebo.

NOTE Confidence: 0.97430706

00:54:34.275 --> 00:54:35.395 It's important to note that

NOTE Confidence: 0.97430706

00:54:35.395 --> 00:54:36.275 most of the patients in

NOTE Confidence: 0.97430706

00:54:36.275 --> 00:54:37.795 the trial were class one

NOTE Confidence: 0.97430706

00:54:37.795 --> 00:54:38.835 or class two in terms

NOTE Confidence: 0.97430706

00:54:38.835 --> 00:54:40.035 of the heart failure scale,
NOTE Confidence: 0.97430706

00:54:40.035 --> 00:54:41.075 and they tended to have
NOTE Confidence: 0.97430706

00:54:41.075 --> 00:54:42.755 basically preserved LV function. So
NOTE Confidence: 0.97430706

00:54:42.755 --> 00:54:43.715 this was not, as is
NOTE Confidence: 0.97430706

00:54:43.715 --> 00:54:45.239 published widely in the literature,
NOTE Confidence: 0.97430706

00:54:45.400 --> 00:54:46.760 a a trial of advanced
NOTE Confidence: 0.97430706

00:54:46.760 --> 00:54:47.960 heart failure. This was a
NOTE Confidence: 0.97430706

00:54:47.960 --> 00:54:49.400 a trial of people who
NOTE Confidence: 0.97430706

00:54:49.400 --> 00:54:51.320 had kind of early to
NOTE Confidence: 0.97430706

00:54:51.320 --> 00:54:53.000 early to maybe early mid
NOTE Confidence: 0.97430706

00:54:53.000 --> 00:54:53.900 chagas cardiomyopathy.
NOTE Confidence: 0.9831914

00:54:54.520 --> 00:54:55.560 And they did a subgroups
NOTE Confidence: 0.9831914

00:54:55.560 --> 00:54:56.680 analysis and didn't really find
NOTE Confidence: 0.9831914

00:54:56.680 --> 00:54:57.880 any subgroups that would benefit
NOTE Confidence: 0.9831914

00:54:57.880 --> 00:54:58.760 with the exception of the
NOTE Confidence: 0.9831914

00:54:58.760 --> 00:54:59.980 folks who were taking amiodarone,

NOTE Confidence: 0.97614175

00:55:00.614 --> 00:55:01.735 who seem to benefit more.

NOTE Confidence: 0.97614175

00:55:01.735 --> 00:55:03.015 And then there may be

NOTE Confidence: 0.97614175

00:55:03.015 --> 00:55:04.295 a trend towards treatment benefit

NOTE Confidence: 0.97614175

00:55:04.295 --> 00:55:05.255 in Brazil, which is why

NOTE Confidence: 0.97614175

00:55:05.255 --> 00:55:06.875 I think the Brazil Brazilian

NOTE Confidence: 0.97614175

00:55:06.935 --> 00:55:08.295 cardiologist seem to be more

NOTE Confidence: 0.97614175

00:55:08.295 --> 00:55:10.535 bullish about, antiparasitic treatment. Where

NOTE Confidence: 0.97614175

00:55:10.535 --> 00:55:11.415 do I stand if I

NOTE Confidence: 0.97614175

00:55:11.415 --> 00:55:12.295 have a patient who has

NOTE Confidence: 0.97614175

00:55:12.295 --> 00:55:13.114 mild cardiomyopathy

NOTE Confidence: 0.97680664

00:55:13.655 --> 00:55:14.375 who I think is two

NOTE Confidence: 0.97680664

00:55:14.375 --> 00:55:15.655 standard deviations below the mean

NOTE Confidence: 0.97680664

00:55:15.655 --> 00:55:16.560 in terms of age, I

NOTE Confidence: 0.97680664

00:55:16.560 --> 00:55:17.780 will offer them treatment

NOTE Confidence: 0.9541309

00:55:18.160 --> 00:55:20.239 with shared decision making, because

NOTE Confidence: 0.9541309

00:55:20.239 --> 00:55:21.440 I we don't really know
NOTE Confidence: 0.9541309

00:55:21.440 --> 00:55:22.960 is is my answer. Okay.
NOTE Confidence: 0.9541309

00:55:22.960 --> 00:55:24.080 Otherwise, we're gonna be looking
NOTE Confidence: 0.9541309

00:55:24.080 --> 00:55:25.860 at guideline directed medical therapy.
NOTE Confidence: 0.94563204

00:55:26.560 --> 00:55:28.719 Until very, very recently, there
NOTE Confidence: 0.94563204

00:55:28.719 --> 00:55:30.160 were very if if there
NOTE Confidence: 0.94563204

00:55:30.160 --> 00:55:31.844 were randomized trials, they were
NOTE Confidence: 0.94563204

00:55:32.085 --> 00:55:33.685 tiny in Chagas disease. So
NOTE Confidence: 0.94563204

00:55:33.685 --> 00:55:34.484 we really did not have
NOTE Confidence: 0.94563204

00:55:34.484 --> 00:55:35.305 robust evidence.
NOTE Confidence: 0.97513837

00:55:35.685 --> 00:55:37.525 So we were basically applying
NOTE Confidence: 0.97513837

00:55:37.525 --> 00:55:38.025 GDMT
NOTE Confidence: 0.99973553

00:55:38.484 --> 00:55:39.765 based on what we do
NOTE Confidence: 0.99973553

00:55:39.765 --> 00:55:40.744 for other cardiomyopathies.
NOTE Confidence: 0.9969177

00:55:42.244 --> 00:55:43.445 In the past year, we
NOTE Confidence: 0.9969177

00:55:43.445 --> 00:55:44.565 actually have some studies that

NOTE Confidence: 0.9969177

00:55:44.565 --> 00:55:46.005 were done specifically in Chagas

NOTE Confidence: 0.9969177

00:55:46.005 --> 00:55:46.505 patients.

NOTE Confidence: 0.9026712

00:55:46.920 --> 00:55:48.160 The first was I I

NOTE Confidence: 0.9026712

00:55:48.160 --> 00:55:48.920 I don't know why they

NOTE Confidence: 0.9026712

00:55:48.920 --> 00:55:49.880 put the timeline this way.

NOTE Confidence: 0.9026712

00:55:49.880 --> 00:55:51.239 I think that Parachute actually

NOTE Confidence: 0.9026712

00:55:51.239 --> 00:55:53.079 came out before ANSWER, but

NOTE Confidence: 0.9026712

00:55:53.079 --> 00:55:54.359 both of these studies looked

NOTE Confidence: 0.9026712

00:55:54.359 --> 00:55:56.359 at secubitrol valsartan in in

NOTE Confidence: 0.9026712

00:55:56.359 --> 00:55:58.119 folks with fairly significant Chagas

NOTE Confidence: 0.9026712

00:55:58.119 --> 00:55:59.895 cardiomyopathy. And answer heart failure

NOTE Confidence: 0.9026712

00:55:59.895 --> 00:56:01.094 was an EF of thirty.

NOTE Confidence: 0.9026712

00:56:01.094 --> 00:56:02.614 Average in Parachute, it was

NOTE Confidence: 0.9026712

00:56:02.614 --> 00:56:03.655 an EF of about thirty

NOTE Confidence: 0.9026712

00:56:03.655 --> 00:56:04.935 two. Answer, you can see

NOTE Confidence: 0.9026712

00:56:04.935 --> 00:56:06.055 it's much smaller with one
NOTE Confidence: 0.9026712

00:56:06.055 --> 00:56:07.835 hundred and ninety patients. Parachute
NOTE Confidence: 0.9026712

00:56:08.055 --> 00:56:09.335 four sixty to four sixty.
NOTE Confidence: 0.9026712

00:56:09.335 --> 00:56:10.710 And they were randomized to
NOTE Confidence: 0.9026712

00:56:10.710 --> 00:56:12.489 succubitril, a valsartan versus enalapril,
NOTE Confidence: 0.9026712

00:56:12.550 --> 00:56:13.609 it was ten milligrams.
NOTE Confidence: 0.95370823

00:56:14.230 --> 00:56:15.510 And what ANSWER was looking
NOTE Confidence: 0.95370823

00:56:15.510 --> 00:56:17.190 at was change in EF
NOTE Confidence: 0.95370823

00:56:17.190 --> 00:56:17.930 and BNP,
NOTE Confidence: 0.9344831

00:56:18.390 --> 00:56:19.589 and what parachute was looking
NOTE Confidence: 0.9344831

00:56:19.589 --> 00:56:21.030 at was a sort of
NOTE Confidence: 0.9344831

00:56:21.030 --> 00:56:22.650 a a MACE mortality
NOTE Confidence: 0.8808594

00:56:22.950 --> 00:56:23.450 endpoint,
NOTE Confidence: 0.9862072

00:56:24.185 --> 00:56:25.785 and then also at BNP.
NOTE Confidence: 0.9862072

00:56:25.785 --> 00:56:26.585 And what both of them
NOTE Confidence: 0.9862072

00:56:26.585 --> 00:56:28.364 found was that succubital vosartan

NOTE Confidence: 0.9862072

00:56:28.505 --> 00:56:29.465 does a very good job

NOTE Confidence: 0.9862072

00:56:29.465 --> 00:56:31.385 in reducing BNP relative to

NOTE Confidence: 0.9862072

00:56:31.385 --> 00:56:33.145 enalapril ten, but that there

NOTE Confidence: 0.9862072

00:56:33.145 --> 00:56:35.485 was no otherwise clinically significant

NOTE Confidence: 0.9862072

00:56:35.545 --> 00:56:36.810 meaningful endpoint there.

NOTE Confidence: 0.9960562

00:56:37.690 --> 00:56:38.730 But what it does show

NOTE Confidence: 0.9960562

00:56:38.730 --> 00:56:40.170 us is that we can

NOTE Confidence: 0.9960562

00:56:40.170 --> 00:56:41.070 do these studies

NOTE Confidence: 0.95500624

00:56:41.450 --> 00:56:42.890 in the world where where

NOTE Confidence: 0.95500624

00:56:42.890 --> 00:56:43.770 where a lot of folks

NOTE Confidence: 0.95500624

00:56:43.770 --> 00:56:45.050 with chagas live. And we

NOTE Confidence: 0.95500624

00:56:45.050 --> 00:56:45.930 can see that it it

NOTE Confidence: 0.95500624

00:56:45.930 --> 00:56:47.770 reduces BNP, you know, and

NOTE Confidence: 0.95500624

00:56:47.770 --> 00:56:48.810 whether or not it it

NOTE Confidence: 0.95500624

00:56:48.810 --> 00:56:50.010 has the same impact as

NOTE Confidence: 0.95500624

00:56:50.010 --> 00:56:51.674 enalapril mortality, that wasn't something

NOTE Confidence: 0.95500624

00:56:51.674 --> 00:56:52.594 that we were really able

NOTE Confidence: 0.95500624

00:56:52.594 --> 00:56:53.175 to test,

NOTE Confidence: 0.9939326

00:56:53.555 --> 00:56:54.515 but that we should be

NOTE Confidence: 0.9939326

00:56:54.515 --> 00:56:56.214 giving these patients, GDMT.

NOTE Confidence: 0.97891515

00:56:57.395 --> 00:56:59.075 So those are two exciting

NOTE Confidence: 0.97891515

00:56:59.075 --> 00:57:00.194 new additions to the the

NOTE Confidence: 0.97891515

00:57:00.194 --> 00:57:00.694 pantheon.

NOTE Confidence: 0.9707601

00:57:01.875 --> 00:57:02.994 And so then I wanted

NOTE Confidence: 0.9707601

00:57:02.994 --> 00:57:04.450 to switch, switch gears to

NOTE Confidence: 0.9707601

00:57:04.450 --> 00:57:05.489 the rhythm monitoring, which I

NOTE Confidence: 0.9707601

00:57:05.489 --> 00:57:06.610 think was really important in

NOTE Confidence: 0.9707601

00:57:06.610 --> 00:57:07.489 this patient. And I would

NOTE Confidence: 0.9707601

00:57:07.489 --> 00:57:08.770 say that, basically, anyone who's

NOTE Confidence: 0.9707601

00:57:08.770 --> 00:57:10.450 an abnormal EKG, anyone who

NOTE Confidence: 0.9707601

00:57:10.450 --> 00:57:12.130 has symptoms should be getting,

NOTE Confidence: 0.9707601

00:57:12.450 --> 00:57:13.830 should be getting rhythm monitoring.

NOTE Confidence: 0.9737462

00:57:14.210 --> 00:57:15.730 This patient definitely needed. It

NOTE Confidence: 0.9737462

00:57:15.730 --> 00:57:17.010 also really tipped us over

NOTE Confidence: 0.9737462

00:57:17.010 --> 00:57:18.130 in terms of his Rossi

NOTE Confidence: 0.9737462

00:57:18.130 --> 00:57:19.090 score, but it also tipped

NOTE Confidence: 0.9737462

00:57:19.090 --> 00:57:19.785 us over in terms of

NOTE Confidence: 0.9737462

00:57:19.785 --> 00:57:21.704 his risk for, for lethal

NOTE Confidence: 0.9737462

00:57:21.704 --> 00:57:22.204 arrhythmia.

NOTE Confidence: 0.9268688

00:57:22.505 --> 00:57:23.464 We know that non sustained

NOTE Confidence: 0.9268688

00:57:23.464 --> 00:57:24.665 VT is a poor prognostic

NOTE Confidence: 0.9268688

00:57:24.665 --> 00:57:25.165 sign.

NOTE Confidence: 0.9830862

00:57:25.785 --> 00:57:26.665 And then just to talk

NOTE Confidence: 0.9830862

00:57:26.665 --> 00:57:27.704 in the abstract about who

NOTE Confidence: 0.9830862

00:57:27.704 --> 00:57:29.065 needs a defibrillator, and this

NOTE Confidence: 0.9830862

00:57:29.065 --> 00:57:30.105 is really, I think, a

NOTE Confidence: 0.9830862

00:57:30.105 --> 00:57:31.865 tricky question to answer. You

NOTE Confidence: 0.9830862

00:57:31.865 --> 00:57:32.864 know, we we we tend

NOTE Confidence: 0.9830862

00:57:32.984 --> 00:57:34.105 we're here, so we're so

NOTE Confidence: 0.9830862

00:57:34.105 --> 00:57:35.070 focused on EF.

NOTE Confidence: 0.99211985

00:57:35.470 --> 00:57:36.590 And what we know is

NOTE Confidence: 0.99211985

00:57:36.590 --> 00:57:37.790 that these folks, because of

NOTE Confidence: 0.99211985

00:57:37.790 --> 00:57:39.090 their scarifying cardiomyopathy,

NOTE Confidence: 0.9688246

00:57:39.550 --> 00:57:40.750 because they're very much like

NOTE Confidence: 0.9688246

00:57:40.750 --> 00:57:42.270 sarcoid, they are more likely

NOTE Confidence: 0.9688246

00:57:42.270 --> 00:57:43.390 to have sudden cardiac death

NOTE Confidence: 0.9688246

00:57:43.390 --> 00:57:44.430 at EFs that we wouldn't

NOTE Confidence: 0.9688246

00:57:44.430 --> 00:57:45.390 worry about in most of

NOTE Confidence: 0.9688246

00:57:45.390 --> 00:57:46.430 the patients who come into

NOTE Confidence: 0.9688246

00:57:46.430 --> 00:57:47.845 our office. So that's where

NOTE Confidence: 0.9688246

00:57:47.845 --> 00:57:49.285 the chaga specialist comes in,

NOTE Confidence: 0.9688246

00:57:49.285 --> 00:57:50.325 and it's not we heard

NOTE Confidence: 0.9688246
00:57:50.325 --> 00:57:51.605 earlier today from an from
NOTE Confidence: 0.9688246
00:57:51.605 --> 00:57:53.065 a from an, electrophysiologist
NOTE Confidence: 0.97802734
00:57:53.525 --> 00:57:54.485 who said it's not in
NOTE Confidence: 0.97802734
00:57:54.485 --> 00:57:55.145 the guidelines.
NOTE Confidence: 0.9662078
00:57:55.765 --> 00:57:57.125 But if somebody comes in
NOTE Confidence: 0.9662078
00:57:57.125 --> 00:57:58.165 and they have non sustained
NOTE Confidence: 0.9662078
00:57:58.165 --> 00:57:59.525 VT and they have scar
NOTE Confidence: 0.9662078
00:57:59.525 --> 00:58:00.565 and their EF is a
NOTE Confidence: 0.9662078
00:58:00.565 --> 00:58:01.900 little bit low, we should
NOTE Confidence: 0.9662078
00:58:01.900 --> 00:58:03.340 probably give that patient, a
NOTE Confidence: 0.9662078
00:58:03.340 --> 00:58:03.840 defibrillator.
NOTE Confidence: 0.9792668
00:58:04.220 --> 00:58:05.420 If your EP doesn't wanna
NOTE Confidence: 0.9792668
00:58:05.420 --> 00:58:06.300 do that, maybe you get
NOTE Confidence: 0.9792668
00:58:06.300 --> 00:58:07.660 them to do programmed electrical
NOTE Confidence: 0.9792668
00:58:07.660 --> 00:58:08.700 stimulation, see if you can
NOTE Confidence: 0.9792668

00:58:08.700 --> 00:58:09.900 induce VT. They are very
NOTE Confidence: 0.9792668

00:58:09.900 --> 00:58:10.400 inducible,
NOTE Confidence: 0.9653606

00:58:11.100 --> 00:58:12.380 but I really worry about
NOTE Confidence: 0.9653606

00:58:12.380 --> 00:58:13.740 these folks. So what kinds
NOTE Confidence: 0.9653606

00:58:13.740 --> 00:58:14.700 of things could we look
NOTE Confidence: 0.9653606

00:58:14.700 --> 00:58:15.580 at to try and help
NOTE Confidence: 0.9653606

00:58:15.580 --> 00:58:17.105 guide our decision making? So
NOTE Confidence: 0.9653606

00:58:17.105 --> 00:58:18.145 we know that Chagas patients
NOTE Confidence: 0.9653606

00:58:18.145 --> 00:58:19.105 are at risk for VTs
NOTE Confidence: 0.9653606

00:58:19.105 --> 00:58:20.385 at higher EFs. That's why
NOTE Confidence: 0.9653606

00:58:20.385 --> 00:58:22.145 the ESC guidelines include a
NOTE Confidence: 0.9653606

00:58:22.145 --> 00:58:24.145 two way indication for, primary
NOTE Confidence: 0.9653606

00:58:24.145 --> 00:58:25.345 prevention of an EF less
NOTE Confidence: 0.9653606

00:58:25.345 --> 00:58:26.005 than forty.
NOTE Confidence: 0.9799324

00:58:26.545 --> 00:58:27.585 And we know we've already
NOTE Confidence: 0.9799324

00:58:27.585 --> 00:58:28.545 really talked about all of

NOTE Confidence: 0.9799324

00:58:28.545 --> 00:58:29.505 these things here, so I

NOTE Confidence: 0.9799324

00:58:29.505 --> 00:58:31.170 won't belabor them. We also

NOTE Confidence: 0.9799324

00:58:31.170 --> 00:58:32.369 have a study that came

NOTE Confidence: 0.9799324

00:58:32.369 --> 00:58:33.650 out fairly recently called the

NOTE Confidence: 0.9799324

00:58:33.650 --> 00:58:35.089 Chagosik trial, which tried to

NOTE Confidence: 0.9799324

00:58:35.089 --> 00:58:37.170 answer this question. Unfortunately, this

NOTE Confidence: 0.9799324

00:58:37.250 --> 00:58:38.849 the one big problem with

NOTE Confidence: 0.9799324

00:58:38.849 --> 00:58:40.530 this trial was that it

NOTE Confidence: 0.9799324

00:58:40.530 --> 00:58:42.290 happened during COVID and enrollment

NOTE Confidence: 0.9799324

00:58:42.290 --> 00:58:43.250 was really poor. So they

NOTE Confidence: 0.9799324

00:58:43.250 --> 00:58:44.210 were hoping to get nine

NOTE Confidence: 0.9799324

00:58:44.210 --> 00:58:45.410 hundred patients. They ended up

NOTE Confidence: 0.9799324

00:58:45.410 --> 00:58:46.775 only getting three hundred. That

NOTE Confidence: 0.9799324

00:58:46.775 --> 00:58:47.675 is a huge

NOTE Confidence: 0.9956287

00:58:47.975 --> 00:58:49.335 difference in power. I'm not

NOTE Confidence: 0.9956287

00:58:49.335 --> 00:58:49.995 a statistician,
NOTE Confidence: 0.9909237

00:58:50.375 --> 00:58:51.575 but that right away makes
NOTE Confidence: 0.9909237

00:58:51.575 --> 00:58:52.615 me very concerned that we
NOTE Confidence: 0.9909237

00:58:52.615 --> 00:58:53.815 can't really rely on these
NOTE Confidence: 0.9909237

00:58:53.815 --> 00:58:54.555 study results.
NOTE Confidence: 0.9781666

00:58:54.935 --> 00:58:55.735 The other thing that I
NOTE Confidence: 0.9781666

00:58:55.735 --> 00:58:56.775 think is really important is
NOTE Confidence: 0.9781666

00:58:56.775 --> 00:58:57.655 these folks were pretty sick.
NOTE Confidence: 0.9781666

00:58:57.655 --> 00:58:59.175 They had EFs of, average
NOTE Confidence: 0.9781666

00:58:59.175 --> 00:59:00.600 of about thirty seven percent.
NOTE Confidence: 0.9781666

00:59:00.840 --> 00:59:01.800 What they did was they
NOTE Confidence: 0.9781666

00:59:01.800 --> 00:59:03.640 randomized folks to amiodarone versus
NOTE Confidence: 0.9781666

00:59:03.640 --> 00:59:04.920 defibrillator, and what they found
NOTE Confidence: 0.9781666

00:59:04.920 --> 00:59:05.720 is at the end of
NOTE Confidence: 0.9781666

00:59:05.720 --> 00:59:06.920 six years of follow-up, there
NOTE Confidence: 0.9781666

00:59:06.920 --> 00:59:08.120 was no benefit in terms

NOTE Confidence: 0.9781666
00:59:08.120 --> 00:59:09.640 of mortality in the patients
NOTE Confidence: 0.9781666
00:59:09.640 --> 00:59:10.700 who got the defibrillators.
NOTE Confidence: 0.9704072
00:59:11.240 --> 00:59:11.880 Well, there's a couple of
NOTE Confidence: 0.9704072
00:59:11.880 --> 00:59:12.680 things that I think are
NOTE Confidence: 0.9704072
00:59:12.680 --> 00:59:13.655 kind of interesting about this
NOTE Confidence: 0.9704072
00:59:13.655 --> 00:59:14.375 even though I just told
NOTE Confidence: 0.9704072
00:59:14.375 --> 00:59:15.255 you we shouldn't pay much
NOTE Confidence: 0.9704072
00:59:15.255 --> 00:59:16.295 attention to this trial because
NOTE Confidence: 0.9704072
00:59:16.295 --> 00:59:17.035 it was underpowered.
NOTE Confidence: 0.9859582
00:59:17.335 --> 00:59:17.974 One is that if you
NOTE Confidence: 0.9859582
00:59:17.974 --> 00:59:19.015 stop the trial at three
NOTE Confidence: 0.9859582
00:59:19.015 --> 00:59:19.895 years, I put a little
NOTE Confidence: 0.9859582
00:59:19.895 --> 00:59:20.855 black line there, you can
NOTE Confidence: 0.9859582
00:59:20.855 --> 00:59:21.815 see those curves look like
NOTE Confidence: 0.9859582
00:59:21.815 --> 00:59:23.415 they're pretty far apart. Nobody
NOTE Confidence: 0.9859582

00:59:23.415 --> 00:59:24.315 did this analysis,
NOTE Confidence: 0.9724077

00:59:24.615 --> 00:59:25.815 just me with the line
NOTE Confidence: 0.9724077

00:59:25.815 --> 00:59:26.700 that I drew on there.
NOTE Confidence: 0.9724077

00:59:26.940 --> 00:59:28.140 But the fact is, I
NOTE Confidence: 0.9724077

00:59:28.140 --> 00:59:29.260 think we have a very
NOTE Confidence: 0.9724077

00:59:29.260 --> 00:59:30.380 sick group of patients in
NOTE Confidence: 0.9724077

00:59:30.380 --> 00:59:31.579 this trial, and they're gonna
NOTE Confidence: 0.9724077

00:59:31.579 --> 00:59:32.780 die from pump failure. So
NOTE Confidence: 0.9724077

00:59:32.780 --> 00:59:33.839 you can put a defibrillator
NOTE Confidence: 0.9724077

00:59:33.980 --> 00:59:34.780 in, and they might do
NOTE Confidence: 0.9724077

00:59:34.780 --> 00:59:35.900 better for a little while.
NOTE Confidence: 0.9724077

00:59:35.900 --> 00:59:37.020 But then that pump failure
NOTE Confidence: 0.9724077

00:59:37.020 --> 00:59:37.820 is gonna catch up with
NOTE Confidence: 0.9724077

00:59:37.820 --> 00:59:39.200 them, and they're gonna die.
NOTE Confidence: 0.9724077

00:59:39.339 --> 00:59:40.300 What if we'd done this
NOTE Confidence: 0.9724077

00:59:40.300 --> 00:59:41.260 in a trial where the

NOTE Confidence: 0.9724077
00:59:41.260 --> 00:59:42.675 average EF was forty five
NOTE Confidence: 0.9724077
00:59:42.755 --> 00:59:43.575 and not thirty
NOTE Confidence: 0.9746094
00:59:44.195 --> 00:59:44.515 five?
NOTE Confidence: 0.9523865
00:59:45.235 --> 00:59:46.595 And then the other thing
NOTE Confidence: 0.9523865
00:59:46.755 --> 00:59:48.115 so and and then the
NOTE Confidence: 0.9523865
00:59:48.115 --> 00:59:49.075 the final thing is that
NOTE Confidence: 0.9523865
00:59:49.075 --> 00:59:50.195 I should say because Carlos
NOTE Confidence: 0.9523865
00:59:50.195 --> 00:59:51.075 Maria told me to say
NOTE Confidence: 0.9523865
00:59:51.075 --> 00:59:52.835 this is that defibrillator did
NOTE Confidence: 0.9523865
00:59:52.835 --> 00:59:53.715 what it was supposed to
NOTE Confidence: 0.9523865
00:59:53.715 --> 00:59:55.320 do. It reduced sudden death
NOTE Confidence: 0.9916626
00:59:55.720 --> 00:59:57.160 magnificently. And what it also
NOTE Confidence: 0.9916626
00:59:57.160 --> 00:59:58.540 did was it reduced hospitalizations
NOTE Confidence: 0.87995255
00:59:58.840 --> 01:00:00.120 probably because people who are
NOTE Confidence: 0.87995255
01:00:00.120 --> 01:00:00.860 getting shocked
NOTE Confidence: 0.9961548

01:00:01.240 --> 01:00:02.380 over and over again,
NOTE Confidence: 0.97364384

01:00:03.080 --> 01:00:04.280 or people who are having
NOTE Confidence: 0.97364384

01:00:04.280 --> 01:00:05.900 a lot of VTs, particularly
NOTE Confidence: 0.97364384

01:00:05.960 --> 01:00:06.840 a lot of VTs and
NOTE Confidence: 0.97364384

01:00:06.840 --> 01:00:07.800 not getting shocked, are gonna
NOTE Confidence: 0.97364384

01:00:07.800 --> 01:00:08.600 end up in the hospital
NOTE Confidence: 0.97364384

01:00:08.600 --> 01:00:09.320 with heart failure if they
NOTE Confidence: 0.97364384

01:00:09.320 --> 01:00:10.205 live to tell tell the
NOTE Confidence: 0.97364384

01:00:10.205 --> 01:00:10.785 tale. So
NOTE Confidence: 0.97752625

01:00:11.485 --> 01:00:12.525 I'm not sure what to
NOTE Confidence: 0.97752625

01:00:12.525 --> 01:00:13.565 make of this trial. I
NOTE Confidence: 0.97752625

01:00:13.565 --> 01:00:15.005 think that as the trial
NOTE Confidence: 0.97752625

01:00:15.005 --> 01:00:16.525 is sad, further studies are
NOTE Confidence: 0.97752625

01:00:16.525 --> 01:00:17.805 warranted to confirm the evidence
NOTE Confidence: 0.97752625

01:00:17.805 --> 01:00:19.005 generated by this trial. Why
NOTE Confidence: 0.97752625

01:00:19.005 --> 01:00:19.885 do I bring it up?

NOTE Confidence: 0.97752625
01:00:19.885 --> 01:00:20.925 Because people bring it up
NOTE Confidence: 0.97752625
01:00:20.925 --> 01:00:22.230 with me. Somebody says, oh,
NOTE Confidence: 0.97752625
01:00:22.230 --> 01:00:23.510 defibrillators don't work in Chagas
NOTE Confidence: 0.97752625
01:00:23.510 --> 01:00:24.010 disease.
NOTE Confidence: 0.9982639
01:00:24.310 --> 01:00:25.590 Please don't let this trial
NOTE Confidence: 0.9982639
01:00:25.590 --> 01:00:26.550 be the answer to the
NOTE Confidence: 0.9982639
01:00:26.550 --> 01:00:27.510 question. I I don't think
NOTE Confidence: 0.9982639
01:00:27.510 --> 01:00:28.410 it deserves that.
NOTE Confidence: 0.98582923
01:00:29.270 --> 01:00:30.550 Okay. So as if on
NOTE Confidence: 0.98582923
01:00:30.550 --> 01:00:32.230 cue, our patient presents five
NOTE Confidence: 0.98582923
01:00:32.230 --> 01:00:33.930 years later without his defibrillator
NOTE Confidence: 0.98582923
01:00:33.990 --> 01:00:35.510 because he's not gone to
NOTE Confidence: 0.98582923
01:00:35.510 --> 01:00:36.730 his follow-up meetings
NOTE Confidence: 0.970459
01:00:37.030 --> 01:00:37.770 with this.
NOTE Confidence: 1
01:00:38.155 --> 01:00:39.375 And this is
NOTE Confidence: 0.9860652

01:00:40.235 --> 01:00:41.915 ventricular tachycardia, which I think

NOTE Confidence: 0.9860652

01:00:41.915 --> 01:00:43.355 we also learned earlier today

NOTE Confidence: 0.9860652

01:00:43.355 --> 01:00:44.655 from doctor, Abendano,

NOTE Confidence: 0.98695344

01:00:45.355 --> 01:00:46.895 is coming from the inferolateral

NOTE Confidence: 0.98695344

01:00:47.115 --> 01:00:48.495 wall and is likely epicardial.

NOTE Confidence: 0.98695344

01:00:48.635 --> 01:00:50.255 It matches every single criteria

NOTE Confidence: 0.98695344

01:00:50.315 --> 01:00:51.695 that he has. So

NOTE Confidence: 0.9842529

01:00:52.080 --> 01:00:53.280 no surprise. We knew this

NOTE Confidence: 0.9842529

01:00:53.280 --> 01:00:54.580 was gonna happen from benefit.

NOTE Confidence: 0.9842529

01:00:54.640 --> 01:00:55.520 We knew this was gonna

NOTE Confidence: 0.9842529

01:00:55.520 --> 01:00:57.040 happen from his from his,

NOTE Confidence: 0.95852053

01:00:57.440 --> 01:00:59.360 from his loop tracing. Okay.

NOTE Confidence: 0.95852053

01:00:59.360 --> 01:01:00.820 And here's his repeat echo.

NOTE Confidence: 0.9956305

01:01:02.160 --> 01:01:03.280 You can see now that

NOTE Confidence: 0.9956305

01:01:03.280 --> 01:01:04.480 rather than having a very

NOTE Confidence: 0.9956305

01:01:04.480 --> 01:01:05.860 mild basal inferolateral

NOTE Confidence: 0.99459636

01:01:06.515 --> 01:01:07.475 problem, he now has a

NOTE Confidence: 0.99459636

01:01:07.475 --> 01:01:09.095 basal inferolateral aneurysm.

NOTE Confidence: 0.9667236

01:01:09.875 --> 01:01:11.075 And because he was lost

NOTE Confidence: 0.9667236

01:01:11.075 --> 01:01:12.115 to follow-up and stopped taking

NOTE Confidence: 0.9667236

01:01:12.115 --> 01:01:12.775 his anticoagulation,

NOTE Confidence: 0.9914877

01:01:13.315 --> 01:01:14.915 we now see beautifully the

NOTE Confidence: 0.9914877

01:01:14.915 --> 01:01:16.855 apical thrombus that he has.

NOTE Confidence: 0.9279785

01:01:17.555 --> 01:01:18.055 Okay.

NOTE Confidence: 0.9710758

01:01:18.515 --> 01:01:19.635 I did wanna shout out

NOTE Confidence: 0.9710758

01:01:19.635 --> 01:01:21.300 actually to other alternate imaging,

NOTE Confidence: 0.9710758

01:01:21.300 --> 01:01:22.900 not even MRI. This is

NOTE Confidence: 0.9710758

01:01:22.900 --> 01:01:24.260 actually a CT abdomen that

NOTE Confidence: 0.9710758

01:01:24.260 --> 01:01:25.380 he had during the same

NOTE Confidence: 0.9710758

01:01:25.380 --> 01:01:26.900 hospital stay because he presented

NOTE Confidence: 0.9710758

01:01:26.900 --> 01:01:28.660 with abdominal pain. And what

NOTE Confidence: 0.9710758

01:01:28.660 --> 01:01:29.560 you can see
NOTE Confidence: 0.9613444

01:01:32.100 --> 01:01:33.380 is that if you look
NOTE Confidence: 0.9613444

01:01:33.380 --> 01:01:33.880 carefully,
NOTE Confidence: 0.99680585

01:01:34.355 --> 01:01:35.575 the thrombus is there.
NOTE Confidence: 0.9874724

01:01:35.954 --> 01:01:37.395 And this is another really
NOTE Confidence: 0.9874724

01:01:37.395 --> 01:01:38.515 great, I think, example of
NOTE Confidence: 0.9874724

01:01:38.515 --> 01:01:39.555 that, another patient where I
NOTE Confidence: 0.9874724

01:01:39.555 --> 01:01:40.755 felt like we hadn't seen
NOTE Confidence: 0.9874724

01:01:40.755 --> 01:01:42.194 the apex very well. And
NOTE Confidence: 0.9874724

01:01:42.194 --> 01:01:43.075 this is a patient who
NOTE Confidence: 0.9874724

01:01:43.075 --> 01:01:43.954 also had a CT of
NOTE Confidence: 0.9874724

01:01:43.954 --> 01:01:44.994 the abdomen and pelvis. It
NOTE Confidence: 0.9874724

01:01:44.994 --> 01:01:46.355 turns out it beautifully images
NOTE Confidence: 0.9874724

01:01:46.355 --> 01:01:47.075 the bottom of the heart,
NOTE Confidence: 0.9874724

01:01:47.075 --> 01:01:47.714 and you can see an
NOTE Confidence: 0.9874724

01:01:47.714 --> 01:01:49.075 apical aneurysm that we hadn't

NOTE Confidence: 0.9874724

01:01:49.075 --> 01:01:50.710 seen and a beautiful thrombus

NOTE Confidence: 0.9874724

01:01:50.710 --> 01:01:52.150 there. So remember, go into

NOTE Confidence: 0.9874724

01:01:52.150 --> 01:01:53.030 the chart. You can find

NOTE Confidence: 0.9874724

01:01:53.030 --> 01:01:54.390 alternate cardiac imaging that can

NOTE Confidence: 0.9874724

01:01:54.390 --> 01:01:54.970 be helpful.

NOTE Confidence: 0.8965518

01:01:55.350 --> 01:01:56.410 I need to move along.

NOTE Confidence: 0.8965518

01:01:56.470 --> 01:01:57.350 So he gets worse. He

NOTE Confidence: 0.8965518

01:01:57.350 --> 01:01:58.230 gets a Saint Jude by

NOTE Confidence: 0.8965518

01:01:58.230 --> 01:02:00.010 VICD place, start on amiodarone,

NOTE Confidence: 0.8965518

01:02:00.230 --> 01:02:01.830 GDMT. He starts getting shocked.

NOTE Confidence: 0.8965518

01:02:01.830 --> 01:02:02.650 They add myxiletine.

NOTE Confidence: 0.9834221

01:02:02.950 --> 01:02:04.404 He gets more shocks. And

NOTE Confidence: 0.9834221

01:02:04.404 --> 01:02:05.444 then in spite of his

NOTE Confidence: 0.9834221

01:02:05.444 --> 01:02:07.525 suspected epicardial VT, they write

NOTE Confidence: 0.9834221

01:02:07.525 --> 01:02:08.644 it in the chart, he

NOTE Confidence: 0.9834221

01:02:08.644 --> 01:02:10.025 gets an endocardial ablation,
NOTE Confidence: 0.97518444

01:02:10.325 --> 01:02:12.325 which, no surprise, does not
NOTE Confidence: 0.97518444

01:02:12.325 --> 01:02:13.684 work because what he needed
NOTE Confidence: 0.97518444

01:02:13.684 --> 01:02:15.785 was an epicardial endocardial procedure.
NOTE Confidence: 0.9791572

01:02:16.440 --> 01:02:17.720 So this is where, like,
NOTE Confidence: 0.9791572

01:02:17.720 --> 01:02:19.000 phone your friend, the Chagas
NOTE Confidence: 0.9791572

01:02:19.160 --> 01:02:20.760 the the cardiologist is familiar
NOTE Confidence: 0.9791572

01:02:20.760 --> 01:02:22.440 with Chagas disease because they
NOTE Confidence: 0.9791572

01:02:22.440 --> 01:02:23.480 would have said to this
NOTE Confidence: 0.9791572

01:02:23.480 --> 01:02:24.760 EP, please don't do this
NOTE Confidence: 0.9791572

01:02:24.760 --> 01:02:26.359 procedure. Send this patient to
NOTE Confidence: 0.9791572

01:02:26.359 --> 01:02:27.579 somebody who can do epicardial
NOTE Confidence: 0.9791572

01:02:27.640 --> 01:02:28.780 and endocardial procedures
NOTE Confidence: 0.9030762

01:02:29.320 --> 01:02:30.359 and get this guy up
NOTE Confidence: 0.9030762

01:02:30.359 --> 01:02:31.900 under control with his VTs.
NOTE Confidence: 0.99490017

01:02:32.315 --> 01:02:33.435 So we should talk really

NOTE Confidence: 0.99490017

01:02:33.435 --> 01:02:35.455 briefly about refractory VTs.

NOTE Confidence: 0.98159176

01:02:36.075 --> 01:02:37.835 Basically, it's really common in

NOTE Confidence: 0.98159176

01:02:37.835 --> 01:02:39.115 this disease. People get lots

NOTE Confidence: 0.98159176

01:02:39.115 --> 01:02:40.475 of shocks. They have more

NOTE Confidence: 0.98159176

01:02:40.475 --> 01:02:41.835 scar because of it. There

NOTE Confidence: 0.98159176

01:02:41.835 --> 01:02:42.715 are some things we can

NOTE Confidence: 0.98159176

01:02:42.715 --> 01:02:44.490 do aside from epicardial procedures.

NOTE Confidence: 0.98159176

01:02:44.490 --> 01:02:45.610 We can also do sympathetic

NOTE Confidence: 0.98159176

01:02:45.610 --> 01:02:47.610 ganglionectomy and renal denervation. And

NOTE Confidence: 0.98159176

01:02:47.610 --> 01:02:49.369 this on the this, really

NOTE Confidence: 0.98159176

01:02:49.369 --> 01:02:51.130 graphic right here shows the

NOTE Confidence: 0.98159176

01:02:51.130 --> 01:02:52.170 algorithm of what you should

NOTE Confidence: 0.98159176

01:02:52.170 --> 01:02:53.450 do with somebody who has

NOTE Confidence: 0.98159176

01:02:53.450 --> 01:02:55.290 VT recurrent VTs and VT

NOTE Confidence: 0.98159176

01:02:55.290 --> 01:02:56.650 storm from Chagas. Why does

NOTE Confidence: 0.98159176

01:02:56.650 --> 01:02:57.850 it matter? We've seen people
NOTE Confidence: 0.98159176

01:02:57.850 --> 01:02:59.415 get transplanted because of VT
NOTE Confidence: 0.98159176

01:02:59.495 --> 01:03:00.455 who did not go through
NOTE Confidence: 0.98159176

01:03:00.455 --> 01:03:01.195 this algorithm.
NOTE Confidence: 0.9852755

01:03:01.575 --> 01:03:02.375 You might not be able
NOTE Confidence: 0.9852755

01:03:02.375 --> 01:03:03.815 to stave off transplant. Heart
NOTE Confidence: 0.9852755

01:03:03.815 --> 01:03:04.855 pump failure is in their
NOTE Confidence: 0.9852755

01:03:04.855 --> 01:03:05.975 future, but the fact is
NOTE Confidence: 0.9852755

01:03:05.975 --> 01:03:06.855 maybe you can push it
NOTE Confidence: 0.9852755

01:03:06.855 --> 01:03:07.575 down the line a little
NOTE Confidence: 0.9852755

01:03:07.575 --> 01:03:08.615 bit, and why wouldn't you
NOTE Confidence: 0.9852755

01:03:08.615 --> 01:03:09.655 wanna do that? So we
NOTE Confidence: 0.9852755

01:03:09.655 --> 01:03:10.615 have these tools in our
NOTE Confidence: 0.9852755

01:03:10.615 --> 01:03:11.115 toolkit.
NOTE Confidence: 0.99487936

01:03:11.655 --> 01:03:13.059 Prognosis is bad. I think
NOTE Confidence: 0.99487936

01:03:13.059 --> 01:03:14.180 I'm running out of time.

NOTE Confidence: 0.99487936

01:03:14.180 --> 01:03:15.140 This is a patient who

NOTE Confidence: 0.99487936

01:03:15.140 --> 01:03:16.260 got his LVAD on the

NOTE Confidence: 0.99487936

01:03:16.260 --> 01:03:17.299 same day that he got

NOTE Confidence: 0.99487936

01:03:17.299 --> 01:03:17.799 his,

NOTE Confidence: 0.94539386

01:03:18.579 --> 01:03:19.380 the same day he got

NOTE Confidence: 0.94539386

01:03:19.380 --> 01:03:21.640 his, diagnosis of Chagas disease.

NOTE Confidence: 0.98679554

01:03:22.020 --> 01:03:22.900 We know that you can

NOTE Confidence: 0.98679554

01:03:22.900 --> 01:03:25.059 transplant. Transplant is great. People

NOTE Confidence: 0.98679554

01:03:25.059 --> 01:03:26.595 reactivate. That's a problem. But

NOTE Confidence: 0.98679554

01:03:26.595 --> 01:03:27.555 in the United States, we

NOTE Confidence: 0.98679554

01:03:27.555 --> 01:03:28.675 do surveillance for it, and

NOTE Confidence: 0.98679554

01:03:28.675 --> 01:03:29.395 we find it, and we

NOTE Confidence: 0.98679554

01:03:29.395 --> 01:03:30.355 treat it, and people do

NOTE Confidence: 0.98679554

01:03:30.355 --> 01:03:31.795 well. The real problem is

NOTE Confidence: 0.98679554

01:03:31.795 --> 01:03:32.295 accessibility.

NOTE Confidence: 0.9908588

01:03:32.755 --> 01:03:33.875 Most of my patients would
NOTE Confidence: 0.9908588

01:03:33.875 --> 01:03:35.315 not be eligible because of
NOTE Confidence: 0.9908588

01:03:35.315 --> 01:03:36.835 the nature of their status
NOTE Confidence: 0.9908588

01:03:36.835 --> 01:03:38.115 in the United States. So
NOTE Confidence: 0.9908588

01:03:38.115 --> 01:03:39.180 it's not a tool in
NOTE Confidence: 0.9908588

01:03:39.180 --> 01:03:40.480 our toolkit for most people.
NOTE Confidence: 0.9908588

01:03:40.619 --> 01:03:41.420 Why do we care? We
NOTE Confidence: 0.9908588

01:03:41.420 --> 01:03:42.619 have Chagas disease all over
NOTE Confidence: 0.9908588

01:03:42.619 --> 01:03:43.740 the United States. This is
NOTE Confidence: 0.9908588

01:03:43.740 --> 01:03:44.880 a map of prevalence,
NOTE Confidence: 0.9091797

01:03:45.740 --> 01:03:46.480 in Latin,
NOTE Confidence: 0.9977214

01:03:46.859 --> 01:03:48.079 American born immigrants
NOTE Confidence: 0.9758684

01:03:48.460 --> 01:03:49.900 across the US. The blue
NOTE Confidence: 0.9758684

01:03:49.900 --> 01:03:50.859 hearts are places in the
NOTE Confidence: 0.9758684

01:03:50.859 --> 01:03:51.835 United States that are doing
NOTE Confidence: 0.9758684

01:03:51.835 --> 01:03:52.875 Chagas disease work on a

NOTE Confidence: 0.9758684

01:03:52.875 --> 01:03:53.795 clinical basis, so I wanted

NOTE Confidence: 0.9758684

01:03:53.795 --> 01:03:54.555 to make sure to give

NOTE Confidence: 0.9758684

01:03:54.555 --> 01:03:55.675 them a shout out. We've

NOTE Confidence: 0.9758684

01:03:55.675 --> 01:03:56.555 got a big huge heart

NOTE Confidence: 0.9758684

01:03:56.555 --> 01:03:57.595 in Texas because there's so

NOTE Confidence: 0.9758684

01:03:57.595 --> 01:03:58.715 many people there thinking about

NOTE Confidence: 0.9758684

01:03:58.715 --> 01:03:59.215 it.

NOTE Confidence: 0.9421777

01:03:59.755 --> 01:04:01.215 We have some prevalence studies.

NOTE Confidence: 0.9421777

01:04:01.275 --> 01:04:02.715 The top one here, is

NOTE Confidence: 0.9421777

01:04:02.715 --> 01:04:03.755 the study we were involved

NOTE Confidence: 0.9421777

01:04:03.755 --> 01:04:04.475 with. We have a four

NOTE Confidence: 0.9421777

01:04:04.475 --> 01:04:05.161 percent seroprevalence rate in the

NOTE Confidence: 0.9421777

01:04:05.161 --> 01:04:06.015 Washington DC metropolitan area. It's

NOTE Confidence: 0.73291016

01:04:10.010 --> 01:04:10.510 prevalence,

NOTE Confidence: 0.9255371

01:04:10.890 --> 01:04:12.650 highest risk, immigrant community in

NOTE Confidence: 0.9255371

01:04:12.650 --> 01:04:13.630 the United States.
NOTE Confidence: 0.9816513

01:04:14.170 --> 01:04:15.530 But, otherwise, we estimate that
NOTE Confidence: 0.9816513

01:04:15.530 --> 01:04:16.570 there's probably about a one
NOTE Confidence: 0.9816513

01:04:16.570 --> 01:04:17.530 to one point five percent
NOTE Confidence: 0.9816513

01:04:17.530 --> 01:04:18.730 risk in Latin American born
NOTE Confidence: 0.9816513

01:04:18.730 --> 01:04:20.055 immigrants in the US. So
NOTE Confidence: 0.9816513

01:04:20.055 --> 01:04:21.335 anywhere they're living, they should
NOTE Confidence: 0.9816513

01:04:21.335 --> 01:04:21.915 be tested.
NOTE Confidence: 0.9582588

01:04:22.375 --> 01:04:23.095 And we know that if
NOTE Confidence: 0.9582588

01:04:23.095 --> 01:04:24.135 you go into the cardiology
NOTE Confidence: 0.9582588

01:04:24.135 --> 01:04:25.175 clinics, you're gonna find even
NOTE Confidence: 0.9582588

01:04:25.175 --> 01:04:26.375 more Chagas disease. And I'll
NOTE Confidence: 0.9582588

01:04:26.375 --> 01:04:27.494 point really to the bottom
NOTE Confidence: 0.9582588

01:04:27.494 --> 01:04:28.295 study that we did at
NOTE Confidence: 0.9582588

01:04:28.295 --> 01:04:30.535 MedStar Washington Hospital Center where,
NOTE Confidence: 0.9582588

01:04:30.855 --> 01:04:32.055 I was in the ECHO

NOTE Confidence: 0.9582588
01:04:32.055 --> 01:04:33.015 lab. I looked at people
NOTE Confidence: 0.9582588
01:04:33.015 --> 01:04:34.295 that ECHO's ordered for things
NOTE Confidence: 0.9582588
01:04:34.295 --> 01:04:35.160 that might smell a little
NOTE Confidence: 0.9582588
01:04:35.160 --> 01:04:36.540 bit like chagas cardiomyopathy.
NOTE Confidence: 0.99902344
01:04:36.920 --> 01:04:37.420 So
NOTE Confidence: 0.9960124
01:04:37.720 --> 01:04:39.099 chest pain, palpitations,
NOTE Confidence: 0.9698715
01:04:39.960 --> 01:04:42.700 VT, AFib, stroke, heart failure.
NOTE Confidence: 0.9698715
01:04:42.760 --> 01:04:44.040 And of the ninety seven
NOTE Confidence: 0.9698715
01:04:44.040 --> 01:04:45.400 people that we we tested
NOTE Confidence: 0.9698715
01:04:45.400 --> 01:04:46.680 and included, sixteen percent of
NOTE Confidence: 0.9698715
01:04:46.680 --> 01:04:47.559 them had chagas. And if
NOTE Confidence: 0.9698715
01:04:47.559 --> 01:04:48.680 they had EFs less than
NOTE Confidence: 0.9698715
01:04:48.680 --> 01:04:49.800 fifty, it was twenty five
NOTE Confidence: 0.9698715
01:04:49.800 --> 01:04:50.715 percent of them who have
NOTE Confidence: 0.9698715
01:04:50.715 --> 01:04:51.755 gone on to transplant and
NOTE Confidence: 0.9698715

01:04:51.755 --> 01:04:52.575 to die, unfortunately.
NOTE Confidence: 0.9857802

01:04:54.155 --> 01:04:55.355 I'm not gonna talk about
NOTE Confidence: 0.9857802

01:04:55.355 --> 01:04:56.715 autochthonous cases. Those are my
NOTE Confidence: 0.9857802

01:04:56.715 --> 01:04:58.015 dogs who don't have Chagas.
NOTE Confidence: 0.9857802

01:04:58.155 --> 01:04:59.435 I will finish with barriers
NOTE Confidence: 0.9857802

01:04:59.435 --> 01:05:00.315 to care, though. This is
NOTE Confidence: 0.9857802

01:05:00.315 --> 01:05:01.375 incredibly important.
NOTE Confidence: 0.97302586

01:05:01.755 --> 01:05:02.795 So this is from one
NOTE Confidence: 0.97302586

01:05:02.795 --> 01:05:04.475 of the most beautiful screening
NOTE Confidence: 0.97302586

01:05:04.475 --> 01:05:05.835 programs in the country. It's
NOTE Confidence: 0.97302586

01:05:05.835 --> 01:05:07.320 at East Boston Health Center.
NOTE Confidence: 0.97302586

01:05:07.320 --> 01:05:08.520 They see a lot of
NOTE Confidence: 0.97302586

01:05:08.520 --> 01:05:10.040 of Central American immigrants, and
NOTE Confidence: 0.97302586

01:05:10.040 --> 01:05:11.240 they do a beautiful job.
NOTE Confidence: 0.97302586

01:05:11.240 --> 01:05:12.760 They have embedded Chagas disease
NOTE Confidence: 0.97302586

01:05:12.760 --> 01:05:14.520 testing into primary care, which

NOTE Confidence: 0.97302586

01:05:14.520 --> 01:05:15.320 is the way it should

NOTE Confidence: 0.97302586

01:05:15.320 --> 01:05:17.320 be done. And even there,

NOTE Confidence: 0.97302586

01:05:17.320 --> 01:05:19.020 where they understand this disease

NOTE Confidence: 0.97302586

01:05:19.145 --> 01:05:21.224 and everyone has insurance because

NOTE Confidence: 0.97302586

01:05:21.224 --> 01:05:23.165 it's Massachusetts and there's universal

NOTE Confidence: 0.97302586

01:05:23.224 --> 01:05:23.964 health care,

NOTE Confidence: 0.9495461

01:05:24.265 --> 01:05:25.464 when you look at a

NOTE Confidence: 0.9495461

01:05:25.464 --> 01:05:27.464 hundred idealized patients, these are

NOTE Confidence: 0.9495461

01:05:27.464 --> 01:05:28.585 the lost of follow-up that

NOTE Confidence: 0.9495461

01:05:28.585 --> 01:05:29.625 you see along the way.

NOTE Confidence: 0.9495461

01:05:29.625 --> 01:05:30.905 So all Chagas is a

NOTE Confidence: 0.9495461

01:05:30.905 --> 01:05:32.765 hundred, referred is ninety four,

NOTE Confidence: 0.9495461

01:05:33.039 --> 01:05:34.799 seventy four is evaluated, thirty

NOTE Confidence: 0.9495461

01:05:34.799 --> 01:05:36.319 eight is treatment initiated, and

NOTE Confidence: 0.9495461

01:05:36.319 --> 01:05:37.619 only one is completed.

NOTE Confidence: 0.9885292

01:05:38.079 --> 01:05:39.759 And this is basically a
NOTE Confidence: 0.9885292

01:05:39.759 --> 01:05:41.119 table of all of the
NOTE Confidence: 0.9885292

01:05:41.119 --> 01:05:42.400 barriers to care. I wish
NOTE Confidence: 0.9885292

01:05:42.400 --> 01:05:43.119 I had the time to
NOTE Confidence: 0.9885292

01:05:43.119 --> 01:05:44.079 go through all of them,
NOTE Confidence: 0.9885292

01:05:44.079 --> 01:05:45.279 but it's worth looking them
NOTE Confidence: 0.9885292

01:05:45.279 --> 01:05:46.240 because all of them are
NOTE Confidence: 0.9885292

01:05:46.240 --> 01:05:48.125 true. And as people working
NOTE Confidence: 0.9885292

01:05:48.125 --> 01:05:49.085 on Chagas disease in the
NOTE Confidence: 0.9885292

01:05:49.085 --> 01:05:50.445 United States, it's our obligation
NOTE Confidence: 0.9885292

01:05:50.445 --> 01:05:51.405 to try to understand them
NOTE Confidence: 0.9885292

01:05:51.405 --> 01:05:52.285 and to mitigate them as
NOTE Confidence: 0.9885292

01:05:52.285 --> 01:05:53.265 best as we can.
NOTE Confidence: 0.94031984

01:05:53.645 --> 01:05:55.165 So in some, sorry I
NOTE Confidence: 0.94031984

01:05:55.165 --> 01:05:56.525 ran over, it's a complicated
NOTE Confidence: 0.94031984

01:05:56.525 --> 01:05:57.965 disease about which practitioners in

NOTE Confidence: 0.94031984

01:05:57.965 --> 01:05:59.425 the US are woefully unaware.

NOTE Confidence: 0.97408473

01:05:59.760 --> 01:06:00.960 It's made even more complicated

NOTE Confidence: 0.97408473

01:06:00.960 --> 01:06:01.600 by the fact that it's

NOTE Confidence: 0.97408473

01:06:01.600 --> 01:06:03.120 a neglected tropical disease. We

NOTE Confidence: 0.97408473

01:06:03.120 --> 01:06:04.800 need better risk stratification tools.

NOTE Confidence: 0.97408473

01:06:04.800 --> 01:06:06.320 We really need guidelines because

NOTE Confidence: 0.97408473

01:06:06.320 --> 01:06:07.040 then when people say what

NOTE Confidence: 0.97408473

01:06:07.040 --> 01:06:08.000 do the guidelines say, we

NOTE Confidence: 0.97408473

01:06:08.000 --> 01:06:09.780 can tell them. And collaborative

NOTE Confidence: 0.97408473

01:06:09.920 --> 01:06:11.520 efforts, like what Bernardo is

NOTE Confidence: 0.97408473

01:06:11.520 --> 01:06:12.480 trying to do, are key

NOTE Confidence: 0.97408473

01:06:12.480 --> 01:06:13.545 to this. And if we

NOTE Confidence: 0.97408473

01:06:13.545 --> 01:06:14.665 don't screen, we won't find

NOTE Confidence: 0.97408473

01:06:14.665 --> 01:06:16.105 subclinical disease and find our

NOTE Confidence: 0.97408473

01:06:16.105 --> 01:06:17.545 patients before they get sick,

NOTE Confidence: 0.97408473

01:06:17.545 --> 01:06:18.345 and we won't be able

NOTE Confidence: 0.97408473

01:06:18.345 --> 01:06:19.224 to provide the patients with

NOTE Confidence: 0.97408473

01:06:19.224 --> 01:06:20.105 the care that they need.

NOTE Confidence: 0.97408473

01:06:20.105 --> 01:06:21.305 Thank you so much. I

NOTE Confidence: 0.97408473

01:06:21.305 --> 01:06:22.685 really appreciate your attention.