

WEBVTT

NOTE duration:"00:50:40"

NOTE recognizability:0.859

NOTE language:en-us

NOTE Confidence: 0.838092315

00:00:04.640 --> 00:00:06.320 There you go. OK,

NOTE Confidence: 0.884811599

00:00:08.680 --> 00:00:10.040 so for anyone who's watching

NOTE Confidence: 0.884811599

00:00:10.040 --> 00:00:11.400 this now is being recorded.

NOTE Confidence: 0.884811599

00:00:11.400 --> 00:00:13.530 We've we've we've just welcomed everyone

NOTE Confidence: 0.884811599

00:00:13.530 --> 00:00:16.400 and now we're just starting the recording.

NOTE Confidence: 0.884811599

00:00:16.400 --> 00:00:19.073 So for anyone who's just joining us by video,

NOTE Confidence: 0.884811599

00:00:19.080 --> 00:00:21.440 we welcome you too.

NOTE Confidence: 0.884811599

00:00:21.440 --> 00:00:25.953 But so let me just anyone else got

NOTE Confidence: 0.884811599

00:00:25.953 --> 00:00:27.608 any comments midsubernally if you

NOTE Confidence: 0.884811599

00:00:27.608 --> 00:00:31.090 could go anything else before we go.

NOTE Confidence: 0.884811599

00:00:31.090 --> 00:00:35.444 OK. So again the the I won't take too

NOTE Confidence: 0.884811599

00:00:35.444 --> 00:00:37.893 long on this piece but just to tell you

NOTE Confidence: 0.884811599

00:00:37.893 --> 00:00:40.130 so listen studies consists of of people

NOTE Confidence: 0.884811599

00:00:40.130 --> 00:00:43.590 who are living with long COVID people

NOTE Confidence: 0.884811599

00:00:43.590 --> 00:00:47.852 who are experiencing adverse effects

NOTE Confidence: 0.884811599

00:00:47.852 --> 00:00:50.694 after having had the vaccine and other

NOTE Confidence: 0.884811599

00:00:50.694 --> 00:00:53.238 people controls we call them controls.

NOTE Confidence: 0.884811599

00:00:53.240 --> 00:00:55.018 We really mean are people who aren't

NOTE Confidence: 0.884811599

00:00:55.018 --> 00:00:56.459 suffering from either of those two

NOTE Confidence: 0.884811599

00:00:56.459 --> 00:00:57.929 things because we really in some of

NOTE Confidence: 0.884811599

00:00:57.980 --> 00:00:59.555 the studies are going to need people

NOTE Confidence: 0.884811599

00:00:59.560 --> 00:01:02.248 who are in a similar situation to you

NOTE Confidence: 0.884811599

00:01:02.248 --> 00:01:04.440 with regard to their demographics

NOTE Confidence: 0.884811599

00:01:04.440 --> 00:01:06.540 but are different from you in the

NOTE Confidence: 0.884811599

00:01:06.540 --> 00:01:08.255 sense that they're not suffering

NOTE Confidence: 0.884811599

00:01:08.255 --> 00:01:09.755 from a chronic condition.

NOTE Confidence: 0.884811599

00:01:09.760 --> 00:01:12.581 And so we're also encouraging many people

NOTE Confidence: 0.884811599

00:01:12.581 --> 00:01:15.205 within listen to if they can identify

NOTE Confidence: 0.884811599

00:01:15.205 --> 00:01:17.999 others to join this who can serve as

NOTE Confidence: 0.884811599

00:01:17.999 --> 00:01:19.897 sort of that reference population.

NOTE Confidence: 0.884811599

00:01:19.897 --> 00:01:21.725 Someone said they're they're

NOTE Confidence: 0.884811599

00:01:21.725 --> 00:01:23.553 not hearing the audios,

NOTE Confidence: 0.884811599

00:01:23.560 --> 00:01:24.720 most people hearing the audio.

NOTE Confidence: 0.884811599

00:01:24.720 --> 00:01:26.600 I can see people so I can just

NOTE Confidence: 0.884811599

00:01:26.600 --> 00:01:28.040 tell me so sorry Jose,

NOTE Confidence: 0.884811599

00:01:28.040 --> 00:01:30.960 but we're it seems like it's going so the

NOTE Confidence: 0.92078988

00:01:33.680 --> 00:01:36.640 so right at this point Kindred by the

NOTE Confidence: 0.92078988

00:01:36.640 --> 00:01:39.817 way has over 4000 people who have

NOTE Confidence: 0.92078988

00:01:39.817 --> 00:01:41.725 joined Kindred and I hope that's been

NOTE Confidence: 0.92078988

00:01:41.725 --> 00:01:43.252 a source of support for many people

NOTE Confidence: 0.92078988

00:01:43.252 --> 00:01:44.794 is that information has been passing.

NOTE Confidence: 0.92078988

00:01:44.800 --> 00:01:48.160 Kudos to that team. And the LISTEN study,

NOTE Confidence: 0.92078988

00:01:48.160 --> 00:01:50.320 which you're part of and that's

NOTE Confidence: 0.92078988

00:01:50.320 --> 00:01:52.918 the what we're talking about today,

NOTE Confidence: 0.92078988

00:01:52.920 --> 00:01:56.040 has, believe it or not, 20 / 2100  
NOTE Confidence: 0.92078988

00:01:56.040 --> 00:01:58.440 people have joined the listen study.  
NOTE Confidence: 0.92078988

00:01:58.440 --> 00:02:00.852 And you know, this is pretty novel in the  
NOTE Confidence: 0.92078988

00:02:00.852 --> 00:02:03.354 sense that we didn't go to doctors and said,  
NOTE Confidence: 0.92078988

00:02:03.360 --> 00:02:05.327 can you identify people in your practice  
NOTE Confidence: 0.92078988

00:02:05.327 --> 00:02:07.038 who might want to join a study.  
NOTE Confidence: 0.92078988

00:02:07.040 --> 00:02:09.056 And you know that there can be implicit  
NOTE Confidence: 0.92078988

00:02:09.056 --> 00:02:10.639 biases in that where you know,  
NOTE Confidence: 0.92078988

00:02:10.640 --> 00:02:11.906 some people are offered the opportunity  
NOTE Confidence: 0.92078988

00:02:11.906 --> 00:02:13.506 to join a study and other people  
NOTE Confidence: 0.92078988

00:02:13.506 --> 00:02:14.696 don't necessarily get the opportunity  
NOTE Confidence: 0.92078988

00:02:14.696 --> 00:02:15.519 to join a study.  
NOTE Confidence: 0.92078988

00:02:15.520 --> 00:02:18.784 And and and people may not, you know,  
NOTE Confidence: 0.92078988

00:02:18.784 --> 00:02:20.536 come in through that pathway very  
NOTE Confidence: 0.92078988

00:02:20.536 --> 00:02:22.613 well or you're not at a center that's  
NOTE Confidence: 0.92078988

00:02:22.613 --> 00:02:23.997 been asked to be part of the study.

NOTE Confidence: 0.92078988

00:02:24.000 --> 00:02:25.290 So you're really not possible for

NOTE Confidence: 0.92078988

00:02:25.290 --> 00:02:26.559 you to be part of that.

NOTE Confidence: 0.92078988

00:02:26.560 --> 00:02:27.488 But in this study,

NOTE Confidence: 0.92078988

00:02:27.488 --> 00:02:29.495 what we wanted to do was go straight

NOTE Confidence: 0.92078988

00:02:29.495 --> 00:02:31.556 to people and then let people let

NOTE Confidence: 0.92078988

00:02:31.556 --> 00:02:33.932 other people know and through various

NOTE Confidence: 0.92078988

00:02:33.932 --> 00:02:36.639 mechanisms sort of just grow organically.

NOTE Confidence: 0.92078988

00:02:36.640 --> 00:02:37.368 And again, you know,

NOTE Confidence: 0.92078988

00:02:37.368 --> 00:02:39.038 this study has to be worthy of your trust.

NOTE Confidence: 0.92078988

00:02:39.040 --> 00:02:41.000 So if people are having a bad experience,

NOTE Confidence: 0.92078988

00:02:41.000 --> 00:02:42.038 no one's going to join it.

NOTE Confidence: 0.92078988

00:02:42.040 --> 00:02:44.238 So people have to feel like this

NOTE Confidence: 0.92078988

00:02:44.238 --> 00:02:46.122 is something that's worthy of them

NOTE Confidence: 0.92078988

00:02:46.122 --> 00:02:46.998 being part of.

NOTE Confidence: 0.92078988

00:02:47.000 --> 00:02:49.646 Now everybody came into Kindred and

NOTE Confidence: 0.92078988

00:02:49.646 --> 00:02:52.973 filled out a basic questionnaire to

NOTE Confidence: 0.92078988

00:02:52.973 --> 00:02:55.038 a variable degree of completeness.

NOTE Confidence: 0.92078988

00:02:55.040 --> 00:02:56.939 So one of the things I want to take

NOTE Confidence: 0.92078988

00:02:56.939 --> 00:02:58.982 the opportunity to do is to say we

NOTE Confidence: 0.92078988

00:02:58.982 --> 00:03:00.718 are doing things with the surveys.

NOTE Confidence: 0.92078988

00:03:00.720 --> 00:03:02.160 And I want to encourage everyone

NOTE Confidence: 0.92078988

00:03:02.160 --> 00:03:04.004 to be sure that they have filled

NOTE Confidence: 0.92078988

00:03:04.004 --> 00:03:05.116 out all their surveys.

NOTE Confidence: 0.92078988

00:03:05.120 --> 00:03:06.572 Plus we're going to start getting

NOTE Confidence: 0.92078988

00:03:06.572 --> 00:03:08.409 to the point where we're going to

NOTE Confidence: 0.92078988

00:03:08.409 --> 00:03:09.764 send out more surveys specifically

NOTE Confidence: 0.92078988

00:03:09.764 --> 00:03:10.959 from the listen study.

NOTE Confidence: 0.92078988

00:03:10.960 --> 00:03:12.829 So that's going to be an important

NOTE Confidence: 0.92078988

00:03:12.829 --> 00:03:14.318 part of what we do also.

NOTE Confidence: 0.92078988

00:03:14.320 --> 00:03:16.104 And we're going to be looking to you

NOTE Confidence: 0.92078988

00:03:16.104 --> 00:03:18.116 all as we begin to think about like,

NOTE Confidence: 0.92078988

00:03:18.120 --> 00:03:19.080 what should we be asking,

NOTE Confidence: 0.92078988

00:03:19.080 --> 00:03:20.480 how do we make sure we capture it?

NOTE Confidence: 0.92078988

00:03:20.480 --> 00:03:22.706 How do we in way advocate for

NOTE Confidence: 0.92078988

00:03:22.706 --> 00:03:24.520 what your voice is in this,

NOTE Confidence: 0.92078988

00:03:24.520 --> 00:03:26.280 what your experience has been,

NOTE Confidence: 0.92078988

00:03:26.280 --> 00:03:27.798 in addition to trying to advance

NOTE Confidence: 0.92078988

00:03:27.798 --> 00:03:29.526 the science to figure out how we

NOTE Confidence: 0.92078988

00:03:29.526 --> 00:03:30.846 can relieve some of the suffering

NOTE Confidence: 0.92078988

00:03:30.846 --> 00:03:32.556 or at most of the suffering that's

NOTE Confidence: 0.92078988

00:03:32.556 --> 00:03:33.512 going on out there.

NOTE Confidence: 0.92078988

00:03:33.520 --> 00:03:35.638 So this is another important piece.

NOTE Confidence: 0.92078988

00:03:35.640 --> 00:03:37.550 The connectivity to the medical

NOTE Confidence: 0.92078988

00:03:37.550 --> 00:03:39.078 records is another part.

NOTE Confidence: 0.92078988

00:03:39.080 --> 00:03:40.544 We're just going to start working

NOTE Confidence: 0.92078988

00:03:40.544 --> 00:03:41.520 on that as well.

NOTE Confidence: 0.92078988

00:03:41.520 --> 00:03:43.960 So many of you have connected your records.  
NOTE Confidence: 0.92078988

00:03:43.960 --> 00:03:46.184 You know that Hugo is configured so your  
NOTE Confidence: 0.92078988

00:03:46.184 --> 00:03:48.317 data doesn't move without your permission.  
NOTE Confidence: 0.92078988

00:03:48.320 --> 00:03:50.024 There's no secondary marketplace,  
NOTE Confidence: 0.92078988

00:03:50.024 --> 00:03:52.696 the data doesn't get sold it it's  
NOTE Confidence: 0.92078988

00:03:52.696 --> 00:03:54.572 this has been like the whole idea  
NOTE Confidence: 0.92078988

00:03:54.572 --> 00:03:56.581 was to give people agency over their  
NOTE Confidence: 0.92078988

00:03:56.581 --> 00:03:59.070 own data to be able to pull that  
NOTE Confidence: 0.92078988

00:03:59.070 --> 00:04:01.032 data together whether by wearables or  
NOTE Confidence: 0.928651756666667

00:04:01.040 --> 00:04:04.160 health systems or insurers and payers.  
NOTE Confidence: 0.928651756666667

00:04:04.160 --> 00:04:06.446 And so you're essentially have you  
NOTE Confidence: 0.928651756666667

00:04:06.446 --> 00:04:08.587 accumulate those data assets and be  
NOTE Confidence: 0.928651756666667

00:04:08.587 --> 00:04:10.512 able to share them into the study.  
NOTE Confidence: 0.928651756666667

00:04:10.520 --> 00:04:13.600 This is a very unusual and novel effort here.  
NOTE Confidence: 0.928651756666667

00:04:13.600 --> 00:04:15.599 And if we can prove that this can be done,  
NOTE Confidence: 0.928651756666667

00:04:15.600 --> 00:04:18.248 I think it will spread as a mechanism

NOTE Confidence: 0.928651756666667  
00:04:18.248 --> 00:04:20.748 to try to accelerate the way in  
NOTE Confidence: 0.928651756666667  
00:04:20.748 --> 00:04:22.557 which data can be aggregated,  
NOTE Confidence: 0.928651756666667  
00:04:22.557 --> 00:04:24.542 organized and analyzed so that  
NOTE Confidence: 0.928651756666667  
00:04:24.542 --> 00:04:27.354 we can learn in almost real time  
NOTE Confidence: 0.928651756666667  
00:04:27.354 --> 00:04:29.279 what's going on with people.  
NOTE Confidence: 0.928651756666667  
00:04:29.280 --> 00:04:31.720 And because the data streams  
NOTE Confidence: 0.928651756666667  
00:04:31.720 --> 00:04:32.365 with your permission,  
NOTE Confidence: 0.928651756666667  
00:04:32.365 --> 00:04:34.160 we're able to use it within the state.  
NOTE Confidence: 0.928651756666667  
00:04:34.160 --> 00:04:35.324 And again, we,  
NOTE Confidence: 0.928651756666667  
00:04:35.324 --> 00:04:38.040 we did agree in the consent that  
NOTE Confidence: 0.928651756666667  
00:04:38.126 --> 00:04:41.312 at some point we might allow other  
NOTE Confidence: 0.928651756666667  
00:04:41.312 --> 00:04:42.584 investigators to use the data,  
NOTE Confidence: 0.928651756666667  
00:04:42.584 --> 00:04:44.405 but we would have to de identify the  
NOTE Confidence: 0.928651756666667  
00:04:44.405 --> 00:04:46.035 data but enable other investigators.  
NOTE Confidence: 0.928651756666667  
00:04:46.040 --> 00:04:47.846 But what won't ever happen is  
NOTE Confidence: 0.928651756666667

00:04:47.846 --> 00:04:49.440 the data won't be sold.  
NOTE Confidence: 0.928651756666667

00:04:49.440 --> 00:04:51.918 It won't be commercialized in that way.  
NOTE Confidence: 0.928651756666667

00:04:51.920 --> 00:04:54.090 It'll be only used for science to  
NOTE Confidence: 0.928651756666667

00:04:54.090 --> 00:04:56.383 try to advance knowledge to try to  
NOTE Confidence: 0.928651756666667

00:04:56.383 --> 00:04:58.562 make a difference to to what you  
NOTE Confidence: 0.928651756666667

00:04:58.562 --> 00:05:00.620 guys are facing or or what people  
NOTE Confidence: 0.928651756666667

00:05:00.691 --> 00:05:02.719 that you care about are facing.  
NOTE Confidence: 0.928651756666667

00:05:02.720 --> 00:05:05.037 And so that's the configuration of this.  
NOTE Confidence: 0.928651756666667

00:05:05.040 --> 00:05:06.965 So we're urging people to make sure  
NOTE Confidence: 0.928651756666667

00:05:06.965 --> 00:05:09.198 they fill out the whole questionnaire.  
NOTE Confidence: 0.928651756666667

00:05:09.200 --> 00:05:11.160 We we for some of the people we're  
NOTE Confidence: 0.928651756666667

00:05:11.160 --> 00:05:12.347 actually adding some additional  
NOTE Confidence: 0.928651756666667

00:05:12.347 --> 00:05:13.957 questions that are being done.  
NOTE Confidence: 0.928651756666667

00:05:13.960 --> 00:05:16.912 But but we will be increasing I think  
NOTE Confidence: 0.928651756666667

00:05:16.912 --> 00:05:20.055 the cadence of some of the information  
NOTE Confidence: 0.928651756666667

00:05:20.055 --> 00:05:21.765 collection and then the the medical

NOTE Confidence: 0.928651756666667  
00:05:21.765 --> 00:05:23.399 records are another important part of that.  
NOTE Confidence: 0.928651756666667  
00:05:23.400 --> 00:05:25.276 And then there's another piece of this  
NOTE Confidence: 0.928651756666667  
00:05:25.276 --> 00:05:27.276 study which is that there's a smaller  
NOTE Confidence: 0.928651756666667  
00:05:27.276 --> 00:05:30.857 group that we are working on to get  
NOTE Confidence: 0.928651756666667  
00:05:30.857 --> 00:05:33.025 to gather blood and saliva so that  
NOTE Confidence: 0.928651756666667  
00:05:33.025 --> 00:05:35.112 it can be analyzed in a Kiko's lab  
NOTE Confidence: 0.928651756666667  
00:05:35.112 --> 00:05:36.981 where now he's heading this effort to  
NOTE Confidence: 0.928651756666667  
00:05:37.035 --> 00:05:38.859 to organize this and it's collecting  
NOTE Confidence: 0.928651756666667  
00:05:38.859 --> 00:05:41.304 in people's homes for a smaller group.  
NOTE Confidence: 0.928651756666667  
00:05:41.304 --> 00:05:43.982 And we are going to use that to  
NOTE Confidence: 0.928651756666667  
00:05:43.982 --> 00:05:46.280 try to correlate how people are  
NOTE Confidence: 0.928651756666667  
00:05:46.280 --> 00:05:47.926 reporting their experiences with  
NOTE Confidence: 0.928651756666667  
00:05:47.926 --> 00:05:50.754 what we can do from thousands of  
NOTE Confidence: 0.928651756666667  
00:05:50.754 --> 00:05:54.120 measures of of the immune system and  
NOTE Confidence: 0.928651756666667  
00:05:54.120 --> 00:05:56.640 and how it's functioning to try to  
NOTE Confidence: 0.928651756666667

00:05:56.640 --> 00:05:59.140 begin to make some progress towards  
NOTE Confidence: 0.928651756666667

00:05:59.140 --> 00:06:00.920 understanding and so quickly.  
NOTE Confidence: 0.928651756666667

00:06:00.920 --> 00:06:04.115 I just also want to say that we we're  
NOTE Confidence: 0.928651756666667

00:06:04.120 --> 00:06:05.848 if I were in your position I might  
NOTE Confidence: 0.928651756666667

00:06:05.848 --> 00:06:08.097 be a little impatient like OK so when  
NOTE Confidence: 0.928651756666667

00:06:08.097 --> 00:06:10.264 stuff going to start moving out the  
NOTE Confidence: 0.928651756666667

00:06:10.264 --> 00:06:12.124 the the vibrations preprint is an  
NOTE Confidence: 0.928651756666667

00:06:12.124 --> 00:06:13.440 example trying to move things out.  
NOTE Confidence: 0.928651756666667

00:06:13.440 --> 00:06:14.765 We've got several other pieces  
NOTE Confidence: 0.928651756666667

00:06:14.765 --> 00:06:16.655 that we want to move into preprint  
NOTE Confidence: 0.928651756666667

00:06:16.655 --> 00:06:17.920 so you can see them.  
NOTE Confidence: 0.928651756666667

00:06:17.920 --> 00:06:21.035 These are going to be basic descriptive  
NOTE Confidence: 0.928651756666667

00:06:21.040 --> 00:06:23.440 studies that just help you understand  
NOTE Confidence: 0.928651756666667

00:06:23.440 --> 00:06:25.448 who's in listen and and so we're  
NOTE Confidence: 0.928651756666667

00:06:25.448 --> 00:06:27.000 going to do that for long COVID,  
NOTE Confidence: 0.928651756666667

00:06:27.000 --> 00:06:28.728 we're going to do that for vaccine injury.

NOTE Confidence: 0.928651756666667  
00:06:28.728 --> 00:06:30.360 We're going to do that for the combination.  
NOTE Confidence: 0.928651756666667  
00:06:30.360 --> 00:06:32.012 We're going to look at that all  
NOTE Confidence: 0.928651756666667  
00:06:32.012 --> 00:06:33.454 together and apart and and then  
NOTE Confidence: 0.928651756666667  
00:06:33.454 --> 00:06:35.043 we're going to look also people who  
NOTE Confidence: 0.928651756666667  
00:06:35.092 --> 00:06:36.592 have like we've looked at vibration  
NOTE Confidence: 0.928651756666667  
00:06:36.592 --> 00:06:38.560 and not we'd like to do that.  
NOTE Confidence: 0.928651756666667  
00:06:38.560 --> 00:06:39.520 Similarly for people,  
NOTE Confidence: 0.928651756666667  
00:06:39.520 --> 00:06:41.236 there are a lot of people  
NOTE Confidence: 0.928651756666667  
00:06:41.236 --> 00:06:42.380 have tinnitus ringing in  
NOTE Confidence: 0.86208393  
00:06:42.443 --> 00:06:44.160 the ears and not there's a  
NOTE Confidence: 0.86208393  
00:06:44.160 --> 00:06:46.350 lot of people who have pots.  
NOTE Confidence: 0.86208393  
00:06:46.350 --> 00:06:48.000 So they have autonomic dysfunction  
NOTE Confidence: 0.86208393  
00:06:48.000 --> 00:06:50.668 and we want to like look at that  
NOTE Confidence: 0.86208393  
00:06:50.668 --> 00:06:52.728 group specifically and we also are  
NOTE Confidence: 0.86208393  
00:06:52.728 --> 00:06:54.211 interested potentially in talking  
NOTE Confidence: 0.86208393

00:06:54.211 --> 00:06:56.096 about people have central nervous  
NOTE Confidence: 0.86208393

00:06:56.096 --> 00:06:57.658 system issues especially cognitive  
NOTE Confidence: 0.86208393

00:06:57.658 --> 00:06:59.920 dysfunction and how does that look.  
NOTE Confidence: 0.86208393

00:06:59.920 --> 00:07:01.439 Now there'll be overlaps in all these,  
NOTE Confidence: 0.86208393

00:07:01.440 --> 00:07:02.940 but we're we're trying to  
NOTE Confidence: 0.86208393

00:07:02.940 --> 00:07:03.840 characterize the group.  
NOTE Confidence: 0.86208393

00:07:03.840 --> 00:07:06.432 So to manage your expectations  
NOTE Confidence: 0.86208393

00:07:06.432 --> 00:07:08.280 there's these aren't going to be  
NOTE Confidence: 0.86208393

00:07:08.333 --> 00:07:10.077 Nobel Prize winning contributions.  
NOTE Confidence: 0.86208393

00:07:10.080 --> 00:07:12.061 What we're trying to do first is  
NOTE Confidence: 0.86208393

00:07:12.061 --> 00:07:13.839 explain who's in the study what,  
NOTE Confidence: 0.86208393

00:07:13.840 --> 00:07:15.610 what are some of these patterns  
NOTE Confidence: 0.86208393

00:07:15.610 --> 00:07:17.185 We're doing some what's called  
NOTE Confidence: 0.86208393

00:07:17.185 --> 00:07:19.400 cluster analysis to see, you know,  
NOTE Confidence: 0.86208393

00:07:19.400 --> 00:07:20.720 who are what.  
NOTE Confidence: 0.86208393

00:07:20.720 --> 00:07:22.480 I'll say like a sort of the what's the map,

NOTE Confidence: 0.86208393

00:07:22.480 --> 00:07:24.210 how are people organized with

NOTE Confidence: 0.86208393

00:07:24.210 --> 00:07:25.594 regard to their symptoms?

NOTE Confidence: 0.86208393

00:07:25.600 --> 00:07:26.980 Where are the areas where there's

NOTE Confidence: 0.86208393

00:07:26.980 --> 00:07:28.774 lots of people who have this cluster

NOTE Confidence: 0.86208393

00:07:28.774 --> 00:07:30.154 of symptoms versus this cluster?

NOTE Confidence: 0.86208393

00:07:30.160 --> 00:07:31.870 Because we believe that this label

NOTE Confidence: 0.86208393

00:07:31.870 --> 00:07:34.131 of law of of whether it's long

NOTE Confidence: 0.86208393

00:07:34.131 --> 00:07:36.237 COVID vaccine injury is too broad.

NOTE Confidence: 0.86208393

00:07:36.240 --> 00:07:37.581 It's it's it.

NOTE Confidence: 0.86208393

00:07:37.581 --> 00:07:39.369 They're probably different mechanisms

NOTE Confidence: 0.86208393

00:07:39.369 --> 00:07:41.720 but awful different manifestations.

NOTE Confidence: 0.86208393

00:07:41.720 --> 00:07:43.478 Just because someone's called long COVID,

NOTE Confidence: 0.86208393

00:07:43.480 --> 00:07:45.566 you may be very unlike some other

NOTE Confidence: 0.86208393

00:07:45.566 --> 00:07:47.957 people who are also called long COVID.

NOTE Confidence: 0.86208393

00:07:47.960 --> 00:07:49.962 And the more specificity we get the

NOTE Confidence: 0.86208393

00:07:49.962 --> 00:07:51.799 more likely we're to make progress.  
NOTE Confidence: 0.86208393

00:07:51.800 --> 00:07:54.000 We start to build a a taxonomy around  
NOTE Confidence: 0.86208393

00:07:54.000 --> 00:07:56.842 this a way to talk about this it's  
NOTE Confidence: 0.86208393

00:07:56.842 --> 00:07:58.698 more sophisticated more precise and  
NOTE Confidence: 0.86208393

00:07:58.698 --> 00:08:01.202 and for each of you it helps people  
NOTE Confidence: 0.86208393

00:08:01.202 --> 00:08:02.824 understand who what you're experiencing  
NOTE Confidence: 0.86208393

00:08:02.824 --> 00:08:05.230 and not putting you under some big  
NOTE Confidence: 0.86208393

00:08:05.230 --> 00:08:06.798 categorization that actually doesn't  
NOTE Confidence: 0.86208393

00:08:06.798 --> 00:08:09.040 really capture capture who you are.  
NOTE Confidence: 0.86208393

00:08:09.040 --> 00:08:12.065 So in some thank you can't  
NOTE Confidence: 0.86208393

00:08:12.065 --> 00:08:13.840 we can't thank you enough.  
NOTE Confidence: 0.86208393

00:08:13.840 --> 00:08:17.101 Two we're urging you to to as  
NOTE Confidence: 0.86208393

00:08:17.101 --> 00:08:18.667 much as you can participate with  
NOTE Confidence: 0.86208393

00:08:18.667 --> 00:08:20.239 regard to filling out the surveys  
NOTE Confidence: 0.86208393

00:08:20.240 --> 00:08:22.676 to connecting your records and if  
NOTE Confidence: 0.86208393

00:08:22.676 --> 00:08:25.298 we're if you're asked about those

NOTE Confidence: 0.86208393

00:08:25.298 --> 00:08:28.504 blood specimens to give it some real

NOTE Confidence: 0.86208393

00:08:28.504 --> 00:08:30.517 consideration that would be great.

NOTE Confidence: 0.86208393

00:08:30.520 --> 00:08:32.320 We're going to start pushing,

NOTE Confidence: 0.86208393

00:08:32.320 --> 00:08:32.980 pushing stuff out.

NOTE Confidence: 0.86208393

00:08:32.980 --> 00:08:34.520 Some of the stuff will be very

NOTE Confidence: 0.86208393

00:08:34.567 --> 00:08:35.599 basic in the beginning.

NOTE Confidence: 0.86208393

00:08:35.600 --> 00:08:38.197 And again this idea of pre printing.

NOTE Confidence: 0.86208393

00:08:38.200 --> 00:08:40.276 So it's an Open Access link,

NOTE Confidence: 0.86208393

00:08:40.280 --> 00:08:42.296 we'll send it out to people and

NOTE Confidence: 0.86208393

00:08:42.296 --> 00:08:43.960 so it's there's no firewall,

NOTE Confidence: 0.86208393

00:08:43.960 --> 00:08:45.080 there's no price to it.

NOTE Confidence: 0.86208393

00:08:45.080 --> 00:08:48.113 It's just posted and it'll look like a paper,

NOTE Confidence: 0.86208393

00:08:48.120 --> 00:08:49.440 but it's there for public comment.

NOTE Confidence: 0.86208393

00:08:49.440 --> 00:08:50.994 It hasn't gone through peer review yet.

NOTE Confidence: 0.86208393

00:08:51.000 --> 00:08:52.596 It's just out there for your comments.

NOTE Confidence: 0.86208393

00:08:52.600 --> 00:08:54.592 So we're going to urge you to make  
NOTE Confidence: 0.86208393

00:08:54.592 --> 00:08:56.678 comments and participate that way as well.  
NOTE Confidence: 0.86208393

00:08:56.680 --> 00:08:58.392 And if anyone in the group wants to  
NOTE Confidence: 0.86208393

00:08:58.392 --> 00:09:00.237 be more involved in studies or more  
NOTE Confidence: 0.86208393

00:09:00.237 --> 00:09:01.959 involved in the things that we do,  
NOTE Confidence: 0.86208393

00:09:01.960 --> 00:09:03.400 we need help. We're interested.  
NOTE Confidence: 0.86208393

00:09:03.400 --> 00:09:04.336 We know you guys,  
NOTE Confidence: 0.86208393

00:09:04.336 --> 00:09:06.108 I've got a lot on your plate  
NOTE Confidence: 0.86208393

00:09:06.108 --> 00:09:07.914 just to deal with your health.  
NOTE Confidence: 0.86208393

00:09:07.920 --> 00:09:10.278 So we don't want to impose or burden you,  
NOTE Confidence: 0.86208393

00:09:10.280 --> 00:09:12.331 but I want to really extend the  
NOTE Confidence: 0.86208393

00:09:12.331 --> 00:09:13.931 invitation that that many people  
NOTE Confidence: 0.86208393

00:09:13.931 --> 00:09:15.917 have different skills in this group  
NOTE Confidence: 0.86208393

00:09:15.920 --> 00:09:17.924 that could actually help help us  
NOTE Confidence: 0.86208393

00:09:17.924 --> 00:09:19.880 advance and make more progress.  
NOTE Confidence: 0.86208393

00:09:19.880 --> 00:09:21.720 So if you think there is a way that you

NOTE Confidence: 0.96824065

00:09:21.773 --> 00:09:22.717 want to be involved,

NOTE Confidence: 0.96824065

00:09:22.720 --> 00:09:24.915 then reach out to us and let us know.

NOTE Confidence: 0.96824065

00:09:24.915 --> 00:09:26.475 We for sure would want to hear that.

NOTE Confidence: 0.96824065

00:09:26.480 --> 00:09:27.240 And meanwhile, by the way,

NOTE Confidence: 0.96824065

00:09:27.240 --> 00:09:29.025 you also know there is a clinical

NOTE Confidence: 0.96824065

00:09:29.025 --> 00:09:30.598 trial we're doing with Pax Lovid,

NOTE Confidence: 0.96824065

00:09:30.600 --> 00:09:33.316 15 days of Pax Lovid versus placebo.

NOTE Confidence: 0.96824065

00:09:33.320 --> 00:09:36.422 It has been limited to three states,

NOTE Confidence: 0.96824065

00:09:36.422 --> 00:09:38.599 but we're about to expand it out.

NOTE Confidence: 0.96824065

00:09:38.600 --> 00:09:41.465 Leslie sent out a note to

NOTE Confidence: 0.96824065

00:09:41.465 --> 00:09:43.535 Kindred members I think today to

NOTE Confidence: 0.96824065

00:09:43.535 --> 00:09:44.860 say we're we're extending it.

NOTE Confidence: 0.96824065

00:09:44.860 --> 00:09:46.838 I hope we're going to extend it to all.

NOTE Confidence: 0.96824065

00:09:46.840 --> 00:09:48.919 There are a lot of exclusion criteria.

NOTE Confidence: 0.96824065

00:09:48.920 --> 00:09:51.440 So it's like any clinical trial,

NOTE Confidence: 0.96824065

00:09:51.440 --> 00:09:53.396 it's like you know there's this  
NOTE Confidence: 0.96824065

00:09:53.396 --> 00:09:55.285 is there's certain ways you've got  
NOTE Confidence: 0.96824065

00:09:55.285 --> 00:09:57.428 to satisfy to get in but and it's  
NOTE Confidence: 0.96824065

00:09:57.428 --> 00:09:59.360 only going to be 100 to start.  
NOTE Confidence: 0.96824065

00:09:59.360 --> 00:09:59.994 But again,  
NOTE Confidence: 0.96824065

00:09:59.994 --> 00:10:02.213 every one of these people is going  
NOTE Confidence: 0.96824065

00:10:02.213 --> 00:10:04.308 to get deep immune phenotyping in  
NOTE Confidence: 0.96824065

00:10:04.308 --> 00:10:06.572 the Kiko's lab both before in the  
NOTE Confidence: 0.96824065

00:10:06.572 --> 00:10:09.042 middle and at the end of the some  
NOTE Confidence: 0.96824065

00:10:09.042 --> 00:10:11.485 of the data collection to help us  
NOTE Confidence: 0.96824065

00:10:11.485 --> 00:10:13.544 understand whether one there are  
NOTE Confidence: 0.96824065

00:10:13.544 --> 00:10:15.998 people who have maybe viral persistence.  
NOTE Confidence: 0.96824065

00:10:16.000 --> 00:10:18.238 Are there people that are really  
NOTE Confidence: 0.96824065

00:10:18.238 --> 00:10:20.679 responders to an antiviral like Paxlovid?  
NOTE Confidence: 0.96824065

00:10:20.680 --> 00:10:23.496 And what can we learn in general about  
NOTE Confidence: 0.96824065

00:10:23.496 --> 00:10:25.124 long COVID through this clinical trial?

NOTE Confidence: 0.96824065

00:10:25.124 --> 00:10:26.996 And I know there are others who may

NOTE Confidence: 0.96824065

00:10:26.996 --> 00:10:28.550 feel like either they don't qualify or

NOTE Confidence: 0.96824065

00:10:28.550 --> 00:10:29.979 they're not in the long COVID group

NOTE Confidence: 0.96824065

00:10:29.979 --> 00:10:31.720 saying when are you going to study us?

NOTE Confidence: 0.96824065

00:10:31.720 --> 00:10:32.680 And we're eager to.

NOTE Confidence: 0.96824065

00:10:32.680 --> 00:10:34.558 We're just need to figure out,

NOTE Confidence: 0.96824065

00:10:34.560 --> 00:10:35.680 hey, brass tacks we got,

NOTE Confidence: 0.96824065

00:10:35.680 --> 00:10:36.598 we have to figure out funding,

NOTE Confidence: 0.96824065

00:10:36.600 --> 00:10:38.319 we have to figure out how to do it.

NOTE Confidence: 0.96824065

00:10:38.320 --> 00:10:39.475 There's lots of stuff to get together.

NOTE Confidence: 0.96824065

00:10:39.480 --> 00:10:41.196 But the more momentum we get,

NOTE Confidence: 0.96824065

00:10:41.200 --> 00:10:43.160 the more we can convince others that

NOTE Confidence: 0.96824065

00:10:43.160 --> 00:10:45.356 this is real. We need to invest in it.

NOTE Confidence: 0.96824065

00:10:45.360 --> 00:10:46.848 We need to get answers and we need

NOTE Confidence: 0.96824065

00:10:46.848 --> 00:10:48.240 to help address the suffering.

NOTE Confidence: 0.96824065

00:10:48.240 --> 00:10:49.032 So with that,  
NOTE Confidence: 0.96824065

00:10:49.032 --> 00:10:51.360 let me hand it over to to Tiana,  
NOTE Confidence: 0.96824065

00:10:51.360 --> 00:10:53.287 who will just talk a little bit  
NOTE Confidence: 0.96824065

00:10:53.287 --> 00:10:54.769 about the preprint and then she'll  
NOTE Confidence: 0.96824065

00:10:54.769 --> 00:10:55.999 hand it over to Akiko.  
NOTE Confidence: 0.856451042

00:10:56.800 --> 00:10:58.264 I'm here to share a little  
NOTE Confidence: 0.856451042

00:10:58.264 --> 00:10:59.240 bit about the preprint.  
NOTE Confidence: 0.856451042

00:10:59.240 --> 00:11:02.484 I'll share my screen. So I want to  
NOTE Confidence: 0.856451042

00:11:02.484 --> 00:11:04.360 make sure everyone can also see it.  
NOTE Confidence: 0.856451042

00:11:04.360 --> 00:11:07.926 Can you see the PowerPoint? OK, good.  
NOTE Confidence: 0.856451042

00:11:07.926 --> 00:11:10.350 So this is one of the efforts that  
NOTE Confidence: 0.856451042

00:11:10.423 --> 00:11:12.559 is ongoing in the Listen study.  
NOTE Confidence: 0.856451042

00:11:12.560 --> 00:11:13.985 Like Harlan mentioned,  
NOTE Confidence: 0.856451042

00:11:13.985 --> 00:11:16.360 there's many other avenues of  
NOTE Confidence: 0.856451042

00:11:16.360 --> 00:11:18.519 questions that we're exploring,  
NOTE Confidence: 0.856451042

00:11:18.520 --> 00:11:19.717 but this is just one of them.

NOTE Confidence: 0.856451042

00:11:19.720 --> 00:11:22.401 And this is specifically about internal

NOTE Confidence: 0.856451042

00:11:22.401 --> 00:11:25.287 tremors and vibrations as a symptom

NOTE Confidence: 0.856451042

00:11:25.287 --> 00:11:28.520 among people with long COVID and Listen.

NOTE Confidence: 0.856451042

00:11:28.520 --> 00:11:32.034 So the preprint is posted on Medarchive.

NOTE Confidence: 0.856451042

00:11:32.040 --> 00:11:33.880 If you want to take a deeper dive,

NOTE Confidence: 0.856451042

00:11:33.880 --> 00:11:36.464 feel free to look it up with this

NOTE Confidence: 0.856451042

00:11:36.464 --> 00:11:40.020 title on Medarchive and send us your

NOTE Confidence: 0.856451042

00:11:40.020 --> 00:11:42.080 comments or additional questions.

NOTE Confidence: 0.856451042

00:11:42.080 --> 00:11:43.013 As a caveat,

NOTE Confidence: 0.856451042

00:11:43.013 --> 00:11:45.190 some of the other results that I'm

NOTE Confidence: 0.856451042

00:11:45.258 --> 00:11:47.308 presenting today are more updated

NOTE Confidence: 0.856451042

00:11:47.308 --> 00:11:49.760 compared to what's posted on here.

NOTE Confidence: 0.856451042

00:11:49.760 --> 00:11:51.848 So if you hear something interesting

NOTE Confidence: 0.856451042

00:11:51.848 --> 00:11:53.860 today but you don't see it

NOTE Confidence: 0.856451042

00:11:53.860 --> 00:11:55.235 on the Med Archive page,

NOTE Confidence: 0.856451042

00:11:55.240 --> 00:11:57.454 it's because we have some new  
NOTE Confidence: 0.856451042

00:11:57.454 --> 00:11:59.759 analysis that we haven't posted yet.  
NOTE Confidence: 0.856451042

00:11:59.760 --> 00:12:02.586 So the motivating question that we  
NOTE Confidence: 0.856451042

00:12:02.586 --> 00:12:05.880 had was this question right here among  
NOTE Confidence: 0.856451042

00:12:05.880 --> 00:12:08.280 listen participants with long COVID.  
NOTE Confidence: 0.856451042

00:12:08.280 --> 00:12:11.160 How do those with versus without  
NOTE Confidence: 0.856451042

00:12:11.160 --> 00:12:13.080 internal tremors and vibrations  
NOTE Confidence: 0.856451042

00:12:13.155 --> 00:12:14.879 differ from each other?  
NOTE Confidence: 0.856451042

00:12:14.880 --> 00:12:18.356 And what's been described about  
NOTE Confidence: 0.856451042

00:12:18.356 --> 00:12:21.136 internal tremors and vibrations has  
NOTE Confidence: 0.856451042

00:12:21.136 --> 00:12:23.864 been this emerging definition of  
NOTE Confidence: 0.856451042

00:12:23.864 --> 00:12:26.402 movement or a sensation of movement  
NOTE Confidence: 0.856451042

00:12:26.402 --> 00:12:29.323 at any location inside the body  
NOTE Confidence: 0.856451042

00:12:29.323 --> 00:12:31.943 occurring with or without external  
NOTE Confidence: 0.856451042

00:12:31.943 --> 00:12:34.272 visible movement or muscle spasms.  
NOTE Confidence: 0.856451042

00:12:34.272 --> 00:12:35.968 And the scientific literature

NOTE Confidence: 0.856451042

00:12:35.968 --> 00:12:38.199 that I've been able to find,

NOTE Confidence: 0.856451042

00:12:38.200 --> 00:12:40.555 we're mostly focused around Parkinson's

NOTE Confidence: 0.856451042

00:12:40.555 --> 00:12:42.439 disease and essential tremor.

NOTE Confidence: 0.856451042

00:12:42.440 --> 00:12:44.120 But I also saw in the chat,

NOTE Confidence: 0.856451042

00:12:44.120 --> 00:12:46.100 I think Angie posted something

NOTE Confidence: 0.856451042

00:12:46.100 --> 00:12:48.080 interesting about this being a

NOTE Confidence: 0.856451042

00:12:48.153 --> 00:12:50.557 perimenopausal or menopausal symptom.

NOTE Confidence: 0.856451042

00:12:50.560 --> 00:12:52.464 So I would love to hear more

NOTE Confidence: 0.856451042

00:12:52.464 --> 00:12:54.195 about what are other situations

NOTE Confidence: 0.856451042

00:12:54.195 --> 00:12:56.320 where this has been described.

NOTE Confidence: 0.856451042

00:12:56.320 --> 00:12:58.980 All of this is contextualized

NOTE Confidence: 0.856451042

00:12:58.980 --> 00:13:01.640 with the caveat that clinicians,

NOTE Confidence: 0.856451042

00:13:01.640 --> 00:13:02.157 researchers,

NOTE Confidence: 0.856451042

00:13:02.157 --> 00:13:04.742 patients might have different definitions

NOTE Confidence: 0.856451042

00:13:04.742 --> 00:13:08.677 for what is a tremor and how to

NOTE Confidence: 0.856451042

00:13:08.677 --> 00:13:10.912 classify different types of tremor,  
NOTE Confidence: 0.856451042

00:13:10.920 --> 00:13:12.980 and that's still being actively  
NOTE Confidence: 0.856451042

00:13:12.980 --> 00:13:15.040 discussed in the scientific literature  
NOTE Confidence: 0.856451042

00:13:15.101 --> 00:13:17.278 about the best ways to approach that.  
NOTE Confidence: 0.856451042

00:13:17.280 --> 00:13:18.540 For our methods,  
NOTE Confidence: 0.856451042

00:13:18.540 --> 00:13:20.640 we particularly focused on the  
NOTE Confidence: 0.856451042

00:13:20.640 --> 00:13:22.951 survey data and for the results  
NOTE Confidence: 0.856451042

00:13:22.951 --> 00:13:25.537 I'm about to describe we have not  
NOTE Confidence: 0.856451042

00:13:25.537 --> 00:13:27.637 utilized any of the biospecimens  
NOTE Confidence: 0.856451042

00:13:27.637 --> 00:13:29.766 data or the electronic health  
NOTE Confidence: 0.856451042

00:13:29.766 --> 00:13:31.996 records data that you've shared.  
NOTE Confidence: 0.856451042

00:13:32.000 --> 00:13:32.939 And the surveys,  
NOTE Confidence: 0.856451042

00:13:32.939 --> 00:13:34.817 if you some of you recall  
NOTE Confidence: 0.856451042

00:13:34.817 --> 00:13:36.758 asked about your demographics,  
NOTE Confidence: 0.856451042

00:13:36.760 --> 00:13:38.527 socio economic characteristics,  
NOTE Confidence: 0.856451042

00:13:38.527 --> 00:13:41.472 pre pandemic medical and psychiatric

NOTE Confidence: 0.856451042  
00:13:41.472 --> 00:13:44.219 conditions as well as current conditions  
NOTE Confidence: 0.856451042  
00:13:44.219 --> 00:13:47.040 at the time of taking the survey.  
NOTE Confidence: 0.856451042  
00:13:47.040 --> 00:13:49.295 Current health status which was  
NOTE Confidence: 0.856451042  
00:13:49.295 --> 00:13:51.990 measured by a standardized quality of  
NOTE Confidence: 0.856451042  
00:13:51.990 --> 00:13:54.262 life question and current symptoms,  
NOTE Confidence: 0.856451042  
00:13:54.262 --> 00:13:57.586 choosing from a list and having the  
NOTE Confidence: 0.856451042  
00:13:57.586 --> 00:14:00.970 option to say other or none and long  
NOTE Confidence: 0.856451042  
00:14:00.970 --> 00:14:03.520 COVID was defined by self report.  
NOTE Confidence: 0.856451042  
00:14:03.520 --> 00:14:06.056 Do you think you have long COVID without  
NOTE Confidence: 0.856451042  
00:14:06.056 --> 00:14:08.040 imposing any additional criteria  
NOTE Confidence: 0.856451042  
00:14:08.040 --> 00:14:11.033 around when the long COVID symptoms  
NOTE Confidence: 0.856451042  
00:14:11.033 --> 00:14:14.078 started or how long those have lasted?  
NOTE Confidence: 0.856451042  
00:14:14.080 --> 00:14:17.746 The way that The Who criteria  
NOTE Confidence: 0.856451042  
00:14:17.746 --> 00:14:20.280 imposes And for internal tremors,  
NOTE Confidence: 0.856451042  
00:14:20.280 --> 00:14:22.680 The specific phrasing in the  
NOTE Confidence: 0.856451042

00:14:22.680 --> 00:14:24.222 questionnaire was internal  
NOTE Confidence: 0.856451042

00:14:24.222 --> 00:14:26.198 tremors or buzzing vibration,  
NOTE Confidence: 0.856451042

00:14:26.200 --> 00:14:28.330 and if someone checked that  
NOTE Confidence: 0.856451042

00:14:28.330 --> 00:14:30.460 box then they were defined  
NOTE Confidence: 0.860637131428571

00:14:30.544 --> 00:14:32.360 as having that symptom.  
NOTE Confidence: 0.860637131428571

00:14:32.360 --> 00:14:34.828 So our statistical analysis  
NOTE Confidence: 0.860637131428571

00:14:34.828 --> 00:14:37.913 took a two pronged approach.  
NOTE Confidence: 0.860637131428571

00:14:37.920 --> 00:14:40.811 We first just simply analyzed a bunch  
NOTE Confidence: 0.860637131428571

00:14:40.811 --> 00:14:43.198 of variables between the two groups.  
NOTE Confidence: 0.860637131428571

00:14:43.200 --> 00:14:45.352 So demographics, socio economics,  
NOTE Confidence: 0.860637131428571

00:14:45.352 --> 00:14:48.042 all the conditions and everything  
NOTE Confidence: 0.860637131428571

00:14:48.042 --> 00:14:50.680 else that I have just mentioned,  
NOTE Confidence: 0.860637131428571

00:14:50.680 --> 00:14:52.840 comparing them between the groups,  
NOTE Confidence: 0.860637131428571

00:14:52.840 --> 00:14:53.959 the two groups,  
NOTE Confidence: 0.860637131428571

00:14:53.959 --> 00:14:56.197 those with and without internal tremors.  
NOTE Confidence: 0.860637131428571

00:14:56.200 --> 00:14:58.804 And two things I want to highlight

NOTE Confidence: 0.860637131428571  
00:14:58.804 --> 00:15:02.597 here are that we also use the symptom  
NOTE Confidence: 0.860637131428571  
00:15:02.597 --> 00:15:04.673 questionnaire to calculate an  
NOTE Confidence: 0.860637131428571  
00:15:04.673 --> 00:15:06.760 approximation of something that the  
NOTE Confidence: 0.860637131428571  
00:15:06.760 --> 00:15:08.710 Recovery Consortium proposed which some  
NOTE Confidence: 0.860637131428571  
00:15:08.710 --> 00:15:11.475 of you might have read about in the news.  
NOTE Confidence: 0.860637131428571  
00:15:11.480 --> 00:15:15.672 So this is an NIH funded research consortium  
NOTE Confidence: 0.860637131428571  
00:15:15.672 --> 00:15:18.064 that suggested a preliminary scoring  
NOTE Confidence: 0.860637131428571  
00:15:18.064 --> 00:15:21.400 system for how to define long COVID.  
NOTE Confidence: 0.860637131428571  
00:15:21.400 --> 00:15:23.760 And just out of curiosity,  
NOTE Confidence: 0.860637131428571  
00:15:23.760 --> 00:15:26.483 not because we explicitly endorse or have  
NOTE Confidence: 0.860637131428571  
00:15:26.483 --> 00:15:30.399 any sort of opinion about what they propose,  
NOTE Confidence: 0.860637131428571  
00:15:30.400 --> 00:15:33.158 we just wanted to check how their  
NOTE Confidence: 0.860637131428571  
00:15:33.158 --> 00:15:35.579 scoring criteria might or might not  
NOTE Confidence: 0.860637131428571  
00:15:35.579 --> 00:15:37.514 apply in the listen population.  
NOTE Confidence: 0.860637131428571  
00:15:37.520 --> 00:15:39.275 And we also define something  
NOTE Confidence: 0.860637131428571

00:15:39.275 --> 00:15:40.679 called new onset conditions.  
NOTE Confidence: 0.860637131428571

00:15:40.680 --> 00:15:43.140 So that was calculated based on  
NOTE Confidence: 0.860637131428571

00:15:43.140 --> 00:15:45.170 conditions that people reported as  
NOTE Confidence: 0.860637131428571

00:15:45.170 --> 00:15:47.714 having at the time of taking the surveys,  
NOTE Confidence: 0.860637131428571

00:15:47.720 --> 00:15:50.192 but were not reported as something  
NOTE Confidence: 0.860637131428571

00:15:50.192 --> 00:15:52.840 they were having before the pandemic.  
NOTE Confidence: 0.860637131428571

00:15:52.840 --> 00:15:55.354 The second branch of our analysis  
NOTE Confidence: 0.860637131428571

00:15:55.354 --> 00:15:57.560 was a machine learning model.  
NOTE Confidence: 0.860637131428571

00:15:57.560 --> 00:16:00.080 It was a gradient boosted tree machine  
NOTE Confidence: 0.860637131428571

00:16:00.080 --> 00:16:02.534 and the focus of this particular  
NOTE Confidence: 0.860637131428571

00:16:02.534 --> 00:16:05.913 analysis was just to see what symptoms  
NOTE Confidence: 0.860637131428571

00:16:05.913 --> 00:16:08.133 are important for differentiating  
NOTE Confidence: 0.860637131428571

00:16:08.133 --> 00:16:11.016 people with internal tremors from  
NOTE Confidence: 0.860637131428571

00:16:11.016 --> 00:16:13.280 those without internal tremors.  
NOTE Confidence: 0.72762062

00:16:16.520 --> 00:16:19.264 Here are some of our results in the  
NOTE Confidence: 0.72762062

00:16:19.264 --> 00:16:21.324 overall group of listen participants

NOTE Confidence: 0.72762062

00:16:21.324 --> 00:16:24.800 with long COVID median age was 46 years,

NOTE Confidence: 0.72762062

00:16:24.800 --> 00:16:26.420 a majority were female,

NOTE Confidence: 0.72762062

00:16:26.420 --> 00:16:29.138 a majority were white, and 37%.

NOTE Confidence: 0.72762062

00:16:29.138 --> 00:16:31.883 A substantial minority reported symptoms

NOTE Confidence: 0.72762062

00:16:31.883 --> 00:16:35.280 of internal tremors or buzzing vibration.

NOTE Confidence: 0.72762062

00:16:35.280 --> 00:16:37.648 As a long COVID symptom and

NOTE Confidence: 0.72762062

00:16:37.648 --> 00:16:38.960 comparing the two groups,

NOTE Confidence: 0.72762062

00:16:38.960 --> 00:16:41.335 people with internal tremors were

NOTE Confidence: 0.72762062

00:16:41.335 --> 00:16:44.273 significantly more likely to be female

NOTE Confidence: 0.72762062

00:16:44.273 --> 00:16:47.159 with no significant differences in age,

NOTE Confidence: 0.72762062

00:16:47.160 --> 00:16:49.359 race, marital status,

NOTE Confidence: 0.72762062

00:16:49.359 --> 00:16:51.558 pre pandemic employment,

NOTE Confidence: 0.72762062

00:16:51.560 --> 00:16:53.080 pre pandemic household income.

NOTE Confidence: 0.920514575

00:16:55.160 --> 00:16:57.308 Something really interesting that I want

NOTE Confidence: 0.920514575

00:16:57.308 --> 00:16:59.696 to highlight is that the two groups

NOTE Confidence: 0.920514575

00:16:59.696 --> 00:17:01.789 were not different in their rates of  
NOTE Confidence: 0.920514575

00:17:01.852 --> 00:17:03.784 any of the pre pandemic conditions  
NOTE Confidence: 0.920514575

00:17:03.784 --> 00:17:06.238 that they had across 30 some pre  
NOTE Confidence: 0.920514575

00:17:06.238 --> 00:17:08.554 pandemic conditions that we asked about  
NOTE Confidence: 0.920514575

00:17:08.560 --> 00:17:10.624 but for infection characteristics.  
NOTE Confidence: 0.920514575

00:17:10.624 --> 00:17:13.204 People with internal tremors were  
NOTE Confidence: 0.920514575

00:17:13.204 --> 00:17:16.038 more likely to report it an index  
NOTE Confidence: 0.920514575

00:17:16.038 --> 00:17:18.319 infection during the pre delta wave  
NOTE Confidence: 0.89220392

00:17:21.360 --> 00:17:23.988 for health status which was measured  
NOTE Confidence: 0.89220392

00:17:23.988 --> 00:17:27.678 by the Euro QOL quality of life scale.  
NOTE Confidence: 0.89220392

00:17:27.680 --> 00:17:31.096 We found that the overall score that  
NOTE Confidence: 0.89220392

00:17:31.096 --> 00:17:34.080 people rated their health status on  
NOTE Confidence: 0.89220392

00:17:34.080 --> 00:17:36.712 for the overall group the median was 49  
NOTE Confidence: 0.89220392

00:17:36.712 --> 00:17:39.439 and this is on a scale of zero to 100.  
NOTE Confidence: 0.89220392

00:17:39.440 --> 00:17:43.274 Zero means the worst and 100 means the best.  
NOTE Confidence: 0.89220392

00:17:43.280 --> 00:17:46.829 And we found that people with internal

NOTE Confidence: 0.89220392  
00:17:46.829 --> 00:17:48.917 tremors were statistically significant  
NOTE Confidence: 0.89220392  
00:17:48.917 --> 00:17:51.821 in rating their current health as  
NOTE Confidence: 0.89220392  
00:17:51.821 --> 00:17:54.599 being worse than the other group.  
NOTE Confidence: 0.89220392  
00:17:54.600 --> 00:17:56.808 And here's also the recover score  
NOTE Confidence: 0.89220392  
00:17:56.808 --> 00:17:58.280 that I mentioned before.  
NOTE Confidence: 0.89220392  
00:17:58.280 --> 00:18:01.200 So it's an approximation because  
NOTE Confidence: 0.89220392  
00:18:01.200 --> 00:18:03.735 our questionnaire does not match  
NOTE Confidence: 0.89220392  
00:18:03.735 --> 00:18:05.763 the recover studies questionnaire  
NOTE Confidence: 0.89220392  
00:18:05.763 --> 00:18:08.037 directly in terms of the symptoms.  
NOTE Confidence: 0.89220392  
00:18:08.040 --> 00:18:11.512 But to the best of our ability we  
NOTE Confidence: 0.89220392  
00:18:11.512 --> 00:18:13.972 approximated using their scoring criteria  
NOTE Confidence: 0.89220392  
00:18:13.972 --> 00:18:17.314 and we found that overall across everyone  
NOTE Confidence: 0.89220392  
00:18:17.314 --> 00:18:20.233 with long COVID in this and listen,  
NOTE Confidence: 0.89220392  
00:18:20.240 --> 00:18:22.998 we have a score of around 16,  
NOTE Confidence: 0.89220392  
00:18:23.000 --> 00:18:24.520 a median score of 16,  
NOTE Confidence: 0.89220392

00:18:24.520 --> 00:18:27.935 inter quartile range of 12 to 23 and  
NOTE Confidence: 0.89220392

00:18:27.935 --> 00:18:29.810 people with internal tremors reported  
NOTE Confidence: 0.89220392

00:18:29.810 --> 00:18:32.584 a median score that was higher than  
NOTE Confidence: 0.89220392

00:18:32.584 --> 00:18:34.200 those without internal tremors  
NOTE Confidence: 0.897228346

00:18:36.560 --> 00:18:38.840 for a new onset conditions.  
NOTE Confidence: 0.897228346

00:18:38.840 --> 00:18:41.000 Comparing all of these conditions,  
NOTE Confidence: 0.897228346

00:18:41.000 --> 00:18:43.720 rates of mast cell disorders,  
NOTE Confidence: 0.897228346

00:18:43.720 --> 00:18:44.888 neurologic conditions,  
NOTE Confidence: 0.897228346

00:18:44.888 --> 00:18:46.056 anxiety disorders,  
NOTE Confidence: 0.897228346

00:18:46.056 --> 00:18:48.976 and trauma and stressor related  
NOTE Confidence: 0.897228346

00:18:48.976 --> 00:18:50.856 disorders were significantly higher  
NOTE Confidence: 0.897228346

00:18:50.856 --> 00:18:53.016 among people with internal tremors  
NOTE Confidence: 0.897228346

00:18:53.016 --> 00:18:55.398 versus people without internal tremors.  
NOTE Confidence: 0.897228346

00:18:55.400 --> 00:18:58.208 And again, this is new onset  
NOTE Confidence: 0.897228346

00:18:58.208 --> 00:19:00.120 conditions that are occurring at  
NOTE Confidence: 0.897228346

00:19:00.120 --> 00:19:02.280 the time of taking the surveys

NOTE Confidence: 0.897228346

00:19:02.280 --> 00:19:04.836 as opposed to anything that was

NOTE Confidence: 0.897228346

00:19:04.840 --> 00:19:06.958 reported as a pre pandemic condition.

NOTE Confidence: 0.96566378375

00:19:09.720 --> 00:19:11.200 For the machine learning

NOTE Confidence: 0.96566378375

00:19:11.200 --> 00:19:12.680 model that was created,

NOTE Confidence: 0.96566378375

00:19:12.680 --> 00:19:15.712 here is a list of the top symptoms

NOTE Confidence: 0.96566378375

00:19:15.712 --> 00:19:17.472 that were really important for

NOTE Confidence: 0.96566378375

00:19:17.472 --> 00:19:18.880 differentiating the two groups.

NOTE Confidence: 0.96566378375

00:19:18.880 --> 00:19:20.476 And I want to just highlight

NOTE Confidence: 0.96566378375

00:19:20.476 --> 00:19:21.880 the top five right here.

NOTE Confidence: 0.96566378375

00:19:21.880 --> 00:19:24.316 So hair loss was the most important,

NOTE Confidence: 0.96566378375

00:19:24.320 --> 00:19:27.518 followed by floaters or visual lights,

NOTE Confidence: 0.96566378375

00:19:27.520 --> 00:19:30.298 neuropathy, tinnitus and sudden chest pain

NOTE Confidence: 0.96566378375

00:19:30.298 --> 00:19:33.680 and the other ones so on and so forth.

NOTE Confidence: 0.96566378375

00:19:33.680 --> 00:19:34.560 On this list here,

NOTE Confidence: 0.858417769629629

00:19:37.480 --> 00:19:40.024 some of the early conclusions that we can

NOTE Confidence: 0.858417769629629

00:19:40.024 --> 00:19:42.591 draw are that participants with internal  
NOTE Confidence: 0.858417769629629

00:19:42.591 --> 00:19:45.381 tremors and vibrations compared to others  
NOTE Confidence: 0.858417769629629

00:19:45.449 --> 00:19:47.675 in listen who also have long COVID.  
NOTE Confidence: 0.858417769629629

00:19:47.680 --> 00:19:49.812 They had similar demographics,  
NOTE Confidence: 0.858417769629629

00:19:49.812 --> 00:19:52.477 similar health before the pandemic.  
NOTE Confidence: 0.858417769629629

00:19:52.480 --> 00:19:55.018 But something about them might have  
NOTE Confidence: 0.858417769629629

00:19:55.018 --> 00:19:57.160 been correlated with having different  
NOTE Confidence: 0.858417769629629

00:19:57.160 --> 00:19:59.792 new onset conditions at the time of  
NOTE Confidence: 0.858417769629629

00:19:59.792 --> 00:20:02.336 taking the surveys and having worse  
NOTE Confidence: 0.858417769629629

00:20:02.336 --> 00:20:04.486 self reported health status measured  
NOTE Confidence: 0.858417769629629

00:20:04.486 --> 00:20:07.200 by this quality of life scale and  
NOTE Confidence: 0.858417769629629

00:20:07.200 --> 00:20:10.080 the machine learning model helped us.  
NOTE Confidence: 0.858417769629629

00:20:10.080 --> 00:20:12.594 Understand that it is possible to  
NOTE Confidence: 0.858417769629629

00:20:12.594 --> 00:20:14.663 differentiate the two groups from  
NOTE Confidence: 0.858417769629629

00:20:14.663 --> 00:20:17.255 each other on the basis of other long  
NOTE Confidence: 0.858417769629629

00:20:17.255 --> 00:20:19.680 COVID symptoms that people reported.

NOTE Confidence: 0.858417769629629

00:20:19.680 --> 00:20:20.592 Like Harlan mentioned,

NOTE Confidence: 0.858417769629629

00:20:20.592 --> 00:20:22.720 there's a lot of other studies that

NOTE Confidence: 0.858417769629629

00:20:22.778 --> 00:20:24.780 are ongoing right now and I want

NOTE Confidence: 0.858417769629629

00:20:24.780 --> 00:20:26.580 to specifically thank all of you

NOTE Confidence: 0.858417769629629

00:20:26.580 --> 00:20:28.967 on this call who participate bar

NOTE Confidence: 0.858417769629629

00:20:28.967 --> 00:20:30.987 participating in listen and some

NOTE Confidence: 0.858417769629629

00:20:31.057 --> 00:20:33.077 specific people including Sean,

NOTE Confidence: 0.858417769629629

00:20:33.080 --> 00:20:34.232 Kelly and Teresa.

NOTE Confidence: 0.858417769629629

00:20:34.232 --> 00:20:36.920 I want to thank all of you.

NOTE Confidence: 0.858417769629629

00:20:36.920 --> 00:20:37.428 That's it.

NOTE Confidence: 0.858417769629629

00:20:37.428 --> 00:20:39.206 Feel free to write more questions in

NOTE Confidence: 0.858417769629629

00:20:39.206 --> 00:20:41.154 the chat and I'll try to get to them.

NOTE Confidence: 0.935741286666667

00:20:42.840 --> 00:20:45.856 That was amazing. And for all of you

NOTE Confidence: 0.935741286666667

00:20:45.856 --> 00:20:48.640 on Tiana's actually medical student.

NOTE Confidence: 0.935741286666667

00:20:48.640 --> 00:20:51.208 And so we how are so fortunate to have

NOTE Confidence: 0.935741286666667

00:20:51.208 --> 00:20:53.440 people at all sorts of different levels,

NOTE Confidence: 0.935741286666667

00:20:53.440 --> 00:20:56.640 but to get a medical student at this

NOTE Confidence: 0.935741286666667

00:20:56.640 --> 00:20:59.399 caliber to help us is remarkable.

NOTE Confidence: 0.935741286666667

00:20:59.400 --> 00:21:01.759 Akiko, do you want to take on next?

NOTE Confidence: 0.945227895

00:21:03.120 --> 00:21:05.458 Sure. So I know that some of

NOTE Confidence: 0.945227895

00:21:05.458 --> 00:21:07.376 you have asked questions about

NOTE Confidence: 0.945227895

00:21:07.376 --> 00:21:10.309 what is the updated view of what

NOTE Confidence: 0.945227895

00:21:10.309 --> 00:21:12.519 might be causing long COVID.

NOTE Confidence: 0.945227895

00:21:12.520 --> 00:21:15.145 And so I wanted to just share

NOTE Confidence: 0.945227895

00:21:15.145 --> 00:21:18.080 a couple of slides as to how we

NOTE Confidence: 0.945227895

00:21:18.080 --> 00:21:20.800 are thinking about it. Let's see.

NOTE Confidence: 0.5939622

00:21:24.240 --> 00:21:24.520 OK,

NOTE Confidence: 0.933981414

00:21:28.200 --> 00:21:32.400 can you see this? Yeah, OK, great.

NOTE Confidence: 0.933981414

00:21:32.400 --> 00:21:34.843 So yeah, you know as you have

NOTE Confidence: 0.933981414

00:21:34.843 --> 00:21:37.399 heard me speak about this before,

NOTE Confidence: 0.933981414

00:21:37.400 --> 00:21:41.148 we we had four hypothesis for

NOTE Confidence: 0.933981414

00:21:41.148 --> 00:21:43.716 the root causes of long COVID.

NOTE Confidence: 0.933981414

00:21:43.720 --> 00:21:46.600 The first one being the viral

NOTE Confidence: 0.933981414

00:21:46.600 --> 00:21:48.988 reservoir or viral pathogen associated

NOTE Confidence: 0.933981414

00:21:48.988 --> 00:21:51.358 molecular patterns which is the

NOTE Confidence: 0.933981414

00:21:51.358 --> 00:21:54.039 nucleic acids of the viral genome.

NOTE Confidence: 0.933981414

00:21:54.040 --> 00:21:57.956 And these things can cause persistent

NOTE Confidence: 0.933981414

00:21:57.956 --> 00:22:01.336 symptoms because the either the

NOTE Confidence: 0.933981414

00:22:01.336 --> 00:22:05.160 viral antigen that triggered T or

NOTE Confidence: 0.933981414

00:22:05.160 --> 00:22:08.262 B cells chronically or viral RNA

NOTE Confidence: 0.933981414

00:22:08.262 --> 00:22:11.106 that can trigger this innate immune

NOTE Confidence: 0.933981414

00:22:11.106 --> 00:22:14.421 system to secrete certain types of

NOTE Confidence: 0.933981414

00:22:14.421 --> 00:22:17.176 inflammatory cytokines can both lead

NOTE Confidence: 0.933981414

00:22:17.268 --> 00:22:19.544 to chronic conditions and symptoms

NOTE Confidence: 0.933981414

00:22:19.544 --> 00:22:22.700 That that was our first hypothesis

NOTE Confidence: 0.933981414

00:22:22.781 --> 00:22:25.567 and and this is really related to

NOTE Confidence: 0.933981414

00:22:25.567 --> 00:22:28.439 the source COVID 2 virus that causes

NOTE Confidence: 0.933981414

00:22:28.439 --> 00:22:31.772 COVID 2nd hypothesis was autoimmunity.

NOTE Confidence: 0.933981414

00:22:31.772 --> 00:22:35.658 This is basically T and or B cells

NOTE Confidence: 0.933981414

00:22:35.658 --> 00:22:38.080 that react against self antigens.

NOTE Confidence: 0.933981414

00:22:38.080 --> 00:22:41.392 And we have seen a pretty striking

NOTE Confidence: 0.933981414

00:22:41.392 --> 00:22:43.972 evidence of auto antibody in

NOTE Confidence: 0.933981414

00:22:43.972 --> 00:22:46.640 severe cases of acute COVID.

NOTE Confidence: 0.933981414

00:22:46.640 --> 00:22:50.040 These patients either had prior

NOTE Confidence: 0.933981414

00:22:50.040 --> 00:22:52.256 existing antibodies against the

NOTE Confidence: 0.933981414

00:22:52.256 --> 00:22:54.870 immune factors that render them

NOTE Confidence: 0.933981414

00:22:54.870 --> 00:22:57.964 more susceptible to severe COVID or

NOTE Confidence: 0.933981414

00:22:57.964 --> 00:23:00.184 they developed auto antibody during

NOTE Confidence: 0.933981414

00:23:00.184 --> 00:23:03.160 the course of infection that target

NOTE Confidence: 0.933981414

00:23:03.160 --> 00:23:06.160 very various different tissues and

NOTE Confidence: 0.933981414

00:23:06.160 --> 00:23:08.440 cell types throughout the body.

NOTE Confidence: 0.933981414

00:23:08.440 --> 00:23:10.600 And once these things are triggered,

NOTE Confidence: 0.933981414

00:23:10.600 --> 00:23:12.866 it's it's very difficult to reverse them.

NOTE Confidence: 0.933981414

00:23:12.866 --> 00:23:15.662 And this is the second possibility

NOTE Confidence: 0.933981414

00:23:15.662 --> 00:23:19.400 as to why some people are suffering

NOTE Confidence: 0.933981414

00:23:19.400 --> 00:23:22.240 from the chronic phase of COVID.

NOTE Confidence: 0.933981414

00:23:22.240 --> 00:23:26.398 And the third hypothesis is dysbiosis

NOTE Confidence: 0.933981414

00:23:26.400 --> 00:23:30.000 of microbiome mainly we were thinking

NOTE Confidence: 0.933981414

00:23:30.000 --> 00:23:34.075 about the gut microbiome and potentially

NOTE Confidence: 0.933981414

00:23:34.075 --> 00:23:37.597 causing some leakiness in the gut

NOTE Confidence: 0.933981414

00:23:37.597 --> 00:23:39.992 epithelium that leads to inflammatory

NOTE Confidence: 0.933981414

00:23:39.992 --> 00:23:42.355 conditions and that's certainly been

NOTE Confidence: 0.933981414

00:23:42.355 --> 00:23:45.000 seen in MECFS and other conditions.

NOTE Confidence: 0.933981414

00:23:45.000 --> 00:23:47.720 We we also thought of reactivation

NOTE Confidence: 0.933981414

00:23:47.720 --> 00:23:51.360 of latent viruses that all of us

NOTE Confidence: 0.933981414

00:23:51.360 --> 00:23:54.016 carry a variety of viruses inside

NOTE Confidence: 0.933981414

00:23:54.016 --> 00:23:56.950 of our body which are latent and

NOTE Confidence: 0.933981414

00:23:56.950 --> 00:23:59.518 don't cause any symptoms or disease.  
NOTE Confidence: 0.933981414

00:23:59.520 --> 00:24:02.392 But when there is a the immune pressure  
NOTE Confidence: 0.933981414

00:24:02.392 --> 00:24:04.039 that's controlling these viruses,  
NOTE Confidence: 0.933981414

00:24:04.040 --> 00:24:06.065 when they're lifted or when  
NOTE Confidence: 0.933981414

00:24:06.065 --> 00:24:06.875 they're dysfunctional,  
NOTE Confidence: 0.933981414

00:24:06.880 --> 00:24:11.116 these latent virus can become reactivated.  
NOTE Confidence: 0.933981414

00:24:11.120 --> 00:24:14.960 And the the 4th hypothesis is tissue damage.  
NOTE Confidence: 0.933981414

00:24:14.960 --> 00:24:16.913 This is it doesn't have to even  
NOTE Confidence: 0.933981414

00:24:16.913 --> 00:24:18.960 occur at the site of infection.  
NOTE Confidence: 0.933981414

00:24:18.960 --> 00:24:22.308 We demonstrated using a mouse model  
NOTE Confidence: 0.933981414

00:24:22.308 --> 00:24:25.403 of mild respiratory COVID that even  
NOTE Confidence: 0.933981414

00:24:25.403 --> 00:24:27.418 a lung infection that's transient  
NOTE Confidence: 0.933981414

00:24:27.418 --> 00:24:30.749 in a mice can lead to very long  
NOTE Confidence: 0.933981414

00:24:30.749 --> 00:24:33.209 term changes in the central nervous  
NOTE Confidence: 0.933981414

00:24:33.295 --> 00:24:36.260 system that is not reversed even  
NOTE Confidence: 0.933981414

00:24:36.260 --> 00:24:39.194 after weeks of weeks post infection.

NOTE Confidence: 0.933981414

00:24:39.194 --> 00:24:42.062 And the I've sort of highlighted

NOTE Confidence: 0.933981414

00:24:42.062 --> 00:24:45.009 each of these boxes with different

NOTE Confidence: 0.933981414

00:24:45.009 --> 00:24:47.291 colors to indicate that throughout

NOTE Confidence: 0.933981414

00:24:47.291 --> 00:24:49.517 the research that we've been doing,

NOTE Confidence: 0.933981414

00:24:49.520 --> 00:24:52.848 we are seeing as well as many others

NOTE Confidence: 0.933981414

00:24:52.848 --> 00:24:55.640 that are in investigating the causes

NOTE Confidence: 0.933981414

00:24:55.640 --> 00:24:59.452 of long COVID Viral persistence is one

NOTE Confidence: 0.933981414

00:24:59.452 --> 00:25:04.840 of the key hypothesis that still is

NOTE Confidence: 0.933981414

00:25:04.840 --> 00:25:08.920 supported by over 100 different publications.

NOTE Confidence: 0.933981414

00:25:08.920 --> 00:25:11.300 We still don't know if the virus

NOTE Confidence: 0.933981414

00:25:11.300 --> 00:25:13.513 that's persistent in some people are

NOTE Confidence: 0.933981414

00:25:13.513 --> 00:25:16.224 causing the disease or it's just a

NOTE Confidence: 0.933981414

00:25:16.224 --> 00:25:19.149 sort of what happens with COVID and

NOTE Confidence: 0.933981414

00:25:19.149 --> 00:25:22.320 that it doesn't relate to the disease.

NOTE Confidence: 0.933981414

00:25:22.320 --> 00:25:24.623 And one of the best ways to

NOTE Confidence: 0.933981414

00:25:24.623 --> 00:25:26.239 to figure this out is,  
NOTE Confidence: 0.933981414

00:25:26.240 --> 00:25:29.720 is through this back slovid trial  
NOTE Confidence: 0.933981414

00:25:29.720 --> 00:25:31.636 that Harlan already mentioned.  
NOTE Confidence: 0.933981414

00:25:31.636 --> 00:25:34.510 What this allows us to do  
NOTE Confidence: 0.939796411739131

00:25:34.603 --> 00:25:37.375 is kind of interrogate the immune  
NOTE Confidence: 0.939796411739131

00:25:37.375 --> 00:25:40.171 system in people who have long  
NOTE Confidence: 0.939796411739131

00:25:40.171 --> 00:25:42.955 COVID prior to the treatment with  
NOTE Confidence: 0.939796411739131

00:25:42.955 --> 00:25:45.310 Paxlovid and during the treatment  
NOTE Confidence: 0.939796411739131

00:25:45.391 --> 00:25:48.254 and after the treatment to see how  
NOTE Confidence: 0.939796411739131

00:25:48.254 --> 00:25:50.800 the immune factors change over time  
NOTE Confidence: 0.939796411739131

00:25:50.800 --> 00:25:53.998 and how does that change correspond  
NOTE Confidence: 0.939796411739131

00:25:53.998 --> 00:25:57.120 to benefit for the patients.  
NOTE Confidence: 0.939796411739131

00:25:57.120 --> 00:25:59.112 Since we think that there are  
NOTE Confidence: 0.939796411739131

00:25:59.112 --> 00:26:01.200 multiple root causes of long COVID,  
NOTE Confidence: 0.939796411739131

00:26:01.200 --> 00:26:04.085 we're not expecting everyone to  
NOTE Confidence: 0.939796411739131

00:26:04.085 --> 00:26:06.393 respond positively to Paxlovid.

NOTE Confidence: 0.939796411739131  
00:26:06.400 --> 00:26:08.689 But we're hoping that a subset of  
NOTE Confidence: 0.939796411739131  
00:26:08.689 --> 00:26:10.560 people who respond to PAC Slovid  
NOTE Confidence: 0.939796411739131  
00:26:10.560 --> 00:26:13.424 will tell us a lot about what are  
NOTE Confidence: 0.939796411739131  
00:26:13.424 --> 00:26:15.639 the biomarkers for responsiveness?  
NOTE Confidence: 0.939796411739131  
00:26:15.640 --> 00:26:17.476 What are the features that are  
NOTE Confidence: 0.939796411739131  
00:26:17.476 --> 00:26:19.462 common in the people who respond  
NOTE Confidence: 0.939796411739131  
00:26:19.462 --> 00:26:20.878 positively to PAC Slovid?  
NOTE Confidence: 0.939796411739131  
00:26:20.880 --> 00:26:23.984 And in the future trials can we enrich  
NOTE Confidence: 0.939796411739131  
00:26:23.984 --> 00:26:26.597 for those people with the biomarkers  
NOTE Confidence: 0.939796411739131  
00:26:26.597 --> 00:26:29.762 to provide a sort of better chances  
NOTE Confidence: 0.939796411739131  
00:26:29.762 --> 00:26:32.171 of people recovering or feeling  
NOTE Confidence: 0.939796411739131  
00:26:32.171 --> 00:26:35.153 better from COVID with PAC Slovid.  
NOTE Confidence: 0.939796411739131  
00:26:35.160 --> 00:26:37.689 So, so this is sort of a an area  
NOTE Confidence: 0.939796411739131  
00:26:37.689 --> 00:26:39.448 that we're heavily investigating  
NOTE Confidence: 0.939796411739131  
00:26:39.448 --> 00:26:42.304 and are very excited to be able  
NOTE Confidence: 0.939796411739131

00:26:42.304 --> 00:26:44.680 to do this with you all.  
NOTE Confidence: 0.939796411739131

00:26:44.680 --> 00:26:46.390 Of course we're recruiting some  
NOTE Confidence: 0.939796411739131

00:26:46.390 --> 00:26:48.544 some of you through the listen  
NOTE Confidence: 0.939796411739131

00:26:48.544 --> 00:26:50.598 study and and hopefully we'll be  
NOTE Confidence: 0.939796411739131

00:26:50.598 --> 00:26:52.551 able to tell you what's going on  
NOTE Confidence: 0.939796411739131

00:26:52.551 --> 00:26:54.479 once the the study's completed.  
NOTE Confidence: 0.939796411739131

00:26:54.480 --> 00:26:56.320 But that that's a huge,  
NOTE Confidence: 0.939796411739131

00:26:56.320 --> 00:26:58.650 I think it will give us a gives us a  
NOTE Confidence: 0.939796411739131

00:26:58.718 --> 00:27:01.571 huge clue as to what might be driving and  
NOTE Confidence: 0.939796411739131

00:27:01.571 --> 00:27:04.840 whether the reservoir has any kind of  
NOTE Confidence: 0.939796411739131

00:27:04.840 --> 00:27:08.168 real evidence for disease autoimmunity.  
NOTE Confidence: 0.939796411739131

00:27:08.168 --> 00:27:10.472 I kind of graded out a little bit,  
NOTE Confidence: 0.939796411739131

00:27:10.480 --> 00:27:12.640 but this I haven't really dismissed,  
NOTE Confidence: 0.939796411739131

00:27:12.640 --> 00:27:14.520 we haven't dismissed this possibility.  
NOTE Confidence: 0.939796411739131

00:27:14.520 --> 00:27:17.384 It's just that in our studies we haven't  
NOTE Confidence: 0.939796411739131

00:27:17.384 --> 00:27:19.806 found any common auto antibodies that

NOTE Confidence: 0.939796411739131  
00:27:19.806 --> 00:27:22.760 are found in people with long COVID.  
NOTE Confidence: 0.939796411739131  
00:27:22.760 --> 00:27:24.944 If you look at the number of  
NOTE Confidence: 0.939796411739131  
00:27:24.944 --> 00:27:26.400 auto antibodies per person,  
NOTE Confidence: 0.939796411739131  
00:27:26.400 --> 00:27:29.466 they're not elevated necessarily in the  
NOTE Confidence: 0.939796411739131  
00:27:29.466 --> 00:27:32.439 long COVID participants compared to controls.  
NOTE Confidence: 0.939796411739131  
00:27:32.440 --> 00:27:35.320 And this is the study that Doctor David  
NOTE Confidence: 0.939796411739131  
00:27:35.320 --> 00:27:38.157 Petrino and our group have done together.  
NOTE Confidence: 0.939796411739131  
00:27:38.160 --> 00:27:41.224 It's called the Mylan COVID study and that  
NOTE Confidence: 0.939796411739131  
00:27:41.224 --> 00:27:44.936 is has been on Medarchive for almost a year,  
NOTE Confidence: 0.939796411739131  
00:27:44.936 --> 00:27:47.120 but it's finally accepted for publication.  
NOTE Confidence: 0.939796411739131  
00:27:47.120 --> 00:27:49.409 So we should be able to share  
NOTE Confidence: 0.939796411739131  
00:27:49.409 --> 00:27:51.810 the the latest with you shortly  
NOTE Confidence: 0.939796411739131  
00:27:51.810 --> 00:27:53.594 in the published version.  
NOTE Confidence: 0.939796411739131  
00:27:53.600 --> 00:27:54.876 But in any case,  
NOTE Confidence: 0.939796411739131  
00:27:54.876 --> 00:27:57.384 we don't see a clear cut evidence  
NOTE Confidence: 0.939796411739131

00:27:57.384 --> 00:27:59.919 for auto anybody against human  
NOTE Confidence: 0.939796411739131

00:27:59.920 --> 00:28:02.344 proteins that are expressed on the  
NOTE Confidence: 0.939796411739131

00:28:02.344 --> 00:28:04.720 surface or secreted from the cells.  
NOTE Confidence: 0.939796411739131

00:28:04.720 --> 00:28:05.113 However,  
NOTE Confidence: 0.939796411739131

00:28:05.113 --> 00:28:07.471 it doesn't mean that there isn't  
NOTE Confidence: 0.939796411739131

00:28:07.471 --> 00:28:09.532 AT cell mediated autoimmunity and  
NOTE Confidence: 0.939796411739131

00:28:09.532 --> 00:28:11.968 it also doesn't mean there isn't  
NOTE Confidence: 0.939796411739131

00:28:11.968 --> 00:28:14.645 a antibody mediated immunity that  
NOTE Confidence: 0.939796411739131

00:28:14.645 --> 00:28:16.288 targets intracellular antigens.  
NOTE Confidence: 0.939796411739131

00:28:16.288 --> 00:28:19.424 So we're still very much open to  
NOTE Confidence: 0.939796411739131

00:28:19.424 --> 00:28:22.560 this idea and investigating further  
NOTE Confidence: 0.939796411739131

00:28:22.560 --> 00:28:23.913 the the dysbiosis.  
NOTE Confidence: 0.939796411739131

00:28:23.913 --> 00:28:27.070 We haven't really been able to look  
NOTE Confidence: 0.939796411739131

00:28:27.157 --> 00:28:30.280 into the microbiome yet but we are  
NOTE Confidence: 0.939796411739131

00:28:30.280 --> 00:28:32.280 looking at latent virus reactivation  
NOTE Confidence: 0.939796411739131

00:28:32.280 --> 00:28:34.944 and this is showing us that in

NOTE Confidence: 0.939796411739131  
00:28:34.944 --> 00:28:37.187 people with long COVID there appears  
NOTE Confidence: 0.939796411739131  
00:28:37.187 --> 00:28:39.840 to be an elevated level of Epstein  
NOTE Confidence: 0.939796411739131  
00:28:39.840 --> 00:28:41.288 Barr virus reactivation.  
NOTE Confidence: 0.939796411739131  
00:28:41.288 --> 00:28:44.480 As well as potentially there's  
NOTE Confidence: 0.939796411739131  
00:28:44.480 --> 00:28:47.560 zoster virus which is the the virus  
NOTE Confidence: 0.939796411739131  
00:28:47.560 --> 00:28:50.633 that causes shingles that may be  
NOTE Confidence: 0.939796411739131  
00:28:50.633 --> 00:28:52.597 reactivating much more frequently  
NOTE Confidence: 0.939796411739131  
00:28:52.597 --> 00:28:55.006 than people without long COVID  
NOTE Confidence: 0.939796411739131  
00:28:55.006 --> 00:28:56.718 who recover from COVID.  
NOTE Confidence: 0.939796411739131  
00:28:56.720 --> 00:28:58.436 And this has been reported not  
NOTE Confidence: 0.939796411739131  
00:28:58.436 --> 00:28:59.580 just by us but  
NOTE Confidence: 0.8680294733333333  
00:28:59.648 --> 00:29:02.200 at least two other groups and it it's  
NOTE Confidence: 0.8680294733333333  
00:29:02.200 --> 00:29:04.440 you know again we don't know whether  
NOTE Confidence: 0.8680294733333333  
00:29:04.515 --> 00:29:06.420 this EBB reactivation is causing  
NOTE Confidence: 0.8680294733333333  
00:29:06.420 --> 00:29:09.595 the symptom or it's just a sign of  
NOTE Confidence: 0.8680294733333333

00:29:09.595 --> 00:29:11.199 a dysfunctional immune response.  
NOTE Confidence: 0.8680294733333333

00:29:11.200 --> 00:29:12.871 But it is telling us there's some  
NOTE Confidence: 0.8680294733333333

00:29:12.871 --> 00:29:15.457 really biological difference in in a  
NOTE Confidence: 0.8680294733333333

00:29:15.457 --> 00:29:18.140 subset of people with on COVID and  
NOTE Confidence: 0.8680294733333333

00:29:18.140 --> 00:29:19.840 tissue damage we're we're continuing  
NOTE Confidence: 0.8680294733333333

00:29:19.840 --> 00:29:22.414 to use this mouse model and developing  
NOTE Confidence: 0.8680294733333333

00:29:22.414 --> 00:29:24.720 other mouse models to be able to  
NOTE Confidence: 0.8680294733333333

00:29:24.720 --> 00:29:27.532 look at the you know causal role of  
NOTE Confidence: 0.8680294733333333

00:29:27.532 --> 00:29:29.516 these inflammation induced damage.  
NOTE Confidence: 0.8680294733333333

00:29:29.520 --> 00:29:32.400 How do we reverse this you know  
NOTE Confidence: 0.8680294733333333

00:29:32.400 --> 00:29:35.440 such as the the the CNS impact and  
NOTE Confidence: 0.8680294733333333

00:29:35.535 --> 00:29:38.135 memory issues and brain fog and  
NOTE Confidence: 0.8680294733333333

00:29:38.135 --> 00:29:39.960 and so on that's reported.  
NOTE Confidence: 0.8680294733333333

00:29:39.960 --> 00:29:42.664 So this is sort of like the updated  
NOTE Confidence: 0.8680294733333333

00:29:42.664 --> 00:29:45.040 version of what I told you before  
NOTE Confidence: 0.8680294733333333

00:29:45.040 --> 00:29:47.110 and then you know ideally right

NOTE Confidence: 0.868029473333333  
00:29:47.110 --> 00:29:49.615 we we we should have clinical  
NOTE Confidence: 0.868029473333333  
00:29:49.615 --> 00:29:52.230 trial coupled with deep biological  
NOTE Confidence: 0.868029473333333  
00:29:52.230 --> 00:29:54.596 analysis for all of these going on  
NOTE Confidence: 0.868029473333333  
00:29:54.596 --> 00:29:57.080 and there are some efforts going on.  
NOTE Confidence: 0.868029473333333  
00:29:57.080 --> 00:29:59.720 But I just wanted to kind of highlight  
NOTE Confidence: 0.868029473333333  
00:29:59.720 --> 00:30:03.220 I'm sorry the dog what we're doing  
NOTE Confidence: 0.868029473333333  
00:30:03.220 --> 00:30:06.560 here and then just sort of taking these  
NOTE Confidence: 0.868029473333333  
00:30:06.560 --> 00:30:09.680 insights into sort of the downstream  
NOTE Confidence: 0.710890148571429  
00:30:12.320 --> 00:30:14.756 effects and pathology that people are seeing.  
NOTE Confidence: 0.710890148571429  
00:30:14.760 --> 00:30:16.640 So the viral reservoir, autoimmunity,  
NOTE Confidence: 0.710890148571429  
00:30:16.640 --> 00:30:18.720 latent virus reactivation, tissue damage,  
NOTE Confidence: 0.710890148571429  
00:30:18.720 --> 00:30:21.624 this may be kind of happening in in  
NOTE Confidence: 0.710890148571429  
00:30:21.624 --> 00:30:24.393 concert within a person or one may be  
NOTE Confidence: 0.710890148571429  
00:30:24.393 --> 00:30:27.158 driving the disease in a subset of people.  
NOTE Confidence: 0.710890148571429  
00:30:27.160 --> 00:30:30.088 We don't know what the actual sort of  
NOTE Confidence: 0.710890148571429

00:30:30.088 --> 00:30:31.998 connection between these wheels are.  
NOTE Confidence: 0.710890148571429

00:30:32.000 --> 00:30:35.480 But what we do know is that there is also  
NOTE Confidence: 0.710890148571429

00:30:35.566 --> 00:30:38.536 evidence of downstream pathology such  
NOTE Confidence: 0.710890148571429

00:30:38.536 --> 00:30:42.033 as vascular damage that's reported from  
NOTE Confidence: 0.710890148571429

00:30:42.033 --> 00:30:45.300 respiratory and and others including micro  
NOTE Confidence: 0.710890148571429

00:30:45.300 --> 00:30:48.240 clots as well as platelet activation.  
NOTE Confidence: 0.710890148571429

00:30:48.240 --> 00:30:50.837 These are two events that we are  
NOTE Confidence: 0.710890148571429

00:30:50.837 --> 00:30:52.894 investigating in Els and study  
NOTE Confidence: 0.710890148571429

00:30:52.894 --> 00:30:55.224 from participants who provided us  
NOTE Confidence: 0.710890148571429

00:30:55.224 --> 00:30:56.760 blood and saliva.  
NOTE Confidence: 0.710890148571429

00:30:56.760 --> 00:30:59.370 We're also looking at hormonal imbalance  
NOTE Confidence: 0.710890148571429

00:30:59.370 --> 00:31:01.913 because one of the key defining  
NOTE Confidence: 0.710890148571429

00:31:01.913 --> 00:31:04.801 factor that we saw in our long COVID  
NOTE Confidence: 0.710890148571429

00:31:04.883 --> 00:31:07.793 participants was at reduced levels of  
NOTE Confidence: 0.710890148571429

00:31:07.793 --> 00:31:10.190 cortisol as well as potentially other  
NOTE Confidence: 0.710890148571429

00:31:10.190 --> 00:31:13.071 hormones and and so we're really looking

NOTE Confidence: 0.710890148571429  
00:31:13.071 --> 00:31:17.300 into the this hormonal imbalance as a  
NOTE Confidence: 0.710890148571429  
00:31:17.300 --> 00:31:20.120 possible downstream sort of mechanism  
NOTE Confidence: 0.710890148571429  
00:31:20.120 --> 00:31:21.680 and mitochondrial dysfunction.  
NOTE Confidence: 0.710890148571429  
00:31:21.680 --> 00:31:24.902 This is also been reported both  
NOTE Confidence: 0.710890148571429  
00:31:24.902 --> 00:31:27.328 for MECFS and long COVID.  
NOTE Confidence: 0.710890148571429  
00:31:27.328 --> 00:31:29.688 We're investigating what the causes  
NOTE Confidence: 0.710890148571429  
00:31:29.688 --> 00:31:31.499 of a mitochondrial dysfunction might  
NOTE Confidence: 0.710890148571429  
00:31:31.499 --> 00:31:34.759 be and it may be triggered by the  
NOTE Confidence: 0.710890148571429  
00:31:34.759 --> 00:31:36.979 upstream events such as vascular  
NOTE Confidence: 0.710890148571429  
00:31:36.979 --> 00:31:38.755 damage and microcloth formation,  
NOTE Confidence: 0.710890148571429  
00:31:38.760 --> 00:31:41.712 which would then impair the ability  
NOTE Confidence: 0.710890148571429  
00:31:41.712 --> 00:31:45.067 of cells to acquire oxygen and  
NOTE Confidence: 0.710890148571429  
00:31:45.067 --> 00:31:48.307 properly conduct the the mitochondrial  
NOTE Confidence: 0.710890148571429  
00:31:48.307 --> 00:31:49.740 function in tissues.  
NOTE Confidence: 0.710890148571429  
00:31:49.740 --> 00:31:52.470 So these are sort of the downstream  
NOTE Confidence: 0.710890148571429

00:31:52.470 --> 00:31:55.107 things that we also are looking at  
NOTE Confidence: 0.710890148571429

00:31:55.107 --> 00:31:57.880 through the ELSN study and of course  
NOTE Confidence: 0.710890148571429

00:31:57.880 --> 00:32:00.080 ultimately we'd love to identify  
NOTE Confidence: 0.710890148571429

00:32:00.080 --> 00:32:02.976 biomarkers for different subsets of  
NOTE Confidence: 0.710890148571429

00:32:02.976 --> 00:32:06.612 diseases and of course therapy and  
NOTE Confidence: 0.710890148571429

00:32:06.612 --> 00:32:08.945 cure ultimately depending on what  
NOTE Confidence: 0.710890148571429

00:32:08.945 --> 00:32:11.315 the driver of these diseases are.  
NOTE Confidence: 0.710890148571429

00:32:11.320 --> 00:32:12.187 And so we,  
NOTE Confidence: 0.710890148571429

00:32:12.187 --> 00:32:14.547 we are very excited to be able to  
NOTE Confidence: 0.710890148571429

00:32:14.547 --> 00:32:16.560 do this with all of you and you  
NOTE Confidence: 0.710890148571429

00:32:16.560 --> 00:32:17.895 know we're working very hard,  
NOTE Confidence: 0.710890148571429

00:32:17.895 --> 00:32:20.240 Born Alley is working very hard in,  
NOTE Confidence: 0.710890148571429

00:32:20.240 --> 00:32:22.604 in coordinating collection of  
NOTE Confidence: 0.710890148571429

00:32:22.604 --> 00:32:25.559 biospecimen from a subset of  
NOTE Confidence: 0.710890148571429

00:32:25.560 --> 00:32:28.040 you that's listening in today.  
NOTE Confidence: 0.710890148571429

00:32:28.040 --> 00:32:30.399 So I'm going to just stop sharing.

NOTE Confidence: 0.710890148571429  
00:32:30.400 --> 00:32:30.625 I,  
NOTE Confidence: 0.710890148571429  
00:32:30.625 --> 00:32:33.000 I think I took more than my share of time,  
NOTE Confidence: 0.710890148571429  
00:32:33.000 --> 00:32:36.957 but I'd be happy to address any questions.  
NOTE Confidence: 0.710890148571429  
00:32:36.960 --> 00:32:37.520 Of course  
NOTE Confidence: 0.86669146  
00:32:39.160 --> 00:32:40.924 we, I think we, we always appreciate  
NOTE Confidence: 0.86669146  
00:32:40.924 --> 00:32:44.680 when you take more time, it's great.  
NOTE Confidence: 0.86669146  
00:32:44.680 --> 00:32:49.416 There are questions that are both in the  
Q&A,  
NOTE Confidence: 0.86669146  
00:32:49.416 --> 00:32:51.720 but some of that were sent to us before.  
NOTE Confidence: 0.703113298  
00:32:58.640 --> 00:33:00.068 So this person, there are a couple  
NOTE Confidence: 0.703113298  
00:33:00.068 --> 00:33:01.222 questions we're going to ask for  
NOTE Confidence: 0.703113298  
00:33:01.222 --> 00:33:02.391 you and then Bernal can answer one.  
NOTE Confidence: 0.703113298  
00:33:02.400 --> 00:33:04.507 But because this person said I've been  
NOTE Confidence: 0.703113298  
00:33:04.507 --> 00:33:06.318 tested and treated for micro clots,  
NOTE Confidence: 0.703113298  
00:33:06.320 --> 00:33:07.968 is this something that's going to be more  
NOTE Confidence: 0.703113298  
00:33:07.968 --> 00:33:09.160 readily available in the United States?

NOTE Confidence: 0.703113298

00:33:09.160 --> 00:33:10.912 I've been paying out of pocket

NOTE Confidence: 0.703113298

00:33:10.912 --> 00:33:12.080 to see a doctor.

NOTE Confidence: 0.703113298

00:33:12.080 --> 00:33:13.760 What do you think about microclots?

NOTE Confidence: 0.925425966

00:33:14.960 --> 00:33:19.244 Yeah, so we are also, as I just mentioned,

NOTE Confidence: 0.925425966

00:33:19.244 --> 00:33:21.799 very interested in our investigating

NOTE Confidence: 0.925425966

00:33:21.799 --> 00:33:23.440 microclots and in people.

NOTE Confidence: 0.925425966

00:33:23.440 --> 00:33:26.744 And we are seeing definitely evidence of

NOTE Confidence: 0.925425966

00:33:26.744 --> 00:33:29.560 microclots and platelet activation in some

NOTE Confidence: 0.925425966

00:33:29.560 --> 00:33:32.596 people with long COVID as well as some

NOTE Confidence: 0.925425966

00:33:32.596 --> 00:33:35.176 convalescent people who have recovered

NOTE Confidence: 0.925425966

00:33:35.176 --> 00:33:38.718 from COVID but have had COVID before.

NOTE Confidence: 0.925425966

00:33:38.720 --> 00:33:41.420 And right now I I don't want to make

NOTE Confidence: 0.925425966

00:33:41.420 --> 00:33:44.171 any claims that microclots are causing

NOTE Confidence: 0.925425966

00:33:44.171 --> 00:33:46.637 the disease because we don't know.

NOTE Confidence: 0.925425966

00:33:46.640 --> 00:33:49.720 We see some increases and it's variable.

NOTE Confidence: 0.925425966

00:33:49.720 --> 00:33:52.480 It's not that everyone has microclots,  
NOTE Confidence: 0.925425966

00:33:52.480 --> 00:33:55.504 there are it seems to be a more  
NOTE Confidence: 0.925425966

00:33:55.504 --> 00:33:58.154 activation in long COVID and and and  
NOTE Confidence: 0.925425966

00:33:58.154 --> 00:34:01.632 even in post vaccine adverse events.  
NOTE Confidence: 0.925425966

00:34:01.632 --> 00:34:03.880 However, we need to be very careful.  
NOTE Confidence: 0.925425966

00:34:03.880 --> 00:34:06.440 First of all we need to have enough  
NOTE Confidence: 0.925425966

00:34:06.440 --> 00:34:09.202 control to be able to say statistically  
NOTE Confidence: 0.925425966

00:34:09.202 --> 00:34:12.084 significantly is there an elevation and  
NOTE Confidence: 0.925425966

00:34:12.084 --> 00:34:14.676 in the people who have these micro clots,  
NOTE Confidence: 0.925425966

00:34:14.680 --> 00:34:16.885 what are the the the common common  
NOTE Confidence: 0.925425966

00:34:16.885 --> 00:34:18.398 symptoms and features as well  
NOTE Confidence: 0.925425966

00:34:18.398 --> 00:34:19.916 as immune markers do we see.  
NOTE Confidence: 0.925425966

00:34:19.920 --> 00:34:24.140 So we we are cautiously approaching  
NOTE Confidence: 0.925425966

00:34:24.140 --> 00:34:26.928 this with proper controls and trying  
NOTE Confidence: 0.925425966

00:34:26.928 --> 00:34:29.038 to understand what that means.  
NOTE Confidence: 0.925425966

00:34:29.040 --> 00:34:30.839 We don't know what it means yet.

NOTE Confidence: 0.925425966

00:34:30.840 --> 00:34:34.296 There are places that are doing

NOTE Confidence: 0.925425966

00:34:34.296 --> 00:34:36.600 the micro clot analysis.

NOTE Confidence: 0.925425966

00:34:36.600 --> 00:34:37.368 You know,

NOTE Confidence: 0.925425966

00:34:37.368 --> 00:34:39.800 I don't know which labs are doing them,

NOTE Confidence: 0.925425966

00:34:39.800 --> 00:34:42.320 but I know that there are some labs doing it.

NOTE Confidence: 0.925425966

00:34:42.320 --> 00:34:44.432 Hopefully they're doing it in a

NOTE Confidence: 0.925425966

00:34:44.432 --> 00:34:46.896 in a standard way because there's

NOTE Confidence: 0.925425966

00:34:46.896 --> 00:34:49.356 also variation between each labs

NOTE Confidence: 0.925425966

00:34:49.360 --> 00:34:52.156 in the outcome of these assays.

NOTE Confidence: 0.925425966

00:34:52.160 --> 00:34:53.222 So, yeah,

NOTE Confidence: 0.925425966

00:34:53.222 --> 00:34:56.960 it's it's very early days and I don't

NOTE Confidence: 0.925425966

00:34:56.960 --> 00:34:59.109 know what to recommend whether you

NOTE Confidence: 0.925425966

00:34:59.109 --> 00:35:01.203 should get the microcloth assay and

NOTE Confidence: 0.925425966

00:35:01.203 --> 00:35:03.839 and then what would be the treatment,

NOTE Confidence: 0.925425966

00:35:03.840 --> 00:35:04.608 you know,

NOTE Confidence: 0.925425966

00:35:04.608 --> 00:35:07.680 and so we're still in the discovery phase.

NOTE Confidence: 0.6838534933333333

00:35:08.480 --> 00:35:09.476 Yeah. And I just endorse that.

NOTE Confidence: 0.6838534933333333

00:35:09.480 --> 00:35:11.082 Also somebody asked me about this

NOTE Confidence: 0.6838534933333333

00:35:11.082 --> 00:35:14.720 today in an e-mail and I said,

NOTE Confidence: 0.6838534933333333

00:35:14.720 --> 00:35:15.956 you know, I think it's promising.

NOTE Confidence: 0.6838534933333333

00:35:15.960 --> 00:35:17.319 I know a lot of people believe in it.

NOTE Confidence: 0.6838534933333333

00:35:17.320 --> 00:35:19.959 I'm not sure about both the validity,

NOTE Confidence: 0.6838534933333333

00:35:19.960 --> 00:35:22.600 the reliability that is test to test place

NOTE Confidence: 0.6838534933333333

00:35:22.600 --> 00:35:25.400 to place because this isn't standardized.

NOTE Confidence: 0.6838534933333333

00:35:25.400 --> 00:35:28.914 Like if you go get a potassium measured

NOTE Confidence: 0.6838534933333333

00:35:28.914 --> 00:35:31.273 at one place and at another place,

NOTE Confidence: 0.6838534933333333

00:35:31.280 --> 00:35:32.978 there are national federal standards that

NOTE Confidence: 0.6838534933333333

00:35:32.978 --> 00:35:35.078 make sure that it should be the same.

NOTE Confidence: 0.6838534933333333

00:35:35.080 --> 00:35:36.634 But you know we don't have those,

NOTE Confidence: 0.6838534933333333

00:35:36.640 --> 00:35:39.208 that oversight right now on the micro clots

NOTE Confidence: 0.6838534933333333

00:35:39.208 --> 00:35:41.640 and then ultimately is it actionable?

NOTE Confidence: 0.683853493333333  
00:35:41.640 --> 00:35:43.075 And you know, some people think it  
NOTE Confidence: 0.683853493333333  
00:35:43.075 --> 00:35:44.718 is and some people think it don't.  
NOTE Confidence: 0.683853493333333  
00:35:44.720 --> 00:35:46.118 I know how much everyone's suffering.  
NOTE Confidence: 0.683853493333333  
00:35:46.120 --> 00:35:49.960 So I don't want to say what people should do,  
NOTE Confidence: 0.683853493333333  
00:35:49.960 --> 00:35:51.520 'cause, you know, there's a bit,  
NOTE Confidence: 0.683853493333333  
00:35:51.520 --> 00:35:53.158 there's a bit of desperation in all of it.  
NOTE Confidence: 0.683853493333333  
00:35:53.160 --> 00:35:54.240 But but just to say,  
NOTE Confidence: 0.683853493333333  
00:35:54.240 --> 00:35:55.344 on the science side,  
NOTE Confidence: 0.683853493333333  
00:35:55.344 --> 00:35:57.404 it's not there that we could say  
NOTE Confidence: 0.683853493333333  
00:35:57.404 --> 00:35:58.760 that with with confidence.  
NOTE Confidence: 0.683853493333333  
00:35:58.760 --> 00:35:59.160 Yet  
NOTE Confidence: 0.756687538571429  
00:36:01.280 --> 00:36:03.590 a couple other people were  
NOTE Confidence: 0.756687538571429  
00:36:03.590 --> 00:36:05.375 asking Akiko whether the damage  
NOTE Confidence: 0.756687538571429  
00:36:05.375 --> 00:36:06.515 that they're experiencing now,  
NOTE Confidence: 0.756687538571429  
00:36:06.520 --> 00:36:09.920 do they do we think that it can be reversed?  
NOTE Confidence: 0.756687538571429

00:36:09.920 --> 00:36:11.092 Is it permanent? And,  
NOTE Confidence: 0.756687538571429

00:36:11.092 --> 00:36:13.056 you know, my view on is,  
NOTE Confidence: 0.756687538571429

00:36:13.056 --> 00:36:15.395 is I think you and I both heard  
NOTE Confidence: 0.756687538571429

00:36:15.395 --> 00:36:16.910 stories of people who have been  
NOTE Confidence: 0.756687538571429

00:36:16.910 --> 00:36:19.050 suffering for a long time and then it  
NOTE Confidence: 0.756687538571429

00:36:19.050 --> 00:36:20.760 does resolve and they've gotten better.  
NOTE Confidence: 0.756687538571429

00:36:20.760 --> 00:36:21.960 We've heard other people who,  
NOTE Confidence: 0.756687538571429

00:36:21.960 --> 00:36:23.080 you know, it persists in,  
NOTE Confidence: 0.756687538571429

00:36:23.080 --> 00:36:25.112 but I don't think we can say yet  
NOTE Confidence: 0.756687538571429

00:36:25.112 --> 00:36:27.252 for sure what would be considered  
NOTE Confidence: 0.756687538571429

00:36:27.252 --> 00:36:29.598 permanent or what might be reversible.  
NOTE Confidence: 0.756687538571429

00:36:29.600 --> 00:36:31.528 And I I want people to have hope  
NOTE Confidence: 0.756687538571429

00:36:31.528 --> 00:36:33.112 still and there's definitely not  
NOTE Confidence: 0.756687538571429

00:36:33.112 --> 00:36:34.837 evidence to suggest that what  
NOTE Confidence: 0.756687538571429

00:36:34.837 --> 00:36:36.799 lots of people are suffering,  
NOTE Confidence: 0.756687538571429

00:36:36.800 --> 00:36:38.520 you know, wouldn't go away.

NOTE Confidence: 0.756687538571429  
00:36:38.520 --> 00:36:40.074 So I I always try to encourage  
NOTE Confidence: 0.756687538571429  
00:36:40.074 --> 00:36:41.040 people to have hope.  
NOTE Confidence: 0.756687538571429  
00:36:41.040 --> 00:36:42.440 But I don't know what do you think of Kiko?  
NOTE Confidence: 0.80630035  
00:36:43.720 --> 00:36:46.680 Yeah, I I think, I I really hope  
NOTE Confidence: 0.80630035  
00:36:46.680 --> 00:36:49.319 there is a way to reverse it.  
NOTE Confidence: 0.80630035  
00:36:49.320 --> 00:36:51.005 And and you know certain  
NOTE Confidence: 0.80630035  
00:36:51.005 --> 00:36:52.353 tissues that are damaged,  
NOTE Confidence: 0.80630035  
00:36:52.360 --> 00:36:55.128 of course it depends on which organ and  
NOTE Confidence: 0.80630035  
00:36:55.128 --> 00:36:57.516 how replaceable those cells are and so on.  
NOTE Confidence: 0.80630035  
00:36:57.520 --> 00:36:58.393 But I definitely,  
NOTE Confidence: 0.80630035  
00:36:58.393 --> 00:37:01.000 I mean that's why we're doing this research.  
NOTE Confidence: 0.80630035  
00:37:01.000 --> 00:37:03.660 We really want to find something that  
NOTE Confidence: 0.80630035  
00:37:03.660 --> 00:37:06.320 would be helpful And we are doing because  
NOTE Confidence: 0.80630035  
00:37:06.320 --> 00:37:08.919 we have these mouse models of tissue damage,  
NOTE Confidence: 0.80630035  
00:37:08.920 --> 00:37:11.917 we are able to try all kinds of different  
NOTE Confidence: 0.80630035

00:37:11.920 --> 00:37:15.040 agents to be able to reverse the damage.

NOTE Confidence: 0.80630035

00:37:15.040 --> 00:37:17.695 And that's what what some members of my lab

NOTE Confidence: 0.80630035

00:37:17.695 --> 00:37:20.720 are doing right now and we'll let you know,

NOTE Confidence: 0.80630035

00:37:20.720 --> 00:37:22.076 you know, if we find something.

NOTE Confidence: 0.80630035

00:37:22.080 --> 00:37:25.157 But we're doing this in a sort of way,

NOTE Confidence: 0.80630035

00:37:25.157 --> 00:37:28.019 you know, in which science has

NOTE Confidence: 0.80630035

00:37:28.019 --> 00:37:30.910 approached similar kinds of inflammatory

NOTE Confidence: 0.80630035

00:37:30.910 --> 00:37:33.875 conditions before with the drugs that

NOTE Confidence: 0.80630035

00:37:33.875 --> 00:37:37.280 are able to kind of restore and and

NOTE Confidence: 0.80630035

00:37:37.280 --> 00:37:39.320 replenish the damaged cell types.

NOTE Confidence: 0.80630035

00:37:39.320 --> 00:37:40.133 So I'm hopeful,

NOTE Confidence: 0.80630035

00:37:40.133 --> 00:37:41.759 of course we're not going to

NOTE Confidence: 0.80630035

00:37:41.759 --> 00:37:43.448 promise anything because you know

NOTE Confidence: 0.80630035

00:37:43.448 --> 00:37:45.153 that that would be irresponsible.

NOTE Confidence: 0.80630035

00:37:45.160 --> 00:37:46.756 But yeah,

NOTE Confidence: 0.80630035

00:37:46.756 --> 00:37:49.240 I am really hope that we can find something.

NOTE Confidence: 0.806990620625

00:37:49.600 --> 00:37:50.986 You know, we know that some days

NOTE Confidence: 0.806990620625

00:37:50.986 --> 00:37:52.771 it may be hard to have hope when

NOTE Confidence: 0.806990620625

00:37:52.771 --> 00:37:53.932 you're facing all these things.

NOTE Confidence: 0.806990620625

00:37:53.932 --> 00:37:55.980 So we, we want to encourage people

NOTE Confidence: 0.806990620625

00:37:55.980 --> 00:37:58.411 not to give up and to feel maybe

NOTE Confidence: 0.806990620625

00:37:58.411 --> 00:38:00.157 we can together all find answers.

NOTE Confidence: 0.806990620625

00:38:00.160 --> 00:38:01.012 Bernal, you know,

NOTE Confidence: 0.806990620625

00:38:01.012 --> 00:38:02.716 you answered this on the chat.

NOTE Confidence: 0.806990620625

00:38:02.720 --> 00:38:04.880 Some people put it in the Q and AI know,

NOTE Confidence: 0.806990620625

00:38:04.880 --> 00:38:07.225 you know, maybe you could just say

NOTE Confidence: 0.806990620625

00:38:07.225 --> 00:38:09.507 out loud people listen who have

NOTE Confidence: 0.806990620625

00:38:09.507 --> 00:38:11.517 had the deep immuno phenotyping,

NOTE Confidence: 0.806990620625

00:38:11.520 --> 00:38:12.800 maybe you can make a comment or two.

NOTE Confidence: 0.806990620625

00:38:12.800 --> 00:38:15.821 I'll just say to fit folks that it's

NOTE Confidence: 0.806990620625

00:38:15.821 --> 00:38:19.970 not usual for us to be allowed to return

NOTE Confidence: 0.806990620625

00:38:20.077 --> 00:38:22.835 research level results to participants.  
NOTE Confidence: 0.806990620625

00:38:22.835 --> 00:38:24.395 We want to be able to do that.  
NOTE Confidence: 0.806990620625

00:38:24.400 --> 00:38:27.065 But the the the regulatory  
NOTE Confidence: 0.806990620625

00:38:27.065 --> 00:38:28.620 bodies are concerned about.  
NOTE Confidence: 0.806990620625

00:38:28.620 --> 00:38:31.000 By the way Micro Klots is an  
NOTE Confidence: 0.806990620625

00:38:31.074 --> 00:38:32.878 experimental test as well,  
NOTE Confidence: 0.806990620625

00:38:32.880 --> 00:38:36.000 but because clinicians are ordering it,  
NOTE Confidence: 0.806990620625

00:38:36.000 --> 00:38:36.959 they can give it back to you.  
NOTE Confidence: 0.806990620625

00:38:36.960 --> 00:38:39.280 But when we're doing experimental  
NOTE Confidence: 0.806990620625

00:38:39.280 --> 00:38:41.428 tests in the lab,  
NOTE Confidence: 0.806990620625

00:38:41.428 --> 00:38:44.113 that for research there's reluctance  
NOTE Confidence: 0.806990620625

00:38:44.120 --> 00:38:46.280 because of a fear that people act on  
NOTE Confidence: 0.806990620625

00:38:46.280 --> 00:38:48.760 them in ways that aren't yet proven out,  
NOTE Confidence: 0.806990620625

00:38:48.760 --> 00:38:51.320 that even the tests should be acted on.  
NOTE Confidence: 0.806990620625

00:38:51.320 --> 00:38:53.224 But we think we found a path  
NOTE Confidence: 0.806990620625

00:38:53.224 --> 00:38:54.040 to share something.

NOTE Confidence: 0.806990620625  
00:38:54.040 --> 00:38:56.920 So Bernal, do you want to talk about that?  
NOTE Confidence: 0.806990620625  
00:38:56.920 --> 00:38:57.380 Sure.  
NOTE Confidence: 0.806990620625  
00:38:57.380 --> 00:38:57.840 So  
NOTE Confidence: 0.903254895  
00:38:57.920 --> 00:39:00.080 we right now have approval from  
NOTE Confidence: 0.903254895  
00:39:00.080 --> 00:39:02.940 the IRB to share research only  
NOTE Confidence: 0.903254895  
00:39:02.940 --> 00:39:05.770 reports and we are in the process  
NOTE Confidence: 0.903254895  
00:39:05.770 --> 00:39:07.840 of getting the reports ready,  
NOTE Confidence: 0.903254895  
00:39:07.840 --> 00:39:09.760 finishing off all the assays first  
NOTE Confidence: 0.903254895  
00:39:09.760 --> 00:39:11.920 and then getting the reports ready.  
NOTE Confidence: 0.903254895  
00:39:11.920 --> 00:39:13.396 And once we have them ready,  
NOTE Confidence: 0.903254895  
00:39:13.400 --> 00:39:14.919 we will reach out to you because  
NOTE Confidence: 0.8828792  
00:39:14.920 --> 00:39:16.996 that's the protocol that the IRB  
NOTE Confidence: 0.927786770588235  
00:39:17.000 --> 00:39:18.364 has proposed for us.  
NOTE Confidence: 0.927786770588235  
00:39:18.364 --> 00:39:20.789 We'll send out a mass e-mail to  
NOTE Confidence: 0.927786770588235  
00:39:20.789 --> 00:39:22.637 anybody in the study who has  
NOTE Confidence: 0.927786770588235

00:39:22.640 --> 00:39:25.066 contributed biospecimens to our  
NOTE Confidence: 0.927786770588235

00:39:25.066 --> 00:39:27.131 study and once they acknowledge  
NOTE Confidence: 0.927786770588235

00:39:27.131 --> 00:39:28.944 and request for the reports,  
NOTE Confidence: 0.927786770588235

00:39:28.944 --> 00:39:30.200 we'll individually be sending  
NOTE Confidence: 0.927786770588235

00:39:30.200 --> 00:39:31.439 out those reports.  
NOTE Confidence: 0.927786770588235

00:39:31.440 --> 00:39:32.640 But those will be research  
NOTE Confidence: 0.927786770588235

00:39:32.640 --> 00:39:34.812 only reports not actionable.  
NOTE Confidence: 0.927786770588235

00:39:34.812 --> 00:39:35.480 Thank you. A  
NOTE Confidence: 0.701846333333333

00:39:38.480 --> 00:39:40.916 couple people, Akiko were asking about  
NOTE Confidence: 0.701846333333333

00:39:40.920 --> 00:39:43.636 Epstein Barr virus and the reactivation and  
NOTE Confidence: 0.85525796

00:39:46.320 --> 00:39:48.600 and and then somebody asked whether  
NOTE Confidence: 0.85525796

00:39:48.600 --> 00:39:52.424 or not long COVID they asked whether  
NOTE Confidence: 0.85525796

00:39:52.424 --> 00:39:54.912 can reactivate other viruses as well.  
NOTE Confidence: 0.85525796

00:39:54.912 --> 00:39:56.633 But I think we're thinking like maybe  
NOTE Confidence: 0.85525796

00:39:56.633 --> 00:39:58.553 those are the actual cause of the symptoms.  
NOTE Confidence: 0.85525796

00:39:58.560 --> 00:40:00.333 But do you want to just say a minute

NOTE Confidence: 0.85525796

00:40:00.333 --> 00:40:01.792 what are you thinking about Epstein

NOTE Confidence: 0.85525796

00:40:01.792 --> 00:40:03.945 Barr virus Now as I know you mentioned

NOTE Confidence: 0.85525796

00:40:03.945 --> 00:40:05.739 as a mechanism this reactivation of

NOTE Confidence: 0.85525796

00:40:05.739 --> 00:40:08.760 viruses but in in in your lab you are

NOTE Confidence: 0.85525796

00:40:08.760 --> 00:40:10.400 you're you're following the stream,

NOTE Confidence: 0.85525796

00:40:10.400 --> 00:40:12.236 right as a as a way to sort of

NOTE Confidence: 0.85525796

00:40:12.236 --> 00:40:13.000 figure this out.

NOTE Confidence: 0.90354857

00:40:14.000 --> 00:40:17.160 Yeah definitely. So we are.

NOTE Confidence: 0.90354857

00:40:17.160 --> 00:40:19.696 Testing experimentally whether source

NOTE Confidence: 0.90354857

00:40:19.696 --> 00:40:22.866 COVID 2 infection can reactivate

NOTE Confidence: 0.90354857

00:40:22.866 --> 00:40:25.784 EBV in latently infected B cells,

NOTE Confidence: 0.90354857

00:40:25.784 --> 00:40:28.468 for example in the tissue culture.

NOTE Confidence: 0.90354857

00:40:28.468 --> 00:40:31.733 So we can do this just in vitro

NOTE Confidence: 0.90354857

00:40:31.733 --> 00:40:34.079 experiment to see whether there's any,

NOTE Confidence: 0.90354857

00:40:34.080 --> 00:40:36.320 you know interaction between

NOTE Confidence: 0.90354857

00:40:36.320 --> 00:40:39.252 the viruses and that would be  
NOTE Confidence: 0.90354857

00:40:39.252 --> 00:40:41.517 a direct path to reactivation.  
NOTE Confidence: 0.90354857

00:40:41.520 --> 00:40:44.117 But a indirect path would be that  
NOTE Confidence: 0.90354857

00:40:44.120 --> 00:40:46.850 the source COV two infection led to  
NOTE Confidence: 0.90354857

00:40:46.850 --> 00:40:50.165 impairment in T cells or B cell immune  
NOTE Confidence: 0.90354857

00:40:50.165 --> 00:40:52.779 control of these latent viruses and  
NOTE Confidence: 0.90354857

00:40:52.779 --> 00:40:55.599 that would be sufficient to reactivate.  
NOTE Confidence: 0.90354857

00:40:55.600 --> 00:40:56.560 So that that's sort of the,  
NOTE Confidence: 0.90354857

00:40:56.560 --> 00:40:59.608 the cause for reactivation but also  
NOTE Confidence: 0.90354857

00:40:59.608 --> 00:41:02.142 the consequence of reactivation whether  
NOTE Confidence: 0.90354857

00:41:02.142 --> 00:41:07.106 EBV treatment of against EBV reacted  
NOTE Confidence: 0.90354857

00:41:07.106 --> 00:41:09.636 EBB or monoclonal antibodies or  
NOTE Confidence: 0.90354857

00:41:09.636 --> 00:41:12.707 there's some other form of treatment  
NOTE Confidence: 0.90354857

00:41:12.707 --> 00:41:15.599 to deal with the reactivated virus.  
NOTE Confidence: 0.90354857

00:41:15.600 --> 00:41:18.240 Would that be helpful to people?  
NOTE Confidence: 0.90354857

00:41:18.240 --> 00:41:20.015 And these things would obviously

NOTE Confidence: 0.90354857

00:41:20.015 --> 00:41:21.435 require some you know,

NOTE Confidence: 0.90354857

00:41:21.440 --> 00:41:24.328 form of clinical trials to be able to

NOTE Confidence: 0.90354857

00:41:24.328 --> 00:41:27.036 to understand the benefit of these drugs.

NOTE Confidence: 0.90354857

00:41:27.040 --> 00:41:27.904 But yeah,

NOTE Confidence: 0.90354857

00:41:27.904 --> 00:41:30.680 so we are still investigating like you know,

NOTE Confidence: 0.90354857

00:41:30.680 --> 00:41:32.312 what causes it and what is

NOTE Confidence: 0.90354857

00:41:32.312 --> 00:41:33.400 the consequence of it.

NOTE Confidence: 0.869628759

00:41:34.920 --> 00:41:37.080 Somebody was asking how can

NOTE Confidence: 0.869628759

00:41:37.080 --> 00:41:39.240 you tell that it's reactivated?

NOTE Confidence: 0.957468008

00:41:40.680 --> 00:41:43.520 There are two separate evidence.

NOTE Confidence: 0.957468008

00:41:43.520 --> 00:41:46.464 So one is the Cell paper that was

NOTE Confidence: 0.957468008

00:41:46.464 --> 00:41:49.440 published by Jim Heath's group last year

NOTE Confidence: 0.957468008

00:41:49.440 --> 00:41:52.520 where he was able to detect viremia,

NOTE Confidence: 0.957468008

00:41:52.520 --> 00:41:54.728 which means the EBV viral DNA

NOTE Confidence: 0.957468008

00:41:54.728 --> 00:41:57.450 was found in the blood of people

NOTE Confidence: 0.957468008

00:41:57.450 --> 00:41:59.760 during the acute phase of COVID.  
NOTE Confidence: 0.957468008

00:41:59.760 --> 00:42:03.000 And when they follow these people over time,  
NOTE Confidence: 0.957468008

00:42:03.000 --> 00:42:06.988 the ones that who had viremic EBV were  
NOTE Confidence: 0.957468008

00:42:06.988 --> 00:42:09.500 the ones that were more likely to develop  
NOTE Confidence: 0.957468008

00:42:09.562 --> 00:42:11.758 long COVID versus those who didn't.  
NOTE Confidence: 0.957468008

00:42:11.760 --> 00:42:13.800 So this was a longitudinal  
NOTE Confidence: 0.957468008

00:42:13.800 --> 00:42:15.432 study that Jim Heath,  
NOTE Confidence: 0.957468008

00:42:15.440 --> 00:42:18.107 this group has done and there are  
NOTE Confidence: 0.957468008

00:42:18.107 --> 00:42:20.598 Mike Peluso as well as our lab.  
NOTE Confidence: 0.957468008

00:42:20.600 --> 00:42:23.300 We found that elevated antibodies  
NOTE Confidence: 0.957468008

00:42:23.300 --> 00:42:26.388 against lytic protein of EBV which  
NOTE Confidence: 0.957468008

00:42:26.388 --> 00:42:28.716 is normally hidden in latent cells.  
NOTE Confidence: 0.957468008

00:42:28.720 --> 00:42:30.815 They don't express these proteins  
NOTE Confidence: 0.957468008

00:42:30.815 --> 00:42:33.735 during latency and the fact that you  
NOTE Confidence: 0.957468008

00:42:33.735 --> 00:42:35.997 have elevated IgG against these things  
NOTE Confidence: 0.957468008

00:42:35.997 --> 00:42:39.016 are quite indicative of recent

NOTE Confidence: 0.957468008

00:42:39.016 --> 00:42:41.836 reactivation with with the virus.

NOTE Confidence: 0.957468008

00:42:41.840 --> 00:42:44.896 So we're not saying that people who have

NOTE Confidence: 0.957468008

00:42:44.896 --> 00:42:46.978 these antibodies have live infectious

NOTE Confidence: 0.957468008

00:42:46.978 --> 00:42:49.480 CBB floating around in their blood.

NOTE Confidence: 0.957468008

00:42:49.480 --> 00:42:51.796 We actually can't find, you know,

NOTE Confidence: 0.957468008

00:42:51.800 --> 00:42:54.008 viremia in these people.

NOTE Confidence: 0.957468008

00:42:54.008 --> 00:42:54.560 However,

NOTE Confidence: 0.957468008

00:42:54.560 --> 00:42:57.980 we do see evidence for recent reactivation.

NOTE Confidence: 0.957468008

00:42:57.980 --> 00:43:00.290 So this may have happened during

NOTE Confidence: 0.957468008

00:43:00.349 --> 00:43:02.589 the acute phase of COVID or it may

NOTE Confidence: 0.957468008

00:43:02.589 --> 00:43:04.200 have happened a few months ago.

NOTE Confidence: 0.957468008

00:43:04.200 --> 00:43:05.055 We don't know,

NOTE Confidence: 0.957468008

00:43:05.055 --> 00:43:06.765 we we we don't have the

NOTE Confidence: 0.957468008

00:43:06.765 --> 00:43:07.719 longitudinal samples to,

NOTE Confidence: 0.957468008

00:43:07.720 --> 00:43:10.222 to tell what happened in the

NOTE Confidence: 0.957468008

00:43:10.222 --> 00:43:11.473 intervening time period.  
NOTE Confidence: 0.957468008

00:43:11.480 --> 00:43:13.440 But yeah, so that's the evidence we have.  
NOTE Confidence: 0.8343078

00:43:14.800 --> 00:43:15.559 Well, that's great.  
NOTE Confidence: 0.857905682

00:43:17.600 --> 00:43:20.440 Somebody's asking about auto antibody  
NOTE Confidence: 0.857905682

00:43:20.440 --> 00:43:23.970 testing that doctors can do and it it  
NOTE Confidence: 0.857905682

00:43:23.970 --> 00:43:25.580 may be just an opportunity to reflect  
NOTE Confidence: 0.857905682

00:43:25.628 --> 00:43:27.500 on this paper that's going to come out  
NOTE Confidence: 0.857905682

00:43:27.500 --> 00:43:29.196 in nature where there was a panel,  
NOTE Confidence: 0.857905682

00:43:29.200 --> 00:43:30.915 what is it more than 2000 auto  
NOTE Confidence: 0.857905682

00:43:30.915 --> 00:43:32.040 antibodies that were tested.  
NOTE Confidence: 0.857905682

00:43:32.040 --> 00:43:34.047 And and I don't know if you want us  
NOTE Confidence: 0.857905682

00:43:34.047 --> 00:43:36.160 to say something about that Akiko,  
NOTE Confidence: 0.857905682

00:43:36.160 --> 00:43:38.498 I mean sort of that we weren't  
NOTE Confidence: 0.857905682

00:43:38.498 --> 00:43:40.359 able to identify much there,  
NOTE Confidence: 0.851302410714286

00:43:40.960 --> 00:43:43.788 right, exactly. So this is the REAP  
NOTE Confidence: 0.851302410714286

00:43:43.788 --> 00:43:46.847 strategy that was developed by Professor

NOTE Confidence: 0.851302410714286  
00:43:46.847 --> 00:43:50.520 Ringslab and what it contain actually  
NOTE Confidence: 0.851302410714286  
00:43:50.520 --> 00:43:54.090 over 6000 antigens from human. Yeah.  
NOTE Confidence: 0.851302410714286  
00:43:54.090 --> 00:43:57.912 And of course there are you know several  
NOTE Confidence: 0.851302410714286  
00:43:57.912 --> 00:44:00.656 auto antibodies that are found in people  
NOTE Confidence: 0.851302410714286  
00:44:00.656 --> 00:44:03.088 with long COVID and people without  
NOTE Confidence: 0.851302410714286  
00:44:03.088 --> 00:44:05.272 long COVID and the healthy control.  
NOTE Confidence: 0.851302410714286  
00:44:05.272 --> 00:44:08.670 So and in fact all of us carry some  
NOTE Confidence: 0.851302410714286  
00:44:08.670 --> 00:44:10.715 form of auto antibodies against  
NOTE Confidence: 0.851302410714286  
00:44:10.715 --> 00:44:13.884 you know several auto antigens but  
NOTE Confidence: 0.851302410714286  
00:44:13.884 --> 00:44:16.156 they're not pathologic antibodies.  
NOTE Confidence: 0.851302410714286  
00:44:16.160 --> 00:44:19.076 And so but even though we didn't find it  
NOTE Confidence: 0.851302410714286  
00:44:19.076 --> 00:44:21.356 in that panel like I said you know we,  
NOTE Confidence: 0.851302410714286  
00:44:21.360 --> 00:44:24.300 we we haven't excluded the possibility that  
NOTE Confidence: 0.851302410714286  
00:44:24.300 --> 00:44:26.648 auto antibody against internal antigens,  
NOTE Confidence: 0.851302410714286  
00:44:26.648 --> 00:44:28.824 intracellular antigens or some  
NOTE Confidence: 0.851302410714286

00:44:28.824 --> 00:44:31.470 nucleic acids or something else  
NOTE Confidence: 0.851302410714286

00:44:31.470 --> 00:44:33.440 may be causing the symptoms.  
NOTE Confidence: 0.851302410714286

00:44:33.440 --> 00:44:37.024 So even though you know that REAP didn't  
NOTE Confidence: 0.851302410714286

00:44:37.024 --> 00:44:40.040 find clear pattern of auto antibody,  
NOTE Confidence: 0.851302410714286

00:44:40.040 --> 00:44:41.995 we we certainly haven't given  
NOTE Confidence: 0.851302410714286

00:44:41.995 --> 00:44:43.559 up on that hypothesis  
NOTE Confidence: 0.85233761

00:44:44.600 --> 00:44:47.200 and somebody was raising an  
NOTE Confidence: 0.85233761

00:44:47.200 --> 00:44:50.168 issue to us asking about you know  
NOTE Confidence: 0.85233761

00:44:50.168 --> 00:44:52.280 that study was about long COVID.  
NOTE Confidence: 0.85233761

00:44:52.280 --> 00:44:54.104 We also are going to be doing the  
NOTE Confidence: 0.85233761

00:44:54.104 --> 00:44:56.484 same kind of analysis for those who  
NOTE Confidence: 0.85233761

00:44:56.484 --> 00:44:58.196 are experiencing vaccine injury.  
NOTE Confidence: 0.85233761

00:44:58.200 --> 00:45:00.616 I will say one thing about this issue  
NOTE Confidence: 0.85233761

00:45:00.616 --> 00:45:02.800 of vaccine injury because somebody,  
NOTE Confidence: 0.85233761

00:45:02.800 --> 00:45:05.158 I think you know who had come into the  
NOTE Confidence: 0.85233761

00:45:05.158 --> 00:45:07.517 study with long COVID was wondering why?

NOTE Confidence: 0.85233761

00:45:07.520 --> 00:45:09.476 Why are you studying people with

NOTE Confidence: 0.85233761

00:45:09.476 --> 00:45:11.478 vaccine injury and want to say that

NOTE Confidence: 0.85233761

00:45:11.480 --> 00:45:13.112 it's clear to us that there are lots

NOTE Confidence: 0.85233761

00:45:13.112 --> 00:45:14.592 of people who are suffering and and

NOTE Confidence: 0.85233761

00:45:14.592 --> 00:45:16.516 there were a lot was a lot of overlap

NOTE Confidence: 0.85233761

00:45:16.516 --> 00:45:18.093 in terms of a chronic condition that

NOTE Confidence: 0.85233761

00:45:18.093 --> 00:45:19.558 had really unraveled people's lives.

NOTE Confidence: 0.85233761

00:45:19.560 --> 00:45:20.196 And it.

NOTE Confidence: 0.85233761

00:45:20.196 --> 00:45:22.422 It's important to know that these people

NOTE Confidence: 0.85233761

00:45:22.422 --> 00:45:25.079 who are reporting this about the vaccine.

NOTE Confidence: 0.85233761

00:45:25.080 --> 00:45:28.476 You know that most of every one of them

NOTE Confidence: 0.85233761

00:45:28.476 --> 00:45:29.946 that I've talked to like doesn't want to

NOTE Confidence: 0.85233761

00:45:29.946 --> 00:45:31.199 get involved in the politics of this.

NOTE Confidence: 0.85233761

00:45:31.200 --> 00:45:32.616 They're not anti Vaxxers.

NOTE Confidence: 0.85233761

00:45:32.616 --> 00:45:33.678 They got vaccinated.

NOTE Confidence: 0.85233761

00:45:33.680 --> 00:45:34.608 They they,  
NOTE Confidence: 0.85233761

00:45:34.608 --> 00:45:37.392 they are people who have found  
NOTE Confidence: 0.85233761

00:45:37.392 --> 00:45:39.759 themselves in a position where  
NOTE Confidence: 0.85233761

00:45:39.760 --> 00:45:41.175 it's it's inconvenient for anyone  
NOTE Confidence: 0.85233761

00:45:41.175 --> 00:45:42.904 to even talk about them because  
NOTE Confidence: 0.85233761

00:45:42.904 --> 00:45:44.440 of what the way the politics  
NOTE Confidence: 0.607467813333333

00:45:46.520 --> 00:45:50.576 occurred. And a lot if people with  
NOTE Confidence: 0.607467813333333

00:45:50.576 --> 00:45:52.040 long COVID have found themselves in  
NOTE Confidence: 0.607467813333333

00:45:52.095 --> 00:45:53.997 positions where people don't believe them,  
NOTE Confidence: 0.607467813333333

00:45:54.000 --> 00:45:56.100 I can take it's even more intense  
NOTE Confidence: 0.607467813333333

00:45:56.100 --> 00:45:57.692 for these individuals who are  
NOTE Confidence: 0.607467813333333

00:45:57.692 --> 00:45:59.076 reporting symptoms after vaccination.  
NOTE Confidence: 0.607467813333333

00:45:59.080 --> 00:46:01.760 And so, you know, I think when Akiko and I,  
NOTE Confidence: 0.607467813333333

00:46:01.760 --> 00:46:03.188 you know, became aware of this  
NOTE Confidence: 0.607467813333333

00:46:03.188 --> 00:46:04.400 and started talking about this,  
NOTE Confidence: 0.607467813333333

00:46:04.400 --> 00:46:06.506 we recognized that there was some

NOTE Confidence: 0.607467813333333  
00:46:06.506 --> 00:46:08.497 risk because of the political  
NOTE Confidence: 0.607467813333333  
00:46:08.497 --> 00:46:10.634 maelstrom about this. But we're,  
NOTE Confidence: 0.607467813333333  
00:46:10.634 --> 00:46:12.713 we wanted to approach us scientifically and  
NOTE Confidence: 0.607467813333333  
00:46:12.713 --> 00:46:14.998 we wanted to approach us humanistically.  
NOTE Confidence: 0.607467813333333  
00:46:15.000 --> 00:46:16.872 I mean people are suffering and  
NOTE Confidence: 0.607467813333333  
00:46:16.872 --> 00:46:18.120 we've developed a platform,  
NOTE Confidence: 0.607467813333333  
00:46:18.120 --> 00:46:20.608 we've developed a way to work together with  
NOTE Confidence: 0.607467813333333  
00:46:20.608 --> 00:46:23.755 folks and we thought that we should be,  
NOTE Confidence: 0.607467813333333  
00:46:23.760 --> 00:46:25.146 you know, we should be willing  
NOTE Confidence: 0.607467813333333  
00:46:25.146 --> 00:46:26.480 and interested and we weren't.  
NOTE Confidence: 0.607467813333333  
00:46:26.480 --> 00:46:27.776 We are, you know,  
NOTE Confidence: 0.607467813333333  
00:46:27.776 --> 00:46:30.132 in trying to find answers there too.  
NOTE Confidence: 0.607467813333333  
00:46:30.132 --> 00:46:33.060 So what what really I think in the  
NOTE Confidence: 0.607467813333333  
00:46:33.149 --> 00:46:34.964 end was there will be different  
NOTE Confidence: 0.607467813333333  
00:46:34.964 --> 00:46:36.830 mechanisms no doubt when we're talking  
NOTE Confidence: 0.607467813333333

00:46:36.888 --> 00:46:38.293 about viral persistence that's not  
NOTE Confidence: 0.607467813333333

00:46:38.293 --> 00:46:40.523 going to be the thing that is we'll  
NOTE Confidence: 0.607467813333333

00:46:40.523 --> 00:46:42.059 we'll find that occurs for people  
NOTE Confidence: 0.607467813333333

00:46:42.059 --> 00:46:43.884 who had problems after vaccination.  
NOTE Confidence: 0.607467813333333

00:46:43.884 --> 00:46:46.436 And I want to say I believe,  
NOTE Confidence: 0.607467813333333

00:46:46.436 --> 00:46:48.224 I know Kiko believes you know  
NOTE Confidence: 0.607467813333333

00:46:48.224 --> 00:46:50.079 vaccinations are modern medical miracle.  
NOTE Confidence: 0.607467813333333

00:46:50.080 --> 00:46:51.886 Millions of lives were saved because of  
NOTE Confidence: 0.607467813333333

00:46:51.886 --> 00:46:53.959 the speed with which vaccines burned out.  
NOTE Confidence: 0.607467813333333

00:46:53.960 --> 00:46:56.694 But it can be true and true that  
NOTE Confidence: 0.607467813333333

00:46:56.694 --> 00:46:58.192 there still were some people who were  
NOTE Confidence: 0.607467813333333

00:46:58.192 --> 00:46:59.692 harmed by the vaccine. You could.  
NOTE Confidence: 0.607467813333333

00:46:59.692 --> 00:47:01.554 Both of those things can be true.  
NOTE Confidence: 0.607467813333333

00:47:01.560 --> 00:47:04.598 The net value of it was immeasurable.  
NOTE Confidence: 0.607467813333333

00:47:04.600 --> 00:47:06.382 And yet and yet there's still  
NOTE Confidence: 0.607467813333333

00:47:06.382 --> 00:47:07.273 some people harmed.

NOTE Confidence: 0.607467813333333  
00:47:07.280 --> 00:47:09.317 If you look at vaccines over the history,  
NOTE Confidence: 0.607467813333333  
00:47:09.317 --> 00:47:10.902 it's almost always true that  
NOTE Confidence: 0.607467813333333  
00:47:10.902 --> 00:47:12.568 there's some things that happen  
NOTE Confidence: 0.607467813333333  
00:47:12.568 --> 00:47:13.956 when people are vaccinated,  
NOTE Confidence: 0.607467813333333  
00:47:13.960 --> 00:47:16.956 in this case rare relative to benefit,  
NOTE Confidence: 0.607467813333333  
00:47:16.960 --> 00:47:19.798 but important to anyone who's affected.  
NOTE Confidence: 0.607467813333333  
00:47:19.800 --> 00:47:21.888 And I think our job is to understand how  
NOTE Confidence: 0.607467813333333  
00:47:21.888 --> 00:47:24.071 can we prevent in the future what is this  
NOTE Confidence: 0.607467813333333  
00:47:24.071 --> 00:47:26.239 and how do we help alleviate suffering.  
NOTE Confidence: 0.607467813333333  
00:47:26.240 --> 00:47:28.816 And again we're trying to to to take  
NOTE Confidence: 0.607467813333333  
00:47:28.816 --> 00:47:31.600 this in in a in a broad based way.  
NOTE Confidence: 0.607467813333333  
00:47:31.600 --> 00:47:34.936 So you know long COVID an injury there  
NOTE Confidence: 0.607467813333333  
00:47:34.936 --> 00:47:38.184 they may unlock some of the mechanisms  
NOTE Confidence: 0.607467813333333  
00:47:38.184 --> 00:47:41.380 that by which the immune system is is  
NOTE Confidence: 0.607467813333333  
00:47:41.380 --> 00:47:43.390 ends up conspiring against the best  
NOTE Confidence: 0.607467813333333

00:47:43.459 --> 00:47:45.835 interest of the host and of the person.  
NOTE Confidence: 0.607467813333333

00:47:45.840 --> 00:47:48.568 And so you know we're hoping that this  
NOTE Confidence: 0.607467813333333

00:47:48.568 --> 00:47:50.643 all helps unlock this interestingly  
NOTE Confidence: 0.607467813333333

00:47:50.643 --> 00:47:53.283 when we measure the health status  
NOTE Confidence: 0.607467813333333

00:47:53.283 --> 00:47:55.595 in in listen of people with who are  
NOTE Confidence: 0.607467813333333

00:47:55.595 --> 00:47:57.024 reporting vaccine injury and if people  
NOTE Confidence: 0.607467813333333

00:47:57.024 --> 00:47:58.585 are reporting along COVID and by the  
NOTE Confidence: 0.607467813333333

00:47:58.585 --> 00:48:00.516 way even the long COVID group we're not  
NOTE Confidence: 0.607467813333333

00:48:00.516 --> 00:48:02.245 requiring people have had a positive test.  
NOTE Confidence: 0.607467813333333

00:48:02.245 --> 00:48:04.444 We know lots of people got this before  
NOTE Confidence: 0.607467813333333

00:48:04.444 --> 00:48:06.224 tests were available we're we're  
NOTE Confidence: 0.607467813333333

00:48:06.224 --> 00:48:07.920 we're accepting what people say.  
NOTE Confidence: 0.607467813333333

00:48:07.920 --> 00:48:10.827 And when you look at their health both  
NOTE Confidence: 0.607467813333333

00:48:10.827 --> 00:48:13.149 groups are suffering about equally that  
NOTE Confidence: 0.607467813333333

00:48:13.149 --> 00:48:16.614 that score of zero to 100 is is shows  
NOTE Confidence: 0.607467813333333

00:48:16.614 --> 00:48:18.606 severe disabilities severe illness

NOTE Confidence: 0.607467813333333  
00:48:18.606 --> 00:48:21.960 in both both groups about equally.  
NOTE Confidence: 0.607467813333333  
00:48:21.960 --> 00:48:23.816 Maybe we can use them to help us  
NOTE Confidence: 0.607467813333333  
00:48:23.816 --> 00:48:25.147 understand each each other because  
NOTE Confidence: 0.607467813333333  
00:48:25.147 --> 00:48:26.773 they can almost serve as controls  
NOTE Confidence: 0.607467813333333  
00:48:26.773 --> 00:48:28.425 for each other because like I  
NOTE Confidence: 0.607467813333333  
00:48:28.425 --> 00:48:29.755 said there's some things that  
NOTE Confidence: 0.965621938  
00:48:29.760 --> 00:48:31.600 would not have happened otherwise.  
NOTE Confidence: 0.965621938  
00:48:31.600 --> 00:48:34.328 But anyway I just wanted to to mention  
NOTE Confidence: 0.965621938  
00:48:34.328 --> 00:48:36.758 so we're we're just about a time  
NOTE Confidence: 0.965621938  
00:48:36.760 --> 00:48:38.470 let me just thank everyone we'll  
NOTE Confidence: 0.965621938  
00:48:38.470 --> 00:48:40.520 look for we'll look through and see  
NOTE Confidence: 0.965621938  
00:48:40.520 --> 00:48:42.230 if there are other questions that  
NOTE Confidence: 0.965621938  
00:48:42.230 --> 00:48:44.160 we can answer that we we missed.  
NOTE Confidence: 0.965621938  
00:48:44.160 --> 00:48:45.600 I'm going to give Akiko the last word here,  
NOTE Confidence: 0.965621938  
00:48:45.600 --> 00:48:47.462 but. But I just want to say  
NOTE Confidence: 0.965621938

00:48:47.462 --> 00:48:48.708 from the depth of my heart,  
NOTE Confidence: 0.965621938

00:48:48.708 --> 00:48:50.013 I want to thank all of you  
NOTE Confidence: 0.965621938

00:48:50.013 --> 00:48:51.195 for being part of the study,  
NOTE Confidence: 0.965621938

00:48:51.200 --> 00:48:52.720 being part of the team,  
NOTE Confidence: 0.965621938

00:48:52.720 --> 00:48:54.200 being willing to come along.  
NOTE Confidence: 0.965621938

00:48:54.200 --> 00:48:56.432 We are always interested in your  
NOTE Confidence: 0.965621938

00:48:56.432 --> 00:48:59.239 comments and not just positive comments.  
NOTE Confidence: 0.965621938

00:48:59.240 --> 00:49:00.518 Tell us what we're doing wrong.  
NOTE Confidence: 0.965621938

00:49:00.520 --> 00:49:01.759 Tell us what we can do better.  
NOTE Confidence: 0.965621938

00:49:01.760 --> 00:49:03.870 Tell us how we can we, you know,  
NOTE Confidence: 0.965621938

00:49:03.870 --> 00:49:05.760 somehow be more responsive to this,  
NOTE Confidence: 0.965621938

00:49:05.760 --> 00:49:07.600 how we can accelerate this.  
NOTE Confidence: 0.965621938

00:49:07.600 --> 00:49:09.586 And also great deep thanks to  
NOTE Confidence: 0.965621938

00:49:09.586 --> 00:49:11.630 the Listen research team at Yale  
NOTE Confidence: 0.965621938

00:49:11.630 --> 00:49:13.255 who spent countless hours trying  
NOTE Confidence: 0.965621938

00:49:13.255 --> 00:49:15.160 to move this stuff forward.

NOTE Confidence: 0.965621938

00:49:15.160 --> 00:49:15.704 And Akiko,

NOTE Confidence: 0.965621938

00:49:15.704 --> 00:49:18.560 let me hand it back to you for last comments.

NOTE Confidence: 0.7314662

00:49:18.960 --> 00:49:20.400 Yeah. Thank you, Harland. Yeah.

NOTE Confidence: 0.7314662

00:49:20.400 --> 00:49:22.318 It's it's I'm I'm really grateful to

NOTE Confidence: 0.7314662

00:49:22.318 --> 00:49:25.195 be part of this large team including

NOTE Confidence: 0.7314662

00:49:25.195 --> 00:49:28.120 so many participants here today

NOTE Confidence: 0.7314662

00:49:28.120 --> 00:49:30.196 to be able to investigate this.

NOTE Confidence: 0.7314662

00:49:30.200 --> 00:49:33.008 I think it's going to this is already

NOTE Confidence: 0.7314662

00:49:33.008 --> 00:49:34.880 revolutionizing the way we do science

NOTE Confidence: 0.7314662

00:49:34.880 --> 00:49:37.194 and and and and much thanks to Harland

NOTE Confidence: 0.7314662

00:49:37.194 --> 00:49:39.554 and his vision in in allowing this to

NOTE Confidence: 0.7314662

00:49:39.560 --> 00:49:42.146 happen and we're very much committed

NOTE Confidence: 0.7314662

00:49:42.146 --> 00:49:45.091 to figuring out what's going on with

NOTE Confidence: 0.7314662

00:49:45.091 --> 00:49:47.371 people with long COVID and people

NOTE Confidence: 0.7314662

00:49:47.371 --> 00:49:49.879 with post vaccine adverse events.

NOTE Confidence: 0.7314662

00:49:49.880 --> 00:49:52.715 And we we have collected the first  
NOTE Confidence: 0.7314662

00:49:52.715 --> 00:49:55.470 set of samples from people with  
NOTE Confidence: 0.7314662

00:49:55.470 --> 00:49:57.808 vaccine injury and we are just  
NOTE Confidence: 0.7314662

00:49:57.808 --> 00:49:59.880 waiting for the results to come back.  
NOTE Confidence: 0.7314662

00:49:59.880 --> 00:50:02.330 And so hopefully next time we can  
NOTE Confidence: 0.7314662

00:50:02.330 --> 00:50:04.945 share some of the the collected  
NOTE Confidence: 0.7314662

00:50:04.945 --> 00:50:06.757 data from that study.  
NOTE Confidence: 0.7314662

00:50:06.760 --> 00:50:07.912 But we're very,  
NOTE Confidence: 0.7314662

00:50:07.912 --> 00:50:10.995 very much dedicated to doing this and and  
NOTE Confidence: 0.7314662

00:50:10.995 --> 00:50:14.155 we apologize for the slowness of the studies,  
NOTE Confidence: 0.7314662

00:50:14.160 --> 00:50:15.620 even though we're doing  
NOTE Confidence: 0.7314662

00:50:15.620 --> 00:50:17.080 everything at lightning speed,  
NOTE Confidence: 0.7314662

00:50:17.080 --> 00:50:19.760 things take a long time even even with  
NOTE Confidence: 0.7314662

00:50:19.760 --> 00:50:22.439 just the regulatory paperwork alone.  
NOTE Confidence: 0.7314662

00:50:22.440 --> 00:50:23.394 So it's really,  
NOTE Confidence: 0.7314662

00:50:23.394 --> 00:50:24.984 it's not an immediate answer

NOTE Confidence: 0.7314662

00:50:24.984 --> 00:50:26.479 that we can give you,

NOTE Confidence: 0.7314662

00:50:26.480 --> 00:50:28.769 but just know that we are really

NOTE Confidence: 0.7314662

00:50:28.769 --> 00:50:30.959 working hard and we thank you all.

NOTE Confidence: 0.839156165

00:50:33.720 --> 00:50:34.120 Thank you.