

WEBVTT

NOTE duration:"00:16:14.1650000"

NOTE language:en-us

NOTE Confidence: 0.7929235

00:00:00.000 --> 00:00:01.690 So thanks for having me.

NOTE Confidence: 0.7929235

00:00:01.690 --> 00:00:04.993 I want to spend my time really just

NOTE Confidence: 0.7929235

00:00:04.993 --> 00:00:07.037 showing my personal experience

NOTE Confidence: 0.7929235

00:00:07.037 --> 00:00:09.749 with the COVID-19 vaccine trial,

NOTE Confidence: 0.7929235

00:00:09.750 --> 00:00:12.582 and I think it's just a great segue

NOTE Confidence: 0.7929235

00:00:12.582 --> 00:00:14.753 from my doctor NGS presentation

NOTE Confidence: 0.7929235

00:00:14.753 --> 00:00:17.853 and I really I, I, you know,

NOTE Confidence: 0.7929235

00:00:17.853 --> 00:00:19.958 I definitely understand the constraints

NOTE Confidence: 0.7929235

00:00:19.958 --> 00:00:21.809 and challenges that she faced.

NOTE Confidence: 0.7929235

00:00:21.810 --> 00:00:24.498 I also give a global view and tell

NOTE Confidence: 0.7929235

00:00:24.498 --> 00:00:27.439 you what are some answered questions,

NOTE Confidence: 0.7929235

00:00:27.440 --> 00:00:29.294 unanswered questions that

NOTE Confidence: 0.7929235

00:00:29.294 --> 00:00:31.766 we proceeded with files.

NOTE Confidence: 0.7929235

00:00:31.770 --> 00:00:33.445 So I'm bound by multiple

NOTE Confidence: 0.7929235

00:00:33.445 --> 00:00:34.115 confidentiality agreement.

NOTE Confidence: 0.7929235

00:00:34.120 --> 00:00:36.059 I must say with at least three

NOTE Confidence: 0.7929235

00:00:36.059 --> 00:00:37.820 of the vaccine manufacturers,

NOTE Confidence: 0.7929235

00:00:37.820 --> 00:00:40.180 but then of course having been does the

NOTE Confidence: 0.7929235

00:00:40.180 --> 00:00:42.696 PIL for the Pfizer vaccine trial and

NOTE Confidence: 0.7929235

00:00:42.696 --> 00:00:44.870 selected four through the code VPN,

NOTE Confidence: 0.7929235

00:00:44.870 --> 00:00:45.468 NIH network,

NOTE Confidence: 0.7929235

00:00:45.468 --> 00:00:47.262 or the upcoming summer free trial

NOTE Confidence: 0.7929235

00:00:47.262 --> 00:00:49.064 and also work studies through

NOTE Confidence: 0.7929235

00:00:49.064 --> 00:00:50.588 our relationships with them,

NOTE Confidence: 0.7929235

00:00:50.590 --> 00:00:52.816 I will include some data from press

NOTE Confidence: 0.7929235

00:00:52.816 --> 00:00:54.280 releases and preprint servers,

NOTE Confidence: 0.7929235

00:00:54.280 --> 00:00:54.624 unfortunately.

NOTE Confidence: 0.7929235

00:00:54.624 --> 00:00:57.376 But if you know that that's the best

NOTE Confidence: 0.7929235

00:00:57.376 --> 00:01:00.193 way to be able to give this audience

NOTE Confidence: 0.7929235

00:01:00.193 --> 00:01:02.479 the latest information around the vaccine.

NOTE Confidence: 0.7929235

00:01:02.480 --> 00:01:04.130 So this is a busy slide,

NOTE Confidence: 0.7929235

00:01:04.130 --> 00:01:06.605 but I just want to make a few points.

NOTE Confidence: 0.7929235

00:01:06.610 --> 00:01:08.842 I think that we all appreciate the fact that

NOTE Confidence: 0.7929235

00:01:08.842 --> 00:01:11.006 the phase three trials have really been.

NOTE Confidence: 0.7929235

00:01:11.010 --> 00:01:11.542 You know,

NOTE Confidence: 0.7929235

00:01:11.542 --> 00:01:13.404 that last leg of the relay race

NOTE Confidence: 0.7929235

00:01:13.404 --> 00:01:15.127 that really allow us to know,

NOTE Confidence: 0.7929235

00:01:15.130 --> 00:01:16.780 you know we had safety data

NOTE Confidence: 0.7929235

00:01:16.780 --> 00:01:17.880 from early phase trials.

NOTE Confidence: 0.7929235

00:01:17.880 --> 00:01:19.792 But when you do phase three trials you

NOTE Confidence: 0.7929235

00:01:19.792 --> 00:01:22.007 doing in 10s of thousands of participants.

NOTE Confidence: 0.7929235

00:01:22.010 --> 00:01:23.612 So you start to detect things

NOTE Confidence: 0.7929235

00:01:23.612 --> 00:01:25.005 that are probably less common

NOTE Confidence: 0.7929235

00:01:25.005 --> 00:01:26.637 in smaller free studies and also

NOTE Confidence: 0.7929235

00:01:26.637 --> 00:01:28.330 allows you to assess you know,

NOTE Confidence: 0.7929235

00:01:28.330 --> 00:01:29.735 some of the great immunogenicity

NOTE Confidence: 0.7929235

00:01:29.735 --> 00:01:31.140 results which really look great

NOTE Confidence: 0.7929235

00:01:31.186 --> 00:01:32.456 for many of these candidates.

NOTE Confidence: 0.7929235

00:01:32.460 --> 00:01:34.386 How well they would actually do.

NOTE Confidence: 0.7929235

00:01:34.390 --> 00:01:35.682 With preventing covid disease

NOTE Confidence: 0.7929235

00:01:35.682 --> 00:01:36.974 and for most people,

NOTE Confidence: 0.7929235

00:01:36.980 --> 00:01:38.276 the primary endpoint was

NOTE Confidence: 0.7929235

00:01:38.276 --> 00:01:39.248 was symptomatic disease,

NOTE Confidence: 0.7929235

00:01:39.250 --> 00:01:41.890 so you know you know you know being

NOTE Confidence: 0.7929235

00:01:41.890 --> 00:01:43.789 appearing in the trial it was.

NOTE Confidence: 0.7929235

00:01:43.790 --> 00:01:46.086 You know you had no idea what

NOTE Confidence: 0.7929235

00:01:46.086 --> 00:01:47.350 the efficacy would be,

NOTE Confidence: 0.7929235

00:01:47.350 --> 00:01:49.342 so it's kind of really heartwarming

NOTE Confidence: 0.7929235

00:01:49.342 --> 00:01:51.712 that both eyes and would turn on

NOTE Confidence: 0.7929235

00:01:51.712 --> 00:01:53.668 both M RNA platforms have reported

NOTE Confidence: 0.7929235

00:01:53.668 --> 00:01:55.561 very robust efficacy and I like
NOTE Confidence: 0.7929235

00:01:55.561 --> 00:01:57.356 to say that each study validates
NOTE Confidence: 0.7929235

00:01:57.356 --> 00:01:59.072 the other because they use the
NOTE Confidence: 0.7929235

00:01:59.072 --> 00:02:01.115 same platform and you really have
NOTE Confidence: 0.7929235

00:02:01.115 --> 00:02:02.249 almost superimposable results,
NOTE Confidence: 0.7929235

00:02:02.250 --> 00:02:04.518 which which is great and you know,
NOTE Confidence: 0.7929235

00:02:04.520 --> 00:02:05.768 based on this data.
NOTE Confidence: 0.7929235

00:02:05.768 --> 00:02:08.160 You know we all celebrated the emergency
NOTE Confidence: 0.7929235

00:02:08.160 --> 00:02:10.890 authorization that was for these studies.
NOTE Confidence: 0.7929235

00:02:10.890 --> 00:02:11.204 Again,
NOTE Confidence: 0.7929235

00:02:11.204 --> 00:02:13.088 a lot of our participants in
NOTE Confidence: 0.7929235

00:02:13.088 --> 00:02:14.576 trials interpret the emergencies
NOTE Confidence: 0.7929235

00:02:14.576 --> 00:02:16.508 authorization as full approval,
NOTE Confidence: 0.7929235

00:02:16.510 --> 00:02:18.390 and that's kind of impacted.
NOTE Confidence: 0.7929235

00:02:18.390 --> 00:02:19.362 You know,
NOTE Confidence: 0.7929235

00:02:19.362 --> 00:02:21.792 God created some difficulties around

NOTE Confidence: 0.7929235

00:02:21.792 --> 00:02:23.648 transitioning placebo patients to

NOTE Confidence: 0.7929235

00:02:23.648 --> 00:02:25.944 do to real vaccine and just really

NOTE Confidence: 0.7929235

00:02:25.944 --> 00:02:27.857 letting people know that they have

NOTE Confidence: 0.7929235

00:02:27.857 --> 00:02:30.068 to remain on study and that we're

NOTE Confidence: 0.7929235

00:02:30.068 --> 00:02:31.780 still collecting very critical

NOTE Confidence: 0.7929235

00:02:31.780 --> 00:02:33.920 information around much more longer

NOTE Confidence: 0.7929235

00:02:33.980 --> 00:02:36.115 term safety data and also long term.

NOTE Confidence: 0.7929235

00:02:36.120 --> 00:02:38.346 Have to see for the Pfizer study.

NOTE Confidence: 0.7929235

00:02:38.350 --> 00:02:40.590 We've since expanded it both age wise,

NOTE Confidence: 0.7929235

00:02:40.590 --> 00:02:43.780 down to we initially had done age 18 that 16.

NOTE Confidence: 0.7929235

00:02:43.780 --> 00:02:45.928 We just concluded last week and

NOTE Confidence: 0.7929235

00:02:45.928 --> 00:02:47.681 rolling even younger individuals aged

NOTE Confidence: 0.7929235

00:02:47.681 --> 00:02:49.785 12 to 15 and we had also included

NOTE Confidence: 0.7929235

00:02:49.785 --> 00:02:51.400 patients with well controlled HIV

NOTE Confidence: 0.7929235

00:02:51.400 --> 00:02:53.344 who wants to buy interval therapy

NOTE Confidence: 0.826

00:02:53.350 --> 00:02:55.576 and people who had other viral hepatitis.

NOTE Confidence: 0.826

00:02:55.580 --> 00:02:57.568 I will say that there are upcoming

NOTE Confidence: 0.826

00:02:57.568 --> 00:02:58.845 studies looking at pregnant

NOTE Confidence: 0.826

00:02:58.845 --> 00:03:00.675 women and even younger children,

NOTE Confidence: 0.826

00:03:00.680 --> 00:03:04.016 and I know I will be you in Group will be

NOTE Confidence: 0.826

00:03:04.016 --> 00:03:06.984 selected to or has been selected to work.

NOTE Confidence: 0.826

00:03:06.990 --> 00:03:08.915 With the Pfizer study on pregnant women

NOTE Confidence: 0.826

00:03:08.915 --> 00:03:11.024 that we are going to be generating

NOTE Confidence: 0.826

00:03:11.024 --> 00:03:12.866 data on some populations that were

NOTE Confidence: 0.826

00:03:12.925 --> 00:03:14.755 left out of initial phase studies,

NOTE Confidence: 0.826

00:03:14.760 --> 00:03:16.482 I also know modernize also going

NOTE Confidence: 0.826

00:03:16.482 --> 00:03:18.947 to go down to 12 with their study.

NOTE Confidence: 0.826

00:03:18.950 --> 00:03:21.254 Now we know that the Johnson and Johnson

NOTE Confidence: 0.826

00:03:21.254 --> 00:03:23.138 Vaccine is a single dose vaccine,

NOTE Confidence: 0.826

00:03:23.140 --> 00:03:24.928 and given that the other candidates

NOTE Confidence: 0.826

00:03:24.928 --> 00:03:27.018 are to those vaccines and we're still,

NOTE Confidence: 0.826
00:03:27.020 --> 00:03:28.510 you know, they released Phase
NOTE Confidence: 0.826
00:03:28.510 --> 00:03:29.702 1 two immunogenicity data,
NOTE Confidence: 0.826
00:03:29.710 --> 00:03:32.110 which I think many of us have seen.
NOTE Confidence: 0.826
00:03:32.110 --> 00:03:34.014 But I have heard that they are
NOTE Confidence: 0.826
00:03:34.014 --> 00:03:36.289 planning a two dose phase three trial,
NOTE Confidence: 0.826
00:03:36.290 --> 00:03:37.718 so that makes me.
NOTE Confidence: 0.826
00:03:37.718 --> 00:03:40.239 Wonder if there's any preliminary data on
NOTE Confidence: 0.826
00:03:40.239 --> 00:03:42.993 you know how well the single dose vaccine is.
NOTE Confidence: 0.826
00:03:43.000 --> 00:03:45.672 Again, you know the bar has been set
NOTE Confidence: 0.826
00:03:45.672 --> 00:03:48.087 really high with the M RNA vaccines,
NOTE Confidence: 0.826
00:03:48.090 --> 00:03:50.898 and so it will be interesting to see you
NOTE Confidence: 0.826
00:03:50.898 --> 00:03:53.844 know how much lower the efficacy would be.
NOTE Confidence: 0.826
00:03:53.850 --> 00:03:56.111 Well, AstraZeneca we all know the very
NOTE Confidence: 0.826
00:03:56.111 --> 00:03:58.260 confusing data that was released around.
NOTE Confidence: 0.826
00:03:58.260 --> 00:04:00.682 You know people who got two for
NOTE Confidence: 0.826

00:04:00.682 --> 00:04:02.328 those vaccines having 62% protection
NOTE Confidence: 0.826

00:04:02.328 --> 00:04:04.364 against covid as against 90% for
NOTE Confidence: 0.826

00:04:04.364 --> 00:04:07.116 those who got to happen four and at
NOTE Confidence: 0.826

00:04:07.116 --> 00:04:09.829 least one of the missteps there was.
NOTE Confidence: 0.826

00:04:09.830 --> 00:04:11.828 You know later found to be.
NOTE Confidence: 0.826

00:04:11.830 --> 00:04:14.486 You know some dosing errors that were done,
NOTE Confidence: 0.826

00:04:14.490 --> 00:04:15.444 the clinical trial.
NOTE Confidence: 0.826

00:04:15.444 --> 00:04:18.411 And so I hear that Astra Zeneca is going
NOTE Confidence: 0.826

00:04:18.411 --> 00:04:20.433 to be collaborating with the Russian
NOTE Confidence: 0.826

00:04:20.433 --> 00:04:22.821 Group to look for boosting effect of
NOTE Confidence: 0.826

00:04:22.821 --> 00:04:25.140 that vaccine to the Astra Zeneca vaccine.
NOTE Confidence: 0.826

00:04:25.140 --> 00:04:27.120 So to be interesting to see
NOTE Confidence: 0.826

00:04:27.120 --> 00:04:28.479 how that plays out.
NOTE Confidence: 0.826

00:04:28.480 --> 00:04:30.478 And then they're also the protein
NOTE Confidence: 0.826

00:04:30.478 --> 00:04:32.190 based vaccines novaks just started
NOTE Confidence: 0.826

00:04:32.190 --> 00:04:33.805 to enroll in December 31st.

NOTE Confidence: 0.826
00:04:33.810 --> 00:04:36.000 Frankly and Sanofi had some issues
NOTE Confidence: 0.826
00:04:36.000 --> 00:04:37.833 with their early phase results
NOTE Confidence: 0.826
00:04:37.833 --> 00:04:40.225 that were going to lead to a fist.
NOTE Confidence: 0.826
00:04:40.230 --> 00:04:42.659 Those that we're supposed to participate in,
NOTE Confidence: 0.826
00:04:42.660 --> 00:04:43.021 however,
NOTE Confidence: 0.826
00:04:43.021 --> 00:04:44.826 it looks like for individuals
NOTE Confidence: 0.826
00:04:44.826 --> 00:04:46.820 who were each greater than 50,
NOTE Confidence: 0.826
00:04:46.820 --> 00:04:49.684 that there may have been some as suboptimal
NOTE Confidence: 0.826
00:04:49.684 --> 00:04:51.328 immunogenicity results in that setting.
NOTE Confidence: 0.826
00:04:51.330 --> 00:04:53.538 So you know they've been a couple of
NOTE Confidence: 0.826
00:04:53.538 --> 00:04:55.435 missteps with the vaccine clinical
NOTE Confidence: 0.826
00:04:55.435 --> 00:04:57.575 trials they've been manufacturing issues.
NOTE Confidence: 0.826
00:04:57.580 --> 00:04:58.968 They've been dosing issues,
NOTE Confidence: 0.826
00:04:58.968 --> 00:05:01.050 but you know you have emerged,
NOTE Confidence: 0.826
00:05:01.050 --> 00:05:03.522 and in some ways it's kind of set
NOTE Confidence: 0.826

00:05:03.522 --> 00:05:05.680 back timelines for week four vaccine
NOTE Confidence: 0.826

00:05:05.680 --> 00:05:08.319 availability and just the amount of vaccines
NOTE Confidence: 0.826

00:05:08.319 --> 00:05:10.860 available to roll out to the public.
NOTE Confidence: 0.826

00:05:10.860 --> 00:05:12.430 As we get the anticipate,
NOTE Confidence: 0.826

00:05:12.430 --> 00:05:13.020 you know,
NOTE Confidence: 0.826

00:05:13.020 --> 00:05:15.380 no one of the vaccines that have received
NOTE Confidence: 0.826

00:05:15.446 --> 00:05:17.390 FDA emergency use authorization will be
NOTE Confidence: 0.826

00:05:17.390 --> 00:05:19.968 able to meet the US need anytime soon,
NOTE Confidence: 0.826

00:05:19.970 --> 00:05:22.346 and so we're hopeful that some of these
NOTE Confidence: 0.826

00:05:22.346 --> 00:05:24.678 other vaccine candidates will be fine again,
NOTE Confidence: 0.826

00:05:24.680 --> 00:05:26.250 there's lots of data caps,
NOTE Confidence: 0.826

00:05:26.250 --> 00:05:26.836 you know,
NOTE Confidence: 0.826

00:05:26.836 --> 00:05:28.594 and hopefully some of these data
NOTE Confidence: 0.826

00:05:28.594 --> 00:05:30.569 caps will start to be addressed
NOTE Confidence: 0.826

00:05:30.569 --> 00:05:31.893 there in the independent.
NOTE Confidence: 0.826

00:05:31.900 --> 00:05:33.176 In the investigator initiated

NOTE Confidence: 0.826
00:05:33.176 --> 00:05:35.090 studies that are trying to pick
NOTE Confidence: 0.826
00:05:35.145 --> 00:05:37.119 off some of the specialty immuno
NOTE Confidence: 0.826
00:05:37.119 --> 00:05:38.435 compromised groups that people
NOTE Confidence: 0.8139228
00:05:38.494 --> 00:05:39.904 are discussing and and hopefully
NOTE Confidence: 0.8139228
00:05:39.904 --> 00:05:42.056 will start to get way more robust.
NOTE Confidence: 0.8139228
00:05:42.056 --> 00:05:44.138 Data on the vaccines, but again,
NOTE Confidence: 0.8139228
00:05:44.138 --> 00:05:45.962 it's heartwarming to see that the
NOTE Confidence: 0.8139228
00:05:45.962 --> 00:05:48.853 FDA in their unit did not did mention
NOTE Confidence: 0.8139228
00:05:48.853 --> 00:05:50.944 that immune suppressed patients could
NOTE Confidence: 0.8139228
00:05:50.944 --> 00:05:52.600 have diminished responsiveness,
NOTE Confidence: 0.8139228
00:05:52.600 --> 00:05:55.246 but there was no specific ideas around,
NOTE Confidence: 0.8139228
00:05:55.250 --> 00:05:57.738 excluding individuals who are
NOTE Confidence: 0.8139228
00:05:57.738 --> 00:05:59.604 severely immune compromised.
NOTE Confidence: 0.8139228
00:05:59.610 --> 00:06:02.234 So again, I think that we still continue
NOTE Confidence: 0.8139228
00:06:02.234 --> 00:06:04.594 to generate data our six month follow
NOTE Confidence: 0.8139228

00:06:04.594 --> 00:06:06.899 up visits for our patients in the
NOTE Confidence: 0.8139228

00:06:06.899 --> 00:06:09.006 study would be about March to April,
NOTE Confidence: 0.8139228

00:06:09.010 --> 00:06:11.362 and so I think this would be critical
NOTE Confidence: 0.8139228

00:06:11.362 --> 00:06:13.794 because one of the pieces of information
NOTE Confidence: 0.8139228

00:06:13.794 --> 00:06:15.810 like gathering from this group is,
NOTE Confidence: 0.8139228

00:06:15.810 --> 00:06:17.748 you know, just the durability of
NOTE Confidence: 0.8139228

00:06:17.748 --> 00:06:19.737 antibody responses and I have a
NOTE Confidence: 0.8139228

00:06:19.737 --> 00:06:21.317 slider to about that afterwards,
NOTE Confidence: 0.8139228

00:06:21.320 --> 00:06:22.024 and again,
NOTE Confidence: 0.8139228

00:06:22.024 --> 00:06:23.432 some participants were enrolled
NOTE Confidence: 0.8139228

00:06:23.432 --> 00:06:25.449 late in the initial data that
NOTE Confidence: 0.8139228

00:06:25.449 --> 00:06:26.824 we submitted to the FDA.
NOTE Confidence: 0.8139228

00:06:26.830 --> 00:06:27.524 For example,
NOTE Confidence: 0.8139228

00:06:27.524 --> 00:06:29.259 HIV infected patients were recruited.
NOTE Confidence: 0.8139228

00:06:29.260 --> 00:06:31.192 Was the tail end the median duration
NOTE Confidence: 0.8139228

00:06:31.192 --> 00:06:33.212 of follow up for this subgroup is

NOTE Confidence: 0.8139228

00:06:33.212 --> 00:06:35.550 really short and did not meet the two

NOTE Confidence: 0.8139228

00:06:35.550 --> 00:06:37.308 month safety or longer term efficacy

NOTE Confidence: 0.8139228

00:06:37.308 --> 00:06:39.770 will be interesting as we have longer

NOTE Confidence: 0.8139228

00:06:39.770 --> 00:06:42.406 data we make will generate some more

NOTE Confidence: 0.8139228

00:06:42.406 --> 00:06:45.182 data about some groups that were left out.

NOTE Confidence: 0.8139228

00:06:45.190 --> 00:06:47.494 So we've talked about some of the missteps

NOTE Confidence: 0.8139228

00:06:47.494 --> 00:06:49.689 with some of the other vaccine trials.

NOTE Confidence: 0.8139228

00:06:49.690 --> 00:06:51.155 Pay attention to the differences

NOTE Confidence: 0.8139228

00:06:51.155 --> 00:06:52.957 in endpoints to the Johnson and

NOTE Confidence: 0.8139228

00:06:52.957 --> 00:06:54.685 Johnson vaccine is not looking at

NOTE Confidence: 0.8139228

00:06:54.685 --> 00:06:55.990 the symptomatic covid disease,

NOTE Confidence: 0.8139228

00:06:55.990 --> 00:06:57.676 but the subset of people in

NOTE Confidence: 0.8139228

00:06:57.676 --> 00:06:59.290 moderate to severe covid disease.

NOTE Confidence: 0.8139228

00:06:59.290 --> 00:07:00.916 So at some point making comparisons

NOTE Confidence: 0.8139228

00:07:00.916 --> 00:07:02.590 between endpoints may be challenging,

NOTE Confidence: 0.8139228

00:07:02.590 --> 00:07:04.438 although you know many of these
NOTE Confidence: 0.8139228

00:07:04.438 --> 00:07:05.670 also have secondary endpoints
NOTE Confidence: 0.8139228

00:07:05.723 --> 00:07:07.385 that may allow a good comparison,
NOTE Confidence: 0.8139228

00:07:07.390 --> 00:07:09.046 but you really want to pay
NOTE Confidence: 0.8139228

00:07:09.046 --> 00:07:10.690 attention to what's being measured,
NOTE Confidence: 0.8139228

00:07:10.690 --> 00:07:12.190 and as you're aware of,
NOTE Confidence: 0.8139228

00:07:12.190 --> 00:07:13.918 is also interested in knowing if
NOTE Confidence: 0.8139228

00:07:13.918 --> 00:07:15.550 it is vaccine protect against.
NOTE Confidence: 0.8139228

00:07:15.550 --> 00:07:17.602 Is symptomatic disease and I'll mention
NOTE Confidence: 0.8139228

00:07:17.602 --> 00:07:20.278 how we're doing it to Pfizer file again.
NOTE Confidence: 0.8139228

00:07:20.280 --> 00:07:21.644 Like into rightly mentioned,
NOTE Confidence: 0.8139228

00:07:21.644 --> 00:07:24.125 the window is really closing on placebo
NOTE Confidence: 0.8139228

00:07:24.125 --> 00:07:25.975 controlled trial as vaccines have
NOTE Confidence: 0.8139228

00:07:25.975 --> 00:07:28.385 become available and so you know for
NOTE Confidence: 0.8139228

00:07:28.385 --> 00:07:30.415 some of the those under dating earlier
NOTE Confidence: 0.8139228

00:07:30.420 --> 00:07:32.724 phase who don't necessarily have a

NOTE Confidence: 0.8139228
00:07:32.724 --> 00:07:34.595 competitive advantage with the lead
NOTE Confidence: 0.8139228
00:07:34.595 --> 00:07:36.842 candidates like the M RNA is 95% efficacy.
NOTE Confidence: 0.8139228
00:07:36.842 --> 00:07:37.838 Great safety profile.
NOTE Confidence: 0.8139228
00:07:37.838 --> 00:07:40.222 It's going to be stifling upcoming passing
NOTE Confidence: 0.8139228
00:07:40.222 --> 00:07:42.250 candidates and that's just the reality.
NOTE Confidence: 0.8139228
00:07:42.250 --> 00:07:44.735 And there's also issues with the vaccine
NOTE Confidence: 0.8139228
00:07:44.735 --> 00:07:47.049 rollout as informed by the vaccine data.
NOTE Confidence: 0.8139228
00:07:47.050 --> 00:07:49.000 So when we get more vaccine
NOTE Confidence: 0.8139228
00:07:49.000 --> 00:07:49.650 candidates available,
NOTE Confidence: 0.8139228
00:07:49.650 --> 00:07:51.925 let's say you have one at 70%
NOTE Confidence: 0.8139228
00:07:51.930 --> 00:07:53.158 effective versus 95% effective.
NOTE Confidence: 0.8139228
00:07:53.158 --> 00:07:55.829 How do we decide what to offer someone?
NOTE Confidence: 0.8139228
00:07:55.830 --> 00:07:58.430 Or do we take away choice from individuals?
NOTE Confidence: 0.8139228
00:07:58.430 --> 00:08:00.055 At some point you have
NOTE Confidence: 0.8139228
00:08:00.055 --> 00:08:01.030 commented single issue,
NOTE Confidence: 0.8139228

00:08:01.030 --> 00:08:02.650 single dose versus double doors,
NOTE Confidence: 0.8139228

00:08:02.650 --> 00:08:05.250 and the logistics of those would be critical.
NOTE Confidence: 0.8139228

00:08:05.250 --> 00:08:06.875 Again, wait against efficacy but
NOTE Confidence: 0.8139228

00:08:06.875 --> 00:08:07.850 importantly unwanted thought.
NOTE Confidence: 0.8139228

00:08:07.850 --> 00:08:10.306 I want to leave is we're talking about
NOTE Confidence: 0.8139228

00:08:10.306 --> 00:08:12.398 herd immunity being the ultimate goal.
NOTE Confidence: 0.8139228

00:08:12.400 --> 00:08:14.030 If we have a vaccine,
NOTE Confidence: 0.8139228

00:08:14.030 --> 00:08:15.655 does 50% effective even vaccinating
NOTE Confidence: 0.8139228

00:08:15.655 --> 00:08:17.990 100% of population may not get us.
NOTE Confidence: 0.8139228

00:08:17.990 --> 00:08:19.620 To the herd immunity targets.
NOTE Confidence: 0.8139228

00:08:19.620 --> 00:08:21.664 So I think you know efficacy is
NOTE Confidence: 0.8139228

00:08:21.664 --> 00:08:23.878 important with also as a key variable
NOTE Confidence: 0.8139228

00:08:23.878 --> 00:08:25.798 with achieving herd immunity and it'll
NOTE Confidence: 0.78744626

00:08:25.863 --> 00:08:27.643 be interesting to see how
NOTE Confidence: 0.78744626

00:08:27.643 --> 00:08:29.067 upcoming vaccine studies form.
NOTE Confidence: 0.78744626

00:08:29.070 --> 00:08:32.700 And we've talked about less now.

NOTE Confidence: 0.78744626

00:08:32.700 --> 00:08:34.772 I'm not going to say too much

NOTE Confidence: 0.78744626

00:08:34.772 --> 00:08:36.117 about this, but you know,

NOTE Confidence: 0.78744626

00:08:36.117 --> 00:08:38.279 the ad 26 is the platform that Johnson

NOTE Confidence: 0.78744626

00:08:38.279 --> 00:08:40.415 and Johnson Vaccine uses an amarone,

NOTE Confidence: 0.78744626

00:08:40.420 --> 00:08:43.093 one of the common questions that we get is,

NOTE Confidence: 0.78744626

00:08:43.100 --> 00:08:45.165 you know, if I get a vaccine,

NOTE Confidence: 0.78744626

00:08:45.170 --> 00:08:47.546 should I wear a mask and you know,

NOTE Confidence: 0.78744626

00:08:47.550 --> 00:08:49.662 you know, why should I continue to wear

NOTE Confidence: 0.78744626

00:08:49.662 --> 00:08:51.800 a mask and one of the key questions

NOTE Confidence: 0.78744626

00:08:51.800 --> 00:08:53.964 is that you know we haven't quite

NOTE Confidence: 0.78744626

00:08:53.964 --> 00:08:55.744 demonstrated robustly in the trials

NOTE Confidence: 0.78744626

00:08:55.744 --> 00:08:57.970 because I didn't look for them or

NOTE Confidence: 0.78744626

00:08:57.970 --> 00:08:59.480 haven't really studied it robustly

NOTE Confidence: 0.78744626

00:08:59.540 --> 00:09:01.208 in the phase three human trials.

NOTE Confidence: 0.78744626

00:09:01.210 --> 00:09:02.834 But there's, you know.

NOTE Confidence: 0.78744626

00:09:02.834 --> 00:09:05.270 Robust and elegant animal data from,
NOTE Confidence: 0.78744626

00:09:05.270 --> 00:09:08.686 you know the the ad 26 vectored vaccine,
NOTE Confidence: 0.78744626

00:09:08.690 --> 00:09:11.679 as well as the M RNA vaccine.
NOTE Confidence: 0.78744626

00:09:11.680 --> 00:09:14.404 About, you know when you challenge
NOTE Confidence: 0.78744626

00:09:14.404 --> 00:09:16.799 nonhuman primates with virus put in,
NOTE Confidence: 0.78744626

00:09:16.800 --> 00:09:19.362 particularly exposed to lower Airways and
NOTE Confidence: 0.78744626

00:09:19.362 --> 00:09:21.070 intranasally after vaccinating individuals.
NOTE Confidence: 0.78744626

00:09:21.070 --> 00:09:23.210 So a post vaccine challenge,
NOTE Confidence: 0.78744626

00:09:23.210 --> 00:09:24.894 locate the antibody responses.
NOTE Confidence: 0.78744626

00:09:24.894 --> 00:09:26.578 TC responses have been
NOTE Confidence: 0.78744626

00:09:26.578 --> 00:09:28.329 characterized in these animals,
NOTE Confidence: 0.78744626

00:09:28.330 --> 00:09:30.038 but also evaluating if
NOTE Confidence: 0.78744626

00:09:30.038 --> 00:09:31.746 there's after Mel reputation,
NOTE Confidence: 0.78744626

00:09:31.750 --> 00:09:33.990 both in upper and lower.
NOTE Confidence: 0.78744626

00:09:33.990 --> 00:09:35.142 Always in this setting,
NOTE Confidence: 0.78744626

00:09:35.142 --> 00:09:37.506 and I think the data from both a

NOTE Confidence: 0.78744626

00:09:37.506 --> 00:09:39.522 viral vector and the M RNA vaccine

NOTE Confidence: 0.78744626

00:09:39.522 --> 00:09:41.603 suggest that the vaccines definitely

NOTE Confidence: 0.78744626

00:09:41.603 --> 00:09:43.335 do decrease viral replication,

NOTE Confidence: 0.78744626

00:09:43.340 --> 00:09:45.350 but in upper and lower Airways,

NOTE Confidence: 0.78744626

00:09:45.350 --> 00:09:47.840 little bit of a discordance

NOTE Confidence: 0.78744626

00:09:47.840 --> 00:09:49.832 between these two studies.

NOTE Confidence: 0.78744626

00:09:49.840 --> 00:09:52.282 At 26 nonhuman primate studies suggested

NOTE Confidence: 0.78744626

00:09:52.282 --> 00:09:55.291 there may be greater protection of lower

NOTE Confidence: 0.78744626

00:09:55.291 --> 00:09:57.913 story track and upper estimate tracked,

NOTE Confidence: 0.78744626

00:09:57.920 --> 00:10:00.160 and Marni study showed little.

NOTE Confidence: 0.78744626

00:10:00.160 --> 00:10:01.500 Greater protection against virus

NOTE Confidence: 0.78744626

00:10:01.500 --> 00:10:03.175 replication in the operator truck.

NOTE Confidence: 0.78744626

00:10:03.180 --> 00:10:03.517 Again,

NOTE Confidence: 0.78744626

00:10:03.517 --> 00:10:05.539 storage to effect but put together,

NOTE Confidence: 0.78744626

00:10:05.540 --> 00:10:07.556 these inform that the vaccines should

NOTE Confidence: 0.78744626

00:10:07.556 --> 00:10:08.900 protect against asymptomatic infection.
NOTE Confidence: 0.78744626

00:10:08.900 --> 00:10:12.090 The question for me is not if they do but
NOTE Confidence: 0.78744626

00:10:12.168 --> 00:10:15.273 by but to what degree and for the phase.
NOTE Confidence: 0.78744626

00:10:15.280 --> 00:10:15.984 Three trials.
NOTE Confidence: 0.78744626

00:10:15.984 --> 00:10:18.096 For example in the Pfizer trial
NOTE Confidence: 0.78744626

00:10:18.096 --> 00:10:20.034 we've added on checking antibodies
NOTE Confidence: 0.78744626

00:10:20.034 --> 00:10:21.979 to non vaccine induced antibodies
NOTE Confidence: 0.78744626

00:10:21.979 --> 00:10:24.343 and so in follow up and so this
NOTE Confidence: 0.78744626

00:10:24.343 --> 00:10:26.704 would be one way we can assess for
NOTE Confidence: 0.78744626

00:10:26.704 --> 00:10:28.720 those who did not have symptoms.
NOTE Confidence: 0.78744626

00:10:28.720 --> 00:10:29.672 Did they generate antibodies?
NOTE Confidence: 0.78744626

00:10:29.672 --> 00:10:30.862 The virus is the marker
NOTE Confidence: 0.78744626

00:10:30.862 --> 00:10:32.130 of asymptomatic infection,
NOTE Confidence: 0.78744626

00:10:32.130 --> 00:10:33.570 so we're going to learn so
NOTE Confidence: 0.78744626

00:10:33.570 --> 00:10:34.530 much more about this.
NOTE Confidence: 0.78744626

00:10:34.530 --> 00:10:38.450 And of course it will have public health.

NOTE Confidence: 0.78744626

00:10:38.450 --> 00:10:41.106 One of the important thing to mention is

NOTE Confidence: 0.78744626

00:10:41.106 --> 00:10:43.458 a differential response among the elderly.

NOTE Confidence: 0.78744626

00:10:43.460 --> 00:10:45.608 This comparison of three different vaccines.

NOTE Confidence: 0.78744626

00:10:45.610 --> 00:10:47.038 This is the DN.

NOTE Confidence: 0.78744626

00:10:47.038 --> 00:10:48.823 T162V2 is the Pfizer vaccine.

NOTE Confidence: 0.78744626

00:10:48.830 --> 00:10:51.694 This is there no vaccine and add 25.

NOTE Confidence: 0.78744626

00:10:51.700 --> 00:10:54.484 I'm just as an example of a viral

NOTE Confidence: 0.78744626

00:10:54.484 --> 00:10:56.620 vector vaccine I think across the

NOTE Confidence: 0.78744626

00:10:56.620 --> 00:10:59.109 board as you move across the spectrum

NOTE Confidence: 0.78744626

00:10:59.109 --> 00:11:02.069 of age and like has been shown with

NOTE Confidence: 0.78744626

00:11:02.069 --> 00:11:03.656 almost every other vaccine that

NOTE Confidence: 0.78744626

00:11:03.656 --> 00:11:05.480 older individuals tend to have at

NOTE Confidence: 0.78744626

00:11:05.540 --> 00:11:07.308 least numerically lower antibody

NOTE Confidence: 0.78744626

00:11:07.308 --> 00:11:08.634 titers and neutralization.

NOTE Confidence: 0.78744626

00:11:08.640 --> 00:11:09.027 Latest,

NOTE Confidence: 0.78744626

00:11:09.027 --> 00:11:11.349 you know that's pretty clear now
NOTE Confidence: 0.78744626

00:11:11.349 --> 00:11:13.521 there's differences in the neutralization
NOTE Confidence: 0.78744626

00:11:13.521 --> 00:11:15.405 assays and not necessarily.
NOTE Confidence: 0.82055527

00:11:17.880 --> 00:11:19.216 Compare one to another,
NOTE Confidence: 0.82055527

00:11:19.216 --> 00:11:21.637 but I think the concern still remains
NOTE Confidence: 0.82055527

00:11:21.637 --> 00:11:24.066 that older individuals may have a little
NOTE Confidence: 0.82055527

00:11:24.066 --> 00:11:26.782 bit of diminished response. Good enough.
NOTE Confidence: 0.82055527

00:11:26.782 --> 00:11:29.204 Both modern and Pfizer studies have shown
NOTE Confidence: 0.82055527

00:11:29.204 --> 00:11:31.308 robust protection independent of age,
NOTE Confidence: 0.82055527

00:11:31.310 --> 00:11:32.426 which is reassuring.
NOTE Confidence: 0.82055527

00:11:32.426 --> 00:11:34.286 But then, as you know,
NOTE Confidence: 0.82055527

00:11:34.286 --> 00:11:35.774 we follow people overtime.
NOTE Confidence: 0.82055527

00:11:35.780 --> 00:11:37.838 It interesting to see if you
NOTE Confidence: 0.82055527

00:11:37.838 --> 00:11:39.210 know trajectory's of antibody
NOTE Confidence: 0.82055527

00:11:39.270 --> 00:11:40.629 levels change overtime.
NOTE Confidence: 0.82055527

00:11:40.630 --> 00:11:43.339 However, we still know that you know

NOTE Confidence: 0.82055527

00:11:43.339 --> 00:11:45.345 the quantitative level of antibody

NOTE Confidence: 0.82055527

00:11:45.345 --> 00:11:47.270 does not always translate to.

NOTE Confidence: 0.82055527

00:11:47.270 --> 00:11:48.674 They're correlated degree of

NOTE Confidence: 0.82055527

00:11:48.674 --> 00:11:50.078 immunity against the disease.

NOTE Confidence: 0.82055527

00:11:50.080 --> 00:11:52.288 So there's interesting data point to

NOTE Confidence: 0.82055527

00:11:52.288 --> 00:11:54.745 study for the clinical relevance is not

NOTE Confidence: 0.82055527

00:11:54.745 --> 00:11:57.450 always clear and we can see that forward.

NOTE Confidence: 0.82055527

00:11:57.450 --> 00:11:59.205 The GSK Sanofi study that

NOTE Confidence: 0.82055527

00:11:59.205 --> 00:12:00.960 we were to participate in.

NOTE Confidence: 0.82055527

00:12:00.960 --> 00:12:03.684 The study has been delayed because

NOTE Confidence: 0.82055527

00:12:03.684 --> 00:12:06.322 of the underperformance of of the

NOTE Confidence: 0.82055527

00:12:06.322 --> 00:12:08.926 individuals who are older than age 50.

NOTE Confidence: 0.82055527

00:12:08.930 --> 00:12:11.506 Above age 60 did not have levels that

NOTE Confidence: 0.82055527

00:12:11.506 --> 00:12:13.920 approached what everyone is using us to bar,

NOTE Confidence: 0.82055527

00:12:13.920 --> 00:12:15.480 which is the neutralization antibody.

NOTE Confidence: 0.82055527

00:12:15.480 --> 00:12:16.824 Titers in convalescent individuals.
NOTE Confidence: 0.82055527

00:12:16.824 --> 00:12:19.630 I think I have a slider to left and
NOTE Confidence: 0.82055527

00:12:19.630 --> 00:12:21.762 many of us have heard about the new
NOTE Confidence: 0.82055527

00:12:21.762 --> 00:12:23.910 strains and concerns about the vaccines,
NOTE Confidence: 0.82055527

00:12:23.910 --> 00:12:26.086 so we know that the strain that's done
NOTE Confidence: 0.82055527

00:12:26.086 --> 00:12:29.037 a lot of press is the UK strain because
NOTE Confidence: 0.82055527

00:12:29.037 --> 00:12:31.057 it does predominated infections in that
NOTE Confidence: 0.82055527

00:12:31.057 --> 00:12:33.581 part of the world and it's being identified.
NOTE Confidence: 0.82055527

00:12:33.581 --> 00:12:36.069 But here in the US and other areas,
NOTE Confidence: 0.82055527

00:12:36.070 --> 00:12:36.726 not surprisingly,
NOTE Confidence: 0.82055527

00:12:36.726 --> 00:12:38.694 but even the more scary South
NOTE Confidence: 0.82055527

00:12:38.694 --> 00:12:39.930 African variant which has.
NOTE Confidence: 0.82055527

00:12:39.930 --> 00:12:41.482 You know single viruses
NOTE Confidence: 0.82055527

00:12:41.482 --> 00:12:42.646 simulating multiple mutations,
NOTE Confidence: 0.82055527

00:12:42.650 --> 00:12:43.820 including multiple tations
NOTE Confidence: 0.82055527

00:12:43.820 --> 00:12:45.380 in the spike protein,

NOTE Confidence: 0.82055527

00:12:45.380 --> 00:12:48.096 and what that means for for vaccines.

NOTE Confidence: 0.82055527

00:12:48.100 --> 00:12:48.874 You know,

NOTE Confidence: 0.82055527

00:12:48.874 --> 00:12:50.809 studies have shown that certain

NOTE Confidence: 0.82055527

00:12:50.809 --> 00:12:52.769 mutations matter more than others,

NOTE Confidence: 0.82055527

00:12:52.770 --> 00:12:54.710 especially those that occur in

NOTE Confidence: 0.82055527

00:12:54.710 --> 00:12:56.262 the receptor binding domain.

NOTE Confidence: 0.82055527

00:12:56.270 --> 00:12:59.760 And what that does to.

NOTE Confidence: 0.82055527

00:12:59.760 --> 00:13:00.813 Susceptibility to antibodies.

NOTE Confidence: 0.82055527

00:13:00.813 --> 00:13:01.866 So for example,

NOTE Confidence: 0.82055527

00:13:01.870 --> 00:13:03.598 the E484K has been identified as

NOTE Confidence: 0.82055527

00:13:03.598 --> 00:13:05.304 a mutation that can significantly

NOTE Confidence: 0.82055527

00:13:05.304 --> 00:13:06.798 have negative impacts.

NOTE Confidence: 0.82055527

00:13:06.800 --> 00:13:07.374 For example,

NOTE Confidence: 0.82055527

00:13:07.374 --> 00:13:09.383 looking at the figure at the bottom

NOTE Confidence: 0.82055527

00:13:09.383 --> 00:13:11.305 on a neutralization for using

NOTE Confidence: 0.82055527

00:13:11.305 --> 00:13:12.881 convalescent sera from individuals
NOTE Confidence: 0.82055527

00:13:12.881 --> 00:13:15.249 who have recovered from the vaccine,
NOTE Confidence: 0.82055527

00:13:15.250 --> 00:13:17.010 the good news for now,
NOTE Confidence: 0.82055527

00:13:17.010 --> 00:13:18.418 based on Pfizer data,
NOTE Confidence: 0.82055527

00:13:18.418 --> 00:13:20.530 this is from a preprint server.
NOTE Confidence: 0.82055527

00:13:20.530 --> 00:13:23.015 It appears that even the mutant seems
NOTE Confidence: 0.82055527

00:13:23.015 --> 00:13:25.173 to be neutralized equally and then
NOTE Confidence: 0.82055527

00:13:25.173 --> 00:13:27.567 the non mutant version of the virus,
NOTE Confidence: 0.82055527

00:13:27.570 --> 00:13:29.778 which is good, so suggesting that.
NOTE Confidence: 0.82055527

00:13:29.780 --> 00:13:31.455 At least the Pfizer vaccine
NOTE Confidence: 0.82055527

00:13:31.455 --> 00:13:32.795 should work about them.
NOTE Confidence: 0.82055527

00:13:32.800 --> 00:13:34.460 There's a flurry of activity
NOTE Confidence: 0.82055527

00:13:34.460 --> 00:13:36.480 going on trying to identify this.
NOTE Confidence: 0.82055527

00:13:36.480 --> 00:13:38.573 I do know that discuss South African
NOTE Confidence: 0.82055527

00:13:38.573 --> 00:13:39.879 group are currently studying
NOTE Confidence: 0.82055527

00:13:39.879 --> 00:13:41.287 convalescent sera from people

NOTE Confidence: 0.82055527
00:13:41.287 --> 00:13:43.451 who recovered from Covid as well
NOTE Confidence: 0.82055527
00:13:43.451 --> 00:13:45.161 as their server from vaccinated
NOTE Confidence: 0.82055527
00:13:45.161 --> 00:13:46.865 individuals against the new variant
NOTE Confidence: 0.82055527
00:13:46.865 --> 00:13:48.875 that they have in their study.
NOTE Confidence: 0.82055527
00:13:48.880 --> 00:13:50.728 And they promised that will have
NOTE Confidence: 0.82055527
00:13:50.728 --> 00:13:53.229 the some data in the upcoming weeks.
NOTE Confidence: 0.82055527
00:13:53.230 --> 00:13:54.514 So for now, fine.
NOTE Confidence: 0.82055527
00:13:54.514 --> 00:13:57.590 But we may have to worry in the future.
NOTE Confidence: 0.82055527
00:13:57.590 --> 00:14:00.406 The good news though, is that you know.
NOTE Confidence: 0.82055527
00:14:00.410 --> 00:14:00.707 Yeah,
NOTE Confidence: 0.82055527
00:14:00.707 --> 00:14:02.489 vaccines can be adapted to new
NOTE Confidence: 0.82055527
00:14:02.489 --> 00:14:03.790 strains as they occur.
NOTE Confidence: 0.82055527
00:14:03.790 --> 00:14:05.656 I'm not aware of what regulatory
NOTE Confidence: 0.82055527
00:14:05.656 --> 00:14:07.778 process will need to be done there,
NOTE Confidence: 0.82055527
00:14:07.780 --> 00:14:09.453 but I do know following this part
NOTE Confidence: 0.82055527

00:14:09.453 --> 00:14:11.333 is you know someone else who's
NOTE Confidence: 0.82055527

00:14:11.333 --> 00:14:13.168 addressing some of the regulatory
NOTE Confidence: 0.82055527

00:14:13.168 --> 00:14:13.902 processes around
NOTE Confidence: 0.8136917

00:14:13.963 --> 00:14:15.094 that. Monoclonal antibodies
NOTE Confidence: 0.8136917

00:14:15.094 --> 00:14:16.390 may be threatened.
NOTE Confidence: 0.8136917

00:14:16.390 --> 00:14:18.896 Now the next question we get is,
NOTE Confidence: 0.8136917

00:14:18.900 --> 00:14:21.060 was the durability of vaccine responses.
NOTE Confidence: 0.8136917

00:14:21.060 --> 00:14:23.202 We don't have our six six
NOTE Confidence: 0.8136917

00:14:23.202 --> 00:14:25.010 month data from Pfizer yet.
NOTE Confidence: 0.8136917

00:14:25.010 --> 00:14:27.516 I tried to get that for you,
NOTE Confidence: 0.8136917

00:14:27.520 --> 00:14:28.952 but I can't disclose
NOTE Confidence: 0.8136917

00:14:28.952 --> 00:14:30.742 everything but I you know,
NOTE Confidence: 0.8136917

00:14:30.750 --> 00:14:32.660 one that's published is from
NOTE Confidence: 0.8136917

00:14:32.660 --> 00:14:34.967 the Moderna study and this shows
NOTE Confidence: 0.8136917

00:14:34.967 --> 00:14:37.249 that at least at four months you
NOTE Confidence: 0.8136917

00:14:37.249 --> 00:14:39.746 know the 120 days that both you

NOTE Confidence: 0.8136917

00:14:39.746 --> 00:14:41.868 know antibody levels as well as

NOTE Confidence: 0.8136917

00:14:41.868 --> 00:14:43.260 new tab neutralization geometric

NOTE Confidence: 0.8136917

00:14:43.260 --> 00:14:45.470 mean titers appear to be robust.

NOTE Confidence: 0.8136917

00:14:45.470 --> 00:14:46.918 Even so far out.

NOTE Confidence: 0.8136917

00:14:46.918 --> 00:14:48.004 From you know,

NOTE Confidence: 0.8136917

00:14:48.010 --> 00:14:48.686 from vaccination,

NOTE Confidence: 0.8136917

00:14:48.686 --> 00:14:51.052 and this was compared to individuals who

NOTE Confidence: 0.8136917

00:14:51.052 --> 00:14:53.638 had convalesced from you know about a month,

NOTE Confidence: 0.8136917

00:14:53.640 --> 00:14:55.500 median time from COVID-19 and you

NOTE Confidence: 0.8136917

00:14:55.500 --> 00:14:57.280 can see the trajectories overtime.

NOTE Confidence: 0.8136917

00:14:57.280 --> 00:14:58.258 Still seeing results.

NOTE Confidence: 0.8136917

00:14:58.258 --> 00:15:01.250 In some cases a little bit of a decline,

NOTE Confidence: 0.8136917

00:15:01.250 --> 00:15:02.910 but they seem robust overtime.

NOTE Confidence: 0.8136917

00:15:02.910 --> 00:15:04.565 Again, the correlation of protection

NOTE Confidence: 0.8136917

00:15:04.565 --> 00:15:05.889 are not clearly known,

NOTE Confidence: 0.8136917

00:15:05.890 --> 00:15:07.520 but these trajectories are really
NOTE Confidence: 0.8136917

00:15:07.520 --> 00:15:09.546 reassuring and I think you know
NOTE Confidence: 0.8136917

00:15:09.546 --> 00:15:10.914 conservative estimates are that
NOTE Confidence: 0.8136917

00:15:10.914 --> 00:15:13.169 immunity may last a couple of years,
NOTE Confidence: 0.8136917

00:15:13.170 --> 00:15:16.008 probably up to two to three
NOTE Confidence: 0.8136917

00:15:16.008 --> 00:15:18.340 T three years or so.
NOTE Confidence: 0.8136917

00:15:18.340 --> 00:15:20.296 So I'm summary is, you know,
NOTE Confidence: 0.8136917

00:15:20.300 --> 00:15:20.640 again,
NOTE Confidence: 0.8136917

00:15:20.640 --> 00:15:22.340 the multiple phase three clinical
NOTE Confidence: 0.8136917

00:15:22.340 --> 00:15:24.070 trials which were very happy
NOTE Confidence: 0.8136917

00:15:24.070 --> 00:15:25.610 to continue to participate in
NOTE Confidence: 0.8136917

00:15:25.610 --> 00:15:27.170 battle by early phase data.
NOTE Confidence: 0.8136917

00:15:27.170 --> 00:15:28.964 But we're still doing a lot
NOTE Confidence: 0.8136917

00:15:28.964 --> 00:15:30.945 of work to determine what the
NOTE Confidence: 0.8136917

00:15:30.945 --> 00:15:32.730 durability of me responses are.
NOTE Confidence: 0.8136917

00:15:32.730 --> 00:15:34.465 The new variants are concerning

NOTE Confidence: 0.8136917
00:15:34.465 --> 00:15:36.538 and will will continue to follow
NOTE Confidence: 0.8136917
00:15:36.538 --> 00:15:38.456 to see if you know either this
NOTE Confidence: 0.8136917
00:15:38.456 --> 00:15:40.108 ones or future emerging variants
NOTE Confidence: 0.8136917
00:15:40.108 --> 00:15:42.190 would end up being a problem
NOTE Confidence: 0.8136917
00:15:42.190 --> 00:15:43.614 for our vaccine approaches.
NOTE Confidence: 0.8136917
00:15:43.614 --> 00:15:43.972 Again,
NOTE Confidence: 0.8136917
00:15:43.972 --> 00:15:45.762 just certain groups like older
NOTE Confidence: 0.8136917
00:15:45.762 --> 00:15:47.325 individuals that appear to at
NOTE Confidence: 0.8136917
00:15:47.325 --> 00:15:48.477 least have numerically lower.
NOTE Confidence: 0.8136917
00:15:48.480 --> 00:15:48.996 Antibody responses,
NOTE Confidence: 0.8136917
00:15:48.996 --> 00:15:50.802 but for now it doesn't appear that
NOTE Confidence: 0.8136917
00:15:50.802 --> 00:15:52.290 they are clinically significant,
NOTE Confidence: 0.8136917
00:15:52.290 --> 00:15:54.036 at least with the lead candidates
NOTE Confidence: 0.8136917
00:15:54.036 --> 00:15:55.510 that have reported your data,
NOTE Confidence: 0.8136917
00:15:55.510 --> 00:15:57.928 and it's reassuring to see that
NOTE Confidence: 0.8136917

00:15:57.928 --> 00:16:00.344 some of the population that were

NOTE Confidence: 0.8136917

00:16:00.344 --> 00:16:02.892 left out of the phase three trial.

NOTE Confidence: 0.8136917

00:16:02.900 --> 00:16:04.295 Hopefully will start to generate

NOTE Confidence: 0.8136917

00:16:04.295 --> 00:16:06.330 data for some of our patients whom

NOTE Confidence: 0.8136917

00:16:06.330 --> 00:16:08.360 we wonder how you know how protected

NOTE Confidence: 0.8136917

00:16:08.360 --> 00:16:10.130 they would be with the vaccines.

NOTE Confidence: 0.8136917

00:16:10.130 --> 00:16:14.162 So I'll stop here and thanks for having me.