withdrew their consent because they didn't want to have the 3 times weekly injections.

One has to appreciate that at the time of initiation of this trial, it was not clear to the patients what their potential benefit of this therapy would be, and therefore the threshold, at least that was the risk a priori -- the threshold for withdrawal from the trial would be low. That has not materialized, fortunately, because withdrawal in total -- and I'll get back to that later -was not considerable.

A little bit about demographics. As I said before, stratification by center was done, but not by the more relevant risk factors. However, with this number of patients, 499 , it balanced out beautifully. Differences were very small. There was no statistical difference, for example, for the more powerful of the risk categories that we have used, which is Breslow thickness.

Further to Dr. Buzaid's presentation, you see here the categories of Breslow tumor thickness. Our patients in this stage II melanoma patient population consisted of patients with tumor thickness of 1.5 millimeters and more. This should be looked at in categories and not as a continuous variable because, obviously, these subcategories follow in some ways anatomical boundaries.

This is one of the busiest slides that $I^{\prime} m$ going to show this afternoon, and it will take me some time to guide you through it, but this is quite a crucial slide for the message of the presentation.

This is the long-term analysis on eligible patients for disease-free interval, and disease-free interval, the time from initiation of therapy to relapse, the difference remains significant. This analysis was done when a median time to follow-up existed of 4.4 years. That means that the first patients were up to 7 years in the trial and the last patient entered 36 months.

The time to 25 percent relapse -- and $I$ do not show that on the slide here -- was 1.3 years in the observation arm and 2.1 years in the Roferon arm, a rather remarkable reduction of 25 percent, or 10 months.

The $p$ value for the Kaplan-Meier estimates, as you see here, is . 035.

The number of relapses in the Roferon arm in total was 100; in the observation arm, 119; a difference of 19.

Last but not least -- and that is perfectly justified by the protocol -- if one would do a cutoff analysis, something that most simple people like myself would understand better, if one would do a cutoff at 3 years, then the percentage of withdrawals here would be 32
percent and 49 percent in the observation arm, a difference of 17 percent. With stratification by center, that carries a p value of . 005 .

Breslow thickness, as presented before by Dr. Buzaid, is a powerful risk parameter or prognostic factor. We show this slide here today of the Kaplan-Meier estimates for the specific subsets of Breslow thickness only to show that the impact, the effect, for all categories is similar.

I also need to inform you that there was no interaction between this risk parameter and the outcome as disease-free interval, nor was there any interaction between age and sex and this outcome parameter.

Before I start explaining this slide, it's my task to bring across to you that this study was never designed to evaluate overall survival. I'll try and explain that.

A sequential analysis was performed and a triangular design was used. That means that discontinuation of recruitinent into the trial was done at the moment in time that there were enough events to answer the question about disease-free interval. By nature of things, there will always be more events such as relapses than death. Therefore, it is a little bit unreasonable to expect that one would be able to show a difference for an outcome parameter which has less events like death.

As it happens, we come close with a $p$ value of .059. But the only thing we can conclude from that is that there is a strong trend.

However, as I said before, there is a robust correlation between disease-free interval and overall survival, and I will get back to that when I conclude this talk.

There were 59 deaths in the Roferon arm in this analysis and 76 deaths in the observation arm. It's obvious that at 6 years, at the tail end of the curve, like with the other curve, there are few patients in the analysis simply because median follow-up time here as well was 4.4 years.

Dr. Buzaid showed a slide in his presentation where he put together disease-free interval or time to relapse and overall survival. Sorry. This is disease-free interval obviously for both and here is overall survival.

I would like to show to you what the difference is between the two with regard to events. 100 relapses in the Roferon arm, 119 in the observation arm. 59 deaths in the Roferon arm, 76 in the observation arm. One difference of 19 . One difference of 17.

I think that the crux of my argument for this afternoon is that if we manage to delay or prevent recurrence in this disease, it is possible that we may
delay death as an event. I think that that is an important thing to keep in mind.

The shapes of these curves are similar, but that's the only thing I can say about them.

It's very important for a regimen that has to be continued for 18 months that tolerability is more than acceptable. We have looked at the adverse event pattern of this dose used in this study, 3 million units 3 times a week, and we have concluded that the pattern of adverse events that we observed is not different from the pattern of adverse events that we see with the use of this drug in other indications.

There are no surprises and there are no events that suggest the sort of toxicity that one would relate to a higher dose of this drug that we have also seen in other studies with our drug in the past.

So, here you see the percentages of the patients with flu-like symptoms, asthenia, headache, nausea/vomiting, depression, and dizziness being the most commonly reported adverse events in this trial.

If we then look at the percentage of patients with grade 3-4 toxicity, then these percentages are low. Again, this is a well-established safety profile that we know and have seen several times before with the use of this drug.

What is important to show, however, is that there is a certain withdrawal rate, and this withdrawal rate is 14 percent. 35 patients withdrew from treatment over the course of 18 months. The majority of these withdrawals happened around the 1-year time point. More importantly, they were for events such as asthenia, flulike symptoms, dizziness, depression, usually grade 1-2. There were 9 patients, though, with grade 3-4 that withdrew, and you see them described here. There were 2 patients withdrawn for severe increases in liver enzymes.

I will now move on to discuss the study that formed the supportive data for this application, the study performed by the Austrian Melanoma Group. Recruitment took place between 1990 and 1994, roughly in parallel with the French study. This was also a prospective, randomized, multi-center trial. Patients had Breslow tumor thickness of 1.5 millimeters and more, in other words, clinically node-negative patients, exactly the same patient population as we had in the other study.

The primary efficacy parameter was also the same, disease-free interval, time from initiation of therapy to relapse.

The dose was the same, the regimen slightly different, and the treatment duration was different. 3 million units were given 5 times weekly, once daily for 5
days, for a duration of 3 weeks, sort of an induction regimen. The maintenance part was, however, the same as I described for the previous trial.

I base this part of the presentation on the publication database. The data that $I^{\prime} v e$ presented and present from the publication, this publication has a patient number of 311: 154 in the Roferon arm, 157 in the observation arm. There is currently a database that has 330 patients, as 19 CRFs were collected after the publication cutoff.

Demographics. Again, I show Breslow thickness as a risk parameter only, and here as well, whereas there was no stratification for this parameter, both arms are well balanced. There is certainly no statistically significant difference between the two. There are only small differences that are not clinically relevant.

These are the Kaplan-Meier estimates for this study, also for disease-free interval. Here you see the observation arm. Here you see the Roferon arm.

This analysis was done in September 1995 when patients had been in the study for at least 1 year and observed and followed up for at least 1 year. So, recruitment took 3 years, 154 here and 157 on the other side.

37 patients relapsed in the Roferon arm, 57 in
the observation arm. The p value was less than . 05 .
Here you see our overall conclusions. We have seen parallel efficacy in two independent studies with 800 and more patients in these studies all together.

The reduction in recurrence rates or time to recurrence of 25 percent in our view is clinically meaningful. This translates into prolongation of diseasefree interval of 9 to 10 months. The time to 25 percent relapse in the French study, in the pivotal study, was 1.3 years in the observation arm and 2.1 years in the Roferon arm. If we cut off at 3 years, 32 percent of patients have relapsed in the Roferon arm and 44 percent in the observation arm.

We have seen a strong trend towards increase in overall survival that is properly correlated with the increase we have seen that is statistically significant for disease-free interval.

This drug has a well established safety profile. The withdrawal rate over 18 months in this study was low. It was 14 percent, but in view of the fact that patients did not know exactly what their advantage was going to be, this was very reasonable. The drug was therefore well tolerated. Patients could continue with work and lead an essentially normal life. This is important for a prophylaxis regimen and a regimen that
relies on compliance and has to be maintained for 18 months.

We designed low dose Roferon-A for a situation whereby there's a low tumor burden and an intermediate to high risk of recurrence. What this therapy does is it may prevent or delay the dreadful moment of disease recurrence. It may, therefore, delay death as visceral metastases directly lead to death within 12 to 18 months.

We, therefore, recommend low dose interferon alpha 2a, otherwise called Roferon-A, therapy as adjuvant therapy of stage II melanoma patients. These are patients with clinically node-negative melanoma. This translates into a Breslow tumor thickness of more than 1.5 millimeters. We recommend a treatment duration of 18 months.

This brings me to the end of my presentation. Thank you.

DR. SCHILSKY: Thank you very much.
Are there questions from the committee members for the sponsor? Dr. Raghavan?

DR. RAGHAVAN: These are two quite large sets of data and you're asking us to accept disease-free interval as a good surrogate of overall survival.

The one thing that troubles me and puzzles me is the time of recruitment to these two trials was for the

French trial January 1990 to December 1993, and the Austrian trial sometime in 1990 to 1994. By my calculations, you should have follow-up data conservatively to 9 years and maybe to 10 years, and yet the survival curves that you present show weak power out at 6 years. So, effectively you're presenting old data that haven't been updated and yet asking us to accept disease-free survival rather than overall survival. Could you clarify why that is?

DR. HOOFTMAN: I would not immediately agree with that. With this proposal for this therapy in an indication of stage II melanoma, median time to death is 7 to 8 years. Our median follow-up is 4.4 years. We are, however, getting closer to the moment in time where we could produce longer follow-up data.

DR. RAGHAVAN: No. I'm sorry. I guess I asked the question without clarity and I apologize.

I understand what you just said, but the reality of the situation is that even your disease-free survival curves, unless I'm misinterpreting them, don't go out to the full time that would be eligible for the duration of follow up. It looks to me like the data that you've shown us, whether they're disease-free or total survival, are old data. I can't understand if you had patients entered in 1990 who you propose are still alive,
which $I$ hope is the case, why the survival curves have so few cases at 6 years that are still going. It doesn't make sense to me.

Why have you censored at 6 years? Why do the curves not go out at least to the $9-y e a r$ point?

DR. SCHILSKY: Would you please identify yourself?

DR. WASSNER: I'm Elizabeth Wassner. I'm working in oncology in Basel.

The dossier has been submitted two years ago. These are the data that you reviewed.

Now, if we look at 5 -year survival data, which is actually a reliable time point in the study, we've got a $p$ value of 0.021 , which is even more significant than what we've presented here.

DR. SCHILSKY: Can we just clarify that perhaps by hearing a brief summary of the registration history? You just said that the materials were submitted two years ago and that that's the data that we're reviewing today.

DR. WASSNER: Yes.

DR. SCHILSKY: Since you originally submitted the data two years ago, have you provided any update to those data?

DR. WASSNER: We haven't been requested to do that, but it is planned, of course, to look longer into
these data. But right now this is the data we have, and we're actually claiming overall disease-free survival and this is, $I$ think, mature data. Overall survival, of course, would request 10 -year follow-up in this population, and an end of recruitment, which is December 1993. 10-year data are still far away.

MS. da SILVA: Just to clarify the regulatory history of the submission, we originally submitted our application of September 1997 and the year time clock for acting on that with FDA was in September of 1998 when we received questions and responses from them. We then took into account their comments and resubmitted a response in March of 1999, which included a second study with the Austrian publication, and then we are here before you today, of course. We were notified in July, so we have not submitted an update as of yet.

DR. SCHILSKY: Thank you.
Other questions? Dr. Nerenstone.
DR. NERENSTONE: I'm not familiar at all with these clinical trials groups. We're usually given a little bit more information about frequency of follow-up or how patients are clinically staged. That's sort of important in a study where it's a disease-free interval difference that you're looking at. Can you tell me how often these patients are followed and what kind of tests are done,

Whether liver function tests are done, $C T$ scans, or clinical, and how often that interval is?

DR. HOOFTMAN: Can I please defer this question to Professor Grob who was the lead investigator of this trial?

PROFESSOR GROB: Jean-Jock Grob, dermatology, France.

Both groups were followed exactly in the same way. People were examined every 3 months and they underwent $C T$ scan and $x$-ray explorations every 6 months, exactly in the same way in the two groups.

DR. NERENSTONE: And were laboratory evaluations done as well at every 3-month follow-up?

PROFESSOR GROB: Yes.
DR. NERENSTONE: Were CNS relapses considered relapse?

PROFESSOR GROB: Yes.

DR. SCHILSKY: Could I just pursue that before you sit down? Because, as I understand it, the follow-up was done for 36 months according to the protocol, and then there was an effort made $I$ guess by the company to then ascertain again the clinical status of all the patients sometime after the protocol-prescribed follow-up was completed.

So, can you tell us something about what the
follow-up of the patients was in that interval of time from when the protocol-specified follow-up ended until the data were collected again from all the participating sites? Did the investigators continue to follow the patients on the same schedule? Do we have a way of verifying in fact that they were followed on the same schedule with the same tests being done at the same intervals on both arms?

PROFESSOR GROB: Well, I would say that we were out of the limits of the protocol, but most patients were followed exactly in the same way and some were followed more closely because the follow-up protocol is a little bit less tight than the usual process in France. The only way to check it would be to come back to the files because a point was made after.

DR. SCHILSKY: Yes. It is a bit of a concern because the ascertainment of relapse status in a sense could be very unbalanced in that interval of time when the protocol was no longer necessarily being followed. Since that's the primary endpoint that we're looking at here, I think we have some concern about whether in fact patients were followed exactly in the same way. It was an unblinded study. There could have been biases in favor or against the treatment that were in the minds of the physicians or the patients.

Okay. Other questions from the committee? Dr.

Johnson?
DR. JOHNSON: I think I read and understood Dr. Hooftman's presentation to say that the pivotal trial was designed without consideration of the usual prognostic factors being used for stratification purposes. I believe that was correct. Is that correct?

DR. HOOFTMAN: I wouldn't say without consideration, but there was no stratification for the more powerful risk categories such as Breslow, nor for age or sex. However, as I showed you on the slide, there was no imbalance between the two.

DR. JOHNSON: I won't be too melodramatic, but I'm very surprised that a study of this size undertaken at the time that this was would have done that, to be honest. I'm just very surprised. This is not new information really. I just don't understand why a trial of this size would be undertaken without proper consideration of known prognostic factors.

What you showed us was a Breslow depth. You haven't shown us the other prognostic factors $I$ don't believe.

DR. HOOFTMAN: Can we call up these? We have some backup slides, with permission.

I can already start and answer the question. There was no imbalance at all with regard to the risk
categories of Breslow tumor thickness, age, sex, location of primary or pathology.

DR. JOHNSON: Do you have location?
DR. HOOFTMAN: Here you see depicted the sites of melanoma or location of primary.

DR. SCHILSKY: Anything else you want to see, David?

DR. JOHNSON: Yes. Well, I want to ask a couple of other questions.

You gave us the overall survival data and you mentioned the number of deaths, but I don't recall. Were all of those deaths due to melanoma?

DR. HOOFTMAN: No, they were not all due to melanoma.

DR. JOHNSON: Can you give us the causes of death on the two arms?

DR. HOOFTMAN: 4 deaths were not related to melanoma, 2 in each arm.

DR. JOHNSON: The other question I have, I was also surprised at the differences in the number of patients not eligible on the treatment arm. I believe there were 9 patients, if I'm not mistaken, versus 1 on the observation arm.

DR. HOOFTMAN: That's correct.
DR. JOHNSON: The skeptic that I tend to be, if
all 9 of those patients had, in fact, progressed, what would that have done to your DFI curves and the observation arm had remained the same? Would it still be statistically significantly different?

DR. HOOFTMAN: That is a perfectly reasonable question.

DR. JOHNSON: I thought so.
(Laughter.)
DR. HOOFTMAN: Can I defer this to my colleague, Sam Givens, the statistical expert?

DR. GIVENS: My name is Dr. Sam Givens. I'm a statistician at Hoffmann-La Roche.

Yes, that is a good question. Let me start off by answering it in one way, and that is that the sequential analysis that was done, which was defined in the protocol as the primary analysis to stop recruitment of the trial, was done on all patients. There were no exclusions in that analysis and that analysis was significant at the .038 level.

I think they naively did not include Breslow in their anticipated statistical analysis for that sequential stop. Their thought was that if they're balanced, they'll be okay, and the other aspect was, when we followed the patients longer, the expectation was to include that category into the final analysis.

As to the question of if all 9 of those patients had died, $I$ believe that reduces the difference in survival by 9 and would drop it from 19 to 10. My expectation is certainly that that would have lost significance.

DR. JOHNSON: I'm asking also DFI. This is overall survival. I'm asking for DFI as well, which is the only endpoint that you showed a statistically significant difference.

DR. GIVENS: So, now you're saying in the hypothetical situation on DFI, if we had known all 9 of those patients had had a relapse.

DR. JOHNSON: Correct.
DR. GIVENS: Well, those 9 patients were included in the analysis with what we knew about them, but I think that had all 9 of those died that -- or had all 9 of those relapsed, I would anticipate that they would not be significant.

DR. SCHILSKY: Dr. Lippman.
DR. LIPPMAN: Actually $I$ had a comment and a question, but before that, just following up on the last point, all 9 patients were included in an intent-to-treat analysis that was presented in terms of disease-free and overall survival?

DR. GIVENS: The sequential analysis that was
done included all patients. There were no patients who had been eliminated at that time that led to the stopping of the trial -- stopping of recruitment. Sorry.

DR. LIPPMAN: So, I think that answers that question, Dave, if they were included.

DR. JOHNSON: Well, actually $I$ don't think that's what I heard. What $I$ heard is that those 9 were not included in that analysis. Maybe in the stopping of the trial but not in the analysis of the DFI.

DR. SIMON: If I could clarify what I heard, it sounded like they were included at the interim analysis that led to the stopping of recruitment, but they were excluded in the analysis based on further follow-up.

DR. JOHNSON: That's right. That's what I understood, and the numbers reflect that $I$ think there.

DR. GIVENS: You are both correct with that statement.

DR. SIEGEL: Can I get a clarification? Dr. Simon just referred to the analysis that led to the stopping of the trial as an interim analysis. If I understood the presentation, that's the analysis you presented as the primary analysis with the .038. This analysis is the analysis when everybody had 3 years of follow-up, which you presented as a secondary analysis, and then additional follow-up beyond 3-year data -- you haven't
presented those data. Is that a correct understanding?
DR. HOOFTMAN: It's almost correct. The primary efficacy analysis was for disease-free interval. It was at the same time the analysis that determined the discontinuation of recruitment in the trial. You have to set that apart from the long-term analysis that is an exploratory type of analysis.

The third analysis was solely -- it was done retrospectively, but to get more information with regard to overall survival. The trial and the protocol as such was written for a 36 -month course. That means that the last patient entered reached 36 months and then the long-term analysis was performed.

DR. SCHILSKY: Dr. Lippman.
DR. LIPPMAN: I just have to clarify one other thing. Maybe I'm just missing the point. Hypothetically we assume what happened if they all progressed, and that's a big concern when they're eliminated from an intent-totreat analysis. But we don't have to be hypothetical here. Right? You have follow-up on those and they were included in your analysis? We know as much as we know about those patients?

DR. HOOFTMAN: These are the patients that were excluded from this long-term type of analysis. 5 of these patients never received an injection because they, so to
say, got cold feet and they didn't want to be in the study once it was clear what was going to happen. 3 patients had the wrong diagnosis. The patients that you see at the top of the list had stage IV and died after a few days. The second patient had a clark level I tumor. The third patient had lymphoma. The fourth patient had a previous melanoma, which was also an exclusion criteria, and the 1 patient in the observation arm had a previous melanoma. DR. LIPPMAN: So that that would add 3 relapses, if they were included in patients that had the right eligibility criteria.

DR. JOHNSON: Well, no. I would say 5 at a minimum, the 5 who withdrew their consent. To me that's not an intent-to-treat analysis. That's a "I took out 5 people I didn't want to include" analysis.

DR. LIPPMAN: The question that $I$ had actually is this issue of disease-free interval and the importance of that. Actually in the context of everything that we've heard this afternoon, the first presentation by Dr. Kirkwood and this, I actually was very disturbed by the finding of 1690 and the explanations for that in which you saw significant improvements in disease-free but absolutely nothing, not even a trend in survival. In this case there's a significant effect in disease-free survival and a .056 which translate to 59 deaths, if I read the slide
correctly, in Roferon, and 76 in the observation arm. So, it's certainly consistent and in the right direction.

But I want to get to the explanation that was given by Dr. Kirkwood, at least that I asked earlier, that the major aspect of that difference in survival he thought could have been explained by salvage interferon. So, the question here, have you looked at patients? Two issues. One, on the observation arm, if there as a drop-in rate on the interferon. Certainly it has been available and people have been talking about interferon and melanoma for a long time. And two, at relapse, the differences between the arms in terms of salvage interferon.

DR. HOOFTMAN: Would you please repeat the question?

DR. LIPPMAN: So, the question is, on the observation arm, of the patients that recurred, what was the salvage therapy? Were a substantial number of the recurrences on the observation arm treated with interferon at recurrence?

DR. HOOFTMAN: The only thing I can do in this situation is ask Professor Grob to answer the question. I think that the difference with what Dr. Kirkwood's group has done is that we have not formally retrieved that information in a retrospective fashion.

PROFESSOR GROB: If I understood you well, the
question is what kind of therapy did the patient receive after relapse. We do not have this information in our data. Of course, we can go to the files, but I think really that none of the therapy of metastatic disease, of distant metastatic disease, visceral metastases has shown any effect on the overall survival. So, this is my first answer.

And the second would be that it is highly likely that the treatment after recurrence were well balanced between the two groups. But the effect of the treatment on the overall survival, I would be happy to get one.

DR. LIPPMAN: The reason I bring that is up is I was surprised also by the presentation of Dr. Kirkwood that there as a major difference between the arms in terms of who had gotten interferon, and that that was the best explanation at least that exists, as I understand, for the fact that you see an improvement in disease-free survival but nothing in terms of survival. If that was even a potential confounder in this study, that might account for why your $p$ value is .056 instead of .049 . Could that have played an effect if what Dr. Kirkwood told us is correct?

PROFESSOR GROB: Well, this is an explanation and a hypothesis which was provided by Dr. Kirkwood. I would say $I$ don't share this explanation because really I
don't think that either IL-2 or chemotherapy or interferon can really change the overall survival. At least this has not been established in the literature, neither in my experience.

DR. SCHILSKY: Dr. Simon?
DR. SIMON: I had a few questions. One is you
indicated there were 35 patients who withdrew from
treatment. How were they handled in the analysis?
DR. HOOFTMAN: You're asking a question about the 35 patients --

DR. SIMON: Yes.
DR. HOOFTMAN: -- the 14 percent who withdrew
from treatment?
DR. SIMON: Right.
DR. HOOFTMAN: As usual, they were all
included.
DR. SIMON: Their follow-up continued as for the patients who did not withdraw from treatment?

DR. HOOFTMAN: That's correct.
DR. SIMON: I would like to get some clarification about the database that was used for the analysis, not for the interim analysis because my experience is at a time of interim analysis, there are delays in reporting and that's really not necessarily a very accurate database, particularly in a multi-center
study with many centers involved and particularly when you're using something like a triangular test in which the protocol says you do analyses after every 20 recurrences. I don't really think that's practical in a multi-center study, and I have questions about the accuracy of the database in a situation like that. So, I would like clarification. So, for me, that's really not the definitive analysis.

I would like clarification of what additional follow-up was performed and what kind of auditing was done and how long each patient was followed and what proportion of the patients were lost to follow-up not for the interim analysis but for the subsequent analysis.

DR. HOOFTMAN: I understand the question. Can I give the work to a statistical colleague who was intrinsically involved at the time?

DR. RAMISIO: My name is Dr. Maurizio Ramisio, statistician, Hoffmann-La Roche, Basel.

The database that was used for the third sequential analysis is unfortunately not available anymore. We collected complete information on all the patients in the beginning of 1996 and, as Dr. Hooftman said, getting a new informed consent from all the patients. The follow-up analysis that has been presented is based on those data.

The triangular test analysis that has been
presented is based on the data of the 1st of January 1994, which are not available any longer.

We have simulated an analysis at the time of the 1 st of January 1994 by putting a cutoff, using the data that we have to date, but putting a cutoff on the 1st of January 1994. The result that we have got with this analysis is still significant, is 0.035 on the log rank test. But again, we are not able to reproduce the analysis of that time.

DR. SIMON: So, the . 035 represents an estimated significance level at the time that that interim analysis was performed?

DR. RAMISIO: This is what I'm saying now. What has been presented by Dr. Hooftman is the result which was obtained by Professor Chastung at that time doing the third sequential analysis on the data which was available at that time.

DR. SIMON: Suppose we forget about sequential analysis. Can you just clarify what is the most complete data available?

DR. RAMISIO: All right. The most complete data available is the data that have been collected in the beginning of 1996 , and this is the data that have been presented as follow-up analysis by Dr. Hooftman.

As I said before, if we do a cutoff on that set
of data, which has been quality controlled, and source documents verified, and we do the analysis as it would have been done on the 1st of January 1994. We get a log rank test with 0.035 percent.

DR. SIMON: Suppose you don't do a cutoff and you just do the analysis with all of the data.

DR. RAMISIO: If we do the analysis with all of the data -- I don't remember what was the significance. If we do the analysis on disease-free interval, including all the patients, so intent-to-treat, including all the 499 patients, we have to exclude 2 who had no follow-up visit at all. They went into the study. They were randomized but had no visit at all. So, if we analyze that -- I'm sorry. I must find the right page.

Here. The disease-free interval -- the significance, stratifying by center, is 0.074 . If we do the analysis on the eligible patient population, so excluding the 10 patients that we have discussed about before, we get a $p$ value, which is 0.035 . This is including all the data available up to the beginning of 1996.

If we do the analysis as it was prescribed by the protocol, we said an analysis will be performed at the end of the study, which could be interpreted as when all the patients will have had 3 years follow-up. The $p$ value
becomes 0.005.
Is this answering your question?
DR. SIMON: What was the last point? If you do what?

DR. RAMISIO: The protocol prescribed a primary analysis, which was the sequential, and said, unfortunately a little bit unclearly, a further analysis will be performed at the end of the study. So, it is a matter of interpretation what is the end of that study.

In another place, the protocol says the patients will have to be followed for 3 years. So, an interpretation of the end of the study might be when all the patients will have been followed for 3 years. So, if we do an analysis cutting all the data following the 3 years, so treating is censored all the patients who had a relapse after the 3 years, we obtain a log rank test with a $p$ value of 0.005 .

If we do not do that, if we take all the data considering a median follow-up of 4.4 years, where some patients have been followed up for 3 years and some have been followed up for 6 years and more, then we get, on the eligible patients population, a $p$ value of 0.035 and, on the ITT population, a $p$ value of 0.074 .

DR. SIMON: One other question. You didn't present any data on sites of recurrence, which ones were
resectable, which weren't. Do you have that data? DR. HOOFTMAN: Yes, we have that information. We just have to find it.

As you can see here, the recurrences were mainly regional or local as opposed to visceral.

DR. SCHILSKY: Dr. Blayney.
DR. BLAYNEY: Thank you. I have three questions.

As has been alluded to earlier, in an analysis where you're looking at disease-free interval, there's a potential for bias introduced into the ascertainment of the data points because patients may be lost to follow-up, the ones that recur may die without knowledge of the investigator. Without a prospective plan for follow-up, this is of some concern in trying to interpret the data. I guess $I$ would have some more comfort if you could tell me how many patients were lost to follow-up and how these were handled in your analysis.

DR. HOOFTMAN: Please bear with us until we find that information.

Can I defer this question to Dr. Sam Givens?
DR. WASSNER: We only lost something like 6
patients to follow-up in the long-term follow-up in the notreatment arm and 8 patients in the treatment arm over the 7 years of the trial.

DR. BLAYNEY: So, since those numbers are equal, I'm understanding that there's probably a -- or roughly equal, there's no bias, likely there would be no follow-up bias in that.

DR. WASSNER: No. And less than 2 percent of the patients have been lost to follow-up over this period.

DR. BLAYNEY: In your slide number 111, you have a p value of .038. Now, maybe Dr. Simon's question got to this issue, but is that $p$ value adjusted for multiple analyses?

DR. WASSNER: Yes. This value has been adjusted only for that, only for the multiple analysis, not for any prognostic factors.

DR. BLAYNEY: Thirdly, why did you choose or why was it chosen to give patients 3 million units and not adjust based on body surface area or some other measure of size?

DR. HOOFTMAN: The decision by the clinicians separately for the French study, as well as for the Austrian -- they made that decision separately and not knowing from each other what they exactly were going to do -- was based on the fact that they were looking for the dose that could be maintained for a long time and the lower dose that was effective, which was 3 million units, as used in other indications, for example, hairy cell leukemia, at
the time.
DR. SCHILSKY: Let me just make a comment to the committee. I'm bound and determined to keep us on schedule this afternoon because I know that some committee members will have to be leaving. So, we have about 3 minutes left for questions. So, let me just ask you to just keep your questions very focused.

Dr. Raghavan, do you have a question?
DR. RAGHAVAN: I just wanted clarification of one quick thing. I think I understood somebody from the sponsor to say the database is no longer available. What does that mean and why?

DR. GIVENS: What that means is that they did not save the database when they did the publication. They kept adding to the database and making corrections. So, the database as of today is the most up-to-date that we have, but we don't have a copy of precisely what they used when they did the sequential analysis, which is why we went back and said, let's cut off all data that should have been collected on visits up until the 1st of January and do the analysis again.

DR. SCHILSKY: Dr. Nerenstone?
DR. NERENSTONE: Very briefly, first of all, was there central pathologic review?

DR. HOOFTMAN: No, there was not.

DR. NERENSTONE: We've heard about how many patients were withdrawn because of adverse experiences. However, you have no information about what actual dose was given, what kind of delays there were in the patients who were on treatment for specific toxicity or even for the asthenia, depression, and flu-like symptoms. Do you have any other data available about that?

DR. HOOFTMAN: Yes, we have. We have information with regard to dose reductions. About 83 patients, 33 percent, in the Roferon arm had their dose reduced temporarily.

DR. SCHILSKY: Any other questions from the committee?
(No response.)
DR. SCHILSKY: If there are none, then let's break for about 14 minutes and reconvene promptly at 3:15. Shorter if we can.
(Recess.)
DR. SCHILSKY: We'd like to continue with the FDA presentation.

DR. CARDINALI: Good afternoon. My name is Massimo Cardinali. I will introduce the FDA perspective on this application.

First, I would like to acknowledge the review team that worked on this application. Dr. Neeman did the
bulk of the statistical review, and Dr. Tiwari also participated in the review. Dr. Gupta in the last week or so did some additional analysis.

This slide is to remind the approved indication for this product. The indication for the hairy cell leukemia has the closest dosage to the one that the company is seeking for this application.

This is the indication that the company is seeking for this product as presented in the submission.

I'll briefly go over the events that took place. You see in white the company and in yellow the agency. The supplemental application was submitted in 1997. The company provided us with the translated protocol and statistical plan and database for the Grob study, as well as the available literature at the time on the subject and an unpublished report. This was the study WHO 16 , the Cascinelli study.

We finished our review in March of '98, and Dr. Neeman asked the company for some additional information on the Grob study and that was received in May of that year.

The monitoring of the French centers was completed in May of '98.

We issued a complete review letter in August of that year. The database and data that the company provided was perceived to be not sufficient for approval by the
agency, and we requested a database for the other study with Roferon that was available, as well as some additional clarification on the Grob study. The information was provided in November of that year, and the paper for the Pehamberger study was submitted to the application in March of '99.

We received about a month ago the translated study protocol for the Pehamberger study and early this month the data set that Dr. Gupta analyzed.

I will go briefly to the structure of the two studies. The Grob study was conducted between 1990 and 1994.

The inclusion criteria, essentially patients with AJCC stage II and no previous therapy was in the provision of the protocol. And the performance status was set as ECOG less than or equal to 2 .

The endpoint specified in the protocol, disease-free interval, and as secondary endpoints, overall survival and tolerability of the treatment.

The dose administered was 3 million units 3 times per week subcutaneous for a total duration of 18 months.

The study conducted in Austria was started approximately at the same time and the same duration than the French study. The inclusion criteria were almost
identical in terms of the staging of the disease. There was no systemic therapy within 3 months of inclusion in the study and the performance status was a little more stringent.

The material that we received did not specify the endpoint, and there was no statistical plan in the protocol.

Again, the studies are very similar. The difference that we can observe is the duration of the treatment. The study had an induction phase of a 3-week duration and then it was continued at 3 million units 3 times per week for a year.

I'll leave the floor to Dr. Lachenbruch that will summarize the results and the statistical analysis.

DR. LACHENBRUCH: Thank you. I'm almost an imposter up here in that the primary analysis was done by Dr. Neeman at the FDA and then later Dr. Tiwari did this work.

The study by Grob, M 23031, is the primary trial that was submitted to the FDA. This trial was planned to have sequential looks every 20 events. However, the timing was not adhered to and three looks were done.

As you can see here in a triangular test, a score $Z$ is computed, and if the null hypothesis is true, that will be around 0 , and a variance $V$ is also computed
which is proportional to the number of events at the time of analysis. If the points exceed the upper boundary, the null hypothesis is rejected, as you see. On January 1st, '94 when the analysis was done, it did exceed the null hypothesis.

During the FDA review, we requested that the sponsor submit more mature data from the additional followup that they have, and our analyses are all based on an intent-to-treat at this time of final analysis.

This is a graph you've seen before. The medians are indicated. Because the number of relapses at and before this time of the medians, the estimate of the medians may be somewhat variable. This again is based on the ITT population and not the per-protocol population. This results in an additional 9 patients being added to the overall population, and the significance level that we see here is .095 as opposed to the . 038 from the sponsor's analysis. This is no doubt due to both the additional data, more mature data, and the additional patients.

The overall survival is shown here, again with the ITT population. We came up with a . 09 p value.

We also decided to examine some additional analyses which are exploratory, and these are, indeed, post hoc but $I$ think they are of some importance. This slide shows the effect on relapse-free survival of the covariate
alone, and that's important to realize. Thus, the Breslow thickness has a $p$ value of less than .001. That is for the effect of Breslow thickness on survival. It is not a $p$ value for Roferon given Breslow thickness.

Among these data, the $p$ value for Roferon is larger, i.e., less significant, than for any of the others. Also, I should point out that Dr. Neeman used the Breslow thickness as a continuous rather than as a categorical variable.

We also attempted to find a best model for using the covariates, and in this case we found that Breslow thickness, age, and sex gave the best model. Adding Roferon treatment to those three led to a $p$ value for Roferon of .25. The sponsor, Roche, did do a similar analysis. They dichotomized age as greater than 50 or less than 50. The differences may be due to more mature data, the use of age, or the additional patients.

The results are marginal significance. The $p$ value at the time of the termination of the study is .038, but after the data had matured, it was . 095 .

We received the Pehamberger data last week, and we have been unable to do a detailed and rigorous analysis of the results. We received a translation of the protocol about a week earlier.

We attempted to reproduce the analyses that
appeared in the article and will present some comments. The inclusion criteria, of course, are essentially the same as for the Grob study. The analytic plan was not presented in the protocol and endpoints were not specified. We used relapse-free survival and overall survival, and we've also done some adjustments for Breslow depth and did a corresponding analysis including age and gender as we did with the Grob study.

Here we see the relapse-free survival, and we found a p value of . 04 and median for controls is 4. The Roferon group did not reach a median.

In doing the same proportional hazards model, we find quite similar results. Breslow thickness is highly significant; age, significant; sex, somewhat less; and Roferon as, of course, .04.

At the same time we did the adjustment for Breslow alone, which is what was reported in the Pehamberger article, and found a $p$ value of .1, and if we adjust for Breslow thickness, age, and sex, we had a p value of .22 , quite similar and comparable to the $p$ of .25 that was seen in the Grob study.

Again, our conclusions seem to show that there was a moderate effect of Roferon by itself, which is the primary analyses that are presented by the company. However, adjusting for Breslow thickness and other
variables does seem to reduce the effect.
Based on this, we felt that it was appropriate to begin planning an overview of the published literature. So, we are doing this to combine the evidence. What we want to do is substantiate the evidence of efficacy from known studies of adjuvant interferon in melanoma, and for this purpose, we will use studies of both Roferon and Intron. These are exploratory and we want to emphasize that the data support from Roche will be the only material that is used in any decisions regarding this product. We will be using relapse-free survival and overall survival, as they are the generally accepted outcomes. And we are in the process of obtaining data from investigators.

We will be looking at Roferon and Intron
trials. We want them to be randomized, concurrent controlled trials, and so far all have an observational control and are for adjuvant therapy.

We have searched a number of databases seen here. The trials that we have identified and the studies come from North America, Europe, Australia, and New Zealand. We will be looking to get estimates of the odds ratio by means of ratio of medians, and that's very nice if you happen to have exponential survival. That's for the statisticians. And the Peto method is basically a log rank type method.

We will also be looking for estimates of survival, either relapse-free or total survival at 3 years. We'll be looking at Kaplan-Meier estimates, 95 percent confidence intervals, and so forth.

So far the studies that we have found are those from Dr. Creagan, Dr. Cascinelli, Dr. Grob, Dr. Pehamberger, which all were using Roferon. We've seen five studies from Kokoschka, Kirkwood, Cornbleet, Rusciani, and the Kirkwood ECOG 1690.

This slide provides estimates of the percent improvement and confidence intervals for relapse-free survival that we have seen thus far. A square is placed at the estimate for the difference in proportions. The whiskers are the 95 percent confidence intervals. A positive value is favorable for interferon. So, if the whiskers cross the line, it is not possible to rule out a difference of 0 between observation and interferon.

The size of the box, that is the area, is proportional to the sample size. These generally indicate a consistent improvement of about 8 to 9 percent over observation. We don't have reliable 5-year data at the present time to conduct a similar display.

In overall survival, we see the same picture. As you can see, there's a bit less of an impressive difference in these. We did not have the data from Dr.

Pehamberger for survival. The difference is around overall about 4 to 5 percent.

Our next steps will be to get individual data from studies and perform the analyses that we have indicated above. The information contained in the literature does not permit sufficiently detailed analyses.

To summarize, for relapse-free survival, all studies do point in the same direction. These are marginally significant or barely not significant, and there's a moderate early effect. But we don't have a lot of data for longer term effects.

For overall survival, there is a consistent trend toward improvement but evidence is not that strong, and I have in my notes, parentheses, "yet" with a question mark. We did not show it, but there do seem to be fairly similar results with high and low dose and with nodepositive and node-negative disease from the material that we've seen.

Thank you.
DR. SCHILSKY: Thank you very much.
Questions for the FDA? Dr. Raghavan?
DR. RAGHAVAN: I'm totally mystified as to why you went through that statistical exercise because the best data points come from a product that isn't even up for submission. So, I just wondered why you spent all your
time doing this and what the point was.
DR. LACHENBRUCH: The purpose here was to really look for evidence combining all of the Roferon data. Over here, we see that there are four studies, and so what we would like to do is be able to draw information from all of these. So, what we see is overall there does seem to be a significant improvement in 3-year survival.

DR. SCHILSKY: Other questions? Dr. Simon?
DR. SIMON: I guess I wouldn't put much
credence in a meta-analysis based on literature data.
There may be exclusions. There are all kinds of biases in published reports. The fact that they're published may be publication bias. If you're planning on doing an individual case meta-analysis, $I$ would say go ahead and do it, but $I$ don't find it useful to present a meta-analysis based on publications.

DR. LACHENBRUCH: These are very preliminary results, and we are trying to get the data at the present time. So, I would agree with you.

DR. KEEGAN: I think to some extent the reason why these data were presented was that up until very recently, the only information we had was from a single study. So, this was our attempt to see what other information was available in support of this application. We're not saying it's optimal information, but it was all
that we had available.
DR. CARDINALI: As a note, the Pehamberger and Grob study data is from the publication not from the data set we have analyzed.

DR. SCHILSKY: Dr. Simon.
DR. SIMON: Do you have any insight for the French study as to why the significance level, say, for relapse-free survival, after adjustment for thickness, age, and sex, changed so much? Were there any imbalances?

DR. LACHENBRUCH: No. For a covariate analysis, as you know, the purpose is not necessarily to adjust for imbalance, although that can be one use of it, but these happen to be important prognostic factors for survival. So, what we're saying is we'd like to look at these after we have adjusted for these.

DR. SCHILSKY: Dr. Lippman.
DR. LIPPMAN: Just a quick clarification. In your last conclusion slide, you said that there were similar results with high and low dose. Is that what we just saw from Dr. Kirkwood with Intron or is that with Roferon?

DR. LACHENBRUCH: I believe that was the for the Roferon, the study of Dr. Creagan and the Grob and --

DR. SCHILSKY: Other questions from the committee members?
(No response.)
DR. SCHILSKY: Okay, thank you.
Let me point out to the committee members that there's a slightly different set of questions than the ones that were in the blue folder, and those should have been put at your place right after lunch. It looks like this. It's a two-page thing. It has only one of these metaanalysis charts. I think the content of the questions is largely the same, but these are the questions that we should be focusing on at this point.

Before we get into the questions, actually I'd like clarification of one point from the FDA because most of these questions are posed in such a way that they ask us to consider the results of the sponsor's data in conjunction with the overview analysis that was just presented. Now, I was quite sure I heard the FDA presenter say that the overview analysis would not be taken into consideration by FDA in assessment of the sponsor's application. So, could we get some clarification on that?

DR. LACHENBRUCH: Yes. What I said was no Intron data would be taken into account.

DR. SCHILSKY: I see. It's a little bit difficult for us to sort out from those meta-analyses which ones had Intron data and which ones had Roferon data.

DR. SIEGEL: Let me clarify something. First
of all, the Roferon data were the top part of all those slides and are on the second page of the questions.

The FDA has a policy regarding use of literature in support of applications for new indications for already approved drugs. The gist of the policy says that literature data, especially if consistent and compelling from multiple sites, can be important, but the value of the data is largely dependent on the ability to substantiate it through finding protocols, data sets, ensuring that there were intent-to-treat analyses, and the normal things. So, these are things I think that, as a matter of policy and procedure, should not be ignored, but I think that the weaknesses or concerns that have been highlighted are important ones to take into account.

DR. SCHILSKY: Okay, thank you.
Maybe we'll just get on with the questions then. Yes, Scott.

DR. LIPPMAN: I know that we're not considering Intron here, but I think the data are relevant in the sense that -- two issues. One is the biological plausibility mechanism and the other is consistency within the committee in terms of approval.

Again, we talk about the fact that there's very little data. So, we have one study of 500 patients which, at least in the FDA presentation, we've talked about those
mysterious 9 cases and how that would affect. But at least in the FDA presentation, it was significant. Every one of the boxes is -- it's modest, but it's positive both in terms of disease-free and overall survival, and the whiskers come very close, just past the survival curve of 0 , as opposed to another situation where we're using interferon where it's approved and where you don't see that pattern even with a very high dose in terms of survival. And we've heard some explanations of that. It's really a question of whether we should take that issue, the consistency, the biology, the mechanism, into account in some of these discussions.

DR. SCHILSKY: I don't think we should ignore the universe of information that we're aware of and we have available to us.

I just want to get clarification on this again. First of all, the meta-analyses with respect to the Roferon data, which is what's on our question sheet -- so, there are four studies listed for disease-freed survival and three listed for overall survival. Of those, only the Grob study would appear to show a significant benefit with respect to disease-free survival as it's listed here. However, as the more detailed analysis of the study was presented to us, there are questions as to, in fact, whether even that study shows a significant difference in
$-$
disease-free interval. So, although the trend appears to be in favor of interferon in each of these examples, there's very little in the way of a statistically significant benefit for interferon.

Further, it's fair to say that, $I$ quess, in a sense these are at best incomplete meta-analyses for the reasons Dr. Simon mentioned, that this information is just based upon data you could glean from published reports in the literature, not from the actual patient data that's contained within those reports. Correct? okay.

Scott?
DR. LIPPMAN: Just to clarify, because with all the discussion, $I$ guess $I$ was sort of surprised when $I$ look at this. I'm not talking about the meta-analysis, just the big box of 500 patients under Grob. It is significant, doesn't cross the line. I haven't read the recent set of questions, but one of them was should we recommend approval based on one large randomized trial. So, I'd like to clarify maybe from the FDA if they're going to stick with this box. In that case, that is statistically significant and survival is close and the other studies corroborate that. So, I'd just like to clarify.

DR. SIEGEL: Well, I guess a lot of people have addressed different parts of this question. I'll take my turn.

That box was an endpoint that was chosen in part because it was, I think, the easiest endpoint to get on all of the trials, and it's endpoint data truncated at 3 years. That's the endpoint that the Grob data looked the best at because, in fact, the curves have maximal separation at about 3 years and start coming together after 3 years. As noted, that studied had 3 years of planned and prescheduled follow-up, so it's not an irrelevant time period for that study. But at best, let's say that the primary time for follow-up is ambiguous in the protocol and difficult to determine. As we determine it, the intent-totreat analysis of the most complete available data set was at the . 095 level and with covariate correction at the .25 level.

We'll stand behind that analysis. It's one of several analyses. We won't stand behind it as like the one that tells the story. I don't think, given the ambiguities of the protocol and the flaws and strengths of different analyses, that there's probably not one $p$ value that you can hang your hat on and say this tells you the statistical significance of the trial.

DR. SCHILSKY: Are we ready to go to the questions? Let me just read the first question. There's a two-paragraph summary. Then the question is, does the committee find that the results of a single multi-center,
randomized, controlled trial, in conjunction with the overview analysis of the three randomized, controlled trials of Roferon-A, provide substantial evidence that Roferon-A prolongs the disease-free interval in patients with surgically resected melanoma?

Is there discussion on that before we vote? Dr. Lippman.

DR. LIPPMAN: I will just say that the real fundamental issue that I'm having a problem with is the floating $p$ values. Given that we've heard a lot of discussion on this and still know real consensus, I don't think, in terms of what is either reasonable or meant or intended, that's going to fundamentally affect how $I$ vote anyway on this.

DR. SCHILSKY: Well, I think we've seen the data as presented by the sponsor. We've seen the data as presented by the FDA with the adjustments to the $p$ value, if you will, based upon the other covariate prognostic factors. We've seen, for what it's worth, the preliminary meta-analysis. So, is there anything else you would like to know before you vote on this?

DR. LIPPMAN: I think fundamentally if we knew exactly in the design what the primary endpoint was -- was it a 3-year? I think that's where the debate is.

DR. SCHILSKY: It appears that we don't know
that because it wasn't well specified.
DR. KEEGAN: That's correct. The protocol really is open to quite a bit of interpretation as to when that final analysis was to have occurred and exactly what it was to consist of.

DR. SIMON: I will say, however, that my experience is if you have an endpoint, that your most accurate analysis is the one based on the longest follow-up and that's what you should hang your hat on and not one that was simulated based on what might have happened some years ago. So, anyway, I guess that's one issue.

The other issue is for myself $I$ guess $I$ just have some basic uncertainty about the quality of the data from that trial, the potential biases in follow-up. It looked like there was too much of an emphasis that the main analysis would have been the one that was essentially an interim analysis that stopped the recruitment. Then there were sort of ad hoc attempts to increase follow-up. I just am left with some uncertainty as to how accurate that additional follow-up was. So, I myself, in addition to the variable $p$ values, just have some uncertainty in the credibility of that data.

DR. SCHILSKY: Dr. Keegan.
DR. KEEGAN: I would say that the protocol did not specify what the continued follow-up should be after 36
months, and when we requested the additional data, it was necessary for the company to go back to the investigators, who then reconsented patients to get the information. From the monitoring inspections of some of the sites, it's clear that there wasn't a rigidly adhered to schedule for followup.

We did also ask the company to analyze the data to determine whether or not there was a systematic bias in terms of the follow-up, and it didn't appear that the follow-up was systematically biased towards one or the other arm. It was equally -- I won't characterize it as haphazard, but definitely not done according to a rigid schedule. But that seemed to be present in both arms. One other point I'd like to make in terms of the policy is that for a single study in support of effectiveness, one of the criteria that FDA uses is that the trial have a statistically significant result that's fairly robust such that we would have confidence that the result would be reproducible. At best, the $p$ value here is .04, and our concern at the time of even the review of the data with the most up-to-date follow-up that we could get through 1997 suggested to us that that result, although statistically significant, would not meet that condition of being so robust that we were convinced that it was a reproducible result, which is why we encouraged the company
to go back and obtain additional study data.
DR. SCHILSKY: Dr. Johnson?
DR. JOHNSON: Yes. I didn't realize this was going to take a lot of discussion, but since Scott seems conflicted, let me go through a number of reasons why I think this is a poor study.

First of all, I'm not sure I accept the endpoint as one that's therapeutically efficacious. DFI, in the absence of a survival benefit, is of uncertain benefit in my view. We can debate that but there are plenty of diseases where DFI can be prolonged and survival is not. And we don't do the therapy that prolongs the DFI. Small cell lung cancer immediately comes to mind. There are 10 randomized trials out there showing DFI is prolonged, survival is not. No one uses maintenance chemotherapy in that disease.

If they had shown me some quality of life benefit to that DFI, that symptoms had improved or some other meaningful patient benefit, then perhaps I could have accepted that as an endpoint of value, but $I$ don't. And I didn't see that data.

Thirdly, again, I find it shocking -- and I think that's the word -- that a study of this size would be undertaken without appropriate stratification for known prognostic endpoints. That being said, even more
importantly, there was no quality control of pathology. We have no idea whether these patients were equally balanced other than what they tell us. There was no central review of the patient pathology. They could have all been one stage in the Roferon arm and quite another in the other, just on the basis of that inequity. All we have is a report. They've told us there was no central pathology review.

Candidly, $I$ just think that the overall data are highly questionable. I agree with Richard. I think these are not the quality of data that we see come to this agency that generates approval by this body. That's my perspective on this, and personally I don't see how we can vote anything other than no on this question.

DR. SCHILSKY: Dr. Raghavan?
DR. RAGHAVAN: Yes. I think I always feel sorry for the FDA because they're victims and they get beaten up by everyone, but as a taxpayer I really have to say that $I$ don't think you've done as well as you usually do this time. You've left it to the committee to identify a whole series of very bad statistical concepts and poor quality data. I shouldn't have to remind you: garbage in, garbage out no matter what the $p$ value. I just feel very disappointed that we've had to go through this exercise.

Dr. Lippman has tried very hard to be fair, and

I recognize and respect that. For those of us who are crusty veterans who have seen outstandingly good data over the years, this is not an example of that. And bending over backwards to bring in Intron data that were approved based on good quality data and then tainting that information based on very poor quality information with bad follow-up sets up a precedent that that $I$ think is kind of disappointing. And $I$ would hate people to leave here starting to question decisions made in the past based on good data when we've now added a bunch of information that's out-of-date, hard to quantify, irreproducible, et cetera.

And $I$ just felt $I$ wanted to make that comment. I apologize for beating you up, but you deserve it. (Laughter.)

DR. SIEGEL: Allow me to respond in part, although I don't want to take up too much time with this. First of all, $I$ think it's a mischaracterization to suggest that it took the committee to identify the flaws in this data. I don't think there was a flaw discussed here that was not identified by the FDA. The FDA did an intent-to-treat analysis from the beginning. We carefully inquired and investigated about the relevance of the follow-up data, the quality of the follow-up data, and the choice of the endpoints, and made a
presentation of the data, I think, that accurately reflects our perception.

As to the question of why these data were brought before the committee, perhaps this requires a bit of understanding of time lines. At the time we need to make a decision about scheduling a committee, it's usually a couple months before the committee. As we have made clear in the presentation, we had felt that based on the Grob study alone, there was no reason to discuss or consider approval of this application.

What we had available to us at the period two months before this committee was a published report from the Pehamberger study that showed a p value of .02 and new information from the company that they were, in fact, going to be able to get the data set and the protocol. Those, as you've heard, I'm sure for a good reason, took longer than anticipated to get. So, they arrived within the last week or two. You've seen the preliminary analyses of those. The study did not look like what we expected it to look like, but I think with that perspective, perhaps you can better appreciate where we've come from.

DR. SCHILSKY: All right. Thank you.
In the interest of time, I'm going to call for the vote. I think we're probably ready. Let me just restate briefly the question. Does the committee find that
the results of a single multi-center, randomized, controlled trial provides substantial evidence that Roferon-A prolongs the disease-free interval in patients with surgically resected melanoma?

All those who would vote yes, please raise your hand.
(No response.)
DR. SCHILSKY: That's 0 yes.
All those who would vote no?
(A show of hands.)
DR. SCHILSKY: 7 no.
Abstentions?
(A show of hands.)
DR. SCHILSKY: 1 abstention. Sorry. 2 abstentions.

DR. SIEGEL: I think we're done.
DR. SCHILSKY: That's what I was about to ask because the second question says, assuming that the answer to question 1 is yes, well, we know now what the answer to question 1 is. So, I think that completes the committee's deliberations. Thank you all very much.
(Whereupon, at 4:02 p.m., the committee was adjourned.)


- 3 -

3,000-patient 179:6 3,000 34:9 77:5 95:2
95:22 114:3 116:13
128:25
3,121 35:2 35:6
3,170 15:13 34:24 79:25
3-4 44:16 205:22 206:8
3-grade 46:14
3-hour 25:19
3-month 213:13
3-week 235:10
3-year 64:21 100:10
107:23 121:13 219:25
242:7 249:24
3/grade 47:6 47:8
30,000 117:7
30.1 102:22

300 78:13 82:4 82:9
30 22:9 36:12 48:15
49:2 63:19 92:24 183:21
191:20
311 207:7
325 43:9 43:12 104:12
32 108:24 109:11
202:25 208:11
330 207:9
331 176:13
33 232:10
342 36:16 102:22
34 109:11 166:23
167:18 199:16
357 176:12
35 170:11 206:3 224:7
224:10
36-month 220:11
360 79:21 80:21
36 198:9 198:10 200:13
202:11 213:20 220:12
250:25
37 170:9 176:7 177:21
207:25
38 176:7
399 82:4
3:15 232:16

| - 4 - |  |
| :---: | :---: |
|  | - 7 - |
| $4.34174: 20$ |  |
| 4.4 202:9 204:13 210:13 | 7,000 18:4 |
| 228:19 | 70 189:15 191:19 |
| 40 19:15 81:12 81:20 | 192:15 |
| 126:8 189:8 189:10 | 72,000 114:5 |
| 191:24 | 74 42:4 |
| 42 170:14 | 75 25:16 26:10 32:3 |
| 44 169:20 170:11 | 32:22 33:5 40:9 79:13 |
| 208:12 | 169:25 175:8 186:8 |
| 450 34:20 35:13 | 199:4 |
| 452 199:7 | 76 204:9 204:21 |
| 453 35:13 36:14 | 78 38:25 41:19 |

## -9-

9-year 211:5
900 34:20 99:4 109:22
110:5
90 25:22 26:10 32:4
32:22 $33: 5$ 39:3 40:9
40:15 52:11 52:25 79:13
172:3 198:24
92 38:7 48:23 199:16
9344 12:24
93 92:13 167:14 176:13
199:18
94 93:25 199:20 236:4
95 34:6 41:17 48:7
166:25 240:3 240:14
96.5 123:25

96 48:7 81:21
97.7 123:25

97 25:10
981 44:5
98 121:19 121:21
233:18 233:22
99 92:14 153:4 234:6

- A -
a.m 8:2
ability 60:2 90:2 245:8
ablation 63:5
abnormalities 45:25
about-face 118:2
absence 59:5 59:7 252:9
absolute 60:8 61:8
61:10 170:7 170:12

171:6 188:25 199:5
absolutely 77:3 85:16
86:25 89:11 117:25 131:16 221:22
abstention 256:14 Abstentions 256:12 256:15
abstract 165:25
accept 13:22 62:14
115:16 129:21 209:22 210:7 252:7
acceptable 145:11
152:14 152:16 154:19 205:7
accepted 150:17 164:18
239:12 252:20
access 13:2
accident 169:17
accomplished 35:10
accordance 10:4 33:4 161:24
according 26:5 81:23
94:25 103:4 213:20
251:12
accordingly $135: 7$
account 212:12 223:20
244:21 245:14 246:11
accounted 177:2
accrual 27:22 28:21
35:9 35:10 90:23 90:24
92:2 99:6 133:10 181:2
accrue 28:21 32:10
34:9
accrued 15:13 34:24
104:13 176:16
accruing 27:2 27:17
28:10
accumulated 15:23
accuracy 225:5
accurate 104:16 122:9
224:25 250:8 250:19
achieve 85:25 139:18 177:6
achieved 169:7
achieving 169:10
acknowledge 232:24
across 61:23 67:22
68:19 168:23 171:5
175:24 203:14
ACT 81:21
acting 9:9 212:10
action 65:5 126:21
active 21:24 22:4 30:17
30:17 48:17
activity $14: 12 \quad 17: 3$ 17:12
actual 57:8 87:7 91:24
111:13 190:23 232:3 247:9
actuarial 71:10
acute 95:10 97:10
acutely 105:11 106:12 ad 250:18
add 13:4 29:16 31:23
81:21 94:21 126:20 221:9
added 97:3 97:23
100:22 106:16 154:7 236:15 254:10
adding 39:4 40:13
41:3 49:7 49:8 49:13
76:9 231:15 237:13
addition 10:4 10:15
12:20 12:24 15:5 32:6
32:11 34:7 40:18 42:11
49:19 101:7 104:22
111:5 111:6 161:24
250:20
additional 17:24 18:7
45:16 98:4 101:12
104:10 105:2 106:9
106:17 107:12 115:9
115:16 134:11 219:25
225:9 233:3 233:19
234:2 236:7 236:15
236:18 236:19 236:22
237:17 250:20
additive 154:4
address 11:15 52:7
56:22 65:6 65:17 70:24
93:10 93:13 113:9
128:15 137:2 137:4
154:14 155:8 158:13 162:21
addressed 30:13 58:4
58:7 82:12 98:22 99:6
247:24
addresses 9:15 161:11
addressing 31:11 66:12
adequate 183:18
adhered 235:22 251:5
adjourn 158:24
adjourned 256:23
adjust 92:6 135:2
135:7 230:16 238:19
243:12
adjusted 230:9 230:12 243:15
adjusting 91:2 134:21
144:17 167:11 171:23
172:6 238:25
adjustment 199:9
199:10 238:16 243:8
adjustments 238:6
249:17
administered 12:9
33:10 51:5 53:9 79:17
234:20
administration 16:18
53:21 154:20
admit 120:24
Adriamycin-based
153:3 153:11
Adriamycin 19:14
25:6 79:17 114:11
114:25 115:2 152:25
153:5 154:12
ADRS 43:20 43:24
52:6
advance 97:25
advanced 21:13
advancement 12:23
advantage 18:2 21:2
39:4 42:7 69:2 103:15
130:23 130:25 208:21
advantages 15:20 16:20
30:15 67:7
adverse 46:16 52:14
104:14 104:17 191:12
205:7 205:9 205:11
205:20 232:2
advice 140:3
advise 138:22 140:5
advised 150:11
advising 95:24 140:10
advisory 184:14
advocate 12:12 117:6
137:24 150:7
Affairs 184:16
affect 80:20 93:17
128:11 140:23 249:13
affected 113:16
affiliated 131:4
afternoon 184:13
184:16 185:25 194:19
194:23 202:2 204:24
221:19 231:4 232:21
afterward 26:22
agency's 10:13 10:22
11:4 162:4
agency 10:19 50:8
54:9 95:3 100:7 100:17
101:2 101:25 103:15
105:24 112:4 233:12
253:12
agenda 9:19 11:9
161:15 162:7 163:5
163:11
agent 16:16 21:11
29:9 30:17 49:19 50:9
50:22 78:9 175:18
agents 16:15 17:25
21:3 21:4 21:23 29:7
53:8
aggregate 172:9
aggressive 25:17
agree 72:19 89:11
98:5 120:9 122:11
122:11 128:5 129:3
134:14 135:18 140:4
140:12 150:13 150: 22
153:7 210:10 242:19
253:10
agreed 200:25
agreement 101:25
108:18
agrees 99:10
AJCC 234:14
al $28: 17$
Alabama 187:13
alive 191:21 191:24
210:25
allow 118:2 162:14
254:16
allowed 31:24 32:19
129:16 166:12
allowing 12:4 24:13
alluded 194:2 229:9
alopecia 45:24 97:21
alpha 162:17 164:11
164:24 165:8 169:12
179:22 195:17 198:23 209:10
altered 141:19 171:10
alternating $25: 3$
alternation 24:23 25:7
alternative $180: 10$
altogether 97:19
ambiguities 248:17
ambiguous 248:10
amendment 26:16
44:3
America 239:20
American 26:23
Americans 186:8
amongst 177:15
analytic 238:3
analyze 94:11 227:13
251:7
analyzed 40:2 87:8
100:15 168:24 173:18
176:11 234:9 243:4
analyzing 19:12
anaphylactic 53:13
118:19
anatomical 201:25
and/or 99:16 99:17
100:17 100:23 101:6
101:10 103:18 107:25
121:12 189:19
Anderson 8:25 160:25
185:6 190:4
anemia 47:9
Angeles 9:4
announce 89:16 92:3 162:24
announced 57:4 91:8
91:11
announcement 9:15
89:23 91:14 161:11
announcements 89:25
announcing 91:3 93:9
annual 17:11 17:15
17:18 18:7 19:7 42:15
49:12 61:21 61:22 62:17
63:2 63:3 66:23 113:20
answer 55:5 55:24
65:9 69:13 82:21 85:17
95:20 111:19 125:11
134:23 136:21 155:6
155:7 199:13 203:20
215:24 222:21 223:7
256:18 256:19
answering 217:14
228:2
answers 219:4
anthracycline-based
158:5
anthracycline 14:17
$\begin{array}{llll}16: 22 & 16: 24 & 18: 3 & 19: 2\end{array}$
20:25 22:6 22:7 22:14
26:12 30:17 49:7 155:25
156:2
anthracyclines 18:6

30:22
anti-her2 29:11
antibody 21:16 29:11
anticipate 218:17
anticipated 165:13
180:4 217:21 255:17
antigens 164:7
antitumor 164:5
Antonio 185:2 185:23
anybody 56:25 179:25
anymore 225:20
anyway 65:8 116:11
128:4 134:8 249:14
250:11
apart 24:6 220:6
apologize 195:25
210:17 254:14
apparent 99:25 141:19
180:24
appeal 193:13
appealed 22:23
appear 55:23 94:18
125:23 246:21 251:9
appearance 9:17 9:23
10:18 42:7 45:9 102:9
161:13 161:19
appears 41:24 67:11
79:16 102:5 106:21
249:25
applicable $32: 13$
applicant's 99:10
applicant 98:24
application 13:14
125:14 163:15 165:8
194:24 195:2 196:17
206:12 212:9 232:23
232:25 233:7 233:12
234:5 242:24 244:19
255:10
applications 245:4
applied 18:17 197:24
applies 46:19 68:19 74:16
apply $21: 6$
applying 25:8
appreciable 100:25
101:22 103:19
appreciate $98: 2$ 201:3
255:21
appreciative $82: 13$
approach 21:8 21:23
23:11 30:14 30:15 30:25
112:8 139:23
approaches $13: 17$
17:7 74:14 96:25
appropriate $36: 19$
60:23 60:25 68:25 69:2
69:11 109:25 134:19
137:7 142:6 156:25
157:2 157:5 239:2
252:24
appropriately 43:13 90:7
approval 12:7 13:3
14:19 29:10 29:12 50:9
107:18 111:14 119:19

Reef inlegrated Eystems

138:24 164:11 175:17 233:25 245:22 247:17
253:12 255:10
approvals 111:10 143:21
approve 129:2 140:6
147:12
approved 14:23 15:24
21:12 33:11 117:8
137:18 139:7 139:8
141:9 143:17 147:16
152:4 152:14 154:23
155:25 164:3 165:9
176:24 233:4 245:5
246:7 254:4
approximately $37: 25$
112:23 163:24 234:24
April 15:14 35:9 36:7
91:10 166:2 176:10
199:18
Aredia 141:18
aren't 52:3 59:10
110:24
arena 140:3
argue 68:9
argument 112:12
140:18 204:23
arise 135:13 174:25
Arizona 8:15 160:15
arrange 145:21
arrangements 13:25
arrived 118:4 255:17
arriving 14:4
arthralgia 46:9 47:21
arthralgias/myalgias
104:25
article 238:18
ascertain 213:22
ascertainment 214:16 229:11
ASCO 25:10 34:18
35:19 36:9 36:16 36:23
40:3 49:18 57:13 57:18
69:23 70:18 166:4
asking 29:23 29:24
32:21 69:5 69:13 78:4
108:11 123:15 137:25
209:22 210:7 218:6
218:7 224:9
asks 139:6
aspect 217:23 222:5
aspirin 127:14
assess 32:3 32:5
assessed 48:19
assesses 78:10
assessment 244:18
assigned 89:5 132:3
associated 46:8 46:11
47:19 104:9 104:23
169:9 169:22
assume 122:4 220:17
assumed 34:5 34:9
assuming 92:20 256:18
assumption 89:4 92:18
148:11
assumptions 34:8

122:3 198:25
asthenia 205:18 206:6
232:6
astrology 127:16
astronomical 80:2
ATC 28:3 28:16
attempt 242:23
attempted 237:10 237:25
attempts 192:21 250:18
attend 162:25
attention 49:23 108:2
144:7 147:24 148:15
attitude 70:7 112:21
113:2
attractive 21:19
attributed 105:15
auditing 225:10
audits 165:20 176:15
augmented 28:17
augments 30:18
August 79:2 94:22
233:23
Australia 239:20
Austria 196:18 234:23
Austrian 196:25 206:13
210:2 212:14 230:20
average 18:19 75:17
138:4 170:2 182:11
averaged 71:15
avoid 53:20 120:22
aware 11:11 72:22
72:23 77:9 126:2 155:16 155:17 162:9 163:23
164:21 184:3 246:14
awareness 12:14
axilla 192:6
axillary $24: 21$
axillas 192:7

## - B -

B-22 19:19 25:14
B-28 26:25
back 55:24 58:5 62:15
63:5 64:16 67:16 82:14
98:10 110:5 121:10
123:24 128:19 138:14
145:18 156:19 157:7
165:17 168:7 169:6
175:17 176:10 192:5
192:8 195:24 197:25
198:5 201:9 204:6
214:13 231:19 251:2
background 16:7
163:22
backup 215:23
backwards 254:4
bad 75:8 108:20 118:21
120:5 253:21 254:6
balanced 133:2 201:14
207:14 217:22 223:10 253:2
bar 85:22 174:10
barely 70:15 83:24
241:9
base 138:5 207:4
Basel 211:9 225:18
baseline 80:5
basically 76:18 83:12
154:18 155:11 186:15
186:17 189:18 189:22
194:6 239:24
basin 189:25 191:13
191:14 192:10 192:11
basing 108:22 109:12
158:2
Bayesian 92:19
BCG 193:4 193:10
bear 229:19
beaten 253:18
beating 254:14
beautifully $201: 14$
becomes 80:18 96:21
127:5 136:25
becoming 74:2
beforehand 174:23
begin 98:16 160:5
239:3
begun 33:18
behalf $12: 5$
behaved 171:3
behavior 53:25
believed 137:24
believing 100:21
below 87:15 109:14
bending 254:3
beneficial 99:25 103:8
106:19
benefits 42:21 94:3
benefitted 129:7
Berry's 134:11
Berry 14:2 56:22 56:23
57:12 69:18 70:3 73:4
86:8 86:25 88:24 89:11
90:5 90:8 92:19 96:9
109:22 122:18 122:22
122:25 123:22 128:14
134:13 144:16
beta 198:24
bias 148:13 156:21
229:11 230:3 230:4
242:13 251:8
biased 251:10
biases 214:22 242:11
250:14
big 220:18 247:15
bigger 72:12 72:14
119:13 138:3
biggest 182:23
biochemotherapy
176:19 177:10 177:11
177:16 183:5
biologic 140:13 140:14 140:18 158:3
biological 21:3 23:3
29:7 29:9 31:2 124:19
129:5 129:9 176:18 245:20
biologically $93: 14$
biology 130:15 139:23
139:23 246:11
biopsy 189:18
biostatistician 9:2
bit 41:15 75:15 75:16
83:2 84:10 85:8 90:8
120:8 128:22 129:4
130:12 150:5 188:7
192:6 201:11 203:23
212:21 214:11 214:15
228:7 240:24 244:22
250:3 255:4
black 125:15
BLAYNEY 8:18 8:18
53:2 53:12 53:19 54:12
85:9 93:22 93:23 95:9
95:20 95:21 96:14
139:21 139:22 149:13
149:17 149:23 150:7
151:3 151:4 160:18
160:18 180:18 180:19
181:4 229:6 229:7
230:7 230:14
blessing 118:3
blinded 90:18
blocker 53:9
blood 45:8 47:12
blue 19:4 40:9 104:16
168:11 174:9 178:8
178:11 188:16 189:19
189:22 244:5
BMS 36:3
board 34:15 34:23
35:14 67:22 68:20 90:3
Bob 9:9 148:5 154:21
body 196:4 230:16 253:12
bolus 33:8
Bonadonna 24:20
bone 37:14
Bonferronize 144:21
borderline 17:22
bottom 174:9
bound 231:3
boundaries 91:25
201:25
boundary 236:2
bounds 153:20
box 240:18 247:15
247:20
boxes 246:3
brain 49:4 105:12
Brazil 185:4
break 87:22 87:23
98:9 232:16
breakdown 81:17
Breslow 166:11 184:21
186:14 187:14 187:18
187:20 190:11 190:20
190:21 201:17 201:19
203:4 203:7 206:16
207:11 209:13 215:9
215:19 217:20 237:3
237:4 237:7 237:12
238:6 238:13 238:17
238:19 238:25
brief 211:17
briefing 93:23
briefly 59:15 166:4
186:4 231:23 233:10
234:10 255:25
brings 209:16
Bristol-myers 12:3
13:12 13:21 35:23 90:6
113:19
Bristol 12:18
broad 27:12 32:13
broaden 158:4
broader 118:9 153:17
Building 10:14 20:19
162:5
bunch 254:10
burden 187:4 187:8
209:4
business 124:4
buy 115:2
buys 113:19
Buzaid's 201:18
Buzaid 185:2 185:24
185:25 195:9 203:5 204:14
Buzzoni 24:20

> - C -

CAF 156:15
calculate 62:23
calculated 103:21
calculates $71: 7$
calculation 92:20
calculations 34:5 91:6
100:20 210:3
CALGB 12:24 14:5
14:10 15:8 19:13 20:25
25:8 27:20 28:5 30:2
36:3 43:14 43:15 71:6
90:4
Califormia 8:17 8:19
9:2 160:17 160:19
cancers 189:17 191:9
candidates $94: 5$
Candidly 130:10 157:20
253:9
Canetta 13:21 49:24
51:22 52:7 52:22 53:7
53:15 53:23 55:5 56:22
58:9 72:19 73:19 78:21
80:25 81:8 81:11 82:20
85:20 86:6 90:3 94:9
95:13 97:7 109:24
capecitabine $21: 15$
carbazine 192:25
carcinoma 50:10
cardiac 30:8 46:17
48:18 78:7 78:11 78:17
78:21 79:5 79:11 79:15
80:7 81:6 81:19 81:20
82:2 82:8 96:20 97:12
156:16
CARDINALI 161:3

161:3 232:21 232:22
243:2
cardiotoxicities 80:16
cardiotoxicity 33:7
cardiovascular 45:23
109:10
careful 44:12 62:16
carefully $24: 23$ 43:8
43:22 55:9 61:24 138:11
254:23
cares 138:16
carries 203:2
carry $182: 3$
Cascinelli 196:6 233:17
240:6
castigated 118:3
categorical 237:8
categories 36:21 46:15
201:16 201:19 201:23 203:8 215:9
category 28:22 48:14
63:25 76:21 168:24
186:23 217:25
caused 132:24
causes 118:18 216:15
causing 24:16
caution 53:20 105:24
111:10 151:16
cautioning 111:15
caveat 140:7 140:8
145:9 153:8
caveats 138:25 156:25
CBCS 43:9
CBER 161:5 161:7
celebrate 112:25
cell 28:19 45:8 187:22
230:25 233:5 252:13
cells 22:19 22:20 22:21
22:22 24:4 24:6 24:7
24:15 82:25 189:20
censored 211:4 228:15
Center 8:25 9:22 14:6
22:11 160:25 161:18
185:3 185:6 190:4
197:24 201:12 203:2
227:16
centers 233:21
Central 15:11 29:19
30:5 31:14 34:11 43:17
69:16 75:21 194:2
194:7 231:24 253:3
253:7
cerebrovascular 169:17
cetera 70:12 85:14
92:22 146:15 254:12
Chair's $51: 16$
chair 14:8 14:10
chaired 31:6
Chairman 185:25
chances 190:8
changed 26:16 145:13
150:3 243:9
chapters 12:16
characteristic 89:2
characteristics $36: 25$
characterize 251:11

Charlotte 90:13
chart 102:16
charts 244:8
Chastung 226:15
check 51:22 214:13
checked 55:9
checking 80:12
chemo 64:8
chemotherapeutic
21:11 50:9
chemotherapies 164:19
Chicago 160:21
chiefly $97: 15$
choose 115:13 230:14
chosen 230:15
chronic 95:11 97:11
chronology 165:7
180:25
City 9:4
claiming 183:13 212:2
clarification 51:17
51:24 57:8 133:14
134:11 144:16 180:17
219:18 224:21 225:7
225:9 231:9 234:3
243:17 244:12 244:19 246:16
clarify 75:3 92:17
157:11 182:20 182:22
210:8 211:16 212:7
219:10 220:15 226:19
244:25 247:12 247:19
247:22
clarity $210: 17$
Clark 187:17 221:5
class 53:8 164:7 164:7
classic 156:14
classical 5l:8
clear 32:16 68:5 78:12
85:6 138:22 157:17
182:5 201:4 221:2
251:4 255:8
clearer 67:15
clinic 124:7
clinical/pharm 111:23
clinical 13:12 56:20
111:20 128:9 136:4
136:14 141:23 141:24
142:21 143:4 143:8
145:25 146:6 146:8
146:13 146:19 146:23
147:12 147:19 148:13
148:15 148:25 149:18
150:19 151:10 151:11
158:13 161:5 180:13
185:7 186:13 190:6
194:14 195:4 197:18
197:19 212:20 213:2 213:22
clinically $52: 17 \quad 166: 14$
184:23 194:15 195:4
197:20 206:17 207:16
208:6 209:12 212:22
clinician 69:12 129:25
198:16
clinicians 120:22

230:18
clock 212:9
closely 23:23 57:23
101:19 214:11
closer 23:17 210:14
closest 121:9 233:6
closure 27:20 165:13
cluttered 142:3
CMF 16:23 17:16 18:4
18:23 24:22 24:23 25:6
69:3 83:13 153:13
154:4 154:6 156:10
CNS 213:15
cohort 104:15
collaboration 35:23
colleague 217:10
225:15
colleagues 24:20
collect 43:3 43:25 198:17
collected 43:11 44:5
44:6 110:12 163:25
166:4 199:13 207:9
214:3 225:21 226:22 231:20
collection 43:21 43:24
colon 112:5 112:7
colors 71:5
columns 44:15 48:6
combination 12:10
14:23 17:16 30:21 32:4
42:11 49:20 51:5 54:7
107:2 107:19 116:19 152:5
combinations 16:22
16:24 18:3 116:22
combine 193:9 239:4
combining 242:3
comfort 96:2 229:16
comfortable 94:6 95:23
96:5 109:15 109:17
114:15 139:3 153:11 153:22 158:7
comfortably 138:2
comforting 50:5 50:18
commenced 163:22
commensurate 183:12
comment 11:17 81:25
88:24 96:9 96:17 121:2
126:14 139:3 142:25
143:16 147:23 154:3
154:12 162:23 218:20
231:2 254:13
commented 126:16
comments 117:21
134:11 136:17 139:21
141:2 142:10 151:3
152:8 157:10 162:15
212:12
committee's 10:11 256:20
commonly 33:11 46:8 205:20
communicate 108:13
community 33:12
131:11
companies 113:19
142:2 149:21
Company 12:19 108:8
112:21 141:25 145:16
153:16 213:21 233:6
233:8 233:11 233:13
233:19 233:24 238:24
251:2 251:7 251:25
255:14
comparable 102:24
104:7 164:2 164:18
238:20
compare 94:14 123:25
compared 27:23 39:12
39:23 49:21 64:22 79:6
100:11 101:23 103:20
121:16 132:24 132:25
171:22 172:23 173:7
173:9 173:10 173:14
185:18 194:10 200:5
compares 103:12
comparing 28:18 39:3
79:20 170:7 173:3
173:16 173:24 174:8
comparison 23:15
29:4 29:4 38:25 50:11
71:10 105:7 167:12 183:13
comparisons 40:21
71:11 76:16
compelling 72:4 110:4
116:15 152:25 245:7
competing 88:10
completed 28:21 34:21
48:7 48:23 91:9 110:3
110:7 114:10 179:5
179:11 181:2 213:24
233:22
completes 256:20
completing 48:24
completion 33:22 38:17
complicated 20:2
component 181:16
183:4
composed 99:24
compound 95:8
comprised 106:23
179:14
compromise 153:3
computed 235:24
235:25
conceded 118:22
concentrated 31:20
43:2
concentrating $185: 8$
concept 22:23 25:9
26:12 58:7 189:21 concepts 253:21
concern 10:21 11:4
142:6 142:22 156:12
156:13 214:15 214:20
220:18 229:15 251:20
concerning 10:3 10:8
10:24 78:24 120:10 134:14 161:23 162:2 186:12 195:2
concerns 33:7 245:13
conclude 42:10 204:2
204:6
concluded 205:9
concluding $13: 22$ 49:25
conclusion 49:6 67:10
74:25 243:18
conclusions 76:18
170:18 171:15 178:19
179:20 208:2 238:22
Concomitant 27:10
65:14
concurrent 239:15
condemn 125:19
condition 251:23
conduct 240:22
conducted 17:2 29:14
34:12 36:6 165:5 179:8
180:9 181:8 194:4
196:18 197:13 198:21
198:22 234:11 234:23
conference $36: 18$ confers 100:22
confidence 41:18 41:23
56:18 59:21 59:25 60:10
64:21 66:20 75:12 75:22
75:23 76:13 77:2 77:12
83:18 83:24 84:17 87:9
88:17 118:9 118:12
121:22 122:5 123:7
123:10 123:14 135:14 135:16 240:4 240:11 240:14 251:18
confident 61:15 72:17 84:12
confines 153:15
confirm 54:18
conflict 9:12 9:15 9:24
10:19 161:9 161:11 161:20
conflicted 252:5
confounded 10:21
confounder 223:20
confounding 33:20
confused 118:6
conjunction 244:15
Connecticut 8:21
160:9
connection 12:18
connections 12:3
connotations 177:15
consciously 32:7
consensus 36:18 44:4
249:11
consent 34:25 198:16
221:13 225:23
consequence 24:9
26:3
conservative 91:21
138:20
conservatively $210: 3$
considerable 30:22
42:6 201:10
considerably $38: 20$
consideration 20:21
21:8 92:5 94:19 131:17

132:15 180:6 215:4
215:8 215:17 244:18
considering 39:24
228:19 245:18
consist 250:5
consisted 97:15 100:16
101:15 104:12 197:I7
200:18 201:21
consistency 49:16
124:24 143:15 168:22
172:2 245:21 246:11
consistent 15:23 42:22
50:24 68:7 72:24 73:4
81:4 86:4 88:18 95:6
103:16 154:2 168:11
170:23 171:4 173:5
173:20 173:20 179:23
222:2 240:20 241:12
245:6
consistently 46:19
67:22 171:3 173:8
consists 195:18
constant 33:2 61:23
63:4 63:7
constitute 10:17
constituted 176:12
constitutes 45:13
constrain 180:9
consultants 13:24
consulting 162:17
consumer 160:15
contained 81:9 241:5
247:10
containing 49:8 178:17
contains 174:5
content 244:8
context 16:8 26:23
54:24 89:18 147:7
163:15 221:18
continue 13:9 90:24
91:19 92:15 208:23
214:4 232:19
continues 28:21 78:25
continuing 43:23 90:23
continuous 116:5
170:21 178:22 201:23 237:8
continuously 170:10
contrasted 177:21
178:17
contrasts 167:20
contribute 145:20
control 100:12 101:24
239:17
controlled 239:16
249:2 256:2
controls 238:10
controversial 193:6
controversy 62:5
conversation 146:25
Conversely 175:11
convey 151:4
convinced 251:24
convincing 133:18
136:23 150:2
cooperative 15:9 15:10

26:23 131:25
coordinated 28:14 28:23
coordinating 15:8
29:20 30:6
copy 10:12 162:3
231:17
core 16:10 99:12
Cormbleet 240:8
corollary 78:16
correct 57:14 70:3
86:25 138:19 215:6
215:6 216:24 218:13
219:16 220:2 223:22
224:19 247:10 250:2
corrected 172:3
correction 248:13
corrections 231:15
correlated 208:15
correlation 187:23
188:20 189:24 190:7
195:21 204:5
corresponding 70:16
70:21 103:17 103:22
238:7
corroborate 247:21
corroborated 22:2
165:20
corroborating 22:11
cost 79:25 132:20
132:24 164:17
costs 80:2 80:2
counsels 94:2
country 193:7
counts 52:10
couple 55:15 77:25
134:2 216:9 255:7
course 21:14 29:6
29:10 35:3 37:22 38:8
52:16 73:9 75:13 91:19
96:10 119:4 119:22
121:3 154:17 206:4
211:25 212:4 212:15
220:11 223:3 238:2
238:15
courses 37:25 38:2
38:9 48:8 51:10 107:12
covariate 236:25
243:10 248:13 249:18
covariates 70:11 134:21
237:11
cover 114:20 158:15
Cox 38:23 39:16 57:15
70:10 70:21 134:20
167:10 170:22 171:8
171:23 172:8 179:14
Craig 13:19 14:8 19:9
26:6 31:5 49:24 60:13
Creagan 240:6 243:23
create 10:18 12:13
credence 242:10
credibility 99:21 250:22
credible 126:13 127:11
144:8
CRFS 207:9
criteria 200:23 221:7

152:6
cytotoxic 50:22 154:22 Cytoxan 114:11 153:5 154:8
91:15
cross-resistant 31:22
cross 120;14 121:14
121:17 240:16 247:16
crossed 26:13 121:14
crossing 168:4
crossover 29:21
crossovers 91:6
crucial 202:3
crusty 254:2
crux 137:13 204:23
CT 187:8 213:10
CTEP 165:23
cumulative 79:21
curable 196:14
curative 120:23
cure 109:16 145:11
167:7
current 11:15 13:17
23:24 54:2 92:14 106:18
108:14 131:24 162:21
currently 107:16
132:5 156:8 179:6
186:11 195:10 207:8
curve 18:20 22:17
71:3 83:19 186:24
187:9 190:23 190:25
204:10 204:11 246:5
curves 18:15 19:8 40:8
71:2 75:10 100:9 100:13
101:23 114:12 114:12
114:14 119:8 120:13
120:14 120:15 132:18
132:20 138:16 169:9
188:12 191:2 191:6
191:18 205:3 210:5
210:20 211:5 217:2
248:5
curvilinear 22:16
cutaneous 166:10
cutoff 202:22 202:24
207:10 226:4 226:5
226:25 227:5
cutting 228:14
cycle 17:10 23:19 23:19
cycles 16:17 25:15
25:18 32:24 32:25 82:14
82:16 82:25 83:12 83:12
101:7 103:25 104:10
104:20 106:9 106:17
108:21 154:7 156:14
156:14 157:3 157:18
157:21 158:5 158:12 cyclo/adria 32:25 33:23
33:24 69:3 69:3 69:3 69:9
cyclophosphamide/doxory 15:6
cyclophosphamide
12:22 19:20 25:14 26:7
26:9 28:2 31:19 32:5
32:6 43:4 107:2 107:20

167:3 239:10 254:9
declare 68:15
decline 82:6
declined 37:15
decrease 12:13 34:7
105:3
decreasing 102:14
102:17
decrement 18:7 174:6
deepest 187:21
default 43:25
defense 122:9
defer 213:3 217:9
229:21
deficient 154:23
defined 65:13 99:13
102:9 217:15
definitely 111:22
115:10 193:7 251:12
definition 102:20
definitions 32:11
definitive 175:2 225:8
degree 44:24
delay 169:23 204:24
209:6 209:7
delayed 91:14
delays 224:24 232:4
deliberate 138:9
deliberated 181:24
deliberations $90: 9$
90:10 90:12 140:22
180:22 256:21
delighted 163:18
delivered 170:2 170:3
Demetri 25:10
demographic 125:18
166:24 174:25
demographics 175:5
201:11 207:11
demography 167:16
demonstrate 30:23
50:12 182:6
demonstrated 21:19
102:14 107:6 111:17
121:21 172:2 178:20
200:3
demonstrates 15:20
22:15
denied 91:14
denominator 52:13
dense 21:9 24:12 24:14
24:16 24:18 27:25 29:2
30:14
density 21:8 23:17
24:8 28:4 28:7
deny 151:17
denying 77:7 120:23
dependent 63:8 245:8
depending 75:7 192:20
depends 126:8
depicted 216:4
depression 205:19
206:7 232:6
depth 166:11 186:14
187:14 187:19 190:11
190:20 190:21 215:19

238:6
Derek 8:16 120:8
129:3 130:3 160:16
derived 100:18 103:14
106:21
dermatology 213:6
describe 64:20 146:23
155:2
describes 16:9
describing 122:13
deserve 254:14
deserved 35:17
designated 152:2
desperately 114:7
despite $53: 17$
detail 26:19 141:17
167:14 176:22 179:16
detailed 150:19 237:22
241:6 246:23
details 52:23
detect 34:6 183:16
detectable 184:23
determination 78:11
132:12
determine 248:11
248:11 251:8
develop 196:12 196:13
developing 78:17
deviation 17:21 83:16
deviations 17:22
devil's 137:24
dexrazoxane $30: 9$
DFI 217:2 218:6 218:7
218:11 219:9 252:8
252:11 252:12 252:14
252:18
diagnosed 114:5
diagnosis 72:3 186:8
186:19 221:3
diarrhea 45:24
dichotomized 237:15
die 189:15 191:18
191:19 229:13
died 48:15 51:18 53:12
105:11 105:14 105:14
106:12 189:3 191:3
191:4 218:2 218:16
221:4
differ 171:18 178:4
differed 171:13 171:14
differences 36:9 38:11
38:22 59:25 64:21 72:14
125:23 146:5 171:16
172:9 177:2 185:16
201:14 207:16 216:20
222:11 237:16
different 19:13 29:5
44:4 45:9 56:12 57:23
61:18 62:9 63:17 64:4
64:5 64:13 71:13 71:14
81:10 81:18 85:7 87:22
87:23 89:14 96:23 96:25
106:4 111:9 115:7
116:21 116:22 119:12
121:7 136:24 136:25
141:19 144:13 144:17

154:9 160:6 160:7
186:20 194:9 194:10
205:10 206:24 206:24
217:4 244:4 247:24
248:18
differential 116:18
differently 131:14
directed 21:16 54:11
147:3
Director 9:10 14:5
184:15 185:3 185:5
185:6 185:11
directors 194:21
disadvantage 130:25
disagree 128:8
disappointed 253:24
disappointing 254:8
discerned 107:14
disclose 10:15 162:15
disclosure 111:21
discontinuation 203:19
220:5
discontinued 105:6
106:11
discounted 105:2
discrepancy 172:20
173:22
discuss 13:17 16:4
31:9 90:5 90:8 94:9
124:23 151:12 165:17
168:7 195:7 196:15
197:12 206:11 255:9
discussant 163:2 discussed 74:21 128:16
194:11 194:12 227:18
254:21
discussing 184:17
185:7
discussion 10:2 10:11
10:24 11:7 43:23 99:12
108:7 115:14 117:10
117:21 118:5 119:14
120:17 128:20 135:24
136:6 137:14 137:22
138:12 138:13 139:2
139:24 142:8 143:4
153:16 153:21 156:3
158:16 161:23 194:25
247:13 249:6 249:11
252:4
discussions 11:8 156:22 162:6 246:12 disease-freed 246:19
diseases 51:3 252:11 display 79:12 176:4 240:22
Displayed 174:17
176:21
dissected 175:14
dissection 32:18 166:12
174:4 181:5 190:9
distant 102:10 102:12
102:15 102:18 186:17
223:5
distinct 195:13
distinction 110:14

166:13
distributed 43:13
distribution 99:7
175:22
disturbed 221:20
diverge 138:16
divided 71:8
dividing 86:18
Division 9:9 161:4
dizziness 205:19 206:7
doable 63:2
docetaxel 21:14 29:2
doctor 62:22 115:14
117:9 117:11 131:2
doctors 62:23
document 93:24
documentation 184:6
documented 183:10
documents 227:2
domain 21:17
Don 14:2 56:22
dosage 15:19 26:14
51:7 51:8 53:10 54:2
79:14 79:17 154:20
164:11 169:13 233:6
dosages 50:25 96:7
179:9
doses 19:14 19:15
19:20 22:18 23:9 23:22
24:5 24:24 25:20 28:17
32:3 42:18 154:5 154:16
dossier 211:10
dotted 172:10 172:18 178:9
doubt 77:3 111:17 236:18
Doug 8:18 160:18 doxorubicin-based 155:20 156:9 158:4
doxorubicin-containing
153:23 157:7 157:13
157:16
doxorubicin 12:22
15:4 18:5 19:15 24:22
24:23 25:16 26:9 30:9
31:12 31:18 31:20 31:21
32:3 32:23 32:23 33:2
33:6 34:2 34:3 39:2
39:19 40:7 40:14 40:15
40:17 42:18 42:20 43:4
43:7 49:14 51:20 52:25
68:7 78:10 79:12 79:21
82:5 107:2 107:19
152:6 154:16 154:17
155:3 155:17 $157: 9$
dozen 135:6
drain 189:20
dramatic 34:22 99:25
draw 171:15 178:19
179:20 179:21 242:5 dreadful 209:6
drew 54:15 170:18
driven 103:8 106:7
driving 14:3
drop-in 222:8
drop 35:8 48:3 48:10
186:25 218:3
dropout 37:24 38:9
47:25 48:6
dropped 35:2 48:2
97:17 97:19
drops 187:9
drove $90: 13$
Drs 10:5 85:9
drug-related 105:7
106:11 106:12
Drug 9:22 13:14 17:10
21:7 21:16 22:12 23:18
24:4 31:23 47:20 50:21
105:16 111:10 118:18
118:18 124:25 138:5
143:17 155:11 161:18
192:24 205:11 205:15
205:16 205:25 208:18
208:22
drugs 21:3 23:16 43:5 245:5
DSMB 90:6 90:9 90:9
90:11 90:11 90:18 90:24
92:10
DTIC 193:10
dual 191:13 192:11
Duke 188:11
Duluth 8:9
durable 164:21
duration 24:25 33:19
33:19 64:24 83:15 84:2
84:13 85:7 197:7 198:8
206:24 209:14 210:22
234:21 234:24 235:9
235:11
durations 16:21
Dutcher 162:25
dwell 176:22
dye 189:19
dying 39:22 39:22

> - E -

E1684 165:11 166:13
167:12 167:21 168:15
168:18 169:14 170:11
E1690 163:19 165:18
easiest 248:2
easily 119:6
Eastern 15:10
ECOG 28:23 31:14
43:15 165:21 194:5
196:2 234:16 $240: 9$
education $12: 17$
educational 113:14
effectively $210: 6$
effectiveness 183:11
251:16
efficacious 23:19
252:8
efficacy 17:14 18:2
23:18 30:9 30:19 42:10
94:9 102:6 102:14

164:18 198:3 198:18
198:20 199:18 200:6
200:9 200:10 206:20
208:3 220:3 239:5
ejection 81:8 82:6
elderly $96: 6$
elected $35: 7$
elective 190:9
element 165:6 189:4
eligibility 27:11 166:10 221:11
eligible 200:16 200:17
202:5 210:21 216:21
227:17 228:22
eliminated 219:2
220:18
Elizabeth 211:8
elsewhere 120:3 150:18
emerged 65:13
emerges 103:6
emotions 128:3
emphasis 250:15
emphasize 44:14 75:4
186:21 194:4 195:10 239:8
emphasizing 64:23
employed 192:24
empowerment 12:15
encourage 62:23
encouraged 96:22
251:25
ended 198:7 214:2
endpoint 27:8 27:17
82:7 125:8 126:18
167:2 185:19 198:18
200:10 214:19 218:8
234:17 235:6 248:2
248:3 248:4 249:23
250:7 252:8 252:20
endpoints 50:13 102:6
180:5 180:13 200:10
234:18 238:4 252:25
254:25
England 17:3
enrolled 37:12 37:21
ensues 119:14
ensure 12:14
ensuring 245:10
enter 131:13
entered 91:10 166:14
166:19 166:23 172:12
173:16 174:3 175:7
202:11 210:25 220:12
entering 167:16
enthusiasm 153:18
enthusiastic 59:11
entirely $88: 18$
entry 174:22 174:25
175:12 175:16 181:11
envious 115:22
environment 89:15
enzymes 206:10
EORTC 179:7
epidermis 187:21
epirubicin 83:14
154:24 155:25 157:6

findings 101:10 102:2
106:7 147:9 179:23
finish 32:12 65:18
finished 27:17 233:18
finishes 198:14
firm 11:16 67:10 162:22
firms 9:22 11:9 161:18
162:7
first-line 14:25
Fischler 130:18
fit $122: 5$
fits 55:3
fixed 32:4
flag 143:9 151:6
flat-out 22:7
flattens 188:3
flaw 254:21
flaws 248:18 254:20
flexibility 156:23
floating 249:10
flu-like 205:18 232:6
flu 206:6
fluke 87:13
flushed 153:18
focus 99:12 104:9
164:7 166:25 186:2
187:10 188:7
focused 231:7
focuses 180:7
focusing 185:14 244:10
folder 244:5
follow 30:6 35:7 50:3
80:10 93:6 145:21
201:24 210:22 214:4
236:7 251:5
follows 197:12
footsteps 50:3
forever 181:25
forget 226:18
forgotten 68:12
formal 59:3 59:7 59:12
formally 222:23
format 69:16
formed 206:12
forth 128:19 240:4
fortunately 201:8
fourth 63:25 221:6
fraction 81:9 82:6
144:5 144:9 167:25
169:24 175:25 181:9
France 196:18 197:13
213:7 214:12
Francisco 9:2
frankly $87: 13$
fraught 168:22
free $18: 22 \quad 100: 8 \quad 134: 25$
170:9 170:10 188:18
193:8 193:12 208:8
Freedom 10:13 162:4
French 196:20 196:20
197:13 206:15 208:9
230:19 233:21 234:25 243:7
frequency 104:7 212:21
frequent 78:15 175:15
fulfilling 144:3
fully 10:23 97:22
150:13
functions 168:18
fundamental 249;9
fundamentally 249:13
249:22
Furthermore 106:9
future 35:17 107:25
120:16 131:19 131:24 180:5
$\frac{-G-}{\text { G-csf } 25.1526: 1128.4}$

G-csf 25:15 26:11 28:4
28:9 33:3 33:4 33:4
gala 113:20
gamma 193:5
ganglioside 179:4
193:20
garbage 253:22 253:23
Gemini 127:19 127:22
gender 238:7
generalized 175:24
generate 67:24
generated 62:10 74:4
74:7 74:24
generates 253:12
generation 128:7
generically 118:10
gentlemen 98:13
184:14 194:20
George 14:5 25:10
gets 23:4 115:23 123:7
gist 245:5
Givens 217:10 217:11
2I7:11 218:10 218:14
218:25 219:16 229:21
231:13
giving 16:7 23:16 24:12
34:25 40:15 76:23 78:19
84:25 115:4 119:25
glad 51:11 145:22
glean 247:8
global 26:23
GM2 179:4
goal 167:5
goals 35:10 167:2
goes 18:20 58:5 67:14
83:20 130:15 135:24
156:18 186:24 190:25
gotten 48:16 115:3
122:10 223:16
government 10:20
11:3
grabs 112:18 113:3
134:16
grade 25:24 25:25
43:12 14:5 44:6 44:16
45:20 45:20 46:14 47:4
47:1 47:6 47:7 52:5
52:11 104:14 104:18
104:19 108:25 109:4 205:22 206:7 206:8
graded 187:25
grades 94:15
Gradishar 10:6 11:20
Grant 9:7 117:25
130:3 142:13 143:11
granted 10:5 10:9
161:25
grants 162:17
granular 187:21 granulocytopenia
44:23 47:8 52:10 52:11
94:15 109:9
graph 56:18 100:5
100:24 101:21 103:10
103:10 103:12 236:10
graphic 191:15
graphical 176:4
graphically 174:8
177:25
graphs 18:25 85:22
103:11 $149: 2$
greatest 46:4 116:3
116:7 173:12
grief 90:20
Grob 196:22 213:4
213:6 213:6 213:14
213:17 214:8 222:21
222:25 223:23 233:14
233:20 234:3 234:11
235:19 238:3 238:8
238:21 240:6 243:3
243:23 246:20 247:15
248:4 255:9
grossly 24:9 154:23
grouped 124:13
groupings 173:19
groups 15:9 26:23
33:14 41:2 41:4 41:12
43:22 55:22 56:2 56:12
56:14 58:18 63:16 63:20 72:15 85:16 87:6 88:22
104:20 111:6 121:6
131:25 168:23 171:5
173:15 174:9 174:10
174:15 174:19 175:12
175:24 181:14 188:15
212:20 213:8 213:11
223:10
grow 24:14 59:25
grows 77:14
growth 129:11
guess 54:14 56:8 56:15
65:6 71:5 78:10 82:7
85:13 86:18 108:24
122:2 125:5 127:14
136:18 143:18 144:10
145:6 145:18 150:13
210:16 213:21 229:16
242:9 247:5 247:13
247:23 250:11 250:12
guest 162:12
guide 140:25 147:19
202:3
guided 117:11
guidelines 156:25
guides 129:24
guiding 131:19
guilty $70: 6$
Gumpertzian 22:17
Gupta 233:2 234:9

## - H -

H1 53:9
H2 53:9
hair 112:18 134:16
hairy 230:25 233:5
halfway 28:20
hand 39:2 43:6 97:24
158:10 179:11 188:24
256:6
handle 130:9 145:5
145:6 181:4
handled 145:13 224:8
229:18
hands 136:9 136:10
141:11 256:10 256:13
hang 248:20 250:9
haphazard 251:12
happen 73:8 75:13
85:15 144:6 221:2
239:23 243:13
happening 34:17
189:2
happens 43:22 74:11
74:11 74:12 75:8
happy 115:19 223:11
Hartford 8:21 160:9
hat 248:20 250:9
hate 69:15 254:8
hazard 34:7 41:16
41:17 42:4 61:4 61:6
62:18 62:19 65:19 71:15
71:24 71:24 85:14 85:21
85:25 88:23 100:18
101:18 103:15 103:16
103:22 104:3 105:20
105:22 107:22 112:23
119:19 121:18 167:24
168:3 168:11 168:14
168:18 169:2 169:9
170:20 171:7 173:4
173:8 173:13 174:6
182:8
hazards 61:19 71:7
134:20 238:12
headache $205: 18$
heart 80:19
heavily 14:16
helpful 123:3
helping 98:17
helps 193:14
hematologic 44:6 44:16
44:19 45:3 45:6 46:8
47:4 109:5
hematology 9:4
hematopoietic 28:19
hemorrhage 45:7 47:11
Hence 30:14
Henderson's 56:15
57:22 81:25

Henderson 13:19 14:8
26:6 31:5 31:8 51:25
52:8 54:15 54:23 55:5
55:6 58:10 58:11 59:3
60:14 60:17 61:6 61:17
63:24 64:15 65:17 73:19
73:21 73:24 79:19 85:20
114:3 123:5
HER2 14:25 21:17
29:15 29:18 62:4 68:12
93:15 93:16
Herceptin 14:23 29:11
29:13 29:17 29:22 29:23
29:23 29:25 30:10 30:11
31:2 53:22 54:7 54:9
54:11
heroic 14:2
hesitant 130:12
heterogeneous 174:4
highest 33:2 114:20
114:22
highlighted 245:14
highly 38:22 39:16
39:18 70:19 92:23
136:2 144:12 223:8
238:13 253:10
histologic 190:18
historically 112:14
history $211: 17212: 8$
hit 80:9 151:20 181:18
hoc 236:24 250:18
Hoffmann-la 184:16
185:11 194:22 217:12 225:18
holds 69:22
honest 215:14
Hooftman's 215:3
Hooftman 185:10
194:17 194:19 194:21
210:10 213:3 215:7
215:22 216:4 216:13
216:17 216:24 217:5
217:9 220:2 220:23
222:13 222:20 224:9
224:12 224:15 224:19
225:14 225:22 226:14
226:24 229:2 229:19
230:18 231:25 232:8
hopes 110:23
hormonal 111:7
hormone 26:14 27:10
27:12 27:14 87:11 93:12
99:13 101:12 104:2
106:22 107:9 116:19
133:4 141:20
Hospital 185:3
Hospitalization 46:16
Houston 14:3
Hudis 28:17
huge 43:5 77:5 119:2
132:10 148:10
hunch 138:15
hundreds 22:2
hypersensitivity 16:10 47:21 49:3 53:17 97:19 104:24 105:13
hypothesis 62:9 62:10
67:24 74:4 74:7 74:9
128:7 128:12 199:24
223:24 235:24 236:3 236:5
hypothetical 218:11 220:19
Hypothetically 220:16
-I
i.e 237:6

I/ii 196:10
I/phase 183:22 183:24
idea 55:13 82:9 88:21
125:2 148:21 253:2
identical 40:3 114:13
135:11 190:9
identified 101:15
103:4 105:25 117:23
121:4 172:20 239:19 254:21
identify 54:23 211:6 253:20 254:20
ignore $91: 24$ 246:13
ignored 245:12
II 14:15 24:20 25:9
25:13 28:16 133:11
183:22 183:24 184:17
184:21 185:9 185:13
185:17 186:4 186:11
186:13 186:19 186:21
186:23 187:3 187:11
194:14 195:3 195:4
195:11 195:15 195:18
196:2 196:11 197:9
197:18 201:20 209:11
210:12 234:14
IIB 196:3
III 56:17 185:9 185:17
186:4 186:14 186:21
186:25 187:7 192:23
192:24 195:15 196:4
196:6 196:12
IIIA 25:13 28:16
IIIB 30:3
illogical 88:9
illustrated $168: 9$
168:16 177:24 178:17
imagine 40:22 58:5
69:22 85:5 110:23 193:19
imaging 187:4
imbalance 215:11
215:25 243:12
imbalances 243:9
immediate 155:2
immunomodulatory
164:6
impact 12:13 20:6
20:7 20:9 20:14 20:16
20:17 54:22 76:19
111:6 119:5 164:16
164:21 164:24 165:4

168:3 168:15 168:23
170:7 170:8 171:21
172:5 175:23 177:6
177:23 178:11 178:21
178:22 179:15 180:3
180:24 182:10 182:11
183:17 184:3 193:2
193:7 193:21 203:8
impacted 168:6
impede 30:9
implications 179:21
implies 74:6
imply 110:20
implying 152:12 152:16
importance 125:6
125:7 221:17 236:24
important 18:9 29:6
29:25 32:9 32:11 35:15
42:25 50:13 52:17 53:23
59:20 64:23 72:21 74:2
79:19 80:14 92:10 94:21
131:6 136:3 139:11
148:25 152:24 165:6
166:9 186:21 187:14
188:13 194:3 195:7
195:22 196:9 205:5
208:25 212:22 243:13
245:7 245:14
importantly 206:6
impossible 182:3
imposter 235:16
impression 82:17
impressive 76:12 85:13
86:2 86:15 114:11
240:24
improve 20:20 22:24
improved 165:17
170:21 252:18
improvement 107:5
164:17 167:25 172:14
173:5 173:11 173:12
173:20 174:11 223:18
240:11 240:20 241:13 242:7
improvements 164:15 221:22
improves 16:14 170:20
improving 29:8
in-transit 186:16
192:13
inappropriate 60:5
131:19
incidence 44:23 45:11
46:12 46:23 52:11 52:19
79:5 79:8 94:15 94:17
95:14 104:17 186:6
197:8
included 32:14 52:13
57:16 100:24 164:12
164:21 166:6 166:16
166:22 167:17 180:19
212:13 218:15 $218: 22$
219:5 219:8 219:11
220:20 221:10 224:16
includes $94: 8$
inclusion 234:13

234:25 235:2 238:2
incomplete 247:6
incorrect 52:4
increases 50:6 206:10
increasing 177:10
increasingly $32: 9$
incredibly 70:23
increment 170:12
170:14
incremental 18:5 30:21
30:23 30:24 114:9
115:8 115:15 115:17
116:11
independent 34:14
71:12 71:17 208:3
indicate 240:19
indicated 16:2 51:6
104:11 146:18 224:7
236:11 241:5
indicates 91:20
indication 15:25 34:16
98:20 111:13 129:2
137:18 141:9 146:7
147:17 150:9 151:14
151:18 151:22 151:25
153:17 157:12 184:19
210:12 233:4 233:5 233:8
indications 111:22
141:22 142:2 142:8
142:20 142:23 145:24
146:2 146:12 146:22 147:21 148:24 149:18
150:8 151:9 151:13
155:9 205:12 230:25
245:4
indicators 180:12
individually 40:12
induced $97: 15$
induction 28:18 169:20
170:4 235:10
ineligible 166:24
inequity 253:6
infarct 105:12
infarction 49:4 169:18
infection 45:7 45:11
45:12 45:16 47:11 52:18
94:17
infections 45:14
inferior 19:16
inflation 89:20
influenced 119:2
131:11
inform $203: 9$
Information 10:14
12:14 27:19 43:10 57:11
73:10 80:7 95:4 110:25
114:18 121:10 128:9
131:22 140:21 140:25
148:25 149:19 151:24
162:5 163:19 180:17
190:18 190:21 212:21
215:15 220:9 222:24
223:2 225:21 229:2
229:20 232:3 232:9
233:19 234:3 241:5

Reel integrated Systems

242:5 242:22 242:24
242:25 246:14 247:7
251:3 254:6 254:6
254:10 255:14
informative 66:4
informed 34:25 117:16
225:23
infrequently 47:17
infusion 25:19
initial 13:16 14:19
38:15
initially 142:11 200:24
initiated 28:14 198:2
initiation 198:20
201:4 202:7 206:21
inject 189:19
injection 12:8 189:22
200:24 220:25
injections 201:2
inoperable 30:4
inquired 254:23
insert 33:5 54:2 54:9
54:11 95:3 111:15
117:11 117:11 129:24
138:25 139:15 140:21
141:14 141:18 142:19
145:4 145:12 149:14
inserts 148:3 149:18
insight 243:6
inspections 251:4
instance 53:21 72:15
81:16 149:23
instances 123:20
Institute 36:18
institutions 176:15
instrumental 98:17
instruments $97: 8$
insufficient 102:5
INT-0148 15:3
integrate 21:5 21:10
integrated 21:23
integrates 30:16
integrating 21:2
integration 29:7 29:13 31:2
integrity 10:21 11:4
intended 249:13
intense 44:9 44:22 80:3
intensely 43:21 52:9
80:23 82:3
intensification 115:2
intensity 23:14 37:5
intensively 52:20 52:20 83:4
intent-to-treat 200:19
218:22 221:14 227:10
236:9 245:10 254:22
intent-to 220:18 248:11
intention-to-treat 166:22
interaction 34:2 40:17
42:19 57:9 57:15 57:17
58:16 58:23 59:4 59:4
59:8 62:8 62:11 62:13
69:19 69:21 69:24 70:14

70:21 70:23 86:13 87:2
93:20 93:21 124:6
130:17 134:22 134:24
152:25 172:2 203:10
203:11
interactions 35:25
62:25 91:5
interest 9:13 9:15 9:24
10:16 10:17 10:20 11:10
11:15 151:10 161:9
161:11 161:20 162:8
162:16 162:21 $255: 23$
interested 40:23 54:18 110:11 155:12
interesting 23:3 82:8
97:3 144:5 144:25
interestingly 41:4
interests 9:20 9:21
10:20 11:2 11:3 161:16 161:17
interferons 193:25
Intergroup 13:20 15:3
20:22 26:4 27:3 28:5
28:14 28:23 29:20 31:11
133:3 163:19
interim 34:19 35:12
44:10 89:18 91:2 91:24
98:25 99:2 99:3 100:20
106:13 106:18 107:10
107:17 107:25 109:20
109:25 110:10 110:19
176:24 199:15 199:19
219:11 219:20 224:22
224:23 225:12 226:11
250:17
interIeukin-2 164:3
176:24 177:4 177:5
intermediate 168:19
179:8 182:11 209:4
internal 165:20
interpret 89:14 103:5
121:23 140:23 157:5
229:15
interpretation 89:9
97:10 228:9 228:12
250:3
interpreted 89:17
227:24
interval 118:9 121:22
122:6 123:7 135:16
174:11 174:12 185:18
185:19 195:17 195:21
198:19 200:4 202:6
202:7 203:11 203:21
204:5 204:15 204:17
206:21 207:18 208:8
208:17 209:23 212:23
213:2 214:17 220:3
221:17 227:9 227:15
229:10 234:18 249:4
256:3
intervals 41:18 41:23
59:21 59:25 60:7 60:11 64:21 66:21 84:17
118:13 123:10 123:12 123:14 135:15 $214: 7$

240:4 240:11 240:14
intradermal 192:12
intravenously 51:9
intriguing 128:6
intrinsically 225:16
introduce 16:7 151:16
232:22
introduced 229:11
introducing 8:6
introduction 160:5
Intron 239:8 239:14
243:20 244:21 244:24
245:19 254:4
intuitive 24:3
invasion 187:17
investigated 254:23
investigator 105:15
196:22 197:2 213:4
229:14
investigators 17:4
44:8 197:3 214:4 239:13
251:2
invited 113:18 113:21
162:12 163:12
involve 11:8 22:13
29:15 144:8 162:6
involvement $11: 12$
11:16 162:10 162:22
179:13
involvements 162:13
involves 21:21
involving 17:10 18:11
19:2 24:22 25:12 25:15
27:12 29:21 132:7
irrelevant 248:8
irreproducible 254:11
issued 233:23
issues 68:22 68:23
98:5 105:17 109:2
111:21 115:10 137:19
150:17 222:7 245:20
items 180:17
ITT 200:19 228:23
236:14 236:21
IV 21:25 25:24 25:25
186:17 221:4

```
- J -
```

James 9:5 10:25 98:13
Janice 162:24
January 196:21 197:14
197:15 198:2 198:3
199:20 226:4 226:6
227:3 231:20 236:3
Jay 161:6
Jean-jock 213:6
Jim 8:8 113:3
Jody 8:14 160:14
John 162:15 163:13
180:15 181:19 184:11
186:15 193:25
Journal 190:6
judgment 121:6 124:8

July 165:7 175:17
199:15 212:15
jump 69:7 149:15
188:6
jumped 130:22
June 165:6
jury 138:23
JUSTICE 9:9 9:9 111:18
111:19 158:12
justification 100:21
justified 34:23 80:3 202:22
justify 106:16

## - K -

Kaplan-meier 59:16
190:23 191:15 202:16 203:6 207:17 240:3
Kaplan 100:8
Karen 8:22 160:22
161:9 163:4 163:12
Kathleen 10:6
KEEGAN 161:4 161:4
163:17 242:20 250:2
250:23 250:24
Kelsen 10:6 108:16
108:17 109:8 111:24
111:25 131:8 131:9
143:13 145:2 145:3
145:23 152:8 152:9
153:21 153:22
Kenneth $160: 12$
kernel 16:10
key 17:9 17:12 109:2
166:13 180:5 185:14
Kim's 156:13
$\operatorname{Kim} 9: 3 \quad 10: 9 \quad 153: 11$
157:7 161:22
kinds 81:18 85:4
242:11
kinetic 23:10 77:13
77:19 140:17
kinetics 129:12
Kirkwood's 222:22
Kirkwood 162:15
163:13 163:16 163:17
180:23 181:6 181:22
182:8 182:15 182:18
182:25 183:4 183:14
183:21 183:24 184:2
184:7 184:10 193:25
221:20 222:4 223:14
223:22 223:24 240:8
240:9 243:20
knock 134:18
knocks 134:16 135:9
knowing 230:21
knowledge 16:10 93:13
138:5 182:4 229:13
known 47:19 93:17
104:23 127:24 129:9
215:17 218:11 239:6
252:24
knows 88:3 124:3
143: I I
Kokoschka 240:8
Krook's 10:25
Krook 8:7 8:8 8:8 11:5

## - L -

label 33:4 154:19
155:8 155:11 155:13
labeled 155:4
labeling 53:5 126:22
154:17 154:22 155:4
laboratories 93:10
laboratory 213:12
Lachenbruch 235:13
235:15 242:2 242:17
243:10 243:22 244:20
ladies 98:13 184:14
194:19
Lamborn's 93:14
Lamborn 10:7 57:7
70:4 70:13 73:6 73:7
73:23 85:9 89:12 89:13
92:17 121:2 121:3
122:12 122:19 122:21
122:24 123:3 123:16
134:9 134:10 134:20
136:17 136:18 151:19
151:20
language 157:7
largely 16:19 244:9
245:8
largest 15:15 50:8
82:3 172:20 187:12
188:10 190:3
Larry 13:17 14:10 16:4
31:17 41:13 118:6
131:11
Lastly 28:22 30:2
lately 23:8
Laughter 78:2 78:5
112:13 113:23 122:20
127:18 127:21 129:18
130:6 138:17 143:6
148:4 148:7 149:16
217:8 254:15
law 79:3
layer 187:21
leader 9:8
leads 191:7
leaves 18:24
leaving 19:3 22:19
35:2 231:5
Lee 190:4
leg 14:4
legs 181:7
lends 99:21
Leon 185:10 194:21
lesions 188:4
lesser 88:13
let's 64:16 68:16 74:3
74:4 74:24 75:9 82:24 112:4 127:3 128:24

132:16 132:17 136:8
187:10 188:7 231:19
232:15 248:9
letting 138:6
Leukemia 31:13 34:12 35:4 36:2 41:12 230:25 233:6
leukopenia 44:23 47:7 109:8
levamisole 193:5
level 54:17 54:24 92:6
94:19 124:13 142:6
187:17 187:17 217:19
221:5 226:11 236:16
243:7 248:13 248:14
levels 19:14 111:9
Libra 127:22
license 194:24 195:2 196:17
life 96:18 96:24 97:2 97:5 97:8 97:10 98:3
105:4 113:17 115:10
164:17 208:24 252:17
lifesaving 77:8
light 19:3 78:8 121:23
lighter 174:10
likelihood 120:18
limit 111:12
limitation 111:10
limited 10:10
limits 75:13 75:22
75:23 76:13 77:2 77:12
83:18 83:24 87:9 88:17 214:9
linear 188:2 188:2
lines 178:6 178:8
180:12 255:5
Lippman's 72:20
129:23 135:10
IIPPMAN 8:24 8:24
10:16 10:23 56:5 56:6
72:7 72:8 124:21 124:22
126:14 128:5 140:11
140:12 $143: 12 \quad 143: 14$
144:15 150:12 150:13
153:24 153:25 157:10
157:11 157:24 157:25
160:24 160:24 182:19
182:20 218:19 218:20
219:4 220:14 220:15
221:9 221:16 222:15
223:13 243:16 243:17 245:18 247:12 249:7
249:8 249:22 253:25
listed 163:5 200:22
246:19 246:20 246:22
listened 118:15
listening 118:5 130:21
literature 61:20 188:9
224:3 233:15 239:3
241:6 242:10 245:4 245:6 247:9
liver 32:20 45:25 206:10
lives 115:13 132:21 133:3
locally $30: 3$
location 187:15 216:3
216:5
$\log 167: 9$ 170:22 171:7
226:7 227:3 228:16
239:24
logarithmic 22:17
logic 73:11
logical 31:23 77:19
long-term 80:14 117:4
138:2 195:22 198:17
200:7 200:15 200:21
202:5 220:6 220:12
220:24 229:23
longer-term 95:12
longest 63:4 250:8
Loni 184:15
looks 58:3 71:23 87:22
87:23 125:3 128:2
135:2 145:17 145:19
210:22 235:21 235:22
241:6
Los 9:4
lowest 154:19
lucky $112: 5$
lumpectomy $32: 18$
lunch 244:6
lung 252:13
LVEF 81:11
lymph 24:22 28:15
55:2 114:2 117:3 166:12
166:17 166:18 166:20
181:5 184:23 192:5
197:19
lymphoma 221:6

- M -
M.d 8:25 160:25 185:6

190:4
magenta 18:25
magnitude 50:6 76:10
77:6 84:4 84:15
magnitudes 85:4
main 196:3 199:18
200:6 250:15
mainly 133:15 229:5
maintain 53:10
maintained 54:3
230:23
Maintenance 169:22
170:6 207:2 252:15 major 12:22 15:9 16:20
25:23 27:5 43:13 66:5
108:17 118:25 119:5
131:17 171:16 189:4
189:12 222:5 223:15
majority 97:16 189:14
191:5 206:4
malignancies 46:21
46:25 79:9 97:13
malignant 184:17
184:21 185:7 185:13
manage 204:24
management 34:11
35:24 72:16
mandated 79:3
manifest 80:17 80:18
140:2 140:16
manipulation 28:5
mapping 181:10 189:16
190:4 190:16
March 35:18 166:2
212:13 233:18 234:5
Margaret 11:24
marginal 69:2 69:4
237:18
marginally $241: 9$
margins 32:16
Margolin's 129:23
131:7
MARGOLIN 9:3 9:3
10:9 110:18 111:2
124:2 124:3 133:13
133:14 139:12 139:13
142:10 142:12 142:17
148:22 148:23 150:21
150:22 152:18 $152: 19$
155:15 155:16 161:22
Marissa 113:9 113:11
mark 241:15
marked 66:20
markedly 186:7
marker 82:7 97:9
marrow 37:14
Massimo 161:3 232:22
mastectomy 37:18
material 189:19 235:5
239:9 241:17
materialized 201:8
materials 211:18
mathematical 23:12
matters 10:8 78:10
162:2
mature 212:3 236:7
236:19 237:16
matured 237:20
Maurizio 225:17
maximal 248:5
maximized 28:4
maximum 79:20 80:22
Mcdonough 160:12
160:12
meaningful 66:7
208:7 252:19
meaningless 150:23
meant 110:20 151:4
249:12
measure 116:12 230:16
measured 187:20
measuring 124:5
mechanism 158:3
245:21 246:11
mechanisms 154:2
median 34:4 36:10
75:20 102:22 167:8
170:5 202:9 204:12
210:12 210:13 228:19
238:10 238:11
medians 236:11 236:12

236:13 239:22
medical 8:8 8:10 8:16
8:18 8:20 8:24 9:3 9:5
9:7 49:21 73:11 121:6
126:9 137:20 160:8
160:10 160:16 160:18
160:20 160:24 165:25
185:5 188:9
medically 106:3
medicines 53:19
meeting 9:16 9:18 9:19
9:24 11:20 11:23 36:4
36:23 124:24 124:24
124:25 126:15 161:12
161:14 161:15 161:20
Meier 100:9
melanomas 166:11
melodramatic 215:12
melphalan-based
153:2
Memorial 22:10 27:25 193:20
menopausal 39:24
41:5 70:12 76:25 135:5
mention 55:10 93:9
148:16 151:9
mentioned 69:18
140:22 163:12 170:15
171:25 179:12 179:16
216:11 247:7
mere 95:14
merit 144:14
message 202:4
messages 188:13
195:7
meta-analyses 244:23
246:17 247:6
meta-analysis 242:10
242:14 242:15 247:14
249:20
meta 244:7
metastases 102:10
102:12 166:17 184:23
186:16 186:17 189:13
190:13 191:8 191:9
191:11 191:17 191:21
192:13 192:13 192:15
209:7 223:5
metastasis 189:8 189:9
metastasize 189:21 192:21
metastatic 14:13 14:15 14:20 54:4 164:4 166:20 196:13 223:4 223:5 meter 14:21 14:24 19:15 19:17 19:18 19:21 25:16 25:19 26:8 26:11 27:7 32:22 33:5 33:9 40:10 40:14 40:15 42:18 51:9 79:14 79:22 80:21 82:5 170:4
MHC 164:6
microscope 187:22
microscopic 187:4
187:8 190:8 190:12
midpoint 87:15
milligrams 14:21 14:24
19:15 19:17 19:18 19:20
25:16 25:19 26:8 26:10
27:7 33:9 40:13 51:8
52:25 79:14 82:4
millimeter 187:24
188:5 190:11
millimeters 166:11
184:22 186:14 187:25
188:3 188:3 188:16
194:15 201:22 206:17 209:14
million 170:4 181:25
184:24 197:6 197:21
205:8 206:25 230:15
230:24 234:20 235:11
mind 19:9 29:7 43:19
72:21 124:7 130:3
130:4 205:2 252:13
minds 214:23
minimal 133:2
minimize 30:8 30:24 30:24
minimizes $30: 20$
minimum 221:13
Minnesota 8:9
minor 156:13 156:17
minus 62:19 64:8 133:10
minute 58:21 170:23
mischaracterization 254:19
misinterpreting 210:20
misleading 151:2
misled 77:7 144:3
misreading 109:4
missing 176:17 220:16
mission 12:12 113:16
mistake 60:19
mistaken 216:22
mixed 48:14 128:2 model 25:4 26:5 38:23
38:24 39:16 39:17 55:22
57:15 134:21 171:23
172:8 237:10 237:12 238:12
modeling 23:12 122:3
models 77:16
moderate 238:23
241:10
modest 23:7 46:15
193:21 246:3
modification 95:3
modified 37:18
Moffit 190:4
moments 44:25
monitor $52: 19$ 52:20 91:20 92:15
monitored 43:8 46:18 52:9 80:10 82:3
monitoring 34:14 34:22
35:14 44:13 74:20 78:25
80:3 90:3 91:4 97:11
165:15 167:3 233:21
251:1
monochemotherapy
16:17
monoclonal 21:16
monotherapy 83:2
193:4
month 169:20 234:7
234:9
months 16:21 27:2
33:24 33:25 34:19 36:11
36:12 38:16 71:12 71:12
83:10 83:11 102:22
105:2 109:23 115:10
169:24 179:15 184:25
197:7 197:22 198:8
198:9 198:10 200:13
200:14 202:11 202:15
205:6 206:4 208:8
208:19 209:2 209:8
209:15 213:9 213:10
213:20 220:12 234:22
235:2 255:7 255:12
moot 138:21
morbidity 105:3
mortality 35:21 40:4
84:6 84:7
moves 75:25 87:10
87:12
MS 8:12 10:7 11:25
130:18 130:19 133:15
139:5 139:6 184:13
212:7
MUGA 78:14 80:5 80:13
multi-center 196:16
206:16 224:25 225:4
248:25
multi-variate 190:19
multiple 16:15 16:17
22:11 40:21 72:23 88:20
89:19 121:24 135:2
135:3 191:25 192:21
230:10 230:12 245:7
multiplicity 50:17
multiply 79:25
multivariate $38: 23$
myalgia 47:21
myalgias 46:9
Myers 12:19
myocardial 169:18
mystified $241: 22$

| - N- |
| :--- |
| N0 167:18 |
| naively 217:20 |
| name 98:13 113:11 |
| 194:20 217:11 225:17 |
| 232:21 |
| namely 134:20 |
| narrow 87:9 123:10 |
| narrower 122:6 |
| National 11:24 12:2 |
| 12:6 12:11 36:18 113:15 |
| nationally 117:7 |
| nationwide $12: 16$ |

nausea/vomiting 205:19
nausea 45:24 109:11
NCCTG 178:24 179:12
NCI 22:10
NDA 14:7 79:4 81:5 94:23
necessarily 40:20 97:4
114:18 155:8 214:18
224:24 243:11
Neeman 232:25 233:19
235:17 237:7
negative/er 75:14
negative/pr 103:9
119:17
negative/tamoxifen
66:3
negativity 116:20
neoplasm 79:2
neoplastic 48:19
net 106:19
neuromotor 45:23
neuropathies 46:9
neurosensory 46:9
47:20 97:16 104:25
neurotoxicity $97: 18$
neutropenia 25:24
95:9 154:5
Nevertheless 18:3
130:12
news 115:23
nice 239:22
nicely $31: 17$
night 14:3 14:3
nil 49:11
no-effect 83:19
no-tamoxifen 85:16
nodal 33:14 72:15
168:24 172:6 179:13
186:16 189:8 189:9
189:25 190:12 191:9
191:11 191:13 191:14
191:17 191:21 192:10
192:11 192:15
node-negative 71:25
166:15 167:22 171:3
174:2 181:12 190:14
195:4 197:20 206:18
209:12 241:17
node-positive 12:8
12:21 13:15 15:7 16:3
25:11 25:12 32:16 36:20
41:2 42:12 51:6 71:21
71:24 71:25 101:8
107:3 107:20 136:4
136:15 137:15 138:24
140:6 141:8 143:3
146:18 147:15 147:16
148:12 152:11 152:12
169:2 169:4 169:8
171:2 172:21 173:22
175:6 194:5 194:8
node $32: 18 \quad 37: 8 \quad 50: 9$
55:2 72:2 73:15 85:23
147:17 166:12 166:14
166:17 166:20 167:17

167:18 172:22 174:3
181:5 181:10 181:14
181:14 181:15 184:23
189:16 189:18 189:20
189:22 189:23 189:24
189:25 190:3 190:9
190:16 190:18 190:21
191:5 191:6 191:23
192:8 194:6 194:8
194:15 196:4 241:16
nodes 24:22 28:15
37:7 37:11 39:6 39:20
54:20 55:19 70:12 85:14
86:12 87:2 114:2 114:6
114:21 117:3 130:10
135:4 143:18 166:18
167:19 167:20 173:18
174:5 181:15 187:16
190:8 191:10 191:23
191:25 192:5 192:10
192:11 197:19
nominal 91:23 169:7
non-estrogen 108:19
non-hematologic 44:7
45:22 47:14 47:18
104:21 109:5
non-informative $92: 20$
non-interferon 178:16
non-significant 57:9
non-statistical 120:15
non-statistician 72:8
non-surgical 32:19
non-taxol 152:13
None 154:25 171:9
183:16 223:4 232:15
nonetheless 59:11
189:14
nonprofit 12:12 113:13
nonrandomized 183:13
nonsense 125:20
nonsignificant 171:8
nonvisceral 175:25
180:2
normally 119:23 158:14
200:23
Norton's 135:17 140:17
Norton 13:17 14:10
16:4 16:6 41:13 49:10
73:19 75:3 82:12 82:20
82:22 84:19 87:7 88:2
88:12 118:6 131:16
132:5
notable 99:20 104:24
106:2
noted 11:12 162:10
248:7
notes 241:14
noteworthy 100:13
103:8
notice 37:2 38:12
131:23
notified 212:15
notwithstanding 10:19
11:2 119:9
novel 189:16
November 165:24

234:4
NSABP 19:19 26:25
29:14 124:11 133:7
155:18
nu 93:15 93:16
nuanced 127:7
nuances 149:11
null 199:24 235:24
236:3 236:4
numerous 12:16
nurse 8:14 160:14

```
- O -
```

O'brien-fleming 91:17
91:25
o'clock 158:24
O'leary 9:5 9:5 98:12
98:13 109:6 109:20
110:21
obey $92: 8$
Objective 102:7 102:20
163:23
objectively $162: 14$
objectives $32: 2$
observational 239:16
observe 235:9
observed 164:14 165:5
168:17 169:16 177:23
205:10 207:22
observing 129:15
obtain 228:16
obtained 10:12 43:9
162:3 176:14 226:15
obtaining 239:13
obvious 52:9 204:10 occur 47:3 53:17 109:21
occurred 44:24 46:21
47:12 82:4 99:5 102:23
104:7 174:24 250:4
occurrence 102:11
occurrences 34:10
71:13
occurring 79:5 99:21
106:2
occurs 47:16 71:16
71:21
October 36:3 165:23
ODAC 40:22 152:2
odd 155:10
odds 17:11 17:15 17:19
18:7 19:7 42:15 49:11
49:12 61:20 61:21 61:22
61:22 62:9 62:17 62:21
63:2 63:4 63:6 66:23
102:15 102:17 239:21
off-protocol 176:2
offer 49:25
offered 37:13
offering 175:15
offers 114:10
Office 10:14 161:6
162:5
official 10:8
oftentimes 43:22
147:6
olaxafene 150:16
older 20:13 20:13 20:18
39:25 64:3 64:6 66:15
66:19 68:22 76:20 94:14
94:17 95:6 95:15 95:25
96:20
omit 35:4
on-site 176:14
oncologist 8:8 8:11
8:17 8:18 8:21 8:25
80:24 113:12 160:17
160:18 160:21 160:25
oncologists 49:22
oncology 8:14 9:3
13:12 15:10 15:11
160:9 160:11 160:14
185:3 185:11 190:6
191:9 193:10 194:21
211:9
oncolysate 193:18
one-liner 120:4
one-third 65:5
ongoing 179:7 193:24
operable 32:14 178:12
operations 10:22 11:5
opinion 154:16
opponent 138:2
opportunity $163: 18$
175:15 176:8
opposed 170:5 170:11
173:21 178:7 178:9
229:5 236:17 246:6
optimal 242:25
option 13:4 111:11
115:18 130:13 131:6
options 13:3 96:23
130:21
orange 188:16
Organization 11:25
12:2 12:6 12:11 12:12
113:14 113:15 117:8
original 43:18 43:19
89:24 175:19
originally 28:17 73:12
211:21 212:8
otherwise 62:15 112:16
126:19 186:20 209:10
ought 129:21 155:13
157:22
out-of-date 254:11
outcome 23:6 106:19
119:5 173:21 174:8
177:2 177:8 182:4
187:24 195:22 203:10
203:12 203:25
outcomes 49:17 124:12
167:23 171:18 171:18
239:12
outlier 87:13 169:4
outlined 188:12
outstanding 12:17
outstandingly $254: 2$
outweighs 10:21 11:3
ovarian 63:5
overcome 24:11 144:22
overlap 41:24 42:7
66:20 83:19 84:17
overlapping 168:12
overlaps 56:18 66:9
overlay 191:15
oversimplifying 118:16
overview 17:2 19:23
41:13 42:23 55:12 58:4
58:13 58:16 58:19 63:17
66:14 67:13 71:23 76:5
76:17 77:22 82:12 83:6
84:19 88:16 88:22
102:20 125:16 127:9
182:16 185:7 186:3
239:3 244:15 244:17
249:2
overwhelm $65: 7$
overwhelming 127:5
145:19
Oxford 17:2

## - P -

p.m 159:2 160:2 256:22

PA 160:13
package 54:2 54:8
54:11 95:3 111:14
117:10 117:11 129:24
138:25 139:15 140:21
141:14 141:18 142:19
145:4 145:12 148:3
149:14
paclitaxel 19:10 21:14
21:22 21:24 22:8 25:18 25:21 25:23 26:13 27:7
28:2 28:25 29:2 29:22
29:22 29:23 30:5 30:10
30:12 30:16 40:17 41:4
43:5 47:20 48:23 49:14
53:4 53:6 53:21
page 93:23 130:22
227:14 245:2
palpable 197:19
panel 40:22
paper 55:10 234:4
parallel 114:12 206:14
208:3
parameter 195:22
195:22 203:5 203:10
203:12 203:25 206:20
207:12 207:13
Pardon 60:14
parentheses 146:19
157:14 177:20 241:14
park 18:2
Parklawn 10:14 162:5
participant 11:10
162:8
participants 9:21 11:11
11:14 43:14 161:17
162:9 162:14 162:20
participate 10:8 10:10

10:23 11:6 37:15 200:25 participated 14:6 15:9 233:2
participating 10:2
35:16 161:22 214:3
participation 10:21
11:3 31:14 37:13
partly 137:24 137:25
144:7
parvum 193:4
pass 194:17
passes 141:7
pathologic 187:16
231:24
pathologically 166:15
pathology 189:23
216:2 253:4 253:7
patient's 130:20
Patricia 161:4
Paulo 185:4
peer 12:15
Pehamberger 197:3
234:5 234:8 237:21
238:18 240:7 243:2
255:13
PELUSI 8:14 8:14 96:15
96:17 98:2 160:14
160:14
Pending 179:3 179:17
per-protocol 236:14
perceived 233:25
percentage 27:15 46:14
52:2 53:18 62:20 156:10
170:12 202:25 205:21
percentages 81:3
205:17 205:22
perception 255:2
perfectly 202:21 217:5
perform 98:18 101:11
110:9 241:4
performance 234:15 235:3
performed 98:25
101:2 101:19 196:20
196:25 199:8 199:10
199:15 199:19 200:7
200:11 203:17 206:13
220:13 225:10 226:12
227:23 228:8
performing 90:19
perioperative 16:19
permission 215:23
permit 10:7 241:6
permits 10:10
permitted 11:6
permitting 28:4
personally 68:16
148:6 157:6 158:8 253:13
perspective $36: 17$
96:2 II3:25 232:22
253:13 255:20
persuaded 128:4
130:7
persuasive 110:24 140:5
pertain 186:12
pertaining 190:10
pertains 191:22
pertinent 94:10
Peto 59:13 127:11
239:24
pharmacologic 53:25
phase 14:15 53:7 56:17
97:15 170:4 170:6
183:22 183:24 142:23
235:10
phenomenon 23:3
86:21 175:2
Philadelphia 113:15
Phoenix 8:15 160:15
phrase 150:3
physician 113:12
117:6 139:10 147:3
156:23
physicians 40:22 53:20
74:23 140:10 151:7
157:4 157:19 157:22
157:23 214:23
PI 34:16
pick 61:4 167:6
picture 67:15 93:4
240:23
pilot 25:9 25:12 26:4
pin 125:20
Pittsburgh 160:13
163:13
pivotal $13: 20 \quad 14: 9$
15:2 15:14 27:3 27:20
28:13 28:24 29:16 31:6
50:7 94:23 164:10
196:17 196:19 197:12
198:2 208:9 215:3
planned 34:8 34:21
35:11 40:20 41:10 74:21
89:24 112:3 132:5
150:14 211:25 235:21
248:7
plateau 114:14
platelet 45:7 47:12
plausibility 126:9
129:6 I37:20 140:13
140:14 140:19 158:3 245:20
plausible 106:3 126:4
126:7 144:2 144:23
played 183:5 $223: 22$
plead 70:6
please 24:11 64:25
66:11 66:22 67:9 76:15
123:25 136:17 211:6
213:3 222:13 229:19
256:5
pleasure 31:9 194:23
plenty 89:8 252:11
plot 22:17 173:18
$\begin{array}{lll}173: 19 & 178: 5 & 178: 15\end{array}$
plots 168:8 168:12
168:20
plotted 100:4
plunge 120:8
plus 17:24 33:24 37:24

38:7 38:11 39:16 44:17
45:5 45:12 46:3 46:6
46:22 48:5 48:21 55:2
59:17 64:8 69:3 71:2
94:13 101:4 103:13
103:21 105:6 105:9
106:20 121:16 133:10
137:17 193:10
pointed 192:4
pointing 146:13
polychemotherapy
16:15 17:9 20:6 20:7
Pomona 8:19 160:19
pooling 125:17
poops 145:17
popped 55:15
populations 59:14
65:19 106:3 169:3
171:3 171:13 171:17
172:9 173:2
portion 105:10
portrayed 175:6
posed 136:19 244:13
positive/non-receptor
86:20
positive/pr 147:25
positive/tamoxifen
66:2
positives 119:21
positivity 54:25 116:20
124:5 124:14 133:5
181:15
possession 54:6
possibilities 20:20
139:10
possibility $29: 8$ 55:10
176:2
possibly 120:23 140:24
post-menopausal
39:10 39:23 64:2 76:25
124:6
post-relapse 174:14
174:18 175:3 177:14
177:25
potential 9:23 12:7
57:11 77:9 87:2 91:5
91:15 115:15 133:3
161:19 201:5 223:20
229:11 250:14
potentially 75:6 118:19
powered 54:23
powerful 127:12 129:22
187:18 190:17 190:22
191:10 201:16 203:5
215:9
PR 76:24 99:18 100:17
100:23 101:6 101:10
103:18 109:13 116:4
121:12 124:5 124:13
132:3
practical 225:4
practice 157:20 157:21
181:16
practicing 62:22 80:24
151:7
practitioner 8:15

120:9 160:15
pre-snda 36:4
pre 39:9 39:23 64:2
76:24 124:6
preamble 135:24
precedent 143:15
254:7
preceding 19:5
precise 44:12
precisely 93:10 231:17
preclude 9:17 161:13
predefined 199:13
199:14
predicted 25:4 91:6
91:12 114:7 179:25
prediction 130:14
predictive 92:9
predictor 185:20
prednisone 17:25
preference 129:16
preliminarily 193:23
preliminary 146:15
242:17 249:19 255:18
premature 61:2 63:12 premedication 53:5
53:8 53:11 53:14 53:16 53:18
premedications 53:3
premenopausal 36:20 37:3
preparation 14:6 25:8
preparations 80:5
prepared 58:12 68:9
preplanned 35:12
prerogative 51:16
prescheduled 248:8
prescribed 227:22
228:5
presence 59:5 59:7
191:12
presentation 13:10
13:16 36:9 36:11 44:2
47:25 49:18 49:18 56:9
56:16 57:13 78:8 108:9
108:25 121:11 163:14
184:12 186:13 190:11
195:8 201:18 202:4
204:14 207:4 209:16
215:3 219:21 221:19
223:14 232:20 245:25 246:2 255:8
presented 15:3 17:8
25:10 26:19 27:23 29:16
31:3 31:16 34:18 35:19
50:7 81:4 90:17 137:9
138:10 140:4 141:15
144:17 153:9 153:15
153:17 165:23 165:25
166:4 166:19 168:12
186:15 203:4 207:5
211:15 218:23 219:22
219:24 225:24 226:14
226:24 233:9 238:3
238:24 242:21 244:16
246:24 249:16 249:17
presenter 244:16
presenting 20:22 30:16
31:6 98:14 166:17
185:12 210:6
presently $183: 6$
presents 19:9
prespecified 56:14
56:16 98:25
prestratified 150:24
Presumably 146:3 pretreated 14:16 pretreatment 36:25
pretty 56:19 89:4
109:16 115:25 119:7
121:19 123:20 139:3
149:11 182:21
prevalent 37:9
prevent 204:24 209:6
prevention 184:20
previous 11:16 20:25
71:6 162:22 207:3
221:6 221:8 234:14
previously 38:4 38:6
47:8 101:15 185:15
primarily 191:8 194:5
primary 125:8 126:17
166:10 166:18 167:5
185:19 186:12 187:10
187:15 188:10 189:4
189:7 192:5 192:8
194:15 198:3 198:18
198:20 200:9 206:20
214:19 216:2 216:5
217:16 219:22 220:3
228:5 235:16 235:19
238:24 248:10 249:23
prime 115:12
prior 22:4 22:9 51:20
74:22 92:20 121:6
priori 201:7
privately 74:25
privileges 10:11 11:7
probabilities 91:6
91:12 92:9
probability 74:13 92:13
problematic 56:23
procedural 111:25
procedure 181:13
181:15 245:12
procedures 34:13
proceed 117:16 184:12
proceeded 90:4
proceeding 94:7
produce 210:15
product 33:5 129:2
156:7 233:5 233:9
239:10 241:24
Professor 196:22
197:3 213:4 213:6
213:14 213:17 214:8
222:21 222:25 223:23 226:15
profile 15:22 50:24
104:16 104:22 154:8
185:22 205:23 208:19
progesterone 26:16
99:15 99:16 106:23

107:4 108:20 II 6:2 prognosis 29:9 165:17
186:20 187:10 191:8 192:14 192:20 195:14 prognostic 167:11 180:11 186:3 190:17 190:22 191:11 203:5 215:4 215:18 215:20 230:13 243:13 249:18 252:25
progressed 220:17
progresses 129:11
progression 48:14
94:2 94:7 105:16
prolongation 167:24
208:7
prolonged 17:9 154:5
185:17 200:4 252:11
252:15
prolongs 195:17 249:4
252:12 256:3
prominent 147:21
prominently 111:14
prompted 101:11
promptly 232:16
pronounced 103:25
proof 111:15
proper 215:17
properly 208:15
prophecy 131:21
144:3
prophylaxis 208:25
proportion 196:3
196:10 196:11 196:12
225:11
proportional 63:16
63:17 63:20 134:20
238:12 240:19
proportions 240:13
proposal 210:11
propose 15:25 51:4 53:5 210:25
proposed 53:5 53:10
91:25 98:20 184:19
prospective 62:16
198:8 198:13 206:15 229:14
prospectively $24: 19$
124:15 132:2 107:5 protocol-prescribed 213:23
protocol-specified 214:2
protocol 44:3 44:10
53:3 92:5 92:8 102:21
104:13 106:4 107:9
110:2 110:5 110:6 110:7 110:8 128:15
175:18 194:3 198:9
200:24 202:22 213:20 214:9 214:11 214:18 217:15 220:10 225:3 227:23 228:5 228:10 233:13 234:8 234:15 234:17 235:7 237:23 238:4 248:10 248:18

250:2 250:24 255:15
protocols 245:9
prove 130:13
proven 62:15 149:4
provider 95:5
providers 54:10
provides 240:10 256:2
provision 234:15
proviso 131:7
publication 34:23
207:5 207:6 207:6
207:10 212:14 231:14
242:13 243:3
publications 12:17
242:16
publish 93:18
published 17:5 68:2
140:20 149:24 164:23
190:5 239:3 242:12
242:12 247:8 255:12
pull 86:6
pulled 65:16 87:8
pulling 23:16 126:9
150:20
pulls 76:13
pure 62:12
purely 23:9
purposes 196:24
215:5
pursue 213:18
puts 17:4
putting 17:13 113:24
128:9 140:21 147:20
150:8 226:4 226:5
puzzles 209:24

| $-\mathbf{Q}-$ |
| :---: |

qualitative 62:12 62:24
quality $96: 18$ 96:24
97:5 97:8 97:9 98:3
105:4 113:17 115:10
164:17 250:13 252:17
253:11 253:22 254:5
254:6 254:24
quantify $254: 11$
quantitative 62:13
quarter 25:24
queries 176:15
questionable 253:10
questioned 10:22 11:5
quick 102:19 231:10
243:17
quickly 23:5 182:21
quote 65:10

- R -

R\& 194:21
Radiation 33:21
radical 37:18 $172: 25$
radioactive 189:19
radiotherapy 30:6
Raghavan's 56:7
RAGHAVAN 8:16 8:16
54:13 54:14 85:9 93:22
117:22 117:23 137:22
137:23 138:18 140:4
153:6 153:7 160:16
160:16 209:20 209:21
210:16 231:8 231:9
241:21 241:22 253:15 253:16
raise 72:17 138:8 256:5
raised 70:13 70:25
108:18 139:2
RAMISIO 225:17
225:17 226:13 226:21
227:7 228:5
random 88:7 135:15
randomization 34:11
38:16 54:18 132:13
132:14 133:8 $134: 8$
randomizations $30: 7$
randomize 133:10 134:5
randomizes 28:25
randomizing 79:24
randomly 89:5 132:3
ranging 41:7
rank 167:9 170:22
171:8 226:7 227:3
228:16 239:24
rapid 22:20 186:25
rapidly $26: 2 \quad 28: 10$
187:9 191:3
rates 12:25 14:15 21:25
22:9 102:18 208:5
ratio 38:25 41:17 42:4
61:5 61:6 71:15 85:22
100:18 101:18 103:16
103:22 104:3 105:20
105:22 107:22 112:23
121:18 167:24 168:4
169:2 169:9 170:20
171:7 173:8 $173: 13$
182:8 239:22 239:22
ration 119:19
rational 24:3
rationale 31:16
ratios 41:16 85:14
88:23 103:15 168:12 173:4
reach 20:2 84:21 91:21
238:11
reactions 46:10 104:25
118:20
reads 142:14
reality 118:17 119:16
210:19
realize $252: 3$
reanalysis 94:22
reanalyzed 94:24
reasonable 22:12 62:16
76:16 80:24 86:16 90:24
132:10 195:25 208:22
217:5 249:12
reasonably $187: 9$
195:6
reasons 57:4 77:13
77:19 93:9 169:21
200:21 247:7 252:5
reassuring 50:18 52:17
recall 174:3 175:16
216:11
receive 48:22 53:13
53:15 58:3 78:14 106:5
106:5 107:13 111:16
132:3 132:4 136:16
137:17 139:17 177:17
178:10
received 25:18 26:17
27:15 33:3 33:4 33:6 33:8 34:25 35:2 51:20
57:25 63:18 63:22 64:7
64:10 79:6 79:7 99:18
101:13 104:3 107:10
132:25 139:20 162:17
177:3 177:4 178:7
178:9 178:16 212:11
220:25 233:20 234:7
235:5 237:21 237:23
receives 78:18
receiving 45:14 45:15
47:3 77:3 91:15 96:7
149:5 156:8
receptor-positive
136:15
receptor/pr 134:23
receptors 65:19 107:4
Recess 98:11 232:18
recessed 159:2
recipients $177: 16$
177:20
recognition 89:19
recognize 57:10 98:16 133:15
recognized $151: 5$
165:4 167:12 195:10
recommend 36:19
51:7 107:18 209:9
209:14 247:17
recommendation
107:5 107:21 108:10
108:19 109:12 124:9
124:23 151:18
recommendations
56:21
recommends 111:21
reconsented $251: 3$
reconvene 158:24
159:2 232:16
recording 52:5
recovered 26:2
recruited 196:22
197:15 198:4 200:17
recruitment 199:11
203:19 206:13 207:23
209:25 212:5 217:16
219:3 219:12 220:5
250:17
recur 114:7 187:2
187:6 187:6 189:7

189:9 189:14 229:13 recurred 104:19 189:3 222:16
recurrence-free 84:20
recurrence 17:11 17:19
18:6 18:16 18:24 22:21
35:21 40:4 42:13 42:15
49:12 61:14 61:2I 61:23
63:21 100:2 102:9
102:13 102:15 102:15
102:17 102:18 105:19
105:20 114:4 184:20
192:22 197:8 204:25
208:5 208:6 209:5
209:6 222:19 223:9 228:25
recurrences 71:8 179:24 192:17 222:18 225:3 229:4
recurrent 166:19
175:8 183:12
reduce 192:22
reduced 17:23 26:7
76:11 105:19 105:21
232:11
reduces 18:23 19:2
42:13 42:13 218:2
reducing $17: 11$
reduction 17:15 17:18
35:20 35:21 39:18 40:4
49:11 49:12 54:16 54:17
56:13 61:21 61:22 62:9
62:17 62:21 63:3 63:6
63:16 63:17 63:20 66:23
73:14 81:11 81:13 83:15
84:23 93:3 100:2 123:23
123:25 169:19 169:23
171:7 202:15 208:5
reductions 19:7 61:20
61:21 232:9
refer 54:4 54:8 143:17
reference 121:10
referred 219:19
referring 141:22 142:20
158:14
refers 54:4 151:10
reflect 104:4 141:14
219:15
reflecting 37:8 43:16
refractory $22: 6$
refuted 171:2
regard 9:16 16:8 16:16
132:11 161:12 204:19
215:25 220:9 232:9
regarded 26:3
regarding 12:7 56:7
57:21 91:2 239:10 245:3
regardless 27:13 33:17
61:14 133:4
regimen 15:6 16:23
27:22 28:6 28:6 28:7
28:16 28:24 49:2 53:5
105:9 152:14 153:23
156:9 165:10 205:5
206:23 207:2 208:25

208:25
regimens 18:10 18:10
18:13 83:8 83:8 83:11
153:2 153:2 153:4
153:12
region 93:5 157:20
regional 166:12 166:17
166:18 175:25 176:4
178:4 178:5 178:6
178:12 189:13 191:8
229:5
regionally $187: 17$
189:7
registration 211:17
regression 22:6 22:18
23:2 55:22 70:11
regressions 70:21
regrows 23:4
regrowth 22:7 22:19
22:20 23:5
regulated 9:22 161:18
regulatory $140: 3$
184:15 212:7
reiteration 139:13
rejected 200:2 236:3
relapse-free 23:6 25:5
164:15 165:3 167:4
167:8 167:23 168:8
170:20 170:21 171:19
171:25 172:11 172:15
173:5 174:11 174:12
178:20 178:22 236:25 238:5 238:9 239:11
240:2 240:11 241:7
243:8
relapse 77:18 80:19
102:8 102:21 167:25
167:25 168:16 169:21
170:8 171:7 174:15
174:21 175:20 177:9
198:20 202:7 202:12
204:16 206:22 208:9
213:16 214:16 218:12
222:11 223:2 228:16
relapsed 199:3 207:25
208:12 218:17
relapses 165:14 175:22
175:25 176:5 176:7
176:7 176:12 178:8
178:10 199:6 199:16
199:21 202:18 203:22
204:19 213:15 221:10 236:11
relapsing $18: 19$
relate 23:24 153:14
205:14
related 51:19 56:6
57:24 79:16 79:16 92:21
101:19 105:16 130:15
153:18 216:17
relates 54:22
relationship 26:20
57:4 93:15 93:16
relative 61:10 61:14
67:12 141:15 143:8
170:7 170:14
relatively 46:15 54:21
145:11 149:8 156:17
188:2 191:2 193:16
release 35:15
released 74:20
relevance 254:24
relevant 19:12 83:10
83:18 95:24 127:23
201:13 207:16 245:19
reliability $114: 15$
reliable 136:3 211:13
240:21
remain 153:19
remainder 163:11
remained 217:3
remaining 189:24
remains 202:8
remarkable 202:15
remarks 13:22 49:25
remind 11:19 31:17
200:14 233:4 253:22
reminding $145: 16$
remove $32: 15$
removed 145:10
renal 45:25
rendering 19:21
Renzo 13:20
reopen 113:8
Rep 8:13 130:19 160:15
repeat 104:8 222:13
repeatedly $55: 24$
156:21
replaces 133:20
replenishment $22: 20$
reporting 44:9 52:6
104:14 224:24
reports 242:12 247:8
247:10
represent 44:12 48:6
99:19 104:16 106:3
115:18
Representative 160:13
represented 100:12
representing 113:13
represents 12:22 99:2
101:14 226:10
reproduce $226: 8$
237:25
reproducible 251:19
251:25
request 10:13 48:25
162:4 212:4
requested 48:9 163:6 211:24 236:6
require 27:9 80:6
requirement 45:7
45:8 47:12 169:22
requirements 125:13
requires 255:4
requiring 26:11 28:19
rescue $84: 11$
resectable 180:2
resected 184:21 249:5
256:4
residual $18: 24$
resistance $93: 19$
resistant 67:21 112:19 144:12
resolved 139:4
respectively 196:18
respiratory $48: 18$
105:14
respond 254:16
responding $22: 18$
response 13:8 14:15
21:25 22:7 22:8 22:9
31:18 42:17 81:24
113:6 135:21 136:7
141:4 158:17 163:9
164:21 180:11 212:12
232:14 256:7
responses 163:24
212:11
responsible 70:5
responsive 24:2 26:15
26:15
restate 255:25
restrict 86:9 86:11
resubmitted 212:12
retain 53:10
retrieved 222:23
retrospective $124: 12$
198:14 222:24
retrospectively $220: 9$
returns 71:24
revealed 168:11
reversible 97:18 97:22
review 53:4 98:14
98:17 98:18 163:18
166:3 171:10 231:24
232:24 233:2 233:18
233:23 236:6 251:20
253:3 253:8
reviewed 51:25 211:11
reviewer 9:5
reviewing 211:19
rhetoric 119:15
Rich 180:14 181:6
Richard 59:12 127:11
160:20 253:10
right-hand 103:2
rigid 152:22 251:12
rigidly $251: 5$
rigorous 23:13 151:6
237:22
risks 63:9
robust 59:10 195:20
204:4 251:18 251:24
robustness 49:15
Roche 162:19 184:16
185:11 194:22 217:12
225:18 237:14 239:9
Roferon-a 184:17
184:24 185:12 185:22
195:2 198:7 199:4
200:3 209:3 209:10
249:3 249:4 256:3
Roferon 161:23 162:2
199:17 199:22 202:14
202:18 204:8 204:20
204:21 207:7 207:19
207:25 208:10 208:12

232:10 234:2 237:4
237:5 237:13 237:14
238:11 238:15 238:23
239:7 239:14 240:7
242:3 243:21 243:23
244:24 246:17 253:5
Rogers 175:2
role 163:2 179:22
room 10:14 113:25
114:24 162:5 163:7
roughly 206:14 230:3
routes 176:9
routinely $33: 3$ 44:7
rule 37:9 89:24 125:25
126:11 126:12 240:16
ruled 31:19
rules 110:2 127:7
Rusciani 240:8

- S -
safety 15:22 34:14
34:19 34:22 35:14 42:24
42:25 43:4 43:5 43:10
44:13 50:23 74:19 79:3
79:9 81:2 90:3 94:19
94:25 165:14 185:22
200:11 205:23 208:18
Salim 65:10
salvage 112:15 166:3
167:13 175:3 175:16
176:8 176:18 176:19
$\begin{array}{llll}177: 18 & 178: 4 & 179: 24\end{array}$
180:8 182:24 183:6
188:22 189:3 222:6
222:12 222:17
salvageable 176:5
178:12
Sam 217:10 217:11
229:21
sample 118:9 118:12
135:14 199:9 199:10
240:19
San 9:2
Sandra 8:12 10:7
sanity 153:20
Sao 185:4
save 174:15 231:14
saving 133:3
scale 196:16
scan 213:10
scans 78:14 187:9
scatter 118:11
scenario 73:25 74:5
74:5 74:16
scenarios 73:25
schedule 15:24 21:7
29:4 51:7 54:3 96:8
214:5 214:6 231:4
251:5 251:13
scheduled 99:3 165:14
scheduling 255:6
scheme 55:3
Schering-plough's

162:16
Schering 162:18
scientifically 139:23
scientists 74:23
score 235:24
Scott 8:24 10:16 160:24
161:25 245:17 247:11
252:4
se $130: 17$
searched 239:18
seats 113:20
second-line 14:19
Secondary 46:21 72:10
72:18 79:8 97:12 150:14
200:10 219:24 234:18
Secondly 37:12 41:6
44:21 54:20 55:8 170:25
195:13
Secretary 8:23 160:23
sections 149:14
seeing 23:8 40:23 84:4
85:4 85:6 183:17
seeking 184:19 233:7
233:9
selenium 150:16
self-fulfilling 131:21
semi $22: 16$
send 189:23
sensitive $82: 25$
sensitivity 93:18 93:19
sentence 111:13 147:18
150:20
sentiment 141:16
sentinel 181:5 181:10
181:13 181:15 189:16
189:18 189:21 190:3
190:16 190:18 190:21
191:5
separate $31: 25$ 44:15
84:18 120:16 132:18
132:20
separately 58:12 66:16
200:6 230:19 230:20
separation 248:6
sepsis 49:5 105:12
September 207:20
212:9 212:10
septic $51: 19$
sequelae 26:2 45:6
47:11
sequence 26:14 69:11
sequential 21:9 24:17
25:2 25:6 27:25 30:14
30:25 31:24 32:5 51:5
78:20 78:25 100:22
102:16 103:14 103:24
107:19 130:11 198:21
198:22 199:8 199:9
199:18 199:20 203:17
217:14 217:21 218:25
225:20 226:16 226:18
228:6 231:18 235:21
sequentially $12: 9 \quad 24: 22$
session 90:10
sessions 160:7
sets 209:21 245:9

254:7
setting 13:4 15:22
18:18 19:10 25:9 29:13
30:10 30:19 38:21 50:14
50:24 54:8 61:16 62:6
80:18 143:15 152:23 187:5
settings 14:13
severe $52: 15$ 53:16
206:10
sex 187:17 203:12
215:10 237:12 238:14
238:19 243:9
shape 114:12
shapes 205:3
share 90:20 131:3
223:25
sheet $246: 18$
shocking 252:22
shockingly 78:7
shorter 18:10 18:13
83:8 83:9 83:9 83:20
180:12 232:17
shortly $26: 6$
showing 16:8 18:2
26:20 30:18 40:16 93:18
93:18 107:24 127:13
252:14
shows 18:4 23:14 24:17
38:10 38:24 39:17 40:7
70:16 84:5 84:6 100:5
100:25 102:16 168:14
173:11 178:6 185:17
236:25 246:25
shrink 77:2
shrunk 83:25
sided 167:9
sides 115:17
Sidney 187:13
SIEGEL 161:6 161:6
219:18 244:25 247:23
254:16 256:16
sign 97:23 127:17
significance 17:22
20:3 83:17 84:21 91:2
91:13 92:6 92:13 92:16
107:23 164:16 169:7
169:10 171:19 172:14
177:6 218:5 226:11
227:8 227:16 236:16
237:18 243:7 248:21
significantly 30:18
45:9 94:20 181:9 200:4
217:4
signs 127:15
SILVA 184:13 184:15
212:7
similarly $93: 2$
Simon's 230:8
Simon 183:9 183:10
183:19 183:23 184:5
184:8 219:10 219:19
224:5 224:6 224:11
224:14 224:17 224:20
226:10 226:18 227:5
228:3 228:24 242:8

Reef whegrated systems

242:9 243:5 243:6
247:7 250:6
simulated 18:16 226:3
250:10
simulation 22:15 23:15 23:21 23:25 24:11 24:17 25:2
simulations 24:13
simultaneous 29:25
Sirio-libanes 185:4
sit 119:8 131:2 213:19
site 102:10 192:10
sites 175:20 214:3
216:4 228:25 245:7
251:4
sitting 74:10 158:23
sizable 101:15
skeptic 127:12 127:24
216:25
skeptical 112:14 113:2
126:12 127:4
skeptically 125:3
Skin 185:6 192:19
skip 98:19 135:23
sleep 90:14 90:15 90:20
slide 16:9 23:13 23:14
60:18 64:16 64:17 64:25
66:11 67:9 70:15 70:25
75:25 76:2 76:4 76:15
80:25 84:6 88:6 98:19
98:23 108:24 121:11
169:10 191:16 195:25
202:3 202:13 203:6
203:13 204:14 215:10
221:25 230:7 233:4
236:24 240:10 243:18
slides 51:25 58:9 58:12
109:11 181:8 215:23
245:2
slight 52:16 83:21
84:3
slightly 16:22 35:10
43:16 6l:17 109:14
121:14 123:11 123:12
136:25 206:23 244:4
Sloan-kettering 22:10
193:20
Sloan 27:25
slope 186:24
slow 140:17
slower 187:6
slowing 165:16
smaller 23:4 23:20
37:8 39:8 43:16 43:16
45:2 60:10 67:12 77:11
118:8 119:6 172:24
snapshot 186:5 192:18 snda 36:6 36:10
so-called 16:15 22:17
society $37: 9 \quad 165: 25$
socks 134:17 134:18 135:9
solely $220: 8$
solid 50:20 112:2
164:19 172:10 172:17 178:6 178:8 178:8

188:17
solution 154:25
someone 125:10 137:5
143:10
Somers 8:22 9:12
160:22
sometime 210:2 213:23
somewhere 155:14
sooner 23:20
Sorry 60:19 204:16
210:16 219:3 227:14
253:17 256:14
sorted 68:6 78:23
sounded 147:11 219:11
Southern 8:17 160:17
Southwest 15:11
speaker 11:23 31:5 185:2
speakers 13:7 185:2
speaking 91:22 92:7
162:18 162:18
specialist 131:10
specializing 113:12
specifically 46:7 47:2
47:15 58:4 58:7 64:9
82:15 123:16 185:9
185:14 185:16
specified 48:11 81:17
104:13 106:4 167:9
234:17 238:4
specify 53:2 $157: 13$
235:5 250:25
spectrum 116:6 116:18 124:19
spend 179:18
spent 153:8 241:25
split $33: 7$
splits $83: 7$
sponsor's 100:19
100:24 101:21 103:11
104:3 108:25 163:15
184:12 236:17 244:14 244:18
sponsor 13:10 51:15 98:8 98:20 98:22 99:6 100:5 101:20 103:15
103:16 103:21 104:11
109:21 122:8 125:13
145:21 147:2 209:20
231:11 236:7 237:14
249:16
spontaneous 127:7
spreading 24:5
squared 14:21 14:24
19:16 19:17 19:18 $19: 21$
25:16 25:19 26:8 26:11
27:8 32:22 33:6 33:9
40:10 40:14 40:15 42:18
79:22 80:21 82:5 170:4
Squibb 12:3 12:19
13:12 13:21 35:23 90:6
Stacy 8:20 10:6 160:8
staged 212:22
stages 50:5 95:16
186:11 186:11 187:11 192:23
staging 172:6 185:9
186:10
stagings 185:16
STAMP 28:20 28:20
stance 124:14
standing 160:4
stands 17:24
starting 8:4 26:15
116:6 116:20 141:8 254:9
starts 76:20 198:15
statement 9:13 12:5
57:15 57:22 63:15 72:20
78:24 94:10 108:5
110:24 118:8 118:10
135:17 141:22 142:3
142:7 142:19 146:12
146:13 146:22 149:3
149:9 150:8 150:10
161:9 163:7 219:17
States 37:11
Statistical 14:6 20:2
55:8 59:10 62:7 63:13 74:3 83:17 84:12 84:21 87:13 92:13 92:16
100:20 107:23 120:17
165:22 201:15 217:10 217:21 225:15 233:14 235:6 235:14 241:23 248:20 253:21
statistically 17:20
18:11 20:11 20:12 39:7 67:2 70:15 70:17 81:10 81:22 84:23 85:2 87:5 91:23 92:11 92:23
126:19 135:8 $136: 3$
144:19 151:5 182:13
182:15 200:4 207:14
208:16 217:3 218:8
247:3 247:20 251:17 251:23
statistician 161:2
217:12 225:18
statisticians 55:20
56:10 81:23 84:10
239:24
statistics 139:22
status 27:14 41:5 41:17
54:19 55:7 57:16 57:23 58:2 62:12 65:14 70:12
70:14 72:13 87:22 89:3
91:4 93:12 93:15 99:13
134:5 134:23 135:5
148:17 151:11 190:19
213:22 214:16 234:15 235:3
statuses 134:6
steep 31:19
stem 28:19
Stephen 14:5
steroid 53:9
stick 116:9 116:23
145:24 158:10 247:19 stomatitis 45:24 46:4 stopping 89:24 91:3 110:2 219:2 219:3

219:8 219:12 219:20 stratification 33:14 55:7 133:9 168:23 172:6 173:15 175:12 197:24 201:12 203:2 207:13 215:5 215:8 252:24
stratified 54:19 134:4 134:6
stratifying 227:16
strengths 248:18 stress 80:19
strictly 91:22 92:7
striking 65:3 107:5
143:23 144:2 144:13
stringent 235:4
stronger 58:16 70:2
70:22 70:23
strongly 150:22
struck 114:9
structure 234:10
struggling 119:4
studied 16:23 63:23
99:11 171:5 172:10 190:24 192:25 193:2
196:8 197:5 248:7
studies 22:2 22:12
31:22 57:3 63:3 97:2
124:13 124:15 131:11
131:15 164:8 171:14
171:15 172:4 172:15
172:25 173:3 173:11
173:17 179:3 187:5 192:23 193:17 194:4 194:9 194:13 196:2
196:6 197:5 205:16
208:3 208:4 234:11
235:8 239:6 239:7
239:19 240:5 240:8
241:4 241:8 242:4
246:19 247:21
stuff 151:13
stunned 148:2 148:2
style 117:13
sub-adequately 24:10
sub-lines 24:9
sub 23:25
subcategories 201:24
subcomment 139:16 subcutaneous 192:12 234:21
subcutaneously 184:24 197:22
subdivide 75:12 75:19 subdivided 75:15
subgroup 99:19 100:15
101:14 101:17 106:5
107:7 112:3 112:7
112:15 126:22 137:20 141:7
subgroups 57:22 61:23
99:13 103:4 103:6
106:2 112:6
subjective 144:23
submission 36:6 100:24
103:11 212:8 233:9

Reet integr wed systems

241:25
submit 12:4 44:9
236:7
submitted 9:19 15:16
50:8 94:22 95:2 100:5
161:15 211:10 211:18
211:21 212:8 212:16
233:12 234:5 235:20
submitting $10: 13$
125:13 162:4
subpopulation $24: 16$
110:23
subsequent 49:4 68:4
82:7 103:10 104:20
105:12 152:5 169:24
176:2 176:8 176:8 176:14 225:13
subsequently 164:3
subsets 42:21 42:22
58:24 62:15 62:25 66:5
66:9 74:13 76:17 85:23
85:24 86:2 86:16 86:21
86:23 87:16 87:17 87:18
87:18 121:8 125:18
125:25 126:7 126:8
134:15 135:3 135:3
135:7 143:19 144:21
144:24 173:17 173:17 203:7
substantial 31:13 41:7
56:14 100:6 103:14
118:23 222:17 249:3 256:2
substantially 41:24
43:7 73:15 115:6
substantiate 239:5
245:9
subtle $85: 7$
subtypes 133:25
suffered 105:3
suffers 94:19
sufficient 90:20 106:25
107:17 134:5 233:25
sufficiently $134: 6$
241:6
suggest 137:4 148:23
157:8 173:4 180:2
205:14 254:19
suggested 134:20
148:17 251:22
suggesting 74:6 120:15 149:24
suggestion 129:23
142:11 144:12 156:13
suggestive 101:17
suggests 147:23
summarily 156:10
summarize 42:9 235:14
241:7
summarized 40:23
77:21 165:24
summary 17:8 60:4
101:25 106:18 175:20
211:17 248:24
summer 165:19
Sunbelt 179:6
superior 16:16 16:18
16:24 19:21
superiority $25: 4$
supplants 133:20
supplement 98:14
supplemental 13:14 233:12
support 12:15 28:20
127:15 127:16 138:24
149:22 239:9 242:24
245:4 251:15
supported 49:16
supportive 196:17
196:24 206:12
supports $96: 5$
Suppose 226:18 227:5
supposed 58:3
surgery $30: 6$ 32:18
49:9 175:2 189:6 189:10
189:13 197:24
surgical 175:16 176:8 178:4 181:16
surgically $176: 5 \quad 184: 21$
249:5 256:4
surmised 176:25
surprise 168:5
surprised 215:13
215:15 216:20 223:14
247:13
surprises 205:13
surprising 39:24 46:10
79:18
surrogate 82:7 97:9
178:13 209:23
survey 156:6
survivals 170:16 177:15 survivors 103:2
suspect 130:14
sway $119: 15$
sweeps 176:14
SWOG 28:15 31:14 43:15
sympathetic 138:7
symptoms $205: 18$
206:7 232:6 252:18
systematic 251:8
systematically 251:10
systemic 176:9 176:18
178:5 178:8 178:10 235:2

$$
-\mathbf{T}-
$$

T4 167:21 175:11
tables 149:2
tail 119:23 204:10
tainting 254:5
take-home 40:25 44:11
60:2
takers 120:7
takes 28:23 77:17 77:18 155:2
talked 91:5 118:6
128:6 173:23 180:13

245:25
talking 71:15 73:5
84:22 87:16 88:22 89:2
89:6 97:24 117:2 117:3
120:3 121:20 122:22
122:25 129:19 142:3
153:8 154:22 156:7
222:10 247:14
task 186:2 203:14
taxane 131:23
taxanes 29:5 30:22
132:7
Taxol-containing 131:15
taxpayer 253:18
team's 108:8
team 9:7 98:17 108:6 232:25
technique 189:16
191:16
tells 248:17 248:20
Temple's 70:8 119:11 154:15
TEMPLE 60:12 60:15
64:12 70:20 85:9 85:10
85:11 85:23 86:9 86:14 87:20 88:20 110:17
110:19 112:10 112:11
112:14 125:11 125:12
127:3 127:19 127:22
132:6 133:22 133:23
134:14 142:24 143:7
143:9 143:22 144:20
145:14 146:6 146:10
148:8 148:9 149:8
149:20 150:2 151:8 154:21 155:10
TEMPLETON-SOMERS
8:22 9:14 160:22 16I:10
temporarily 232 : 11
tend 72:8 72:19 216:25
termed 23:17
termination 237:19
terrific 86:22 118:24
terrifically 118:17
tested 24:19 171:9 184:3
testicular 188:22
testing 91:2 128:12
175:19 179:8
tests 58:23 59:7 167:9
212:25 214:6
Texas 160:25
thank 8:4 9:11 11:18
11:21 12:4 13:5 13:6
13:11 16:6 31:4 31:8
49:23 49:24 51:13 54:12
96:14 98:7 98:10 108:2
108:3 108:15 113:7
117:17 117:18 134:12
134:13 135:19 158:23
158:24 161:8 163:3
163:4 180:15 184:11
184:13 194:17 209:17
209:18 212:17 229:7
235:15 241:19 241:20

244:2 245:15 255:22 256:21
thanks 160:3 182:17
theme 112:17
therapeutic 17:7
168:6
therapeutically 252:8
Therapeutics 161:7
therapies 31:2 164:18
164:19 166:3 167:13
175:3 176:19 176:19
180:10 182:24
thereafter 26:17 34:10
thereof 196:13
they'll 60:20 147:7
148:20 217:22
thick 188:4
thickness 184:22
187:15 187:23 188:15
190:7 201:17 201:19
201:21 203:4 203:7
206:16 207:11 209:13
237:2 237:3 237:4
237:8 237:12 238:13
238:19 238:25 243:8
Thirdly 195:16 230:14 252:22
thirds 37:3 189:11
though 41:23 44:9
55:22 65:3 82:10 82:11
88:7 91:23 94:21 101:14
138:3 145:10 152:22
154:11 172:24 206:8
thoughts $56: 982: 18$
125:2 128:20
three-by-two 32:21
33:13
threshold 201:6 201:7
thrombocytopenia
25:25 47:9
throw 144:11
tight 60:6 123:12
214:12
timing 235:22
tiny 139:14
title 98:21
Tiwari 235:17
today's 10:2 10:23
11:6 161:23
token 79:7
tolerability $205: 6$
234:19
tolerate 131:5
tolerated 49:21 208:23
topic 16:7 89:14 191:7
totally 68:7 138:7
241:22
tough 86:5 108:13
toughest 119:24 152:20
towards 138:23 185:21
208:14 251:10
toxic 169:15 169:16
toxicities 25:24 45:23
46:8 46:14 47:2 47:4
48:13 52:18 96:20 97:4
97:5 97:14 97:21 104:6

104:21 104:23 104:24
109:2 109:5 145:10
154:4 156:15 156:16
traditionally 41:11
transfer 193:5
transfusions 45:8 45:8
47:12
translate 18:14 97:5
221:25
translated 233:13
234:7
translates 19:8 208:7
209:12
translation 237:23
trastuzumab 29:10
53:21
travel 11:20 13:25
treacheries $65: 2$
treat 220:19 248:12
treatability 178:14
treated 24:10 35:6
37:17 85:16 85:19 86:10
86:19 86:20 86:24 87:24
100:7 100:10 101:4
101:5 101:6 101:21
101:23 102:4 102:24
102:25 103:13 103:14
103:20 103:21 104:4
106:8 106:16 106:20
131:14 132:8 141:20
141:21 144:6 147:25
163:25 173:12 174:19
178:2 178:15 222:18
treating 124:8 156:24
157:4 228:15
treatments 89:5 114:8
171:9
tremendous 188:5
188:6 193:13
trend 20:3 56:3 101:17
107:22 179:2 185:20
204:3 208:14 221:23
241:13
trends 34:17 109:14
trepidation 105:24
trialists 111:4
triangular 198:23
203:18 225:2 225:25
235:23
trivial 138:10
trivialize 138:13
troubled 118:8
troubles 209:24
true 45:18 62:4 118:10
118:10 144:21 145:7
145:20 182:25 184:10
235:24
truly 30:24
truncated 248:3
trust 115:13 143:22
148:6
TUCK 13:11 13:12
52:22 52:24 81:15 81:22
tumor 22:15 23:4 23:20
24:4 24:14 24:15 32:15
39:20 41:4 85:14 85:24

94:24 95:17 129:11 129:12 130:16 135:5 139:25 164:19 184:22 187:4 187:8 187:15 187:23 188:15 190:7 201:19 201:21 206:16 209:4 209:13 221:5 tumors 39:8 39:8 41:9 99:15 99:17 99:18 99:24 100:17 100:23 101:7 101:13 103:19 104:2 106:15 106:22 107:3 107:8 112:2 121:13 129:14 137:16 137:17 139:16 149:5 $149: 6$
turns 132:23 181:11
twice 43:10 52:10 110:15
two-and-a-half-fold 39:12
two-by-two-by 30:2
two-by-two 28:9
two-page 244:7
two-paragraph 248:24
two-thirds 37:17 37:19 65:4 65:12 107:8 112:22 189:6 194:7
twofold 39:5

- U -
U.s.c 10:4 10:18 161:24
U.s 15:9 186:7
ulceration 187:15
unable 162:25 237:22
unadjusted 100:8 unbalanced 214:17 unbelievable $143: 5$ unblind 165:15 167:4 unblinded $90: 21$ 214:21 uncertain $252: 9$ uncertainty 250:13 250:19 250:21
unclearly 228:7
uncommon 47:9
uncorrected $172: 3$ underestimate 52:16 undergo 80:19 underscore 36:24 58:21 understandable 37:4 understood 73:17 133:24 150:17 215:2 219:15 219:21 222:25 231:10
undertaken 215:13
215:17 252:24
underway $131: 12$
underwent 190:16
213:10
undue 96:6
unfavorable 191:14
unfolding 176:25
unfortunate 53:16
Unfortunately 97:7

97:21 225:20 228:6
unheard 174:22
unique 47:20
Unit 185:5 187:13
units 170:4 181:25
184:24 197:6 197:21
205:8 206:25 230:15
230:24 234:20 235:11
unity 107:22 109:14
universally 22:2 76:23
77:16 77:21
universe 246:14
University 8:11 8:17
9:2 160:11 160:17
160:21 160:25 163:13
187:12 188:11
unless 109:4 144:8
148:20 210:20
unlike 80:9
unplanned 55:11 56:24
67:20 72:18 88:4 137:20
148:16 150:9 150:14
150:23
unpublished 17:6
233:16
unreasonable 203:23
untreated 172:22
173:13
unusual 144:4 144:14
up-front 117:9
up-regulation 164:6
up-to-date 231:16 251:21
update $36: 479: 379: 9$
81:2 99:2 211:22 212:16
updated 163:19 164:25
210:7
upper 236:2
urge 127:5 127:6
useful 118:18 151:7
242:15
usefulness 197:6
uses 251:16 252:15
usual 33:8 35:3 69:16
70:11 126:21 214:12
215:4 224:15

- V -
vaccine 193:18 193:23
Vaccines 193:13
vagaries 72:22 135:11 validity $125: 7$ 125:7 126:18
valuable 13:4 96:21
Vanderbilt 8:11 160:11
vantage 179:10
variable 87:19 201:23
236:13 237:9 250:21
variables 167:11 172:7
variance $235: 25$
variation 143:7 155:22
varieties 163:25
variety 14:13 29:2

45:22 81:18 164:5
164:8 176:9 179:9
vast 97:16
ventricular 81:8 82:5
verified 227:2
verifying 214:5
versus 15:5 17:17 18:3
18:10 18:12 20:6 25:6
32:24 39:17 41:9 49:11
50:I1 56:3 63:19 63:22
64:8 64:11 66:19 76:8
81:13 83:7 83:10 83:12
83:19 91:3 91:7 92:12
93:11 93:11 103:13
121:7 123:25 133:2
141:20 179:4 188:6
191:13 192:11 216:22
veterans 254:2
victims 253:17
view 23:12 44:4 61:18
72:9 90:25 137:24
139:22 208:6 208:20
252:10
views 105:23
vincristine 17:25
violations 200:22
vis-a-vis 53:25 142:13
visceral 180:3 209:7
223:5 229:5
visit 227:11 227:13
visits 231:20
vitro 164:5
VMO 193:18
Volpe 11:24 11:25
12:2
vomiting 45:24 109:11
vote $10: 2$ 10:24 129:17
138:16 158:18 161:23
249:6 249:13 249:21
253:14 255:24 256:5 256:9
voted 141:16 152:4
voting 10:11 11:7
136:12

- W .
wait 68:16
waiver 10:10 10:12
161:25 162:3
waivers $10: 5$
warning 145:9 150:10
WASSNER 211:8 211:8
211:20 211:24 229:22
230:5 230:11
wave 181:17
weak 210:5
weaknesses 245:13
wearing 119:24
wears 132:19
weather 11:21 162:25
web 165:24
wee $90: 14$
week 33:19 52:10

113:20 197:7 197:22
205:9 233:2 234:21
235:12 237:21 237:24
255:17
weekly 29:3 30:4 43:10
184:25 201:2 206:25
weeks 25:20 28:3 28:6
28:8 28:8 29:3 32:25
34:17 51:9 179:5 197:23
weight 116:17
weighted 119:6
Weiss 113:9 113:11
113:12 113:24 117:19
118:15
welcome 13:23
well-controlled 197:14
well-established 205:23
weren't 43:14 55:13
87:25 130:25
whatsoever 40:7
whereas 207:12
whereby 209:4
Whereupon 256:22
whichever 137:8
whiskers 240:14 240:16
246:5
who's 115:22 117:2
130:10
whoever 138:4
widely 192:25
widen 75:22 75:23
118:13
wider 75:12 77:12
123:7 123:7 123:14
William 10:6
WILLIAMS 9:7 9:7
57:19 57:21 60:22 61:8
63:15 64:6 69:15 70:18
70:25 88:6 92:21 108:4
108:5 110:8 126:20
137:3 137:4 141:17
142:16 142:18 146:11
146:20 147:5 147:17
154:15 155:7 155:23
155:24 158:20
willing 156:20
wishes 163:7
withdraw 224:18
withdrawal 201:7
201:9 206:2 206:2
208:19
withdrawals 202:25
206:5
withdrawn 206:10
232:2
withdrew 105:8 105:9
206:3 206:9 221:13
224:7 224:12
withhold 109:15
withholding $138: 5$
woman 115:22 119:22
women 12:21 36:20
37:3 37:6 61:3 61:9 61:13 64:4 66:15 66:15
66:18 66:19 66:24 66:25
67:4 68:22 91:14 94:3

94:5 95:11 95:25 104:20
105:3 113:16 114:2
114:5 114:5 114:8
114:10 114:21 115:3
115:6 115:11 115:12
116:4 117:2 125:15 130:23 130:24 131:3 131:4 131:5 132:2 132:20 I37:6 140:10 152:11 152:12 156:8 wonder 109:25 111:12 142:5 145:5
wondered 178:3 178:13
241:25
wondering 130:3
wording 148:24
work 29:9 127:14
127:20 149:3 152:24
153:15 153:19 193:9
193:9 208:24 $225: 15$
235:18
worked 232:25
working 62:3 131:3
211:9
world's 16:23 17:13
worldwide 17:2 17:12
19:23 22:11 36:22 42:23
76:5 76:23 77:22 83:6
88:19 186:7
worry 144:4 144:10
180:7
worse 192:9
worst 104:18 104:19
worth 69:5 125:12
125:22 249:19
wow 121:21
wrong 110:20 117:25
118:7 138:15 145:10
221:3
wrote 110:5

- X -
x-ray 213:10
- Y -

Y-me 11:24 12:2 12:6
12:11 12:18
Yale 185:5
year-olds 140:9
yellow 17:20 18:17
38:12 39:15 40:9 168:10
168:16 174:10 178:8
178:9 233:11
yeses 136:11
yesterday's 78:8
yesterday 79:20 80:4
81:25 121:20 128:18
130:4 156:6 156:11
you'd 126:3 126:7
152:10

You'll 38:12 59:24
131:23 134:7 144:22
145:6 181:23
you've 50:7 74:9 84:14
108:18 117:12 121:7
136:22 137:9 149:20
149:21 151:20 210:23
236:10 253:19 253:20
255:16 255:18
younger 64:3 64:6
66:15 66:17 66:24 68:22
76:20 94:14 94:16 95:15
96:12
Yusef 65:10

- Z -

Zealand 239:21
Zinecard 30:7 80:5
zodiacal 127:15
ZOOK-FISCHIER 8:12
8:12 10:7 130:19 133:15
139:5 139:6

