

1 this whole process is done. But a successful  
2 criteria.

3 DR. MASSIE: I don't know if this  
4 is legal or anything, but there is really the  
5 potential to look at the current cohort  
6 compared to devices that have been implanted  
7 at the same time in the registry, because  
8 those data are these. These data will be  
9 entered from the trials.

10 That's not post-market exactly, but  
11 it is a chance to look at these data with a  
12 concurrent control. So that may be out of  
13 bounds; it may be useful. But it's at least  
14 worth thinking about.

15 DR. ZUCKERMAN: No. It's not out  
16 of bounds. What you're suggesting is a post-  
17 approval study with a relevant control, such  
18 that the data for the new device can be  
19 appropriately interpreted. That's fine. It's  
20 then incumbent on the sponsor to find that  
21 appropriate control.

22 DR. MASSIE: I was actually saying

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1 something different. This study was conducted  
2 between 2005 mostly and there are data, there  
3 are comparators in the INTERMACS registry from  
4 2005.

5 So I was saying beside later data  
6 prospectively combined, we have the data from  
7 this trial program. We have comparators that  
8 are contemporaneous, getting other devices in  
9 INTERMACS.

10 Do we want to specify that  
11 comparison be made, or do we want to even  
12 know, once it's approved?

13 It's an interesting question,  
14 because that data will be entered into  
15 INTERMACS and it will be all there with the  
16 same fields.

17 DR. ZUCKERMAN: I think the agency  
18 is looking for a control that's relevant, such  
19 that we can really evaluate this device  
20 appropriately, and one that's concurrent might  
21 be the best bet, unless people want to agree  
22 with you.

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1                   CHAIRMAN LASKEY: You know Barrie,  
2 I think by definition this would be a  
3 retrospective look, although it's pretty brief  
4 in time between approval and including this as  
5 a control. But still they need to move  
6 forward from here.

7                   DR. MASSIE: The one concern I have  
8 is at least JoAnn's comment, that there may  
9 not be, because if this device is in there, it  
10 may now define two very different populations,  
11 one getting this device and one getting the  
12 old one.

13                   Whereas presumably, the population  
14 that is already in INTERMACS is probably  
15 fairly similar to the one that got this device  
16 in the trial. I'm not sure.

17                   DR. SOMBERG: It would not be a bad  
18 idea for the agency to consider getting this  
19 type of information on the short term, because  
20 the timetable might be a year for that  
21 information. The timetable for a prospective  
22 study is going to be far longer, because you

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1 have to collect the data and then make the  
2 evaluation.

3 So both considerations could be  
4 done, but it's not going to help us with a yes  
5 or no vote today.

6 CHAIRMAN LASKEY: Yes. I'm not  
7 sure that's the point of this series of  
8 questions, but that's absolutely correct. D?

9 MR. CHEN: Please comment on  
10 whether or not the proposed end point for  
11 success in the post-approval study is  
12 appropriate, or whether a more objective end  
13 point should be used in order to assess post-  
14 market effectiveness.

15 CHAIRMAN LASKEY: I think we've  
16 just heard from Dr. Blackstone somewhat  
17 eloquently, a much more rigorous way to get at  
18 this time-dependent end point. Is that fair  
19 to say, Gene? Any other comment?

20 DR. NORMAND: Again, with the use  
21 of a control group, I wouldn't want to force  
22 somebody to use the time to event analysis if

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1 we had a control group, if we thought the  
2 hazard was constant. So I understand the  
3 issues that were raised.

4 DR. BLACKSTONE: We know very much  
5 what the hazards are, and there's no constant  
6 hazards. These are very volatile in time, and  
7 that's why it needs a different kind of  
8 analysis.

9 DR. NORMAND: So if that's the case  
10 then, I guess it never should -- well anyhow.

11 I would also think of looking at that, and  
12 then looking at the difference would be the  
13 right end point to examine. I don't know what  
14 size of difference we'd worry about, but --

15 DR. BLACKSTONE: But certainly time  
16 to end point is a legitimate way to perceive  
17 them.

18 DR. NORMAND: Oh, it is. I was  
19 just commenting on the --

20 DR. BLACKSTONE: Rather than  
21 counting.

22 CHAIRMAN LASKEY: Okay. Is that

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1 sufficient, Bram, for D?

2 DR. ZUCKERMAN: Yes.

3 CHAIRMAN LASKEY: E?

4 MR. CHEN: Please comment on  
5 whether the Trailmaking neurocognitive test  
6 Part B is adequate to assess neurocognitive  
7 function, or a complete battery of  
8 neurocognitive tests, including the five  
9 cognitive domains, should be administered.

10 CHAIRMAN LASKEY: Well frankly,  
11 we're in a bit of a fog up here with respect  
12 to neurocognitive testing. We're not sure of  
13 its role, the precision of the testing. It's  
14 complicated. I'm not -- can we weigh in and  
15 say anything intelligent and definitive for  
16 the agency?

17 But this is a very murky area. We  
18 all agree it's an important aspect. But I  
19 don't know whether five domains is any better  
20 than ten or any worse than two. We don't have  
21 enough information on this.

22 DR. LINDENFELD: I think the one

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1 thing we can say is that if evaluating  
2 neurocognitive function is important, the  
3 Trailmaking Test B alone is probably not  
4 adequate. I think we can say that.

5 Five domains are usually -- I don't  
6 know enough about this to know. I just know  
7 five domains are suggested for the stroke  
8 evaluations and things.

9 But somebody more expert than I.  
10 But I think it's pretty clear that the  
11 Trailmaking B test alone is probably not  
12 adequate.

13 DR. EDMUNDS: Yes, I would concur,  
14 that this whole issue needs to be revisited in  
15 your protocols.

16 CHAIRMAN LASKEY: Good, thanks. F?

17 MR. CHEN: Please comment on  
18 whether you believe that the post-market study  
19 should include an evaluation specifically on  
20 the effects of low pulsatility in patients  
21 receiving this device.

22 If so, please comment on the data

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1 that should be collected to address low  
2 pulsatility.

3 CHAIRMAN LASKEY: Well, I mean as a  
4 physiologist and a hemodynamicist, I don't  
5 understand how a non-pulsatile situation can  
6 obtain for long but apparently it is. We're  
7 not seeing things that we should see in the  
8 brain or the kidney or the heart, for that  
9 matter.

10 So we have got a lot to learn about  
11 non-pulsatile cardiovascular systems. But  
12 Eric, I think you reassured us earlier about  
13 the lack of hazard, as far as the agency could  
14 find in the non-pulsatile system. Warren?

15 DR. DOMANSKI: You know, I'm not  
16 sure that it's fair to -- I mean it's a really  
17 interesting science project, but I'm not sure  
18 that it's fair to put a research agenda on the  
19 sponsor. I think that probably is going  
20 beyond what's appropriate for us.

21 DR. PAGE: I would agree.

22 CHAIRMAN LASKEY: Fair enough. I

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1 mean it's an intriguing question.

2 DR. DOMANSKI: No question that it  
3 is.

4 CHAIRMAN LASKEY: One would not  
5 expect the kidney to be happy, but apparently  
6 it's not an issue. It can be followed, that's  
7 the point.

8 We want to follow renal and  
9 cerebrovascular outcomes as we would  
10 ordinarily. Okay. Let's see. James, are we  
11 moving along here?

12 FDA and Sponsor Summations

13 CHAIRMAN LASKEY: I think before we  
14 move on to the vote, are there any further  
15 comments or clarifications from the FDA, Dr.  
16 Chen or Dr. Zuckerman?

17 DR. ZUCKERMAN: No thank you.

18 CHAIRMAN LASKEY: All right. Any  
19 comments or clarifications from the sponsor?

20 MR. MIDDLEBROOK: We have no  
21 further comments. We'd just like to thank the  
22 panel for all their time and discussion and

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1 deliberations this afternoon. Thank you.

2 Panel Vote

3 CHAIRMAN LASKEY: And thank you,  
4 sir. We are now ready to vote on the panel's  
5 recommendations to the FDA for this PMA. Mr.  
6 Swink, will you now read the panel  
7 recommendation options for pre-market approval  
8 applications?

9 MR. SWINK: The medical device  
10 amendments to the federal Food, Drug and  
11 Cosmetic Act, as amended by the Safe Medical  
12 Devices Act of 1990, allows the Food and Drug  
13 Administration to obtain a recommendation from  
14 an expert advisory panel on designated medical  
15 device pre-market applications that are filed  
16 at the agency.

17 The PMA must stand on its own  
18 merits. Any recommendation must be supported  
19 by safety and effectiveness data in the  
20 application, or by applicable publicly  
21 available information.

22 The definitions of safety,

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1 effectiveness and valid scientific evidence  
2 are as follows:

3 Safety as defined in 21 C.F.R.  
4 Section 860.7. There is reasonable assurance  
5 that a device is safe when it can be  
6 determined, based upon valid scientific  
7 evidence, that the probable benefits to health  
8 from use of the device for its intended users  
9 and conditions of use, when accompanied by  
10 adequate directions and warnings against  
11 unsafe use, outweigh any probable risk.

12 Effectiveness as defined in 21  
13 C.F.R. Section 860.7. There is reasonable  
14 assurance that a device is effective, when it  
15 can be determined, based upon valid scientific  
16 evidence, that in a significant portion of the  
17 target population, the use of the device for  
18 its intended uses and conditions of use when  
19 accompanied by adequate directions for use and  
20 warnings against unsafe use, will provide  
21 clinically significant results.

22 Valid scientific evidence, as

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1 defined in 21 C.F.R. Section 860.7, is  
2 evidence from well-controlled investigations,  
3 partially controlled studies, studies and  
4 objective trials without mass controls, well-  
5 documented case histories conducted by  
6 qualified experts, and reports of significant  
7 human experience with a marketed device from  
8 which it can fairly and responsibly be  
9 concluded by qualified experts that there is  
10 reasonable assurance of safety and  
11 effectiveness of a device under its conditions  
12 of use.

13 Isolated case reports, random  
14 experience, reports lacking sufficient details  
15 to present scientific evaluation and  
16 unsubstantiated opinions are not regarded as  
17 valid scientific evidence to show safety or  
18 effectiveness.

19 Your recommendation options for the  
20 vote are as follows.

21 Number one, approval. If there are  
22 no conditions attached.

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1           Number two is approvable, with  
2 conditions. The panel may recommend that the  
3 PMA be found approvable subject to specific  
4 conditions, such as physician or patient  
5 education, labeling changes or a further  
6 analysis of existing data.

7           Prior to voting, all of the  
8 conditions should be discussed by the panel.

9           Number three is not approvable.  
10 The panel may recommend that the PMA is not  
11 approvable if the data do not provide a  
12 reasonable assurance that the device is safe,  
13 or the data do not provide a reasonable  
14 assurance that the device is effective, under  
15 the conditions of use prescribed, recommended  
16 or suggested in the proposed labeling.

17           Following the vote, the chair will  
18 ask each panel member to present a brief  
19 statement outlining the reasons for his or her  
20 vote.

21           CHAIRMAN LASKEY: Are there any  
22 questions from panel members about these

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1 options before I ask for a main motion for the  
2 PMA?

3 (No response.)

4 CHAIRMAN LASKEY: In that case, I  
5 refer you to your voting procedure flow chart  
6 in your red folders. I will ask for a motion  
7 for either approval, approvable with  
8 conditions or not approvable.

9 DR. LINDENFELD: I would move that  
10 this be approvable with a condition of an  
11 adequate post-marketing study that includes  
12 enough patients that we can assess body  
13 surface effects on gender.

14 CHAIRMAN LASKEY: Hang on. We've  
15 got to do this just one at a time.

16 DR. LINDENFELD: Sorry.

17 CHAIRMAN LASKEY: So we have a  
18 motion on the floor that the PMA is  
19 approvable.

20 DR. TRACY: Second.

21 CHAIRMAN LASKEY: With conditions  
22 yet to be enumerated. We have a second. Is

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1 there discussion on the motion?

2 (No response.)

3 CHAIRMAN LASKEY: Good. Now it has  
4 been moved and seconded that the -- you gave  
5 me the wrong one -- that the PMA Thoratec  
6 Heartmate LVAS is recommended, is found to be  
7 approvable with conditions.

8 Now we need to recommend condition  
9 number one. So JoAnn, I'm sorry to interrupt  
10 you.

11 DR. LINDENFELD: I think that the  
12 post-market study has to have enough patients  
13 that an adequate assessment of effects on  
14 gender and body surface area can be done.

15 CHAIRMAN LASKEY: We have a second  
16 for that?

17 DR. NORMAND: Second.

18 DR. KATO: Second.

19 CHAIRMAN LASKEY: Some discussion?  
20 Discussion on this. Rich?

21 DR. PAGE: Yes. Do you mean for  
22 the post-approval study to have a concurrent

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1 control?

2 DR. LINDENFELD: Good point. Yes.  
3 That's a second area.

4 DR. PAGE: Does she have to  
5 withdraw her motion and re-move or can that be  
6 accepted as part of her motion.

7 CHAIRMAN LASKEY: Yes. We need to  
8 do these one at a time. So the first  
9 condition was the gender and size.

10 DR. SOMBERG: But what are we  
11 asking about? We need, you know, a  
12 hypothesis. I mean what are we asking about  
13 gender and size? That it improves the safety?  
14 That there's greater safety, less safety in  
15 that population, it's more effective, less  
16 effective?

17 DR. LINDENFELD: Well, I think  
18 that's what we'd be asking, but I guess to  
19 formulate that, we'd be asking that the  
20 effects of this device compared to other  
21 devices in concurrent controls have reasonable  
22 safety and effectiveness.

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1 DR. DOMANSKI: Well I -- can we  
2 discuss this? We're discussing it now. You  
3 know, I'm not so sure that I like the way  
4 that's worded, because I think the problem --  
5 I think it should be followed.

6 But I think asking them to separate  
7 it out by gender, I'm not sure what kind of  
8 power you're asking that they put into a  
9 concurrently controlled study. I think that  
10 may be too high a hill to climb put that way.

11 So I think I would suggest a better  
12 approach would be to say we're going to follow  
13 various subgroups, but not specify that they  
14 have to have a study sufficiently powered to  
15 make that distinction, because that really  
16 could be a heavy oar to pull.

17 DR. NORMAND: I actually think it's  
18 not very good science to go forward without  
19 specifying a sample size, and the way you  
20 specify the sample size is based on power.

21 Again, I don't think power  
22 necessarily has to be 80 percent, or that your

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1 Type 1 error needs to be .05. But I think it  
2 would be prudent to state the hypotheses, have  
3 some sort of justifiable sample size.

4 Again, we're not saying that it  
5 needs to be 1,000 to have a power of 90  
6 percent to detect a difference. But I think  
7 there needs to be some scientific rationale  
8 for the choice of sample size, and not to just  
9 go forward in time and be looking.

10 DR. DOMANSKI: I certainly agree  
11 that it's good to have a hypothesis, and I'm  
12 very worried that we specify it so that it's  
13 not unreasonably burdensome.

14 CHAIRMAN LASKEY: The one thing  
15 that we all agreed on earlier was that we need  
16 more information on this subgroup, which now  
17 we only had ten patients to look at. So from  
18 the get-go, we need to have more patients of  
19 small size.

20 Now where we go from there is  
21 another level. But the post-approval study  
22 needs to look specific, needs to accumulate

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1 more information on this, to at least get a  
2 more credible point estimate. It may not be  
3 comparable to anything, but we need more  
4 information on this body size area subgroup.

5 DR. NORMAND: So I suspect either  
6 that the FDA and the sponsor could get  
7 together and either figure out, compromise on  
8 power or type. There's going to be no control  
9 group for them, right, because it's the small  
10 area.

11 So maybe you should think about  
12 standard error, the error in estimation. So  
13 bound your error in estimation. Maybe not  
14 make it 95 percent, maybe make it a little bit  
15 bigger. But you could think about bounds and  
16 error of estimating the adverse events in that  
17 particular subgroup.

18 Again, not to the vigor of saying  
19 it has to be estimated within .01 percent, but  
20 agree upon some bounds in the error of  
21 estimation that would be acceptable.

22 DR. MASSIE: Do we have to be?

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1 Can't we just say that we need more  
2 information about the efficacy and safety in  
3 women, and patients of small body size, and  
4 let the FDA figure out how to do that?

5 CHAIRMAN LASKEY: Right. Well, we  
6 tried to do that, but Sharon keeps us honest.

7 DR. MASSIE: Well, they would have  
8 to --

9 CHAIRMAN LASKEY: This came up  
10 yesterday and yes, at this point, we would try  
11 not to defer too much to deliberations with  
12 the agency. We'd like to provide some more  
13 guidance. So this is helpful.

14 But for sure, we need more data on  
15 this particular group. So that's acceptable  
16 as the first condition in this post-approval  
17 study that you're recommending. Okay.

18 DR. SOMBERG: Could we also put in  
19 age?

20 CHAIRMAN LASKEY: What do you mean  
21 put in age?

22 DR. SOMBERG: Age as a factor to

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1 evaluate, as well as body surface and gender,  
2 because I do think there was a lot of -- I  
3 won't even say indications in the data, but  
4 there were some things that trended with age,  
5 and I think that would be an important thing,  
6 a subgroup to look in as well.

7 I know Dr. Domanski, you don't like  
8 to make it burdensome, but if we don't ask  
9 some questions, we get no answers.

10 DR. DOMANSKI: That's right. But  
11 we need to answer questions, ask them to do  
12 things that are reasonable. I actually think  
13 that while it's important to collect more  
14 data, I would Bram, you can maybe speak to  
15 this issue.

16 But I wonder if letting, instead of  
17 trying to on the fly design a study, I wonder  
18 if we shouldn't say that we think these are  
19 important areas, and let the FDA work with the  
20 sponsor to design it. Can we do that, or do  
21 you want more than that?

22 DR. ZUCKERMAN: Yes. We're mainly

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1 interested in the view from 500 feet with  
2 regards to these conditions. We and the  
3 sponsor will review the transcript very  
4 carefully, so that Dr. Normand's very  
5 pertinent comments could then be taken into  
6 account with the final study design.

7 In other words, there would be a  
8 prospective hypothesis, etcetera, with some  
9 type of power calculation. But the higher  
10 level summary statement for a condition is  
11 what's helpful to the agency at this point in  
12 time.

13 So I think that's what Dr.  
14 Lindenfeld has proposed and per our flow  
15 sheet, I believe we're supposed to vote on  
16 that, whether that specific condition is  
17 approved.

18 CHAIRMAN LASKEY: JoAnn, do you  
19 just want to restate the first condition for  
20 approval?

21 DR. LINDENFELD: Yes, that there be  
22 a post-marketing study with adequate numbers

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1 to assess effects with sex and body surface  
2 area.

3 CHAIRMAN LASKEY: Okay. Further  
4 discussion on this first condition?

5 (No response.)

6 CHAIRMAN LASKEY: If not, let's  
7 vote on the condition. All in favor, please  
8 raise your hand?

9 (Show of hands.)

10 CHAIRMAN LASKEY: Drs. Vassiliades,  
11 Kelly, Massie, Kato. It's unanimous. Good.  
12 Okay. None opposed, nobody abstaining. Is  
13 there a motion for another condition?

14 DR. PAGE: Mr. Chairman, I move  
15 that whether it be through the registry or an  
16 independent study, that there be a concurrent  
17 control population.

18 CHAIRMAN LASKEY: Good. Is there a  
19 second?

20 DR. NORMAND: I second that.

21 CHAIRMAN LASKEY: Discussion, other  
22 than it's vital?

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1 DR. EDMUNDS: Yes. I'd like to  
2 know what you have in mind for a control.

3 DR. PAGE: There is going to be a  
4 registry already collecting data on other  
5 VADS. I think that would be valuable.

6 If the registry is not up and  
7 running and won't provide the data, then I  
8 would expect the sponsor to work with the FDA,  
9 with the FDA's clear guidance from this  
10 committee, to provide a trial that gives us an  
11 idea of the effectiveness and safety of this  
12 device, in relationship to other devices that  
13 are available.

14 DR. EDMUNDS: Then you're not  
15 thinking of an RCT. You're thinking of an ad  
16 hoc --

17 DR. PAGE: No sir, not at all.

18 DR. EDMUNDS: Catch as catch-can  
19 control.

20 DR. PAGE: Right.

21 CHAIRMAN LASKEY: Additional  
22 discussion? I think we all agree there should

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1 be a control group. Let's vote on the second  
2 condition. All in favor of the second  
3 condition, that there be identification of a  
4 concurrent control group, please raise your  
5 hands?

6 (Show of hands.)

7 CHAIRMAN LASKEY: We have all but  
8 Dr. Edmunds.

9 DR. EDMUNDS: I would recommend  
10 that the change the control to comparison.

11 CHAIRMAN LASKEY: To a comparator  
12 group. Okay. I change the language. We'll  
13 vote again.

14 (Pause.)

15 CHAIRMAN LASKEY: Well, the motion  
16 passes. So by sheer democracy.

17 DR. SOMBERG: I would like to move  
18 that we amend it to comparator, because I  
19 think it is a more appropriate sense of the  
20 panel.

21 CHAIRMAN LASKEY: It is more  
22 appropriate language. There's a motion to

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1 amend the second condition to reflect the word  
2 "comparator" rather than "control."

3 DR. PAGE: If I may ask Dr.  
4 Normand's perspective on the wording. I think  
5 the two are equivalent in my mind, but I defer  
6 to our statistical expert.

7 DR. NORMAND: I don't really care,  
8 comparison. If that makes people more  
9 comfortable, that's fine by me.

10 CHAIRMAN LASKEY: Well, we'll do  
11 the parliamentary proceeding thing anyway,  
12 since we're halfway there. So all in favor?

13 DR. MASSIE: Shouldn't we specify  
14 what type of comparator we mean? Patients  
15 getting other LVAD devices?

16 DR. SOMBERG: That's too specific  
17 at this point, because I mean I'd leave some  
18 room to figure out what the different venues  
19 they're going to have to collect the data. So  
20 it could be LVADS; it could be --

21 I could conceive of a concomitant  
22 population that was turned down for this

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1 population, you know, that someone tried some  
2 alternatives like prolonged intra-aortic  
3 balloon in-hospital or something like that,  
4 and what have you.

5 DR. MASSIE: That's a very big  
6 difference.

7 DR. SOMBERG: Yes, it is, but you  
8 see what you can get. And what happens if  
9 there are technical glitches and no other,  
10 every other company will sue the consortium  
11 that's keeping the data, because they're  
12 sharing their proprietary data --

13 CHAIRMAN LASKEY: John, sorry to  
14 interrupt. But I think the spirit of this is  
15 to recommend to the agency that the committee  
16 feels that there should be a concurrent  
17 comparator arm. For what purpose can be  
18 identified in subsequent deliberations.

19 But we need to go on record as  
20 doing that, because that was not in the  
21 sponsor's post-approval suggestion. So we'll  
22 just vote on the amended language, which was

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1 put on the floor and seconded. Can we have a  
2 vote? All in favor?

3 (Show of hands.)

4 CHAIRMAN LASKEY: Now we're  
5 unanimous. Great. We're not? Thank you,  
6 Mike. It being 4:30. That was our third  
7 motion. I am entertaining a fourth condition  
8 of approval. Cindy?

9 DR. TRACY: I move that the  
10 labeling be clarified, that the study reflect  
11 that there was 126 study patients, and the  
12 other CAP patients and the small surface area  
13 patients be described separately, and not use  
14 the aggregate end point as is in the current  
15 labeling.

16 DR. NORMAND: I second that.

17 CHAIRMAN LASKEY: Any discussion?

18 (No response.)

19 CHAIRMAN LASKEY: Recognize that  
20 it's important we separate out the two  
21 additional groups, keep this at the level of  
22 the pivotal trial. All in favor of this

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1 condition, please raise your hands?

2 (Show of hands.)

3 CHAIRMAN LASKEY: Okay. That's 11  
4 to 1. I guess we should get the nays to raise  
5 their hand. Dr. Somberg? Thank you. 11 to  
6 1. The motion passes.

7 Other conditions on the motion for  
8 approval?

9 DR. TRACY: I move that the  
10 contraindication section include inability for  
11 the patient to be anticoagulated.

12 CHAIRMAN LASKEY: Second?

13 DR. DOMANSKI: Second. I'll second  
14 it.

15 CHAIRMAN LASKEY: And discussion on  
16 this? I think we covered this quite well  
17 earlier.

18 (No response.)

19 CHAIRMAN LASKEY: All in favor of  
20 this condition?

21 (Show of hands.)

22 CHAIRMAN LASKEY: John, are you

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1 raising your hand or -- yes. Okay. I think  
2 that's 11 to 1. Okay. More conditions? Yes  
3 sir.

4 DR. EDMUNDS: I mean all of these  
5 discussions that we had about revising  
6 protocols, does that have to be formalized by  
7 these conditions, or can we just count on the  
8 FDA and the company to work things out, with  
9 IMAX or without IMAX?

10 CHAIRMAN LASKEY: Well, I don't  
11 think our job to outline every single  
12 condition, every single conceivable iteration  
13 of a study. But the spirit of this.

14 DR. EDMUNDS: I recommend that as a  
15 condition that an operative protocol for  
16 bleeding be developed by the investigators,  
17 and that it be broad enough so that every  
18 institution participating can follow it.  
19 Number two, that they post --

20 CHAIRMAN LASKEY: Well, one at a  
21 time Hank. We can only do these conditions  
22 one at a time.

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1 DR. EDMUNDS: Are you complaining I  
2 can talk faster than you can write?

3 CHAIRMAN LASKEY: No, but I think  
4 it's asking -- you're getting into an order of  
5 magnitude here that we need to be very careful  
6 about. So you're asking for a protocol to be  
7 in place to manage the perioperative -- what  
8 are you asking specifically that we need to  
9 vote on?

10 DR. EDMUNDS: Bleeding and  
11 anticoagulation.

12 CHAIRMAN LASKEY: The management  
13 thereof?

14 DR. EDMUNDS: The management of  
15 both perioperative bleeding. Perioperative is  
16 better. Perioperative bleeding. Let's leave  
17 it at that, because I don't want to load it  
18 up.

19 CHAIRMAN LASKEY: Okay. So to be  
20 established a protocol for the management of  
21 perioperative bleeding that will be applicable  
22 throughout.

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1 DR. EDMUNDS: That would be -- that  
2 is broad enough and agreed upon enough so that  
3 it can be followed by all participants in the  
4 investigation. In other words, we can't have  
5 just chaotic data coming out.

6 CHAIRMAN LASKEY: Is there a  
7 second? I need a second. We have a motion on  
8 the floor. I need a second before we have a  
9 discussion. If we don't have a second, we  
10 don't move further.

11 DR. KATO: I'll second.

12 CHAIRMAN LASKEY: Okay.  
13 Discussion?

14 DR. SOMBERG: Can I just ask the  
15 proposer of the motion to modify it, to the  
16 extent that I'll would leave out this broad  
17 enough to have all parties.

18 I would just establish a protocol.  
19 Obviously, once a protocol's established, all  
20 parties have to take part in it.

21 But I don't know what broad enough  
22 means, you know. What happens if one party

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1 objects to it and all the others? Then that's  
2 not broad enough and you can't do it?

3 DR. EDMUNDS: I would accept that  
4 notion, that we don't to be too rigid with  
5 this. If we get a protocol out there and it  
6 works, they'll adopt it. So let's drop that.

7 DR. DOMANSKI: You know, I'm having  
8 -- I'd just like, as a point of clarification,  
9 I'm not sure what the protocol is designed to  
10 do. I mean is it designed to study the  
11 problem of bleeding, which is clearly an  
12 issue, or is to handle the problem of  
13 bleeding?

14 DR. EDMUNDS: The condition is that  
15 the participants in the study develop a  
16 protocol for managing perioperative bleeding.  
17 They don't have one now.

18 DR. YAROSS: I think the  
19 clarification we're looking for is are you  
20 asking for a protocol to be followed in the  
21 study, or a protocol to be included in the  
22 labeling for the device.

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1 DR. EDMUNDS: Not the labeling. I  
2 think it needs to be in the study going  
3 forward.

4 MS. RUE: We've talked a lot about  
5 the bleeding issue, but the infection issue  
6 has been just as important. So is that a  
7 separate issue, or would you promote both  
8 protocols at the same time?

9 DR. EDMUNDS: No. This is  
10 different from sepsis.

11 CHAIRMAN LASKEY: I think, yes. If  
12 you want to make a motion for a look at the  
13 sepsis issue, we'll get to that. We're still  
14 trying to straighten out the thrombosis  
15 hemostasis issue.

16 DR. TRACY: Can I ask for a  
17 clarification again. Is this something that  
18 you're looking for in the post-market  
19 surveillance, as data that would be collected  
20 in the post-market surveillance, or a protocol  
21 that would be developed, that would  
22 prospectively tell people how to handle things

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1 in the OR? I'm not sure what --

2 DR. EDMUNDS: Well, as I understand  
3 it, we've approved the use of the device. So  
4 from now on, any patients being included are  
5 post-market.

6 CHAIRMAN LASKEY: Well, we haven't  
7 approved anything yet, Dr. Edmunds.

8 DR. EDMUNDS: We don't have a  
9 protocol now.

10 CHAIRMAN LASKEY: So you have put a  
11 motion forth, which asks for, in the post-  
12 market era, to develop for the vendor, the  
13 sponsor to develop a protocol of the  
14 perioperative management of bleeding and  
15 anticoagulation that will be applicable for  
16 all users. Is that correct?

17 DR. EDMUNDS: Yes. Yes, that's it.

18 CHAIRMAN LASKEY: And that was  
19 seconded and we have discussion. Is there  
20 more discussion?

21 DR. MASSIE: I'm a little concerned  
22 about that, because I don't know, without more

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1 information, how you develop this protocol.  
2 What you're taking is you're narrowing the way  
3 this can be done.

4 If the post-market surveillance has  
5 to make -- everybody in the study has to deal  
6 with this the same way, you're changing the  
7 order of magnitude of that study and the  
8 complexity of that study enormously, and based  
9 on what?

10 DR. DOMANSKI: I'm not even sure we  
11 know that everybody would fit into some  
12 protocol that's prospectively written.

13 DR. MASSIE: I would like to get  
14 more information collected about the  
15 relationship between how people are  
16 anticoagulated and what the rates of bleeding  
17 are, which might then help define something.  
18 But I think this is climbing Mount Everest to  
19 get agreement.

20 CHAIRMAN LASKEY: Well, this may be  
21 voted down. So that's why we're trying to  
22 move to vote. I think we all understand what

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1 the motion is. Norm?

2 DR. SOMBERG: Dr. Massie, I think  
3 it's important and I think you'd agree that  
4 when you're doing the protocol, you have  
5 certain things standardized. If you've made  
6 any progress, you have to start somewhere.

7 You're right. They may start at  
8 the wrong thing. They may change a variable.

9 But right now, we don't know how bleeding is  
10 being handled. It's one of the major, major  
11 problems.

12 I think it's a conflicting thing,  
13 because anticoagulation is being used for two  
14 purposes here. But with that said, it doesn't  
15 prevent anybody from modifying it.

16 Now obviously if you have a need to  
17 make a protocol, you'll bring in some experts  
18 and you'll get some additional viewpoints in  
19 hematology and anticoagulation and other drugs  
20 that could be used.

21 But otherwise, we're not going to  
22 get any progress.

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1 DR. EDMUNDS: We have 400 implants  
2 now. We haven't got the vaguest idea of how  
3 to take care of perioperative bleeding, as  
4 shown by these horrendous bleeding take back  
5 rates.

6 CHAIRMAN LASKEY: By asking for a  
7 protocol to be developed, you're asking that  
8 that go into the label?

9 DR. SOMBERG: No, it's not in the  
10 label. It's in the post-marketing study,  
11 because we can't ask for something we don't  
12 know about. But what they're going to do is  
13 study. Then maybe eventually change the  
14 label. You have to start somewhere, and  
15 that's where the protocol is.

16 CHAIRMAN LASKEY: Okay. So the  
17 protocol is only applicable to those patients  
18 which are put in the registry. Is that  
19 accurate?

20 DR. KATO: Well, isn't everybody in  
21 the registry?

22 CHAIRMAN LASKEY: Well, that would

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1 be ideal. But I can see -- ideally yes, but  
2 right now it's not mandatory.

3 DR. KELLY: I'm confused how we  
4 would enforce this. If it's an approved  
5 device, I mean how could you enforce it  
6 without having it on the label?

7 DR. ZUCKERMAN: Dr. Edmunds, is  
8 this your intent? In the required post-  
9 approval study, there would be a protocolized  
10 way to handle periop bleeding, such that we  
11 would better understand how to handle periop  
12 bleeding. Is that where you're going?

13 DR. EDMUNDS: I really don't know  
14 the mechanics. The intent is that the groups  
15 of investigators, with the consultants that  
16 they choose, develop a protocol for managing  
17 perioperative bleeding.

18 I was going to do a second  
19 amendment for doing the same thing after five  
20 days, you know, when they're on coumadin. But  
21 I'm having enough trouble with this one.

22 But the intent is to keep it in the

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1 hands of the investigators, but say don't hand  
2 us another 400 patients of chaotic data or no  
3 data, but hand us an experience that you can  
4 describe, and that we can then see what the  
5 results of that experience actually is or was.

6 That's the intent. Now I'm not too  
7 good at languages.

8 DR. SOMBERG: And if it's done by  
9 investigators, it has to be in a protocol.  
10 You know, you ask how you would enforce this?

11 Even if it's in the label, labels aren't  
12 enforced. So I mean that's sort of a side  
13 thing.

14 But it's more likely to be -- once  
15 it's protocolized, it will be enforced,  
16 because otherwise it's a protocol violation,  
17 and they can't use that data to fulfill their  
18 post-marketing responsibility.

19 DR. EDMUNDS: It shouldn't be  
20 looked at as handcuffs but more as a cattle  
21 prod.

22 DR. TRACY: This sounds more like a

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1 scientific study, rather than a condition for  
2 approval to me.

3 CHAIRMAN LASKEY: Yes, I was going  
4 -- well, I think we need to vote on this, and  
5 then we need to move on, because we're getting  
6 hung up on this. So I would like to put Dr.  
7 Edmunds' motion to a vote, now that it's been  
8 seconded and discussed. So all in favor?

9 (Show of hands.)

10 CHAIRMAN LASKEY: All against?

11 (Show of hands.)

12 CHAIRMAN LASKEY: Okay. So you've  
13 got the count? The motion does not pass. We  
14 are willing to entertain another motion along  
15 these lines, which perhaps is more feasible.  
16 Rick, were you going to --

17 DR. PAGE: Yes. It seems to me we  
18 need some sort of protocolized or at least  
19 recommended management strategy for bleeding  
20 and anticoagulation.

21 So I would put forward as a  
22 condition of approval that the sponsor and the

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1 FDA get together and, to the best of their  
2 ability, come up with a recommended protocol  
3 for handling bleeding and anticoagulation, in  
4 the periop and in the post-operative period.

5 DR. EDMUNDS: I'll second that.

6 DR. KATO: Just so I understand,  
7 what's the difference between your amendment  
8 and Dr. Edmunds' amendment here?

9 DR. PAGE: No. This speaks to  
10 labeling. This speaks to labeling.

11 DR. KATO: So you want this on the  
12 label.

13 DR. PAGE: I think the label ought  
14 to include recommendations, to the best of the  
15 ability of the sponsors and the surgeons who  
16 have placed these devices, in consultation  
17 with the FDA, to give a consistent  
18 recommendation for peri- and post-operative  
19 management of bleeding and anticoagulation.

20 Then through our registry, we'll  
21 have a better idea of the overall results,  
22 with as consistent as possible a protocol for

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1 management.

2 CHAIRMAN LASKEY: Yes, and I think  
3 that's a lot closer to the spirit of where  
4 we're trying to go. Patty?

5 DR. KELLY: What would we base it  
6 on though? Because if we look at what the  
7 investigators have done so far, the bleeding  
8 rates are horrendous. So why would we  
9 necessarily want to recommend what's already  
10 been done?

11 DR. PAGE: Well, I would liken it  
12 to a guideline sort of situation, where  
13 sometimes you have no data except for the best  
14 clinical judgment of the people who know the  
15 area the best.

16 So the sponsor and the FDA could  
17 bring together the people who have experience,  
18 to come up with their best clinical judgment  
19 on how to manage this, and at least give  
20 collegial advice, if you will, in a  
21 standardized way through the labeling, to  
22 their colleagues, through the educational

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1 program that they put forward, and through the  
2 labeling, so that at least they learn from  
3 each other moving forward.

4 DR. KELLY: We might do better with  
5 some new ideas.

6 CHAIRMAN LASKEY: Well, that may  
7 come out of deliberations as well. But we  
8 need to move along here.

9 We've covered a very important part  
10 of the labeling here, regarding the AC  
11 management in the perioperative setting. I  
12 think we've gotten that in there. Is there  
13 another condition yet?

14 DR. DOMANSKI: Well, I don't think  
15 we've even voted on that one, and I'm not so  
16 sure that's such a great idea. So maybe we  
17 ought to vote.

18 CHAIRMAN LASKEY: I'm sorry. We're  
19 sorry.

20 DR. NORMAND: Can you restate it?

21 CHAIRMAN LASKEY: We've had  
22 extensive discussion on it. Rick, if you

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1 could just --

2 DR. PAGE: My recommendation is as  
3 a condition of approval, that the sponsor and  
4 the FDA get together to generate some  
5 recommendations for the labeling, in terms of  
6 perioperative and post-operative management of  
7 bleeding and anticoagulation.

8 DR. EDMUNDS: Second.

9 CHAIRMAN LASKEY: Good. All in  
10 favor?

11 (Show of hands.)

12 CHAIRMAN LASKEY: And against?

13 (Show of hands.)

14 CHAIRMAN LASKEY: Voted down.

15 DR. MASSIE: Can I try one more  
16 though? That this post-marketing study  
17 carefully collect how it's being done and  
18 evaluate the relationship between what is done  
19 and bleeding risk, so that we can some day do  
20 this.

21 CHAIRMAN LASKEY: Yes, it's a step  
22 backwards, but perhaps more acceptable to

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1 everybody. Is there a second?

2 DR. DOMANSKI: Second.

3 CHAIRMAN LASKEY: Further  
4 discussion? Simply collecting the data on  
5 this matter.

6 DR. PAGE: I guess my only question  
7 is, is that incorporating some sort of  
8 labeling recommendation, or do we leave it  
9 unrecommended, in terms of the labeling, as to  
10 how to manage this?

11 DR. MASSIE: Well, I do have a  
12 question. There is a section in their book  
13 that is pretty specific, and I don't know if  
14 it what was done or what wasn't done in the  
15 protocol. But you know, there is labeling.  
16 There is something there.

17 CHAIRMAN LASKEY: It's in the  
18 current label.

19 DR. MASSIE: So the question is, is  
20 that what would be carried forward, because I  
21 don't see how you can come up with something  
22 that's never been tested and put it in a

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1 label.

2 So if this is what was done, it  
3 wasn't that good, but at least we can find the  
4 relationship between them. Clearly, this is  
5 an area we need more study and more data, and  
6 we have our best chance of reducing morbidity  
7 and mortality if we could learn.

8 But I just don't know what else to  
9 do besides collect more data.

10 DR. KATO: But I think one of the  
11 problems that we identified today was that  
12 there is -- that the number of different  
13 protocols is really center or maybe even  
14 physician-specific.

15 So with basically every patient is  
16 going to have a different utilization of  
17 factors and antifibrin ligations. I'm not  
18 sure we're going to get very far.

19 CHAIRMAN LASKEY: I'm not sure  
20 we're going to solve the issue, and I'm not  
21 sure we're in any position to recommend any  
22 specific protocol. But the collection of data

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1 seems unacceptable? We still don't have a  
2 huge dataset here.

3 That's what we're voting on, is  
4 just simply in this post-approval era, to  
5 collect more data, perhaps in a more  
6 standardized way of collecting it, regarding  
7 the perioperative management. That's what  
8 this motion is.

9 DR. NORMAND: If I can say  
10 something, my understanding of the post-market  
11 study is really not an intervention. It's an  
12 observational study. We want to collect data.

13 As soon as we start demanding anything beyond  
14 and giving rules on things, that that then  
15 becomes a study.

16 I mean it's sort of an  
17 interventional study in some regards. We're  
18 intervening on how they're going to deal with  
19 bleeding.

20 So in terms of the post-market  
21 setting, I think it makes very good sense to  
22 think about standardization in terms of data

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1 collection. But beyond that, it becomes  
2 another interventional study.

3 DR. EDMUNDS: Warren, it's more  
4 than that, because there have been advances in  
5 hematology that are very relevant to this, and  
6 the protocols used in the 400 patients who  
7 have produced this chaotic data and horrendous  
8 bleeding rates, have not taken advantage of  
9 that. That's the intent of the motion that  
10 was defeated.

11 DR. KATO: You know, I might also  
12 add to that, that one of the major drugs that  
13 it sounds like the investigators had used in  
14 order to stop bleeding, has now been withdrawn  
15 from the market.

16 So again, I echo Dr. Edmunds'  
17 point, that the investigators have to start  
18 from someplace. It's imperative they obtain  
19 consensus now, just as a starting point.  
20 Because otherwise, the bleeding rate's going  
21 to be 40, 50 percent. Who knows what it's  
22 going to be with this drug being taken off the

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1 market?

2 DR. TRACY: I'm sorry, but there's  
3 no earthly way we can come up the protocol.  
4 The data are what the data are. We have  
5 what's in the labeling that states what the  
6 anticoagulation in the OR is on the first few  
7 days, and what the recommendations for  
8 anticoagulation are post-procedurally.

9 We can't change what has been  
10 collected. We can't initiate a scientific  
11 study in a post-market surveillance study. We  
12 can simply collect information and over time,  
13 if somebody wants to have a scientific study,  
14 they can do that.

15 But I don't think we can regulate  
16 or mandate something that has no way of being  
17 answered at this point.

18 DR. EDMUNDS: Well, I disagree with  
19 you. We have a horrendous result.

20 CHAIRMAN LASKEY: We are going to  
21 put this to the vote. We need to continue to  
22 move on here. We're running out of time. We

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1 have a motion on the floor, which is well-  
2 discussed.

3 So I'm going to ask yet again for  
4 all in favor of the motion to, as Dr. Massie  
5 recommended, to collect data in a prospective  
6 fashion, standardized yet to be determined, in  
7 this registry as we go forth. All in favor?

8 DR. SOMBERG: What's standardized?

9 CHAIRMAN LASKEY: We can  
10 standardize the collection of data in  
11 discussions between the sponsor and the FDA.  
12 Standardizing collection of data is not rocket  
13 science. All in favor?

14 (Show of hands.)

15 CHAIRMAN LASKEY: And those  
16 against?

17 (Show of hands.)

18 CHAIRMAN LASKEY: 9 to 3. The  
19 motion passes. Thank you, Barrie. Any other  
20 conditions? Dr. Tracy.

21 DR. TRACY: I know everybody wants  
22 to shoot me right about now, but there is a

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1 stated contraindication about the body surface  
2 area of 1.3. I think that has to be amended  
3 to reflect the patients that were included in  
4 this study.

5 CHAIRMAN LASKEY: Second?

6 DR. LINDENFELD: Second.

7 CHAIRMAN LASKEY: Now the  
8 discussion, just so specifically?

9 DR. TRACY: I think -- I don't  
10 think we can say it's contraindicated, a BSA  
11 of 1.3. I think we have to find the lowest  
12 body surface area that was included in the  
13 study and say there are no data in that  
14 patient population smaller than size X, and I  
15 don't think that that belongs in the  
16 contraindication section.

17 CHAIRMAN LASKEY: Very good.  
18 Further discussion?

19 (No response.)

20 CHAIRMAN LASKEY: That was easy.  
21 All in favor of Dr. Tracy's motion regarding  
22 removal of the contraindication?

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1 (Show of hands.)

2 CHAIRMAN LASKEY: Barrie, you up or  
3 down? Yes, sorry. You've got nine? Eight.  
4 Those against?

5 (Show of hands.)

6 CHAIRMAN LASKEY: Okay. The motion  
7 passes. Moving on, any other conditions?  
8 Okay. We're down to -- yes?

9 MS. RUE: With the infection  
10 studies, the summaries were much higher at  
11 some investigational sites than others. I'd  
12 like to propose that there be some discussion  
13 on gathering data on infection rates.

14 CHAIRMAN LASKEY: Can I try and  
15 rephrase that?

16 MS. RUE: Absolutely.

17 CHAIRMAN LASKEY: Perhaps as we did  
18 for the --

19 (Pause.)

20 CHAIRMAN LASKEY: I'm sorry?

21 DR. DOMANSKI: Couldn't the FDA do  
22 that all by themselves?

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1                   CHAIRMAN LASKEY:    I mean it's a  
2                   very valid point.  I'm told from a procedural  
3                   standpoint we're not allowed to entertain the  
4                   motion.  I think it's a terribly important  
5                   point.

6                   DR. ZUCKERMAN:    I just want to  
7                   clarify one thing again.  The FDA has heard  
8                   very strongly that the bleeding and infection  
9                   parts of any post-approval study need to be  
10                  carefully considered, and that would be done  
11                  with the sponsor before the post-approval  
12                  study would be okayed by the FDA.  It doesn't  
13                  need to be a condition of approval.

14                  DR. EDMUNDS:    I'm really happy to  
15                  hear that.

16                  (Laughter.)

17                  CHAIRMAN LASKEY:    You could have  
18                  saved us a little time, Bram, but thank you.  
19                  And thank you.  I think we're perhaps out of  
20                  conditions.  Is that true?

21                  (No response.)

22                  CHAIRMAN LASKEY:    Okay.  How many

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1 do we have?

2 (Pause.)

3 CHAIRMAN LASKEY: So let us now  
4 vote on the main motion, the main motion being  
5 that the PMA is approvable with the following  
6 conditions, and Jim, help me out here if I'm  
7 missing one or two.

8 That there be the creation of a  
9 post-approval study, with an emphasis on  
10 getting further data on the small size patient  
11 subgroup and gender-specific outcomes.

12 Second condition being that a  
13 concurrent comparator arm is identified. The  
14 third condition relates to a clarification of  
15 the label to reflect the fact that the PMA, as  
16 presented, reflects the data on 126 patients.

17 That is, the pivotal protocol, and  
18 that the continued access protocol and the  
19 small size protocol populations will be  
20 included but described separately.

21 That there be language to reflect  
22 the fact that patients with a contraindication

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1 to anticoagulation of any sort are  
2 contraindicated -- represent a  
3 contraindication.

4 That there be an effort to collect  
5 data in a standardized fashion on the  
6 perioperative management of hemorrhagic and  
7 thrombotic events, and that the label reflect  
8 the fact that the 1.3 square meter does not  
9 represent an absolute contraindication.

10 Do I have the whole list? So now  
11 with that mouthful, I'm asking for a show of  
12 hands. If you concur with the  
13 recommendations, please raise your hands.

14 (Show of hands.)

15 CHAIRMAN LASKEY: That's fairly  
16 gratifying. That's unanimous. It is the  
17 recommendation of the panel to the FDA that  
18 the Thoratec PMA application, P060040 for the  
19 Heartmate II LVAS is approved, with the  
20 previously voted-upon conditions, which I just  
21 summarized.

22 I will ask each panel member to

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1 just take a moment to state the reason for  
2 their votes, starting with Dr. Vassiliades.

3 DR. VASSILIADES: I think the  
4 statistical results were too close to call,  
5 but in my assessment of the clinical  
6 qualitative data, that the device should be  
7 approved. I thought there was enough evidence  
8 for safety and efficacy.

9 DR. KELLY: I thought there was  
10 sufficient clinical evidence and that it also  
11 offers a new therapy to the smaller people,  
12 who might otherwise not benefit from assist  
13 devices.

14 DR. MASSIE: I think simply I  
15 thought that there was reasonable evidence of  
16 efficacy and safety.

17 DR. KATO: While I did vote  
18 affirmatively for the device, I think that  
19 there is -- this is an exciting device because  
20 of its small size and ability to be implanted  
21 in many more patients.

22 I look forward to the sponsor and

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1 the FDA to try to tighten up the indications,  
2 so we can reduce the variability of successes  
3 and improve those.

4 DR. NORMAND: I voted for approval  
5 with conditions because I felt there was  
6 reasonable assurance of safety and  
7 effectiveness.

8 DR. SOMBERG: I voted in favor of  
9 it, but I must say that the safety and  
10 efficacy was very difficult to discern. I  
11 think both for this sponsor and for future  
12 sponsors, the need for statistical advice at  
13 an early point and careful analysis is made  
14 very plain from this investigation.

15 I also think there's a lot of  
16 science to be investigated here, especially  
17 the problems related to bleeding and the use  
18 of anticoagulation as sort of a surrogate for  
19 rheology.

20 So I think there's many questions  
21 that were left unanswered today, that could  
22 make a major, major difference in the use of

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1 this device.

2 DR. EDMUNDS: I voted for this new  
3 type of device, axial flow, because of its  
4 promise, size and a lot of other advantages  
5 down the road, and also for the fact that the  
6 FDA is going to have a look at this  
7 anticoagulation problem.

8 DR. PAGE: I voted in favor, based  
9 on adequate assurance of safety and efficacy.

10 I think we have more to learn, and I'm  
11 looking for the sponsor to work carefully and  
12 closely with FDA in the post-approval study.

13 I think this is important new  
14 technology. I want to say if the patients are  
15 still here, that I appreciate their taking  
16 their time to talk with us. While an N of  
17 three can't sway this group, it does help  
18 remind us why we're here.

19 DR. BLACKSTONE: I voted in favor  
20 of the device, because I believe it is  
21 effective in many patients, despite the  
22 caveats about the way the data were handled,

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1 in the hopes that this could now, that going  
2 forward, we can do a better job at this, and  
3 especially the comparison in the post-market  
4 approval I think we need to look at very  
5 closely.

6 DR. LINDENFELD: I voted for it  
7 because I think there was reasonable assurance  
8 of safety and efficacy, and I too look forward  
9 to additional data to improve those even  
10 further.

11 DR. DOMANSKI: I voted for it  
12 because I thought there was a reasonable  
13 assurance of safety and efficacy.

14 DR. TRACY: I voted for this  
15 because I believe there was a reasonable  
16 assurance of safety and efficacy.

17 DR. YAROSS: As industry  
18 representative, I want to congratulate the  
19 sponsor on their achievement of this  
20 milestone.

21 I'd also like to thank the panel  
22 for their careful focus on the regulatory

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1 burden, as they go about their important  
2 mission of determining if the product meets  
3 the reasonable assurance of safety and  
4 effectiveness.

5 MS. RUE: As the consumer  
6 representative to bring issues, I'm very  
7 grateful that we're again focusing on issues  
8 for safety, and that this study is  
9 specifically designed and collecting data on  
10 women, and it's a device now available for  
11 smaller size.

12 CHAIRMAN LASKEY: And I'd like to  
13 thank all of you. Again, I echo Dr. Page's  
14 comments to the patients who took time to come  
15 here and enlighten us. I am deeply indebted  
16 to all of you who have helped us, me, struggle  
17 through what's clearly been a rather messy  
18 PMA.

19 I think we've done a credible job  
20 to the process. I would like to thank the  
21 sponsor, again, for providing us with a very  
22 thorough ascertainment of the data that we had

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1 asked for this morning, and kudos to you.

2 Dr. Zuckerman, do you have any  
3 final comment?

4 DR. ZUCKERMAN: No. I want to  
5 thank the panel for excellent input today.

6 CHAIRMAN LASKEY: This meeting is  
7 now adjourned. Thank you.

8 (Whereupon, at 5:02 p.m., the  
9 meeting was adjourned.)

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